TRANSPORTATION IMPACT STUDY

142-148 QUEEN STREET SOUTH
MIXED-USE RESIDENTIAL DEVELOPMENT

CITY OF MISSISSAUGA
REGION OF PEEL

PREPARED FOR:
DEZEN REALTY COMPANY LTD.

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CROZIER
CONSULTING ENGINEERS

Revision Number	Date	Comments
Rev.0	July 2023	Issued for DARC 2 Review
Rev.1	August 2023	Issued for DARC 2 Submission
Rev. 2	March 2023	Issued for DARC 3 Review
Rev. 3	March 2024	Issued for DARC 3 Submission

Executive Summary

C.F. Crozier & Associates (Crozier) was retained by De Zen Realty Co. Ltd. to complete a Transportation Impact Study (TIS) for a mixed-use residential development situated at 120-128, 154-158 Queen Street S, 140-148 Queen Street S, and 169 Crumbie Street in the City of Mississauga, Region of Peel.

The analysis undertaken herein was completed using the Draft Master Site Plan prepared by SRM, dated March 8, 2024. The proposed development is divided into divided into nine (9) buildings as well as three new public Right-of-Ways. It consists of approximately 1,517 units in high-rise towers, 291 units in mid-rise towers, 329 square metre of office area and 3,292 square metres of commercial area.

The overall site proposes a total of 1,746 vehicle parking spaces and 1,188 bicycle parking spaces and consists of two storey parking garages above grade and approximately three to four underground parking levels for each building. Phase 1 proposes 524 vehicle parking spaces and 394 bicycle parking spaces.

Under 2023 existing conditions, the study road network operates with a Level of Service "D" or better, however capacity issues were identified for the westbound through movements (during the P.M. peak) at the intersection of Queen Street and Main Street/Pearl Street and the 95th percentile queue lengths for eastbound left (during weekday A.M. and P.M. peak) were identified exceeding the available storage at the intersection Queen Street and Tannery Street/Private Access.

2027 Future Background Conditions

- All the study intersections operate very similar to the existing conditions. The eastbound left queue length at the intersection of Queen Street and Tannery Street/Private Access is expected to exceed the available storage.

- The westbound through movement at the intersection of Queen Street and Main Street/Pearl Street is forecasted to operate above capacity in the P.M. peak hour primarily due to protected left-turn phase, while the westbound approach only consist of a single shared though/right-turn and left-turn lane.

- The Level of Service for eastbound approach is expected to deteriorate to 'E" due to a minor increase in delay in the weekday P.M. peak hour. The volume to capacity ratio is still expected to stay within the threshold.

2033 Future Background Conditions

- All the study intersections operate similar to the 2027 future background conditions with intersection operations expected to improve at both the Queen Street accesses due to the removal of existing traffic associated with the commercial plaza trips.

The phase 1 of the proposed development is expected to generate 201 two-way (76 inbound and 125 outbound) trips during the weekday A.M. peak hour, 275 two-way (152 inbound and 123 outbound) trips during the weekday P.M. peak hour and 309 two-way (175 inbound and 134 outbound) trips during the Saturday peak hour.

The full build-out of the development lands (including Phase 1) is expected to generate 562 two-way (169 inbound and 393 outbound) trips during the weekday A.M. peak hour, 713 two-way (421 inbound and 292 outbound) trips during the weekday P.M. peak hour and 799 two-way (454 inbound and 345 outbound) trips during the Saturday peak hour.

2027 Future Total Conditions

- The westbound through movement at the intersection of Queen Street and Main Street/Pearl Street is forecasted to operate above capacity in the weekday P.M. peak hour similar to the future background conditions.

- The southbound through movement at the intersection of Queen Street and Site Access is forecasted to operate above critical capacity for the Saturday peak hour in the 2027 horizon year and the 95th percentile queue length is expected to exceed the available storage with 50th percentile queue length expected to stay well under available storage.

- However, the capacity tends to improve in 2033 horizon year due to the removal of existing commercial plaza trips from the road network.

2033 Future Total Conditions

- All the study intersections operate similar to the future background conditions.

- The 95th percentile queue length for the eastbound left-turn lane at the intersection of Queen Street and Northern Site Access is expected to stay within the available storage.

- The 95th percentile queue for eastbound left-turn is forecasted to exceed the available storage. As a result, the storage length is recommended to be increased by additional 35 metres to accommodate the queues.

- The overall intersection operations at site accesses via Queen Street are expected to improve due to the removal of the existing commercial plaza trips. However, the Level of Service for the eastbound approach at the southern site access is expected to deteriorate to LOS 'E' due to a minor increase in delay of 10 seconds. The volume to capacity ratio is expected to stay within the threshold of 0.85.

A vehicle maneuvering assessment was undertaken for the site using critical design vehicles (fire, waste, medium-single unit trucks, as well as passenger vehicles) and no significant issues were noted. It is noted that the assessment reviewed the internal public roads for the overall development, as well as internally for Phase 1. It is further noted that detailed design of the public roads will further review maneuverability and future applications will further review the internal phases as more detail becomes available.

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.

A parking review was conducted for both Phase 1 and the full site build-out. It is noted that the proposed parking supply for Phase 1 is below the City's By-law requirement but is within the 10% threshold and therefore a full parking justification study was not completed. The proposed parking supply for Phase 1 is expected to be sufficient in combination with the proposed TDM measures and additional parking supply reviews will be conducted for individual phases in future applications.

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1.0 Introduction

C.F. Crozier & Associates (Crozier) was retained by De Zen Realty Co. Ltd. to complete a Transportation Impact Study (TIS) for a mixed-use residential development situated at 120-128, 154-158 Queen Street S, 140-148 Queen Street S, and 169 Crumbie Street 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.

The proposed development will be built in phases and the TIS is prepared to support Official Plan Amendment for the entire area envisioned for the development, as well as joint Zoning By-Law Amendment to support "Phase 1" that currently shows massing contained within "Building 1A/1B". 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 February 24th, 2023, and comments were received on May 2nd, 2023. Correspondence from the City is included in **Appendix A.**

1.1 Development Lands

The existing subject lands cover an area of approximately 4.2 ha and currently consist of one-storey commercial buildings and a parking lot. The property is located within Streetsville area of Mississauga and is located near the Streetsville GO station within a 10-15 minute walk. The existing conditions of the site comprise commercial uses with a total Gross Floor Area of 9,198 square metre and approximately 498 surface parking spaces.

The property is bounded by commercial and residential areas to the north and south, commercial areas to the east and residential and secondary school to the west. The Canadian Pacific Railway tracks run parallel to the western boundary of the property as well.

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

1.2 Development Proposal

The proposed development is divided into nine (9) buildings (one existing and eight proposed) as well as three new public Right-of-Ways that involve extensions of the existing public streets of Crumbie Street and William Street. The buildings are primarily residential only except for commercial/retail-at grade level and some office use proposed within buildings 1A,1B and 4.

Generally, the site comprises of the following main elements:

- One existing 2-storey commercial heritage building shown as 2B.
- One 8-storey mixed-use building shown as 4.
- One 10-storey residential building shown as 3D.
- One 12-storey residential building shown a 3C.
- Two 13-storey mixed-use buildings shown as 1A and 1B as part of Phase 01.

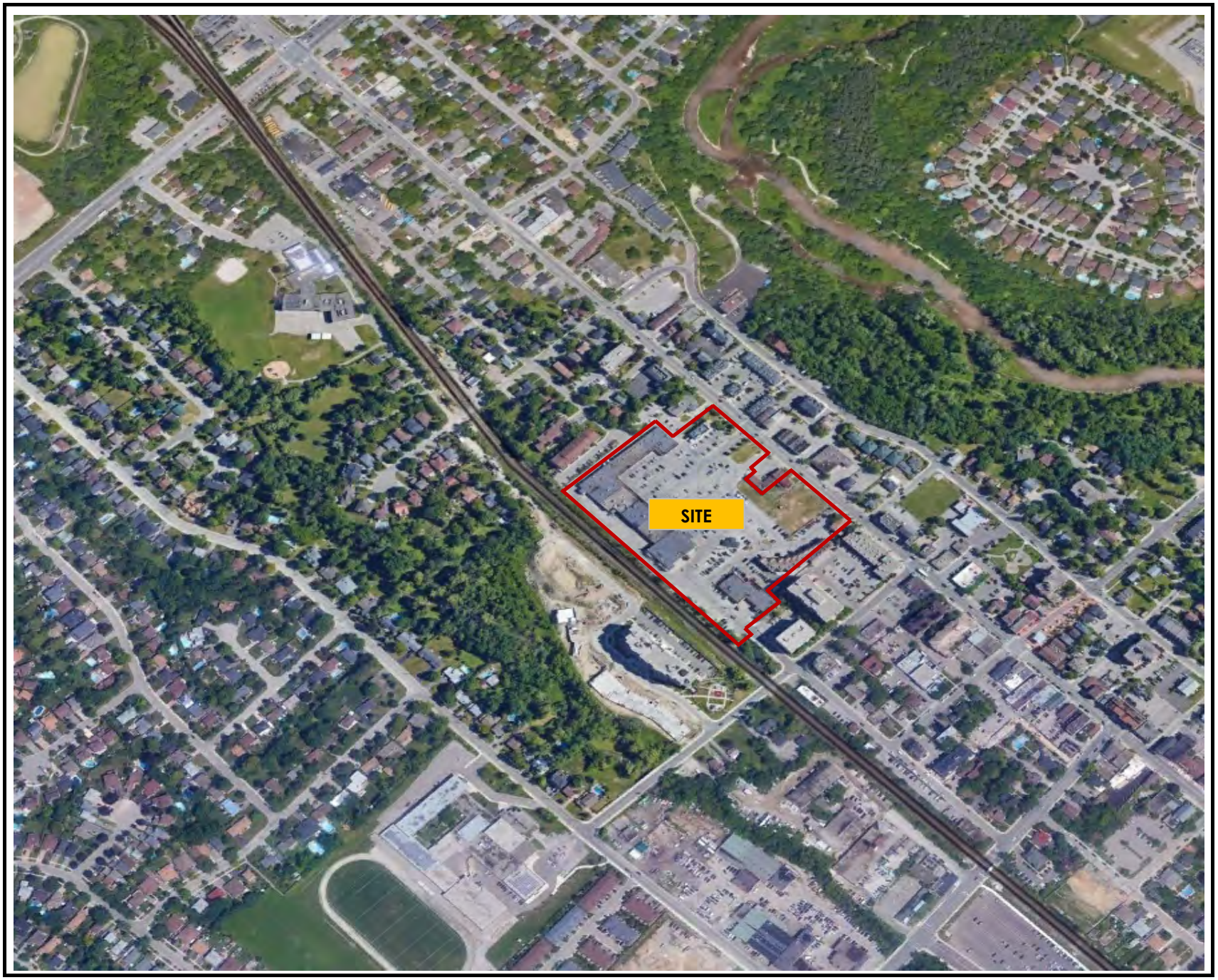
- Three 15-storey residential buildings shown as 2A, 3A and 3B.
- One market square that is proposed on the south-east corner of the site to be a privately owned public space (POPS)
- A public park at located adjacent to the existing library to the north of the Subject Lands.
- Two (2) storey parking garage proposed on back of the site adjacent to buildings 3A, 3B, 3C and 3D.
- The remainder of the proposed parking supply for the Subject Lands is proposed to be located below grade in underground garages.

The table below summarizes the proposed statistics for the entire Subject Lands:

Table 1: Development Proposal

Use		Proposed Development
Residential		1,808 Residential Units
Commercial		3,292 square metres
Office		329 square metres
Transportation Elements	**Vehicle Parking Supply**	1,746 spaces
	Bicycle Parking Supply	1,188 spaces
	Site Accesses	Two full moves access via Queen Street, as well as the extensions of William Street and Crumbie Street

The draft concept plan prepared by SRM Architects & Urban Designers dated March 8, 2024, and is attached in **Appendix B**.



Legend	140-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 1
SITE BOUNDARY	Site Location		Project No. 1419-6615 Date. 14-07-2023 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 Ontario Street East/West (Signalized)
- Queen Street and Plaza Site Access (Signalized)
- Queen Street and Southern Site Access (Unsignalized)
- Queen Street and Tannery Street (Signalized)
- Queen Street and Main Street/Pearl Street (Signalized)
- Tannery Street and Broadway Street/Crumbie Street (Unsignalized)
- Ontario Street West and William Street (Unsignalized)

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. There are sidewalks on both sides of the roadway. To the north of the site access, there are bicycle lanes on both sides of the roadway, but south of the site access, does not consist of bicycle lanes. Therefore, the bicyclists are expected to share roadway with vehicles. On-Street parking is available on the east side of the roadway from the site access to Water Street, on the west side from Water Street to Tannery Street, and on both the east and west sides thereafter until Main Street/Pearl Street.

Ontario Street is an east-west two-lane local roadway with one lane in each direction. It is classified as a local roadway under Mississauga Official Plan – Schedule 5. The roadway is located north of subject lands and has a posted speed limit of 40 km/hr. The roadway terminates on west side approximate 80 metres from Rutledge Road into a cul-de-sac and the east side approximate 90 metres from Queen Street South into Church Street. The sidewalks are present on north side between Rutledge Road and Queen Street South and on south side between Queen Street South and Church Street. No bicycle lanes are present, and bicyclists are expected to share roadway with vehicles.

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. There are sidewalks available on both sides of the roadway and no bicycle facilities are available. The roadway terminates on west into Joymar Drive and east into Queen Street South.

Crumbie Street/Broadway Street is a north-south two-lane local road with one lane in each direction. The roadway is located south-west of subject lands and is expected to have an assumed speed limit of 40 km/h. It terminates south at Thomas Street. The sidewalks are available on both sides on Crumbie Street and only available on east side on Broadway Street. No bicycle lanes are available on either side of the roadway.

Main Street is an east-west two-lane roadway. It is classified as a major collector under Mississauga Official Plan – Schedule 5. It consists of one lane in each direction. The roadway is located south-east of subject lands and east of Queen Street South and has a posted speed limit of 40 km/h. The roadway has sidewalks and bicycle lanes available on both sides from Church Street.

Pearl Street is an east-west two-lane local roadway with one lane in each direction. The roadway is located south of subject lands and has a posted speed limit of 50km/h. The sidewalks are only available on north side of the road and no bicycles lane are available on either side of the roadway. It terminates at Broadway Street on west side.

2.2 Study Intersections

The intersection of **Queen Street South and Ontario Street East/West** is a four-legged signalized intersection with shared through/right/left-turn lane at all the approaches.

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

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.

The intersection of **Queen Street South and Main Street/Pearl Street** is a four-legged signalized with 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 Site can also be currently accessed by Crumbie Street.

The intersection of **Ontario Street West and William Street** is a four-legged stop control intersection with stop control on north and south approach. All the approaches consist of a shared though/right/left-turn lane.

Figure 2 illustrates the study roadways.

2.3 Transit Network

The subject site currently has access to MiWay Transit Service with bus stops located within 100 metres on Queen Street for MiWay Route 44, which runs from Meadowvale Town Centre to the University of Toronto Mississauga (UTM) campus. The subject site is also within a 10-15 minute walk from the Streetsville GO Station and to MiWay Route 9, which runs along Thomas Street.

Table 2: Existing Weekday Transit Service Headway

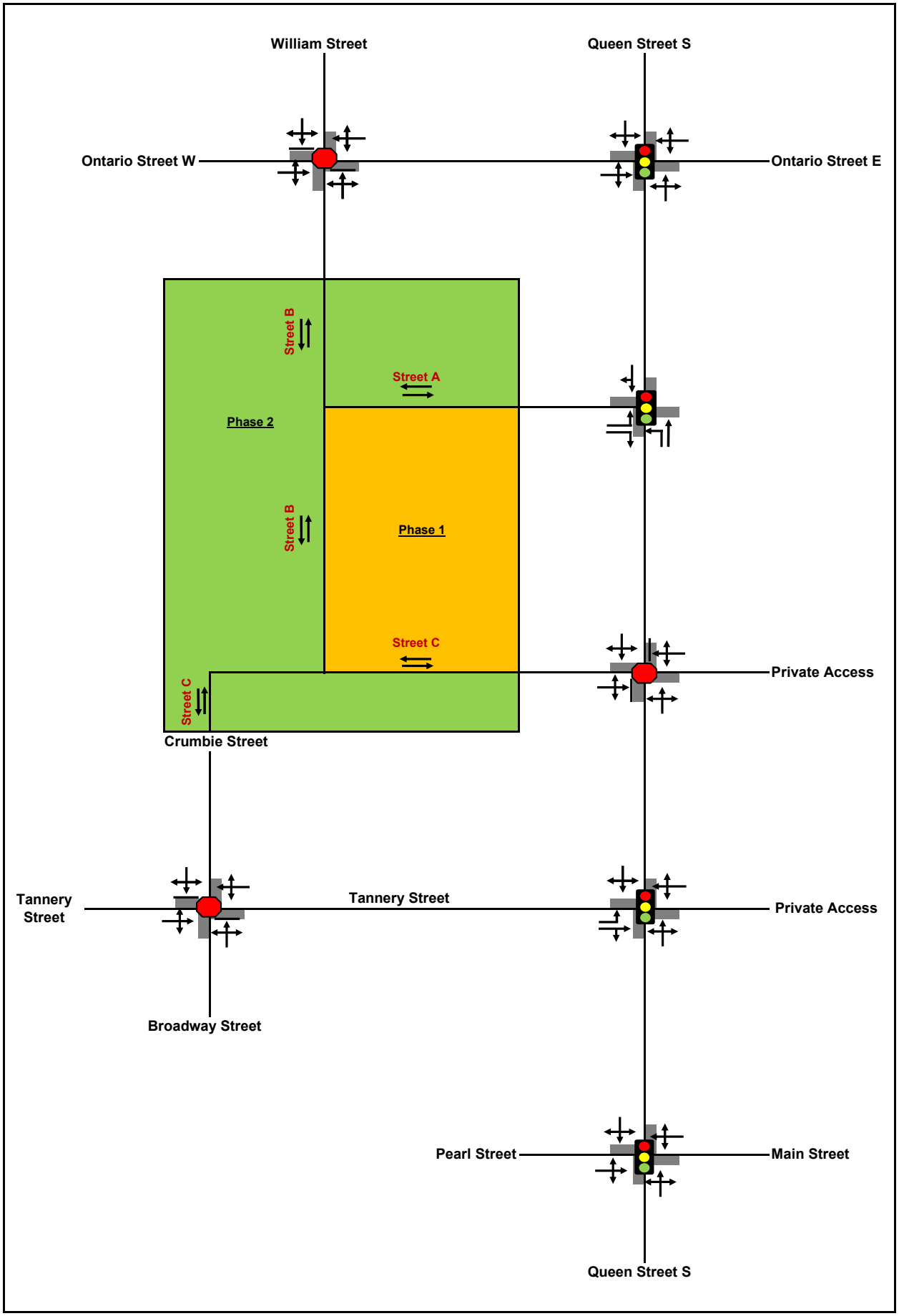
Route	AM Peak Hour	PM Peak Hour
MiWay Transit (Route 9 – Rathburn to Thomas)	25 minutes	25 minutes
MiWay Transit (Route 44 – Mississauga Road)	20 minutes	20 minutes
GO Transit (Route 21 – Milton)	15 minutes	15 minutes

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.

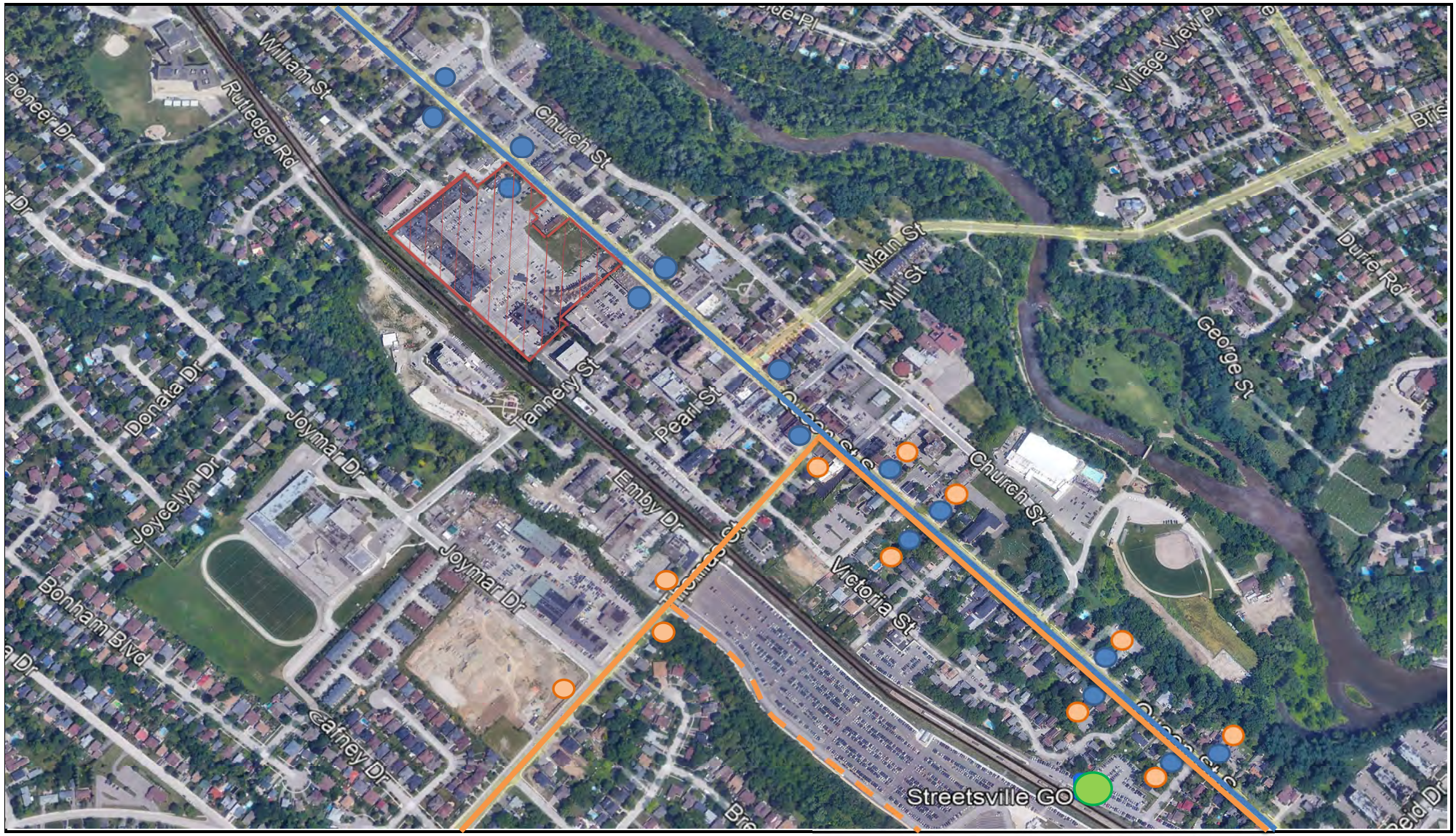
The available MiWay Transit 44 and 9 routes also provided direct connections to major destinations such as Meadowvale Town Centre, City Centre, and UTM. Miway Routes 44 and 9 operate at headways of 20 minutes and 25 minutes respectively during both the am and pm weekday peak hours.

The transit schedules for MiWay and GO are included in **Appendix D.**

Figure 3 shows the existing transit network surrounding the proposed development.



Legend		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 2
xx	A.M. Peak Hour Traffic Volumes			Project No. 1419-6615
(xx)	P.M. Peak Hour Traffic Volumes	2023 Existing Traffic Volumes		Date. 14-07-2023
{xx}	Weekend Peak Hour Traffic Volumes			Analyst. Aarzoo.D



Legend	140-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 3
MiWay Transit Route 44			Project No. 1419-6615
Miway Transit Route 9	Existing Transit Network		Date. 14-07-2023
Go Station			Analyst. Aarzoo.D

2.4 Traffic Data

Turning movement counts at the study intersections were conducted by Spectrum Traffic Inc. 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. The weekend peak hour traffic was collected on Saturday, April 1st, 2023, between mid-day peak hours of 10:00 A.M. and 2:00 P.M.

Multiple scenarios were considered while using traffic counts at the study intersection:

- A comparison was made between the traffic counts conducted in 2023 at the intersection of Queen Street South and Main Street/Pearl Street and the counts by the City's staff in 2019 for the same intersection. It was observed that the 2019 counts were higher for the A.M. peak hour and thus the 2019 counts were used for the intersection and the volumes at the link were balance accordingly along Queen Street South.

- Furthermore, the 2023 traffic counts conducted at the intersection of Queen Street S and Main Street/Pearl Street were compared with the 2019 counts obtained for the intersection from City's staff. As a part of conservative approach, the 2019 counts were observed to be higher than the 2023 counts for the A.M. peak hour and thus the higher counts from 2019 were used for the intersection of Queen Street and Main Street/Pear Street and the link volumes were balanced accordingly along Queen Street South.

- Traffic counts were not conducted for the intersection of Queen Street and Southern Site Access, as it was not originally part of the proposed scope. However, due to the updates in the proposed development, the access was identified to remain and therefore the link volumes from the intersection of Queen Street and Plaza Access and Queen Street and Tannery Street/Private Access were used to obtain the volumes for northbound and southbound through approach. A fair assumption for trips in and out of site was also made as part of this submission upon consultation with City staff.

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**.

2.5 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 "D" or worse, or movement v/c ratios exceeding 0.85
  - 95th percentile queues exceeding the available storage length.

2.6 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 and weekend Saturday peak hours.

Table 3 summarizes the existing traffic operations within the study area.

Table 3: 2023 Existing Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical V/C Ratio (Approach)	95th Percentile Queue Length (50th Percentile Queue Length > Storage Length
Queen Street S& Ontario Street W/Ontario Street E	Signal	A.M.	A	6.0 s	0.46 (SBT)	N/A
		P.M.	A	7.4 s	0.56 (SBT)	N/A
		Saturday	A	7.5 s	0.48 (SBT)	N/A
Queen Street S & Plaza Access	Signal	A.M.	A	6.5 s	0.36 (NBT)	10 m < 25 m (NBL)
		P.M.	B	13.2 s	0.55 (EBL)	15 m < 25 m (NBL)
		Saturday	B	12.6 s	0.60 (SBT)	10 m < 25 m (NBL)
Queen Street S & Southern Plaza Access	Stop (Minor)	A.M.	C	22.6	0.24 (EB)	N/A
		P.M.	D	26.5	0.37 (EB)	N/A
		Saturday	C	24.8	0.42 (EB)	N/A
Queen Street & Tannery Street/Private Access	Signal	A.M.	B	11.3 s	0.58 (EBL)	**35 m (20 m) > 20 m (EBL)**
		P.M.	A	8.3 s	0.55 (EBL)	**30 m (20 m) > 20 m (EBL)**
		Saturday	A	5.6 s	0.43 (NBT)	20 m ~ 20 m (EBL)
Queen Street & Main Street/Pearl Street	Signal	A.M.	C	28.4 s	0.83 (NBT)	N/A
		P.M.	C	25.4 s	**0.90 (WBT)**	N/A
		Saturday	B	16.4 s	0.83 (WBT)	N/A
Broadway Street & Crumbie Street/Tannery Street	Stop (Minor)	A.M.	B	13.7 s	0.16 (NB)	N/A
		P.M.	B	11.9 s	0.19 (NB)	N/A
		Saturday	B	11.2 s	0.15 (NB)	N/A
Queen Street S & Ontario Street W	Stop (Minor)	A.M.	A	9.5 s	0.04 (NB)	N/A
		P.M.	A	9.6 s	0.02 (SB)	N/A
		Saturday	A	9.3 s	0.01 (SB)	N/A

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.

As indicated in Table 3, the boundary road network operates with a Level of Service 'B" or better in the Weekday A.M. and P.M. peak hours and weekend peak hours with minimal delays and well under capacity except for the intersection of Queen Street S and Southern Plaza Access, and Queen Street S and Main Street/Pearl Street.

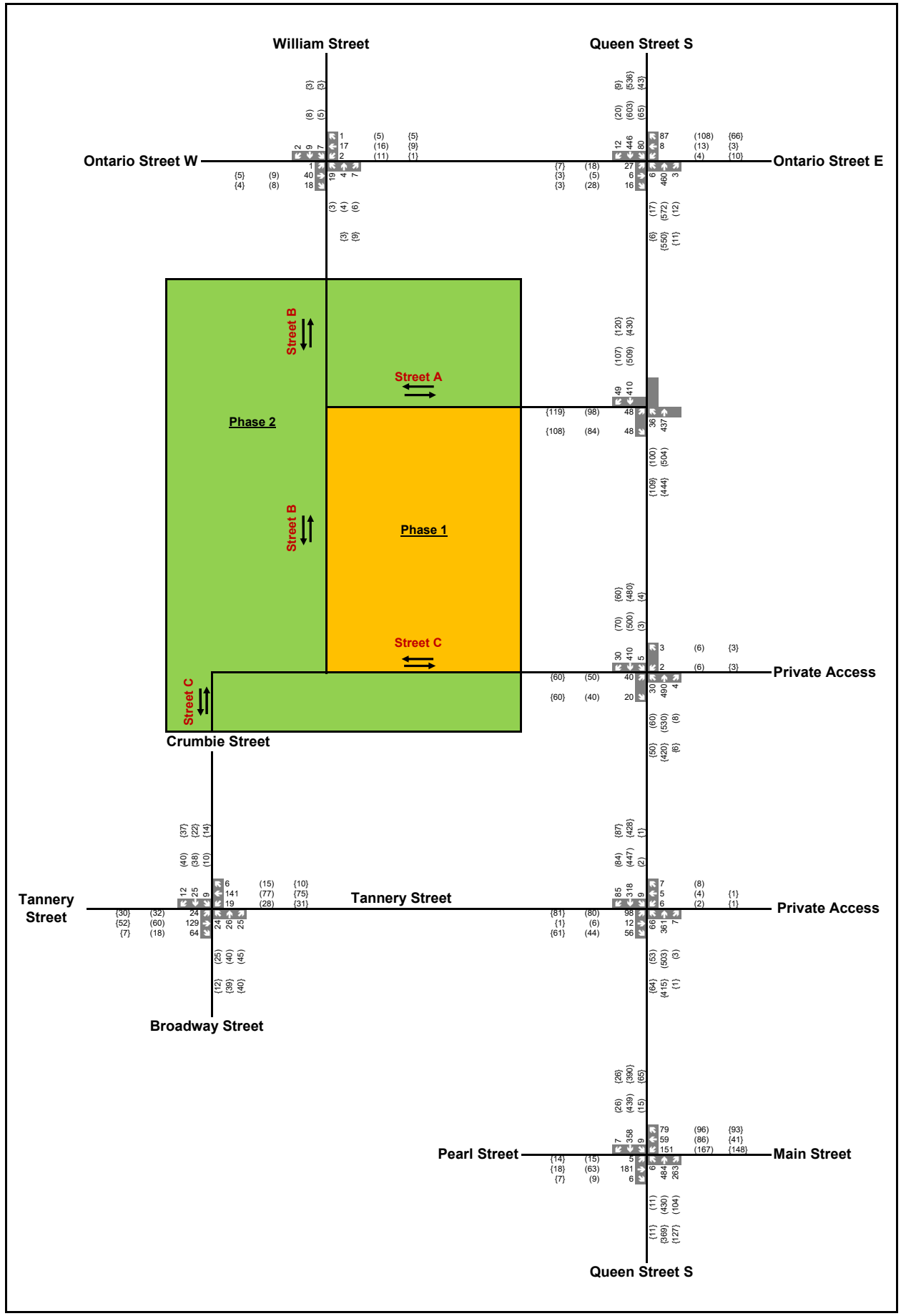
The intersection of Queen Street S and Southern Plaza access operates with a Level of Service "C" in both weekday morning and Saturday peak hours and with a Level of Service "D" in weekday afternoon peak hour with minimal delay and volume to capacity ratio well below the threshold.

The intersection of Queen Street South and Main Street/Pearl Street operates with a Level of Service 'C" in both morning and afternoon weekday peak hours and weekend peak hours with minimal delays. The A.M. peak hour traffic operates just above minimum capacity with volume to capacity ratio of 0.89 which is likely due to the higher 2019 counts considered at the intersection for A.M. peak hour.

It is further noted that the 95th percentile queue length for the eastbound left-turn lane at the intersection of Queen Street and Tannery Street/Private Access exceeds the available storage of 20.0 metres in both the weekday A.M. and P.M. peak hour. However, the 50th percentile queue length operates well under available storage and no delays are noticed.

Moreover, at the intersection of Queen Street and Main Street/Pearl Street, the westbound through movements are projected to operate beyond critical capacity during the P.M. peak hour. This is mainly attributed to the advanced westbound left-turn phase at Main Street, where the approach is limited to a single shared lane for through traffic, right turns, and left turns. As a result, delays are expected for through traffic due to the protected phase.

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



Legend		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 4
xx	A.M. Peak Hour Traffic Volumes	2023 Existing Traffic Volumes		Project No. 1419-6615
(xx)	P.M. Peak Hour Traffic Volumes			Date. 14-07-2023
{xx}	Weekend Peak Hour Traffic Volumes			Analyst. Aarzoo.D

3.0 Future Background Conditions

For the analysis of future background traffic conditions, the study considered both a 4-year and 10-year horizon to the years 2027 and 2033 future background scenarios. The section discusses the methodology and assumptions adopted for the development of the 2027 and 2033 future background scenarios, 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. The compounded growth rate was applied for the horizon years from existing conditions to 2027 and from 2027 to 2031 to reflect community and employment growth in the area.

The **Table 4** below shows the growth rates for the Queen Street South.

Table 4: Traffic Growth Rate

Roadway	Horizon Year	Peak Hour	Northbound	Southbound
Queen Street South	Compounded Annual Growth from 2023 to 2027	A.M.	0.5 %	0.5 %
		P.M.	0.5 %	0.5 %
	Compounded Annual Growth from 2027 to 2031	A.M.	0.5 %	0.5 %
		P.M.	0.0 %	0.0 %

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 each horizon year was determine based on the most recent data available on construction phasing provided by other developments.

3.2.1 2027 Horizon

The following background developments were identified as part of the study area, as summarized in **Table 5** below.

Table 5: Background Developments

Development Address	Development Description	Source
8, 10 & 12 Queen Street S and 2 William Street & 16 James Street	77 Townhouse Residential Dwelling Units	NextTrans (August 2021)
21-51 Queen Street North	9-Storey Mixed-Use Building consisting of 390 residential units, 1,198 m^2 retail/commercial GFA	BA Group (December 2021)

Development Address	Development Description	Source
51, 57 Tannery Street & 208 Emby Drive	Two-14 Storey residential towers consisting of 583 dwelling units	Crozier (Not Submitted, Subject to Change)
66 Thomas Street	20 Storey and 15 storey residential towers consisting of 684 dwelling units	Crozier (Not Submitted, Subject to Change)

The above developments are expected to be built out by 2027 horizon year and thus considered for the analysis of the 2027 horizon.

Additionally, it is noted that the transportation analysis for the developments located at 51, 57 Tannery & 208 Emby Drive and 66 Thomas 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.

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

3.2.2 2033 Horizon

The background developments considered for the 2033 horizon include all those included for the 2027 horizon, as well as removal of the site generated trips from the existing commercial plaza at the proposed site location.

Please note that the current site includes a commercial plaza spanning approximately 9,198 square meters. However, the new mixed-use development will completely replace the existing plaza by 2033 as part of the remaining phases after Phase 1.

Since the traffic counts conducted by Spectrum in 2023 already account for the trips generated by the commercial plaza, these trips have been excluded from the future traffic projections for 2033, since the plaza will no longer exist. This net trip generation is further detailed in **Section 4.1.2.**

It should also be noted that the traffic counts were not conducted by Spectrum in the year 2023 at the intersection of Queen Street and Southern Plaza Access, as this access was initially not included in the proposed development. Nevertheless, as previously mentioned in section 2.4, the traffic volumes from the Queen Street and Plaza Access, as well as Queen Street and Tannery Street/Private Access intersections, were utilized to estimate the volumes at the specified intersection. A reasonable number of trips entering and exiting the site were assumed. The methodology employed has been verified with City staff for this submission.

The trips generated by the existing commercial plaza were calculated using Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, using Land Use Category (LUC) 821 "Shopping Plaza (40-150k)".

The site generated trips from the existing commercial plaza are shown in **Table 6**.

Table 6: Existing Commercial Plaza Trips

Land Use	GFA	Peak Period	Average/Equation Rate	In	Out	Total
Land Category LUC 821 (Shopping Plaza 40-150K)	9,198 m^2	A.M.	Average (1.73)	106	65	**171**
		P.M.	Average (5.19)	252	262	**514**
		SAT	Average (6.22)	348	321	**669**

Additionally, the trips generated using the ITE Trip Generation Manual were compared to the counts conducted by Spectrum for the current site accesses at the intersections of Thomas Street at Broadway Street/Crumbie Street and Queen Street at Site Access.

A comparison between the existing commercial plaza trips generated using ITE and the existing traffic counts conducted at the intersections is shown in **Table 7.**

Table 7: Existing Commercial Plaza Trips Comparison

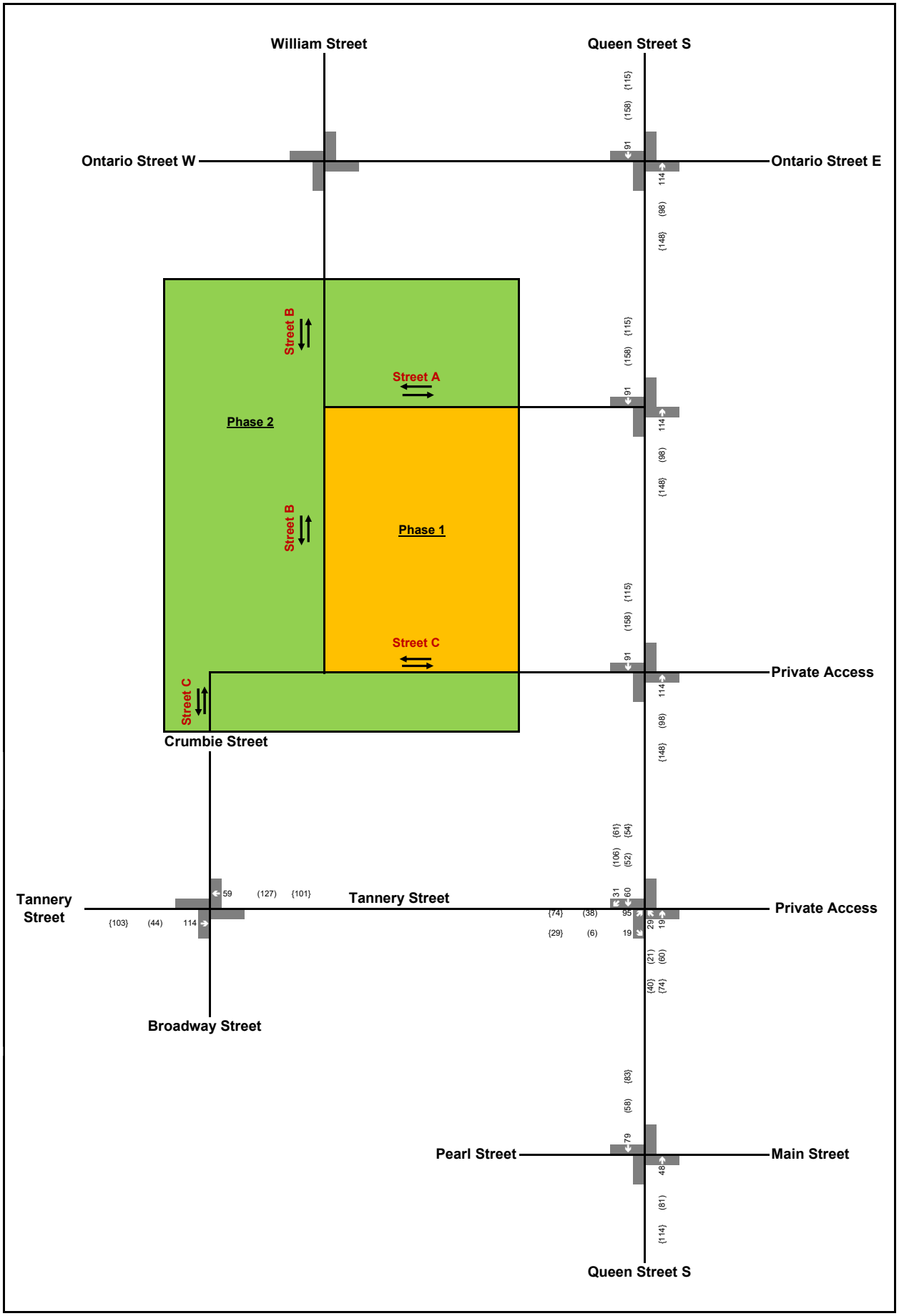
Intersection	Peak Hour	ITE Generated Trips		Existing Traffic Counts (Spectrum)	
		Inbound	Outbound	Inbound	Outbound
Queen Street and Site Access	Weekday A.M.	55	35	85 (+30)	96 (+61)
	Weekday P.M.	142	135	207 (+65)	182 (+47)
	Saturday	165	141	229 (+64)	227 (+86)
Queen Street and Southern Site Access	Weekday A.M.	24	15	60 (+36)	60 (+45)
	Weekday P.M.	61	58	130 (+69)	90 (+32)
	Saturday	71	60	110 (+39)	120 (+60)
Thomas Street and Broadway Street/Crumbie Street	Weekday A.M.	27	16	56 (+29)	46 (+30)
	Weekday P.M.	49	68	87 (+38)	88 (+20)
	Saturday	84	93	79 (-5)	73 (-20)
Total	**Weekday A.M.**	**106**	**65**	**201 (+95)**	**202 (+137)**
	Weekday P.M.	**252**	**262**	**424 (+172)**	**360 (+98)**
	Saturday	**320**	**295**	**418 (+98)**	**420 (+125)**

It was observed that the generated trips using ITE (Institute of Transportation Engineers) were generally very comparable to the existing traffic volumes in and out of the existing commercial development during the peak hours.

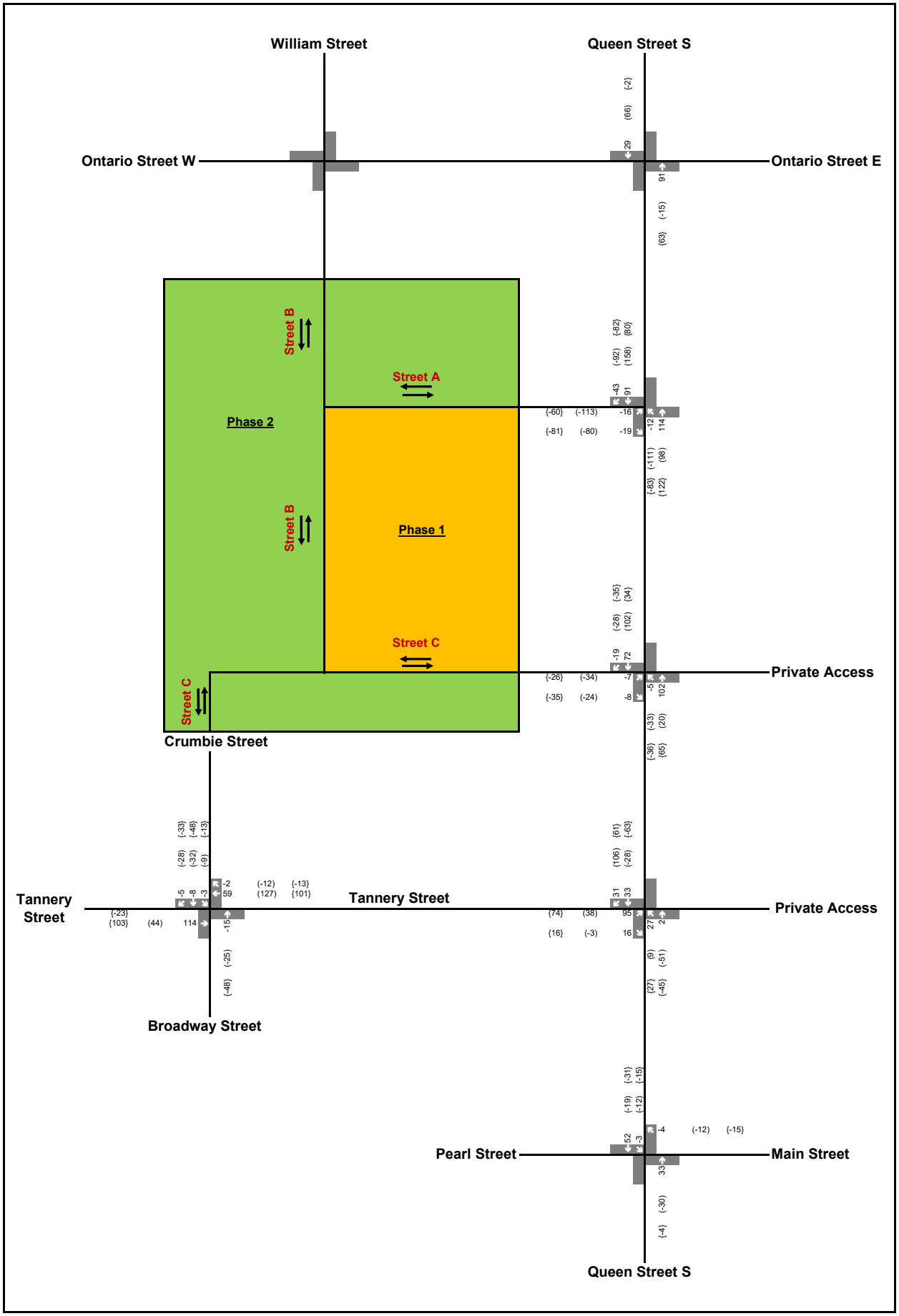
In general, the ITE generated trips resulted in a lower trip generation for the existing commercial uses in the a.m. and p.m. peak hours, which represented a conservative assumption for the commercial plaza trips, since they are ultimately being removed as part of the development of the site. It is further noted that removal of the existing commercial uses was not conducted using the existing traffic counts because the existing traffic counts include the residential use at 32 Tannery Street, particularly at the intersection of Thomas Street and Broadway Street/Crumbie Street, which would have resulted in a non-conservative analysis.

While the ITE generated trips did result in slightly higher estimates compared to the existing counts for the Saturday analysis at the intersection of Thomas Street and Broadway Street/Crumbie Street, the ITE rates were used in the analysis for consistency and simplicity since the overall difference between them was minimal.

Figure 6 illustrates the total background development volumes, and **Appendix G** provides the breakdown of background development volumes.



Legend		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 5
xx	A.M. Peak Hour Traffic Volumes	2027 Background Development 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		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 6
xx	A.M. Peak Hour Traffic Volumes	2033 Background DevelomentTraffic Volumes		Project No. 1419-6615
(xx)	P.M. Peak Hour Traffic Volumes			Date. 14-07-2023
{xx}	Weekend Peak Hour Traffic Volumes			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 years 2027 and 2033.

3.3.1 2027 Intersection Operation

Table 8 summarizes the 2027 future background Levels of Service. Detailed capacity analyses are included in **Appendix H.**

Table 8: 2027 Future Background Intersection Operations

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical V/C Ratio (Approach)	95th Percentile Queue Length > Storage Length
Queen Street S& Ontario Street W/Ontario Street E	Signal	A.M.	A	6.1 s	0.54 (SBT)	N/A
		P.M.	A	8.6 s	0.69 (SBT)	N/A
		Saturday	A	9.6 s	0.57 (SBT)	N/A
Queen Street S & Plaza Access	Signal	A.M.	A	5.9 s	0.45 (NBT)	5 m < 25 m (NBL)
		P.M.	B	14.7 s	0.68 (SBT)	15 m < 25 m (NBL)
		Saturday	B	14.4 s	0.73 (SBT)	5 m < 25 m (NBL)
Queen Street S & Southern Plaza Access	Stop (Minor)	A.M.	D	31.3	0.32 (EB)	N/A
		P.M.	E	38.5	0.48 (EB)	N/A
		Saturday	D	26.4	0.4 (EB)	N/A
Queen Street & Tannery Street/Private Access	Signal	A.M.	B	17.3 s	0.76 (EBL)	**55 m > 20 m (EBL)**
		P.M.	B	12.5 s	0.67 (EBL)	**40 m > 20 m (EBL)**
		Saturday	B	10.7 s	0.68 (NBT)	**35 m > 20 m (EBL)**
Queen Street & Main Street/Pearl Street	Signal	A.M.	C	29.7 s	**0.89 (NBT)**	N/A
		P.M.	C	26.6 s	**0.90 (WBT)**	N/A
		Saturday	B	17.8 s	0.83 (WBT)	N/A
Broadway Street & Crumbie Street/Tannery Street	Stop (Minor)	A.M.	C	16.5 s	0.20 (NB)	N/A
		P.M.	B	14.3 s	0.23 (NB)	N/A
		Saturday	B	13.6 s	0.19 (NB)	N/A
Queen Street S & Ontario Street W	Stop (Minor)	A.M.	A	9.5 s	0.04 (NB)	N/A
		P.M.	A	9.6 s	0.02 (SB)	N/A
		Saturday	A	9.2 s	0.01 (SB)	N/A

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.

Under 2027 future background conditions, the study intersections operate with a Level of Service "C" or better with minimum delays except for the intersection of Queen Street S and Southern Plaza Access.

The eastbound approach at the intersection of Queen Street and Southern Site access is expected to operate with a Level of Service "E". However, the approach is expected to operate with acceptable delays and well under capacity.

Further, at the intersection of Queen Street and Tannery Street/Private Access, the 95th percentile queue length is expected to exceed the available storage length of 20 metres. However, the intersection is expected to operate with acceptable delays.

The Westbound through movements at the intersection of Queen Street and Main Street/Pearl Street are projected to surpass the maximum capacity during the peak hours of both A.M. and P.M. peak hours. The primary issue arises from the protected permitted westbound left-turn phase at the intersection in A.M. and P.M. peaks, as it has only a shared through/left-turn/right-turn lane at the westbound approach. However, the intersection is expected to operate with minimum delays.

Figure 7 shows the 2027 future background intersection operations.

3.3.2 2033 Intersection Operations

Under 2033 future background conditions, all the study intersections operate with a Level of Service "D" or better. It is noted that the intersection operations at the intersections of Queen Steet S at Plaza Access, Queen Street and Southern Access, and Tannery Street at Broadway Street/Crumbie St improved compared to the 2027 future background conditions due to the removal of existing commercial plaza that will no longer exist in 2033. The northbound left-turns movements at the intersection Queen Street S and Site access are expected to significantly reduce due to the reduction resulting in no queue length issues for the northbound left-turns at the intersection.

Further, the intersections operations at Queen Street S and Tannery Street/Private Access and Queen Street S and Main Street/Pearl Street are expected to be similar to the 2027 future background scenario.

Figure 8 shows the 2033 future background traffic volumes.

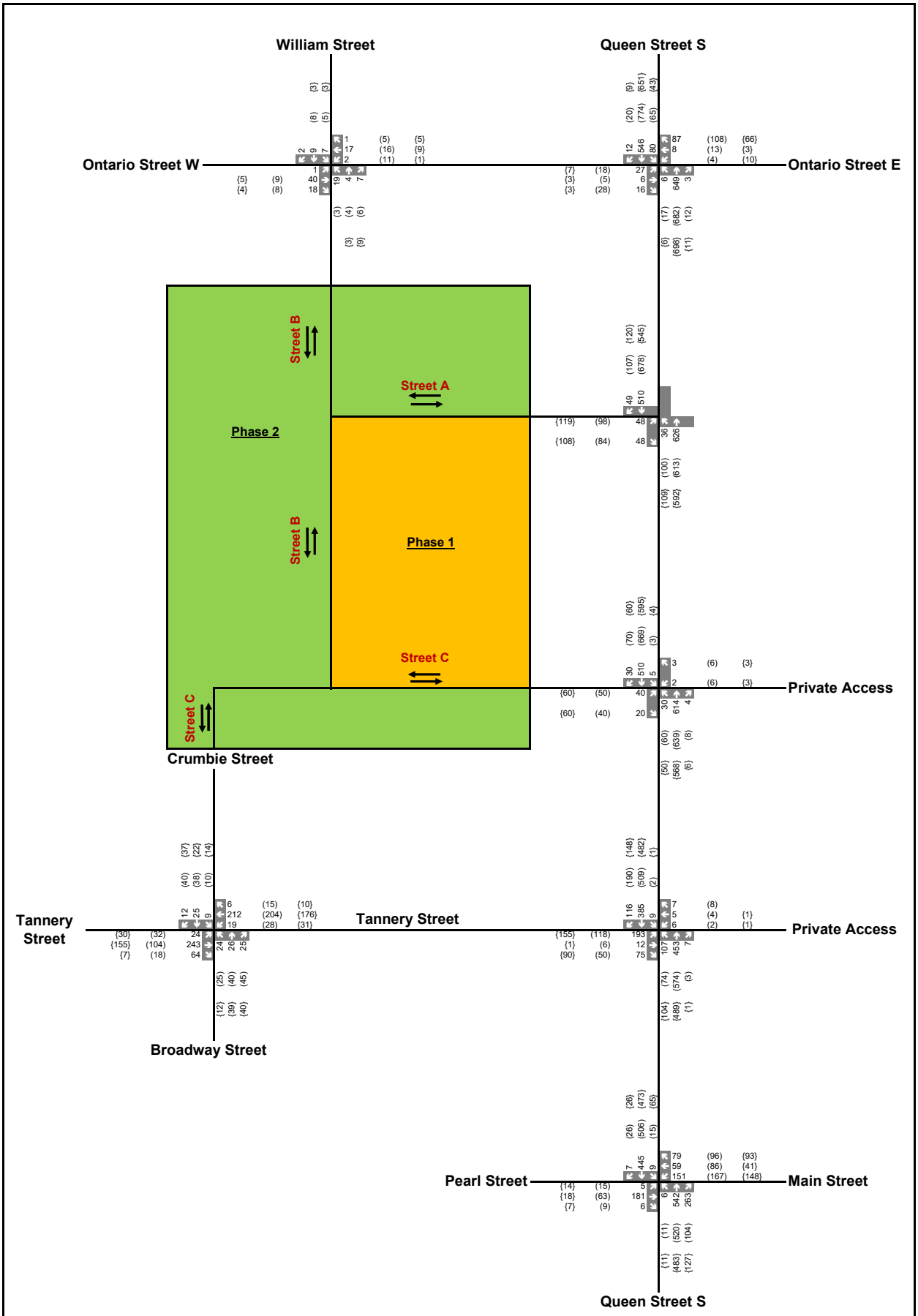
Table 9 summarizes the 2033 future background Levels of Service that excludes the existing commercial plaza trips as a part of background study. Detailed capacity analysis worksheet are included in **Appendix I.**

Table 9: 2033 Future Background Intersection Operations

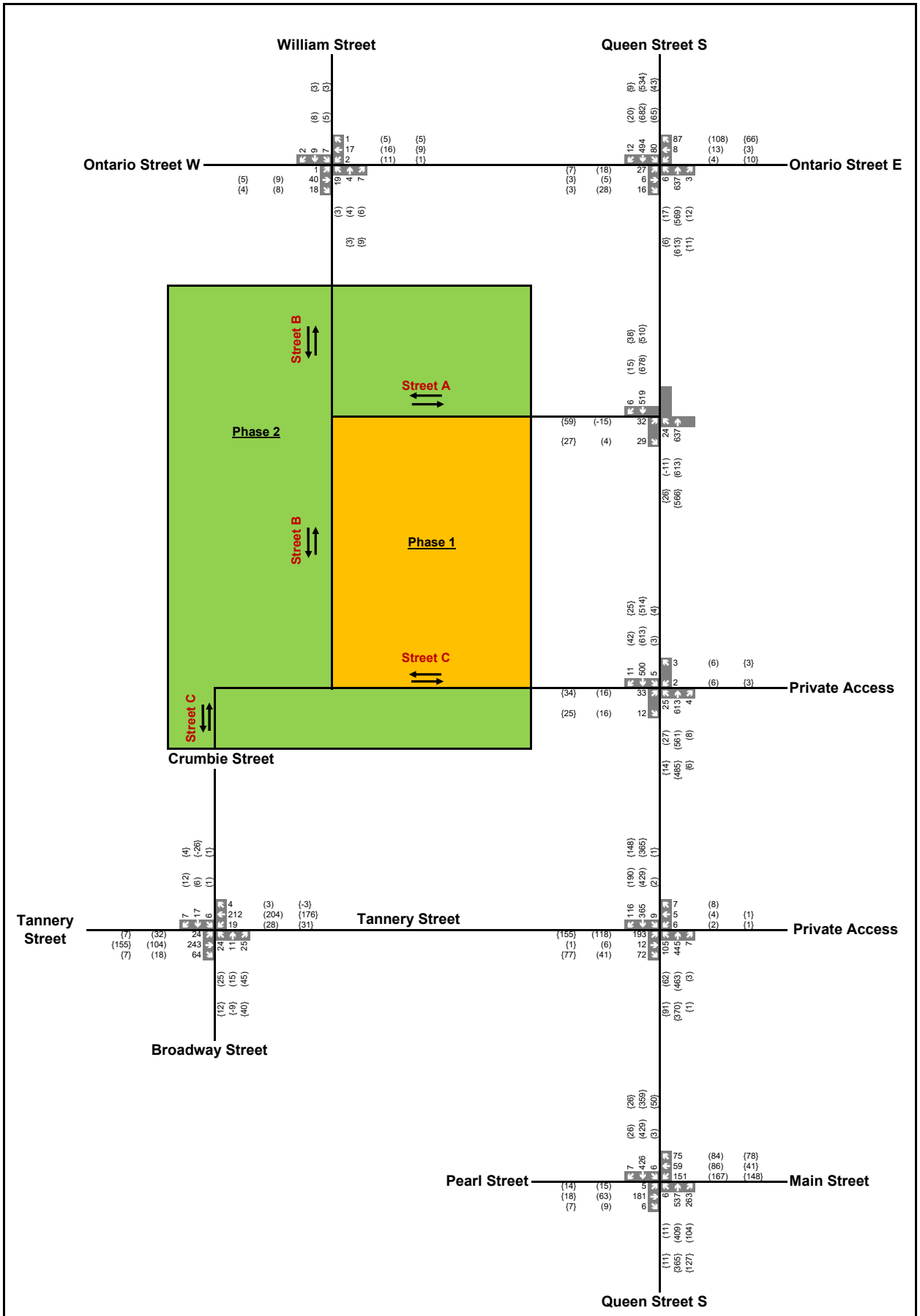
Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical V/C Ratio (Approach)	95th Percentile Queue Length > Storage Length
Queen Street S& Ontario Street W/Ontario Street E	Signal	A.M.	A	5.9 s	0.50 (SBT)	N/A
		P.M.	A	8.3 s	0.61 (SBT)	N/A
		Saturday	A	7.4 s	0.48 (SBT)	N/A
Queen Street S & Plaza Access	Signal	A.M.	A	5.2 s	0.46 (NBT)	5 m < 25 m (NBL)
		P.M.	A	2.0 s	0.41 (SBT)	0 m < 25 m (NBL)
		Saturday	A	8.1 s	0.47 (NBT)	0 m < 25 m (NBL)
Queen Street S & Southern Site Access	Stop (Minor)	A.M.	D	28.2 s	0.24 (EB)	N/A
		P.M.	C	24.5 s	0.16 (EB)	N/A
		Saturday	C	17.7 s	0.18 (EB)	N/A
Queen Street S& Tannery Street/Private Access	Signal	A.M.	B	17.2 s	0.76 (EBL)	**55 m > 20 m (EBL)**
		P.M.	B	11.1 s	0.67 (EBL)	**40 m > 20 m (EBL)**
		Saturday	B	10.4 s	0.61 (NBT)	**35 m > 20 m (EBL)**
Queen Street S & Main Street/Pearl Street	Signal	A.M.	C	29.7 s	**0.89 (NBT)**	N/A
		P.M.	C	26.3 s	**0.89 (WBT)**	N/A
		Saturday	B	15.6 s	0.81 (WBT)	N/A
Broadway Street & Crumbie Street/Tannery Street	Stop (Minor)	A.M.	B	15.9 s	0.15 (NB)	N/A
		P.M.	B	12.3 s	0.16 (NB)	N/A
		Saturday	B	10.3 s	0.08 (NB)	N/A
Queen Street S & Ontario Street W	Stop (Minor)	A.M.	A	9.5 s	0.04 (NB)	N/A
		P.M.	A	9.6 s	0.02 (SB)	N/A
		Saturday	A	9.3 s	0.01 (SB)	N/A

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.



Legend		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 7
xx	A.M. Peak Hour Traffic Volumes	2027 Future Background 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		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 8
xx	A.M. Peak Hour Traffic Volumes	2033 Future Background Traffic Volumes		Project No. 1419-6615
(xx)	P.M. Peak Hour Traffic Volumes			Date. 14-07-2023
{xx}	Weekend Peak Hour Traffic Volumes			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 occur in multiple phases. The phase 1 is expected to be completed by the year 2027 and full build-out is expected to by the horizon years 2027 and 2033 as shown in Table below:

Table 10: Proposed Phases for Site

Proposed Phases	Use		
	Residential (Units)	**Commercial (GFA)**	**Office (GFA)**
Phase 1 (Building '1A' and '1B')	526	2,913 m^2	329 m^2
Full Build-Out (Buildings 2A, 3A, 3B, 3C, 3D and 4)	1,282	379 m^2	-
Total	**1,808**	**3,292 m^2**	**329 m^2**

Phase 1 will consist of massing in Buildings '1A' and '1B', two public roadways named Interim Street 'A' running north-south, connecting Queen Street Access and the existing parking lot, and Interim Street 'B' running east-west to Condo Road.

Additionally, the ultimate phase will involve massing in Buildings '2A', '2B', '3A', '3B', '3C', '3D', and 4. A market square will be situated on the southeast corner of the proposed development. Furthermore, Street 'A' will extend in an east-west direction from Queen Street South and connect with Street 'B'. Street 'B' will extend in a north-south direction, connecting William Street and Street 'C'. Street 'C' will extend in an east-west direction from Queen Street South and then curve, proceeding in a north-south direction to connect with the Crumbie Street extension.

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 mixed-use, appropriate land use was determined as shown below:

- Land Use Category 221 "Multifamily Housing (Mid-Rise)"
- Land Use Category 222 "Multifamily Housing (High-Rise)"
- Land Use Category 710 "General Office Building".
- Land Use Category 821 "Shopping Plaza"

Please note that the development is expected to take place in distinct phases, and as a result, separate trip generation analyses have been performed for phase 01 and ultimate phase, as indicated in the following breakdown.

4.1.1 Phase 1 Trip Generation

The Phase 1 proposes Building C consisting of high-rise residential tower with retail and office uses. It is anticipated to develop completely within the existing parking lot and will not affect the existing commercial plaza use. It is assumed that Phase 1 will be completed by the year 2027 for the purposes of the study.

Table 11 below shows the trips generated by Phase 1:

Table 11: Site Generated Trips Phase 1

Trip Generation	Land Use	Units/GFA	Weekday AM		Weekday PM		Saturday	
			In	Out	In	Out	In	Out
Site Generated Trips	Multifamily High-Rise (LUC 221)	526	37	105	104	64	108	81
	General Office Building (LUC 710	329 m^2	8	1	2	9	1	1
	Shopping Plaza 40-150 K (LUC 821)	2,913 m^2	34	21	80	83	101	94
	Total		**79**	**127**	**186**	**156**	**210**	**176**
Multi-Use Reduction	Multifamily High-Rise (LUC 221)	526	1	1	22	9	24	14
	General Office Building (LUC 710	329 m^2	1	0	2	2	1	0
	Shopping Plaza 40-150 K (LUC 821)	2,913 m^2	1	1	10	22	10	28
	Total		**3**	**2**	**34**	**33**	**35**	**42**
Net Generated Trips	**Total**		**76**	**125**	**152**	**123**	**175**	**134**

The assessment of trip generation involved analyzing the number of site trips generated by Phase 1, as well as conducting a multi-use reduction to determine the trips specifically generated between the proposed uses within the subject site. These trips were subtracted from the overall network as they are anticipated to occur solely within the site and subsequently would have no impact on the surrounding road network.

The subject site is expected to generate 201 two-way (76 inbound and 125 outbound) trips during the weekday A.M. peak hour, 275 two-way (152 inbound and 123 outbound) trips during the weekday P.M. peak hour and 309 two-way (175 inbound and 134 outbound) trips during the Saturday peak hour.

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

Figure 9 shows the trips generated by phase 1 by the 2027 horizon year.

4.1.2 Rest of Site Trip Generation

The remainder of the development lands propose a mix of high-rise and mid-rise residential towers and are anticipated to be fully built-out by the year 2033 for the purposes of this study The development will include three public roads connecting to the extension via Crumbie Street and William Street, with two access points at Queen Street South. Notably, the extension through William Street will be operational upon full build-out, ensuring that the trips in the 2033 horizon year are also distributed through this extension.

A full-build-out was assumed for the horizon year 2033 and the trip generation includes the entire development lands inclusive of Phase 1 discussed above.

Furthermore, the current site includes a commercial plaza spanning approximately 9,198 square meters. However, the new mixed-use development will completely replace the existing plaza by 2033. Since the traffic counts conducted by Spectrum in 2023 already account for the trips generated by the commercial plaza, those trips are excluded in the future projections for 2033, as the plaza will no longer exist.

The trips generated by the existing commercial plaza were calculated using Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, using Land Use Category (LUC) 821 "Shopping Plaza (40-150k)".The site generated trips from the existing commercial plaza are shown in **Table 6.**

The existing commercial plaza is expected to generate 171 two-way (106 inbound and 65 outbound) trips during the weekday A.M. peak hour, 514 two-way (252 inbound and 262 outbound) trips during the weekday P.M. peak hour and 616 two-way (320 inbound and 296 outbound) trips during the Saturday peak hour.

Further, the net generated trips are shown with trips reduction from multi-use and existing commercial plaza. However, the existing commercial plaza trips are reduced in the analysis as a part of 2033 future background scenario and not from the total site generated trips for full build-out.

Table 12 summarizes the number of trips forecasted to be generated by the proposed development.

Table 12: Site Generated Trips Full Build-Out

Trip Generation	Land Use	Units/GFA	Weekday AM		Weekday PM		Saturday		Total
			In	Out	In	Out	In	Out	
Site Generated Trips	Multifamily Mid-Rise (LUC 222)	291	25	83	69	44	65	43	329
	Multifamily High-Rise (LUC 221)	1,517	106	303	301	184	311	235	1,440
	General Office Building (LUC 710	329 m^2	8	1	2	9	1	1	22
	Shopping Plaza 40-150 K (LUC 821)	3,292 m^2	38	23	90	94	114	106	465
	Total		**176**	**400**	**459**	**329**	**495**	**390**	**2,249**
Multi-Use Reduction	Multifamily Mid-Rise (LUC 222)	291	0	1	5	2	5	2	15
	Multifamily High-Rise (LUC 221)	1,517	2	3	20	8	23	12	68
	General Office Building (LUC 710	329 m^2	1	0	2	2	1	0	6
	Shopping Plaza 40-150 K (LUC 821)	3,292 m^2	4	3	11	25	12	31	86
	Total		**7**	**7**	**38**	**37**	**41**	**45**	**175**
Gross Generated Trips	**Total**		**169**	**393**	**421**	**292**	**454**	**345**	**2,074**
Existing Commercial Plaza Trip Reduction	Shopping Plaza 40-150 K (LUC 821)	9,198 m^2	**105**	**65**	**252**	**262**	**320**	**296**	**1,300**
Net Generated Trips	**Total**		**64**	**328**	**169**	**30**	**134**	**49**	**774**

The subject site is expected to generate 562 two-way (169 inbound and 393 outbound) trips during the weekday A.M. peak hour, 713 two-way (421 inbound and 292 outbound) trips during the weekday P.M. peak hour and 799 two-way (454 inbound and 345 outbound) trips during the Saturday peak hour.

Please note the above paragraph does not account for the reduction of the existing commercial plaza trips. Additionally, the distribution of trips generated by the site across the road network is based on the net generated trips, highlighting only the reduction resulting from multi-use factors.

It is important to note that the existing commercial plaza trip reduction was already accounted for and analyzed within the 2033 future background development in Section 3.2.2. However, for illustrative purposes, the estimated net trips generated solely by the site itself after full build-out is presented in the bottom line of **Table 12** so that the net trip generation of the development at full build-out can be understood.

4.2 Trip Distribution and Assignment

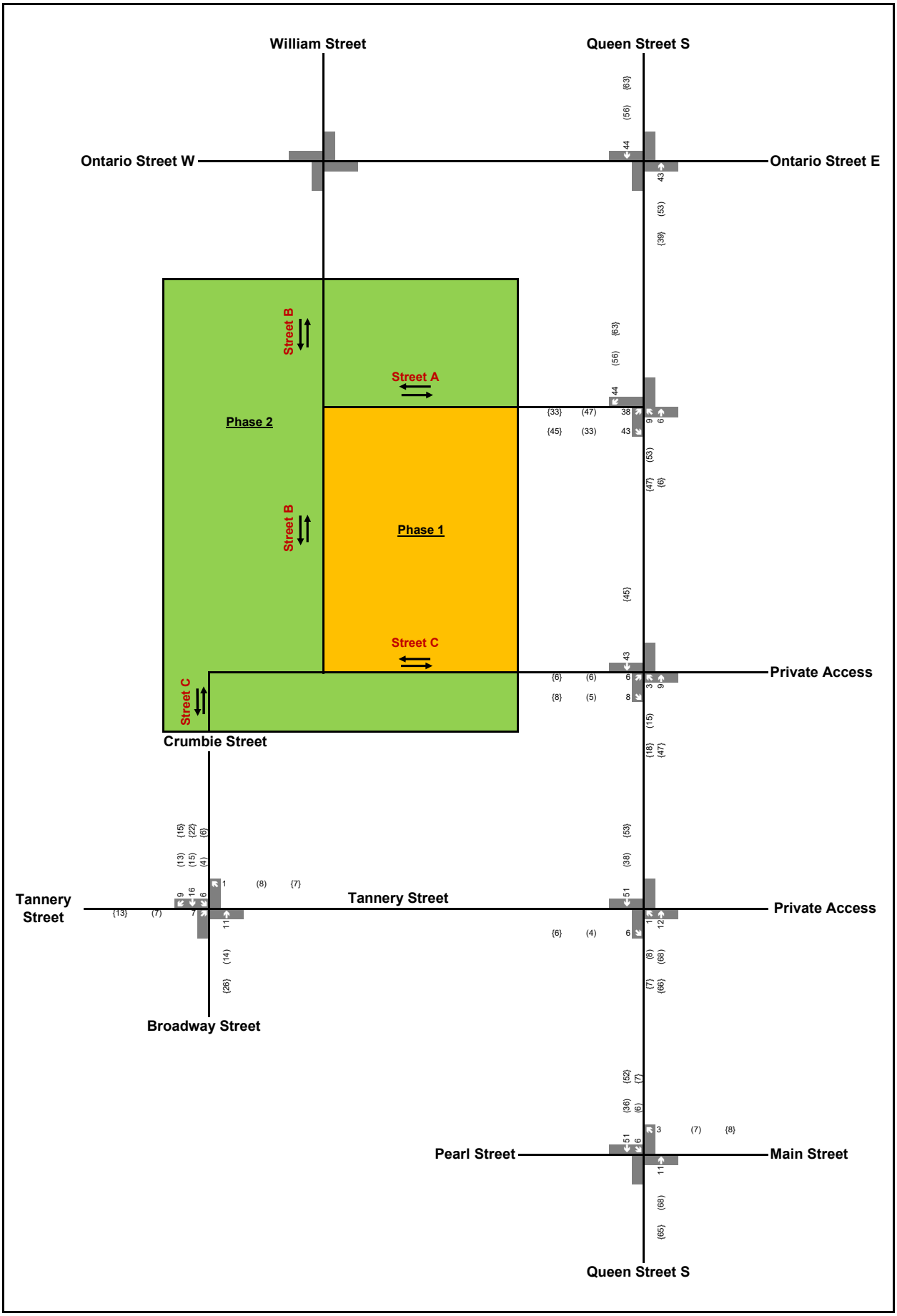
The Transportation Tomorrow Survey (TTS) is a comprehensive travel data survey conducted in the Greater Toronto and Hamilton Area. Data from the 2016 TTS was used to determine the peak hour trip distribution at the site.

The trip distribution calculations based on the TTS data are summarized in **Table 13.**

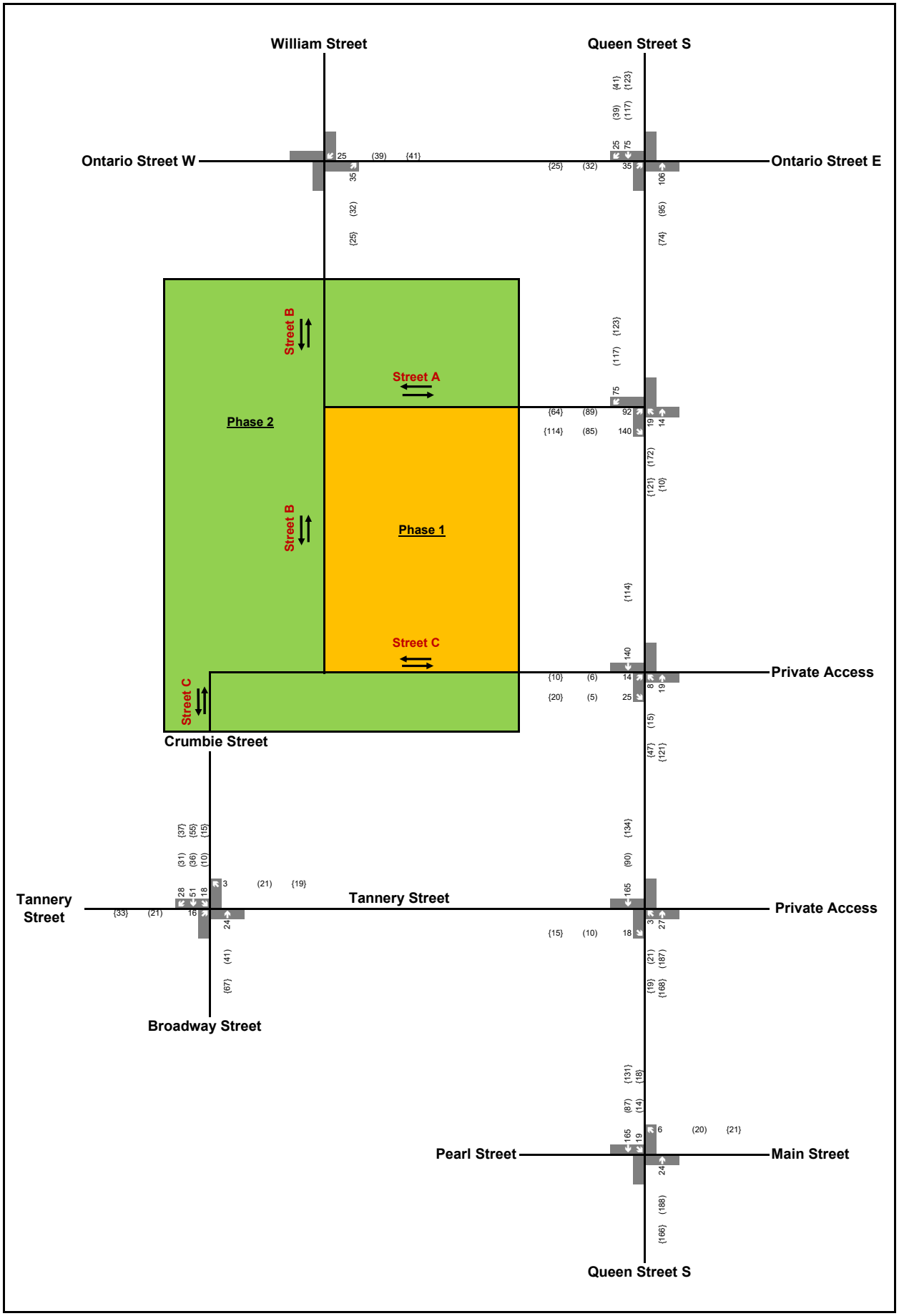
Appendix K provides the TTS query used to determine the site trip distribution.

Table 13: Site Distribution

Direction	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Peak Hour	
	In	Out	In	Out	In	Out
Northwest	6%	5%	3%	12%	8%	10%
North	29%	12%	12%	13%	13%	2%
Northeast	26%	9%	9%	9%	12%	10%
East	0%	26%	30%	19%	18%	18%
Southeast	9%	22%	22%	8%	26%	22%
South	3%	5%	7%	16%	4%	8%
Southwest	24%	19%	13%	12%	17%	18%
West	3%	2%	3%	13%	2%	12%



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
(xx)	P.M. Peak Hour Traffic Volumes			Date. 14-07-2023
{xx}	Weekend Peak Hour Traffic Volumes			Analyst. Aarzoo.D



Legend		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 10
xx	A.M. Peak Hour Traffic Volumes	2033 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			

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 years 2027 and 2033.

5.1 2027 Intersection Operations

The 2027 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 11.

Table 14 outlines the 2027 future total traffic Levels of Service. Detailed capacity analysis worksheets are included in **Appendix L.**

Table 14: 2027 Future Total Intersection Operations

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical V/C Ratio (Approach)	95th Percentile Queue Length > Storage Length
Queen Street S& Ontario Street W/Ontario Street E	Signal	A.M.	A	6.4 s	0.58 (SBT)	N/A
		P.M.	A	9.3 s	0.74 (SBT)	N/A
		Saturday	B	10.6 s	0.62 (SBT)	N/A
Queen Street S & Plaza Access	Signal	A.M.	A	8.2 s	0.49(NBT)	5 m < 25 m (NBL) 30 m < 35 m (EBL)
		P.M.	B	18.5 s	0.77 (SBT)	20 m < 25 m (NBL) **47 m (30 m) < 35 m (EBL)**
		Saturday	B	19.9 s	**0.87 (SBT)**	10 m < 25 m (NBL) 35 m (20 m) < 35 m (EBL)
Queen Street S & Southern Plaza Access	Stop (Minor)	A.M.	D	32.1	0.38 (EB)	N/A
		P.M.	E	42.0	0.54 (EB)	N/A
		Saturday	D	32.4	0.54 (EB)	N/A
Queen Street S& Tannery Street/Private Access	Signal	A.M.	B	18.1 s	0.76 (EBL)	**55 m (35 m) > 20 m (EBL)**
		P.M.	B	13.0 s	0.67 (EBL)	**40 m (25 m) > 20 m (EBL)**
		Saturday	B	12.5 s	0.77 (NBT)	**35 m (20 m) > 20 m (EBL)**
Queen Street S & Main Street/Pearl Street	Signal	A.M.	C	29.7 s	**0.91 (NBT)**	N/A
		P.M.	C	28.1 s	**0.90 (WBT)**	N/A
		Saturday	C	20.0 s	0.84 (WBT)	N/A
Broadway Street & Crumbie Street/Tannery Street	Stop (Minor)	A.M.	C	18.4 s	0.25 (NB)	N/A
		P.M.	C	15.8 s	0.29 (NB)	N/A
		Saturday	C	15.8 s	0.28 (NB)	N/A
William Street & Ontario Street W	Stop (Minor)	A.M.	A	9.5 s	0.04 (NB)	N/A
		P.M.	A	9.6 s	0.02 (SB)	N/A
		Saturday	A	8.7 s	0.01 (SB)	N/A

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.

Under 2027 future total conditions, the intersections are anticipated to operate with a Level of Service "C" or better with minimum delays.

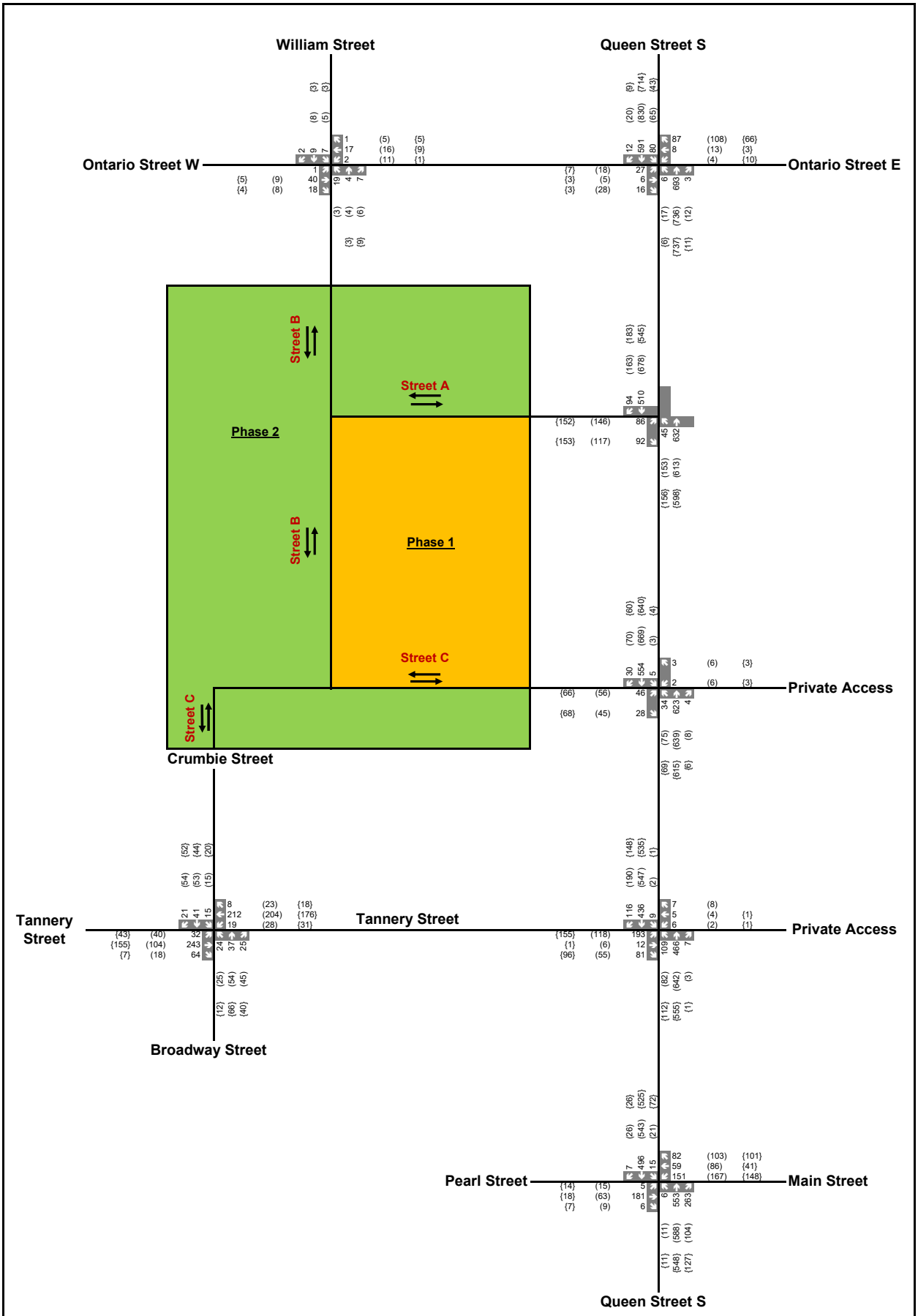
The southbound through movement is expected to operate above critical capacity at the intersection of Queen Street and Plaza Access. However, the delays are forecasted to be minimum and 95th percentile queue length is also expected to operate under available storage. The eastbound left 95th percentile queue length is expected to exceed the available storage in the weekday P.M. peak hour. However the 50th percentile queue length is expected to operate well within the storage length.

The eastbound approach at the intersection of Queen Street and Southern Site access is expected to operate with a Level of Service "E" similar to the 2027 future background conditions. However, the approach is expected to operate with acceptable delays and well under capacity.

All other intersections are expected to operate very similar to the 2027 future background conditions. Particularly, the intersection of Queen Street and Tannery Street/Private access is anticipated to have comparable 95th percentile queue lengths that surpass the available storage capacity. Similarly, the intersection of Queen Street and Main Street/Pearl Street is not expected to experience a significant rise in the V/C ratios due to the additional trips generated by the site

The site trips are not anticipated to have major impact on the study road network given the extension via William Street and Crumbie Street and access on Queen Street that are expected to well accommodate generated trips.

Figure 11 shows the 2027 future total intersection operations.



Legend		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 11
xx	A.M. Peak Hour Traffic Volumes	2027 Future Total 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			

5.2 2033 Intersection Operations

The 2033 future total operations were analyzed with the addition of site generated traffic to the future background traffic. The future background scenario for the 2033 horizon years involves trips reduction for the existing commercial plaza and therefore will be reflected in future total scenario as well. Detailed capacity analysis is provided in **Appendix M.**

Table 15 shows the 2033 future total intersection operations.

Table 15: 2033 Future Total Intersection Operations

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical V/C Ratio (Approach)	95th Percentile Queue Length (50th Percentile Queue Length) > Storage Length
Queen Street S& Ontario Street W/Ontario Street E	Signal	A.M.	A	9.6 s	0.62 (SBT)	N/A
		P.M.	B	12.5 s	0.77 (SBT)	N/A
		Saturday	B	10.6 s	0.62 (SBT)	N/A
Queen Street S & Site Access	Signal	A.M.	B	10.3 s	0.58 (EBL)	5 m < 25 m (NBL) 30 m (25 m) < 35 m (EBL)
		P.M.	B	13.8 s	0.70 (SBT)	15 m < 25 m (NBL) 30 m (15 m) < 35 m (EBL)
		Saturday	B	16.3 s	0.79 (SBT)	10 m < 25 m (NBL) 30 m (15 m) < 35 m (EBL)
Queen Street S & Southern Site Access	Stop (Minor)	A.M.	**E**	38.5	0.47 (EB)	N/A
		P.M.	C	20.1	0.16 (EB)	N/A
		Saturday	C	23.7	0.34 (EB)	N/A
Queen Street S& Tannery Street/Private Access	Signal	A.M.	B	19.0 s	0.76 (EBL)	**55 m (35 m) > 20 m (EBL)**
		P.M.	B	13.2 s	0.68 (NBT)	**40 m (25 m) > 20 m (EBL)**
		Saturday	B	12.0 s	0.75 (NBT)	**35 m (20 m) > 20 m (EBL)**
Queen Street S & Main Street/Pearl Street	Signal	A.M.	C	30.0 s	**0.92 (NBT)**	N/A
		P.M.	C	28.2 s	**0.90 (WBT)**	N/A
		Saturday	B	18.9 s	0.84 (WBT)	N/A
Broadway Street & Crumbie Street/Tannery Street	Stop (Minor)	A.M.	C	22.6 s	0.41 (NB)	N/A
		P.M.	C	16.3 s	0.30 (NB)	N/A
		Saturday	C	15.1 s	0.25 (SB)	N/A
William Street & Ontario Street W	Stop (Minor)	A.M.	B	10.2 s	0.08 (NB)	N/A
		P.M.	B	10.2 s	0.05 (SB)	N/A
		Saturday	B	10.2 s	0.04 (SB)	N/A

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.

Under the 2033 future total traffic conditions, the study road network operates with a Level of Service "C" or better with acceptable delays.

The removal of existing commercial plaza is expected to improve the operations at the intersection of Queen Street and Site Access particularly the southbound through movement in the Saturday peak hour that is forecasted to operate below critical capacity compared to the 2027 future total traffic conditions. The 95th percentile queue length for eastbound left-turn lane is also expected to significantly improve and forecasted to operate will within the available storage.

The Level of Service for eastbound movement at the intersection of Queen Street and Southern Site Access is expected to improve in the weekday P.M. and Saturday peak hours. However, it is expected to deteriorate to Level of Service 'E' in the A.M. peak hour with a very minor increase in delay of approximately 6.0 seconds. The volume to capacity ratio is expected to operate well within the given threshold.

The 95th and 50th percentile queue lengths continue to exceed the available storage for the eastbound left-turn at the intersection of Queen Street and Tannery Street/Private Access.

Moreover, at the intersection of Queen Street and Main Street/Pearl Street, the westbound through movements are projected to operate beyond critical capacity during the P.M. peak hour. This is mainly attributed to the advanced westbound left-turn phase at Main Street, where the approach is limited to a single shared lane for through traffic, right turns, and left turns. As a result, delays are expected for through traffic due to the protected phase. The northbound through movement is projected to operate beyond critical capacity during the A.M. peak hour.

It can be noted that the critical movements and queue lengths at the above noted intersection are observed in the existing scenario and therefore the proposed development is not expected to have a significant impact on the surrounding road network.

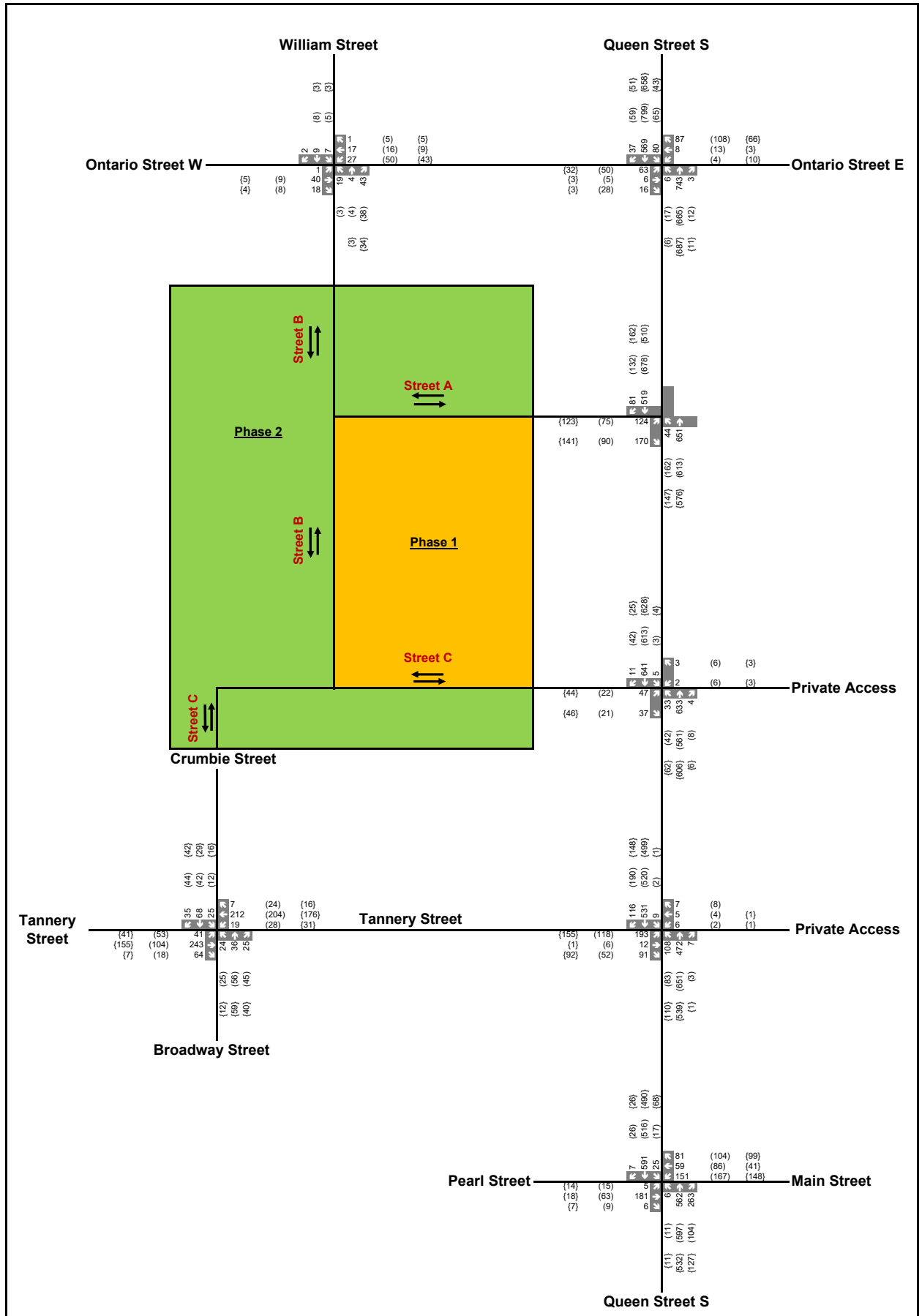
Figure 12 shows the 2033 future total traffic volumes.

5.3 Potential Intersection Improvements for Consideration

While the proposed development traffic is not expected to necessitate the need for improvements within the study area network, some issues within the existing and future background operations assessment were identified.

Observations indicate that the intersection of Queen Street and Tannery Street/Private Access is anticipated to experience a 95th percentile queue length that surpasses the available storage capacity for the eastbound-left turn lane even in the existing conditions assessment. As a result, it is recommended to consider lengthening the storage length to at least 40 meters in the future to accommodate all the average peak hour queue lengths and most of the 95th percentile peak hour queue lengths. Signal optimization improvements can also be considered.

It is important to acknowledge that, currently, Tannery Street does not offer the necessary space to extend the storage beyond the designated length due to property constraints on both the north and south sides. However, if these properties undergo redevelopment in the future, discussions regarding additional public right-of-way (ROW) spaces should take place so that adequate storage can be provided.



Legend		142-148 Queen Street South	CROZIER CONSULTING ENGINEERS	Figure 12
xx	A.M. Peak Hour Traffic Volumes	2033 Future Total Traffic Volumes		Project No. 1419-6615
(xx)	P.M. Peak Hour Traffic Volumes			Date. 14-07-2023
{xx}	Weekend Peak Hour Traffic Volumes			Analyst. Aarzoo.D

6.0 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. This section specifically analyzes the proposed accesses from a sight distance perspective to ensure adequate visibility and sufficient spacing to avoid conflicts have been provided.

6.1 Sight Distance Analysis

The available sightlines at the proposed site accesses at Queen Street South 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 posted speed limit of 40 km/h on Queen Street, a design speed of 50 km/h was assumed.

It should be noted that this submission includes the calculation of sight distance only for phase 1. Sight distance details for intersections and building access, excluding phase 1, will be addressed in future applications.

Table 16 below outlines the sight distance analysis for the proposed site accesses.

Table 16: Sight Distance

Parameter	Accesses at Queen Street South
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
Minimum Sight Distance Satisfied	Yes

The minimum sight distance at both the accesses is satisfied and provides clear sight without any obstruction. The 7.0 metre sight triangle is expected to be sufficient for clear visibility.

Figure 13 and **Figure 14** show the sight line analysis.

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

LEGEND

	SIGHT DISTANCE LEFT TURN
	SIGHT DISTANCE RIGHT TURN

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SIGHT DISTANCE–NORTHERN ACCESS

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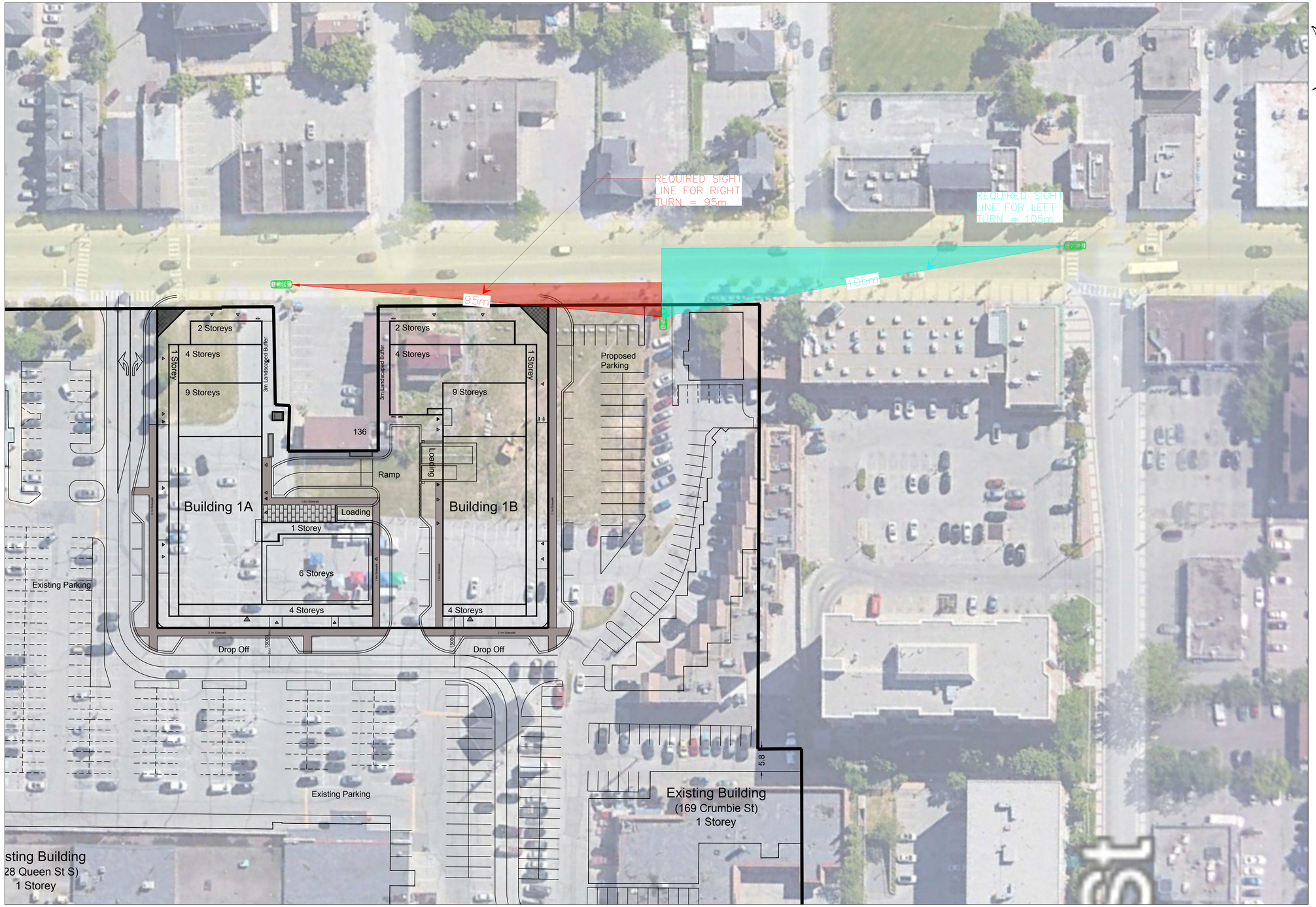
A.D.	I.L.	1:500	FIG–13



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

LEGEND	
	SIGHT DISTANCE LEFT TURN
	SIGHT DISTANCE RIGHT TURN

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SIGHT DISTANCE–SOUTHERN ACCESS

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A.D.	I.L.	1:500 / FIG–14

7.0 Maneuvering Assessment

This section shows the maneuvering assessment conducted for the interim public roadways and internal elements related to Phase 1, as well as the new public roads associated with the full build-out to show the functionality of the roadways. It is noted that additional maneuvering assessments would also be conducted as part of the detailed design of the public roads, as well as future applications for the specific phases within the development lands.

7.1 Phase 1

The maneuvering assessment provides details for Phase 1. As shown, an emergency fire truck, 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 any significant conflicts. This assessment will be further refined as part of the subsequent Site Plan Application.

7.1.1 Emergency Vehicle

A maneuvering assessment was conducted using an Aerial Fire Truck 12.8 metres wide. The fire truck can maneuver on Interim Street 'A' and Interim Street 'B' without encountering any conflicts. It is capable of servicing the buildings from the streets, as the primary entrance is within 15 meters.

Figure 15 shows the emergency vehicle maneuver.

7.1.2 Waste Vehicle

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 maneuver on the Interim Street ‘A’ and Interim Street ‘B’ and can enter and exit the loading space via condo road without any conflicts.

Figure 16 shows the waste vehicle maneuver.

7.1.3 Loading Vehicle

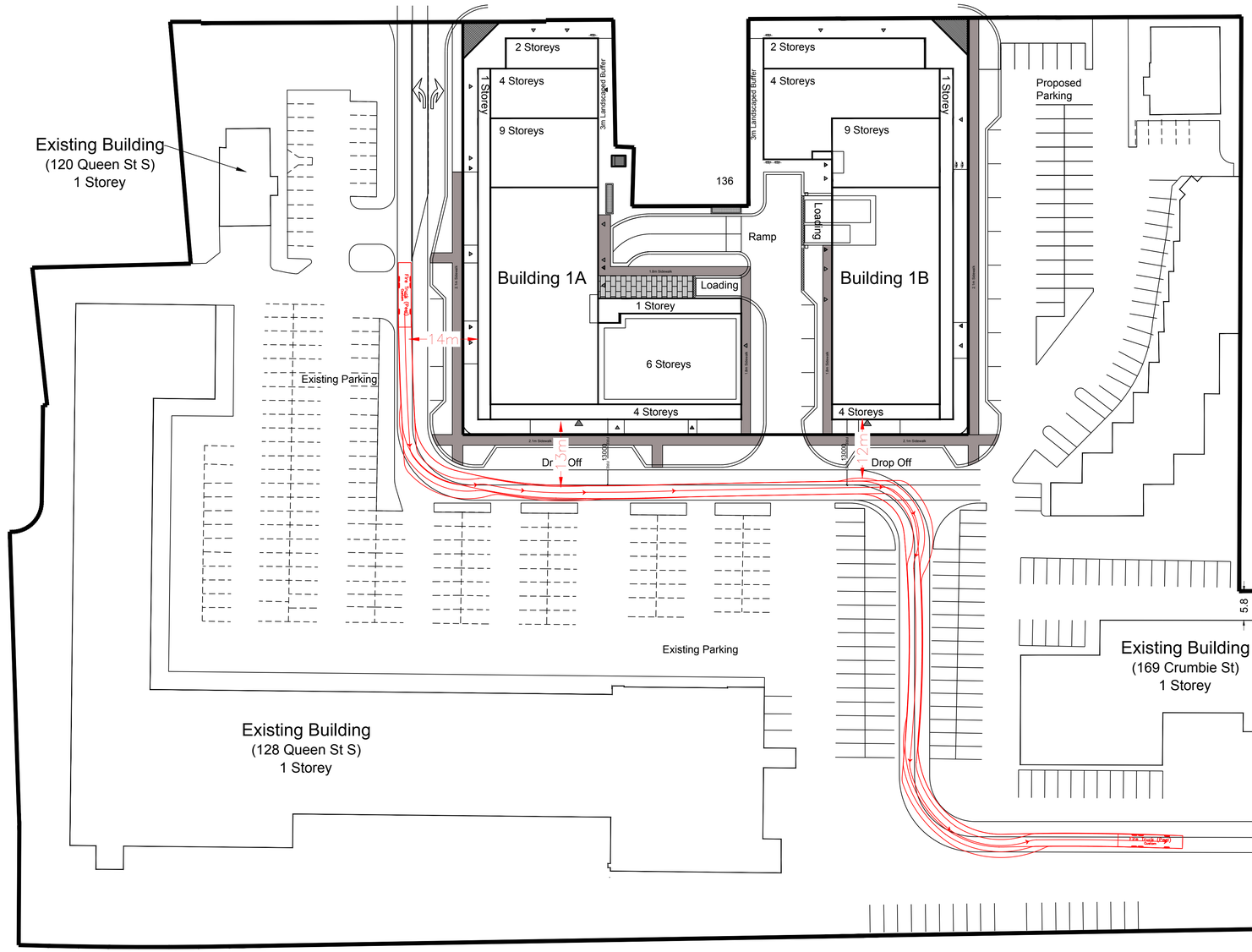
A maneuvering assessment was conducted using Medium Single Unit (MSU) vehicle 10.0 metres wide. The loading truck can maneuver on the Interim Street ‘A’ and Interim Street ‘B’ and can enter and exit the loading space via condo road without any conflicts.

Figure 17and **Figure 18** show the loading vehicle maneuver.

7.1.4 Passenger Vehicle

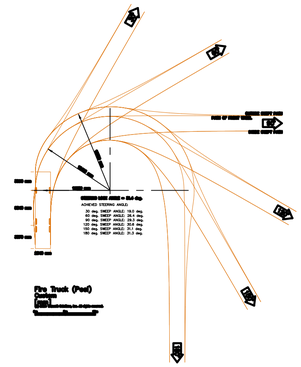
A maneuvering assessment was conducted using the PTAC vehicle. Simultaneous maneuvers can be conducted on the Interim Street ‘A’ and Interim Street ‘B’ without any conflicts. The vehicle can also enter and exit the condo access without any conflicts. The passenger vehicles can also access the lay-by parking and pick-up/drop-off area without any encroachments.

Figure 19 and **Figure 20** show the passenger vehicle maneuver.

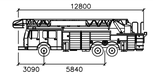


10 0m 10 20
SCALE: 1:300

SWEEP PATH



VEHICLE DIAGRAM



Fire Truck (Peel)

	mm
Width	: 2540
Track	: 2540
Lock to Lock Time	: 6.0
Steering Angle	: 31.4

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VEHICLE MANEUVERING DIAGRAMS
FIRE TRUCK–PHASE 1

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B.L./A.D.	B.L.		1419–6615
Check By	Check By	Scale	Drawing
A.D.	B.B	1:500	FIG–15

Building
een St S)
orey

Existing Parking

2 Storeys
4 Storeys
9 Storeys
1 Storey
3m Landscaped Buffer

Please note that the vehicle does not conflict with the curb as only the overhang of the truck goes over the curb while the tires remain well under the curb.

136

Building 1A

2.1m Sidewalk

Ramp

Loading

1.8m Sidewalk

1 Storey

6 Storeys

4 Storeys

Drop Off

13000 Max

Building 1B

Proposed Parking

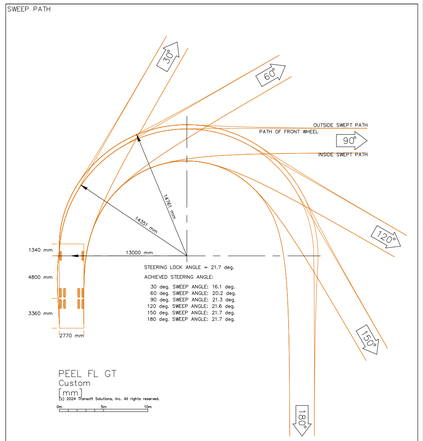
Existing Parking

PEEL FL GT Custom

R 13000 mm
R 12082 mm
R 13002 mm
R 41108 mm
R 82745 mm
R 94042 mm
R 136477 mm
R 29425 mm
R 24850 mm
R 14970 mm
R 13055 mm
R 45121 mm

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

SWEEP PATH



VEHICLE DIAGRAM

PEEL FL GT

	mm
Width	: 2770
Track	: 2770
Lock to Lock Time	: 6.0
Steering Angle	: 21.7

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VEHICLE MANEUVERING DIAGRAMS
GARBAGE TRUCK–PHASE 1

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Check By	Check By	Scale / Drawing
A.D.	I.L.	1:300 / FIG–16

Building
een St S)
orey

Existing Parking

2 Storeys
4 Storeys
9 Storeys
1 Storey
3m Landscaped Buffer
136
Building 1A
1.8m Sidewalk
Loading
1 Storey
6 Storeys
4 Storeys
2.1m Sidewalk
13000
Drop Off

Ramp
Loading

2 Storeys
4 Storeys
9 Storeys
1 Storey
3m Landscaped Buffer
Building 1B
1.8m Sidewalk
4 Storeys
2.1m Sidewalk
13000
Drop Off

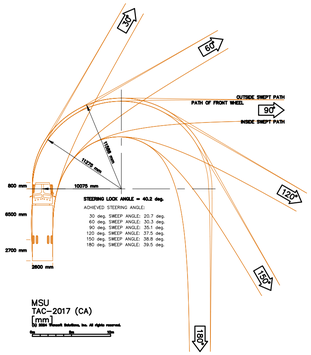
Proposed
Parking

Existing Parking

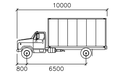
10 0m 10 20 30 40
SCALE: 1:500

N

SWEEP PATH



VEHICLE DIAGRAM



mm
Width : 2600
Track : 2600
Lock to Lock Time : 6.0
Steering Angle : 40.2

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VEHICLE MANEUVERING DIAGRAMS
MSU–PHASE 1

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Check By	A.D.	Check By	I.L.	Scale	1:300
				Drawing	FIG–17

Building
een St S)
orey

Existing Parking

2 Storeys
4 Storeys
9 Storeys
1 Storey
3m Landscaped Buffer
2.1m Sidewalk
Building 1A
136
1.8m Sidewalk
Loading
Ramp
1 Storey
6 Storeys
4 Storeys
Drop Off
13000
Fire Route

2 Storeys
4 Storeys
9 Storeys
1 Storey
3m Landscaped Buffer
Building 1B
Loading
1.8m Sidewalk
4 Storeys
2.1m Sidewalk
13000
Fire Route
Drop Off

Proposed
Parking

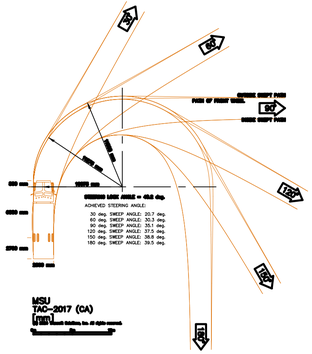
Existing Parking

MSU
TAC-2017 (CA)

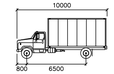
10 0m 10 20 30 40
SCALE: 1:500

N

SWEEP PATH



VEHICLE DIAGRAM



MSU

	mm
Width	: 2600
Track	: 2600
Lock to Lock Time	: 6.0
Steering Angle	: 40.2

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VEHICLE MANEUVERING DIAGRAMS
MSU–PHASE 1

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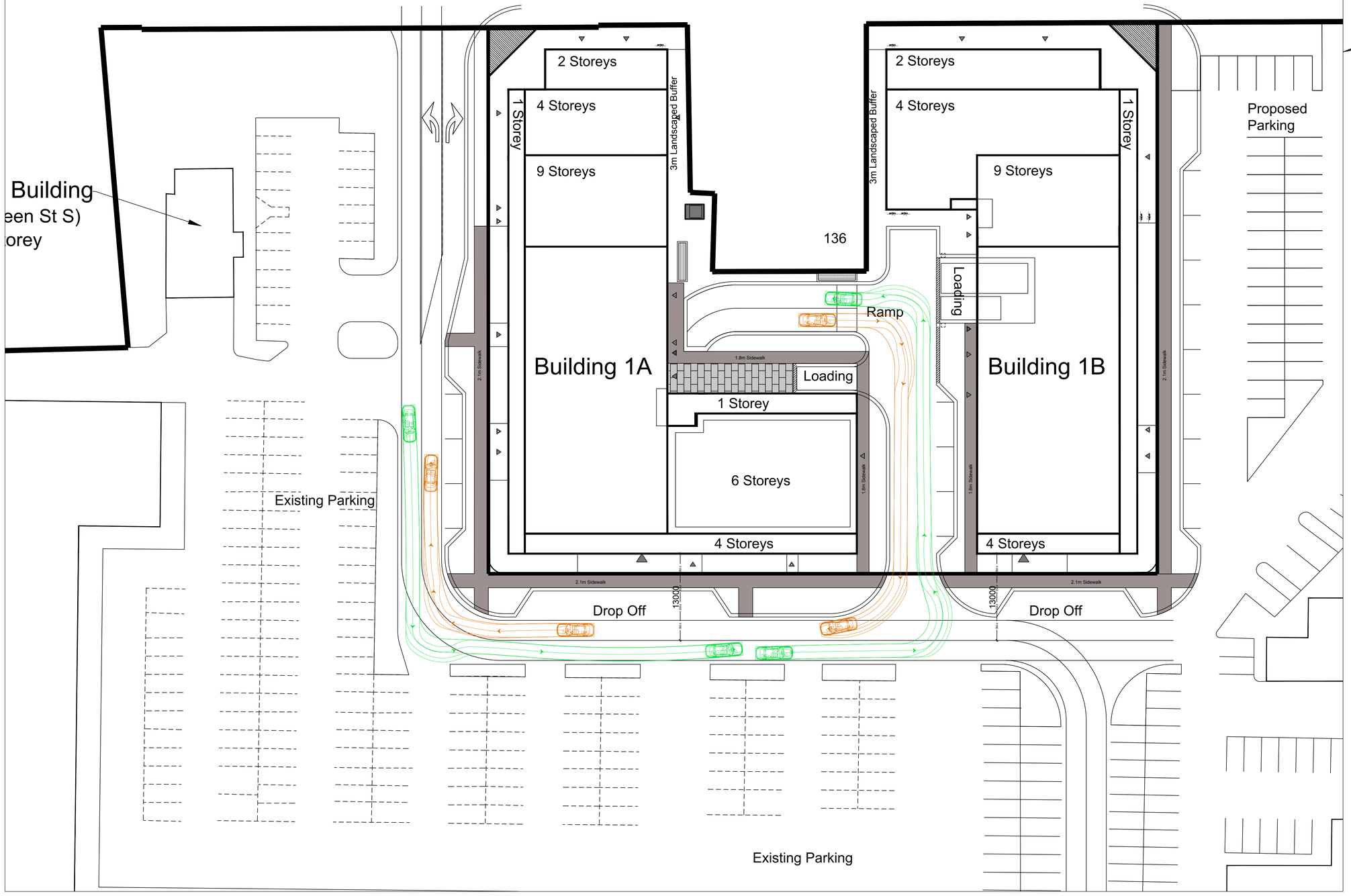
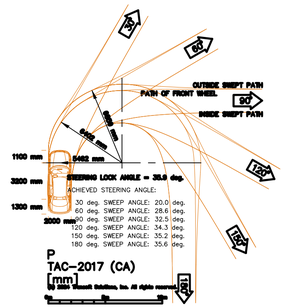
A.D.	I.L.	1:300 / FIG–18



SWEEP PATH



VEHICLE DIAGRAM

P

	mm
Width	: 2000
Track	: 2000
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

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VEHICLE MANEUVERING DIAGRAMS
PASSENGER VEHICLE–PHASE 1

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Drawn By	Design By	Project	
B.L./A.D.	B.L.		1419–6615
Check By	Check By	Scale	Drawing
A.D.	I.L.	1:300	FIG–19

Building
een St S)
orey

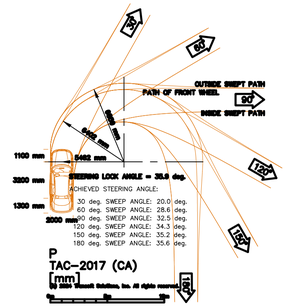
Existing Parking

2 Storeys
4 Storeys
9 Storeys
1 Storey
3m Landscaped Buffer
2.1m Sidewalk
Building 1A
136
Ramp
Loading
1.8m Sidewalk
1 Storey
6 Storeys
4 Storeys
Drop Off
13000
2 Storeys
4 Storeys
9 Storeys
1 Storey
3m Landscaped Buffer
Building 1B
Loading
1.8m Sidewalk
2.1m Sidewalk
4 Storeys
Drop Off
13000
Proposed
Parking
Existing Parking

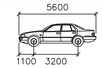
10 0m 10 20 30 40
SCALE: 1:500

N

SWEEP PATH



VEHICLE DIAGRAM



P

	mm
Width	: 2000
Track	: 2000
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

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142-148 QUEEN STREET SOUTH
CITY OF MISSISSAUGA

Drawing

VEHICLE MANEUVERING DIAGRAMS
PASSENGER VEHICLE-PHASE 1

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Check By	Check By	Scale / Drawing
A.D.	I.L.	1:300 / FIG-20

7.2 Full Build-Out

A maneuvering assessment was conducted to ensure the proposed public roads provide adequate space for the design vehicles expected at the site. As shown, an emergency fire truck, a standard Peel Region waste collection vehicle, a delivery truck (MSU), and a passenger vehicle (PTAC) can maneuver the internal public roads without any conflicts. Additional assessments would be conducted as part of future detailed design work for the public roads as necessary.

7.2.1 Emergency Vehicle

A maneuvering assessment was conducted using an Aerial Fire Truck 12.8 metres wide. The fire truck can maneuver on the Street 'A', Street 'B' and Street 'C' without any conflicts.

Figure 21and Figure 22 show the emergency vehicle maneuver.

7.2.2 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 maneuver the Street 'A', Street 'B' and Street 'C' without any conflicts.

Figure 23 and Figure 24 show the waste vehicle maneuver.

7.2.3 Loading Vehicle

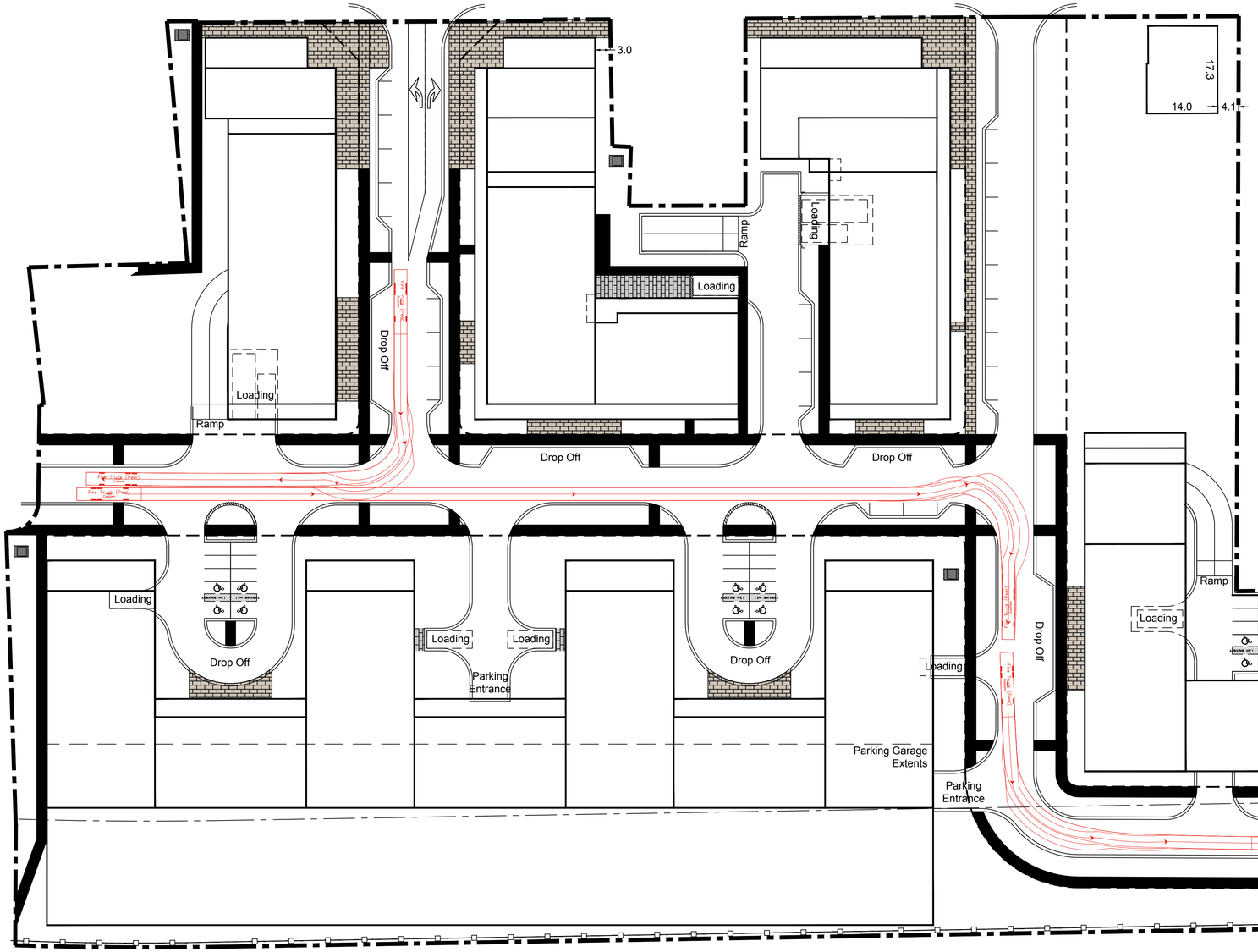
A maneuvering assessment was conducted using Medium Single Unit (MSU) vehicle 10.0 metres wide. The loading vehicle can maneuver the Street 'A', Street 'B' and Street 'C' without any conflicts.

Figure 25 and Figure 26 show the loading vehicle maneuver.

7.2.4 Passenger Vehicle

A maneuvering assessment was conducted using the PTAC vehicle. Simultaneous maneuvers can be conducted on the Street 'A', Street 'B' and Street 'C' without any conflicts.

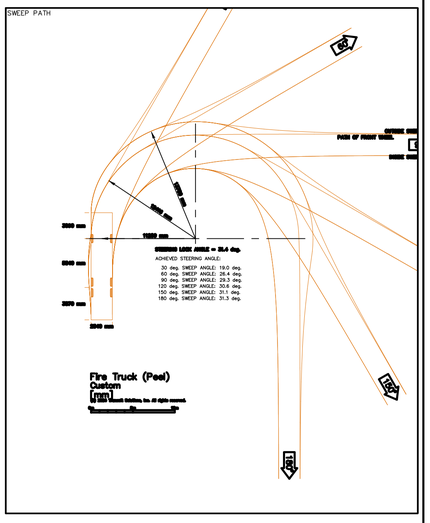
Figure 27 shows the passenger vehicle maneuver.



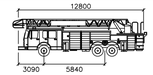
10 0m 10 20

SCALE: 1:300

SWEEP PATH



VEHICLE DIAGRAM



Fire Truck (Peel)

	mm
Width	: 2540
Track	: 2540
Lock to Lock Time	: 6.0
Steering Angle	: 31.4

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Drawing

VEHICLE MANEUVERING DIAGRAMS
FIRE TRUCK–FULL BUILD–OUT

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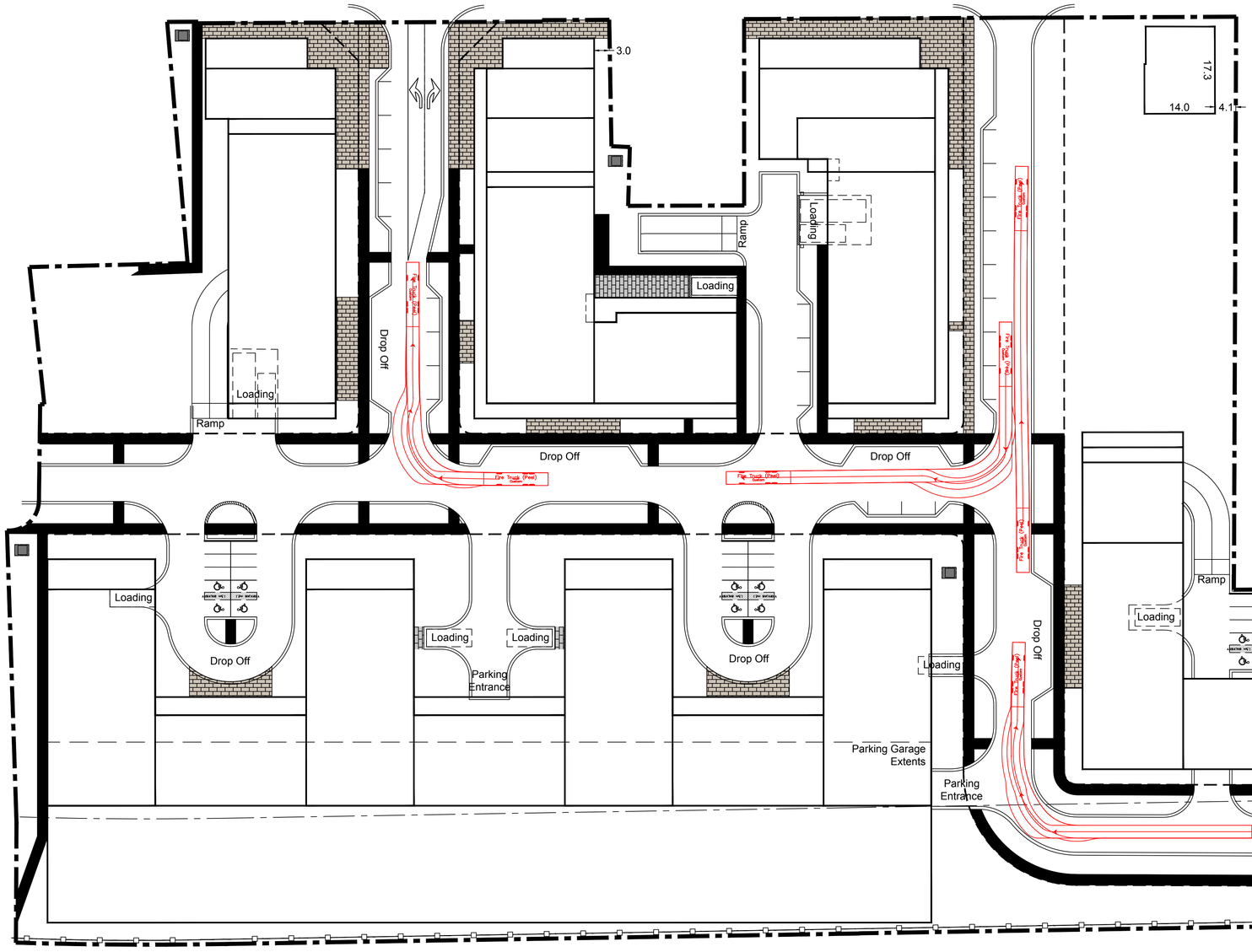
B.L./A.D.	B.L.		1419–6615
Check By	Check By	Scale	Drawing
A.D.	B.B	1:500	FIG–21



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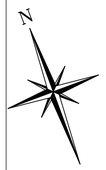
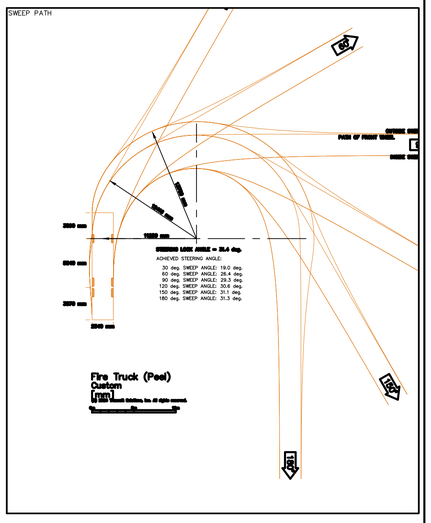
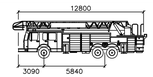




VEHICLE DIAGRAM



Fire Truck (Peel)

	mm
Width	: 2540
Track	: 2540
Lock to Lock Time	: 6.0
Steering Angle	: 31.4

No.	ISSUE	DATE: MM/DD/YYYY
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CITY OF MISSISSAUGA

Drawing

VEHICLE MANEUVERING DIAGRAMS
FIRE TRUCK–FULL BUILD–OUT

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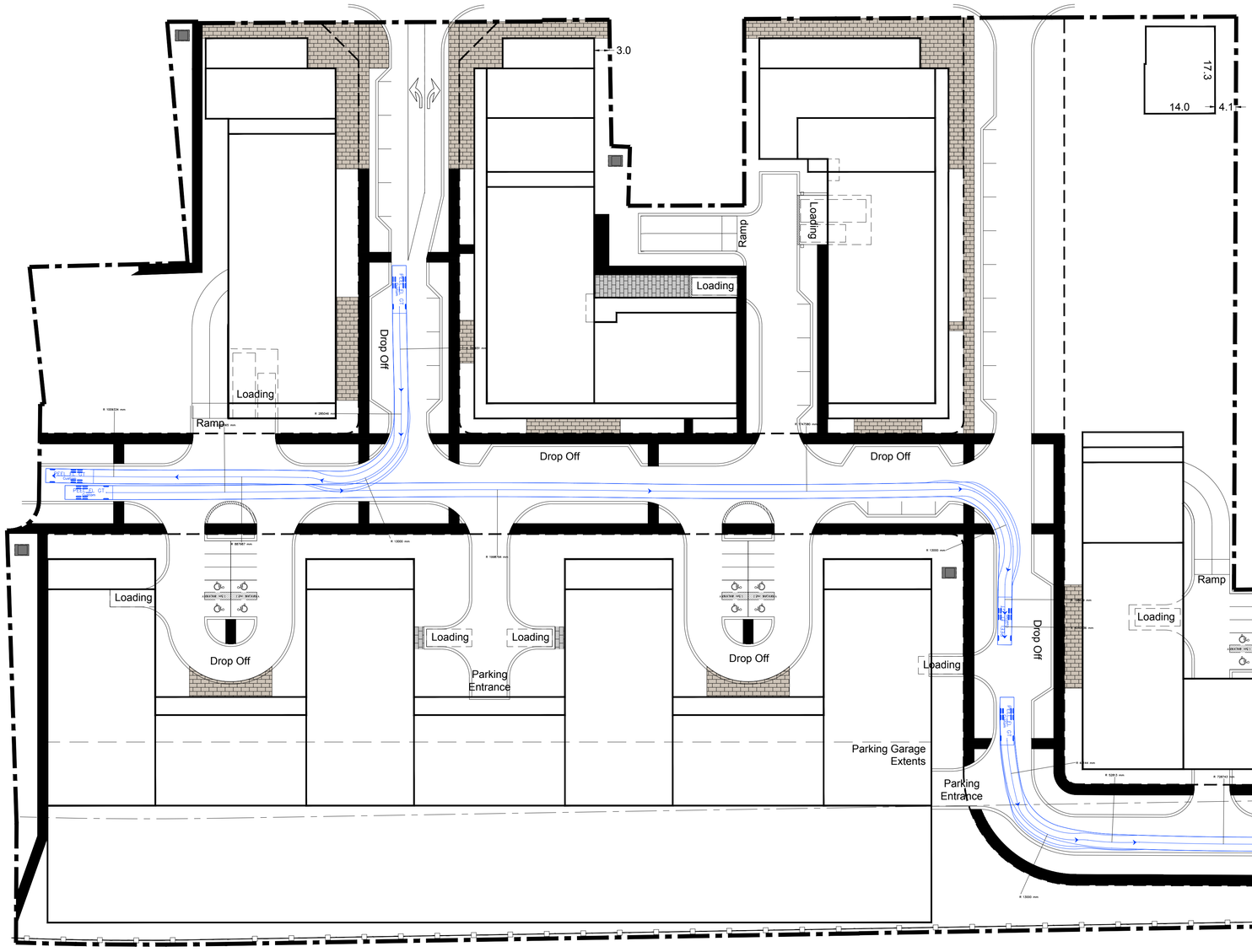
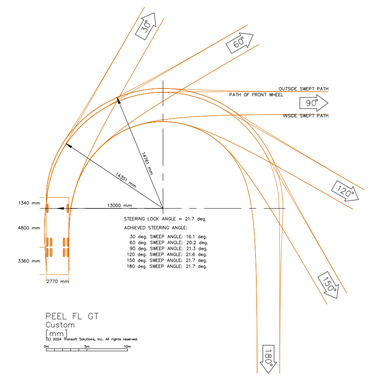
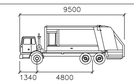
B.L./A.D.	B.L.	1419–6615
Check By	Check By	Scale / Drawing
A.D.	B.B	1:500 / FIG–22



SWEEP PATH



VEHICLE DIAGRAM



PEEL FL GT

mm

Width	: 2770
Track	: 2770
Lock to Lock Time	: 6.0
Steering Angle	: 21.7

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CITY OF MISSISSAUGA

Drawing

VEHICLE MANEUVERING DIAGRAMS
GARBAGE TRUCK–FULL BUILD–OUT

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Check By	Check By	Scale	Drawing
A.D.	B.B	1:500	FIG–23

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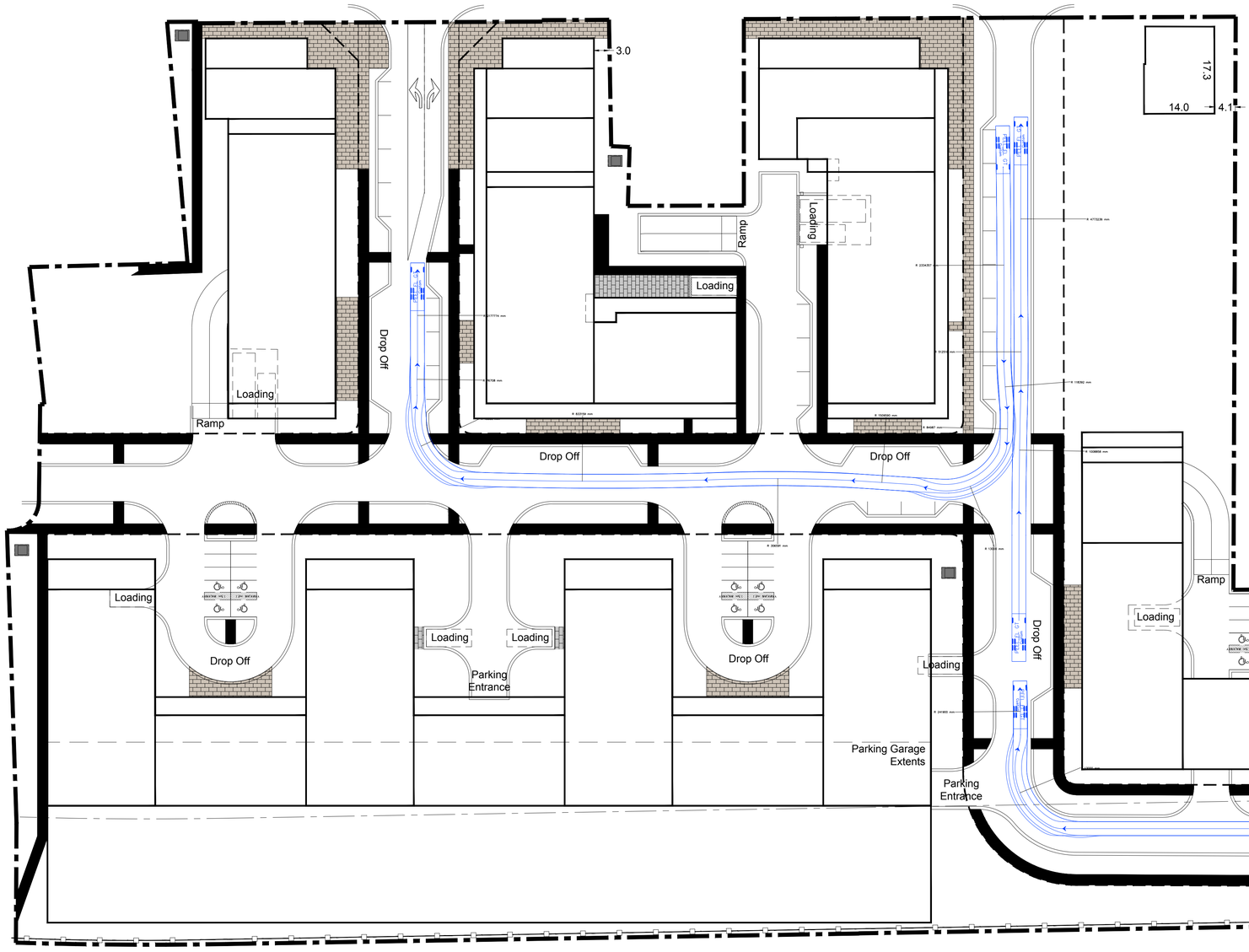
SCALE: 1:300



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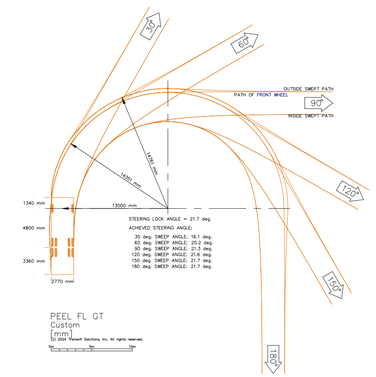
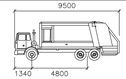


VEHICLE DIAGRAM



PEEL FL GT

mm

Width	: 2770
Track	: 2770
Lock to Lock Time	: 6.0
Steering Angle	: 21.7

No.	ISSUE	DATE: MM/DD/YYYY
0	ISSUED FOR 1st SUBMISSION	03/01/2024

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142–148 QUEEN STREET SOUTH
CITY OF MISSISSAUGA

Drawing

VEHICLE MANEUVERING DIAGRAMS
GARBAGE TRUCK–FULL BUILD–OUT

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Check By	Check By	Scale / Drawing
A.D.	B.B	1:500 / FIG–24

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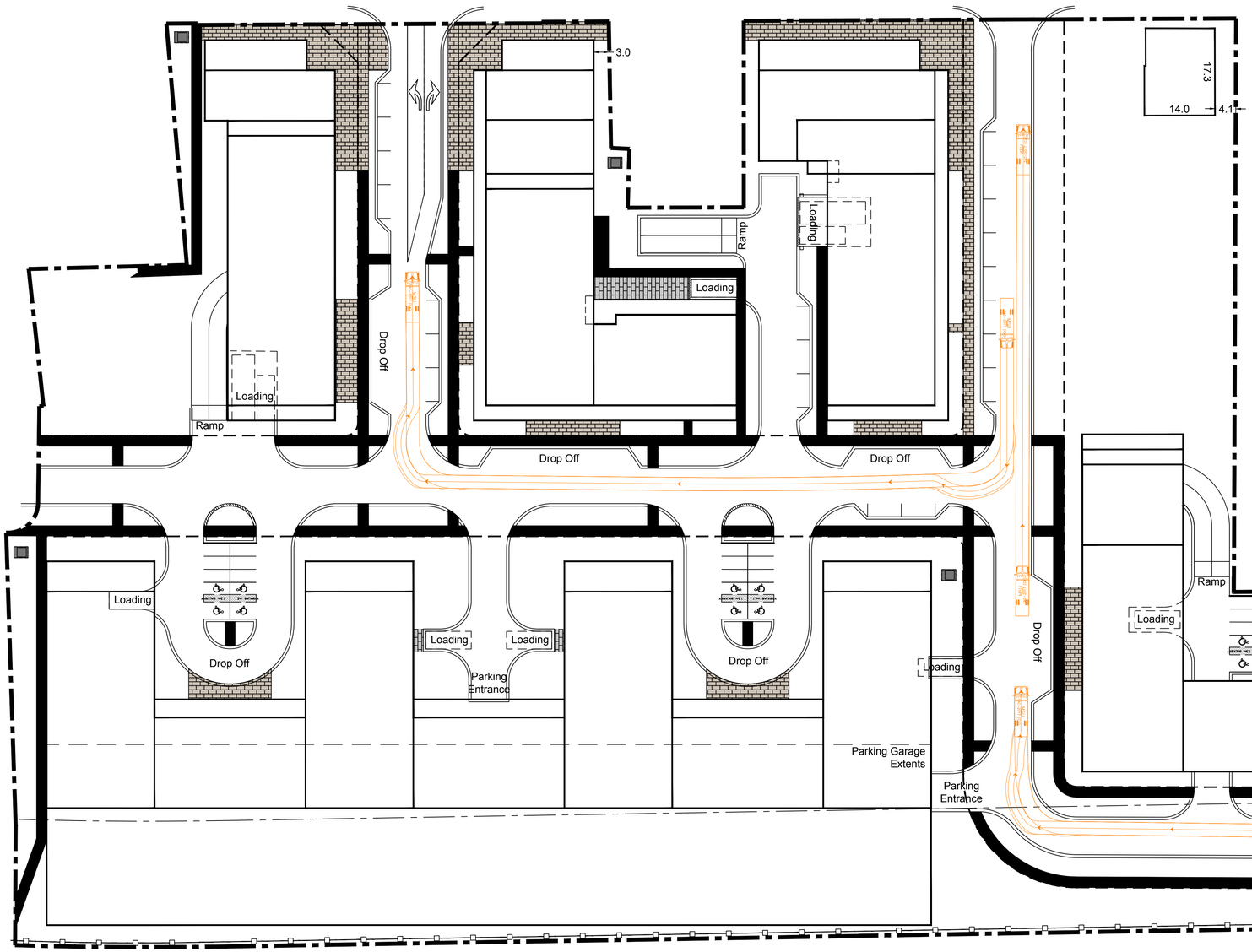
SCALE: 1:300



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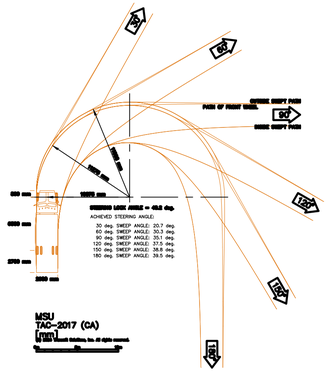
SCALE: 1:300

SWEEP PATH



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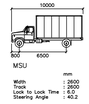

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142–148 QUEEN STREET SOUTH
CITY OF MISSISSAUGA

Drawing

VEHICLE MANEUVERING DIAGRAMS
MSU–FULL BUILD–OUT

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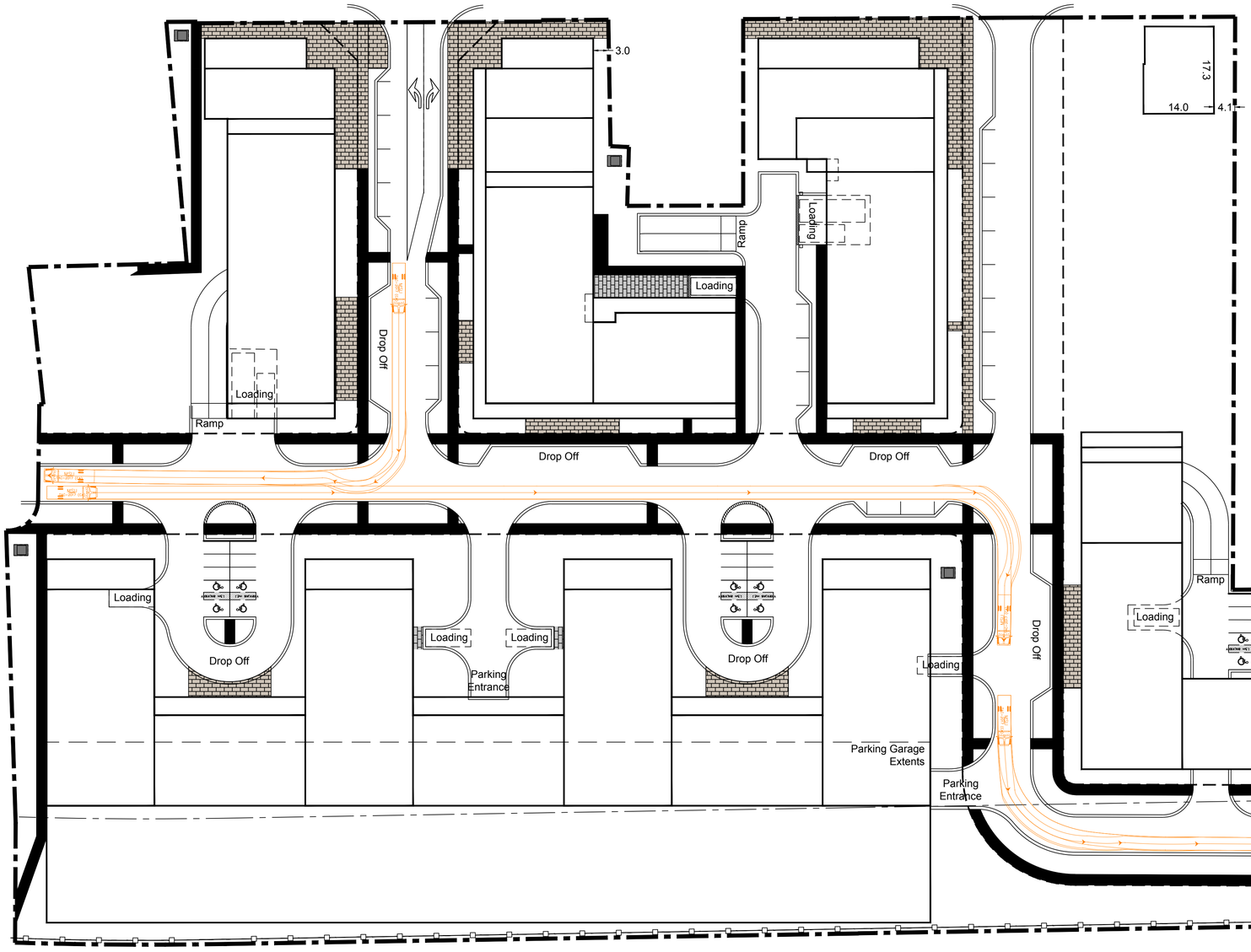
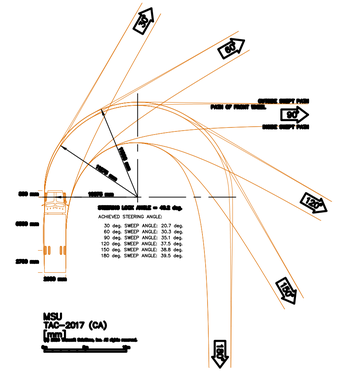
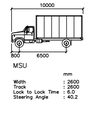
B.L./A.D.	B.L.		1419–6615
Check By	Check By	Scale	Drawing
A.D.	B.B	1:500	FIG–25



SWEEP PATH



VEHICLE DIAGRAM



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142–148 QUEEN STREET SOUTH
CITY OF MISSISSAUGA

Drawing

VEHICLE MANEUVERING DIAGRAMS
MSU–FULL BUILD–OUT

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B.L./A.D.	B.L.		1419–6615
Check By	Check By	Scale	Drawing
A.D.	B.B	1:500	FIG–26

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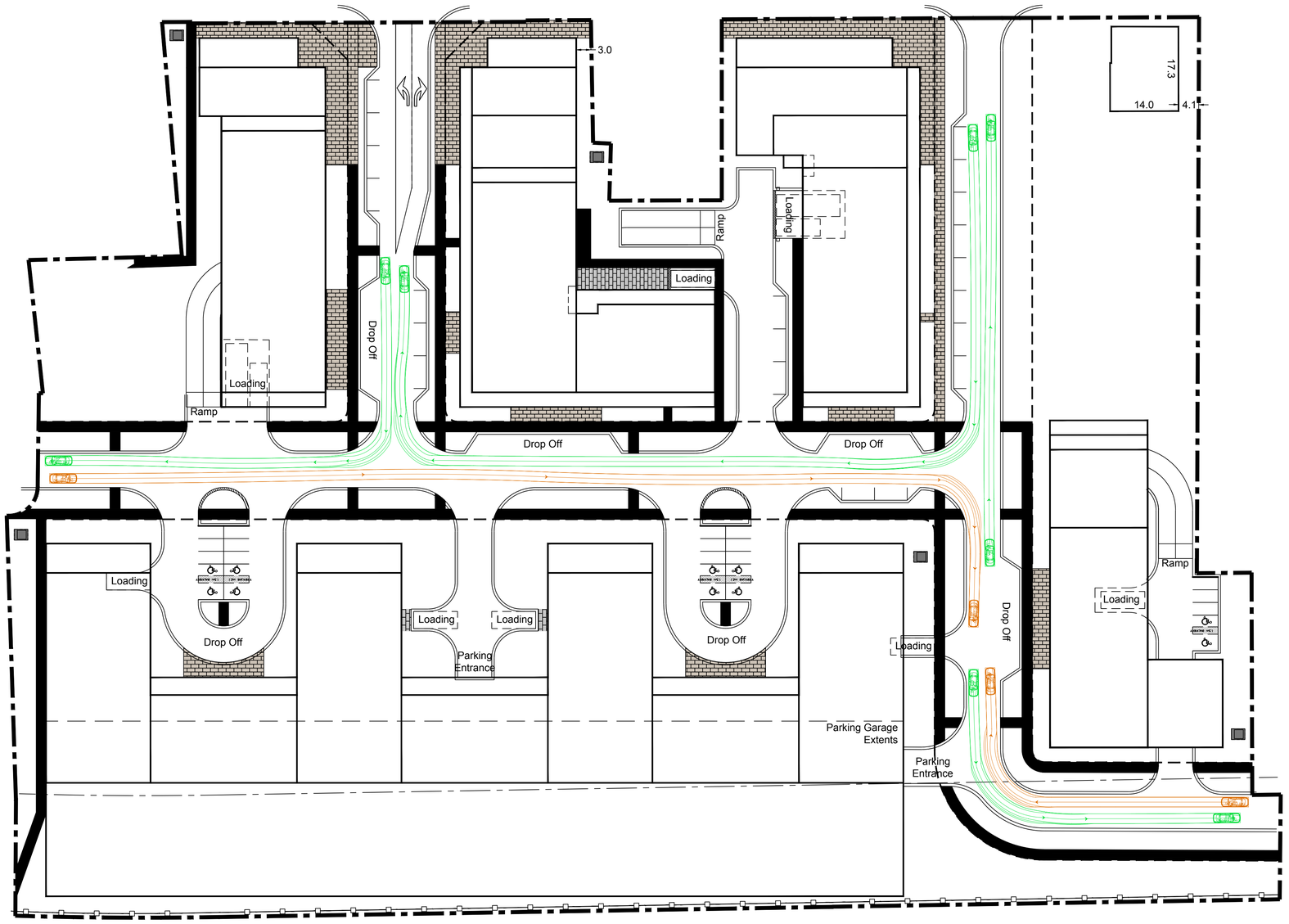
SCALE: 1:300



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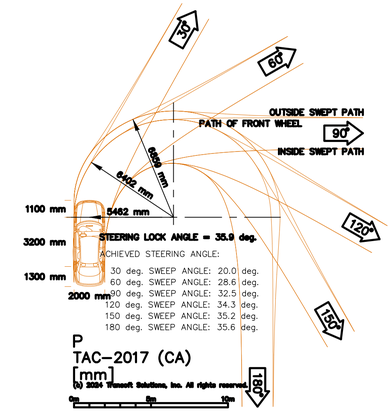

VEHICLE DIAGRAM

P

	mm
Width	: 2000
Track	: 2000
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

No.	ISSUE	DATE: MM/DD/YYYY
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142-148 QUEEN STREET SOUTH
CITY OF MISSISSAUGA

Drawing

VEHICLE MANEUVERING DIAGRAMS
PASSENGER VEHICLE-FULL BUILD-OUT

CROZIER CONSULTING ENGINEERS
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Check By	Check By	Scale / Drawing
A.D.	I.L.	1:500 / FIG-27

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

8.0 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 reviewed within this assessment.

Further, the proposed development is planned to be implemented in phases, and the Transportation Impact Study (TIS) has been prepared to support the Official Plan Amendment for the entire site, along with a joint Zoning By-Law Amendment specifically for "Phase 1." Consequently, the parking requirements are specified for the overall site, while the parking justification is specifically conducted for Phase 1.

Subsequent applications for future phases will also review the parking supply compared to the By-law requirements for each phase and provide any necessary justification to support those future phases.

8.1 Parking Requirements for Full Build-Out

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 17**. However, it is noted that the parking supply is subject to change as part of future applications.

8.1.1 Vehicle Parking Requirement

A summary of the proposed and required parking supply for full build-out of the proposed mixed-use development can be found in **Table 17.**

Table 17: Zoning By-Law Parking Review for Vehicles – Full Build-Out

Units/GFA	Zoning By-Law 0225-2007 Parking Rates (Precinct 2)	Required Parking Spaces	Proposed Parking Spaces	Surplus/Deficit
Dwelling Units (1,808)	Residents (0.9 spaces/unit)	1,627	1,448 (Resident) + 298 (Shared Commercial/ Visitor)	-243
	Visitors (0.2 spaces/unit)	362		
Office (329 m²)	2.5 spaces/100 m² GFA	8		
Retail (3,292 m²)	3.0 spaces/ 100 m² GFA	99		
Total		**1,989**	**1,746**	**-243**

* It is noted that the City's Zoning By-Law allows for a shared calculation between visitor and non-residential uses such that the larger of the visitor requirement or the sum of the non-residential uses requirement only needs to be provided to satisfy the By-Law requirements for both uses.

A shared parking arrangement for the residential visitors parking and the non-residential parking is proposed. As a result, the required spaces for visitors govern the office and retail spaces and were therefore used to calculate the By-Law requirement for the overall site.

The auto parking requirements for residents and visitors result in a deficit of 243 spaces (~12%) of the total required parking spaces and does not meet the zoning by-law requirement. The parking justification for the parking supply for full build-out will be provided as part of future application.

8.1.2 Bicycle Parking Requirements

A summary of the proposed and required parking supply for proposed mixed-use development can be found in **Table 18.**

Table 18: Zoning By-Law Parking Review for Bicycles Full Build-Out

Units/GFA	Zoning By-Law 0225-2007 Parking Rates (Precinct 2)	Required Parking Spaces	Proposed Parking Spaces	Surplus/Deficit
Dwelling Units (1,808)	Long-Term (0.6 spaces/unit)	1,084	1,188	+2
	Short Term (0.05 spaces/unit or 6 spaces whichever is greater)	90		
Office (329 m^2)	Long-Term (0.1 spaces/100 m^2 GFA)	0		
	Short-Term (0.1 spaces/ 100 m^2 GFA)	0		
Retail (3,292 m^2)	Long-Term (0.15 spaces/ 100 m^2 GFA)	5		
	Short-Term (0.2 spaces/ 100 m^2 GFA)	7		
Total	**Long-Term**	**1,089**	**1,188**	**+2**
	Short-Term	**97**		

It can be noted that a total of 1,089 long-term and 97 short-term bicycle parking spaces are required per the City's Zoning By-Law. The proposed supply is anticipated to meet the Zoning By-Law requirement in the future but will be assessed in detail as part of the individual future zoning applications for each phase.

8.2 Parking Requirements for Phase 1

The parking requirements were assessed for Phase 1 that consists of high-rise residential towers connected by podium with commercial and retail uses.

8.2.1 Vehicle Parking Requirement

As per the shared parking arrangement component for residential and non-residential uses in the Zoning By-Law, the total office and retail spaces govern the visitor spaces and therefore the visitor arrangement is assessed based on the governing spaces.

A detailed review was performed for the Phase 1 parking supply and summarized in **Table 19.**

Table 19: Zoning By-Law Parking Review for Vehicles – Phase 1

Units/GFA	Zoning By-Law 0225-2007 Parking Rates (Precinct 2)	Required Parking Spaces	Proposed Parking Spaces	Surplus/Deficit
Dwelling Units (526)	Residents (0.9 spaces/unit)	473	433	**- 40**
	Visitors (0.2 spaces/unit)	105	91	**-14**
Office (329 m^2)	2.5 spaces/100 m^2 GFA	8		
Retail (2,913 m^2)	3.0 spaces/ 100 m^2 GFA	87		
Total		**578**	**524**	**-54**

It can be noted that the proposed auto-parking rate for residents and visitors do not meet the City's By-Law requirements, as the proposed total parking supply is deficient by 54 spaces. The parking reduction of 9.3% is minimal and fall under given threshold of 10% reduction per the City's guidelines. It can also be noted that layby parking is provided on one side of the public roadways, which has not been accounted for. This additional short-term parking supply in the lay-bys in combination with the proposed underground parking supply is expected to meet the visitor, as well as retail and commercial parking demands at the proposed site.

Further, the site is in close proximity to Streetsville GO station (10-15 minute walk) and the surrounding area is walkable with a Mi-Way transit stop within a short walk from the development to 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.

A total of 10% parking is dedicated as Electric Vehicle parking for visitors and 20% is expected to be dedicated for residents per the City's Zoning-By Law requirements for EV parking supply.

8.2.2 Resident Parking Justification

The proposed supply of residential parking spaces is deficient of 40 parking spaces compared to the By-Law requirements, but the justification herein has been prepared to support the proposed rate of 0.82 residential spaces per unit within Phase 1 of the proposed development.

Previous Zoning By-law Exceptions within Mississauga

Firstly, a number of recent City of Mississauga Zoning By-Law exceptions were reviewed for the site in proximity to GO Stations and transit stops as shown in Table 20.

Table 20: City of Mississauga Zoning By-Law Exceptions

Development	Approved Residential Parking Rate	Waking Distance to Transit (minutes)
142-148 Queen Street South (Subject Development)	0.82 per dwelling (proposed)	Mi-Way: <5 GO Train: 10-15
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 10-15 minute walking distance from Streetsville GO Station, and transit users can utilize MiWay to access the GO station from transit stops on Queen Street if desired. Additionally, GO transit services reimburse fees for passengers who use MiWay to connect to the GO station encouraging residents to use public transit.

Furthermore, it is noted that Queen Street already features Bicycle Lanes north of the Site Access, and the City of Mississauga is currently working on expanding these lanes as part of their Cycling Master Plan. There are also plans to introduce a multi-use trail and separated bicycle lanes along Thomas Street, which will enhance bicycle and pedestrian connectivity to Streetsville GO Station.

The implementation of these cycle lanes and multi-use trails is expected to have a positive impact, reducing the number of Single Occupied Vehicle Trips while promoting the use of public transit and active transportation.

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 similar major highway access and distance to higher-order transit.

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 15-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 the basic amenities and accessibility to the major destinations combined with the proposed TDM measures, the proposed parking rate of 0.82 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.

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.

8.2.3 Shared Visitor and Commercial Parking Justification

It is noted that the retail and visitor parking supply proposed for the site does not meet the City of Mississauga Zoning By-Law parking requirements but that the deficit is minimal when considering the shared-use provisions within the City's By-law. As such, the following short justification has been prepared to support the shared visitor and commercial parking supply.

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 (<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 retail parking demand within Streetsville.

Conclusion

This sharing of uses and transition to a less auto-oriented urban area, is expected to continue around downtown Streetsville near the GO Train Station and as a result, the expected supply is expected to meet the demands of the development without oversupplying the area with unnecessary parking in the future.

Therefore, the proposed shared visitor, retail and office parking supply can be supported.

8.2.4 Bicycle Parking Requirements

A summary of the proposed and required parking supply for proposed mixed-use development can be found in **Table 21.**

Table 21: Zoning By-Law Parking Review for Bicycles Phase 1

Units/GFA	Zoning By-Law 0225-2007 Parking Rates (Precinct 2)	Required Parking Spaces	Proposed Parking Spaces	Surplus/Deficit
Dwelling Units (526)	Long-Term (0.6 spaces/unit)	316	332 Long-Term and 62 Short-Term (26 underground and 36 at grade)	+42
	Short Term (0.05 spaces/unit or 6 spaces whichever is greater)	26		
Office (329 m^2)	Long-Term (0.1 spaces/100 m^2 GFA)	0		
	Short-Term (0.1 spaces/ 100 m^2 GFA)	0		
Retail (2,913 m^2)	Long-Term (0.15 spaces/ 100 m^2 GFA)	4		
	Short-Term (0.2 spaces/ 100 m^2 GFA)	6		
Total	**Long-Term**	**320**	**394**	**+12**
	Short-Term	**32**	**62 (36 at grade and 26 underground)**	**+30**

It can be noted that a total of 320 long-term and 36 short-term bicycle parking spaces are required per the City's Zoning By-Law. The proposed long-term and short-term parking supply is in surplus by 12 spaces and 30 spaces respectively and meets the City By-Law Requirements. The 26 short-term spaces are provided in P1 are anticipated to encourage people to use bicycles since the spaces are weather protected.

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

9.0 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.

9.1 Existing TDM Opportunities

9.1.1 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 22** summarizes the modal split at the site, resulting from the TTS query analysis. The detailed TTS query is provided in **Appendix O.**

Table 22: 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 Queen Street continues to undergo implementation of separate bicycle lanes as part of the Cycling Master Plan.

9.1.2 Active Transportation

The study area provides ample opportunities for pedestrians to make trips, as sidewalks are available on both sides of the road on the surrounding roadways, with wide sidewalks provided on both sides of Queen Street and Tannery Street.

Cyclists have north/south connectivity along the signed route available Queen Street South upto the north of the intersection of Queen Street and Site Access and the sperate bicycle lanes are under implementation further ahead of the intersection on south side as part of Cycling Master Plan.

9.1.3 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 2–3-minute walk. As indicated by the TTS results, approximately 12% of peak hour trips use transit in the study area. It is anticipated that this mode split will be adequately accommodated at the proposed development.

It is noted that headways are at about 15 minutes in the A.M. peak hour and generally long at about 30 minutes in the P.M. peak hour. and no transit shelters are present currently. However, the development is in close proximity to Streetsville GO station that can be reached by walking or cycling, and the headways are at about 15 minutes for both peak hours.

9.2 TDM Opportunities and Recommendations

9.2.1 Pedestrian Facilities

The design of the development facilitates mobility for pedestrians between the site and the surrounding roadways; this is achieved by providing a minimum of 2.0 metre sidewalks connecting the site access via Queen Street and on extensions via William Street and Crumbie Street.

Additionally, pedestrian-friendly design measures such as proper lighting, benches, and landscaping are expected to be implemented to define the public spaces and provide a welcoming and safe walking environment. The ground-floor retail will also provide an attractive storefront to attract foot traffic, provide weather refuge, and other beautification measures (landscaping, greenery, amenities) to contribute to the pedestrian realm along the site frontage.

9.2.2 Transit Facilities

The use of transit is generally supported by providing sufficient pedestrian connectivity from the site to the existing sidewalk on Queen Street South and Broadway 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.

The existing transit stops for Route 44 adjacent to the site on Queen Street South do not currently have a transit shelter. The Applicant may consider working with MiWay Transit to provide support for a transit shelter on Queen Street South.

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 connections.

9.2.3 Carshare Facilities

The developer is recommended to consult with carshare providers to provide vehicle(s) and dedicated parking stall(s) on-site to discourage car ownership and promote residents to use a variety of modes of travel, using the shared vehicles when necessary. The residents will be encouraged to use cycle or walk for short duration trips and use carshare for essential purpose only.

9.2.4 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.

9.2.5 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.

9.2.6 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.

9.2.7 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.

10.0 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).

11.0 Conclusions and Recommendations

The conclusions 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 capacity issues were identified for the westbound through movements (during the P.M. peak) at the intersection of Queen Street and Main Street/Pearl Street and the 95th percentile queue lengths for eastbound left were identified exceeding the available storage at the intersection Queen Street and Tannery Street/Private Access.

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

- 2027 Future Background Conditions

    - All the study intersections operate very similar to the existing conditions. The eastbound left queue length at the intersection of Queen Street and Tannery Street/Private Access is expected to exceed the available storage. As a result, the eastbound left turn storage length should be considered for extension in the future by additional 35 metres.

    - The westbound through movement at the intersection of Queen Street and Main Street/Pearl Street is forecasted to operate above capacity in the P.M. peak hour primarily due to protected left-turn phase, while the westbound approach only consist of a single shared though/right-turn and left-turn lane.

    - The Level of Service for eastbound approach is expected to deteriorate to 'E" due to a minor increase in delay of 12 seconds in the weekday P.M. peak hour. The volume to capacity ratio of 0.48 is still expected to stay within the threshold of 0.85.

- 2033 Future Background Condition

    - All the study intersections operate similar to the 2027 future background conditions with intersection operations expected to improve at both the Queen Street accesses due to the removal of existing traffic associated with the commercial plaza trips.

- Phase 1 of the proposed development is expected to generate 201 two-way (76 inbound and 125 outbound) trips during the weekday A.M. peak hour, 275 two-way (152 inbound and 123 outbound) trips during the weekday P.M. peak hour and 309 two-way (175 inbound and 134 outbound) trips during the Saturday peak hour.

- Full build-out of the proposed development is expected to generate 562 two-way (169 inbound and 393 outbound) trips during the weekday A.M. peak hour, 713 two-way (421 inbound and 292 outbound) trips during the weekday P.M. peak hour and 799 two-way (454 inbound and 345 outbound) trips during the Saturday peak hour.

- 2027 Future Total Conditions
    - The westbound through movement at the intersection of Queen Street and Main Street/Pearl Street is forecasted to operate above capacity in the weekday P.M. peak hour similar to the future background conditions.
    - The southbound through movement at the intersection of Queen Street and Site Access is forecasted to operate above critical capacity for the Saturday peak hour in the 2027 horizon year and the 95th percentile queue length is expected to exceed the available storage with 50th percentile queue length expected to stay well under available storage.
    - However, the capacity tends to improve in 2033 horizon year due to the removal of existing commercial plaza trips from the road network.
- 2033 Future Total Conditions
    - All the study intersections operate similar to the future background conditions.
    - The 95th percentile queue length for the eastbound left-turn lane at the intersection of Queen Street and Northern Site Access is expected to stay within the available storage of 35 metres for all the peak hours.
    - The 95th percentile queue for eastbound left-turn is forecasted to exceed the available storage. As a result, the storage length is recommended to be increased by additional 35 metres to accommodate the queues.
    - The overall intersection operations at site accesses via Queen Street are expected to improve due to the removal of the existing commercial plaza trips. However, the Level of Service for the eastbound approach at the southern site access is expected to deteriorate to LOS 'E' due to a minor increase in delay of 10 seconds. The volume to capacity ratio of 0.46 is expected to stay within the threshold of 0.85.
- Sufficient sight lines are available at both the accesses along Queen Street South that provide sufficient visibility for vehicles. It is noted that any future detailed design of these intersections will further review and confirm the sightlines.
- A vehicle maneuvering assessment was undertaken for the site using critical design vehicles (fire, waste, medium-single unit trucks, as well as passenger vehicles) and no significant issues were noted. It is noted that the assessment reviewed the internal public roads for the overall development, as well as internally for Phase 1. It is further noted that detailed design of the public roads will further review maneuverability and future applications will further review the internal phases as more detail becomes available.
- Transportation Demand Management (TDM) measures, including "hard" measures such as adequate pedestrian facilities, avoiding parking oversupply, and "soft" measures such as wayfinding and educational measures and incentives were recommended at the site to reduce single-occupant vehicle trips and to promote non-motorized modes of travel and transit.

- A Parking Review was conducted for both Phase 1 and full build-out with the following items noted:
    - The proposed parking supply for the entire site is below the City's Zoning By-Law requirement by 243 spaces. The parking justification for any deficit supply as part of future phases will be provided at the zoning application stage for individual zoning submissions.
    - The proposed vehicle parking supply for Phase 1 is below the City's Zoning By-Law requirement by 54 spaces. However, the proposed reduction is within 10% and therefore a Parking Utilization Study is not required per the city guidelines. Given the surrounding site context (proximity to transit and mix of land uses), as well as the provision for build-out of an active transportation network and TDM measures, the proposed parking supply for Phase 1 can be supported.
    - Additionally, the bicycle parking supply for Phase 1 meets the City's Zoning By-Law requirements and will also be evaluated as part of future phases individual zoning applications.
- 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 network to support all transportation users as part of the development.

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 (Planning), Transportation

AD/BB

\\Crozier-Files\Projects\1400\1419-DeZen Realty Co Ltd\6615 - Centre Plaza\Reports\Transportation\TIS\2nd Submission\2024.03.13_Transportation Impact Study - 140 Queen Street - FINAL.docx

APPENDIX A

City Correspondence

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 13th day of March, 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: Aarzoo Dhanani
Sent: Thursday, February 22, 2024 5:48 PM
To: Bo Yu
Cc: Michael Turco; Brandon Bradt
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Categories: Blue Category

Thanks Bo. We will look into it for future applications.

Have a nice evening,
Aarzoo

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
Office: 416.842.0020
Collingwood | Milton | Toronto | Bradford | Guelph

Read about how our story began 20 years ago **here.**

CROZIER

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Thursday, February 22, 2024 5:34 PM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Michael Turco <Michael.Turco@mississauga.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hi Aarzoo,

What I wanted to say was that for the first phase of the development, the proposed mixed-use will co-exist with the commercial units in the plaza. They will all be using the southerly Queen Street access for a considerable period of time. To ensure your estimation is not overly conservative, a survey of the turning movement count at the access should be completed.

Regards,

1974-2024 MISSISSAUGA

Bo Yang Yu, C.Tech

Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

Please consider the environment before printing

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Thursday, February 22, 2024 4:57 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Michael Turco <Michael.Turco@mississauga.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: [EXTERNAL] RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

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Hi Bo,

We understand that the development will occur in phases. However, the distinct phases need not be included at this stage as it does not pertain to an OPA issue. The report will undergo updates at the time of submission related to respective phases, with consideration given to traffic volumes at that time.

Best Regards,

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
Office: 416.842.0020
Collingwood | Milton | Toronto | Bradford | Guelph

Read about how our story began 20 years ago **here.**

CROZIER

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Thursday, February 22, 2024 4:25 PM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Michael Turco <Michael.Turco@mississauga.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hi Aarzoo,

I agree with you that in the ultimate condition, the plaza will no longer exist and should be replaced by the new site trips. However, your client has stated that the development will be phased, and all commercial buildings will remain for many years even beyond the first phase. Your report should take in consideration of the different development phases of this large subdivision.

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Thursday, February 22, 2024 4:09 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Michael Turco <Michael.Turco@mississauga.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: [EXTERNAL] RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

---

Good afternoon Bo,

Thanks for the quick response. We will balance volumes as shown below for this DARC submission.

However, we still believe that it would not be reasonable to conduct new counts as the plaza will no longer exist in the ultimate condition and the traffic in and out of the plaza will be removed from the study road network. The balancing we're discussing is only for the temporary situation. In the ultimate condition, neither balancing nor new traffic counts will be applicable because the plaza trips will be eliminated and replaced by the new site trips.

Best Regards,

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
Office: 416.842.0020
Collingwood | Milton | Toronto | Bradford | Guelph

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From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Thursday, February 22, 2024 3:37 PM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>; Michael Turco <Michael.Turco@mississauga.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good afternoon Aarzoo,

Would you be able to complete a new survey at the south access as this intersection is included as part of the ultimate design?

There are 2 municipal roads intersecting this section of Queen Street South between the Plaza and Tannery Street intersection (Kerr Street and Water Street), with a couple driveway accesses. We feel it would be difficult to determine the turning movements in and out of the access, which could potentially lead to over and under estimation of the existing condition. We don't want this to negatively affect the finding and conclusion of your report.

If the survey cannot be completed before this DARC submission, in can be included as part of the formal submission of the plan of subdivision application.

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Thursday, February 22, 2024 3:21 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>; Michael Turco <Michael.Turco@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>

Subject: [EXTERNAL] RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

---

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Hi Bo/Michael,

Could you please confirm if the methodology outlined below is acceptable? We are preparing our submission, and a prompt response would be greatly appreciated.

Best Regards,

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
Office: 416.842.0020
Collingwood | Milton | Toronto | Bradford | Guelph

Read about how our story began 20 years ago **here.**

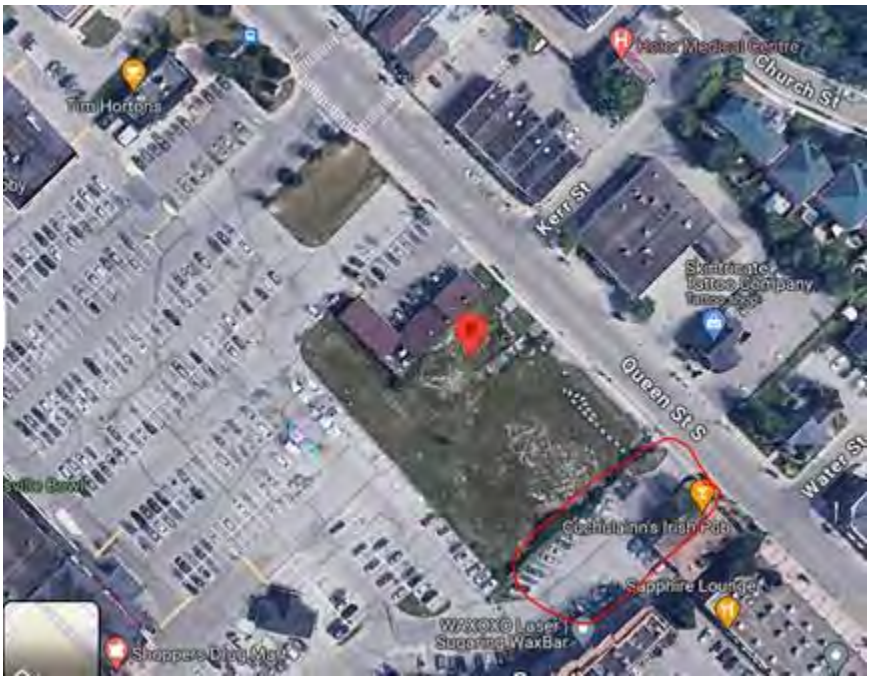
CROZIER

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Tuesday, February 20, 2024 11:33 AM
To: Bo Yu <BoYang.Yu@mississauga.ca>; Michael Turco <Michael.Turco@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good morning Bo,

It's been a while since we last spoke! I hope everything's going well.

We're reaching out to seek clarification regarding the southern access via Queen Street South in the image below.

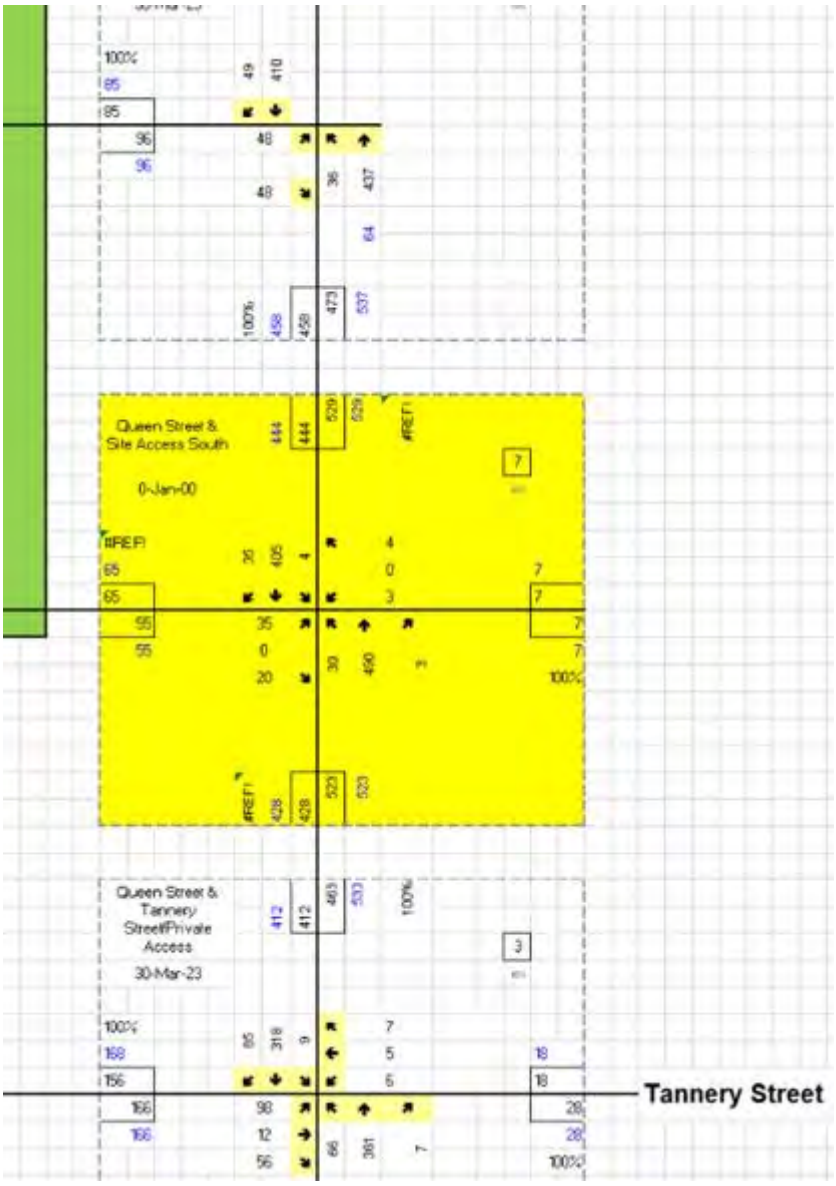


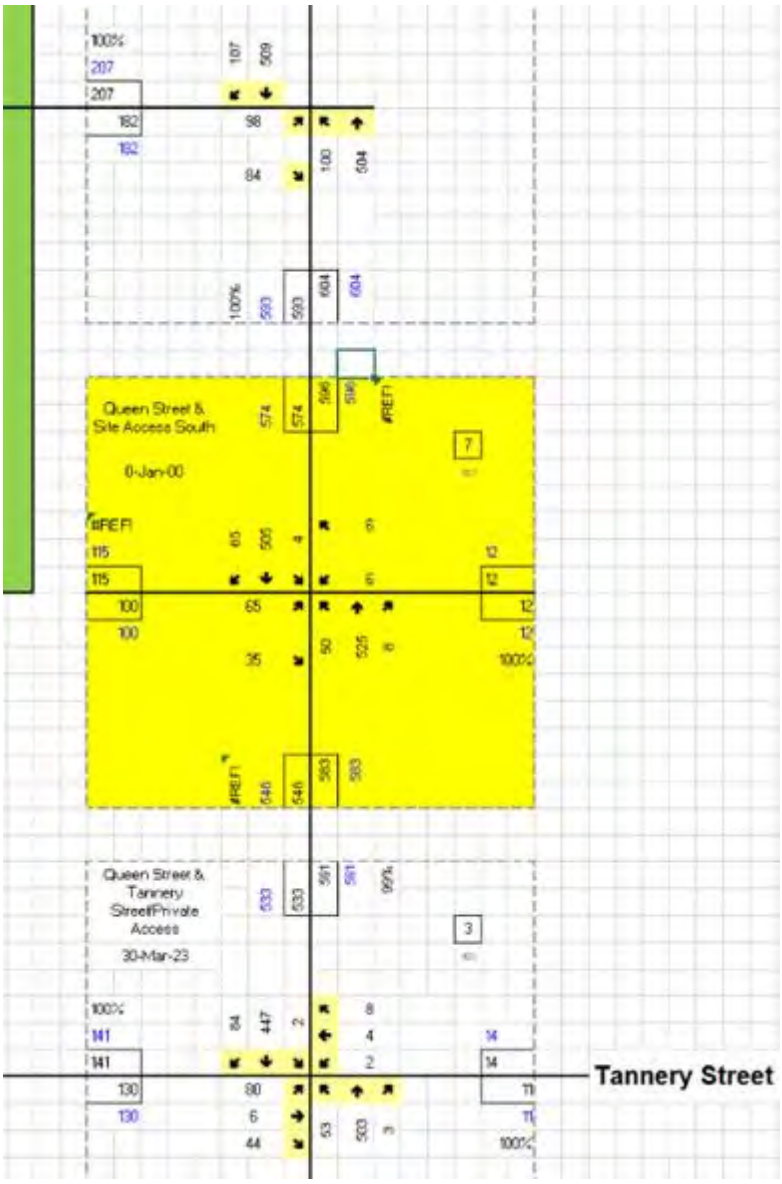
After our last meeting, we've decided to keep the given southern access via Queen Street based on feedback from the City, and it will remain in ultimate condition. Since this access wasn't part of our original plan, we didn't count traffic for this access in March/April 2023 like we did for other intersections. Therefore, we intend to use traffic volumes from the intersections of Queen Street and Plaza Access, and Queen Street and Tannery Street to estimate traffic volumes for both northbound and southbound approaches at the southern intersection. We've also made a fair assumption about the traffic turning in and out of the site from Queen Street, comparing it to traffic at the northern plaza access point.

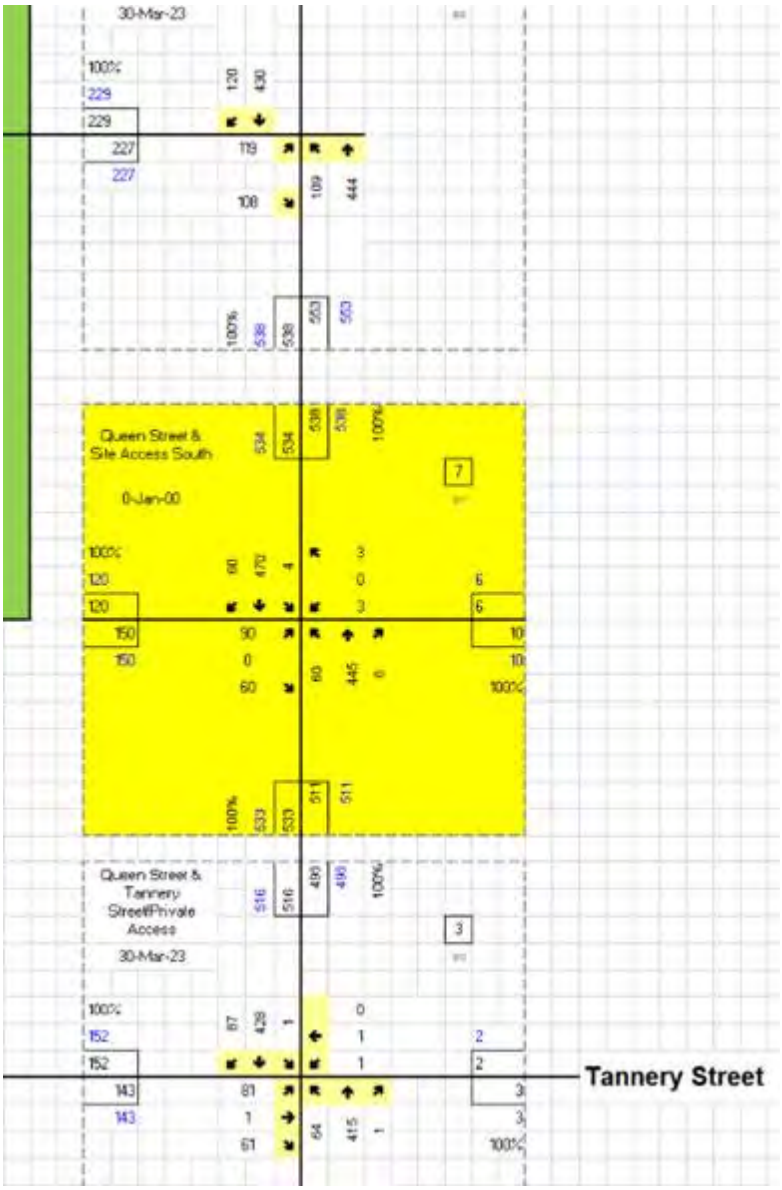
We don't plan on doing new traffic counts to analyze operations in existing conditions and so on to maintain consistency and avoid discrepancies. Please note that we previously balanced the northbound traffic on Queen Street in AM peak hour using data from 2019 for Queen Street and Main Street/Pearl Street, which showed higher volumes and conducting new counts at the south access will lead to multiple adjustments. The screenshots below highlight the assumed volumes at the southern access point in different peak hours:

AM **PM**

SATURDAY


Queen Street &
Site Access South
0-Jan-00
Queen Street &
Tannery
Street/Private
Access
30-Mar-23
Tannery Street


Queen Street &
Site Access South
0-Jan-00
Queen Street &
Tannery
Street/Private
Access
30-Mar-23
Tannery Street



Please let us know if this is acceptable for the upcoming submission.

Best Regards,
Aarzoo

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
Office: 416.842.0020
Collingwood | Milton | Toronto | Bradford | Guelph

Sent: Tuesday, October 17, 2023 4:40 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Matthew.Shilton@mississauga.ca; mark@dezenrealty.com; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Appreciate the heads up, Bo!

Could you please let us know if there's an estimated week/date for the meeting?

Best Regards,
Aarzoo

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Tuesday, October 17, 2023 2:52 PM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>; mark@dezenrealty.com; Matthew Shilton <Matthew.Shilton@mississauga.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good afternoon Aarzoo,

Would you please hold off on setting up the meeting for the related Traffic comments? City's Planning and Building team is looking to set up a larger work meeting with the reviewers and the applicant. We will be able to discuss any questions/comments at that time.

Please do not hesitate to contact me if you have any questions.

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Monday, October 16, 2023 3:29 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>; mark@dezenrealty.com
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good Afternoon Bo,

We have received the City's comments on the Queen Street application and after reviewing them and discussing with the internal project team, we would like to schedule a meeting with yourself and any other members of your team to discuss a number of the comments. I note that for this meeting, we will have the proponent (Mark Palmieri), as well as other members of our planning team join in.

The goal of the meeting would be to clarify and understand the comments in more detail so that we can ensure they are fully addressed as part of our next submission, so please be sure to include any necessary staff from the City in order to discuss these issues in detail, particularly surrounding the design of the proposed Rights of Way, the requested easements, as well as the need for turning movements diagrams. I note that the comments and our preliminary responses to the transportation related items have been provided below for reference at the meeting.

We would like to schedule the meeting either Tuesday or Wednesday this week so please let us know if a time on either of those days works for yourself and the necessary members or your team who would also need to attend. If neither of those days work please provide your earliest availability.

			Original Comments	Updated	City's
21	1	TRAFFIC REVIEW Bo Yang Yu 1/12/23 8:53 AM	SUBMISSION REQUIREMENT: [TRAFFIC IMPACT STUDY] - A Transportation Impact Study representative of the proposed land use and gross floor area is required. The study is to include a Transportation Demand Management component. The traffic consultant should provide a terms of reference to the City's Traffic Section for review and receive confirmation prior to commencing of the study.	Reviewer Response: Bo Yang Yu - 9/25/23 2:36 PM [Sept 2023, Update] - The following are outstanding per the Terms of Reference approved and the City's Traffic Impact Study Guideline: (i) TIS Guideline 2.3.26 Site Access and Circulation - All site access points should be reviewed in terms of capacity, safety, vehicular & pedestrian sight distance, location, corner clearance, alignment, clear throat distance, and adequacy of queue storage capacity (ii) TIS Guideline 2.3.28 Community Impacts section missing. ---------- Responsed by: T.J. Cieciura - 8/21/23 5:34 PM A TIS has been prepared and submitted to the City that includes a TDM component and according to the agreed upon Terms of Reference.	
23	1	TRAFFIC REVIEW	COMMENT: [LAND DEDICATIONS] - The Owner will be required to		

		Bo Yang Yu 1/12/23 8:53 AM	gratuitously dedicate the following to the City of Mississauga: (A) MUNICIPAL ROADS (i) Street 'A' with a right of way of 20m for the creation of a Local road (north-south road connecting Queen Street South and Crumbie Street); (ii) Street 'B' with a right of way of 20m for the creation of a Local road (north-south road connecting William Street and Street A); (B) SIGHT TRIANGLES / ROUNDINGS (i) 15 metre sight triangles at the northwest and southwest corner of Queen Street S. and Street A.		
24	1	TRAFFIC REVIEW Bo Yang Yu 1/12/23 8:54 AM	COMMENT: [SITE ACCESS] - (a) The Owner shall ensure the access proposed along with the new road network provides sufficient sight lines such that views are not obstructed at the intersection (street trees, retaining walls, noise walls etc.). (b) The Owner shall provide for a sufficient corner clearance from the roadway to the access point. (c) The Site/Grading Plan shall be revised to delete the portion of depressed curb and sidewalk through the access at the controlled intersection, therefore being constructed to local roadway standards.	Reviewer Response: Bo Yang Yu - 9/25/23 2:12 PM [Sept 2023, Update] - (a) The proposed access for Building A site access shall be relocated to Street 'B' to provide for increased corner clearance from the signalized intersection at Queen Street and enhance traffic operations and safety on Street 'A'. (b) The secondary Building B site access shall be removed. Access to underground parking should be achieved internal to the site.	(a) A p cl in A 'B re (b) T u U o vi a re u
25	1	TRAFFIC REVIEW Bo Yang Yu 1/12/23 8:54 AM	COMMENT: [INTERNAL SITE CIRCULATION] - (a) Turning movement diagrams will be required to depict the internal site circulation for all public roads. (b) Additional provisions to aid in the safety and operation of these features may be required. (c) Detailed turning movements are to be provided for ingress and egress through the access point(s) for the site. (d) Confirmation from Fire and Emergency Services	Reviewer Response: Bo Yang Yu - 9/22/23 11:21 AM [Sept 2023, Update] - Please provide turning movement diagrams to depict the internal circulations for all of the proposed public roads and site accesses.	The tu demo the pr The in clear waste the ac devel turna requi move the m

			that the internal road is acceptable from an emergency response perspective. (e) Confirmation from the Region of Peel that the internal road is acceptable from a waste collection perspective. (f) A turn around facility may be required as a result of the above in addition to providing sufficient snow storage for the proposed development.		stand also r propo
26	1	TRAFFIC REVIEW Bo Yang Yu 1/12/23 8:54 AM	COMMENT: [TRAFFIC NOTES] - (i) All damaged or disturbed areas within the municipal right-of-way are to be reinstated at the Owner's expense. (ii) All landscaping and grading within close proximity to the proposed access points is to be designed to ensure that adequate sight distances are available for all approaching and exiting motorists and pedestrians. (iii) The portion of the driveway within the municipal boulevard is to be paved by the Owner. (iv) Driveway accesses shall maintain a 1.5m setback from aboveground features such as utilities and trees. (v) Any above ground utilities located within 1.5m of a proposed access are to be relocated at the Owner's expense. (vi) The cost for any/all road improvements required in support of this development application will be borne by the Owner. (vii) The Owner shall make satisfactory arrangements with the Transportation and Works Department for the design, construction and payment of all costs associated with works necessary in support access to this site. (viii) Any access to internal servicing shall be provided internally through the site. (ix) Details of the site specific access configurations will be finalized in conjunction with the Site Plan review/approval process.		
80	1	TRAFFIC REVIEW	COMMENT: [CYCLING FACILITIES] - The Owner will be required to provide	Reviewer Response: Bo Yang Yu - 9/25/23 2:15 PM [Sept 2023, Update] - All Class B bicycle parking spaces	

		Bo Yang Yu 1/18/23 2:04 PM	accessible and secure short term (outdoor) and long term (indoor) bicycle storage facilities on site. The Site Plan shall be revised to identify the cycling facility locations and to specify the facility detail(s), including quantity of spaces proposed for each. The following rates are to be used: (a) Apartment Mississauga - A minimum of 0.60 long term spaces and 0.05 (6 spaces min.) short term spaces per residential unit. (b) Retail (Per 100 sq.m. GFA of retail area) Mississauga A minimum of 0.10 long term spaces and 0.20 short term spaces. (c) Business Office (Per 100 sq.m. GFA of business office area) Mississauga A minimum of 0.10 long term spaces and 0.10 short term spaces. (d) Medical Office (Per 100 sq.m. GFA of medical office area) Mississauga A minimum of 0.10 long term spaces and 0.10 short term spaces. (e) Employment (Per 100 sq.m. GFA employment area) Mississauga A minimum of 0.10 long term spaces and a minimum of 2 spaces for short term. (f) Institutional (Per 100 sq.m. of institutional area) Mississauga A minimum of 0.10 long term spaces and a minimum of 0.10 spaces for short term.	should be provided in an outdoor and publicly accessible location per the City's Zoning By-law. Please revise accordingly.	
81	1	TRAFFIC REVIEW Bo Yang Yu 1/18/23 2:18 PM	COMMENT: [FUTURE MUTUAL ACCESS]The Owner will be required to enter into a Future Mutual Access Agreement with the City (in a format satisfactory to Legal Services), in support of the proposed future access interconnection between these lands and the adjacent lands to the east (136 Queen Street South).		
101	1	TRAFFIC REVIEW Bo Yang Yu 1/24/23	COMMENT: [LAND CONVEYANCES - EASEMENTS] - The Owner will be required to gratuitously convey the following to the City of Mississauga: (i) PEDESTRIAN ACCESS EASEMENT - The Owner will be required to provide	Reviewer Response: Bo Yang Yu - 9/25/23 2:16 PM [Sept 2023, Update] - The Owner will be required to provide a Public Vehicular and Pedestrian Access Easement over the proposed internal private roadway. The easement shall	

		11:33 AM	a Pedestrian Access Easement through the site to facilitate pedestrian connectivity through the site.	provide a connection between the proposed municipal roads and lands municipally known as 136 Queen Street South.	
102	1	TRAFFIC REVIEW Bo Yang Yu 1/24/23 11:33 AM	COMMENT:[OFFICIAL PLAN] - As per the City of Mississauga Official Plan Chapter 14: Community Nodes Special Site Policies Site 6 - Section 14.10.6.6.4. A concept plan will be required for a connecting public road network linking Queen Street South with Crumbie Street and William Street prior to development of the lands.		
103	1	TRAFFIC REVIEW Bo Yang Yu 1/24/23 12:39 PM	SUBMISSION REQUIREMENT: [DRAFT REFERENCE PLAN APPROVAL] - Prior to any Land Conveyances, the Owner shall prepare the Draft Reference Plan detailing the required land conveyances to this section for review and approval (See Traffic Comment #104).	Reviewer Response: Bo Yang Yu - 9/25/23 2:16 PM [Sept 2023, Update] - A draft reference plan is required be provided to demonstrate the public vehicular and pedestrian access easement over the private roadway. ---------- Responsed by: T.J. Cieciura - 8/21/23 5:49 PM Noted.	
129	2	TRAFFIC REVIEW Bo Yang Yu 9/21/23 2:18 PM	COMMENT: [RIGHT OF WAY PACKAGE COMMENTS] Traffic Planning staff provides the following comments for the right-way-way package provided: (i) Street 'A' shall have a right-of-way width of 20.0 metres. . (ii) 2.0m sidewalk should be provided on both sides of the proposed public roads instead of the currently proposed active transportation infrastructure. All multi-use-trail should be removed from public right-of-way cross-sections. (iii) Street 'A' connecting to the existing Crumbie Street must align/tie-in with the existing Crumbie Street appropriately. The alignment of Street 'A' will need to be reviewed to ensure that there are not encroachments within the right-of-way by 32 Tannery Street.		(i) (ii)

130	2	TRAFFIC REVIEW Bo Yang Yu 9/22/23 10:16 AM	COMMENT: [CRUMBIE STREET ROAD ALIGNMENT FEASIBILITY] Please provide additional information on the feasibility of how the proposed Street 'A' can connect/tie-in to existing Crumbie Street. It is noted that a portion of 32 Tannery Street, is currently encroaching within the future roadway. How will this be addressed?		
133	2	TRAFFIC REVIEW Bo Yang Yu 9/25/23 2:24 PM	COMMENT: [ADDITIONAL COMMENTS] Further Traffic comments may be provided subject to the receipt of new or revised information.		

Kind Regards,
Aarzoo

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

Learn all about our latest awards & recognition **here**.

LINKEDIN | INSTAGRAM | FACEBOOK | TWITTER

From: Aarzoo Dhanani
Sent: Wednesday, October 4, 2023 2:30 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Ian Lindley <ilindley@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hey Bo,

Thanks for the response and providing clarity on comments related to active transportation as well.

Please note that the existing southerly access along Queen Street will serve as a construction access in Phase 1 and will subsequently be closed. Therefore, we do not anticipate reviewing it as part of the Phase 1 development per our previous discussion.

Kind Regards,
Aarzoo

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Wednesday, October 4, 2023 9:06 AM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Subject: FW: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good morning Aarzoo,

Additionally, Active Transportation staff provides the following comments regarding the exclusion of multi-use trail for the proposed public roads:

"The City does not support the proposed multi-use trail. This connection is not identified as a need in the Cycling Master Plan. Area connectivity will be provided by the future separated bicycle lanes on Queen Street and Thomas Street. Local roads can serve a cycling network function without dedicated cycling infrastructure. Moreover, infrastructure such as multi-use trails in dense mixed environments are not appropriate, as the volume of users and mixing of modes would result in conflicts between pedestrians and cyclists."

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

From: Bo Yu
Sent: Tuesday, October 3, 2023 4:53 PM
To: 'Aarzoo Dhanani' <adhanani@cfcrozier.ca>
Cc: Ian Lindley <ilindley@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; mark@dezenrealty.com
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good afternoon Aarzoo,

Below is a quick summary of our conversation last Tuesday:

- For the proposed public roads, the City's Active Transportation section recommends 2.0m sidewalks on both sides of the street over a multi-use trail and 1.8m sidewalk due to the urban condition of the subdivision and lack of existing multi-use trails;
- The existing southerly access along Queen Street South should be included as part of the review as it is not within the scope of the phase 1 of the development; and,
- All public roads should have a right-of-way of 20m per the City's Official Plan.

The turning movement diagram is required to demonstrate the location and the feasibility of the proposed accesses for all design vehicles. The internal private roadway also requires clearance from a emergency service and waste collection perspective. Dependent on the access location and phasing of the development, temporary cul-de-sac or turnaround facility may be required which requires justification based on a turning movement diagram. As the cross-sections for the municipal roadway are not typical City standard, turning movement diagrams are also required to demonstrate that the proposed public roads are functional.

Additional comments are also provided below in green.

Please let me know if you have any questions.

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Monday, October 2, 2023 3:27 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Ian Lindley <ilindley@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; mark@dezenrealty.com
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hey Bo,

Hope all is well!

Just following up on below.

Kind Regards,
Aarzoo

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

From: Aarzoo Dhanani
Sent: Thursday, September 28, 2023 11:25 AM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Ian Lindley <ilindley@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; mark@dezenrealty.com
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hey Bo,

Just wanted to follow up on our call from Tuesday.

Could you please provide the summary we talked about? It would really help us get a clearer picture of the comments regarding active transportation in relation to the MUP/sidewalk and Street 'A' having a 17m ROW with its connection to Crumbie Street as well?

Further can you please confirm the vehicle maneuvering requirements for Phase 1 based on the application? We understand that vehicle maneuvering for entire site would be unnecessary at the moment as agreed in our Terms of Reference.

We also noticed some additional comments, and we'd appreciate some clarification on them:

Comment 24: (a) The proposed access for Building A site access shall be relocated to Street 'B' to provide for increased corner clearance from the signalized intersection at Queen Street and enhance traffic operations and safety on Street 'A'. (b) The secondary Building B site access shall be removed. Access to underground parking should be achieved internal to the site.

(a) Please note that Building A's access is set up to have best possible alignment to form four-leg intersection with an internal roadway and Street 'A'. Despite the requirement for a 55-meter corner clearance (calculated based on 50km/hr and Queen Street has a posted speed of 40km/hr), the 40-meter setback from Queen Street is expected to handle a queue length of 39.5 meters in the most extreme scenario. Shifting the access to Street "B" would greatly affect public park space. An auxiliary eastbound left-turn lane is also in place at the intersection of Queen Street and Street "A" , and reduced distance is feasible as per TAC Guidelines. Please confirm if this is achievable. Access onto private properties should be provided on the roads with lower classification and lower traffic volume to increase network efficiency. With Building A fronting onto both Street 'A' and Street 'B', an access onto Street 'B' is recommended. Please revised accordingly.

(b) Could you clarify the underground access to be achieved internal to the site? This is expected to have an impact on the Pick-up/Drop-off and at-grade parking spaces. The plan should be revised to include underground access internal to the site. Underground garage that has direct access onto municipal roadway poses sightline visibility concerns and increase vehicular and pedestrian conflicts. The site can be redesigned in order to achieve the underground access internal to the site.

Please let me know if you have any concerns and feel free to give me a call to discuss!

Kind Regards,
Aarzoo

From: Aarzoo Dhanani
Sent: Monday, September 25, 2023 2:00 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: mark@dezenrealty.com; Ian Lindley <ilindley@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good Afternoon Bo,

Just following up on the email below. Can we schedule a quick meeting this week?

Please let me know if you have any concerns!

Kind Regards,
Aarzoo

From: Aarzoo Dhanani
Sent: Friday, September 22, 2023 4:12 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Ian Lindley <ilindley@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; Trans Projects <Trans.Projects@mississauga.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hey Bo,

I appreciate your call this Thursday to address transportation matters.

We are looking to discuss comment 41 concerning the sight triangle following your review provided below. Could we arrange a brief meeting in the early next week?

Both Monday and Tuesday are convenient for us. Feel free to let us know the possible times that work for you.

41	1	TRAFFIC REVIEW Bo Yang Yu 1/12/23 11:05 AM	SUBMISSION REQUIREMENT: [DRAFT PLAN OF SUBDIVISION APPROVAL] - Prior to any Land Dedications, the Owner shall prepare the Draft Plan of Subdivision detailing the required land dedications to this section for review and approval (See Traffic Comment #22).		Review [Sept 2 been p provid (i) Stre Street and la and 15 --- Respo A Draf this su
21	1	TRAFFIC REVIEW Bo Yang Yu 1/12/23 8:53 AM	SUBMISSION REQUIREMENT: [TRAFFIC IMPACT STUDY] - A Transportation Impact Study representative of the proposed land use and gross floor area is required. The study is to include a Transportation Demand Management component. The traffic consultant should provide a terms of reference to the City's Traffic Section for review and receive confirmation prior to commencing of the study.		Review [Sept 2 per th Traffic (i) TIS All site capaci distan throat capaci

					(ii) TIS missin --- Respo A TIS h that in the ag
101	1	TRAFFIC REVIEW Bo Yang Yu 1/24/23 11:33 AM	COMMENT: [LAND CONVEYANCES - EASEMENTS] - The Owner will be required to gratuitously convey the following to the City of Mississauga: (i) PEDESTRIAN ACCESS EASEMENT - The Owner will be required to provide a Pedestrian Access Easement through the site to facilitate pedestrian connectivity through the site.		Review [Sept 2 provid Easem roadw betwe the ea
103	1	TRAFFIC REVIEW Bo Yang Yu 1/24/23 12:39 PM	SUBMISSION REQUIREMENT: [DRAFT REFERENCE PLAN APPROVAL] - Prior to any Land Conveyances, the Owner shall prepare the Draft Reference Plan detailing the required land conveyances to this section for review and approval (See Traffic Comment #104).		Review [Sept 2 be pro pedest roadw --- Respo Noted

Kind Regards,

Aarzoo

From: Aarzoo Dhanani
Sent: Tuesday, May 2, 2023 2:33 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>; Trans Projects <Trans.Projects@mississauga.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hey Bo,

Thanks for confirming the acceptance of previously reviewed Terms of Reference in light of the updated concept plan.

Best Regards,
Aarzoo

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Tuesday, May 2, 2023 1:27 PM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>; Trans Projects <Trans.Projects@mississauga.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hi Aarzoo,

Upon reviewing the updated concept plan, the previously reviewed Terms of Reference remain acceptable.

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Wednesday, April 26, 2023 10:54 AM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good morning Bo,

Thanks for confirming the receipt of the updated concept plan. Let me know if you need any further details. Looking forward to your response on confirming the Term of Reference.

Best Regards,
Aarzoo

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.477.3392

Crozier Connections:

Read our latest news and announcements here.

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Wednesday, April 26, 2023 9:44 AM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hi Aarzoo,

This email is to acknowledge that I have received the updated concept plan and is currently under review. I will provide a response to you to confirm the Terms of Reference in regards to this update.

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
Infrastructure Planning & Engineering Services Division

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Thursday, April 20, 2023 8:57 AM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hey Bo,

We are looking to reconfirm our Terms of Reference. The new concept plan has been revised with following changes:

- Woonerf replaced with a central amenity area (Central Plaza) within the main 'high density block'
- Updated private connection showing condo road extended east-west to the Market Square, and a north south Laneway/Condo Road west of Queen Street connecting Street "A" and Market Square
- An internal roadway connecting Crumbie Street Extension

We expect our original scope of work below remains intact as the updates do not materially impact the surrounding road network layout and assumptions made for transportation analysis.

Attached the concept plan for your reference and please let us know if you have any questions!

Kind Regards,
Aarzoo

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.477.3392

Crozier Connections:

Read our latest news and announcements here.

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Wednesday, March 8, 2023 8:33 AM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Cc: Rob Babic <rbabic@cfcrozier.ca>; Mena Iskander <miskander@cfcrozier.ca>; mark@dezenrealty.com; Trans Projects <Trans.Projects@mississauga.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good morning Aarzoo,

The study road network proposed in the Terms of Reference is adequate, please proceed with the data collection.

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
201 City Centre Drive, Suite 800 | Mississauga ON | L5B 2T4

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Tuesday, March 7, 2023 3:14 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Rob Babic <rbabic@cfcrozier.ca>; Mena Iskander <miskander@cfcrozier.ca>; mark@dezenrealty.com; Trans Projects <Trans.Projects@mississauga.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hey Bo,

Thanks for reviewing the terms of reference!

We will circulate our terms of reference again as we have a revised site plan for the development.

In the meantime, can you please confirm if the study road network is adequate for the analysis. If so, we will reach out to Tyler Xuereb to collect growth rates, historical AADT and turning movement counts. We will try to incorporate pre-covid 19 data in our traffic analysis given that the city data for intersections in the study network is available. If not, we will conduct new traffic counts through a specialty counting traffic firm and apply growth rates accordingly to reflect most conservative scenario.

Kind Regards,
Aarzoo

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.477.3392

Crozier Connections:

Read our latest news and announcements here.

From: Bo Yu <BoYang.Yu@mississauga.ca>
Sent: Monday, March 6, 2023 4:22 PM
To: Brandon Bradt <bbradt@cfcrozier.ca>
Cc: Aarzoo Dhanani <adhanani@cfcrozier.ca>; Rob Babic <rbabic@cfcrozier.ca>; Mena Iskander <miskander@cfcrozier.ca>; mark@dezenrealty.com; Trans Projects <Trans.Projects@mississauga.ca>
Subject: RE: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Hi Brandon,

Thank you for providing a TIS Terms of Reference for the proposed development at 120 & 146 Queen Street South and 169 Crumbie Street. Please see my comments below in green:

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

Regards,

Bo Yang Yu, C.Tech
Traffic Planning Technologist
T 905-615-3200 ext. 4784
boyang.yu@mississauga.ca

City of Mississauga | Transportation & Works Department
201 City Centre Drive, Suite 800 | Mississauga ON | L5B 2T4

From: Brandon Bradt <bbradt@cfcrozier.ca>
Sent: Tuesday, February 14, 2023 2:29 PM
To: Bo Yu <BoYang.Yu@mississauga.ca>
Cc: Aarzoo Dhanani <adhanani@cfcrozier.ca>; Rob Babic <rbabic@cfcrozier.ca>; Mena Iskander <miskander@cfcrozier.ca>; mark@dezenrealty.com
Subject: TIS and ROW Package Terms of Reference - 120 & 146 Queen Street South and 169 Crumbie Street

Good Afternoon Bo,

C.F. Crozier and Consulting Engineers (Crozier) has been retained to provide transportation consulting services for a mixed-use development located at 120-128, 154-158 Queen Street S, 140-148 Queen Street S, and 169 Crumbie Street in the City of Mississauga, Region of Peel.

It is expected that the development lands will be developed in phases and at this time we are planning to prepare a Transportation Impact Study (TIS) and Right-of-Way (ROW) Package to support an Official Plan Amendment for the entire area envisioned for redevelopment, as well as a joint Zoning By-law Amendment to support "Phase 1" of the development area. A concept Master Plan detailing the full build-out envisioned for the site has been included for reference as well as the preliminary site statistics. It is noted that Phase 1 is currently considered the massing contained within building 'C', which includes towers C1 and C2, as well as the adjacent podiums.

We note that both the type of application and the plans themselves are subject to change but have been provided to aid in review of this Terms of Reference (ToR). Should the overall plans change significantly, we would reach out again to confirm our Terms of Reference for the TIS would remain applicable. I believe you also received a copy of these plans prior to providing your DARC comments, which have also been attached for your reference.

Please note the attached concept plan as for the woonerf and location of the private connections has not been revised based on staff comments from DARC. Please reach out and confirm the Terms of Reference for the TIS again upon changes to the concept master plan related to access and road network layout.

We are kindly requesting that you review the following ToR and that you provide feedback/confirmation regarding our proposed scope of work and study assumptions.

Furthermore, should you not be the appropriate person for correspondence, it would be very appreciated to be directed to the appropriate contact.

Transportation Impact Study Terms of Reference

We will be conducting this study solely using the City of Mississauga's Guidelines as a reference given that we do not anticipate Region of Peel or MTO involvement will be necessary given the location of the site and the proposed study area.

The following intersections are proposed to be analyzed within the study:

- Queen Street and Ontario Street East/West (Signalized)
- Queen Street and existing Private Entrance/Site Access (Signalized)
- Queen Street and Tannery Street (Signalized)
- Queen Street and Main Street/Pearl Street (Signalized)
- Tannery Street and Crumbie Street/Broadway Street (Unsignalized, Crumbie is a site access)
- William Street and Ontario Street West (Unsignalized)
- William Street Extension and Internal Roadway (New internal intersection)

We kindly request any recent traffic counts, as well as the signal timing plans for the above noted intersections.

Signal timing plans for signalized intersections can be obtained from Jim Kartsomanis (Jim.Kartsomanis@mississauga.ca, EXT. 3964)

Please also confirm whether the above noted intersections are sufficient for inclusion in the TIS. In the event that analysis of additional intersections is required, please include additional traffic data for the additional intersection(s).

Should insufficient turning movement count data be available within the proposed study area, we would consult specialty traffic counting firms we typically work with to obtain relevant transportation data to use within the TIS.

Analysis Periods and Scenarios
It is proposed that the TIS include weekday A.M. and P.M. peak hours, as well as a weekend mid-day peak hour analysis given the level of commercial development and the surrounding commercial land-use context. The peak hours identified would be analyzed for the following assumed time horizons: 2023 existing conditions, a 2027 opening year for Phase 1, and a full build-out year of 2033.

It is noted that phases beyond Phase 1 will require TIS Updates as part of their respective Zoning Applications and the build-out year for each phase as well as the final build out year may be refined as part of the subsequent applications.

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

- OZ 18/012 and T-M20004 W11: 51,57 Tannery Street and 208 Emby Drive
- OZ/OPA 22-9 W11: 21-51 Queen Street North
- OZ/OPA 21/014 W11: 6,10 and 12 Queen Street South, 16 James Street, 2 William Street
- OZ 19/011 W11: 66 Thomas Street
- All developments as part of the concept master plan envisioned for the full build-out of the site must be included as part of the background developments

Kingly confirm that the above developments are sufficient. If not, please provide any additional background developments in the vicinity of the proposed development and the associated transportation impact studies that should be included in our analysis.

Future Background Growth Rate
Please provide the growth rate that can be used for Queen Street, Tannery Street, Broadway Street and Pearl Street/Main street, or alternatively any historical data that can be used to calculate the growth rate in combination with the existing traffic data. It is noted that a background growth rate may not be required for all streets given the proposed background developments.

Future background traffic volume will be estimated for the study area to ensure that the analysis includes background traffic growth and growth from other developments in the area in each of the identified horizon years.
For City of Mississauga roadways and intersections, please contact Tyler Xuereb from Transportation Planning Section (tyler.xuereb@mississauga.ca, Ext. 4783) for growth rates and historical AADT data and Turning Movement Counts. If counts are collected today, please apply appropriate growth factors and compare with existing counts, and utilize the most conservative data for your analysis.

Trip Generation and Distribution

Trip Generation for the proposed development will be based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition using the combination of Multi-family Housing Mid-Rise (Land Use Code 221), Multifamily Housing High-Rise (Land Use Code 222), Small Office Building (712) and Strip Retail Plaza (822) for the respective residential, office and commercial uses. It is also noted that traffic associated with the existing uses at the site will be subtracted from the study road network to provide a net trip generation estimate for the site.

Site generated traffic to and from the study road network will be assigned using 2016 Transportation Tomorrow Survey (TTS) data for the respective uses and peak periods.

Roadway and Transit Improvements
Please advise as to whether there are any roadway and transit improvements planned within the vicinity of the proposed redevelopment, as well as their anticipated year of completion for inclusion in the correct future horizon(s).

Analysis Procedures
The peak hour analysis scenarios will be analyzed per the City's TIS Guidelines using Synchro 11.0 analysis software and will be reported using Highway Capacity Manual (HCM) 2000 procedures. Assumptions with Synchro will also follow the City's TIS Guidelines for saturation flow, lost time, lane utilization, signal timing parameters, pedestrian walking speeds and heavy vehicle factors.

Specifically, at signalized intersections, v/c ratios greater than 0.85 for through or shared through lanes, and greater than 0.90 for exclusive turning movement lanes will be identified as critical movements, as well as any movements where 95th percentile queues are expected to exceed the existing storage capacity.

At unsignalized intersections, critical movements will be those with an LOS of "E" or greater or 95th percentile queue greater than the existing storage capacity.

Site Access and Internal Roadway Review
The available sight distance at the proposed accesses will be compared to the standards set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR), June 2017. Additionally, the locations of the proposed accesses will be evaluated based on corner clearances, throat length and access spacing requirements as set out in the TAC GDGCR. A dimensional review will also be conducted for transportation related elements such as curb radii, lane widths, daylight triangles, etc. as per TAC and per OPSD 350.010.

It is noted that vehicle maneuvering assessments will not be provided at this stage and would instead be provided as part of future applications.

Parking Supply Review
The parking spaces will be assessed with respect to the City of Mississauga's "Zoning By-Law 0225-2007 Part 3" currently in effect. The review will determine whether the proposed parking supply at the site is sufficient to meet the City's By-Law requirements.

It is noted that parking spaces for both the proposed vehicle parking supply and the proposed bicycle parking supply will be reviewed.

A parking justification is currently not envisioned to be necessary to support the development, but should that be the case, a separate ToR would be prepared to the City regarding the Parking Study.
Please be advised that Traffic Planning does not review parking justification studies, please contact the Planning Section (ParkingStudy.Review@mississauga.ca) to confirm the terms of reference for the Parking Study if required.

Transportation Demand Management (TDM) Opportunities
Analysis of existing and future Transportation Demand Management (TDM) opportunities will be conducted to reduce single-occupant vehicle (SOV) trips and promote alternative modes of transportation including transit and active transportation.

Right-of-Way Package Terms of Reference
Per the comments received from the City of Mississauga on February 2, 2023, a Right-of-Way (ROW) package should be provided for the proposed roads in the development. We are kindly requesting that you review the following Terms of Reference (ToR) and provide feedback regarding our proposed scope of work for this task.

The proposed public roads include Street 'A' with a 20 metre ROW, which is an extension of Crumbie Street running east-west along the southern side of the property and then turning north south with a 90 degree bend to connect into the existing signalized access via Queen Street South, as well Street 'B' with a 20 metre ROW, which is an east-west extension of William Street that will form a new internal 4-leg intersection with Street 'A'. In addition, a Woonerf Street is also proposed as an east-west extension of Street 'B' that forms the east leg of the new internal intersection, as well as a new private Condo Road connecting to Building G.

I note that both of the new Public Roads, Streets 'A' and 'B', as well as the new Condo Road, are expected to have standard cross sections according to Standard Drawing No. 2211.070. However, the proposed Woonerf street would have a non-standard cross-section but would maintain a 20.0m ROW. Please confirm the level of detail that will be needed to support the proposed Woonerf for the OPA and Draft Plan of Subdivision applications.
Please note the proposed public roads do not have standard cross sections according to Standard Drawing No. 2211.070, as they are proposing parking layby, curbside sidewalk, and narrow pavement width/lane width. Right-of-way package is only required for public right-of-way.

It is envisioned that the package will contain both plan and cross-sections for each street as described in the comments from the City.
The first part will include plan views and a description for each of the following considerations:
(i) Public Transit Facilities;
(ii) Pedestrian Facilities;
(iii) Cycling Facilities;
(iv) On-Street Parking and Curbside Management; and
(v) Traffic Calming Measures

The second part will include typical cross-section details of each street that include the following information:

(i) Street Name;
(ii) Road Classification;
(iii) Right-of-way width;
(iv) Pavement widths and lane width;
(v) Boulevard widths;
(vi) Sidewalks, curbs, splash pads, grades;
(vii) All above and below ground utilities

Please confirm if the above will suffice for the package. If further details are required for this package to support the proposed OPA, ZBA and eventual Draft Plan of Subdivision applications, then please confirm what they would be.
I hope the contents outlined in this email are acceptable. Should you have any questions or require any further information, please feel free to reach out to discuss further.

Additional comments:

- Please note the City of Mississauga has recently updated our Transportation Impact Study Guideline online which can be found at (https://web.mississauga.ca/publication/transportation-impact-study-terms-of-reference/). Please ensure the study complies with the most updated guideline.
- The Traffic Impact Study is to include a section for Community Impacts. Any traffic related impacts on the existing community and comments from the public through the planning approvals process shall be addressed in this section.
- With respect to traffic data collection, it is the City's preference to use available counts conducted pre COVID-19. In order to grow traffic volumes to existing 2023 levels, please obtain historical traffic data counts and utilize regression analysis to determine appropriate growth rates. The report must thoroughly justify all proposed growth rates and the methodology utilized to calculate them. Furthermore, all background work to calculate the growth rates must be appended to the report in a format that is easily verifiable to the reviewer.

Kind Regards,

Brandon Bradt, M.Eng.CEM, P.Eng. | Manager, Transportation Planning
211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.842.0033

CROZIER
CONSULTING ENGINEERS

Crozier Connections:

Read our latest news and announcements here.

Brandon Bradt, M.Eng. CEM, P.Eng.
Project Manager
211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.477.3392

Crozier Connections:

Read our latest news and announcements here.

From: Aarzoo Dhanani

Sent: Monday, July 24, 2023 10:55 AM

To: Parkingstudy Review

Cc: Brandon Bradt

Subject: RE: Parking Justification Study Terms of Reference - (CFC#1419-6615) 140 Queen Street South

Thank you for the feedback, Evan!

We acknowledge that the letter of justification will be adequate for the parking supply in this scenario, considering the 10% reduction.

Kind Regards,

Aarzoo

From: Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Sent: Thursday, July 20, 2023 11:54 AM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>; Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Parking Justification Study Terms of Reference - (CFC#1419-6615) 140 Queen Street South

Aarzoo,

If the parking deficiency can be confirmed to be less than 10% of the requirement, a Letter of Justification based on the nature of the operation and its land use circumstances may be acceptable.

A Letter of Justification has similar components of a Parking Utilization Study, but does not require surveying and may be prepared by the applicant. A Letter of Justification should provide information about the application, operational details and unique features of the business, site description, general observations of the on-site parking or other information to help justify the requested reduction in parking, and a conclusion/recommendation.

Please refer to Parking Terms of Reference for more information.

Thank you,

Evan Pu

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Tuesday, July 18, 2023 9:26
To: Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Parking Justification Study Terms of Reference - (CFC#1419-6615) 140 Queen Street South

Hey Evan,

Just wanted to touch base regarding the update below. Please let me know if you have any concerns or questions!

Regards,

Aarzoo

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

From: Aarzoo Dhanani
Sent: Thursday, July 13, 2023 1:55 PM
To: Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Parking Justification Study Terms of Reference - (CFC#1419-6615) 140 Queen Street South

Hey Evan,

Thank you for providing feedback on the ToR and apologize for the delayed response.

The plans have been updated, and it should be noted that the parking supply mentioned in the previous email was intended for the overall site. The development of the site will be carried out in phases, and at this time, we are planning to support the Official Plan Amendment for the entire area envisioned for the development and the Zoning By-Law application for Phase 1 only. As a result, the parking supply for Phase 1 has been provided for your review.

Please note that the parking justification for other phases will be submitted at the time of their respective zoning applications if necessary and terms of reference will be recirculated.

The parking supply proposed for Phase 1:

	Required Parking Ratio (Precinct 2 Rates)	**Proposed Parking Ratio**
Zoning By-Law 0*225-2007	Resident: 0.9 spaces/unit (396 Spaces)	Resident: 0.80 spaces/unit **(348 Spaces)**
	Visitor: 0.2 spaces/unit (88 Spaces)	Shared Parking (Visitor, Retail, Office): 0.25 spaces/unit 30 + 84 **(111 Spaces)**
	Office: 2.5 spaces/100 m^2 GFA **(30 spaces)**	
	Retail: 3.0 spaces/100 m^2 GFA **(84 spaces)**	
Total	**396 + 114[1]** **510 spaces**	**~459 spaces**

The development proposes a shared parking arrangement, wherein the combined office and retail spaces govern the allocation of visitor parking. This approach has been taken into consideration when determining the required parking supply for visitor purpose.

Based on the City of Mississauga Terms of Reference guidelines for parking studies, it has been concluded that a parking utilization study is not required in this instance. This is based on the fact that the proposed reduction in parking supply is only 10%, which is considered relatively minor. Therefore, it is believed that the parking justification provided, along with the implementation of significant Transportation Demand Management (TDM) measures, will adequately address any concerns related to the parking supply.

Regards,

Aarzoo

From: Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Sent: Thursday, June 29, 2023 2:18 PM
To: Aarzoo Dhanani <adhanani@cfcrozier.ca>; Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Parking Justification Study Terms of Reference - (CFC#1419-6615) 140 Queen Street South

Good Afternoon Aarzoo,

The selected proposed proxy sites should be similar in terms of land use and size to the proposed development. Since a survey needs to be conducted on selected proxy sites, please make sure those sites are ***established and occupied*** so that proper survey results can be generated.

For utilization studies undertaken to justify a reduced residential resident rate, the ideal data will be the result of vehicle ownership rates from proxy sites in a similar context. If this is not possible, the resident parking demand may be determined through appropriate survey periods.

With respect to the survey parameters:

- A minimum of 4-6 days over two consecutive weeks is recommended, accounting for different survey times that are appropriate for the residential and visitor components.
- **4 days in Week 1, and then the 2 busiest days from Week 1 would be surveyed again the following week for Week 2.**
- **Suggested times to survey residential parking are Sunday, Monday and Tuesday evenings and nights, 6pm-1am. Spot counts are not acceptable.**
- **Suggested times to survey visitor parking are Friday evenings (6pm-1am), and Saturday and Sunday afternoons and evenings (2pm-1am).**
- Observations are to be made every half hour, and surveys should also note illegally parked vehicles on site and vehicles street parked adjacent to the site.
- Please ensure that the proposed survey does not occur on a holiday weekend (i.e. Canada Day, Civic Holiday weekend).

Please make sure that ***both*** percentage of the total parking capacity and observed parking demand ratio per residential unit for each observation period are included.

For additional information, please refer to Parking Terms of Reference at https://www.mississauga.ca/wp-content/uploads/2020/07/15084526/COM-Parking-Studies-ToR-2021-09.pdf.

Please let us know if you have further questions.

Regards,

Evan Pu

From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Thursday, June 29, 2023 11:00
To: Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Parking Justification Study Terms of Reference - (CFC#1419-6615) 140 Queen Street South

Good Morning Evan,

Just following up on the Terms of Reference for the Parking Utilization Study mentioned below. I would greatly appreciate it if you could review and confirm your feedback on this.

Kind Regards,

Aarzoo

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

From: Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Sent: Thursday, June 22, 2023 3:17 PM

To: Aarzoo Dhanani <adhanani@cfcrozier.ca>; Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Parking Justification Study Terms of Reference - (CFC#1419-6615) 140 Queen Street South

Good Afternoon Aarzoo,

Thank you for contacting Municipal Parking regarding your proposed Parking Utilization Study.

We will review the materials you provided and try to follow up with you next week.

Regards,

Evan Pu
Transportation Planner, Municipal Parking
T 905-615-3200 ext. 4705
evan.pu@mississauga.ca

City of Mississauga | Transportation and Works Department,
Traffic Management and Municipal Parking Division I Municipal Parking Section

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From: Aarzoo Dhanani <adhanani@cfcrozier.ca>
Sent: Thursday, June 22, 2023 10:10
To: Parkingstudy Review <Parkingstudy.Review@mississauga.ca>
Cc: Brandon Bradt <bbradt@cfcrozier.ca>
Subject: Parking Justification Study Terms of Reference - (CFC#1419-6615) 140 Queen Street South

Hello,

We are kindly requesting you to review the following Terms of Reference for our Parking Justification Study in support of the mixed-use residential development located at 140 Queen Street South, Mississauga, Region of Peel.

Site Description

The subject lands cover an area of approximately 4.20 ha and currently consists of strip retail plaza. The proposed mixed-use residential development is situated west of Queen Street South and north of Tannery Street. The property is generally bounded by residential development to the north and west, commercial to the east and south and a rail corridor to the west. The property is located approximately 1.1 km from the Streetsville GO Station. The site includes municipal addresses as follows:

- 120-128 & 154-158 Queen Street South
- 140-148 Queen Street South
- 169 Crumbie Street

The existing site currently consists of approximately 490 parking spaces that will eventually be eliminated as part of the proposed development but the proposed development will be built out in phases so parking will be replaced with multiple levels of underground parking as each phase develops.

Please see the attached concept plan for proposed development.

The development site includes:

- A total of approximately 1,771 residential units in high-rise and mid-rise residential towers connected by four to six storey podiums containing approximately 5,089 square metre of gross commercial area and 1,202 square metre of gross potential office area.
- Some at-grade parking, as well as two to three levels of underground parking with a total proposed parking ratio of approximately 0.95 spaces for all uses. It is noted that the breakdown would be approximately 0.80 spaces per unit for residents and 0.15 spaces per unit that would be shared for all ancillary uses (visitor, commercial and office)
- The site proposes two public roads, one new road that will be an extension of Crumbie Street that curves though the site with an access via Queen Street in approximately the same location as the existing access and one road will extend William Street south to the new road alignment.

Parking Requirements and Proposed Supply for Entire Development

	Required Parking Ratio (Precinct 2 Rates)	**Proposed Parking Rati**
Zoning By-Law 0225-2007	Resident: 0.9 spaces/unit (1,594 Spaces)	Resident: 0.80 spaces/unit (~1,417 Spaces)
	Visitor: 0.2 spaces/unit (355 Spaces)	Shared Parking (Visitor, Retail 0.15 spaces/unit (~266 Spaces)
	Office: 2.5 spaces/100 m^2 GFA (31 spaces)	
	Retail: 3.0 spaces/100 m^2 GFA (153 spaces)	
Total	**1,594 + 355[1] 1,949 spaces**	**~1,683 spaces**

[1] It is noted that the shared parking provision within the City's By-law allows for providing the greater of either the visitor requirement or the combined requirement for other non-residential uses (retail and office in this case)

Comparing the existing By-law requirements and the proposed parking supply rates, the proposed site is expected to be approximately 14% deficient to the zoning by-law requirements and therefore a Parking Justification Study is expected to be required.

Parking Justification Study (PJS)

The parking justification will be prepared in accordance with the City of Mississauga Parking Utilization Studies for Site Specific Applications Terms of Reference and following methodology is proposed to be used as part of the study:

- Review the minimum vehicle and bicycle parking requirements for the residential, commercial and office space proposed at the site per the City of Mississauga's Zoning By-Law and compare the requirements with the proposed supply. As mentioned above, this review will be done according to the shared parking arrangement for shared Residential Visitor and Non-Residential Parking uses.
- Forecast the peak parking demand at the site based on the ITE Parking Generation Manual 5th Edition to use as a North American average benchmark.
- Identify and compare the site to any recently approved/proposed developments within Mississauga that include a similar land use context. We recommend the below developments for inclusion within our scope of review:
    1. **189 Dundas Street West** consisting of 3 buildings ranging from 18 to 32 storeys with a total of 966 residential units and 531 square metre of retail area located approximately 600 metres from Hurontario LRT stop and 1.2 km from Cooksville GO Station. The development proposes residential rate of **0.75**spaces/unit and shared visitor/retail rate of **0.15** spaces/unit.
    2. **28 Ann Street** consisting of 359 residential units located near Port Credit GO Station. Council approved a residential rate of **0.57** spaces/unit for 1-Bed, **0.73** spaces/unit for 2-Bed and the visitor rate of **0.10** spaces/unit.
- Identify and compare Zoning-By Law rates with other municipalities within the GTA.
- Identify previous conducted parking utilization surveys for residential developments within Mississauga and the GTHA to determine peak parking demand on the subject site. We recommend using proxy surveys conducted by BA Group for their respective parking justification studies at sites with similar conditions as shown below:
    1. **4011 Brickstone Mews and 510 Curren Place** consisting of approximately 1,008 units. The site is 2.9 km to Cooksville GO Station and 1.6 km to Hurontario LRT. The peak residential parking rate observed at site was **0.78** on Wednesday, Thursday, Friday, and Monday night in February 2020.

2. **3975 Grand Park Drive** is a high-rise tower consisting of 790 units. The site is 3.1 km to Cooksville Go Station & 1.9 km to Hurontario LRT. The visitor parking demand observed at the site was between **0.10 to 0.16** on Monday, Thursday, and Sunday night in February 2020.

- Identify Transportation Demand Management (TDM) opportunities available at the site to assess potential site-specific measures that may be used to further support the proposed parking supply.
- Based on the findings, confirm the adequacy of the proposed parking supply to support the development.
- Document all analysis and recommendations in a Parking Justification for submission to the City of Mississauga.

I hope the proposed scope and workplan are acceptable. Should you have any questions of concerns, please feel free to let me know.

Kind regards,

Aarzoo Dhanani

Aarzoo Dhanani, M.Eng., EIT
Engineering Intern, Transportation
211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.477.3392

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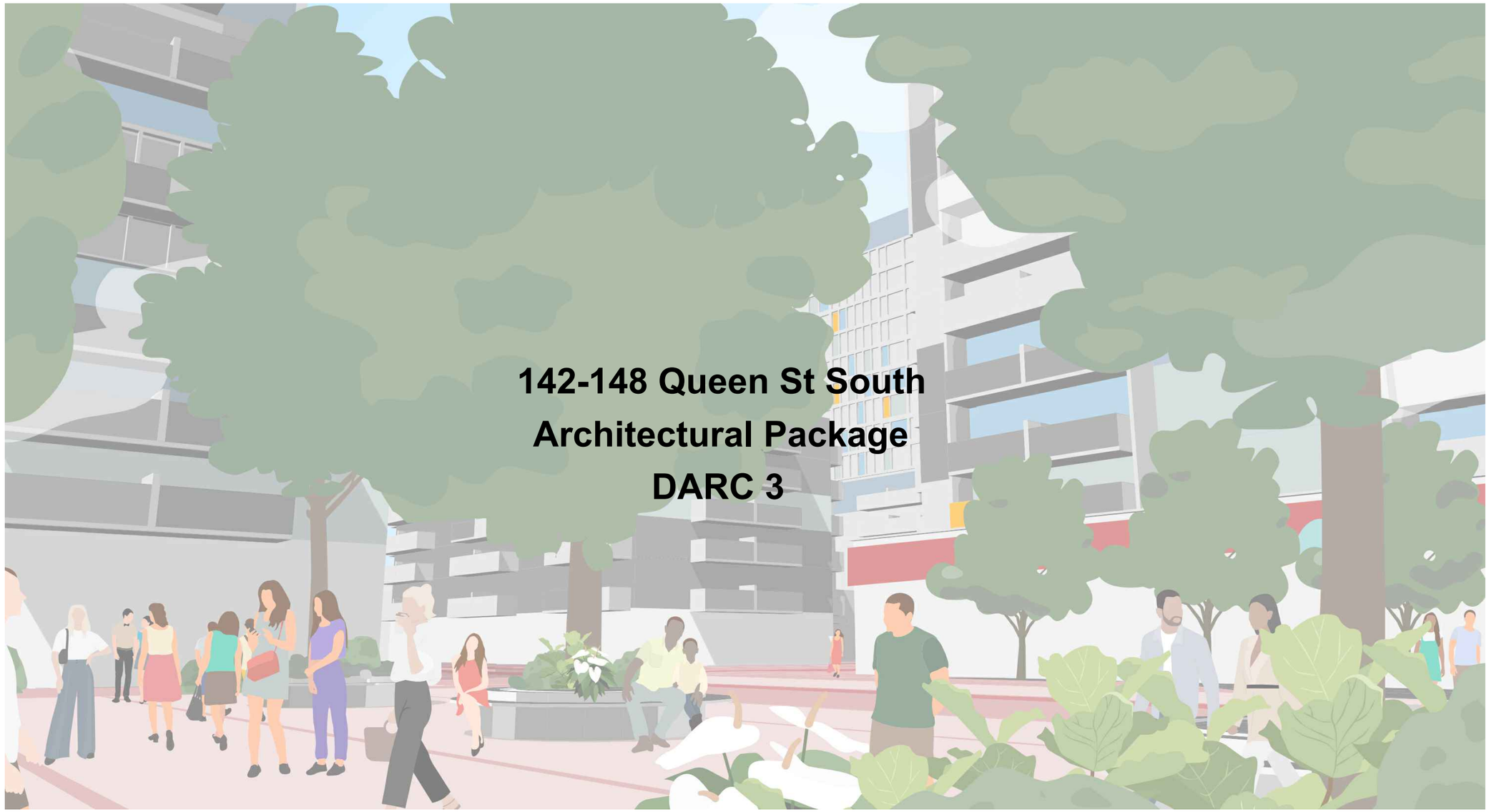
APPENDIX B

Draft Plans



142-148 Queen St South
Architectural Package
DARC 3

DeZen Realty SP0-0

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Cover

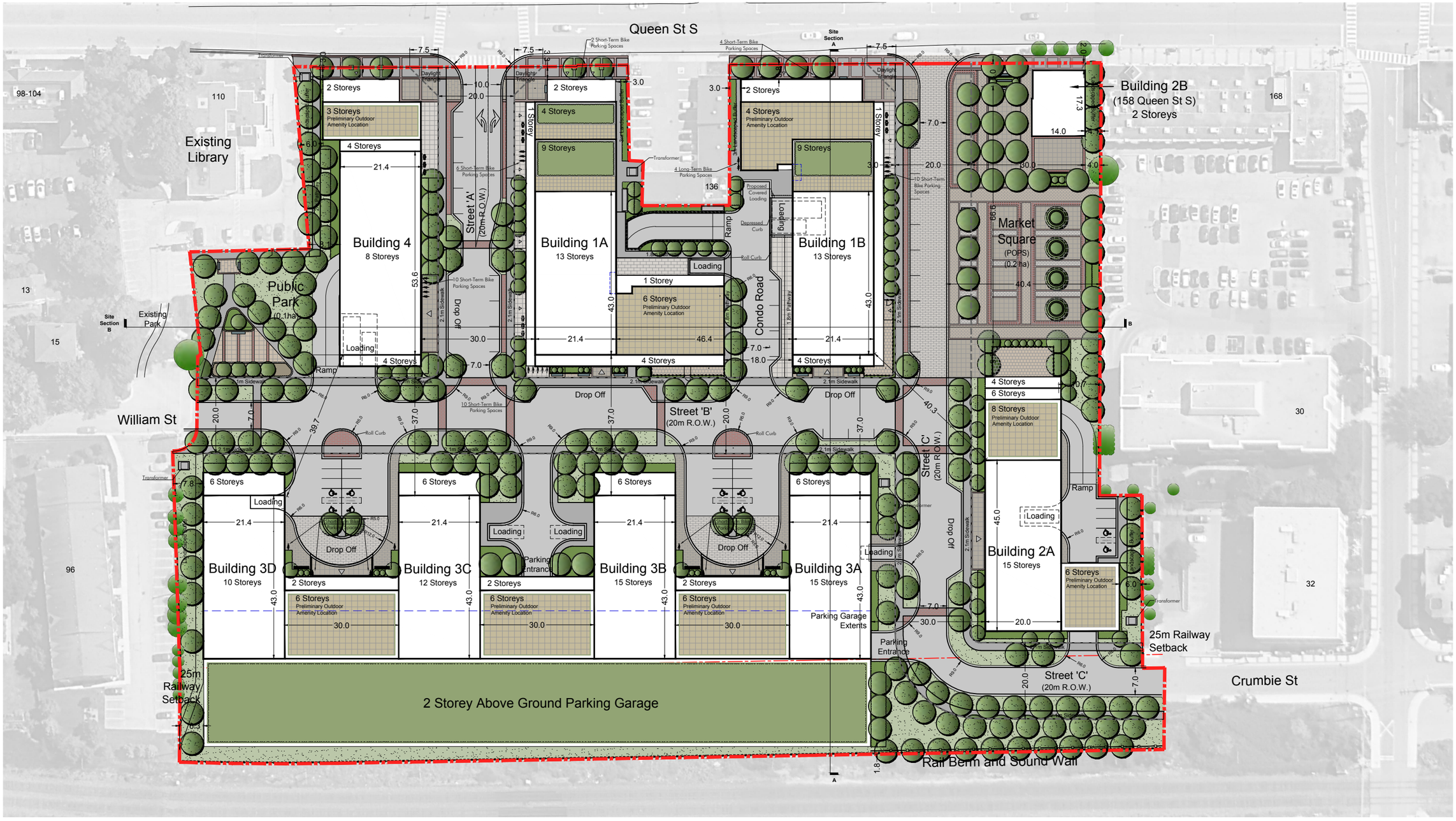
DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM↗ architects+ urban×designers



DeZen Realty SP0-1

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Master Plan

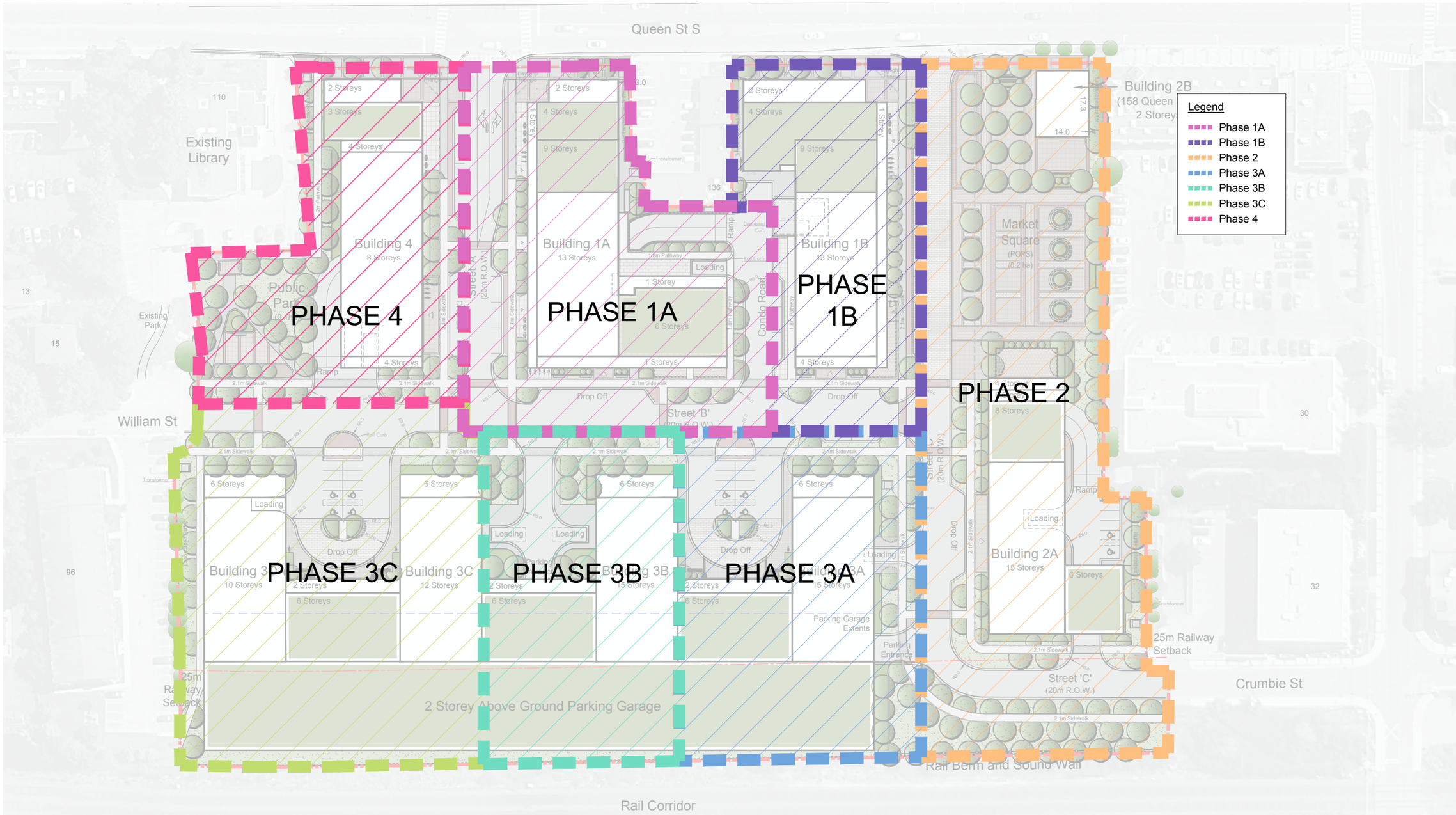
DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM↗ architects+ urban×designers



DeZen Realty SP0-2

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Phasing Plan

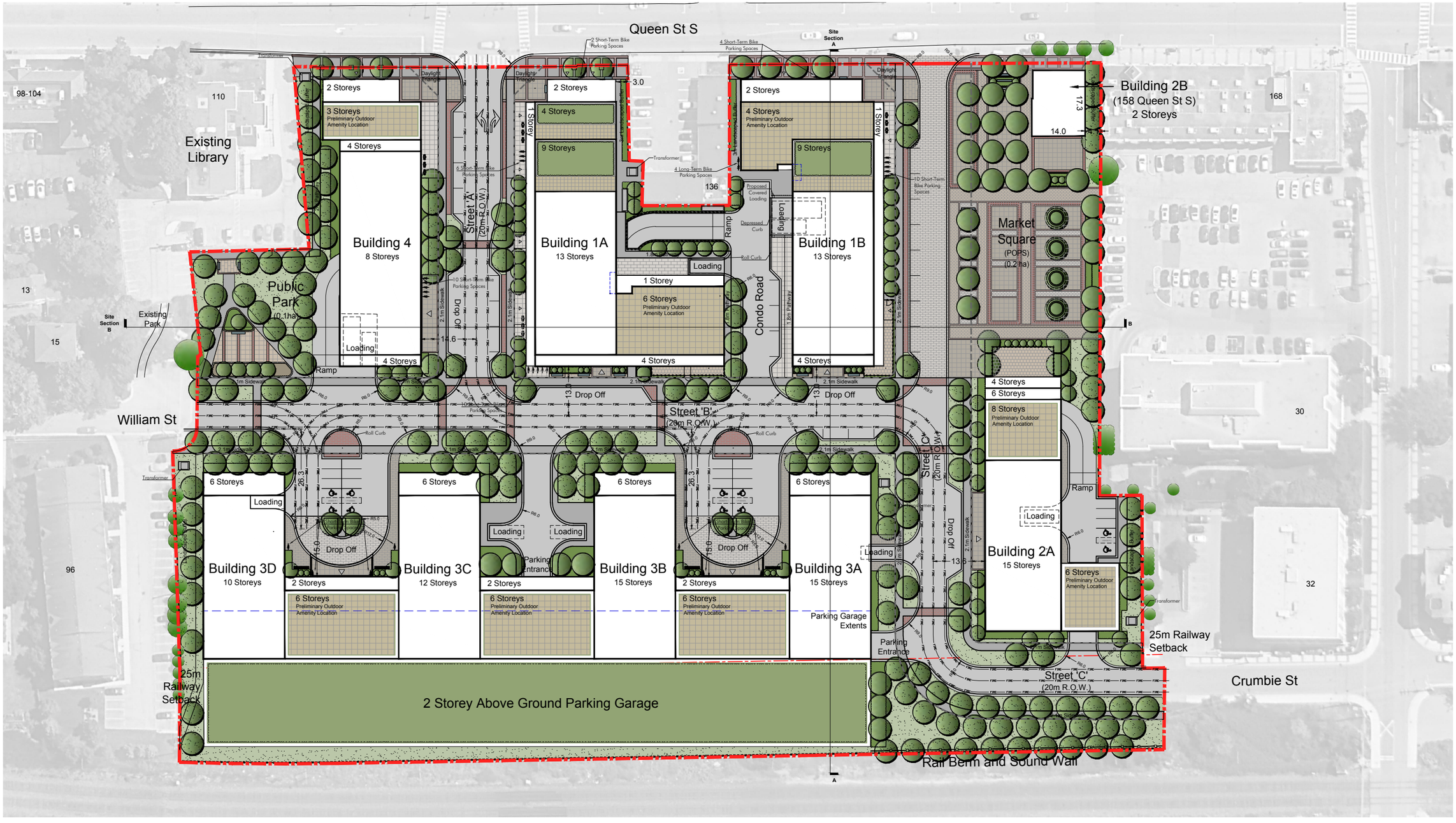
DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM↗ architects+ urban×designers



DeZen Realty SP0-3

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Fire Route Plan

DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

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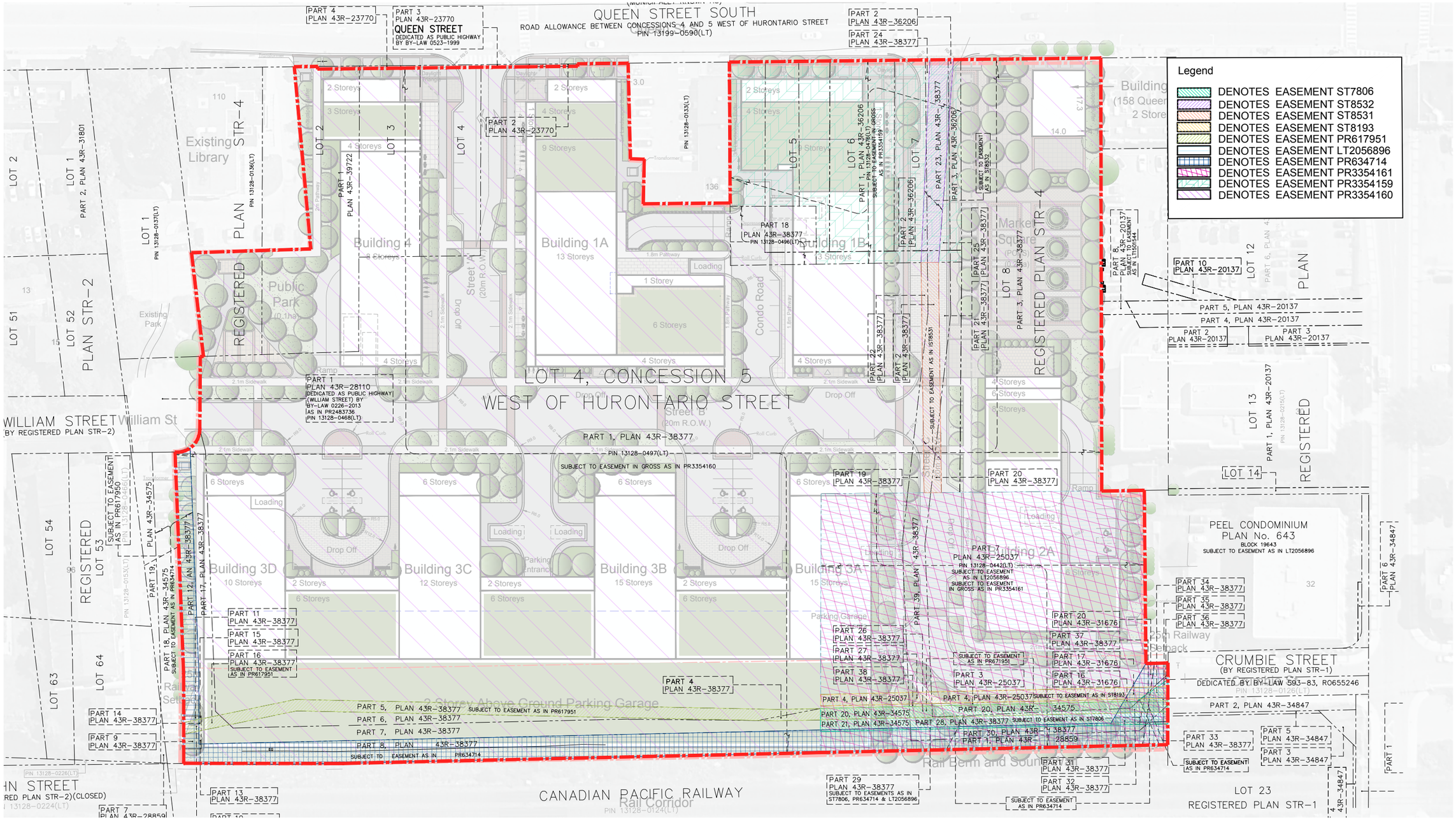

DeZen Realty SP0-4

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Easement Plan

DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

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Site Statistics

Areas and Units		
Gross Site Area (m²)		42,343
*Net Site Area (m²)		31,673.00
Gross Construction Area (m²)		122,552.85
Gross Residential Area (m²)		92,749.16
Gross Commercial Area (m²)		3,292.00
Gross Potential Office Area (m²)		329.00
**Deductibles (m²)		12,800.46
***Gross Floor Area (m²)	±	109,752.39
Total Residential Units		1,808.00
FSI (Net)		3.87
Units/Hectare		426.99
ROW Area		9,638.00

Parking		
Required	Rate	Spaces
Residential	0.80	1,446.40
Commerical/Office/Visitor		297.50
Total		1,744.00
Provided		Spaces
Surface		25.00
On-Street		20.00
Underground		1,721.00
Total		1,766.00

Amenity Area		
Required	Rate	Area
Residential	5.60	10,124.80
Provided	Rate	Area
Total Provided Amenity	4.10	+/-7133

Public Spaces		
Public Park		1,031.00
Market Square (POPS)		2,148.00
Total		3,179.00
Landscaped Areas	24%	9,951.00

Bike Parking		
Residential	0.6	1,085.00
Residential (Class B)	0.05	91.00
Commercial	0.15	5.00
Commercial (Class B)	0.15	5.00
Office	0.1	1.00
Office (Class B)	0.1	1.00
Total Class A		1,091.00
Total Class B		97.00

Phase 01 (Building 1A and 1B)

Areas and Units		
Phase Area (m²)		10,565
Gross Construction Area (m²)		37,053.00
Gross Residential Area (m²)		26,494.83
Gross Commercial Area (m²)		2,913.00
Gross Potential Office Area (m²)		329.00
**Deductibles (m²)		4,410.17
***Gross Floor Area (m²)	±	32,642.83
Total Residential Units		526.00
FSI		3.51
Units/Hectare		496.23

Parking		
Required	Rate	Spaces
Residential	0.80	420.80
Commercial/Visitor/Office	0.20	105.20
Total		526.00
Provided		Spaces
Surface		-
On Street		14.00
Underground		524.00
Total		538.00

Amenity Area		
Required	Rate	Area
Residential	5.60	2,945.60
Provided	Rate	Area
Total Provided Amneity	4.05	2,131.00

Phase 02 (Building 2A and 2B)

Areas and Units		
Block Area (m²)		9,556
Gross Construction Area (m²)		18,047.46
Gross Residential Area (m²)		13,650.89
Gross Commercial Area (m²)		-
Gross Potential Office Area (m²)		-
**Deductibles (m²)		1,769.58
***Gross Floor Area (m²)	±	16,277.88
Total Residential Units		268.00
FSI		1.89
Units/Hectare		279.17

Parking		
Required	Rate	Spaces
Residential	0.80	214.40
Visitor/Commercial	0.15	40.20
Total		255.00
Provided		Spaces
Surface		5.00
On Street		-
Underground		255.00
Total		260.00

Amenity Area		
Required	Rate	Area
Residential	5.60	1,500.80
Provided	Rate	Area
Total Provided Amenity	4.00	+/-1072

Phase 03 (Building 3A, 3B, 3C, and 3D)

Areas and Units		
Block Area (m²)		17,398
Gross Construction Area (m²)		56,784.00
Gross Residential Area (m²)		44,937.80
Gross Commercial Area (m²)		-
Gross Potential Office Area (m²)		-
**Deductibles (m²)		5,404.24
***Gross Floor Area (m²)	±	51,379.76
Total Residential Units		864.00
FSI		3.26
Units/Hectare		496.55

Parking		
Required	Rate	Spaces
Residential	0.80	691.20
Visitor/Commercial	0.15	129.60
Total		821.00
Provided		Spaces
Surface		20.00
On Street		2.00
Underground		799.00
Total		821.00

Amenity Area		
Required	Rate	Area
Residential	5.60	4,838.40
Provided	Rate	Area
Total Provided Amenity	4.00	+/-3456

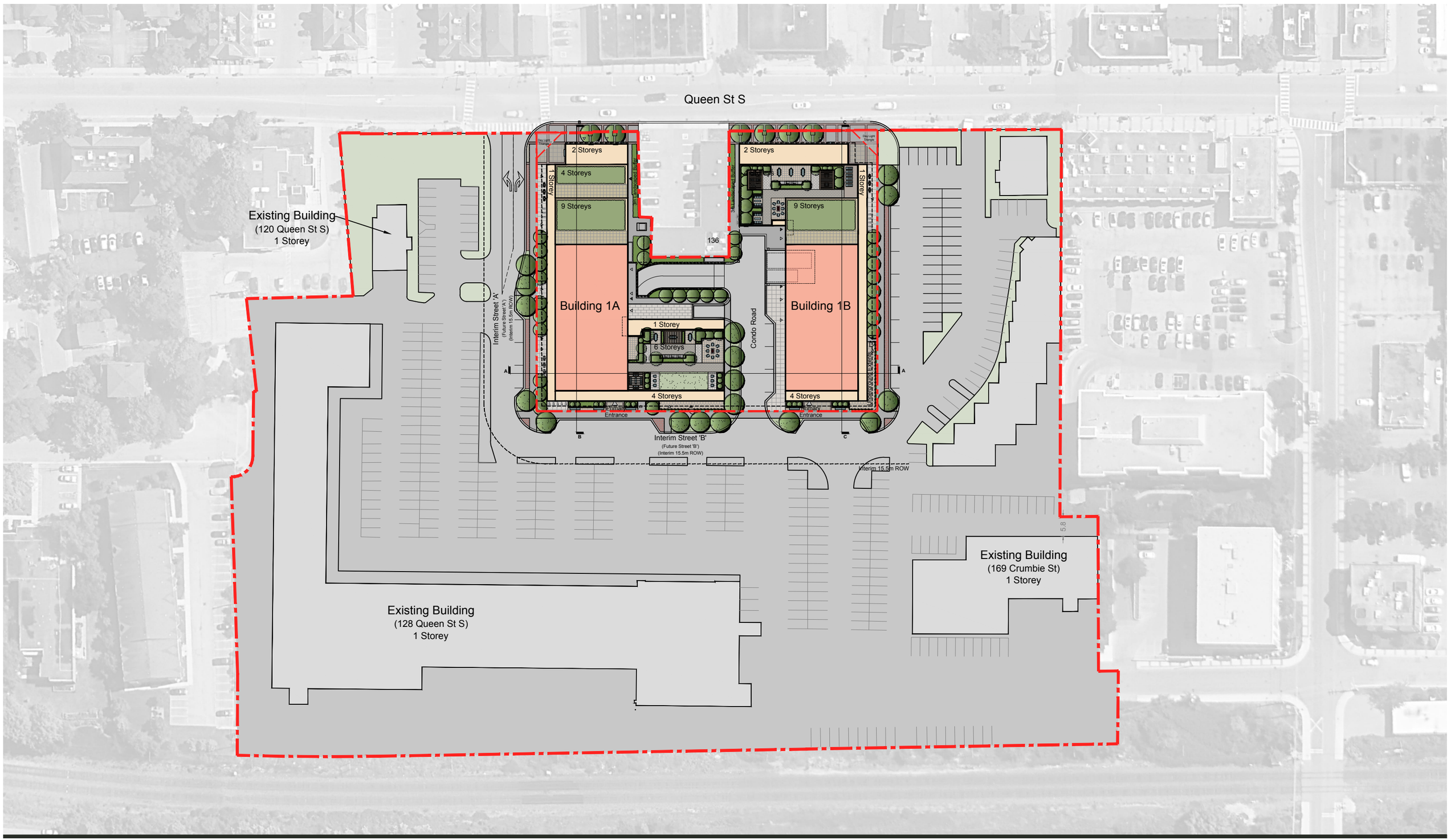
Phase 04 (Building 4)

Areas and Units		
Block Area (m²)		4,824
Gross Construction Area (m²)		10,668.39
Gross Residential Area (m²)		7,665.64
Gross Commercial Area (m²)		379.00
Gross Potential Office Area (m²)		-
**Deductibles (m²)		1,216.47
***Gross Floor Area (m²)	±	9,451.92
Total Residential Units		150.00
FSI		2.21
Units/Hectare		312.50

Parking		
Required	Rate	Spaces
Residential	0.80	120.00
Visitor/Commercial	0.15	22.50
Total		143.00
Provided		Spaces
Surface		-
On Street		4.00
Underground		143.00
Total		147.00

Amenity Area		
Required	Rate	Area
Residential	5.60	840.00
Provided	Rate	Area
Total Provided Amenity	4.00	+/-600

*Net Site Area does not include Public Roads or Park dedications. It does include the POPs and Private Roads.
** Deductibles Include: Mechanical, stairwells, elevators, parking, storage lockers, waste collection and chutes, common facilites and amenity areas.
*** GFA is an approximate calculation and will be further refined as the buildings develops



DeZen Reality Limited

Phase 01 Drawings

SP1-1

146 Queens St. South

Mississauga, On

Context Plan

DRAFT

Scale: 1:1000

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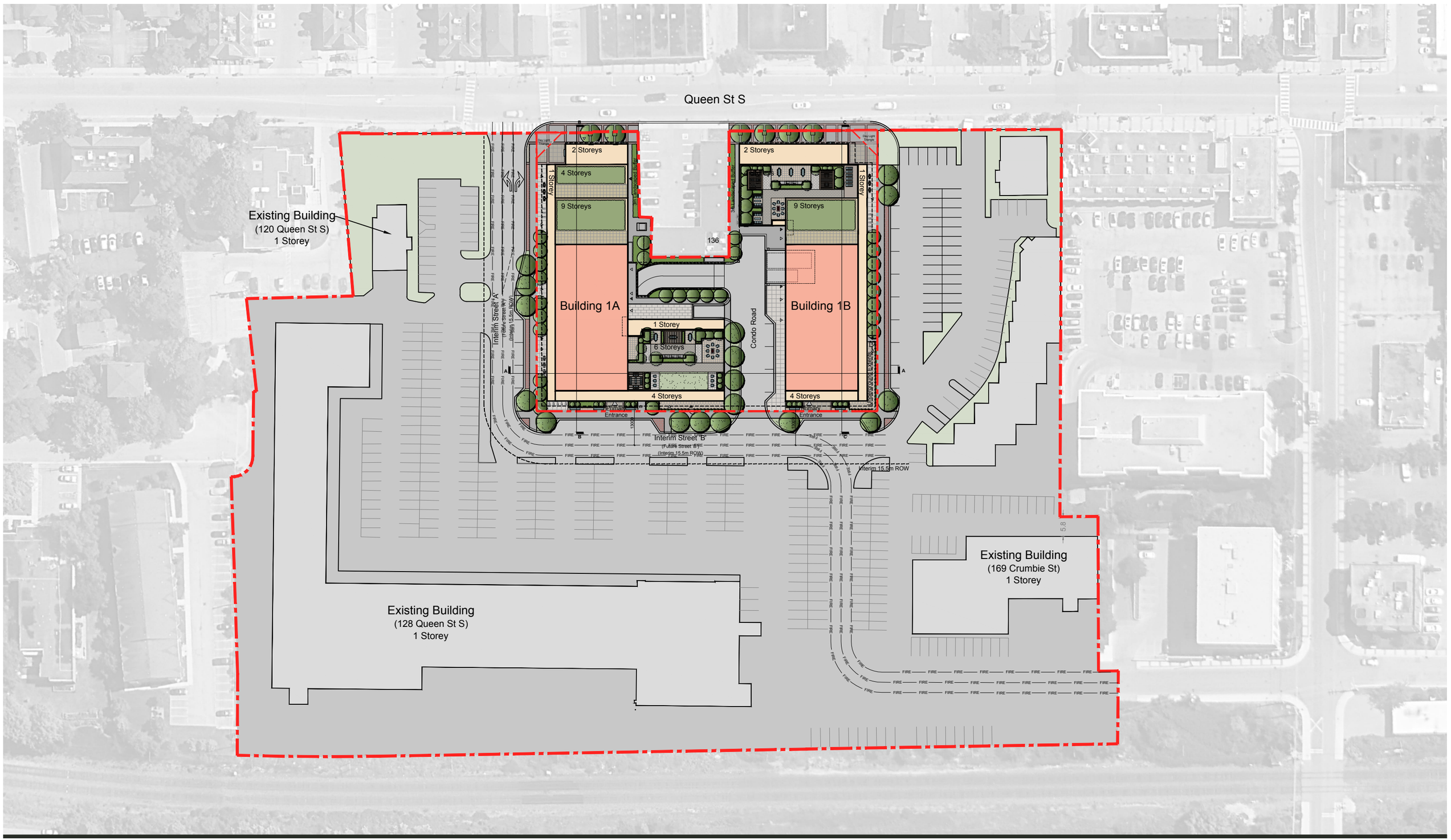

DeZen Reality Limited

Phase 01 Drawings

SP1-2

146 Queens St. South

Mississauga, On

Fire Route Phase 1 Plan

DRAFT

Scale: 1:1000

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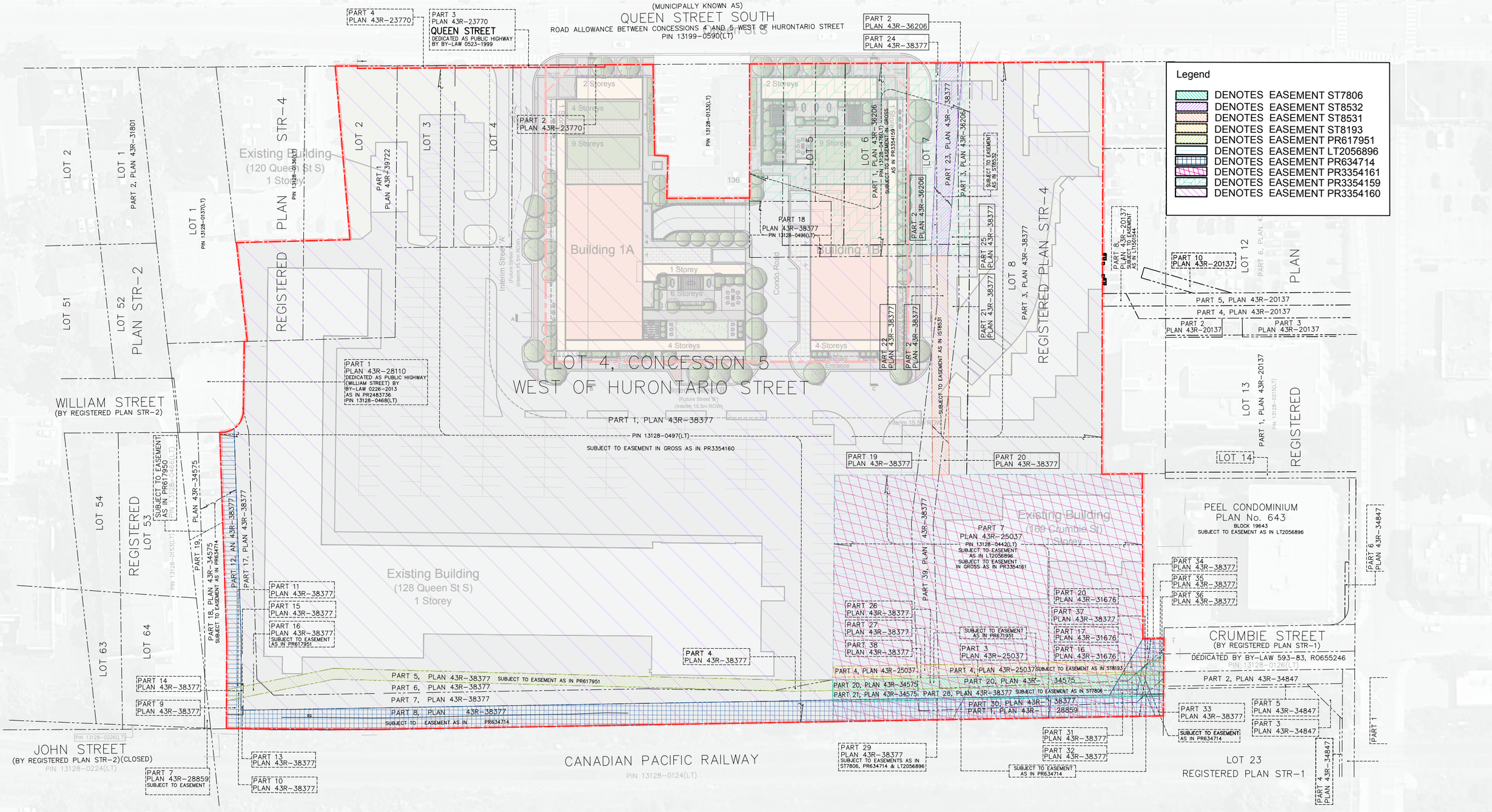

DeZen Reality Limited

Phase 01 Drawings

SP1-3

146 Queens St. South

Mississauga, On

Easement Plan Phase 1

DRAFT

Scale: 1:1000

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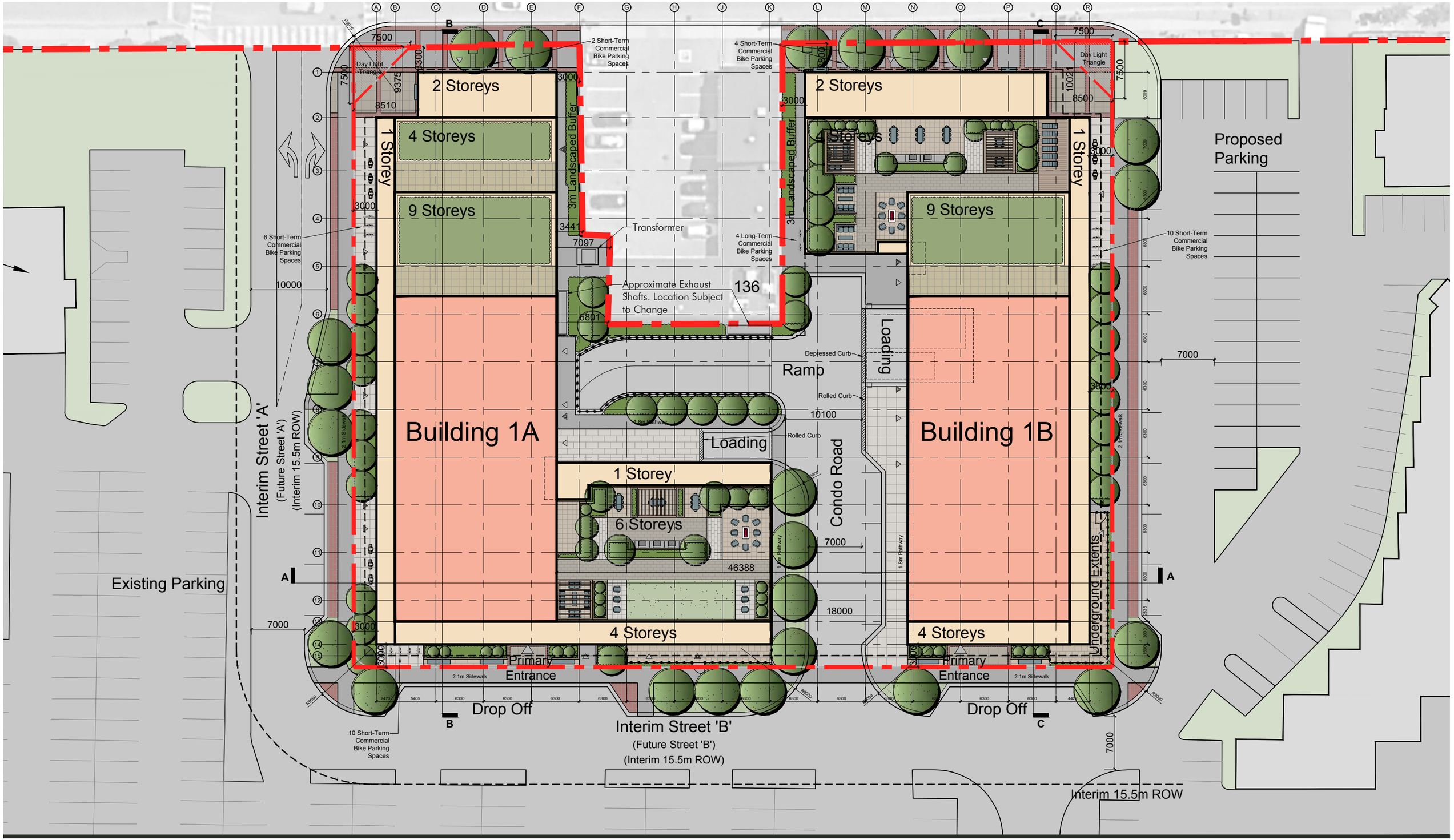

DeZen Reality Limited

Phase 01 Drawings

SP1-4

146 Queens St. South

Mississauga, On

Site Plan

DRAFT

Scale: 1:450

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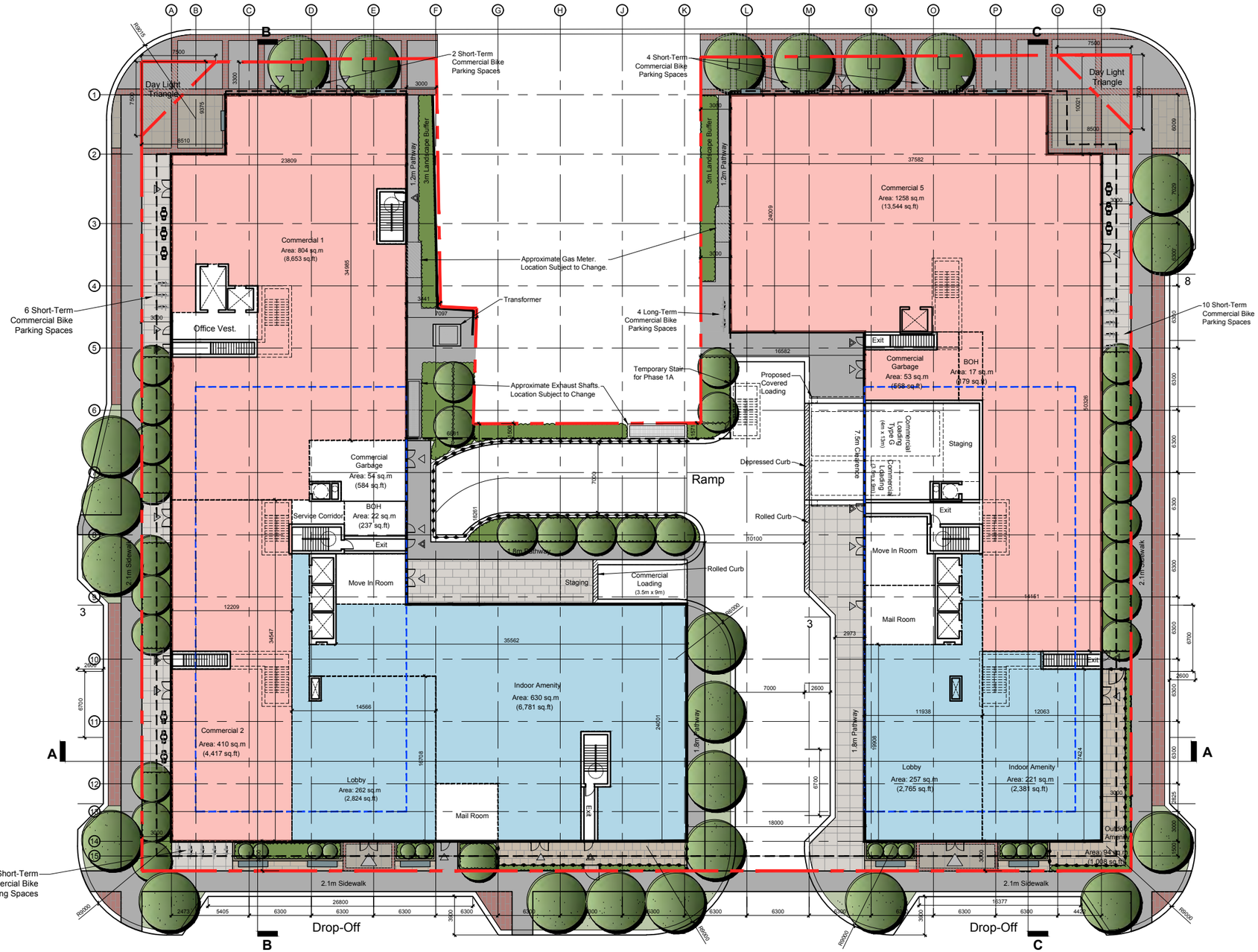

Building 1A: 2,447 sq.m (26,343 sq.ft)
Building 1B: 2,107 sq.m (22,675 sq.ft)

DeZen Reality Limited

Phase 01 Drawings

SP2-1

146 Queens St. South

Mississauga, On

Ground Floor

DRAFT

Scale: 1:450

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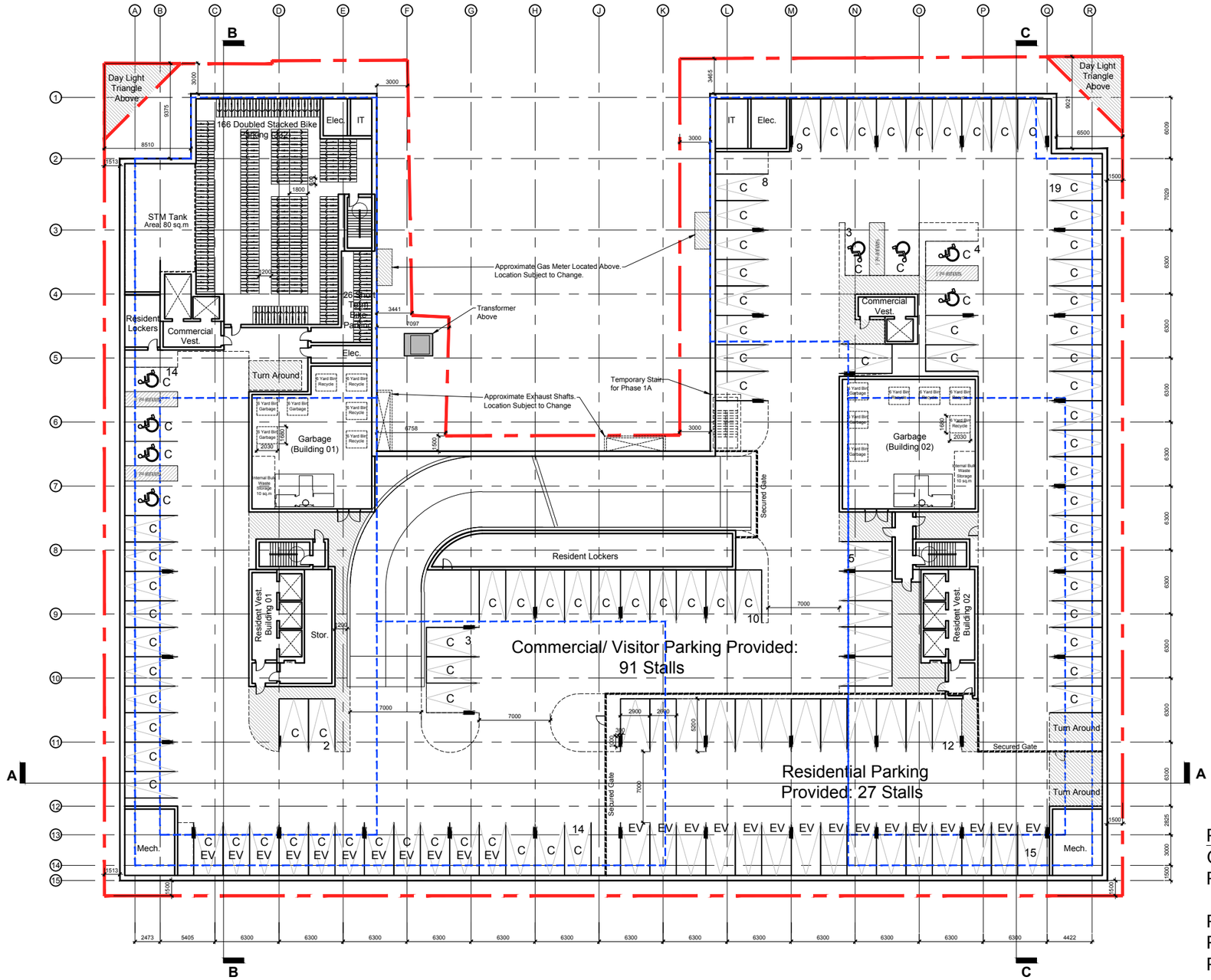

Parking Count		
On-Street		14 Stalls
P1	Commercial/Visitor Parking	91 Stalls
	Resident Parking	27 Stalls
P2	Resident Parking	156 Stalls
P3	Resident Parking	156 Stalls
P4	Resident Parking	94 Stalls
	Total Parking Provided	538 Stalls
	Total Parking Required	526 Stalls

DeZen Reality Limited

Phase 01 Drawings

SP2-2

146 Queens St. South

Mississauga, On

Underground P1

DRAFT

Scale: 1:450

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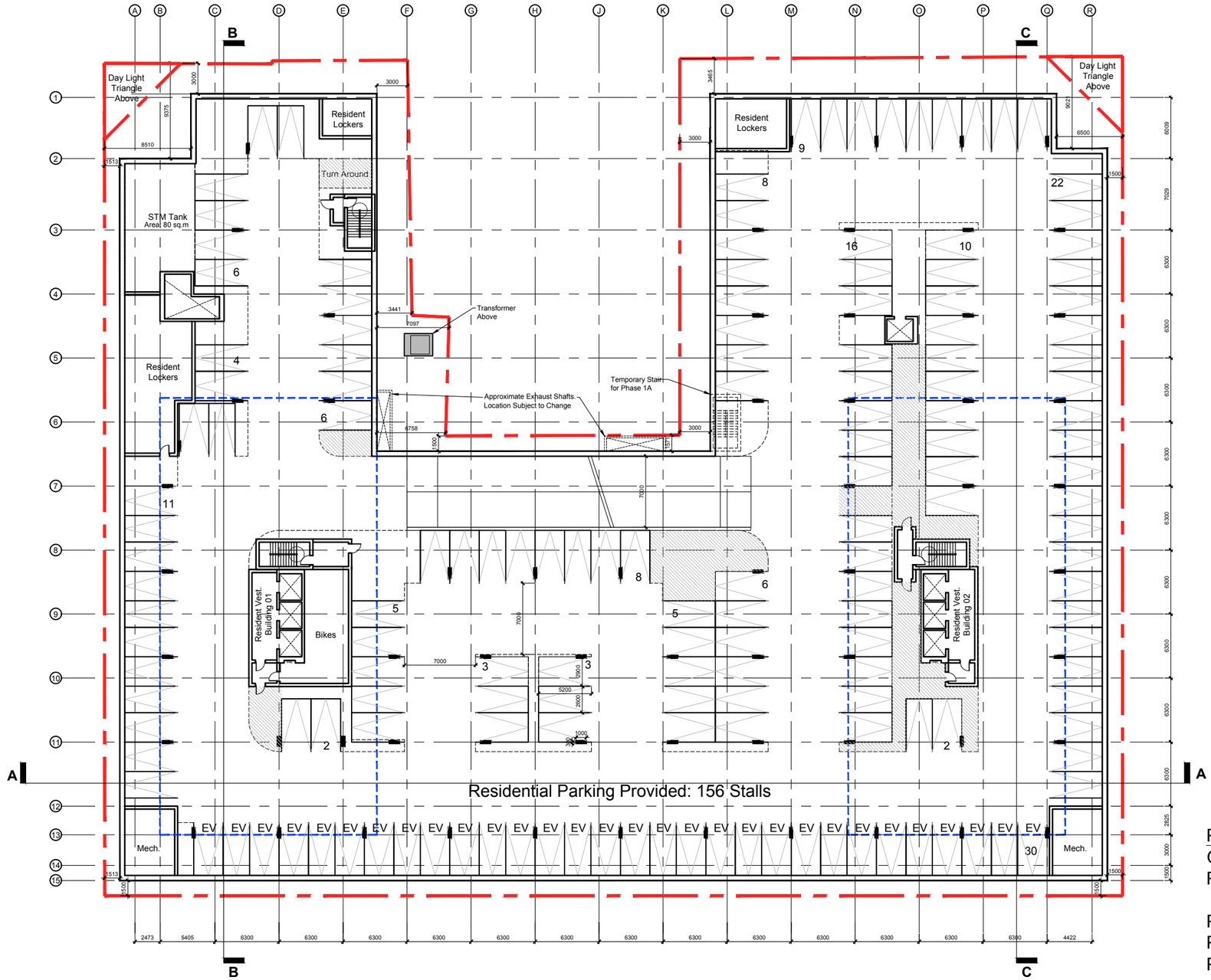

Parking Count

On-Street		14 Stalls
P1	Commercial/Visitor Parking	91 Stalls
	Resident Parking	27 Stalls
P2	Resident Parking	156 Stalls
P3	Resident Parking	156 Stalls
P4	Resident Parking	94 Stalls
	Total Parking Provided	538 Stalls
	Total Parking Required	526 Stalls

DeZen Reality Limited

Phase 01 Drawings

SP2-3

146 Queens St. South

Mississauga, On

Underground P2-P3

DRAFT

Scale: 1:450

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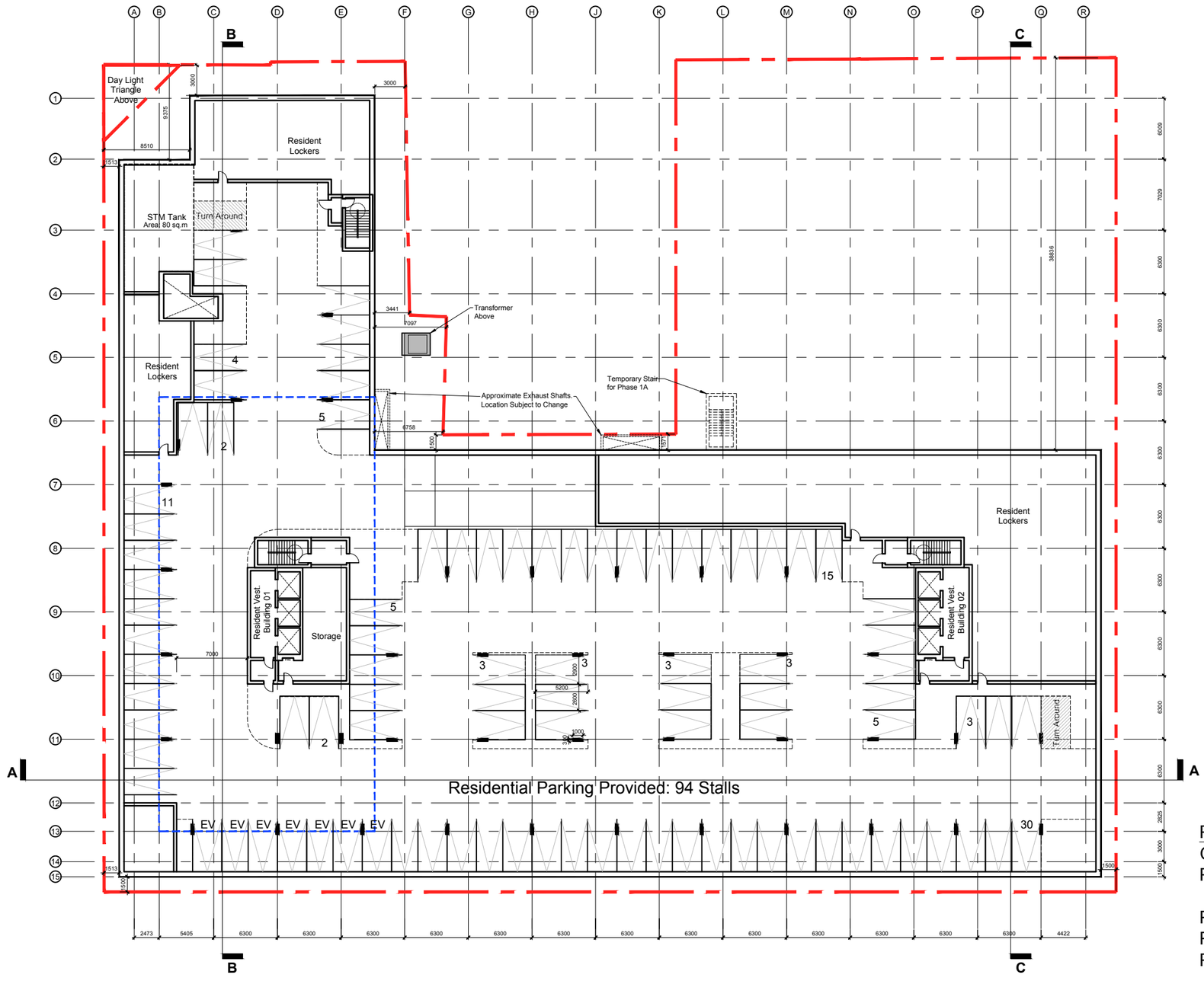

Parking Count

On-Street		14 Stalls
P1	Commercial/Visitor Parking	91 Stalls
	Resident Parking	27 Stalls
P2	Resident Parking	156 Stalls
P3	Resident Parking	156 Stalls
P4	Resident Parking	94 Stalls
	Total Parking Provided	538 Stalls
	Total Parking Required	526 Stalls

DeZen Reality Limited

Phase 01 Drawings

SP2-4

146 Queens St. South

Mississauga, On

Underground P4

DRAFT

Scale: 1:450

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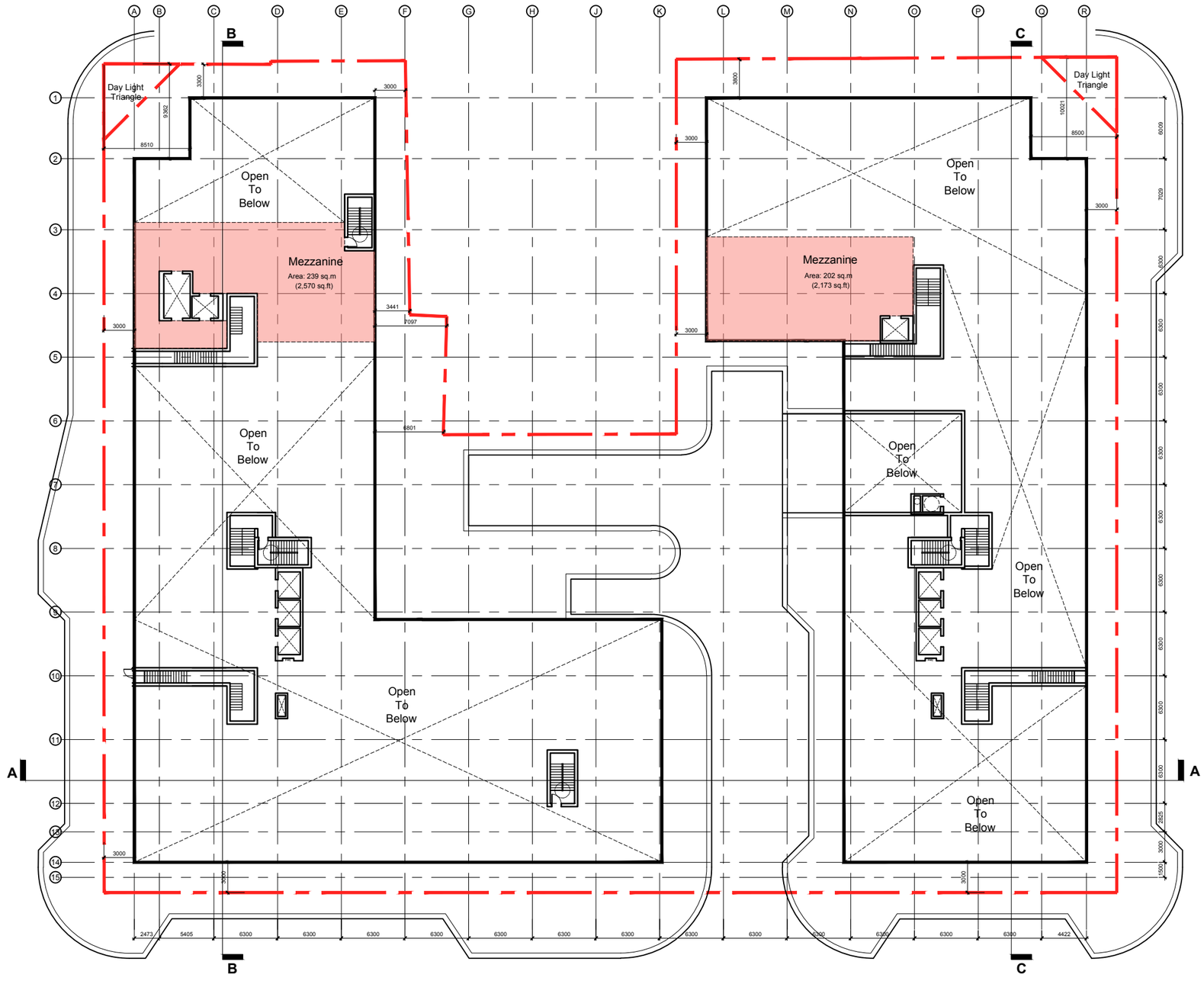

Building 1A: 239 sq.m (2,570 sq.ft)
Building 1B: 202 sq.m (2,173 sq.ft)

DeZen Reality Limited
Phase 01 Drawings

SP2-5

146 Queens St. South
Mississauga, On

Ground Floor (Mezzanine Level)
DRAFT
Scale: 1:450

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Unit Mix - Typical - Building 1A

Studio	4 Units
1 Bed	16 Units
1 Bed+D	5 Units
2 Bed	5 Units
2 Bed+D	1 Units
3 Bed	1 Units
Total Units	32 Units

Unit Mix - Typical - Building 1B

Studio	0 Units
1 Bed	12 Units
1 Bed+D	8 Units
2 Bed	2 Units
2 Bed+D	2 Units
3 Bed	4 Units
Total Units	28 Units

Building 1A: 2,173 sq.m (23,392 sq.ft)
Building 1B: 1,903 sq.m (20,481 sq.ft)

DeZen Reality Limited
Phase 01 Drawings

SP2-6

146 Queens St. South
Mississauga, On

2nd Floor Plan

DRAFT
Scale: 1:450

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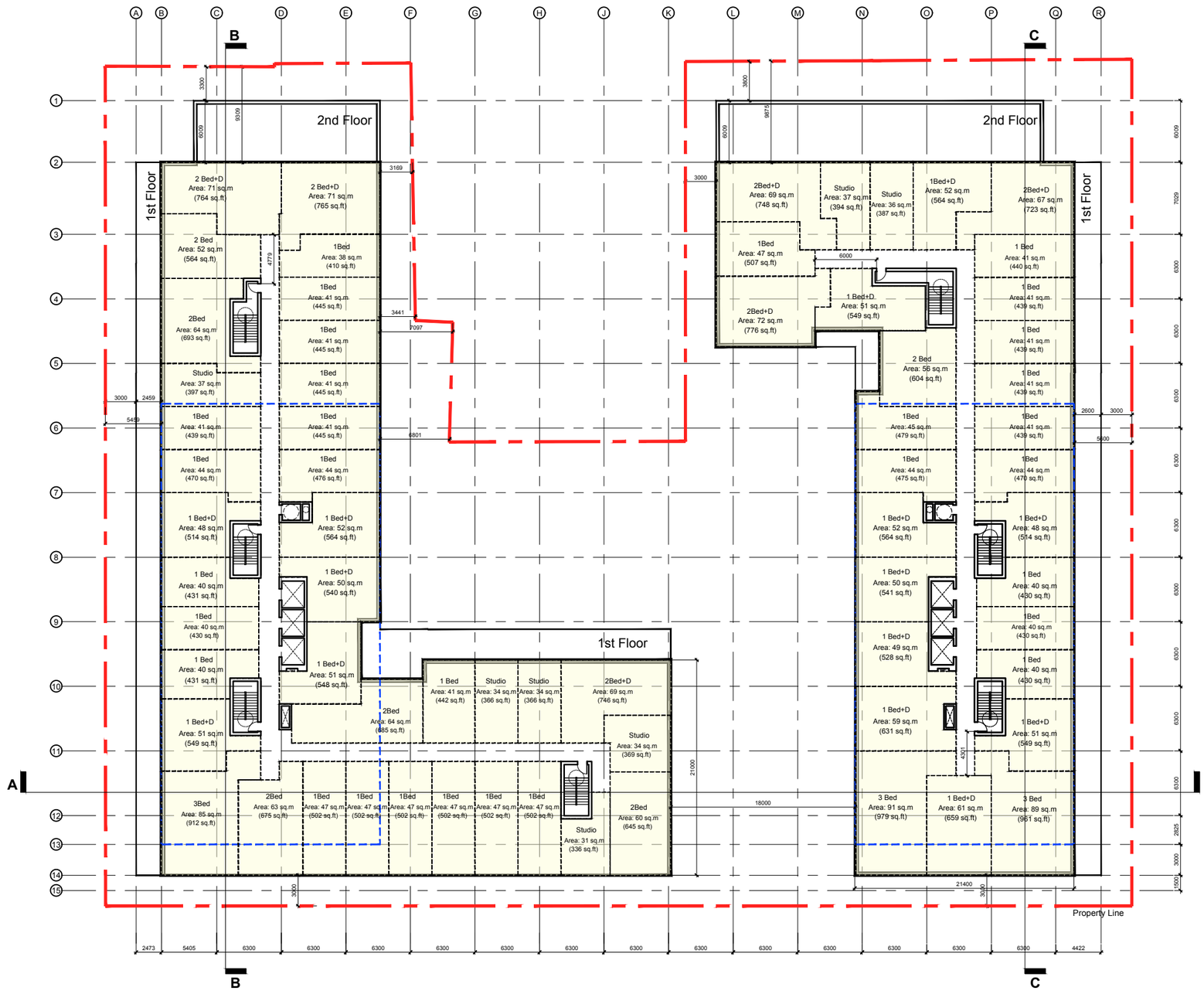

Building 1A: 2,063 sq.m (22,208 sq.ft)
Building 1B: 1,708 sq.m (18,381 sq.ft)

Unit Mix - Typical - Building 1A

Studio	5 Units
1 Bed	18 Units
1 Bed+D	5 Units
2 Bed	5 Units
2 Bed+D	3 Units
3 Bed	1 Units
Total Units	37 Units x 2 floors 74 Units

Unit Mix - Typical - Building 1B

Studio	2 Units
1 Bed	12 Units
1 Bed+D	9 Units
2 Bed	1 Units
2 Bed+D	3 Units
3 Bed	2 Units
Total Units	29 Units x 2 floors 58 Units

DeZen Reality Limited
Phase 01 Drawings

SP2-7

146 Queens St. South
Mississauga, On

3rd-4th Floor Plan

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Scale: 1:450

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Unit Mix - Typical - Building 1A

Studio	9 Units
1 Bed	10 Units
1 Bed+D	5 Units
2 Bed	4 Units
2 Bed+D	1 Units
3 Bed	2 Units
Total Units	31 Units

Unit Mix - Typical - Building 1B

Studio	0 Units
1 Bed	9 Units
1 Bed+D	6 Units
2 Bed	2 Units
2 Bed+D	0 Units
3 Bed	0 Units
Total Units	17 Units

Building 1A: 1,704 sq.m (18,337 sq.ft)
Building 1B: 1,211 sq.m (13,032 sq.ft)

DeZen Reality Limited
Phase 01 Drawings

SP2-8

146 Queens St. South
Mississauga, On

5th Floor Plan

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Scale: 1:450

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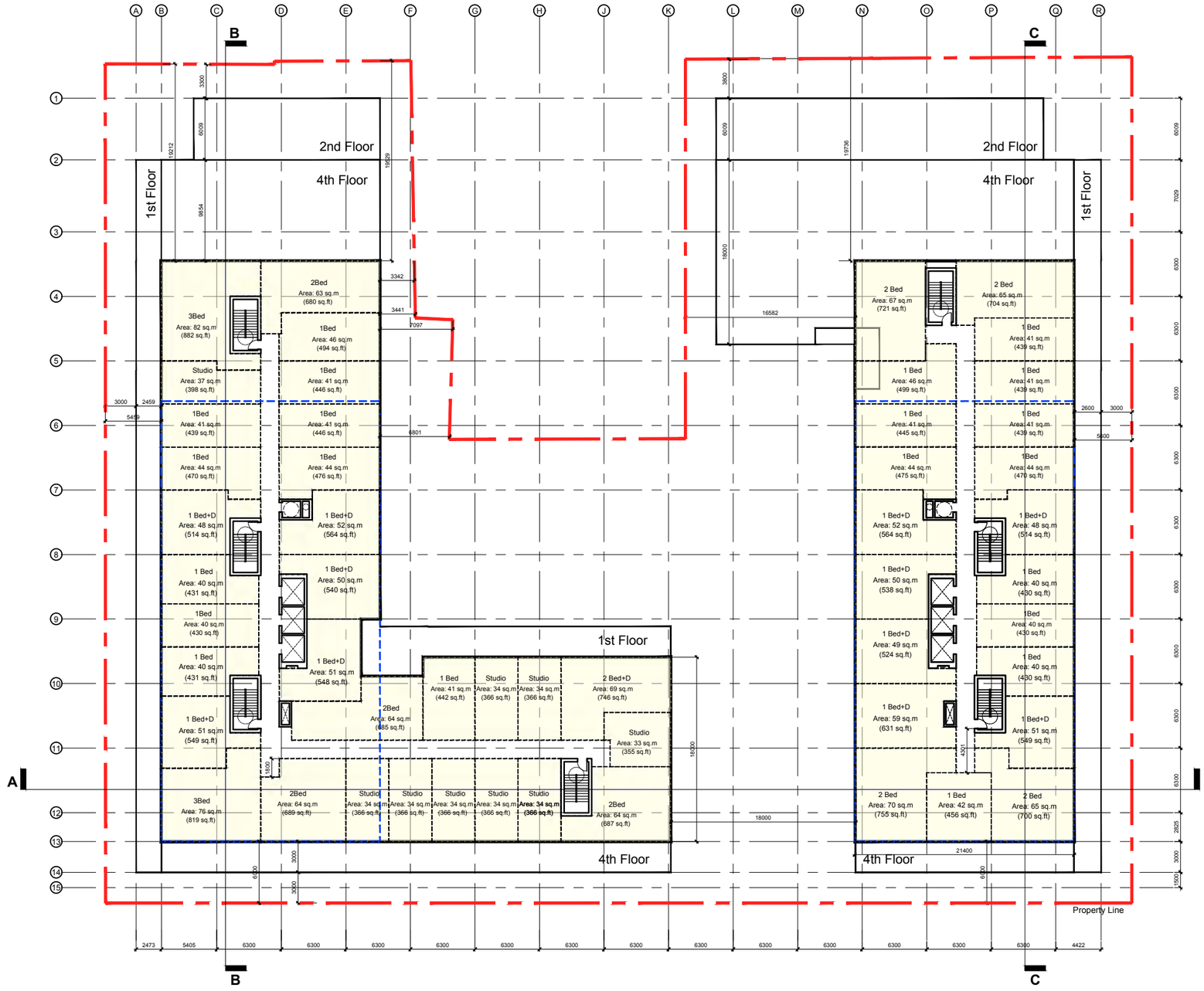

Building 1A: 1,704 sq.m (18,337 sq.ft)
Building 1B: 1,211 sq.m (13,032 sq.ft)

Unit Mix - Typical - Building 1A

Studio	9 Units
1 Bed	10 Units
1 Bed+D	5 Units
2 Bed	4 Units
2 Bed+D	1 Units
3 Bed	2 Units
Total Units	31 Units

Unit Mix - Typical - Building 1B

Studio	0 Units
1 Bed	11 Units
1 Bed+D	6 Units
2 Bed	4 Units
2 Bed+D	0 Units
3 Bed	0 Units
Total Units	21 Units

DeZen Reality Limited
Phase 01 Drawings

SP2-9

146 Queens St. South
Mississauga, On

6th Floor Plan

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Scale: 1:450

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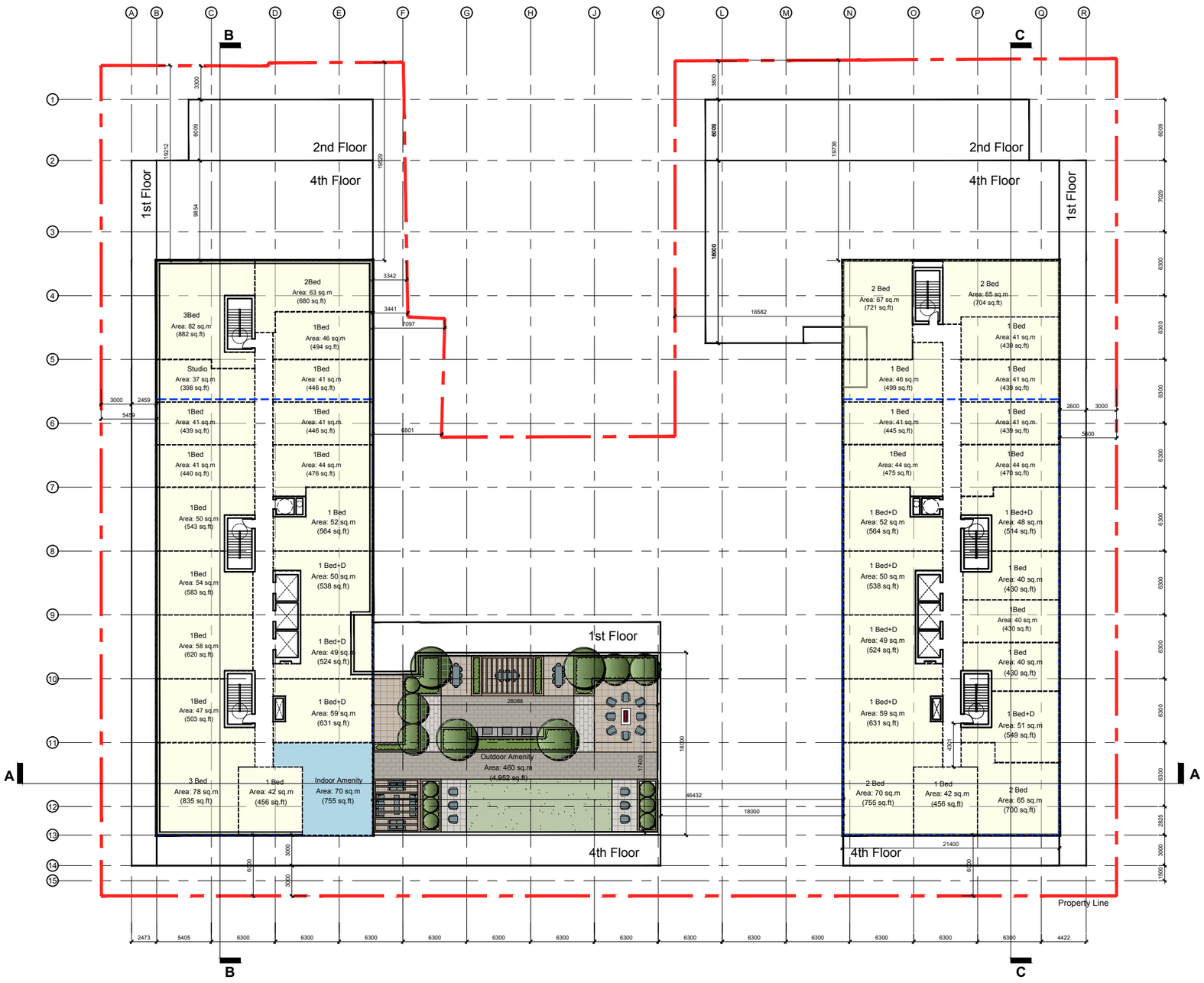

Unit Mix - Typical - Building 1A

Studio	1 Units
1 Bed	1 Units
1 Bed+D	3 Units
2 Bed	1 Units
2 Bed+D	0 Units
3 Bed	2 Units
Total Units	19 Units

Unit Mix - Typical - Building 1B

Studio	0 Units
1 Bed	11 Units
1 Bed+D	6 Units
2 Bed	4 Units
2 Bed+D	0 Units
3 Bed	0 Units
Total Units	21 Units

Building 1A: 1,211 sq.m (13,032 sq.ft)
Building 1B: 1,211 sq.m (13,032 sq.ft)

DeZen Reality Limited
Phase 01 Drawings

SP2-10

146 Queens St. South
Mississauga, On

7th Floor Plan

DRAFT
Scale: 1:450

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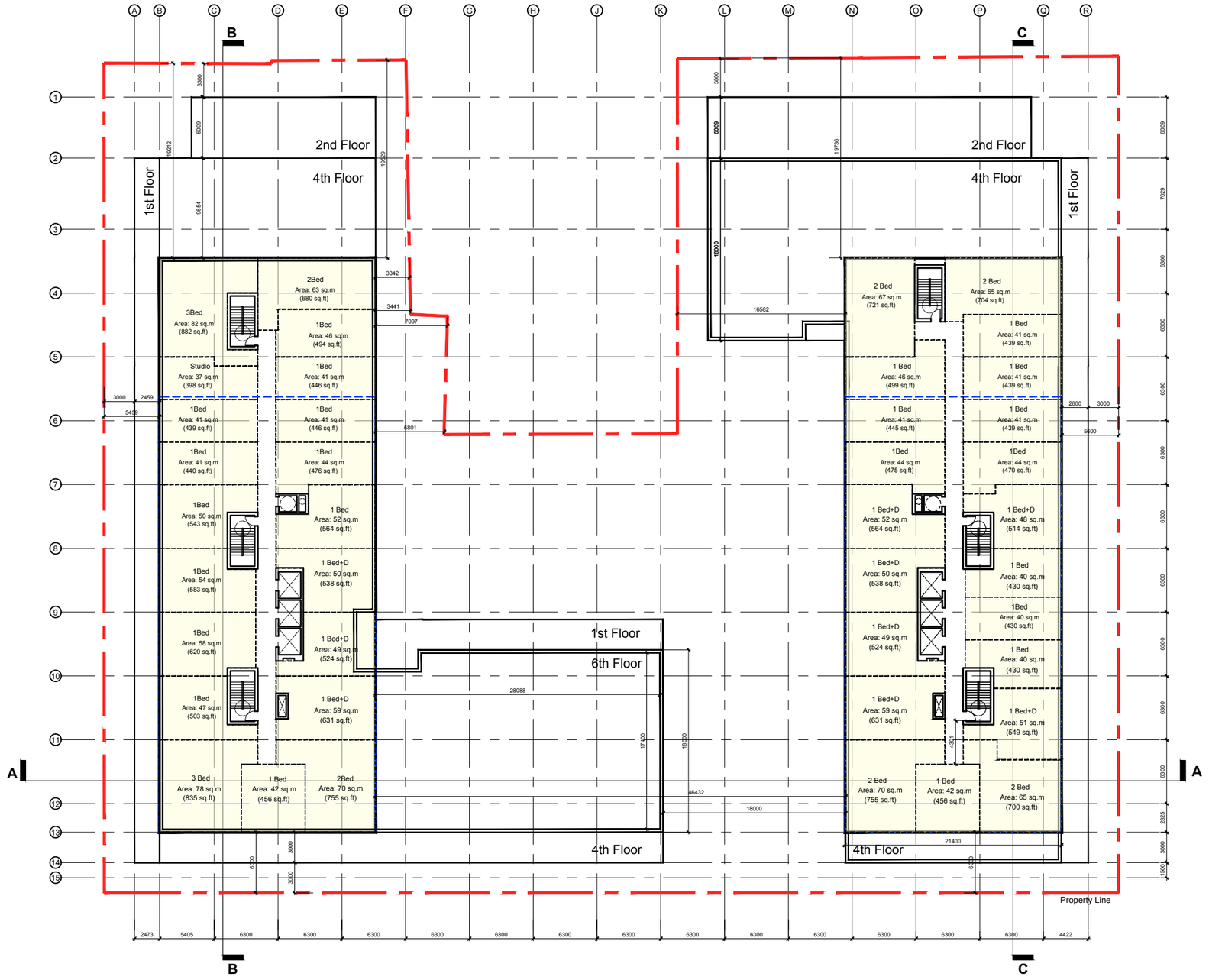

Building 1A: 1,211 sq.m (13,032 sq.ft)
Building 1B: 1,211 sq.m (13,032 sq.ft)

Unit Mix - Typical - Building 1A

Studio	1 Units
1 Bed	1 Units
1 Bed+D	3 Units
2 Bed	2 Units
2 Bed+D	0 Units
3 Bed	2 Units
Total Units	20 Units x 2 floors 40 Units

Unit Mix - Typical - Building 1B

Studio	0 Units
1 Bed	11 Units
1 Bed+D	6 Units
2 Bed	4 Units
2 Bed+D	0 Units
3 Bed	0 Units
Total Units	21 Units x 2 floors 42 Units

DeZen Reality Limited
Phase 01 Drawings

SP2-11

146 Queens St. South
Mississauga, On

8th-9th Floor Plan

DRAFT
Scale: 1:450

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Mar. 08, 2024

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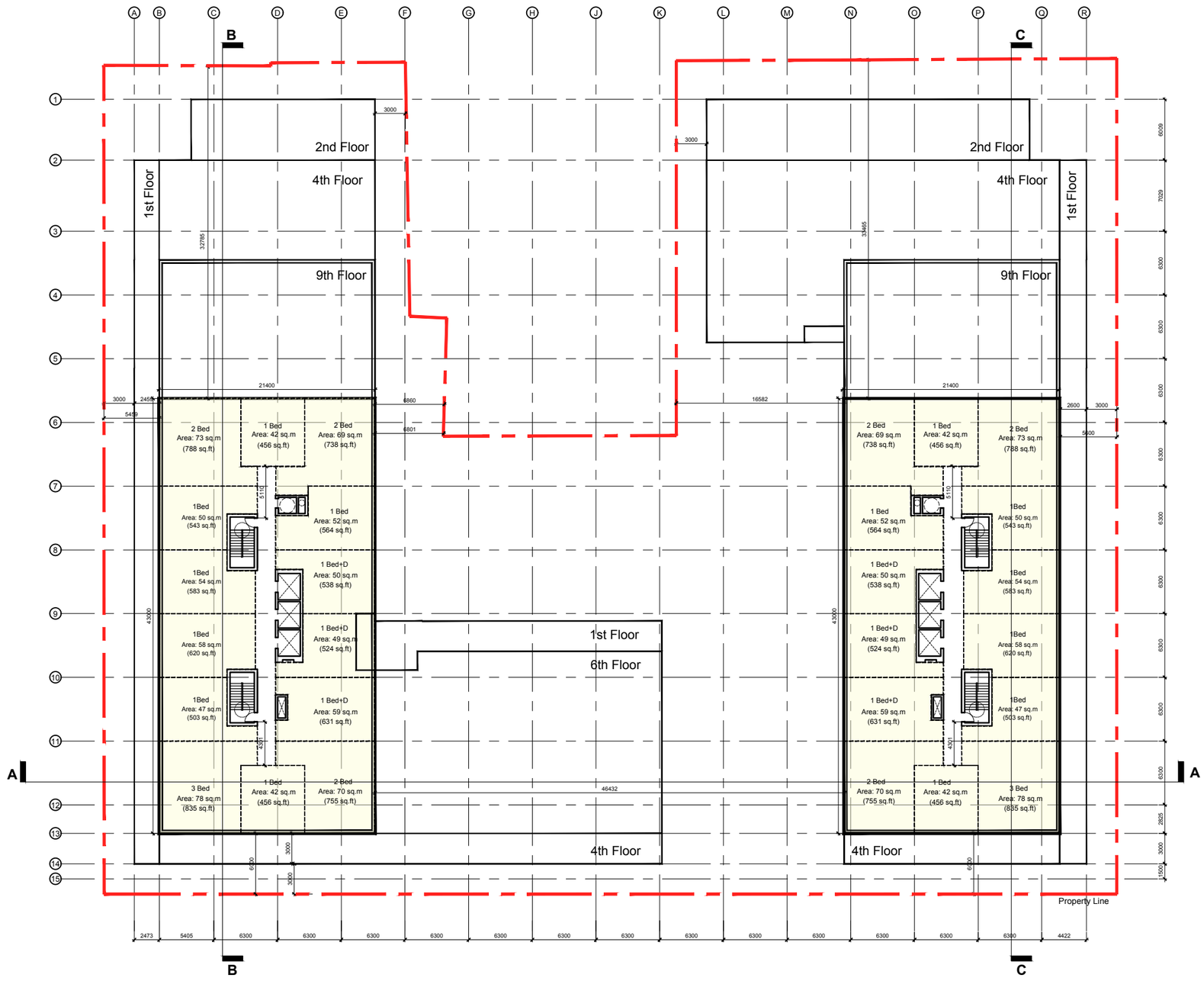

Unit Mix - Typical - Building 1A

Studio	0 Units
1 Bed	7 Units
1 Bed+D	3 Units
2 Bed	3 Units
2 Bed+D	0 Units
3 Bed	1 Units
Total Units	14 Units x 4 floors 56 Units

Unit Mix - Typical - Building 1B

Studio	0 Units
1 Bed	7 Units
1 Bed+D	3 Units
2 Bed	3 Units
2 Bed+D	0 Units
3 Bed	1 Units
Total Units	14 Units x 4 floors 56 Units

Building 1A: 918 sq.m (9,884 sq.ft)
Building 1B: 918 sq.m (9,883 sq.ft)

DeZen Reality Limited
Phase 01 Drawings

SP2-12

146 Queens St. South
Mississauga, On

10th-13th Floor Plan

DRAFT
Scale: 1:450

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SRM architects+ urban+designers

Building 1A

Floor	GCA (m²)	Deductions* (m²)	GFA (m²)	Residential (m²)	Commercial (m²)	Office (m²)	Circulation (m²)	Efficiency (Saleable Area/GCA)
1	2,447.00	1,188.70	1,258.30	0	1,214.00	0		50%
1b (Mezzanine)	239.00		239.00		239.00	0	0.00	100%
2	2,173.00	147.33	2,025.67	1,516.00	0	329.00	147.00	85%
3	2,063.00	104.80	1,958.20	1,591.00	0	0	162.00	77%
4	2,063.00	104.80	1,958.20	1,591.00	0	0	162.00	77%
5	1,704.00	101.00	1,603.00	1,460.00	0	0	141.00	86%
6	1,704.00	101.00	1,603.00	1,460.00	0	0	141.00	86%
7	1,211.00	154.00	1,057.00	974.00	0	0	79.00	80%
8	1,211.00	84.00	1,044.00	965.00	0	0	79.00	80%
9	1,211.00	84.00	1,044.00	965.00	0	0	79.00	80%
10	918.00	67.90	850.10	794.50	0	0	55.60	87%
11	918.00	67.90	850.10	794.50	0	0	55.60	87%
12	918.00	67.90	850.10	794.50			55.60	87%
13	918.00	67.90	850.10	794.50	0	0	55.60	87%
Total	19,698.00	2,341.23	17,190.77	13,700.00	1,453.00	329.00	1,212.40	79%

* Deductions Include: Mechanical, stairwells, elevators, parking, bicycle parking, storage lockers, waste collection and chutes, common facilites and amenity areas.

Average Unit: 48 m²

Unit Mix

Floor	Studio 290-390sft	1 Bed 400-460sft	1 + Den 480-590sft	2 Bed 590-690sft	2 Bed+D 690-800sft	3 Bed 800sft +	Total
1							0
2	4	16	5	5	1	1	32
3	5	18	5	5	3	1	37
4	5	18	5	5	3	1	37
5	9	10	5	4	1	2	31
6	9	10	5	4	1	2	31
7	1	12	3	1	0	2	19
8	1	12	3	2	0	2	20
9	1	12	3	2	0	2	20
10	0	7	3	3	0	1	14
11	0	7	3	3	0	1	14
12	0	7	3	3	0	1	14
13	0	7	3	3	0	1	14
Total	35	136	46	40	9	17	283
	12%	48%	16%	14%	3%	6%	
Percentage	12%	64%		17%		6%	

Required Amenity	
Ratio (m²/ Unit)	5.6
Units	283
Amenity Required (m²)	**1584.8**

Provided Amenity		
1		630
7		530
Total (m²)	4.1	**1160**

Building 1B

Floor	GCA (m²)	Deductions* (m²)	GFA (m²)	Residential (m²)	Commercial (m²)	Office (m²)	Circulation (m²)	Efficiency (Saleable Area/GCA)
1	2,107.00	841.00	1,266.00	0	1,258.00	0		60%
1b (Mezzanine)	202.00		202.00		202.00	0	0.00	100%
2	1,903.00	107.00	1,796.00	1,664.00	0	0.00	128.00	87%
3	1,708.00	94.17	1,613.83	1,494.60	0	0	119.23	88%
4	1,708.00	94.17	1,613.83	1,494.60	0	0	119.23	88%
5	1,211.00	317.00	894.00	819.63	0	0	74.37	68%
6	1,211.00	86.00	1,125.00	1,036.00	0	0	86.00	86%
7	1,211.00	86.00	1,125.00	1,036.00	0	0	86.00	86%
8	1,211.00	86.00	1,125.00	1,036.00	0	0	86.00	86%
9	1,211.00	86.00	1,125.00	1,036.00	0	0	86.00	86%
10	918.00	67.90	850.10	794.50	0	0	55.60	87%
11	918.00	67.90	850.10	794.50	0	0	55.60	87%
12	918.00	67.90	850.10	794.50	0	0	55.60	87%
13	918.00	67.90	850.10	794.50	0	0	55.60	87%
Total	17,355.00	2,068.93	15,286.07	12,794.84	1,460.00	0.00	1,007.23	82%

* Deductions Include: Mechanical, stairwells, elevators, parking, bicycle parking, storage lockers, waste collection and chutes, common facilites and amenity areas.

Average Unit: 53 m²

Unit Mix

Floor	Studio 290-390sft	1 Bed 400-460sft	1 + Den 480-590sft	2 Bed 590-690sft	2 Bed+D 690-800sft	3 Bed 800sft +	Total
1							0
2	0	12	6	2	3	5	28
3	2	12	9	1	3	2	29
4	2	12	9	1	3	2	29
5	0	9	6	2	0	0	17
6	0	11	6	4	0	0	21
7	0	11	6	4	0	0	21
8	0	11	6	4	0	0	21
9	0	11	6	4	0	0	21
10	0	7	3	3	0	1	14
11	0	7	3	3	0	1	14
12	0	7	3	3	0	1	14
13	0	7	3	3	0	1	14
Total	4	117	66	34	9	13	243
	2%	48%	27%	14%	4%	5%	
Percentage	2%	75%		18%		5%	

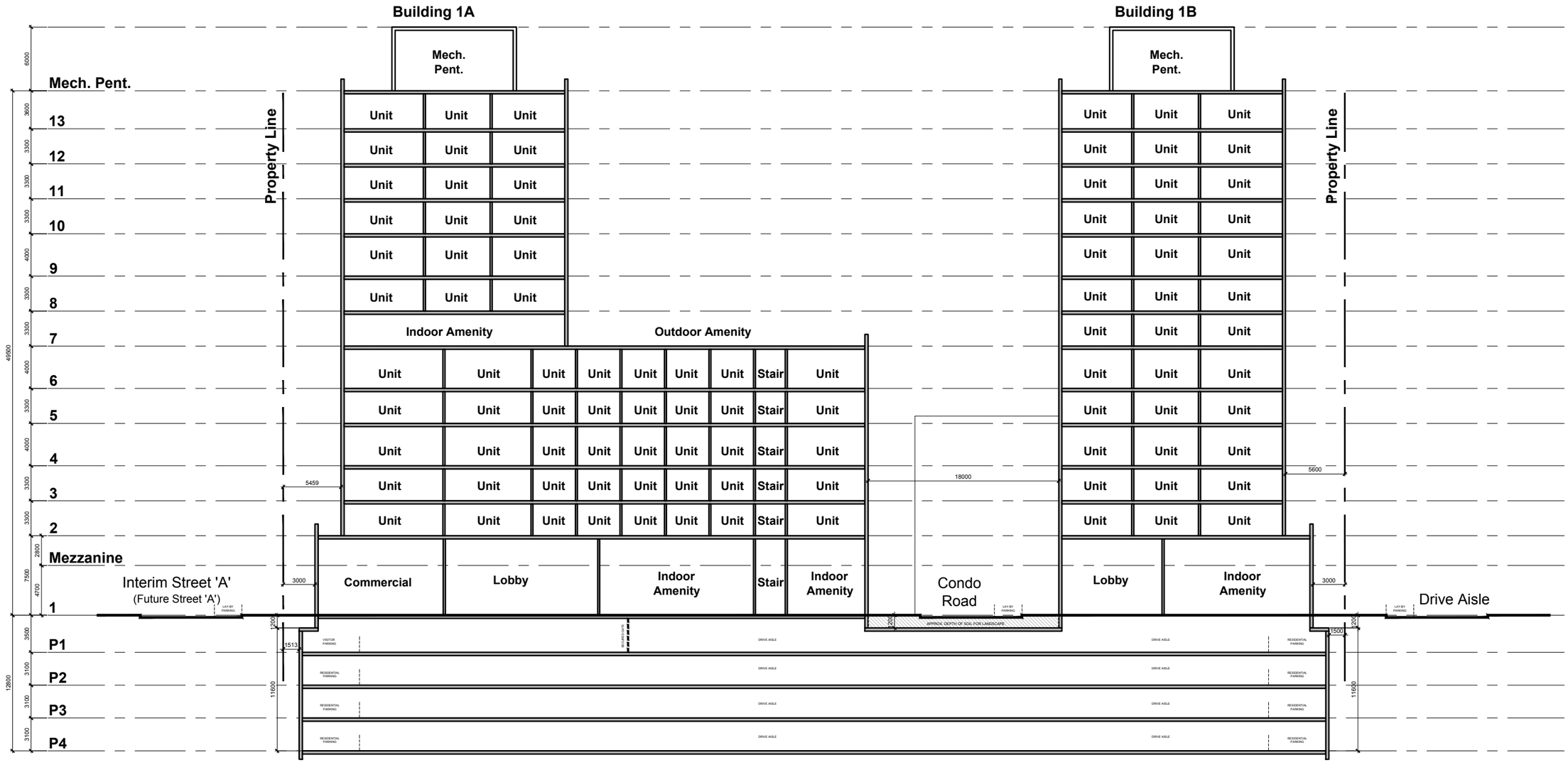
Required Amenity	
Ratio (m²/ Unit)	5.6
Units	243
Amenity Required (m²)	**1360.8**

Provided Amenity		
1		315
4		656
Total (m²)	4.0	**971**

Parking		
Required	Rate	Spaces
Residential	0.8	420.8
Commerical / Visitor/Office	0.2	105.2
Total		526.0
Provided		Spaces
Surface		0
On-Street (including public streets)		14
Underground		524.00
Total		538.00
EV Parking		
Visitor	10%	11
Residential	20%	82

Bike Parking		
Required	Rate	Spaces
Residential (Long-term)	0.6	316
Visitor (Short-term)	0.05	26
Commercial (Long-term)	0.15	4
Commercial (Short-term)	0.2	6
Office (Long-term)	0.1	0
Office (Short-term)	0.1	0
Total		353
Provided		Spaces
Surface		36
Underground (Short-term)		26
Underground (Long-term)		332.00
Total		394.00

City By-law Parking Requirements		
Required	Rate	Spaces
Residential	0.9	473.40
Visitor	0.2	105.20
Commercial	3.0	87.39
Office	2.5	8.23
Total		674.22



DeZen Reality Limited

Phase 01 Drawings

SP3-1

146 Queens St. South

Mississauga, On

Section A-A

DRAFT

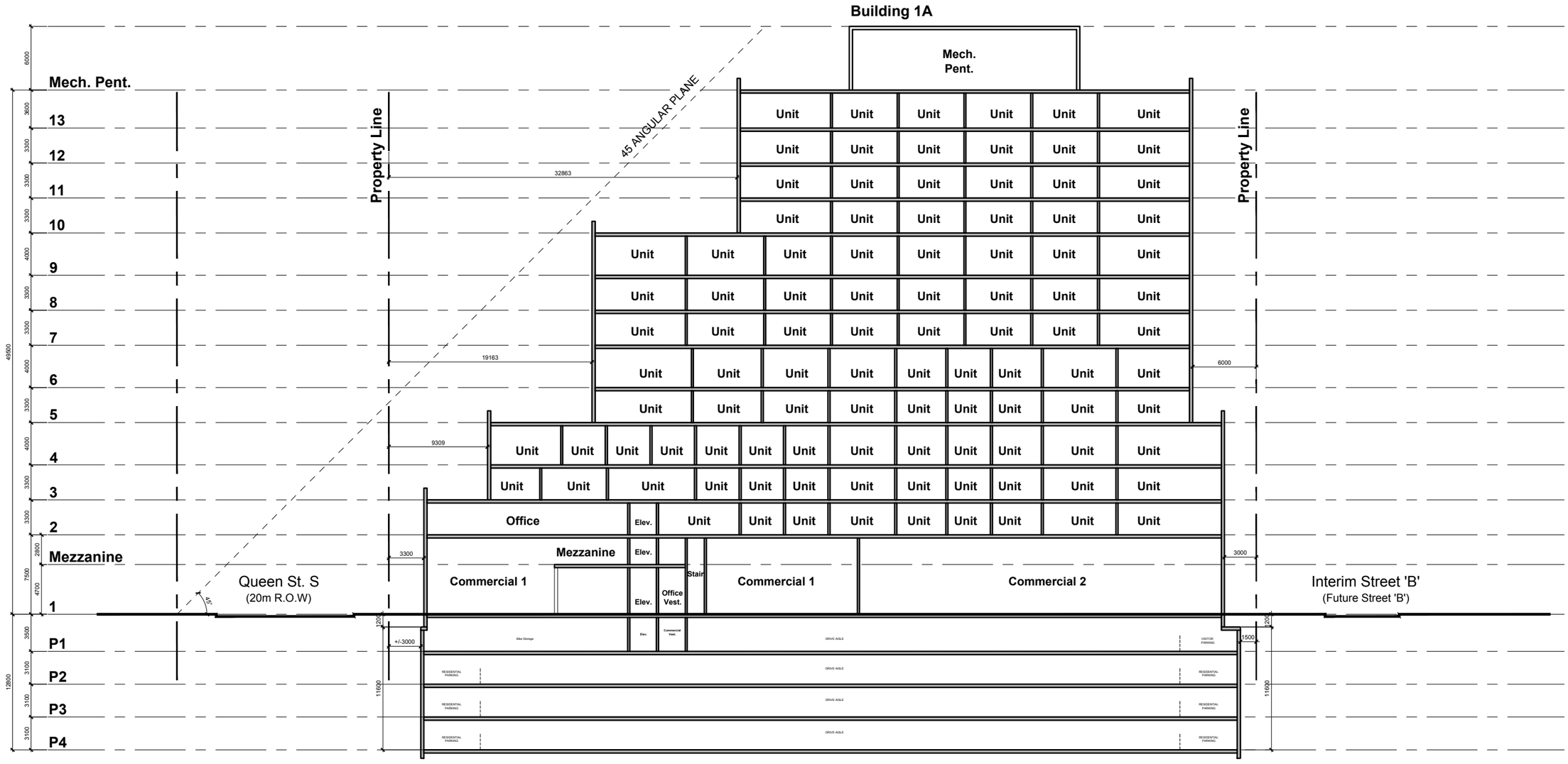
Scale: 1:400

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM architects+ urban×designers



DeZen Reality Limited

Phase 01 Drawings

SP3-2

146 Queens St. South

Mississauga, On

Section B-B

DRAFT

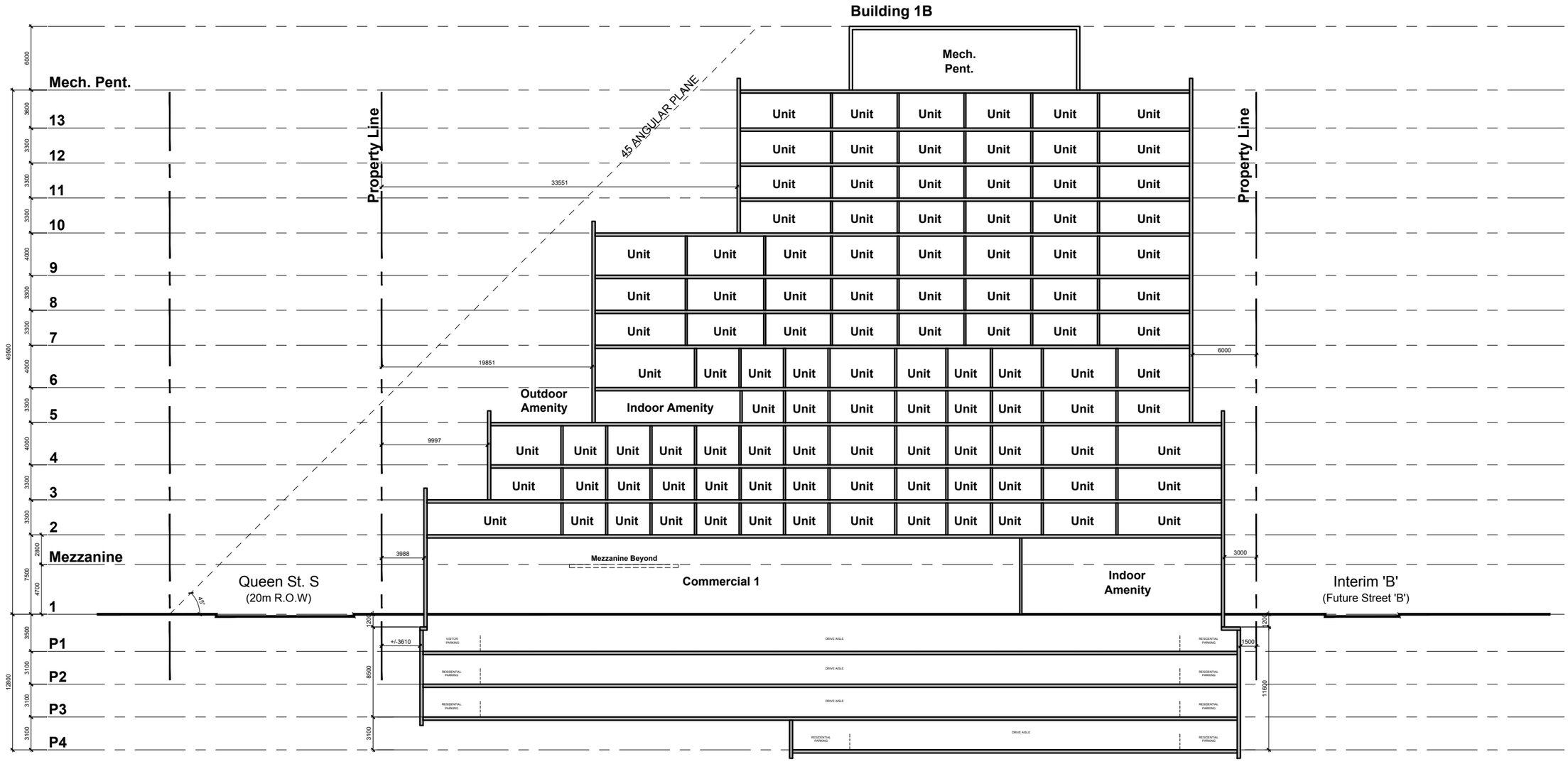
Scale: 1:400

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM architects+ urban×designers



DeZen Reality Limited

Phase 01 Drawings

SP3-3

146 Queens St. South

Mississauga, On

Section C-C

DRAFT

Scale: 1:400

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM architects+ urban×designers

North Elevation
Facing Queen Street

East Elevation
Facing Street C/ Market Square

South Elevation
Facing Street B

West Elevation
Facing Street A

DeZen Realty SP4-1

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Elevations

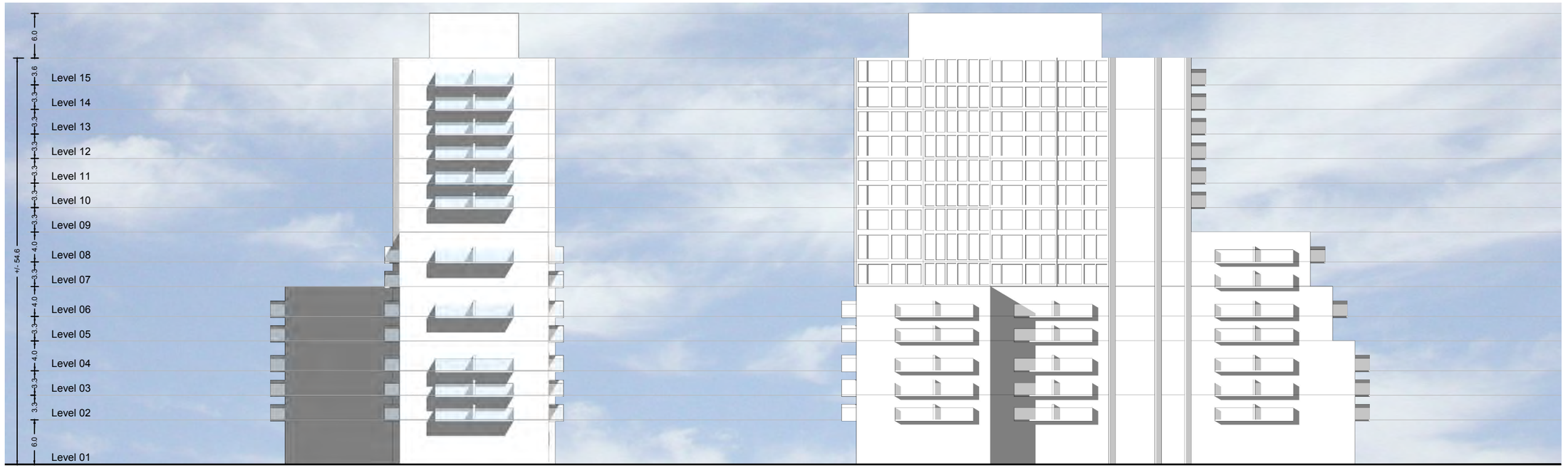
Building 01

DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034
Mar. 08, 2024

SRM↗ architects+ urban×designers



North Elevation
Facing Market Square

East Elevation

South Elevation
Facing Street C/ Crumbie Street

West Elevation
Facing Street C

DeZen Realty SP4-2

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Elevations

Building 02

DRAFT

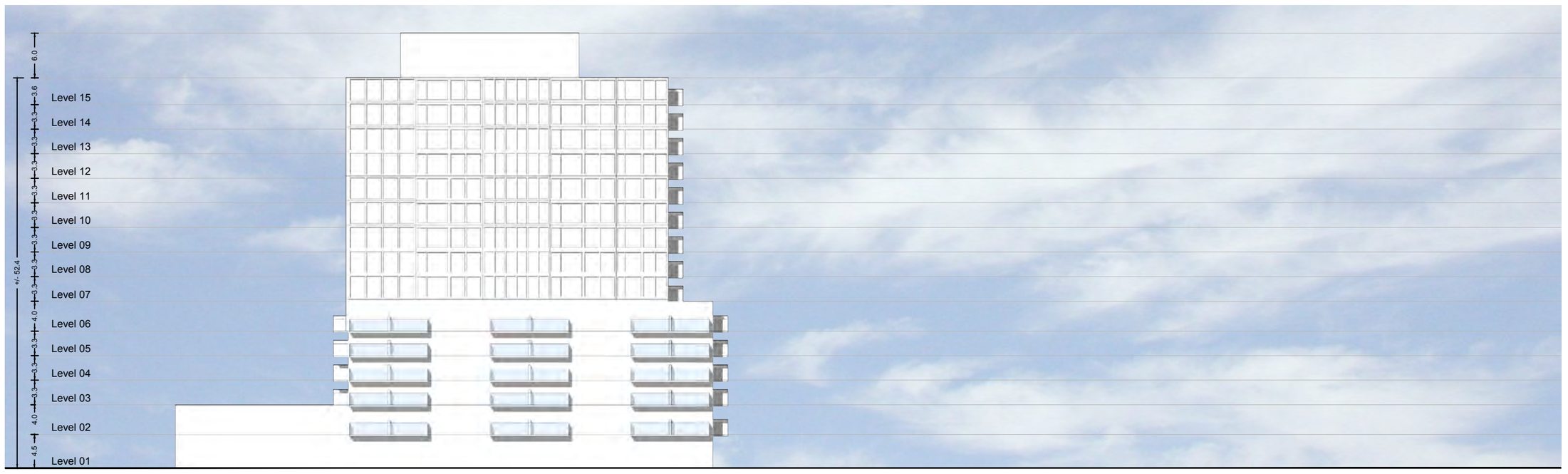
NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034
Mar. 08, 2024

SRM↗ architects+ urban×designers

North Elevation

Facing Street B



East Elevation

Facing Street C

DeZen Realty SP4-3

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Elevations

Building 03

DRAFT

D2034

Mar. 08, 2024

SRM↗ architects+ urban×designers

South Elevation

Facing Rail Corridor

West Elevation

DeZen Realty SP4-4

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Elevations

Building 03

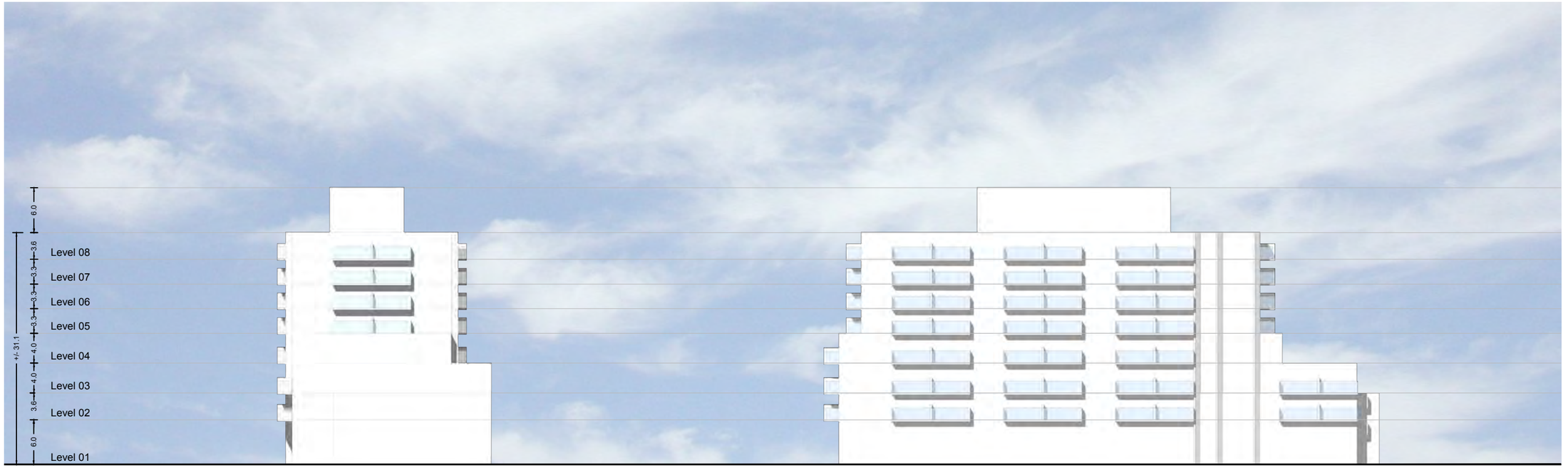
DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM↗ architects+ urban×designers



North Elevation
Facing Queen Street

East Elevation
Facing Street A

South Elevation
Facing Street B

West Elevation

DeZen Realty SP4-5

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Elevations

Building 04

DRAFT

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D2034
Mar. 08, 2024

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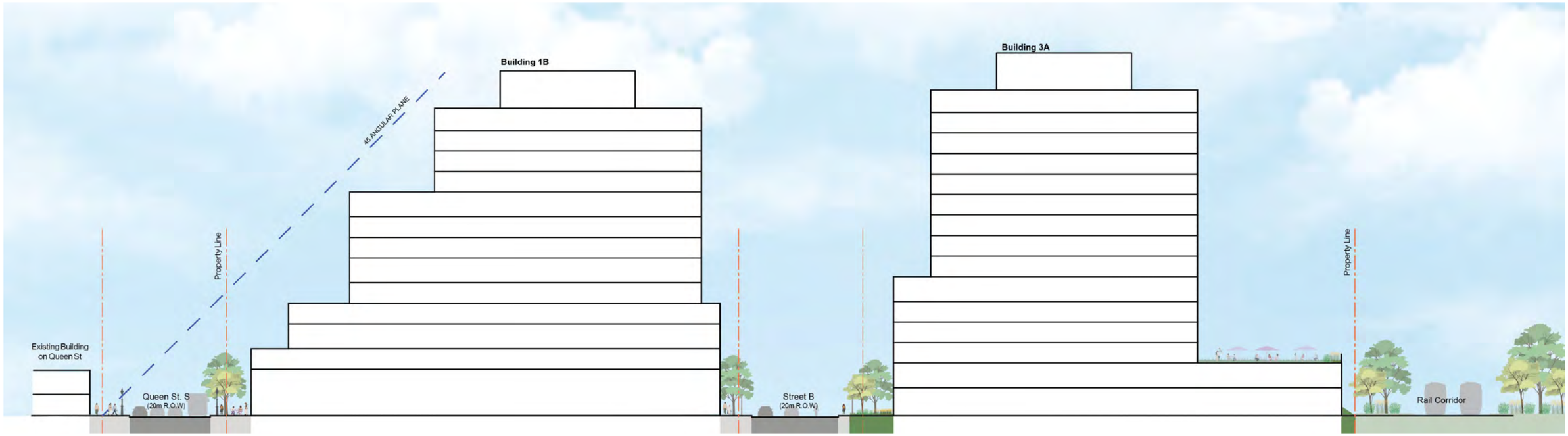
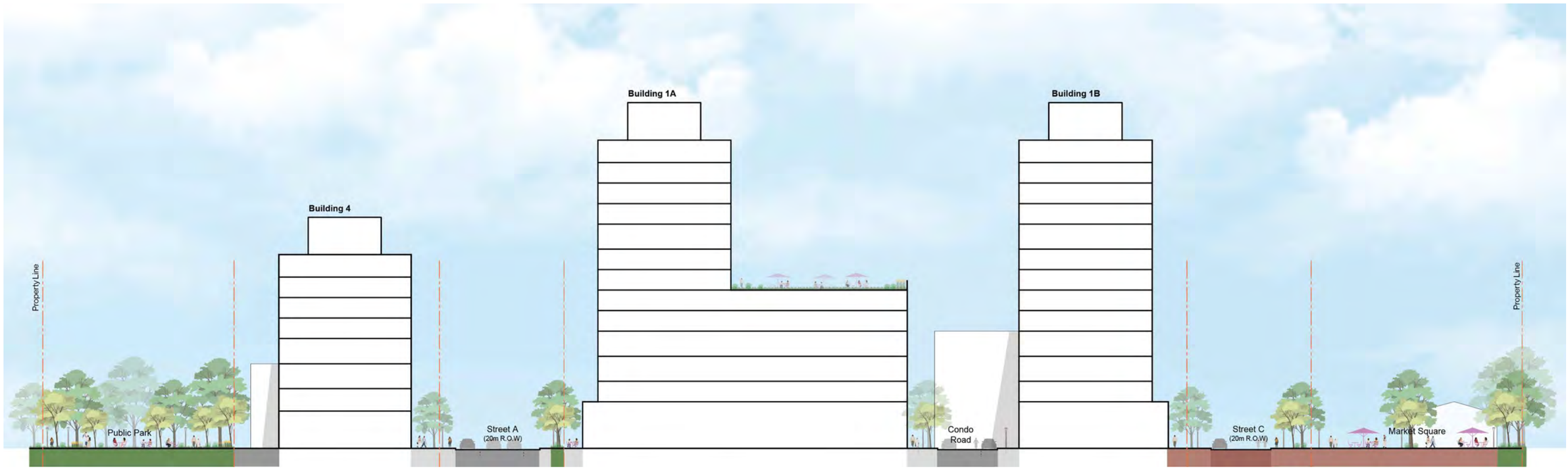
urban×designers



Site Section A:A



Site Section B:B

DeZen Realty SP5-1

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Site Sections

DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM↗ architects+ urban×designers

DeZen Realty SP5-2

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Aerial Views

Queen Street Facing

DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

SRM↗ architects+ urban+designers

DeZen Realty SP5-3

Centre Plaza Redevelopment - Streetsville

142-148 Queen St S

Streetsville (Mississauga), On

Aerial Views

Rail Corridor Facing

DRAFT

NOTE: Property line, buildings, drive access and street setbacks are all shown as approximate. A detailed site survey must be provided prior to finalizing all conditions. Dimensions used are all based on reference plans and are not intended as legally binding. Architect is not responsible for any changes that may occur due to verification of zoning, boundary conditions, OP, or other regulations. The enclosed drawing is for reference and information purposes only.

D2034

Mar. 08, 2024

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Figure 1.1: Low-rise forms with historical character

Figure 1.2: Mid-rise forms with articulation along the facade

Figure 1.5: Tower and Podium materiality

Figure 1.3: Tall mid-rise forms

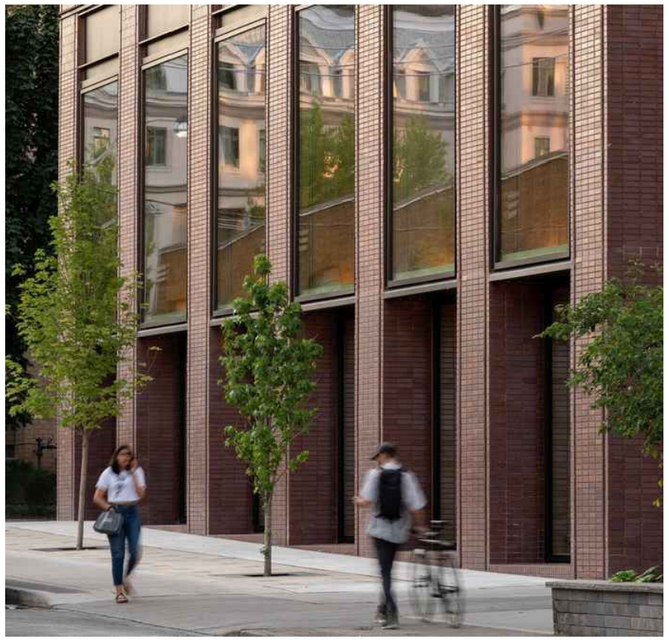


Figure 1.4: Articulation along the Podium

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

@GOtransitBus

See Something?
Say Something.

24/7 Transit Safety Dispatch:
1-877-297-0642

prestocard.ca

Sign-up for email or text alerts/ Inscrivez-vous pour recevoir des alertes par courriel ou message texte.
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.

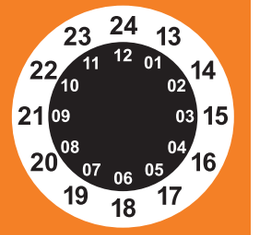
Step 3
Look across the rows for available departure times.

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.

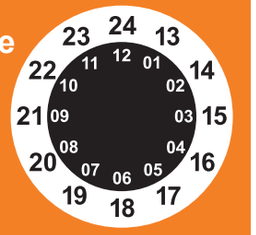
Étape 3
Regardez dans les rangées pour obtenir les heures de départ offertes.

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 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	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	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	Aquitaine 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	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	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	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	Aquitaine 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	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																														
Trip Number / Numéro du parcours	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	Mississauga 22	Mississauga 23	Mississauga 22	Milton 24 Ar
		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																														
Trip Number / Numéro du parcours	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
		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

Schedules | Plan a trip | More

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

Route 44

University Of Toronto At Mississauga Campus

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: QUEEN ST & ONTARIO 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 (1 . QUEEN ST & ONTARIO ST)

Start Time	N Approach QUEEN ST						E Approach ONTARIO ST E						S Approach QUEEN ST						W Approach ONTARIO ST W						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	0	34	0	0	0	34	4	0	0	0	0	4	0	22	0	1	0	23	0	0	0	0	0	0	61	
06:15:00	0	22	1	0	0	23	4	0	0	0	0	4	0	26	1	0	0	27	0	0	0	0	0	0	54	
06:30:00	0	43	2	0	1	45	6	0	0	0	2	6	0	31	0	0	0	31	0	0	3	0	0	3	85	
06:45:00	1	52	1	0	0	54	9	0	1	0	0	10	0	33	1	0	0	34	1	0	0	0	0	1	99	299
07:00:00	0	35	3	0	0	38	6	0	0	0	4	6	0	29	1	0	0	30	3	0	0	0	1	3	77	315
07:15:00	3	71	4	0	0	78	13	0	0	0	6	13	0	44	3	0	0	47	2	0	2	0	1	4	142	403
07:30:00	2	72	7	0	1	81	11	1	0	0	0	12	0	66	0	0	0	66	2	0	2	0	3	4	163	481
07:45:00	3	83	13	0	0	99	19	2	0	0	2	21	0	94	1	0	0	95	5	1	3	0	1	9	224	606
08:00:00	1	119	21	0	3	141	17	0	0	0	3	17	1	110	2	0	3	113	3	0	3	0	1	6	277	806
08:15:00	9	93	15	0	6	117	25	3	0	0	2	28	0	126	2	0	1	128	7	4	18	0	7	29	302	966
08:30:00	0	124	26	0	0	150	22	1	0	0	2	23	2	113	1	0	1	116	5	1	4	0	3	10	299	1102
08:45:00	2	110	18	0	0	130	23	4	0	0	4	27	0	111	1	0	0	112	1	1	2	0	3	4	273	1151
09:00:00	3	121	15	0	0	139	20	1	0	0	0	21	2	83	1	0	1	86	2	0	10	0	1	12	258	1132
09:15:00	7	109	11	0	0	127	10	0	0	0	3	10	2	66	1	0	0	69	1	0	3	0	3	4	210	1040
09:30:00	4	80	5	0	0	89	12	0	0	0	4	12	5	72	3	0	0	80	0	1	4	0	1	5	186	927
09:45:00	3	102	11	0	0	116	12	1	0	0	0	13	1	88	2	0	0	91	2	3	3	0	3	8	228	882
BREAK																										
15:00:00	3	121	9	0	1	133	18	2	3	0	2	23	2	133	3	0	2	138	5	4	2	0	5	11	305	
15:15:00	5	132	21	0	2	158	38	4	2	0	1	44	1	115	6	0	1	122	2	2	4	0	4	8	332	
15:30:00	8	125	15	0	0	148	27	5	1	0	5	33	2	128	3	0	1	133	6	3	2	0	3	11	325	
15:45:00	11	163	19	0	1	193	32	0	0	0	0	32	3	147	1	0	1	151	4	0	6	0	3	10	386	1348
16:00:00	7	136	13	0	0	156	20	0	0	0	5	20	0	121	1	0	3	122	3	3	6	0	5	12	310	1353
16:15:00	7	122	5	0	0	134	20	1	2	0	10	23	4	125	3	0	0	132	3	1	6	0	2	10	299	1320
16:30:00	7	134	6	0	0	147	16	2	1	0	1	19	1	133	2	0	0	136	1	3	7	0	0	11	313	1308
16:45:00	6	141	8	0	0	155	14	3	2	0	2	19	2	133	1	0	0	136	3	1	5	0	3	9	319	1241
17:00:00	6	130	8	0	1	144	24	3	3	0	10	30	2	149	7	0	2	158	7	3	4	0	2	14	346	1277
17:15:00	3	169	17	0	1	189	26	7	0	0	7	33	3	156	5	0	2	164	5	0	5	0	4	10	396	1374
17:30:00	5	165	16	0	1	186	26	2	2	0	10	30	4	136	6	0	5	146	4	3	8	0	4	15	377	1438
17:45:00	6	140	21	0	6	167	29	2	0	0	4	31	2	131	2	0	3	135	9	2	1	0	6	12	345	1464
18:00:00	6	129	11	0	0	146	27	2	2	0	5	31	3	149	4	0	0	156	10	0	4	0	3	14	347	1465
18:15:00	6	134	14	0	1	154	17	1	0	0	5	18	1	132	2	0	1	135	5	1	4	0	3	10	317	1386
18:30:00	1	107	11	0	1	119	19	0	1	0	3	20	7	116	4	0	1	127	7	4	4	0	4	15	281	1290
18:45:00	4	133	12	0	0	149	22	0	0	0	6	22	3	135	0	0	0	138	1	1	4	0	4	6	315	1260
Grand Total	129	3451	359	0	26	3939	588	47	20	0	108	655	53	3253	70	1	28	3377	109	42	129	0	83	280	**8251**	-
Approach%	3.3%	87.6%	9.1%	0%		-	89.8%	7.2%	3.1%	0%		-	1.6%	96.3%	2.1%	0%		-	38.9%	15%	46.1%	0%		-	**-**	-
Totals %	1.6%	41.8%	4.4%	0%		47.7%	7.1%	0.6%	0.2%	0%		7.9%	0.6%	39.4%	0.8%	0%		40.9%	1.3%	0.5%	1.6%	0%		3.4%	**-**	-
Heavy	4	74	3	0		-	3	2	1	0		-	0	76	1	0		-	6	4	9	0		-	**-**	-
Heavy %	3.1%	2.1%	0.8%	0%		-	0.5%	4.3%	5%	0%		-	0%	2.3%	1.4%	0%		-	5.5%	9.5%	7%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: QUEEN ST & ONTARIO ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Turning Movement Count (1 . QUEEN ST & ONTARIO ST)

Start Time	N Approach QUEEN ST						E Approach ONTARIO ST E						S Approach QUEEN ST						W Approach ONTARIO ST W						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		
10:00:00	2	122	7	0	2	131	11	0	0	0	5	11	1	89	1	0	4	91	1	0	3	0	1	4	237	
10:15:00	4	98	4	0	2	106	14	0	0	0	6	14	0	93	2	0	0	95	1	0	5	0	9	6	221	
10:30:00	1	112	13	0	2	126	13	1	0	0	4	14	1	97	0	0	0	98	1	1	3	0	5	5	243	
10:45:00	4	138	10	0	2	152	10	0	0	0	3	10	2	127	0	0	4	129	0	0	3	0	4	3	294	995
11:00:00	1	114	10	0	1	125	16	1	1	0	5	18	1	112	1	0	0	114	3	0	3	0	9	6	263	1021
11:15:00	0	133	12	0	3	145	14	0	2	0	7	16	2	127	0	0	6	129	2	0	2	0	6	4	294	1094
11:30:00	0	101	11	0	0	112	14	1	0	0	3	15	0	125	0	0	4	125	2	2	0	0	5	4	256	1107
11:45:00	2	146	7	0	1	155	19	2	0	0	8	21	5	126	2	0	0	133	2	0	1	0	5	3	312	1125
12:00:00	2	126	9	0	3	137	20	2	0	0	9	22	2	126	4	0	6	132	6	0	3	0	9	9	300	1162
12:15:00	2	127	9	0	0	138	11	0	2	0	5	13	0	147	2	0	0	149	0	0	3	0	2	3	303	1171
12:30:00	2	134	14	0	0	150	12	0	0	0	12	12	0	128	0	0	1	128	1	1	1	0	8	3	293	1208
12:45:00	0	104	6	0	1	110	10	0	2	0	2	12	2	120	2	0	2	124	3	0	3	0	2	6	252	1148
13:00:00	2	135	10	0	0	147	18	1	3	0	8	22	2	130	3	0	1	135	1	2	2	0	3	5	309	1157
13:15:00	4	134	9	0	1	147	17	1	4	0	6	22	1	123	2	0	0	126	0	0	1	0	6	1	296	1150
13:30:00	2	128	13	0	5	143	18	0	2	0	4	20	3	146	0	0	1	149	1	0	4	0	11	5	317	1174
13:45:00	1	139	11	0	2	151	13	1	1	0	1	15	5	151	1	0	0	157	1	1	0	0	4	2	325	1247
Grand Total	29	1991	155	0	25	2175	230	10	17	0	88	257	27	1967	20	0	29	2014	25	7	37	0	89	69	**4515**	-
Approach%	1.3%	91.5%	7.1%	0%		-	89.5%	3.9%	6.6%	0%		-	1.3%	97.7%	1%	0%		-	36.2%	10.1%	53.6%	0%		-	**-**	-
Totals %	0.6%	44.1%	3.4%	0%		48.2%	5.1%	0.2%	0.4%	0%		5.7%	0.6%	43.6%	0.4%	0%		44.6%	0.6%	0.2%	0.8%	0%		1.5%	**-**	-
Heavy	0	13	0	0		-	1	0	0	0		-	0	14	1	0		-	0	0	2	0		-	**-**	-
Heavy %	0%	0.7%	0%	0%		-	0.4%	0%	0%	0%		-	0%	0.7%	5%	0%		-	0%	0%	5.4%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: QUEEN ST & ONTARIO ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 01:00 PM - 02:00 PM Weather: Few Clouds (11.95 °C)

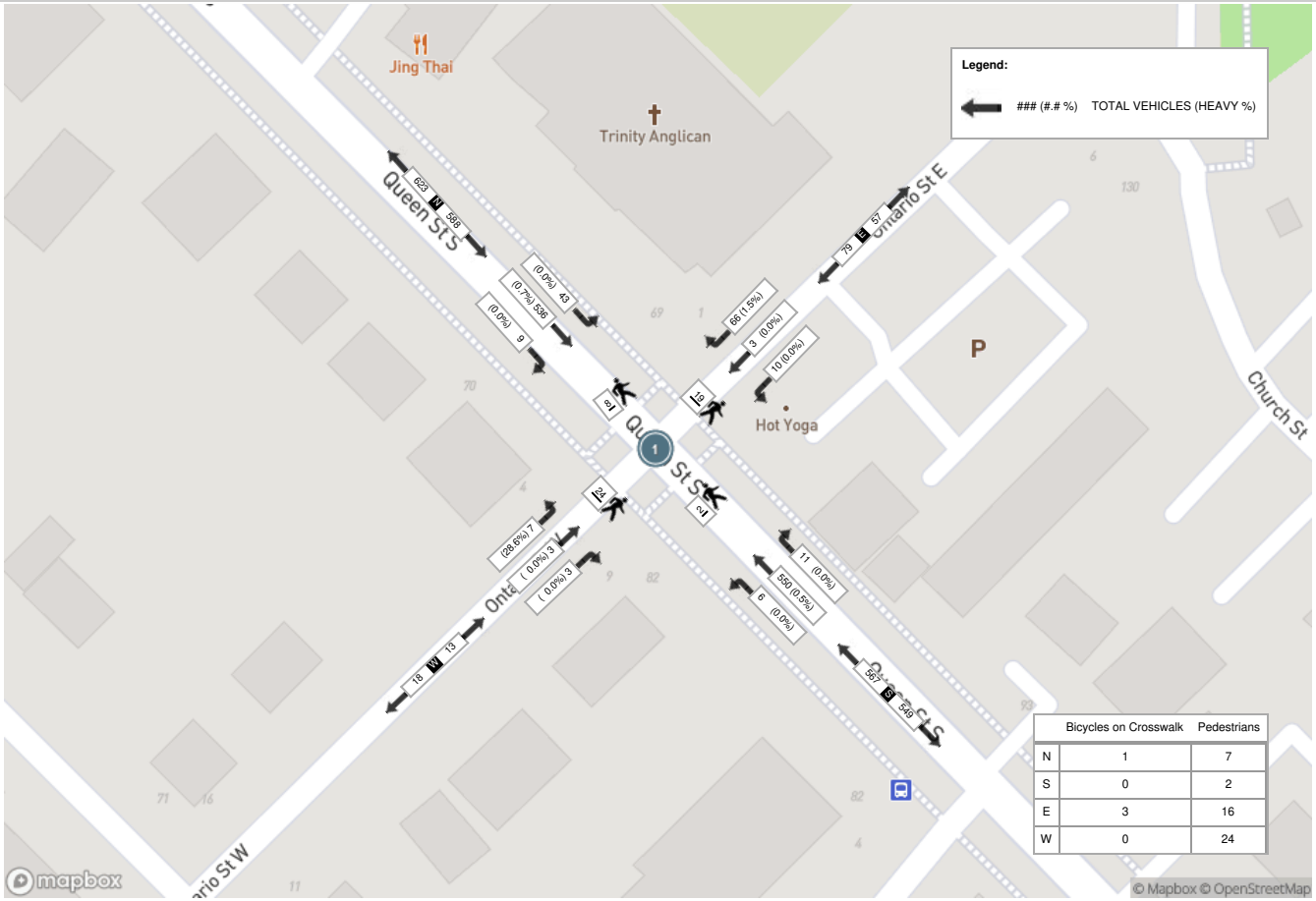
Start Time	N Approach QUEEN ST						E Approach ONTARIO ST E						S Approach QUEEN ST						W Approach ONTARIO ST W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
13:00:00	2	135	10	0	0	147	18	1	3	0	8	22	2	130	3	0	1	135	1	2	2	0	3	5	309
13:15:00	4	134	9	0	1	147	17	1	4	0	6	22	1	123	2	0	0	126	0	0	1	0	6	1	296
13:30:00	2	128	13	0	5	143	18	0	2	0	4	20	3	146	0	0	1	149	1	0	4	0	11	5	317
13:45:00	1	139	11	0	2	151	13	1	1	0	1	15	5	151	1	0	0	157	1	1	0	0	4	2	325
Grand Total	9	536	43	0	8	588	66	3	10	0	19	79	11	550	6	0	2	567	3	3	7	0	24	13	**1247**
Approach%	1.5%	91.2%	7.3%	0%		-	83.5%	3.8%	12.7%	0%		-	1.9%	97%	1.1%	0%		-	23.1%	23.1%	53.8%	0%		-	**-**
Totals %	0.7%	43%	3.4%	0%		47.2%	5.3%	0.2%	0.8%	0%		6.3%	0.9%	44.1%	0.5%	0%		45.5%	0.2%	0.2%	0.6%	0%		1%	**-**
PHF	0.56	0.96	0.83	0		0.97	0.92	0.75	0.63	0		0.9	0.55	0.91	0.5	0		0.9	0.75	0.38	0.44	0		0.65	**-**
Heavy	0	4	0	0		4	1	0	0	0		1	0	3	0	0		3	0	0	2	0		2	**-**
Heavy %	0%	0.7%	0%	0%		0.7%	1.5%	0%	0%	0%		1.3%	0%	0.5%	0%	0%		0.5%	0%	0%	28.6%	0%		15.4%	**-**
Lights	8	530	43	0		581	65	3	10	0		78	11	544	4	0		559	3	3	5	0		11	**-**
Lights %	88.9%	98.9%	100%	0%		98.8%	98.5%	100%	100%	0%		98.7%	100%	98.9%	66.7%	0%		98.6%	100%	100%	71.4%	0%		84.6%	**-**
Single-Unit Trucks	0	1	0	0		1	1	0	0	0		1	0	1	0	0		1	0	0	1	0		1	**-**
Single-Unit Trucks %	0%	0.2%	0%	0%		0.2%	1.5%	0%	0%	0%		1.3%	0%	0.2%	0%	0%		0.2%	0%	0%	14.3%	0%		7.7%	**-**
Buses	0	3	0	0		3	0	0	0	0		0	0	2	0	0		2	0	0	1	0		1	**-**
Buses %	0%	0.6%	0%	0%		0.5%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0%	0%	14.3%	0%		7.7%	**-**
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	2	0	0		3	0	0	0	0		0	0	3	2	0		5	0	0	0	0		0	**-**
Bicycles on Road %	11.1%	0.4%	0%	0%		0.5%	0%	0%	0%	0%		0%	0%	0.5%	33.3%	0%		0.9%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	16	-	-	-	-	-	2	-	-	-	-	-	24	-	**-**
Pedestrians%	-	-	-	-	13.2%		-	-	-	-	30.2%		-	-	-	-	3.8%		-	-	-	-	45.3%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	1.9%		-	-	-	-	5.7%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: QUEEN ST & ONTARIO ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 01:00 PM - 02:00 PM **Weather: Few Clouds (11.95 °C)**



	Bicycles on Crosswalk	Pedestrians
N	1	7
S	0	2
E	3	16
W	0	24

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

Turning Movement Count (2 . QUEEN ST & PLAZA ACCESS)

Start Time	N Approach QUEEN ST S					S Approach QUEEN ST S					W Approach PLAZA ACCESS					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		
06:00:00	3	33	0	0	36	22	0	0	0	22	1	1	0	0	2	60	
06:15:00	5	16	0	0	21	21	6	0	0	27	5	5	0	0	10	58	
06:30:00	1	39	0	1	40	31	7	0	0	38	1	0	0	0	1	79	
06:45:00	4	52	0	0	56	33	4	0	0	37	4	1	0	0	5	98	295
07:00:00	7	31	0	0	38	30	1	0	1	31	5	0	0	2	5	74	309
07:15:00	17	55	0	0	72	42	8	0	1	50	4	7	0	0	11	133	384
07:30:00	9	65	0	0	74	63	6	0	0	69	5	4	0	2	9	152	457
07:45:00	15	69	0	1	84	85	8	0	0	93	5	14	0	4	19	196	555
08:00:00	6	117	0	2	123	112	5	0	0	117	8	6	0	1	14	254	735
08:15:00	12	88	0	1	100	117	8	0	0	125	18	18	0	2	36	261	863
08:30:00	12	109	0	2	121	102	10	0	2	112	14	12	0	2	26	259	970
08:45:00	19	96	0	1	115	106	13	0	0	119	8	12	0	3	20	254	1028
09:00:00	23	94	0	2	117	80	13	0	0	93	17	8	0	3	25	235	1009
09:15:00	16	90	0	1	106	61	12	0	1	73	10	12	0	1	22	201	949
09:30:00	16	65	0	2	81	74	12	0	0	86	16	8	0	3	24	191	881
09:45:00	17	82	0	3	99	82	23	0	2	105	8	14	0	5	22	226	853
BREAK																	
15:00:00	17	118	0	6	135	129	17	0	4	146	22	14	0	3	36	317	
15:15:00	21	107	0	2	128	108	21	0	6	129	15	20	0	7	35	292	
15:30:00	33	111	0	4	144	113	19	0	3	132	23	18	0	2	41	317	
15:45:00	27	121	0	4	148	131	9	0	2	140	14	17	0	2	31	319	1245
16:00:00	18	128	0	4	146	102	17	0	6	119	21	26	0	7	47	312	1240
16:15:00	24	95	0	2	119	100	12	0	3	112	15	34	0	8	49	280	1228
16:30:00	25	111	0	11	136	111	18	0	4	129	17	26	0	5	43	308	1219
16:45:00	20	129	0	2	149	124	21	0	2	145	18	18	0	4	36	330	1230
17:00:00	20	121	0	8	141	128	31	0	1	159	27	23	0	2	50	350	1268
17:15:00	34	128	0	8	162	136	25	0	5	161	15	26	0	4	41	364	1352
17:30:00	27	128	0	7	155	121	28	0	2	149	24	30	0	3	54	358	1402
17:45:00	26	132	0	5	158	119	16	0	7	135	18	19	0	8	37	330	1402
18:00:00	34	113	0	5	147	126	25	0	0	151	21	30	0	1	51	349	1401
18:15:00	29	109	0	9	138	114	20	0	5	134	18	28	0	5	46	318	1355
18:30:00	25	98	0	4	123	106	15	0	3	121	26	18	0	3	44	288	1285
18:45:00	32	94	0	16	126	116	18	0	5	134	16	16	0	1	32	292	1247

Crozier & Associates
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STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Grand Total	594	2944	0	113	3538	2945	448	0	65	3393	439	485	0	93	924	**7855**	-
Approach%	16.8%	83.2%	0%		-	86.8%	13.2%	0%		-	47.5%	52.5%	0%		-	**-**	-
Totals %	7.6%	37.5%	0%		45%	37.5%	5.7%	0%		43.2%	5.6%	6.2%	0%		11.8%	**-**	-
Heavy	6	72	0		-	70	2	0		-	2	7	0		-	**-**	-
Heavy %	1%	2.4%	0%		-	2.4%	0.4%	0%		-	0.5%	1.4%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

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

Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (-5.39 °C)

Start Time	N Approach QUEEN ST S					S Approach QUEEN ST S					W Approach PLAZA ACCESS					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	6	117	0	2	123	112	5	0	0	117	8	6	0	1	14	254
08:15:00	12	88	0	1	100	117	8	0	0	125	18	18	0	2	36	261
08:30:00	12	109	0	2	121	102	10	0	2	112	14	12	0	2	26	259
08:45:00	19	96	0	1	115	106	13	0	0	119	8	12	0	3	20	254
Grand Total	49	410	0	6	459	437	36	0	2	473	48	48	0	8	96	**1028**
Approach%	10.7%	89.3%	0%		-	92.4%	7.6%	0%		-	50%	50%	0%		-	**-**
Totals %	4.8%	39.9%	0%		44.6%	42.5%	3.5%	0%		46%	4.7%	4.7%	0%		9.3%	**-**
PHF	0.64	0.88	0		0.93	0.93	0.69	0		0.95	0.67	0.67	0		0.67	**-**
Heavy	2	18	0		20	18	1	0		19	1	3	0		4	**-**
Heavy %	4.1%	4.4%	0%		4.4%	4.1%	2.8%	0%		4%	2.1%	6.3%	0%		4.2%	**-**
Lights	47	392	0		439	419	35	0		454	47	45	0		92	**-**
Lights %	95.9%	95.6%	0%		95.6%	95.9%	97.2%	0%		96%	97.9%	93.8%	0%		95.8%	**-**
Single-Unit Trucks	1	6	0		7	6	1	0		7	0	3	0		3	**-**
Single-Unit Trucks %	2%	1.5%	0%		1.5%	1.4%	2.8%	0%		1.5%	0%	6.3%	0%		3.1%	**-**
Buses	1	10	0		11	12	0	0		12	1	0	0		1	**-**
Buses %	2%	2.4%	0%		2.4%	2.7%	0%	0%		2.5%	2.1%	0%	0%		1%	**-**
Articulated Trucks	0	2	0		2	0	0	0		0	0	0	0		0	**-**
Articulated Trucks %	0%	0.5%	0%		0.4%	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	-	-	-	6	-	-	-	-	2	-	-	-	-	8	-	**-**
Pedestrians%	-	-	-	37.5%		-	-	-	12.5%		-	-	-	50%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

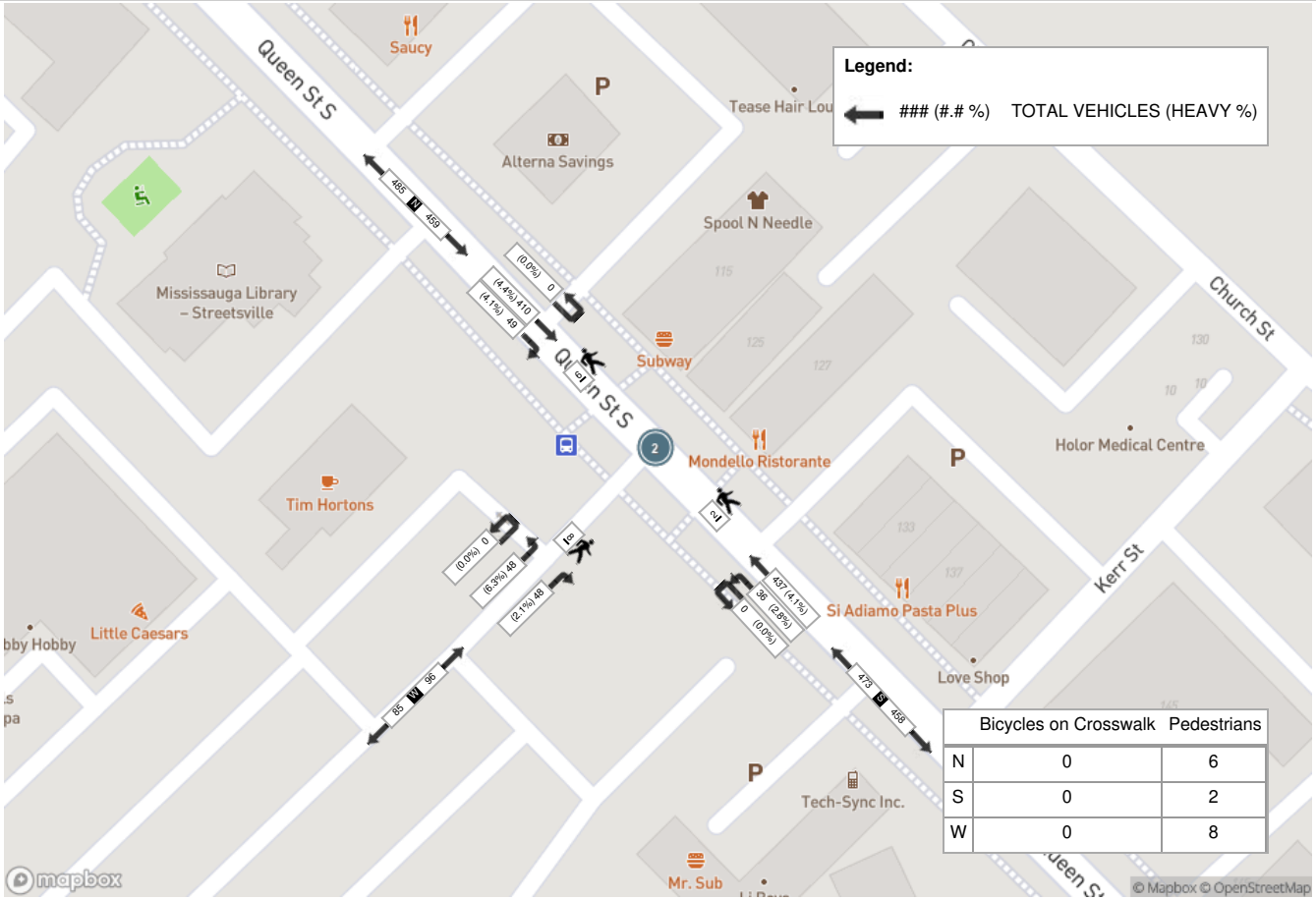
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Scattered Clouds (3.74 °C)

Start Time	N Approach QUEEN ST S					S Approach QUEEN ST S					W Approach PLAZA ACCESS					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	20	121	0	8	141	128	31	0	1	159	27	23	0	2	50	350
17:15:00	34	128	0	8	162	136	25	0	5	161	15	26	0	4	41	364
17:30:00	27	128	0	7	155	121	28	0	2	149	24	30	0	3	54	358
17:45:00	26	132	0	5	158	119	16	0	7	135	18	19	0	8	37	330
Grand Total	107	509	0	28	616	504	100	0	15	604	84	98	0	17	182	**1402**
Approach%	17.4%	82.6%	0%		-	83.4%	16.6%	0%		-	46.2%	53.8%	0%		-	**-**
Totals %	7.6%	36.3%	0%		43.9%	35.9%	7.1%	0%		43.1%	6%	7%	0%		13%	**-**
PHF	0.79	0.96	0		0.95	0.93	0.81	0		0.94	0.78	0.82	0		0.84	**-**
Heavy	0	4	0		4	5	0	0		5	0	1	0		1	**-**
Heavy %	0%	0.8%	0%		0.6%	1%	0%	0%		0.8%	0%	1%	0%		0.5%	**-**
Lights	107	504	0		611	498	100	0		598	83	97	0		180	**-**
Lights %	100%	99%	0%		99.2%	98.8%	100%	0%		99%	98.8%	99%	0%		98.9%	**-**
Single-Unit Trucks	0	2	0		2	2	0	0		2	0	0	0		0	**-**
Single-Unit Trucks %	0%	0.4%	0%		0.3%	0.4%	0%	0%		0.3%	0%	0%	0%		0%	**-**
Buses	0	2	0		2	3	0	0		3	0	0	0		0	**-**
Buses %	0%	0.4%	0%		0.3%	0.6%	0%	0%		0.5%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	0	1	0		1	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	1%	0%		0.5%	**-**
Bicycles on Road	0	1	0		1	1	0	0		1	1	0	0		1	**-**
Bicycles on Road %	0%	0.2%	0%		0.2%	0.2%	0%	0%		0.2%	1.2%	0%	0%		0.5%	**-**
Pedestrians	-	-	-	27	-	-	-	-	15	-	-	-	-	17	-	**-**
Pedestrians%	-	-	-	45%		-	-	-	25%		-	-	-	28.3%		**-**
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	1.7%		-	-	-	0%		-	-	-	0%		**-**

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

Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (-5.39 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	6
S	0	2
W	0	8

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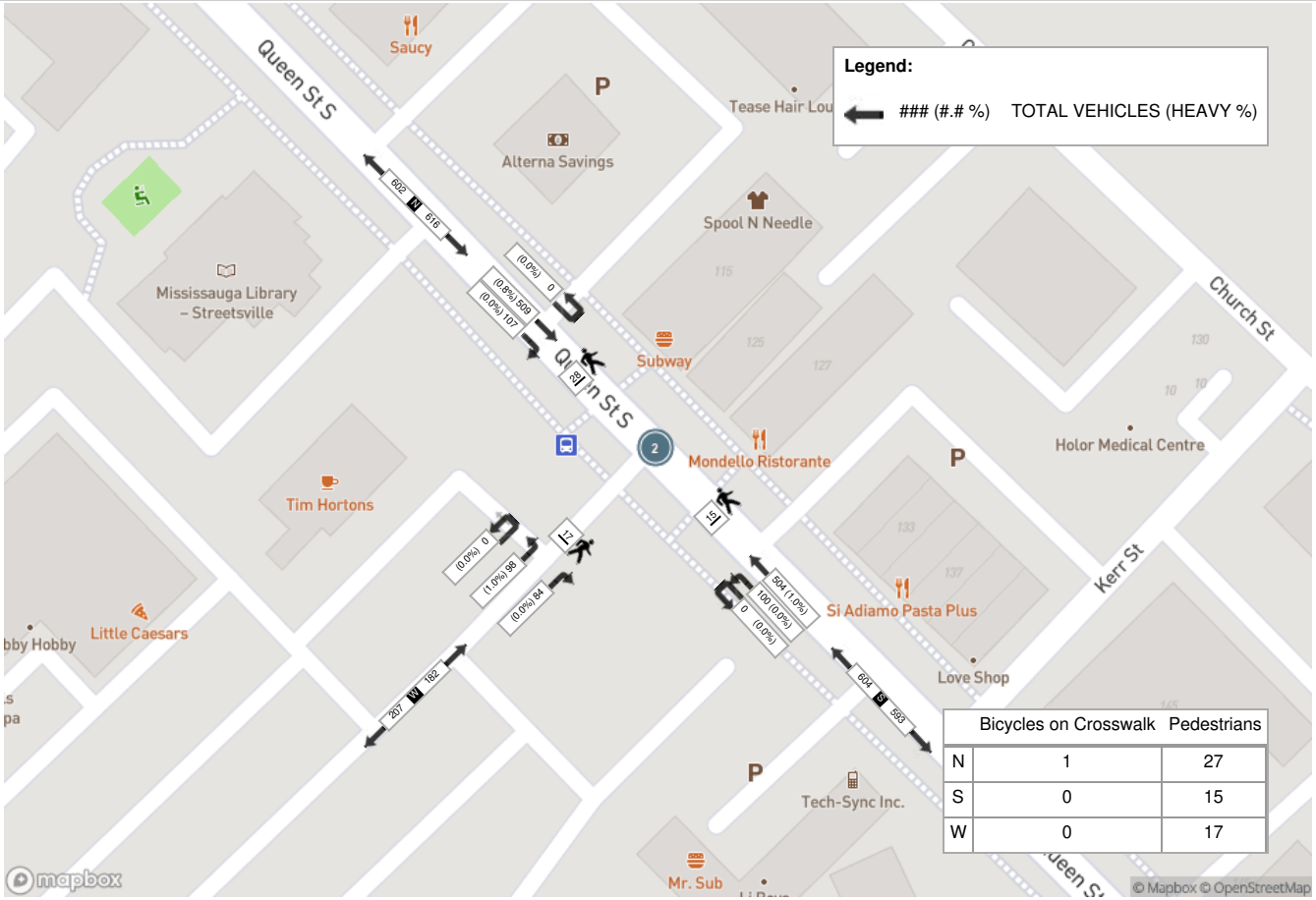
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Scattered Clouds (3.74 °C)



	Bicycles on Crosswalk	Pedestrians
N	1	27
S	0	15
W	0	17

Spectrum

Turning Movement Count
Location Name: QUEEN ST & PLAZA ACCESS
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Turning Movement Count (2 . QUEEN ST & PLAZA ACCESS)

Start Time	N Approach QUEEN ST S					S Approach QUEEN ST S					W Approach PLAZA ACCESS					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		
10:00:00	31	102	0	11	133	73	22	0	7	95	24	19	0	2	43	271	
10:15:00	18	87	0	7	105	79	34	0	1	113	22	22	0	6	44	262	
10:30:00	23	89	0	0	112	75	23	0	3	98	21	24	0	10	45	255	
10:45:00	34	100	0	6	134	91	24	0	2	115	25	32	0	7	57	306	1094
11:00:00	25	94	0	7	119	100	18	0	3	118	31	26	0	15	57	294	1117
11:15:00	34	101	0	11	135	101	20	0	3	121	23	26	0	5	49	305	1160
11:30:00	29	78	0	14	107	91	35	0	1	126	35	43	0	16	78	311	1216
11:45:00	34	114	0	15	148	101	23	0	1	124	37	32	0	8	69	341	1251
12:00:00	25	114	0	8	139	100	21	0	11	121	35	30	0	17	65	325	1282
12:15:00	37	103	0	4	140	115	30	0	5	145	29	28	0	13	57	342	1319
12:30:00	32	97	0	3	129	101	22	0	2	123	27	30	0	10	57	309	1317
12:45:00	28	81	0	7	109	105	36	0	7	141	30	36	0	7	66	316	1292
13:00:00	34	100	0	4	134	114	33	0	3	147	30	25	0	10	55	336	1303
13:15:00	26	105	0	10	131	98	20	0	7	118	21	26	0	17	47	296	1257
13:30:00	34	108	0	20	142	120	29	0	4	149	37	37	0	13	74	365	1313
13:45:00	26	117	0	12	143	112	27	0	8	139	20	31	0	14	51	333	1330
Grand Total	470	1590	0	139	2060	1576	417	0	68	1993	447	467	0	170	914	**4967**	-
Approach%	22.8%	77.2%	0%		-	79.1%	20.9%	0%		-	48.9%	51.1%	0%		-	**-**	-
Totals %	9.5%	32%	0%		41.5%	31.7%	8.4%	0%		40.1%	9%	9.4%	0%		18.4%	**-**	-
Heavy	2	11	0		-	10	0	0		-	0	1	0		-	**-**	-
Heavy %	0.4%	0.7%	0%		-	0.6%	0%	0%		-	0%	0.2%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

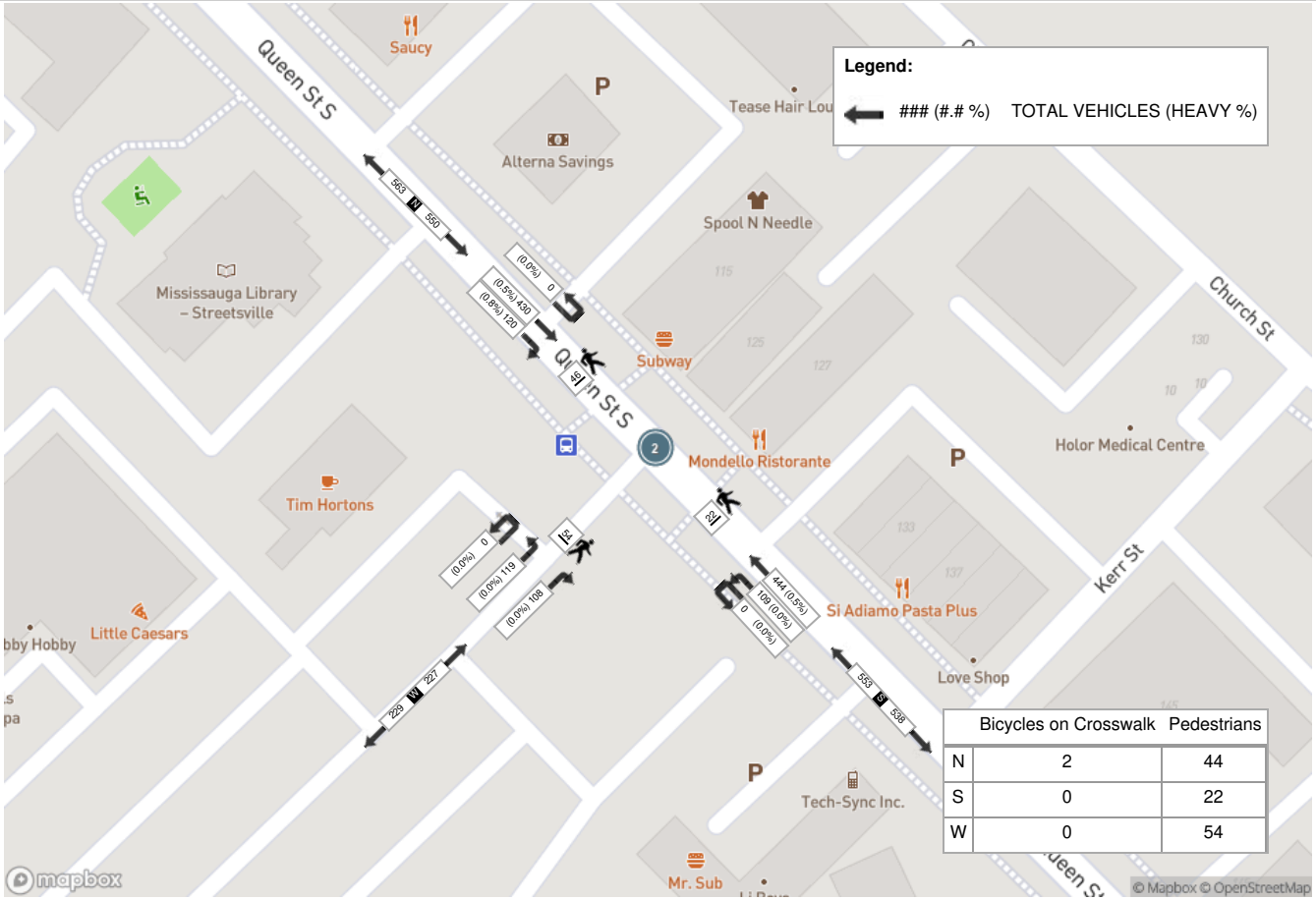
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 01:00 PM - 02:00 PM Weather: Few Clouds (11.95 °C)

Start Time	N Approach QUEEN ST S					S Approach QUEEN ST S					W Approach PLAZA ACCESS					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
13:00:00	34	100	0	4	134	114	33	0	3	147	30	25	0	10	55	336
13:15:00	26	105	0	10	131	98	20	0	7	118	21	26	0	17	47	296
13:30:00	34	108	0	20	142	120	29	0	4	149	37	37	0	13	74	365
13:45:00	26	117	0	12	143	112	27	0	8	139	20	31	0	14	51	333
Grand Total	120	430	0	46	550	444	109	0	22	553	108	119	0	54	227	**1330**
Approach%	21.8%	78.2%	0%		-	80.3%	19.7%	0%		-	47.6%	52.4%	0%		-	**-**
Totals %	9%	32.3%	0%		41.4%	33.4%	8.2%	0%		41.6%	8.1%	8.9%	0%		17.1%	**-**
PHF	0.88	0.92	0		0.96	0.93	0.83	0		0.93	0.73	0.8	0		0.77	**-**
Heavy	1	2	0		3	2	0	0		2	0	0	0		0	**-**
Heavy %	0.8%	0.5%	0%		0.5%	0.5%	0%	0%		0.4%	0%	0%	0%		0%	**-**
Lights	119	426	0		545	439	109	0		548	108	119	0		227	**-**
Lights %	99.2%	99.1%	0%		99.1%	98.9%	100%	0%		99.1%	100%	100%	0%		100%	**-**
Single-Unit Trucks	1	0	0		1	0	0	0		0	0	0	0		0	**-**
Single-Unit Trucks %	0.8%	0%	0%		0.2%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Buses	0	2	0		2	2	0	0		2	0	0	0		0	**-**
Buses %	0%	0.5%	0%		0.4%	0.5%	0%	0%		0.4%	0%	0%	0%		0%	**-**
Bicycles on Road	0	2	0		2	3	0	0		3	0	0	0		0	**-**
Bicycles on Road %	0%	0.5%	0%		0.4%	0.7%	0%	0%		0.5%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	44	-	-	-	-	22	-	-	-	-	54	-	**-**
Pedestrians%	-	-	-	36.1%		-	-	-	18%		-	-	-	44.3%		**-**
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	1.6%		-	-	-	0%		-	-	-	0%		**-**

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

Peak Hour: 01:00 PM - 02:00 PM Weather: Few Clouds (11.95 °C)



	Bicycles on Crosswalk	Pedestrians
N	2	44
S	0	22
W	0	54

Spectrum

Turning Movement Count
Location Name: QUEEN ST & TANNERY 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 (3 . QUEEN ST & TANNERY ST)

Start Time	N Approach QUEEN ST S						E Approach EAST DRIVEWAY						S Approach QUEEN ST S						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	30	0	0	0	31	0	0	0	0	0	0	0	18	0	0	0	18	1	0	3	0	0	4	53	
06:15:00	2	19	0	0	0	21	0	0	0	0	1	0	0	21	0	0	0	21	0	0	6	0	0	6	48	
06:30:00	5	34	0	0	1	39	0	0	0	0	1	0	0	33	4	0	0	37	1	0	6	0	0	7	83	
06:45:00	11	47	0	0	0	58	0	0	0	0	0	0	0	26	4	0	0	30	7	0	9	0	0	16	104	288
07:00:00	8	24	0	0	0	32	0	0	0	0	6	0	0	26	2	0	1	28	3	0	5	0	1	8	68	303
07:15:00	10	44	1	0	1	55	0	0	0	0	2	0	1	37	5	0	0	43	8	0	8	0	2	16	114	369
07:30:00	16	48	0	0	4	64	1	0	0	0	2	1	0	54	4	0	1	58	6	0	10	0	6	16	139	425
07:45:00	20	53	1	0	1	74	1	0	0	0	6	1	0	76	22	0	0	98	9	1	18	0	4	28	201	522
08:00:00	44	63	3	0	6	110	2	0	1	0	8	3	2	76	32	0	0	110	23	0	41	0	3	64	287	741
08:15:00	16	76	0	0	1	92	0	2	1	0	2	3	1	94	16	0	2	111	15	3	26	0	4	44	250	877
08:30:00	11	106	1	0	1	118	2	1	2	0	5	5	0	90	6	0	0	96	9	6	13	0	3	28	247	985
08:45:00	14	73	5	0	2	92	3	2	2	0	1	7	4	101	12	0	0	117	9	3	18	0	6	30	246	1030
09:00:00	13	88	2	0	2	103	5	5	2	0	2	12	4	74	6	0	2	84	7	4	12	0	3	23	222	965
09:15:00	22	70	0	0	2	92	2	0	4	0	6	6	0	67	9	0	5	76	8	0	4	0	5	12	186	901
09:30:00	13	65	0	0	1	78	0	0	0	0	1	0	0	77	7	0	0	84	9	0	10	0	8	19	181	835
09:45:00	23	66	0	0	3	89	0	0	0	0	5	0	0	84	11	0	2	95	8	1	11	0	10	20	204	793
BREAK																										
15:00:00	28	106	0	0	4	134	0	0	0	0	8	0	0	107	14	0	4	121	12	0	23	0	10	35	290	
15:15:00	18	89	3	0	20	110	0	0	0	0	22	0	1	110	8	0	7	119	8	0	15	0	16	23	252	
15:30:00	13	96	5	0	5	114	3	1	0	0	14	4	2	106	9	0	3	117	9	0	13	0	13	22	257	
15:45:00	20	90	1	0	9	111	6	2	2	0	12	10	4	107	18	0	5	129	20	2	16	0	15	38	288	1087
16:00:00	29	124	1	0	7	154	2	2	5	0	12	9	3	89	13	0	0	105	14	0	19	0	14	33	301	1098
16:15:00	14	89	0	0	7	103	0	2	1	0	14	3	0	96	7	0	3	103	14	0	18	0	14	32	241	1087
16:30:00	18	92	0	0	11	110	2	1	0	0	22	3	1	105	12	0	4	118	7	2	17	0	14	26	257	1087
16:45:00	20	107	1	0	3	128	2	0	0	0	14	2	2	119	17	0	2	138	13	3	18	0	12	34	302	1101
17:00:00	26	122	0	0	0	148	4	1	1	0	15	6	1	125	17	0	1	143	11	3	23	0	11	37	334	1134
17:15:00	18	109	1	0	7	128	1	3	1	0	22	5	0	138	12	0	7	150	8	0	17	0	11	25	308	1201
17:30:00	20	109	0	0	6	129	1	0	0	0	19	1	0	121	7	0	5	128	12	0	22	0	24	34	292	1236
17:45:00	25	107	1	0	3	133	0	0	0	0	18	0	0	95	11	0	5	106	15	0	27	0	19	42	281	1215
18:00:00	24	93	0	0	2	117	0	0	0	0	17	0	0	125	12	0	5	137	16	0	19	0	14	35	289	1170
18:15:00	11	98	0	0	1	109	0	1	0	0	16	1	0	115	6	0	9	121	9	0	15	0	16	24	255	1117
18:30:00	14	108	0	0	3	122	0	0	0	0	19	0	0	110	13	0	8	123	5	0	14	0	12	19	264	1089
18:45:00	18	89	0	0	5	107	0	0	0	0	16	0	0	106	6	0	3	112	5	0	24	0	8	29	248	1056
Grand Total	545	2534	26	0	118	3105	37	23	22	0	308	82	26	2728	322	0	84	3076	301	28	500	0	278	829	**7092**	-
Approach%	17.6%	81.6%	0.8%	0%		-	45.1%	28%	26.8%	0%		-	0.8%	88.7%	10.5%	0%		-	36.3%	3.4%	60.3%	0%		-	**-**	-
Totals %	7.7%	35.7%	0.4%	0%		43.8%	0.5%	0.3%	0.3%	0%		1.2%	0.4%	38.5%	4.5%	0%		43.4%	4.2%	0.4%	7.1%	0%		11.7%	**-**	-
Heavy	10	56	0	0		-	0	0	0	0		-	0	55	5	0		-	4	0	10	0		-	**-**	-
Heavy %	1.8%	2.2%	0%	0%		-	0%	0%	0%	0%		-	0%	2%	1.6%	0%		-	1.3%	0%	2%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

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

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

Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (-5.39 °C)

Start Time	N Approach QUEEN ST S						E Approach EAST DRIVEWAY						S Approach QUEEN ST S						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	
08:00:00	44	63	3	0	6	110	2	0	1	0	8	3	2	76	32	0	0	110	23	0	41	0	3	64	287
08:15:00	16	76	0	0	1	92	0	2	1	0	2	3	1	94	16	0	2	111	15	3	26	0	4	44	250
08:30:00	11	106	1	0	1	118	2	1	2	0	5	5	0	90	6	0	0	96	9	6	13	0	3	28	247
08:45:00	14	73	5	0	2	92	3	2	2	0	1	7	4	101	12	0	0	117	9	3	18	0	6	30	246
Grand Total	85	318	9	0	10	412	7	5	6	0	16	18	7	361	66	0	2	434	56	12	98	0	16	166	**1030**
Approach%	20.6%	77.2%	2.2%	0%		-	38.9%	27.8%	33.3%	0%		-	1.6%	83.2%	15.2%	0%		-	33.7%	7.2%	59%	0%		-	**-**
Totals %	8.3%	30.9%	0.9%	0%		40%	0.7%	0.5%	0.6%	0%		1.7%	0.7%	35%	6.4%	0%		42.1%	5.4%	1.2%	9.5%	0%		16.1%	**-**
PHF	0.48	0.75	0.45	0		0.87	0.58	0.63	0.75	0		0.64	0.44	0.89	0.52	0		0.93	0.61	0.5	0.6	0		0.65	**-**
Heavy	1	15	0	0		16	0	0	0	0		0	0	12	1	0		13	1	0	3	0		4	**-**
Heavy %	1.2%	4.7%	0%	0%		3.9%	0%	0%	0%	0%		0%	0%	3.3%	1.5%	0%		3%	1.8%	0%	3.1%	0%		2.4%	**-**
Lights	84	303	9	0		396	7	5	6	0		18	7	349	65	0		421	55	12	95	0		162	**-**
Lights %	98.8%	95.3%	100%	0%		96.1%	100%	100%	100%	0%		100%	100%	96.7%	98.5%	0%		97%	98.2%	100%	96.9%	0%		97.6%	**-**
Single-Unit Trucks	0	6	0	0		6	0	0	0	0		0	0	4	1	0		5	0	0	3	0		3	**-**
Single-Unit Trucks %	0%	1.9%	0%	0%		1.5%	0%	0%	0%	0%		0%	0%	1.1%	1.5%	0%		1.2%	0%	0%	3.1%	0%		1.8%	**-**
Buses	1	6	0	0		7	0	0	0	0		0	0	8	0	0		8	1	0	0	0		1	**-**
Buses %	1.2%	1.9%	0%	0%		1.7%	0%	0%	0%	0%		0%	0%	2.2%	0%	0%		1.8%	1.8%	0%	0%	0%		0.6%	**-**
Articulated Trucks	0	3	0	0		3	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.9%	0%	0%		0.7%	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	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	10	-	-	-	-	-	16	-	-	-	-	-	2	-	-	-	-	-	16	-	**-**
Pedestrians%	-	-	-	-	22.7%		-	-	-	-	36.4%		-	-	-	-	4.5%		-	-	-	-	36.4%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

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

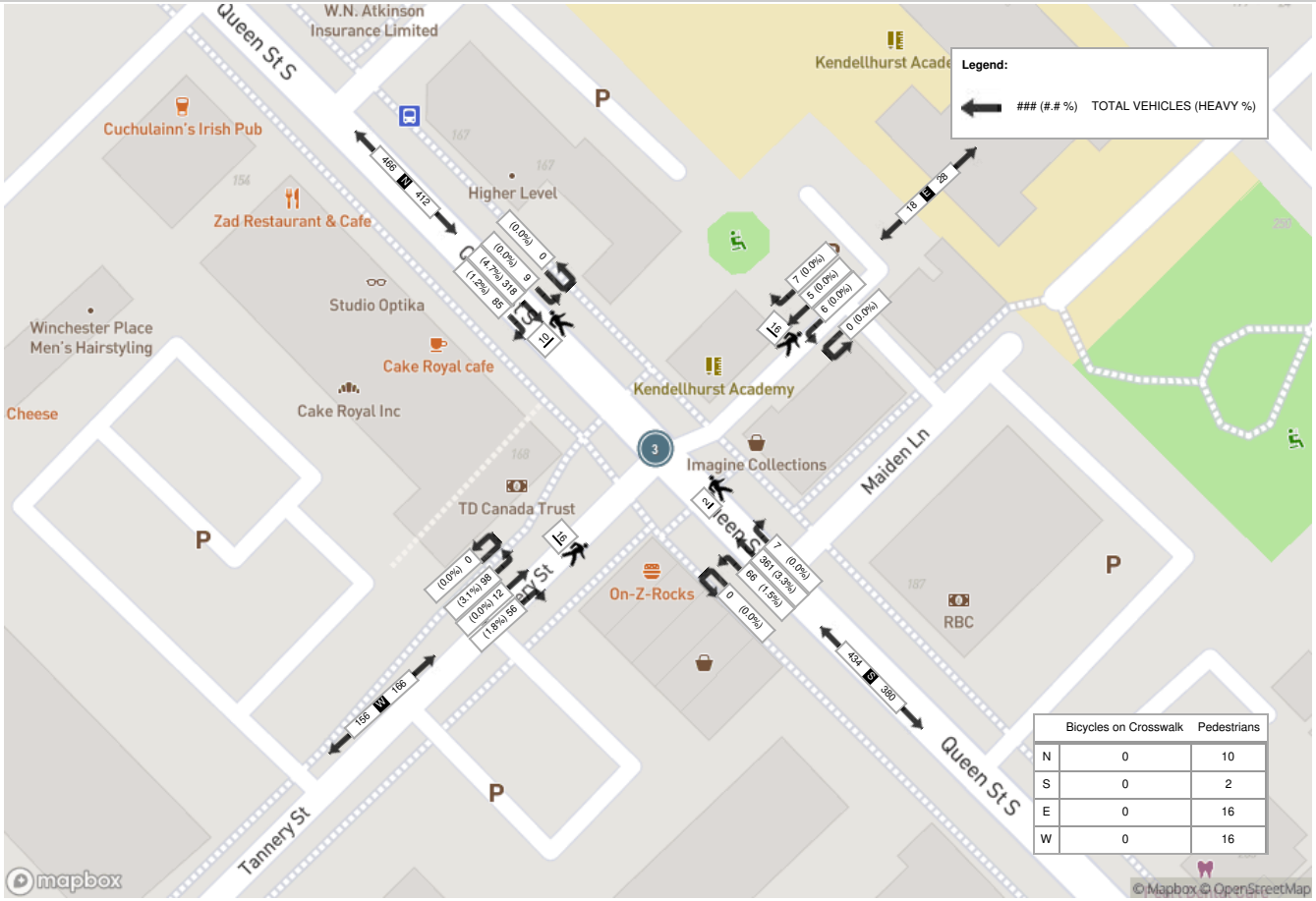
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

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

Start Time	N Approach QUEEN ST S						E Approach EAST DRIVEWAY						S Approach QUEEN ST S						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	20	107	1	0	3	128	2	0	0	0	14	2	2	119	17	0	2	138	13	3	18	0	12	34	302
17:00:00	26	122	0	0	0	148	4	1	1	0	15	6	1	125	17	0	1	143	11	3	23	0	11	37	334
17:15:00	18	109	1	0	7	128	1	3	1	0	22	5	0	138	12	0	7	150	8	0	17	0	11	25	308
17:30:00	20	109	0	0	6	129	1	0	0	0	19	1	0	121	7	0	5	128	12	0	22	0	24	34	292
Grand Total	84	447	2	0	16	533	8	4	2	0	70	14	3	503	53	0	15	559	44	6	80	0	58	130	**1236**
Approach%	15.8%	83.9%	0.4%	0%		-	57.1%	28.6%	14.3%	0%		-	0.5%	90%	9.5%	0%		-	33.8%	4.6%	61.5%	0%		-	**-**
Totals %	6.8%	36.2%	0.2%	0%		43.1%	0.6%	0.3%	0.2%	0%		1.1%	0.2%	40.7%	4.3%	0%		45.2%	3.6%	0.5%	6.5%	0%		10.5%	**-**
PHF	0.81	0.92	0.5	0		0.9	0.5	0.33	0.5	0		0.58	0.38	0.91	0.78	0		0.93	0.85	0.5	0.87	0		0.88	**-**
Heavy	0	4	0	0		4	0	0	0	0		0	0	6	0	0		6	0	0	0	0		0	**-**
Heavy %	0%	0.9%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		1.1%	0%	0%	0%	0%		0%	**-**
Lights	84	442	2	0		528	8	4	2	0		14	3	497	53	0		553	44	6	80	0		130	**-**
Lights %	100%	98.9%	100%	0%		99.1%	100%	100%	100%	0%		100%	100%	98.8%	100%	0%		98.9%	100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	2	0	0		2	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.5%	0%	0%	0%	0%		0%	**-**
Buses	0	2	0	0		2	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	**-**
Buses %	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	16	-	-	-	-	-	67	-	-	-	-	-	15	-	-	-	-	-	57	-	**-**
Pedestrians%	-	-	-	-	10.1%		-	-	-	-	42.1%		-	-	-	-	9.4%		-	-	-	-	35.8%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	1.9%		-	-	-	-	0%		-	-	-	-	0.6%		**-**

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

Peak Hour: 08:00 AM - 09:00 AM **Weather: Few Clouds (-5.39 °C)**



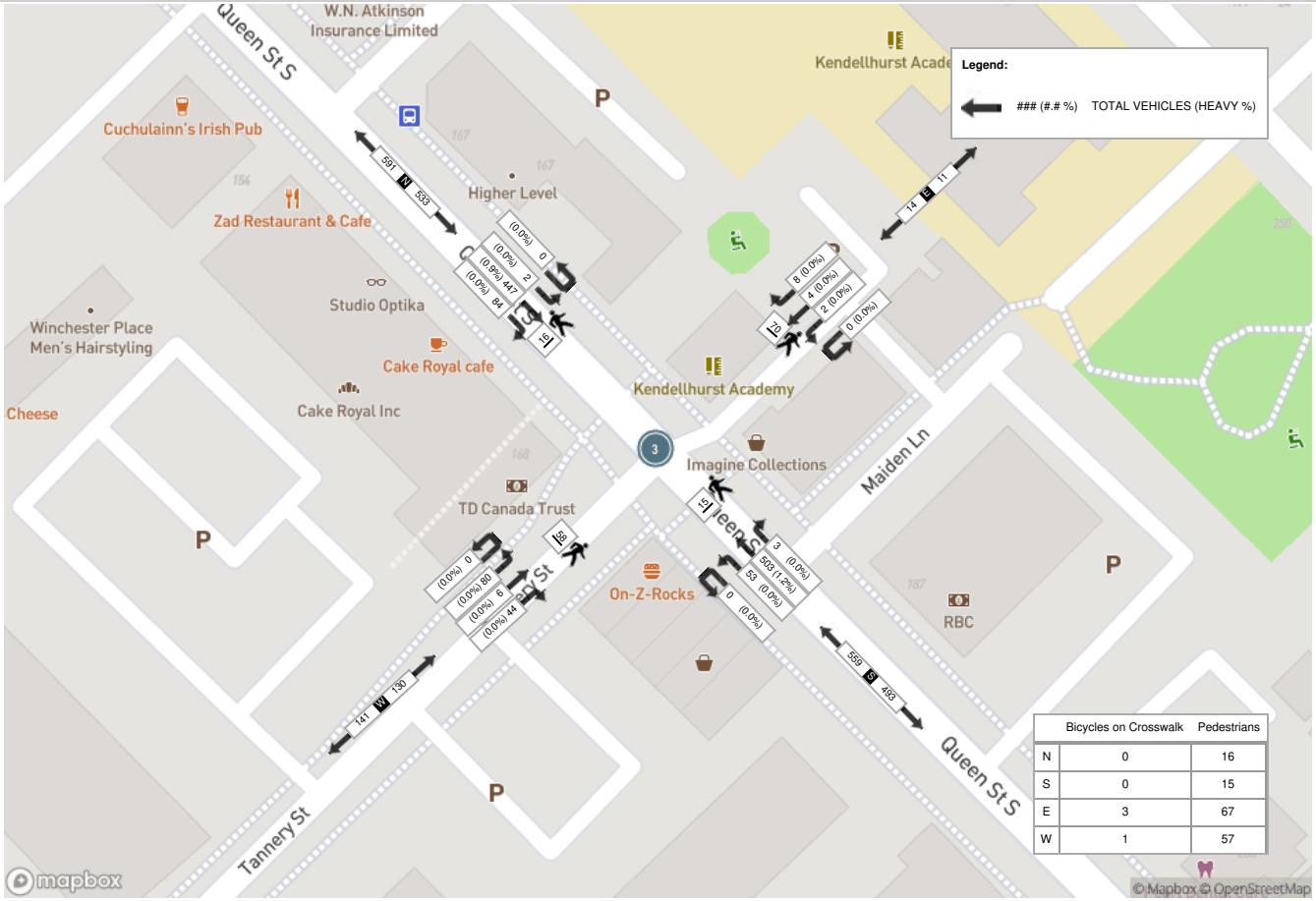
	Bicycles on Crosswalk	Pedestrians
N	0	10
S	0	2
E	0	16
W	0	16

Spectrum

Turning Movement Count
Location Name: QUEEN ST & TANNERY 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)**



	Bicycles on Crosswalk	Pedestrians
N	0	16
S	0	15
E	3	67
W	1	57

Spectrum

Turning Movement Count
Location Name: QUEEN ST & TANNERY ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Turning Movement Count (3 . QUEEN ST & TANNERY ST)

Start Time	N Approach QUEEN ST S						E Approach EAST DRIVEWAY						S Approach QUEEN ST S						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		
10:00:00	15	96	1	0	2	112	0	2	0	0	18	2	1	77	19	0	1	97	8	0	13	0	11	21	232	
10:15:00	16	83	0	0	4	99	1	0	0	0	5	1	0	82	7	0	5	89	10	0	21	0	31	31	220	
10:30:00	20	69	0	0	9	89	0	0	0	0	13	0	0	76	3	0	3	79	7	0	22	0	12	29	197	
10:45:00	21	94	0	0	9	115	0	0	0	0	12	0	0	89	12	0	5	101	11	0	15	0	25	26	242	891
11:00:00	14	90	1	0	12	105	0	0	0	0	17	0	0	92	9	0	21	101	16	0	25	0	34	41	247	906
11:15:00	14	101	0	0	4	115	1	0	0	0	17	1	0	99	4	0	3	103	13	0	9	0	24	22	241	927
11:30:00	12	86	0	0	5	98	0	0	0	0	13	0	0	104	13	0	6	117	16	0	20	0	28	36	251	981
11:45:00	27	117	1	0	5	145	0	1	1	0	17	2	0	95	9	0	17	104	12	1	25	0	24	38	289	1028
12:00:00	19	112	0	0	6	131	0	0	0	0	28	0	0	95	18	0	4	113	11	0	21	0	21	32	276	1057
12:15:00	27	96	0	0	15	123	0	0	0	0	17	0	0	124	16	0	7	140	14	0	15	0	27	29	292	1108
12:30:00	14	103	0	0	7	117	0	0	0	0	22	0	1	101	21	0	7	123	24	0	22	0	29	46	286	1143
12:45:00	21	86	0	0	14	107	0	0	0	0	20	0	0	117	20	0	6	137	16	0	20	0	10	36	280	1134
13:00:00	21	98	0	0	7	119	0	0	0	0	22	0	0	110	15	0	4	125	14	1	25	0	23	40	284	1142
13:15:00	10	97	0	0	9	107	0	0	0	0	22	0	1	102	16	0	7	119	11	0	16	0	21	27	253	1103
13:30:00	14	99	0	0	9	113	0	2	0	0	13	2	1	130	17	0	4	148	13	0	23	0	28	36	299	1116
13:45:00	25	116	0	0	8	141	0	0	1	0	22	1	0	108	18	0	6	126	12	0	19	0	17	31	299	1135
Grand Total	290	1543	3	0	125	1836	2	5	2	0	278	9	4	1601	217	0	106	1822	208	2	311	0	365	521	**4188**	-
Approach%	15.8%	84%	0.2%	0%		-	22.2%	55.6%	22.2%	0%		-	0.2%	87.9%	11.9%	0%		-	39.9%	0.4%	59.7%	0%		-	**-**	-
Totals %	6.9%	36.8%	0.1%	0%		43.8%	0%	0.1%	0%	0%		0.2%	0.1%	38.2%	5.2%	0%		43.5%	5%	0%	7.4%	0%		12.4%	**-**	-
Heavy	2	9	0	0		-	0	0	0	0		-	0	8	0	0		-	0	0	1	0		-	**-**	-
Heavy %	0.7%	0.6%	0%	0%		-	0%	0%	0%	0%		-	0%	0.5%	0%	0%		-	0%	0%	0.3%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: QUEEN ST & TANNERY ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 11:45 AM - 12:45 PM Weather: Few Clouds (11.95 °C)

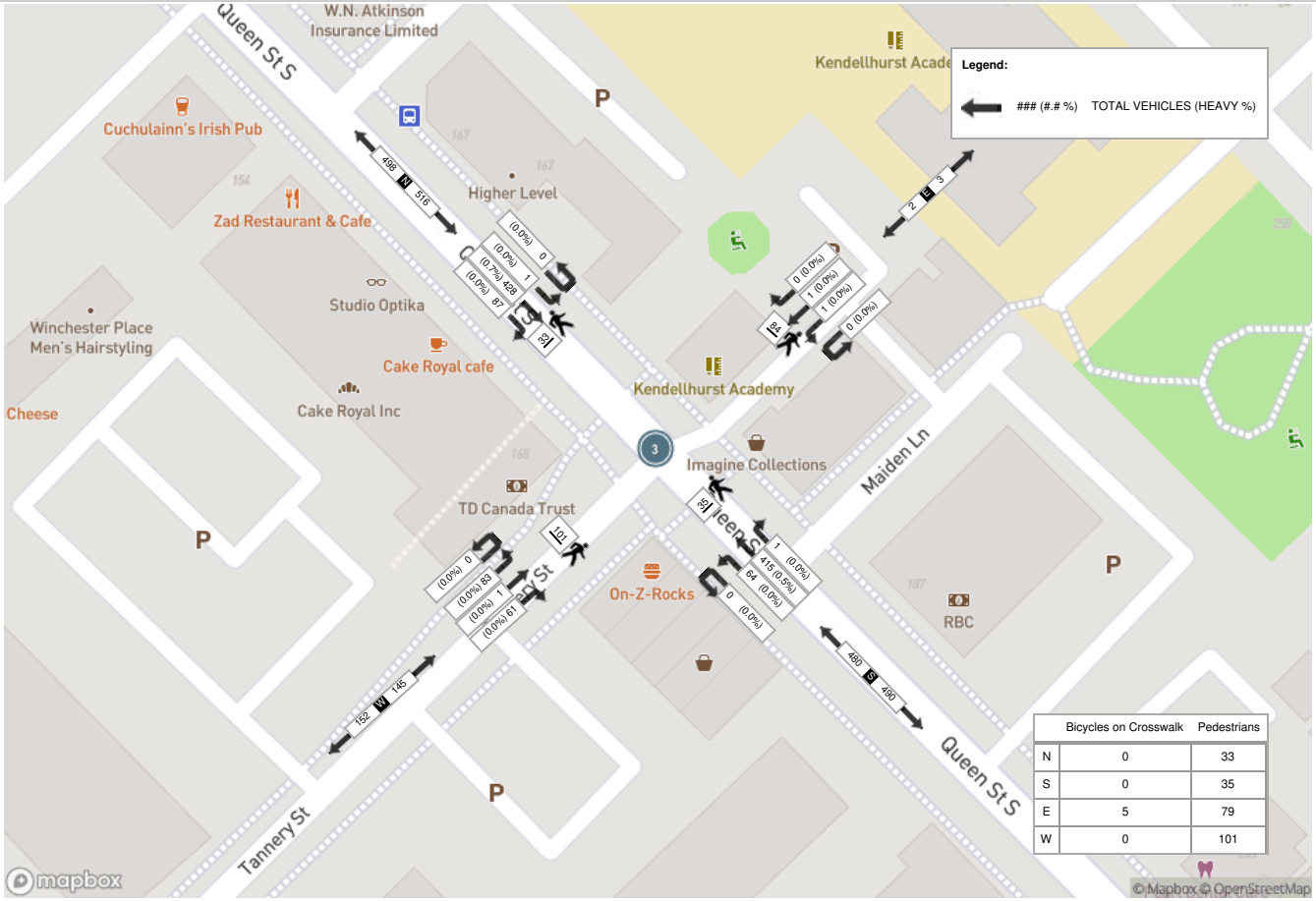
Start Time	N Approach QUEEN ST S						E Approach EAST DRIVEWAY						S Approach QUEEN ST S						W Approach TANNERY ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
11:45:00	27	117	1	0	5	145	0	1	1	0	17	2	0	95	9	0	17	104	12	1	25	0	24	38	289
12:00:00	19	112	0	0	6	131	0	0	0	0	28	0	0	95	18	0	4	113	11	0	21	0	21	32	276
12:15:00	27	96	0	0	15	123	0	0	0	0	17	0	0	124	16	0	7	140	14	0	15	0	27	29	292
12:30:00	14	103	0	0	7	117	0	0	0	0	22	0	1	101	21	0	7	123	24	0	22	0	29	46	286
Grand Total	87	428	1	0	33	516	0	1	1	0	84	2	1	415	64	0	35	480	61	1	83	0	101	145	**1143**
Approach%	16.9%	82.9%	0.2%	0%		-	0%	50%	50%	0%		-	0.2%	86.5%	13.3%	0%		-	42.1%	0.7%	57.2%	0%		-	**-**
Totals %	7.6%	37.4%	0.1%	0%		45.1%	0%	0.1%	0.1%	0%		0.2%	0.1%	36.3%	5.6%	0%		42%	5.3%	0.1%	7.3%	0%		12.7%	**-**
PHF	0.81	0.91	0.25	0		0.89	0	0.25	0.25	0		0.25	0.25	0.84	0.76	0		0.86	0.64	0.25	0.83	0		0.79	**-**
Heavy	0	3	0	0		3	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	**-**
Heavy %	0%	0.7%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	**-**
Lights	87	425	1	0		513	0	1	1	0		2	1	411	64	0		476	61	1	83	0		145	**-**
Lights %	100%	99.3%	100%	0%		99.4%	0%	100%	100%	0%		100%	100%	99%	100%	0%		99.2%	100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Buses	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Buses %	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	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	0	0	0		0	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	33	-	-	-	-	-	79	-	-	-	-	-	35	-	-	-	-	-	101	-	**-**
Pedestrians%	-	-	-	-	13%		-	-	-	-	31.2%		-	-	-	-	13.8%		-	-	-	-	39.9%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	2%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: QUEEN ST & TANNERY ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 11:45 AM - 12:45 PM **Weather: Few Clouds (11.95 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	33
S	0	35
E	5	79
W	0	101

Spectrum

Turning Movement Count
Location Name: QUEEN ST & MAIN ST / PEARL 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 (4 . QUEEN ST & MAIN ST / PEARL ST)

Start Time	N Approach QUEEN ST S						E Approach MAIN ST						S Approach QUEEN ST S						W Approach PEARL 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	0	29	2	0	0	31	3	0	2	0	1	5	3	14	0	0	0	17	0	0	1	0	0	1	54	
06:15:00	1	12	6	0	0	19	4	1	3	0	0	8	7	17	0	0	0	24	1	0	0	0	0	1	52	
06:30:00	0	31	3	0	0	34	9	1	1	0	0	11	8	27	0	0	0	35	0	2	1	0	0	3	83	
06:45:00	1	41	8	0	0	50	4	2	19	0	1	25	10	27	0	0	0	37	0	1	1	0	1	2	114	303
07:00:00	2	21	3	0	1	26	3	1	10	0	6	14	14	23	0	0	1	37	1	4	0	0	4	5	82	331
07:15:00	3	44	2	0	1	49	6	5	26	0	5	37	20	43	1	0	0	64	0	6	0	0	2	6	156	435
07:30:00	3	52	1	0	0	56	8	3	24	0	2	35	41	47	0	0	0	88	0	11	1	0	6	12	191	543
07:45:00	2	59	5	0	0	66	25	10	23	0	1	58	31	73	1	0	0	105	0	11	2	0	5	13	242	671
08:00:00	1	76	5	0	4	82	35	15	26	0	8	76	35	70	0	0	0	105	3	41	1	0	5	45	308	897
08:15:00	3	85	6	0	3	94	22	17	37	0	5	76	48	94	2	0	2	144	2	35	1	0	1	38	352	1093
08:30:00	6	94	5	0	2	105	11	13	41	0	4	65	44	83	0	0	1	127	2	16	0	0	2	18	315	1217
08:45:00	1	86	8	0	2	95	19	10	34	0	1	63	47	95	4	0	0	146	0	8	8	0	6	16	320	1295
09:00:00	4	81	10	0	5	95	12	13	28	0	7	53	42	73	1	0	0	116	3	11	2	0	1	16	280	1267
09:15:00	2	71	6	0	4	79	10	9	24	0	2	43	25	66	1	0	1	92	4	5	1	0	4	10	224	1139
09:30:00	2	57	9	0	2	68	19	11	18	0	4	48	29	67	0	0	1	96	2	4	1	0	4	7	219	1043
09:45:00	4	58	12	0	5	74	14	6	22	0	0	42	19	81	2	0	5	102	0	9	3	0	5	12	230	953
BREAK																										
15:00:00	10	91	15	0	2	116	7	12	32	0	9	51	32	115	5	0	7	152	2	9	3	0	14	14	333	
15:15:00	4	86	8	0	2	98	16	9	46	0	20	71	28	108	4	0	4	140	1	8	2	0	11	11	320	
15:30:00	3	91	12	0	10	106	20	21	45	0	13	86	39	87	7	0	1	133	1	6	2	0	12	9	334	
15:45:00	6	100	13	0	5	119	16	14	41	0	13	71	35	108	3	0	2	146	3	16	6	0	15	25	361	1348
16:00:00	5	136	5	0	6	146	25	15	44	0	11	84	22	84	4	0	4	110	3	12	1	0	14	16	356	1371
16:15:00	8	91	4	0	8	103	24	17	39	0	15	80	16	82	4	0	3	102	1	13	3	0	9	17	302	1353
16:30:00	4	81	5	0	5	90	20	23	29	0	15	72	36	92	4	0	8	132	3	14	3	0	12	20	314	1333
16:45:00	6	106	7	0	5	119	30	21	48	0	11	99	20	111	4	0	1	135	2	13	5	0	8	20	373	1345
17:00:00	9	118	3	0	3	130	17	18	33	0	9	68	31	115	3	0	8	149	3	19	5	0	13	27	374	1363
17:15:00	6	108	3	0	11	117	24	20	44	0	17	88	27	108	1	0	5	136	2	15	2	0	18	19	360	1421
17:30:00	5	107	2	0	15	114	25	27	42	0	10	94	26	96	3	0	5	125	2	16	3	0	18	21	354	1461
17:45:00	6	101	7	0	6	114	20	18	50	0	13	88	30	81	6	0	7	117	7	13	3	0	27	23	342	1430
18:00:00	6	105	4	0	14	115	22	11	57	0	25	90	27	103	1	0	15	131	2	16	13	0	16	31	367	1423
18:15:00	7	84	7	0	4	98	19	10	39	0	19	68	34	99	1	0	6	134	6	7	4	0	8	17	317	1380
18:30:00	4	114	9	0	7	127	18	8	33	0	19	59	29	100	5	0	7	134	2	16	0	0	13	18	338	1364
18:45:00	5	77	8	0	2	90	20	16	44	0	25	80	30	96	1	0	9	127	1	6	5	0	10	12	309	1331
Grand Total	129	2493	203	0	134	2825	527	377	1004	0	291	1908	885	2485	68	0	103	3438	59	363	83	0	264	505	**8676**	-
Approach%	4.6%	88.2%	7.2%	0%		-	27.6%	19.8%	52.6%	0%		-	25.7%	72.3%	2%	0%		-	11.7%	71.9%	16.4%	0%		-	-	-
Totals %	1.5%	28.7%	2.3%	0%		32.6%	6.1%	4.3%	11.6%	0%		22%	10.2%	28.6%	0.8%	0%		39.6%	0.7%	4.2%	1%	0%		5.8%	-	-
Heavy	4	63	3	0		-	13	5	14	0		-	15	55	1	0		-	4	5	0	0		-	-	-
Heavy %	3.1%	2.5%	1.5%	0%		-	2.5%	1.3%	1.4%	0%		-	1.7%	2.2%	1.5%	0%		-	6.8%	1.4%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Spectrum

Turning Movement Count
Location Name: QUEEN ST & MAIN ST / PEARL ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (-5.39 °C)

Start Time	N Approach QUEEN ST S						E Approach MAIN ST						S Approach QUEEN ST S						W Approach PEARL 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	
08:00:00	1	76	5	0	4	82	35	15	26	0	8	76	35	70	0	0	0	105	3	41	1	0	5	45	308
08:15:00	3	85	6	0	3	94	22	17	37	0	5	76	48	94	2	0	2	144	2	35	1	0	1	38	352
08:30:00	6	94	5	0	2	105	11	13	41	0	4	65	44	83	0	0	1	127	2	16	0	0	2	18	315
08:45:00	1	86	8	0	2	95	19	10	34	0	1	63	47	95	4	0	0	146	0	8	8	0	6	16	320
Grand Total	11	341	24	0	11	376	87	55	138	0	18	280	174	342	6	0	3	522	7	100	10	0	14	117	**1295**
Approach%	2.9%	90.7%	6.4%	0%		-	31.1%	19.6%	49.3%	0%		-	33.3%	65.5%	1.1%	0%		-	6%	85.5%	8.5%	0%		-	**-**
Totals %	0.8%	26.3%	1.9%	0%		29%	6.7%	4.2%	10.7%	0%		21.6%	13.4%	26.4%	0.5%	0%		40.3%	0.5%	7.7%	0.8%	0%		9%	**-**
PHF	0.46	0.91	0.75	0		0.9	0.62	0.81	0.84	0		0.92	0.91	0.9	0.38	0		0.89	0.58	0.61	0.31	0		0.65	**-**
Heavy	2	21	2	0		25	2	1	4	0		7	2	14	0	0		16	2	2	0	0		4	**-**
Heavy %	18.2%	6.2%	8.3%	0%		6.6%	2.3%	1.8%	2.9%	0%		2.5%	1.1%	4.1%	0%	0%		3.1%	28.6%	2%	0%	0%		3.4%	**-**
Lights	9	320	22	0		351	85	54	134	0		273	172	328	6	0		506	5	98	10	0		113	**-**
Lights %	81.8%	93.8%	91.7%	0%		93.4%	97.7%	98.2%	97.1%	0%		97.5%	98.9%	95.9%	100%	0%		96.9%	71.4%	98%	100%	0%		96.6%	**-**
Single-Unit Trucks	2	5	0	0		7	1	0	1	0		2	0	4	0	0		4	1	0	0	0		1	**-**
Single-Unit Trucks %	18.2%	1.5%	0%	0%		1.9%	1.1%	0%	0.7%	0%		0.7%	0%	1.2%	0%	0%		0.8%	14.3%	0%	0%	0%		0.9%	**-**
Buses	0	13	2	0		15	1	1	3	0		5	2	10	0	0		12	1	2	0	0		3	**-**
Buses %	0%	3.8%	8.3%	0%		4%	1.1%	1.8%	2.2%	0%		1.8%	1.1%	2.9%	0%	0%		2.3%	14.3%	2%	0%	0%		2.6%	**-**
Articulated Trucks	0	3	0	0		3	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.9%	0%	0%		0.8%	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	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	11	-	-	-	-	-	17	-	-	-	-	-	1	-	-	-	-	-	14	-	**-**
Pedestrians%	-	-	-	-	23.9%		-	-	-	-	37%		-	-	-	-	2.2%		-	-	-	-	30.4%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	2.2%		-	-	-	-	4.3%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: QUEEN ST & MAIN ST / PEARL ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

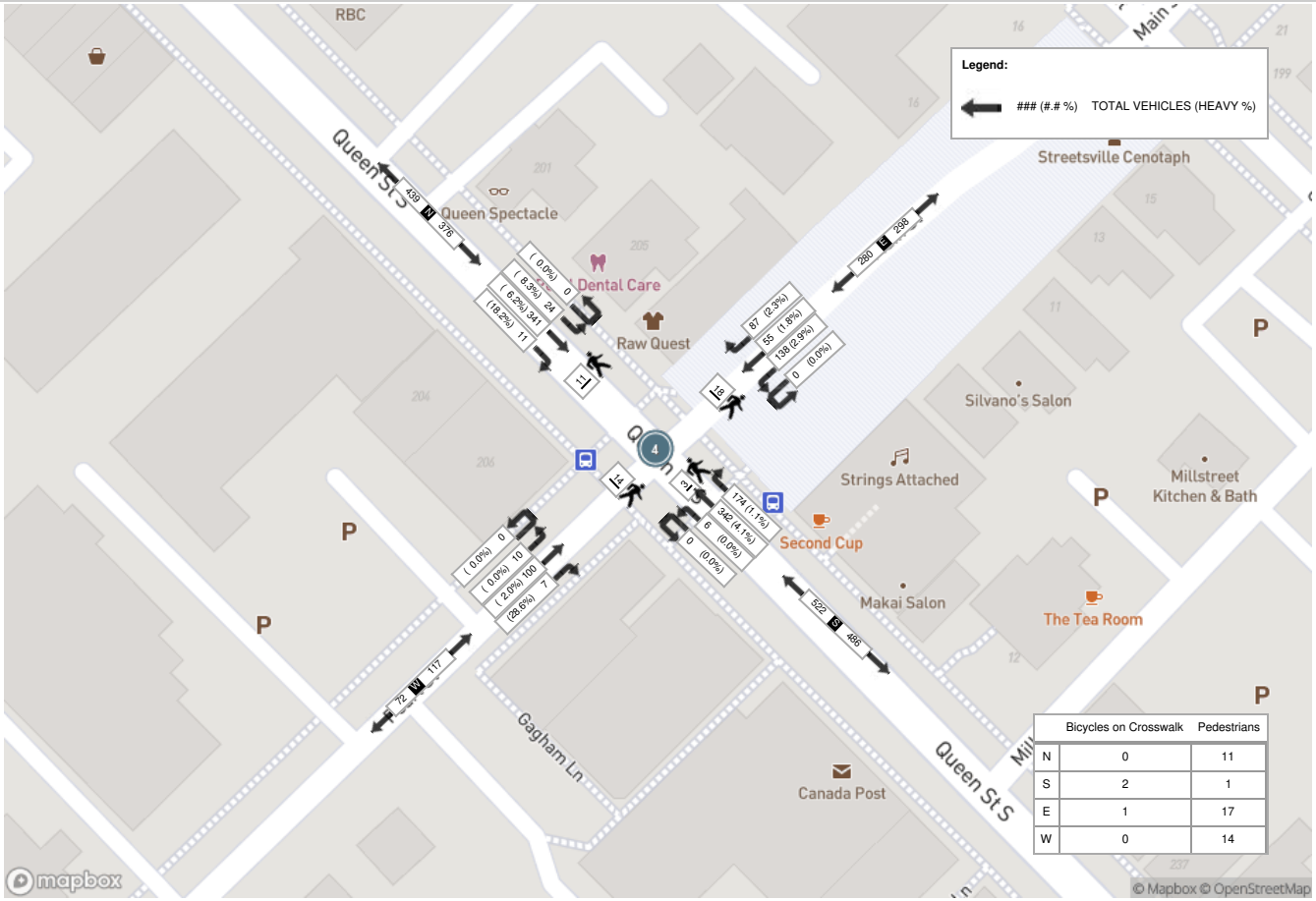
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

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

Start Time	N Approach QUEEN ST S						E Approach MAIN ST						S Approach QUEEN ST S						W Approach PEARL 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	6	106	7	0	5	119	30	21	48	0	11	99	20	111	4	0	1	135	2	13	5	0	8	20	373
17:00:00	9	118	3	0	3	130	17	18	33	0	9	68	31	115	3	0	8	149	3	19	5	0	13	27	374
17:15:00	6	108	3	0	11	117	24	20	44	0	17	88	27	108	1	0	5	136	2	15	2	0	18	19	360
17:30:00	5	107	2	0	15	114	25	27	42	0	10	94	26	96	3	0	5	125	2	16	3	0	18	21	354
Grand Total	26	439	15	0	34	480	96	86	167	0	47	349	104	430	11	0	19	545	9	63	15	0	57	87	**1461**
Approach%	5.4%	91.5%	3.1%	0%		-	27.5%	24.6%	47.9%	0%		-	19.1%	78.9%	2%	0%		-	10.3%	72.4%	17.2%	0%		-	**-**
Totals %	1.8%	30%	1%	0%		32.9%	6.6%	5.9%	11.4%	0%		23.9%	7.1%	29.4%	0.8%	0%		37.3%	0.6%	4.3%	1%	0%		6%	**-**
PHF	0.72	0.93	0.54	0		0.92	0.8	0.8	0.87	0		0.88	0.84	0.93	0.69	0		0.91	0.75	0.83	0.75	0		0.81	**-**
Heavy	0	4	0	0		4	0	0	1	0		1	0	6	0	0		6	0	0	0	0		0	**-**
Heavy %	0%	0.9%	0%	0%		0.8%	0%	0%	0.6%	0%		0.3%	0%	1.4%	0%	0%		1.1%	0%	0%	0%	0%		0%	**-**
Lights	25	435	15	0		475	96	86	166	0		348	104	424	11	0		539	9	63	15	0		87	**-**
Lights %	96.2%	99.1%	100%	0%		99%	100%	100%	99.4%	0%		99.7%	100%	98.6%	100%	0%		98.9%	100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	1	0	0		1	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	**-**
Buses	0	3	0	0		3	0	0	1	0		1	0	3	0	0		3	0	0	0	0		0	**-**
Buses %	0%	0.7%	0%	0%		0.6%	0%	0%	0.6%	0%		0.3%	0%	0.7%	0%	0%		0.6%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	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	0	0		0	**-**
Bicycles on Road %	3.8%	0%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	34	-	-	-	-	-	44	-	-	-	-	-	18	-	-	-	-	-	54	-	**-**
Pedestrians%	-	-	-	-	21.7%		-	-	-	-	28%		-	-	-	-	11.5%		-	-	-	-	34.4%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	3	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	1.9%		-	-	-	-	0.6%		-	-	-	-	1.9%		**-**

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

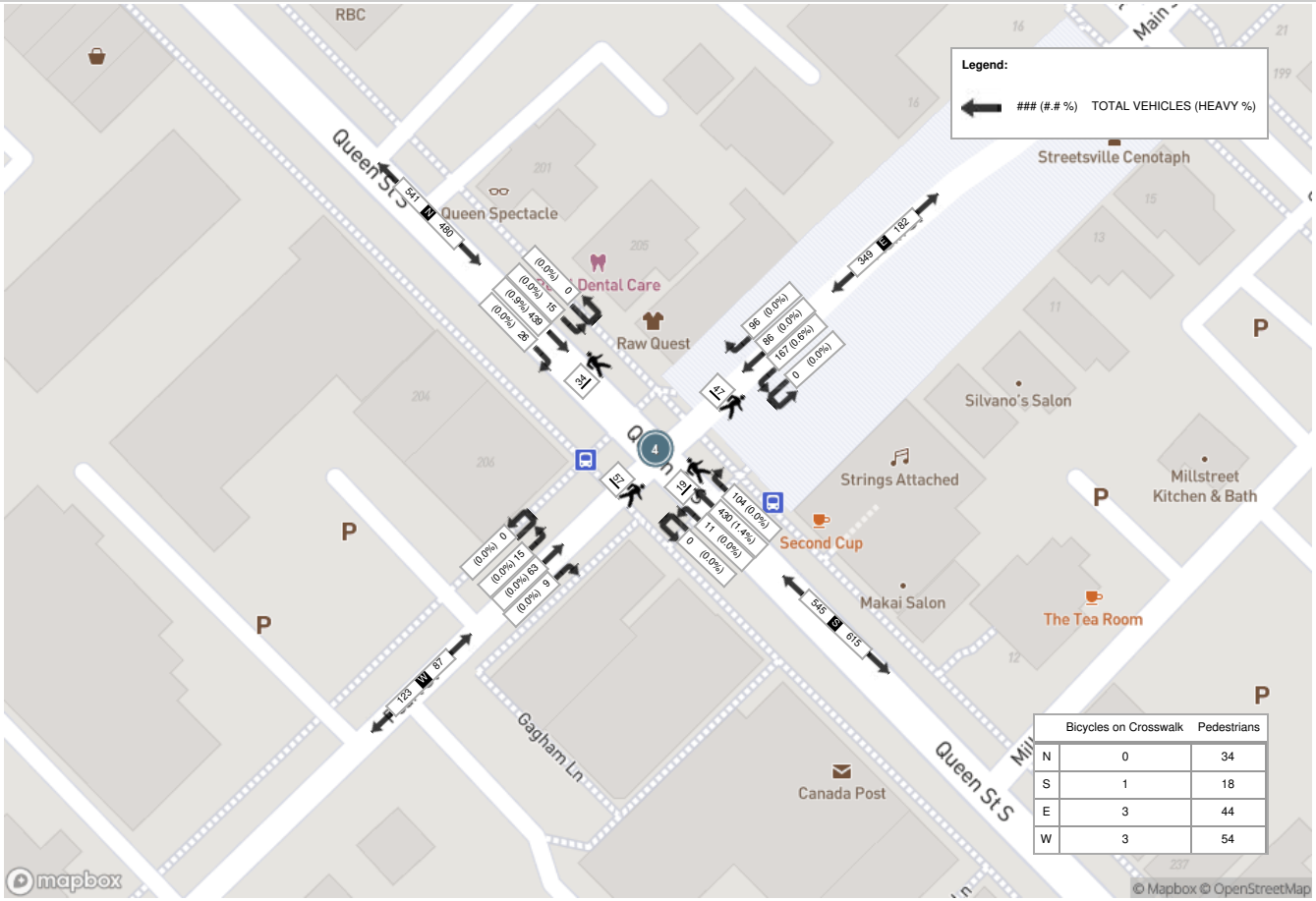
Peak Hour: 08:00 AM - 09:00 AM **Weather: Few Clouds (-5.39 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	11
S	2	1
E	1	17
W	0	14

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)**



	Bicycles on Crosswalk	Pedestrians
N	0	34
S	1	18
E	3	44
W	3	54

Spectrum

Turning Movement Count
Location Name: QUEEN ST & MAIN ST / PEARL ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Turning Movement Count (4 . QUEEN ST & MAIN ST / PEARL ST)

Start Time	N Approach QUEEN ST S						E Approach MAIN ST						S Approach QUEEN ST S						W Approach PEARL 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		
10:00:00	3	89	12	0	4	104	21	10	26	0	14	57	28	71	1	0	5	100	3	3	4	0	7	10	271	
10:15:00	1	75	16	0	1	92	20	5	24	0	3	49	20	66	1	0	2	87	3	2	6	0	17	11	239	
10:30:00	1	66	9	0	7	76	17	5	25	0	4	47	19	61	0	0	4	80	1	2	1	0	10	4	207	
10:45:00	12	82	9	0	11	103	21	9	33	0	10	63	23	91	2	0	5	116	0	3	3	0	12	6	288	1005
11:00:00	7	81	16	0	15	104	18	8	25	0	21	51	18	84	4	0	4	106	1	2	3	0	16	6	267	1001
11:15:00	10	75	14	0	14	99	13	7	27	0	19	47	25	89	2	0	7	116	0	1	2	0	19	3	265	1027
11:30:00	5	81	15	0	17	101	20	8	26	0	19	54	29	94	0	0	16	123	4	4	5	0	34	13	291	1111
11:45:00	6	117	15	0	11	138	17	6	38	0	17	61	34	81	6	0	16	121	1	2	6	0	27	9	329	1152
12:00:00	7	95	14	0	10	116	25	13	25	0	19	63	20	88	3	0	9	111	2	3	2	0	22	7	297	1182
12:15:00	6	85	19	0	15	110	28	11	42	0	17	81	28	100	1	0	7	129	3	4	6	0	20	13	333	1250
12:30:00	7	93	17	0	17	117	23	11	43	0	13	77	45	100	1	0	10	146	1	9	0	0	18	10	350	1309
12:45:00	5	88	17	0	8	110	21	4	21	0	18	46	21	115	3	0	7	139	2	4	2	0	23	8	303	1283
13:00:00	8	87	18	0	13	113	21	15	33	0	19	69	23	110	2	0	9	135	0	4	1	0	19	5	322	1308
13:15:00	9	87	14	0	24	110	23	8	42	0	19	73	25	98	3	0	6	126	2	3	5	0	21	10	319	1294
13:30:00	6	83	18	0	12	107	19	13	32	0	18	64	24	118	3	0	7	145	1	3	6	0	31	10	326	1270
13:45:00	5	100	19	0	14	124	23	6	27	0	21	56	30	96	4	0	7	130	2	4	4	0	18	10	320	1287
Grand Total	98	1384	242	0	193	1724	330	139	489	0	251	958	412	1462	36	0	121	1910	26	53	56	0	314	135	**4727**	-
Approach%	5.7%	80.3%	14%	0%		-	34.4%	14.5%	51%	0%		-	21.6%	76.5%	1.9%	0%		-	19.3%	39.3%	41.5%	0%		-	**-**	-
Totals %	2.1%	29.3%	5.1%	0%		36.5%	7%	2.9%	10.3%	0%		20.3%	8.7%	30.9%	0.8%	0%		40.4%	0.6%	1.1%	1.2%	0%		2.9%	**-**	-
Heavy	0	9	0	0		-	1	0	2	0		-	1	8	0	0		-	0	0	0	0		-	**-**	-
Heavy %	0%	0.7%	0%	0%		-	0.3%	0%	0.4%	0%		-	0.2%	0.5%	0%	0%		-	0%	0%	0%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: QUEEN ST & MAIN ST / PEARL ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

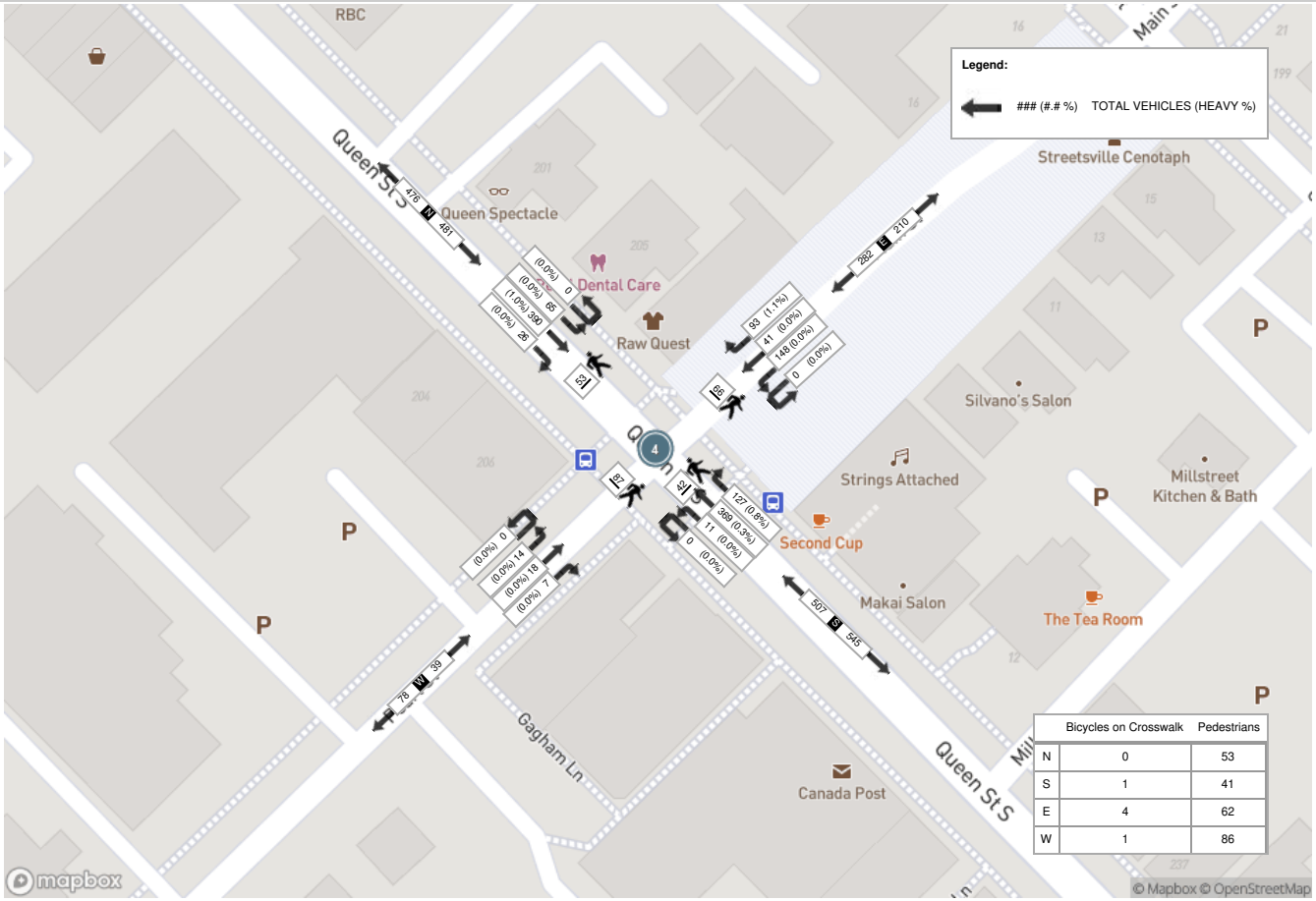
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 11:45 AM - 12:45 PM Weather: Few Clouds (11.95 °C)

Start Time	N Approach QUEEN ST S						E Approach MAIN ST						S Approach QUEEN ST S						W Approach PEARL 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	
11:45:00	6	117	15	0	11	138	17	6	38	0	17	61	34	81	6	0	16	121	1	2	6	0	27	9	329
12:00:00	7	95	14	0	10	116	25	13	25	0	19	63	20	88	3	0	9	111	2	3	2	0	22	7	297
12:15:00	6	85	19	0	15	110	28	11	42	0	17	81	28	100	1	0	7	129	3	4	6	0	20	13	333
12:30:00	7	93	17	0	17	117	23	11	43	0	13	77	45	100	1	0	10	146	1	9	0	0	18	10	350
Grand Total	26	390	65	0	53	481	93	41	148	0	66	282	127	369	11	0	42	507	7	18	14	0	87	39	**1309**
Approach%	5.4%	81.1%	13.5%	0%		-	33%	14.5%	52.5%	0%		-	25%	72.8%	2.2%	0%		-	17.9%	46.2%	35.9%	0%		-	**-**
Totals %	2%	29.8%	5%	0%		36.7%	7.1%	3.1%	11.3%	0%		21.5%	9.7%	28.2%	0.8%	0%		38.7%	0.5%	1.4%	1.1%	0%		3%	**-**
PHF	0.93	0.83	0.86	0		0.87	0.83	0.79	0.86	0		0.87	0.71	0.92	0.46	0		0.87	0.58	0.5	0.58	0		0.75	**-**
Heavy	0	4	0	0		4	1	0	0	0		1	1	1	0	0		2	0	0	0	0		0	**-**
Heavy %	0%	1%	0%	0%		0.8%	1.1%	0%	0%	0%		0.4%	0.8%	0.3%	0%	0%		0.4%	0%	0%	0%	0%		0%	**-**
Lights	26	386	65	0		477	92	41	142	0		275	126	366	11	0		503	7	18	14	0		39	**-**
Lights %	100%	99%	100%	0%		99.2%	98.9%	100%	95.9%	0%		97.5%	99.2%	99.2%	100%	0%		99.2%	100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	2	0	0		2	1	0	0	0		1	1	0	0	0		1	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0.5%	0%	0%		0.4%	1.1%	0%	0%	0%		0.4%	0.8%	0%	0%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Buses	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Buses %	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	0	0		0	0	0	6	0		6	0	2	0	0		2	0	0	0	0		0	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	4.1%	0%		2.1%	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	53	-	-	-	-	-	62	-	-	-	-	-	41	-	-	-	-	-	86	-	**-**
Pedestrians%	-	-	-	-	21.4%		-	-	-	-	25%		-	-	-	-	16.5%		-	-	-	-	34.7%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	1.6%		-	-	-	-	0.4%		-	-	-	-	0.4%		**-**

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

Peak Hour: 11:45 AM - 12:45 PM **Weather: Few Clouds (11.95 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	53
S	1	41
E	4	62
W	1	86

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

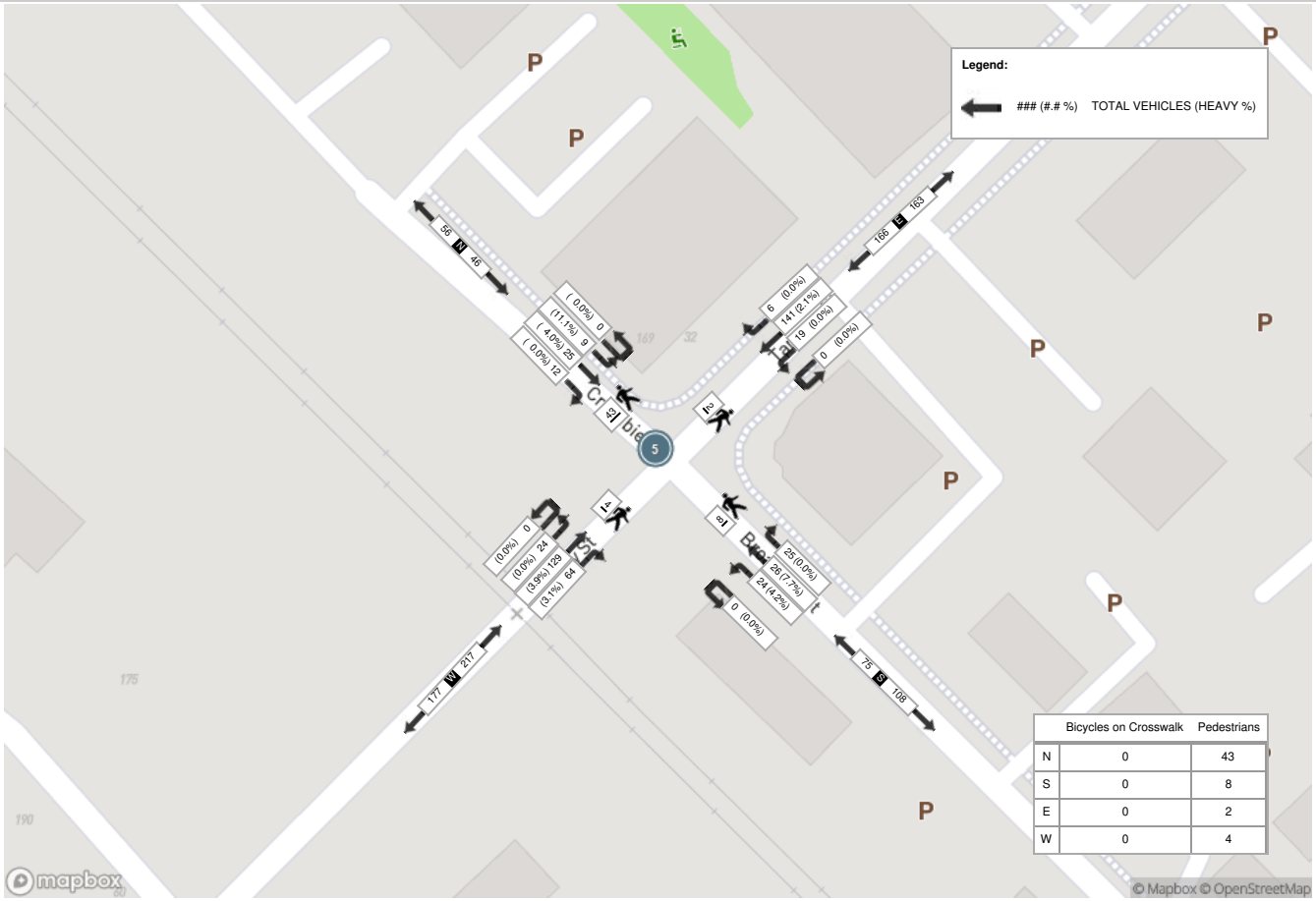
Turning Movement Count
Location Name: TANNERY ST & CRUMBIE ST / BROADWAY ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

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)**



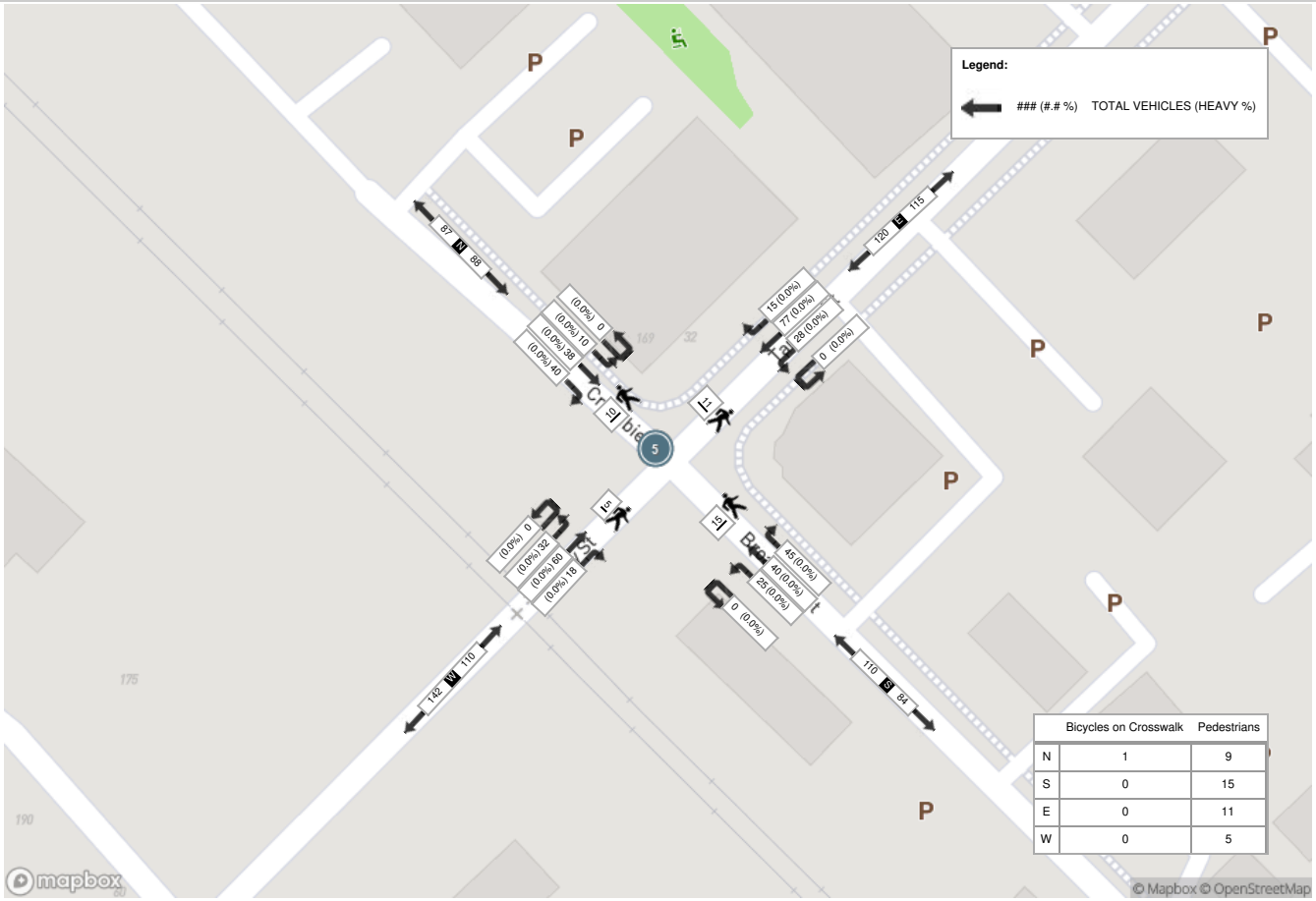
	Bicycles on Crosswalk	Pedestrians
N	0	43
S	0	8
E	0	2
W	0	4

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)



	Bicycles on Crosswalk	Pedestrians
N	1	9
S	0	15
E	0	11
W	0	5

Spectrum

Turning Movement Count
Location Name: TANNERY ST & CRUMBIE ST / BROADWAY ST
Date: Sat, Apr 01, 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		
10:00:00	6	9	4	0	6	19	3	16	1	0	1	20	3	12	4	0	1	19	3	16	6	0	0	25	83	
10:15:00	2	7	2	0	3	11	2	13	6	0	5	21	5	12	2	0	0	19	3	10	7	0	0	20	71	
10:30:00	4	5	4	0	4	13	5	10	3	0	3	18	8	11	2	0	0	21	1	11	6	0	1	18	70	
10:45:00	7	4	3	0	5	14	3	13	7	0	4	23	9	13	0	0	4	22	4	8	8	0	2	20	79	303
11:00:00	6	7	2	0	8	15	3	11	4	0	0	18	11	13	4	0	8	28	3	13	9	0	0	25	86	306
11:15:00	6	8	3	0	4	17	2	7	3	0	0	12	8	11	2	0	0	21	2	12	5	0	0	19	69	304
11:30:00	9	8	4	0	4	21	1	9	6	0	4	16	11	12	0	0	0	23	1	13	6	0	0	20	80	314
11:45:00	5	6	1	0	2	12	2	15	8	0	0	25	6	8	2	0	5	16	0	18	3	0	0	21	74	309
12:00:00	11	7	3	0	4	21	1	7	9	0	1	17	6	9	2	0	3	17	1	7	6	0	0	14	69	292
12:15:00	11	3	1	0	6	15	5	19	8	0	1	32	4	15	3	0	6	22	2	12	11	0	2	25	94	317
12:30:00	10	7	4	0	0	21	1	18	4	0	3	23	12	11	7	0	2	30	2	14	10	0	2	26	100	337
12:45:00	9	4	5	0	5	18	1	18	12	0	2	31	8	11	1	0	3	20	1	12	3	0	0	16	85	348
13:00:00	7	8	4	0	4	19	3	20	7	0	2	30	16	2	1	0	2	19	2	14	6	0	1	22	90	369
13:15:00	6	8	0	0	0	14	0	13	8	0	2	21	7	10	4	0	2	21	1	9	6	0	0	16	72	347
13:30:00	6	16	1	0	7	23	1	14	6	0	0	21	7	7	1	0	1	15	2	16	7	0	0	25	84	331
13:45:00	9	5	2	0	5	16	5	20	7	0	1	32	7	7	2	0	1	16	1	15	4	0	4	20	84	330
Grand Total	114	112	43	0	67	269	38	223	99	0	29	360	128	164	37	0	38	329	29	200	103	0	12	332	**1290**	-
Approach%	42.4%	41.6%	16%	0%		-	10.6%	61.9%	27.5%	0%		-	38.9%	49.8%	11.2%	0%		-	8.7%	60.2%	31%	0%		-	**-**	-
Totals %	8.8%	8.7%	3.3%	0%		20.9%	2.9%	17.3%	7.7%	0%		27.9%	9.9%	12.7%	2.9%	0%		25.5%	2.2%	15.5%	8%	0%		25.7%	**-**	-
Heavy	0	1	1	0		-	0	0	0	0		-	0	1	0	0		-	0	0	0	0		-	**-**	-
Heavy %	0%	0.9%	2.3%	0%		-	0%	0%	0%	0%		-	0%	0.6%	0%	0%		-	0%	0%	0%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: TANNERY ST & CRUMBIE ST / BROADWAY ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 12:15 PM - 01:15 PM Weather: Few Clouds (11.95 °C)

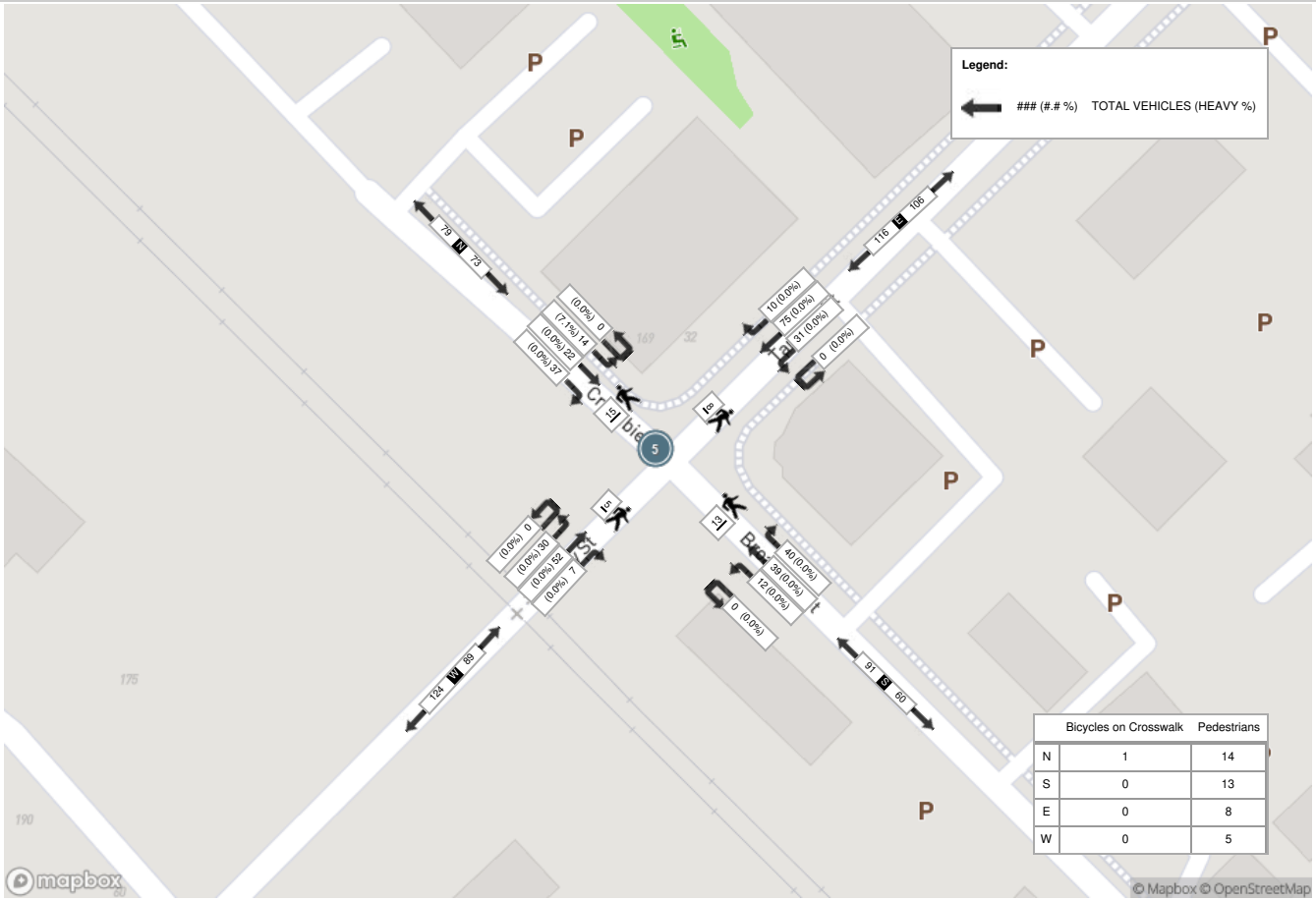
Start Time	N Approach CRUMBIE ST						E Approach TANNERY ST						S Approach BROADWAY ST						W Approach TANNERY ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
12:15:00	11	3	1	0	6	15	5	19	8	0	1	32	4	15	3	0	6	22	2	12	11	0	2	25	94
12:30:00	10	7	4	0	0	21	1	18	4	0	3	23	12	11	7	0	2	30	2	14	10	0	2	26	100
12:45:00	9	4	5	0	5	18	1	18	12	0	2	31	8	11	1	0	3	20	1	12	3	0	0	16	85
13:00:00	7	8	4	0	4	19	3	20	7	0	2	30	16	2	1	0	2	19	2	14	6	0	1	22	90
Grand Total	37	22	14	0	15	73	10	75	31	0	8	116	40	39	12	0	13	91	7	52	30	0	5	89	**369**
Approach%	50.7%	30.1%	19.2%	0%		-	8.6%	64.7%	26.7%	0%		-	44%	42.9%	13.2%	0%		-	7.9%	58.4%	33.7%	0%		-	**-**
Totals %	10%	6%	3.8%	0%		19.8%	2.7%	20.3%	8.4%	0%		31.4%	10.8%	10.6%	3.3%	0%		24.7%	1.9%	14.1%	8.1%	0%		24.1%	**-**
PHF	0.84	0.69	0.7	0		0.87	0.5	0.94	0.65	0		0.91	0.63	0.65	0.43	0		0.76	0.88	0.93	0.68	0		0.86	**-**
Heavy	0	0	1	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Heavy %	0%	0%	7.1%	0%		1.4%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Lights	37	22	13	0		72	10	75	31	0		116	40	36	12	0		88	7	51	29	0		87	**-**
Lights %	100%	100%	92.9%	0%		98.6%	100%	100%	100%	0%		100%	100%	92.3%	100%	0%		96.7%	100%	98.1%	96.7%	0%		97.8%	**-**
Single-Unit Trucks	0	0	1	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0%	7.1%	0%		1.4%	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	0	0	0		0	0	0	0	0		0	0	3	0	0		3	0	1	1	0		2	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	7.7%	0%	0%		3.3%	0%	1.9%	3.3%	0%		2.2%	**-**
Pedestrians	-	-	-	-	14	-	-	-	-	-	8	-	-	-	-	-	13	-	-	-	-	-	5	-	**-**
Pedestrians%	-	-	-	-	34.1%		-	-	-	-	19.5%		-	-	-	-	31.7%		-	-	-	-	12.2%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	2.4%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: TANNERY ST & CRUMBIE ST / BROADWAY ST
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 12:15 PM - 01:15 PM **Weather: Few Clouds (11.95 °C)**



	Bicycles on Crosswalk	Pedestrians
N	1	14
S	0	13
E	0	8
W	0	5

Spectrum

Turning Movement Count
Location Name: WILLIAM ST & ONTARIO ST W
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

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

Turning Movement Count (6 . WILLIAM ST & ONTARIO ST W)

Start Time	N Approach WILLIAM ST						E Approach ONTARIO ST W						S Approach WILLIAM ST						W Approach ONTARIO ST W						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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06:15:00	0	0	0	0	2	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	2	
06:30:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	2	0	0	0	2	3	
06:45:00	0	0	0	0	0	0	0	2	0	0	1	2	0	0	0	0	0	0	0	1	1	0	0	2	4	9
07:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	1	0	0	0	1	3	12
07:15:00	0	0	0	0	0	0	0	4	1	0	1	5	2	0	0	0	0	2	0	1	0	0	1	1	8	18
07:30:00	0	2	0	0	0	2	0	1	2	0	0	3	2	2	0	0	0	4	0	3	0	0	0	3	12	27
07:45:00	0	1	1	0	1	2	1	5	0	0	0	6	3	3	0	0	1	6	0	3	0	1	0	4	18	41
08:00:00	0	1	1	0	3	2	0	2	0	0	0	2	1	1	4	0	1	6	0	3	1	0	3	4	14	52
08:15:00	1	1	1	1	1	4	1	12	0	0	0	13	1	1	14	0	0	16	12	30	0	0	0	42	75	119
08:30:00	0	2	4	0	0	6	0	1	0	0	2	1	1	1	4	0	0	6	4	4	0	0	2	8	21	128
08:45:00	0	2	0	0	0	2	0	2	2	0	1	4	2	1	1	0	0	4	0	1	1	0	1	2	12	122
09:00:00	1	4	2	0	0	7	0	2	0	0	0	2	3	1	0	0	0	4	2	5	0	0	0	7	20	128
09:15:00	0	1	0	0	0	1	0	2	1	0	0	3	3	2	0	0	0	5	0	1	0	0	1	1	10	63
09:30:00	0	0	0	0	0	0	3	1	1	0	0	5	0	1	1	0	0	2	0	0	0	0	1	0	7	49
09:45:00	0	1	3	0	0	4	0	3	1	0	1	4	0	2	1	0	1	3	0	3	0	0	1	3	14	51
BREAK																										
15:00:00	0	1	1	0	4	2	1	1	0	0	0	2	0	1	2	0	0	3	1	4	0	0	9	5	12	
15:15:00	0	2	1	0	1	3	3	6	1	0	1	10	1	0	0	0	0	1	2	1	0	0	1	3	17	
15:30:00	0	1	1	0	1	2	1	6	2	0	1	9	4	1	2	0	1	7	3	2	0	0	1	5	23	
15:45:00	0	5	0	0	0	5	0	2	3	0	0	5	1	2	1	0	0	4	1	2	0	0	3	3	17	69
16:00:00	0	0	3	0	2	3	1	2	5	0	0	8	0	1	0	0	0	1	2	4	0	0	3	6	18	75
16:15:00	1	1	0	0	4	2	0	4	0	1	0	5	0	2	1	0	0	3	1	5	0	0	1	6	16	74
16:30:00	0	3	1	0	2	4	2	2	3	0	0	7	5	2	0	0	0	7	0	3	1	0	1	4	22	73
16:45:00	2	2	0	0	0	4	1	3	2	1	1	7	0	3	1	0	1	4	0	1	0	0	0	1	16	72
17:00:00	0	0	2	0	5	2	0	5	1	1	1	7	0	0	0	0	0	0	0	3	1	0	2	4	13	67
17:15:00	1	3	0	0	2	4	2	2	1	0	0	5	4	2	0	0	0	6	0	4	0	0	1	4	19	70
17:30:00	0	3	1	0	2	4	1	2	3	0	1	6	5	0	0	0	0	5	1	3	1	0	5	5	20	68
17:45:00	0	0	2	1	3	3	0	1	1	0	1	2	2	1	0	0	0	3	0	1	0	0	2	1	9	61
18:00:00	0	3	0	0	3	3	0	1	1	0	1	2	1	1	1	0	0	3	1	1	0	0	2	2	10	58
18:15:00	0	3	1	0	0	4	1	0	0	0	0	1	0	1	1	0	0	2	1	0	0	0	0	1	8	47
18:30:00	0	0	0	0	1	0	0	0	0	2	0	2	2	0	1	0	0	3	2	2	0	0	0	4	9	36
18:45:00	0	1	1	0	3	2	1	2	1	0	0	4	0	1	1	0	0	2	1	2	0	0	0	3	11	38
Grand Total	6	43	26	2	40	77	19	77	32	5	13	133	44	34	37	0	5	115	35	96	6	1	41	138	**463**	-
Approach%	7.8%	55.8%	33.8%	2.6%		-	14.3%	57.9%	24.1%	3.8%		-	38.3%	29.6%	32.2%	0%		-	25.4%	69.6%	4.3%	0.7%		-	-	-
Totals %	1.3%	9.3%	5.6%	0.4%		16.6%	4.1%	16.6%	6.9%	1.1%		28.7%	9.5%	7.3%	8%	0%		24.8%	7.6%	20.7%	1.3%	0.2%		29.8%	-	-
Heavy	0	0	6	0		-	2	2	0	0		-	2	0	0	0		-	3	8	0	0		-	-	-
Heavy %	0%	0%	23.1%	0%		-	10.5%	2.6%	0%	0%		-	4.5%	0%	0%	0%		-	8.6%	8.3%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Spectrum

Turning Movement Count
Location Name: WILLIAM ST & ONTARIO ST W
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 08:15 AM - 09:15 AM Weather: Few Clouds (-5.39 °C)

Start Time	N Approach WILLIAM ST						E Approach ONTARIO ST W						S Approach WILLIAM ST						W Approach ONTARIO ST W						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	1	1	1	1	1	4	1	12	0	0	0	13	1	1	14	0	0	16	12	30	0	0	0	42	75
08:30:00	0	2	4	0	0	6	0	1	0	0	2	1	1	1	4	0	0	6	4	4	0	0	2	8	21
08:45:00	0	2	0	0	0	2	0	2	2	0	1	4	2	1	1	0	0	4	0	1	1	0	1	2	12
09:00:00	1	4	2	0	0	7	0	2	0	0	0	2	3	1	0	0	0	4	2	5	0	0	0	7	20
Grand Total	2	9	7	1	1	19	1	17	2	0	3	20	7	4	19	0	0	30	18	40	1	0	3	59	**128**
Approach%	10.5%	47.4%	36.8%	5.3%		-	5%	85%	10%	0%		-	23.3%	13.3%	63.3%	0%		-	30.5%	67.8%	1.7%	0%		-	**-**
Totals %	1.6%	7%	5.5%	0.8%		14.8%	0.8%	13.3%	1.6%	0%		15.6%	5.5%	3.1%	14.8%	0%		23.4%	14.1%	31.3%	0.8%	0%		46.1%	**-**
PHF	0.5	0.56	0.44	0.25		0.68	0.25	0.35	0.25	0		0.38	0.58	1	0.34	0		0.47	0.38	0.33	0.25	0		0.35	**-**
Heavy	0	0	3	0		3	0	0	0	0		0	1	0	0	0		1	3	7	0	0		10	**-**
Heavy %	0%	0%	42.9%	0%		15.8%	0%	0%	0%	0%		0%	14.3%	0%	0%	0%		3.3%	16.7%	17.5%	0%	0%		16.9%	**-**
Lights	2	9	4	1		16	1	17	2	0		20	6	4	18	0		28	15	33	1	0		49	**-**
Lights %	100%	100%	57.1%	100%		84.2%	100%	100%	100%	0%		100%	85.7%	100%	94.7%	0%		93.3%	83.3%	82.5%	100%	0%		83.1%	**-**
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	3	0		3	0	0	0	0		0	1	0	0	0		1	3	7	0	0		10	**-**
Buses %	0%	0%	42.9%	0%		15.8%	0%	0%	0%	0%		0%	14.3%	0%	0%	0%		3.3%	16.7%	17.5%	0%	0%		16.9%	**-**
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%	5.3%	0%		3.3%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	14.3%		-	-	-	-	42.9%		-	-	-	-	0%		-	-	-	-	42.9%		**-**

Spectrum

Turning Movement Count
Location Name: WILLIAM ST & ONTARIO ST W
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

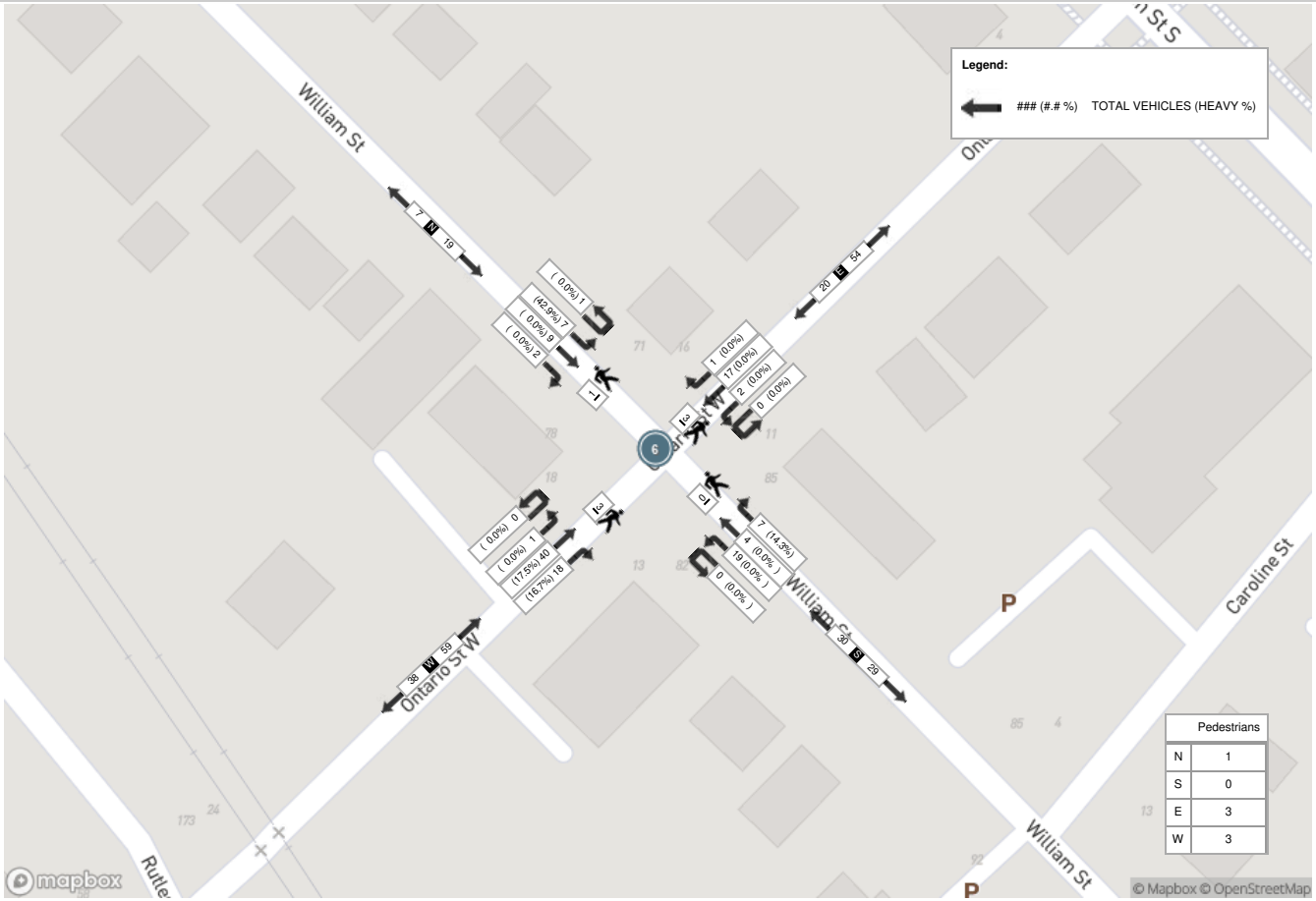
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 03:15 PM - 04:15 PM Weather: Scattered Clouds (3.74 °C)

Start Time	N Approach WILLIAM ST						E Approach ONTARIO ST W						S Approach WILLIAM ST						W Approach ONTARIO ST W						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	
15:15:00	0	2	1	0	1	3	3	6	1	0	1	10	1	0	0	0	0	1	2	1	0	0	1	3	17
15:30:00	0	1	1	0	1	2	1	6	2	0	1	9	4	1	2	0	1	7	3	2	0	0	1	5	23
15:45:00	0	5	0	0	0	5	0	2	3	0	0	5	1	2	1	0	0	4	1	2	0	0	3	3	17
16:00:00	0	0	3	0	2	3	1	2	5	0	0	8	0	1	0	0	0	1	2	4	0	0	3	6	18
Grand Total	0	8	5	0	4	13	5	16	11	0	2	32	6	4	3	0	1	13	8	9	0	0	8	17	**75**
Approach%	0%	61.5%	38.5%	0%		-	15.6%	50%	34.4%	0%		-	46.2%	30.8%	23.1%	0%		-	47.1%	52.9%	0%	0%		-	**-**
Totals %	0%	10.7%	6.7%	0%		17.3%	6.7%	21.3%	14.7%	0%		42.7%	8%	5.3%	4%	0%		17.3%	10.7%	12%	0%	0%		22.7%	**-**
PHF	0	0.4	0.42	0		0.65	0.42	0.67	0.55	0		0.8	0.38	0.5	0.38	0		0.46	0.67	0.56	0	0		0.71	**-**
Heavy	0	0	3	0		3	1	1	0	0		2	0	0	0	0		0	0	0	0	0		0	**-**
Heavy %	0%	0%	60%	0%		23.1%	20%	6.3%	0%	0%		6.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Lights	0	8	2	0		10	4	15	9	0		28	6	4	3	0		13	7	9	0	0		16	**-**
Lights %	0%	100%	40%	0%		76.9%	80%	93.8%	81.8%	0%		87.5%	100%	100%	100%	0%		100%	87.5%	100%	0%	0%		94.1%	**-**
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	3	0		3	1	1	0	0		2	0	0	0	0		0	0	0	0	0		0	**-**
Buses %	0%	0%	60%	0%		23.1%	20%	6.3%	0%	0%		6.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	0	0		0	0	0	2	0		2	0	0	0	0		0	1	0	0	0		1	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	18.2%	0%		6.3%	0%	0%	0%	0%		0%	12.5%	0%	0%	0%		5.9%	**-**
Pedestrians	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	8	-	**-**
Pedestrians%	-	-	-	-	26.7%		-	-	-	-	13.3%		-	-	-	-	6.7%		-	-	-	-	53.3%		**-**

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

Peak Hour: 08:15 AM - 09:15 AM **Weather: Few Clouds (-5.39 °C)**

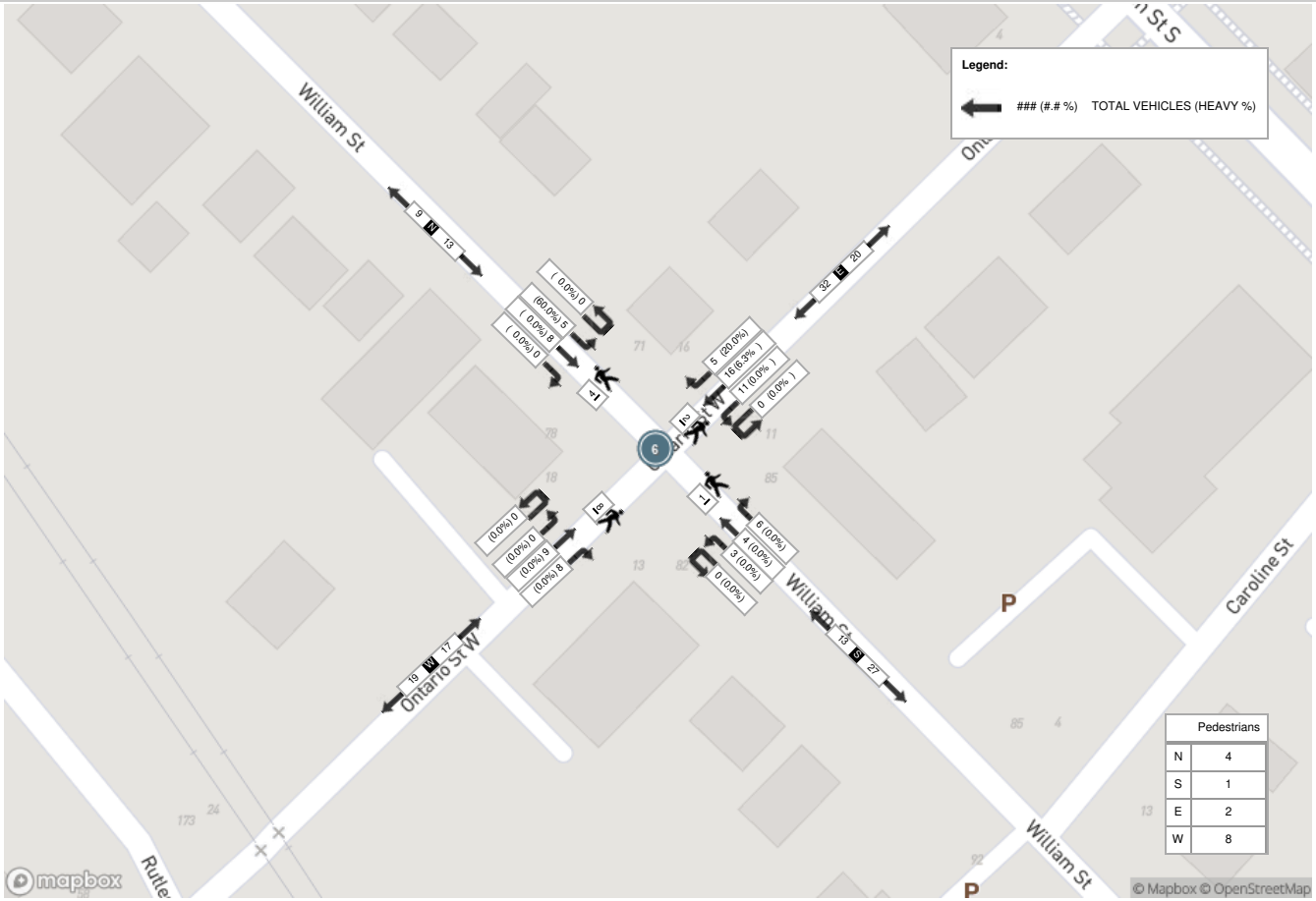


Spectrum

Turning Movement Count
Location Name: WILLIAM ST & ONTARIO ST W
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 03:15 PM - 04:15 PM Weather: Scattered Clouds (3.74 °C)



Spectrum

Turning Movement Count
Location Name: WILLIAM ST & ONTARIO ST W
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Turning Movement Count (6 . WILLIAM ST & ONTARIO ST W)

Start Time	N Approach WILLIAM ST						E Approach ONTARIO ST W						S Approach WILLIAM ST						W Approach ONTARIO ST W						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		
10:00:00	1	1	1	0	0	3	1	1	1	0	0	3	0	2	0	0	0	2	1	1	1	0	2	3	11	
10:15:00	0	1	1	0	1	2	1	1	4	0	0	6	2	1	1	0	0	4	0	1	1	0	5	2	14	
10:30:00	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0	4	
10:45:00	0	1	0	0	3	1	1	0	1	1	2	3	0	0	0	0	0	0	0	2	0	0	2	2	6	35
11:00:00	0	0	1	0	0	1	0	1	0	1	1	2	0	3	2	0	0	5	0	4	0	0	3	4	12	36
11:15:00	0	0	1	0	3	1	0	0	0	0	0	0	1	1	1	0	1	3	0	2	0	0	3	2	6	28
11:30:00	2	1	3	0	1	6	1	0	1	0	4	2	0	1	1	0	2	2	1	0	0	0	1	1	11	35
11:45:00	0	0	1	0	0	1	1	1	2	0	0	4	0	2	1	0	0	3	0	1	0	0	1	1	9	38
12:00:00	0	1	2	0	2	3	1	1	2	1	0	5	0	0	0	0	0	0	0	2	0	0	3	2	10	36
12:15:00	0	0	0	0	0	0	1	1	4	0	2	6	0	1	0	0	0	1	0	1	0	0	0	1	8	38
12:30:00	1	1	1	0	0	3	0	1	1	0	0	2	2	0	0	0	0	2	2	1	0	0	0	3	10	37
12:45:00	0	0	1	0	1	1	1	1	0	0	0	2	2	1	0	0	0	3	1	2	0	0	2	3	9	37
13:00:00	0	0	0	0	0	0	2	2	0	0	0	4	3	2	0	0	0	5	1	2	0	0	1	3	12	39
13:15:00	0	0	1	0	2	1	2	2	1	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	6	37
13:30:00	0	3	1	0	2	4	0	4	0	0	0	4	4	0	0	0	0	4	2	1	0	0	0	3	15	42
13:45:00	1	1	0	0	0	2	1	0	1	0	2	2	0	1	0	0	0	1	1	2	0	0	0	3	8	41
Grand Total	5	10	16	0	15	31	13	16	18	3	11	50	16	15	6	0	3	37	9	22	2	0	26	33	**151**	-
Approach%	16.1%	32.3%	51.6%	0%		-	26%	32%	36%	6%		-	43.2%	40.5%	16.2%	0%		-	27.3%	66.7%	6.1%	0%		-	-	-
Totals %	3.3%	6.6%	10.6%	0%		20.5%	8.6%	10.6%	11.9%	2%		33.1%	10.6%	9.9%	4%	0%		24.5%	6%	14.6%	1.3%	0%		21.9%	-	-
Heavy	0	0	0	0		-	0	0	0	0		-	1	0	0	0		-	0	0	0	0		-	-	-
Heavy %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	6.3%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Spectrum

Turning Movement Count
Location Name: WILLIAM ST & ONTARIO ST W
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 12:45 PM - 01:45 PM Weather: Few Clouds (11.95 °C)

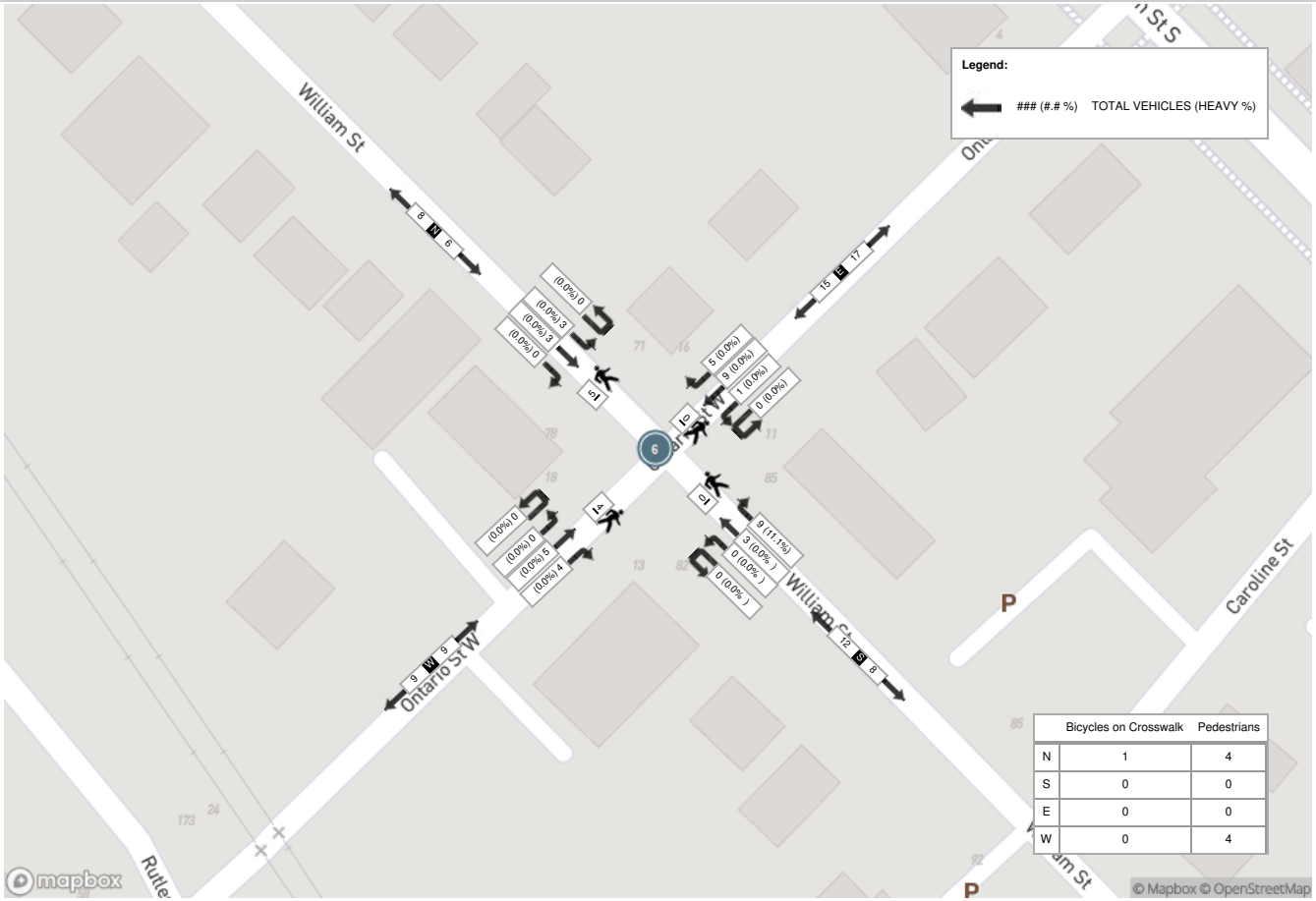
Start Time	N Approach WILLIAM ST						E Approach ONTARIO ST W						S Approach WILLIAM ST						W Approach ONTARIO ST W						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
12:45:00	0	0	1	0	1	1	1	1	0	0	0	2	2	1	0	0	0	3	1	2	0	0	2	3	9
13:00:00	0	0	0	0	0	0	2	2	0	0	0	4	3	2	0	0	0	5	1	2	0	0	1	3	12
13:15:00	0	0	1	0	2	1	2	2	1	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	6
13:30:00	0	3	1	0	2	4	0	4	0	0	0	4	4	0	0	0	0	4	2	1	0	0	0	3	15
Grand Total	0	3	3	0	5	6	5	9	1	0	0	15	9	3	0	0	0	12	4	5	0	0	4	9	**42**
Approach%	0%	50%	50%	0%		-	33.3%	60%	6.7%	0%		-	75%	25%	0%	0%		-	44.4%	55.6%	0%	0%		-	-
Totals %	0%	7.1%	7.1%	0%		14.3%	11.9%	21.4%	2.4%	0%		35.7%	21.4%	7.1%	0%	0%		28.6%	9.5%	11.9%	0%	0%		21.4%	-
PHF	0	0.25	0.75	0		0.38	0.63	0.56	0.25	0		0.75	0.56	0.38	0	0		0.6	0.5	0.63	0	0		0.75	-
Heavy	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	-
Heavy %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	11.1%	0%	0%	0%		8.3%	0%	0%	0%	0%		0%	-
Lights	0	3	3	0		6	5	5	1	0		11	8	3	0	0		11	4	5	0	0		9	-
Lights %	0%	100%	100%	0%		100%	100%	55.6%	100%	0%		73.3%	88.9%	100%	0%	0%		91.7%	100%	100%	0%	0%		100%	-
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	11.1%	0%	0%	0%		8.3%	0%	0%	0%	0%		0%	-
Bicycles on Road	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	0	0	0	0		0	-
Bicycles on Road %	0%	0%	0%	0%		0%	0%	44.4%	0%	0%		26.7%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-
Pedestrians%	-	-	-	-	44.4%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	44.4%		-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	11.1%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Spectrum

Turning Movement Count
Location Name: WILLIAM ST & ONTARIO ST W
Date: Sat, Apr 01, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 12:45 PM - 01:45 PM **Weather: Few Clouds (11.95 °C)**



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

Spectrum

Turning Movement Count
Location Name: QUEEN ST & ONTARIO ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 08:00 AM - 09:00 AM Weather: Few Clouds (-5.39 °C)

Start Time	N Approach QUEEN ST						E Approach ONTARIO ST E						S Approach QUEEN ST						W Approach ONTARIO ST W						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	
08:00:00	1	119	21	0	3	141	17	0	0	0	3	17	1	110	2	0	3	113	3	0	3	0	1	6	277
08:15:00	9	93	15	0	6	117	25	3	0	0	2	28	0	126	2	0	1	128	7	4	18	0	7	29	302
08:30:00	0	124	26	0	0	150	22	1	0	0	2	23	2	113	1	0	1	116	5	1	4	0	3	10	299
08:45:00	2	110	18	0	0	130	23	4	0	0	4	27	0	111	1	0	0	112	1	1	2	0	3	4	273
Grand Total	12	446	80	0	9	538	87	8	0	0	11	95	3	460	6	0	5	469	16	6	27	0	14	49	**1151**
Approach%	2.2%	82.9%	14.9%	0%		-	91.6%	8.4%	0%	0%		-	0.6%	98.1%	1.3%	0%		-	32.7%	12.2%	55.1%	0%		-	**-**
Totals %	1%	38.7%	7%	0%		46.7%	7.6%	0.7%	0%	0%		8.3%	0.3%	40%	0.5%	0%		40.7%	1.4%	0.5%	2.3%	0%		4.3%	**-**
PHF	0.33	0.9	0.77	0		0.9	0.87	0.5	0	0		0.85	0.38	0.91	0.75	0		0.92	0.57	0.38	0.38	0		0.42	**-**
Heavy	0	17	2	0		19	0	0	0	0		0	0	19	0	0		19	2	2	7	0		11	**-**
Heavy %	0%	3.8%	2.5%	0%		3.5%	0%	0%	0%	0%		0%	0%	4.1%	0%	0%		4.1%	12.5%	33.3%	25.9%	0%		22.4%	**-**
Lights	12	429	78	0		519	87	8	0	0		95	3	441	6	0		450	14	4	20	0		38	**-**
Lights %	100%	96.2%	97.5%	0%		96.5%	100%	100%	0%	0%		100%	100%	95.9%	100%	0%		95.9%	87.5%	66.7%	74.1%	0%		77.6%	**-**
Single-Unit Trucks	0	9	0	0		9	0	0	0	0		0	0	8	0	0		8	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	2%	0%	0%		1.7%	0%	0%	0%	0%		0%	0%	1.7%	0%	0%		1.7%	0%	0%	0%	0%		0%	**-**
Buses	0	6	2	0		8	0	0	0	0		0	0	11	0	0		11	2	2	7	0		11	**-**
Buses %	0%	1.3%	2.5%	0%		1.5%	0%	0%	0%	0%		0%	0%	2.4%	0%	0%		2.3%	12.5%	33.3%	25.9%	0%		22.4%	**-**
Articulated Trucks	0	2	0	0		2	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.4%	0%	0%		0.4%	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	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	9	-	-	-	-	-	11	-	-	-	-	-	5	-	-	-	-	-	14	-	**-**
Pedestrians%	-	-	-	-	23.1%		-	-	-	-	28.2%		-	-	-	-	12.8%		-	-	-	-	35.9%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: QUEEN ST & ONTARIO ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

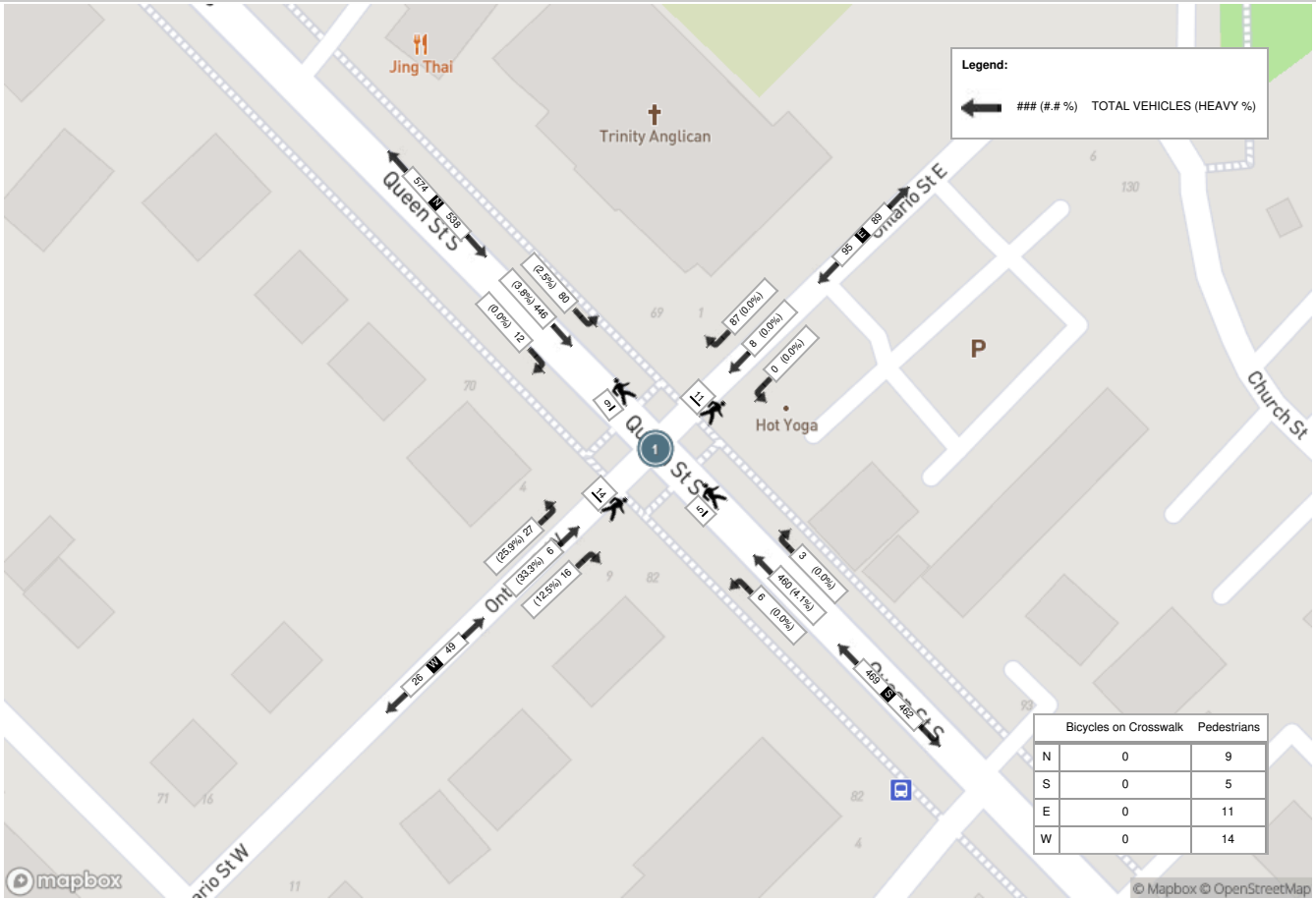
Crozier & Associates
SUITE 301 211 YONGE
STREET
TORONTO ONTARIO, M5B 1M4
CANADA

Peak Hour: 05:15 PM - 06:15 PM Weather: Scattered Clouds (3.74 °C)

Start Time	N Approach QUEEN ST						E Approach ONTARIO ST E						S Approach QUEEN ST						W Approach ONTARIO ST W						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	
17:15:00	3	169	17	0	1	189	26	7	0	0	7	33	3	156	5	0	2	164	5	0	5	0	4	10	396
17:30:00	5	165	16	0	1	186	26	2	2	0	10	30	4	136	6	0	5	146	4	3	8	0	4	15	377
17:45:00	6	140	21	0	6	167	29	2	0	0	4	31	2	131	2	0	3	135	9	2	1	0	6	12	345
18:00:00	6	129	11	0	0	146	27	2	2	0	5	31	3	149	4	0	0	156	10	0	4	0	3	14	347
Grand Total	20	603	65	0	8	688	108	13	4	0	26	125	12	572	17	0	10	601	28	5	18	0	17	51	**1465**
Approach%	2.9%	87.6%	9.4%	0%		-	86.4%	10.4%	3.2%	0%		-	2%	95.2%	2.8%	0%		-	54.9%	9.8%	35.3%	0%		-	**-**
Totals %	1.4%	41.2%	4.4%	0%		47%	7.4%	0.9%	0.3%	0%		8.5%	0.8%	39%	1.2%	0%		41%	1.9%	0.3%	1.2%	0%		3.5%	**-**
PHF	0.83	0.89	0.77	0		0.91	0.93	0.46	0.5	0		0.95	0.75	0.92	0.71	0		0.92	0.7	0.42	0.56	0		0.85	**-**
Heavy	0	5	0	0		5	0	0	0	0		0	0	6	0	0		6	0	0	0	0		0	**-**
Heavy %	0%	0.8%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	1%	0%	0%		1%	0%	0%	0%	0%		0%	**-**
Lights	20	597	65	0		682	108	13	4	0		125	12	566	17	0		595	28	5	18	0		51	**-**
Lights %	100%	99%	100%	0%		99.1%	100%	100%	100%	0%		100%	100%	99%	100%	0%		99%	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%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Buses	0	4	0	0		4	0	0	0	0		0	0	4	0	0		4	0	0	0	0		0	**-**
Buses %	0%	0.7%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.7%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	**-**
Bicycles on Road	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Bicycles on Road %	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	8	-	-	-	-	-	26	-	-	-	-	-	10	-	-	-	-	-	17	-	**-**
Pedestrians%	-	-	-	-	13.1%		-	-	-	-	42.6%		-	-	-	-	16.4%		-	-	-	-	27.9%		**-**
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: 08:00 AM - 09:00 AM **Weather: Few Clouds (-5.39 °C)**

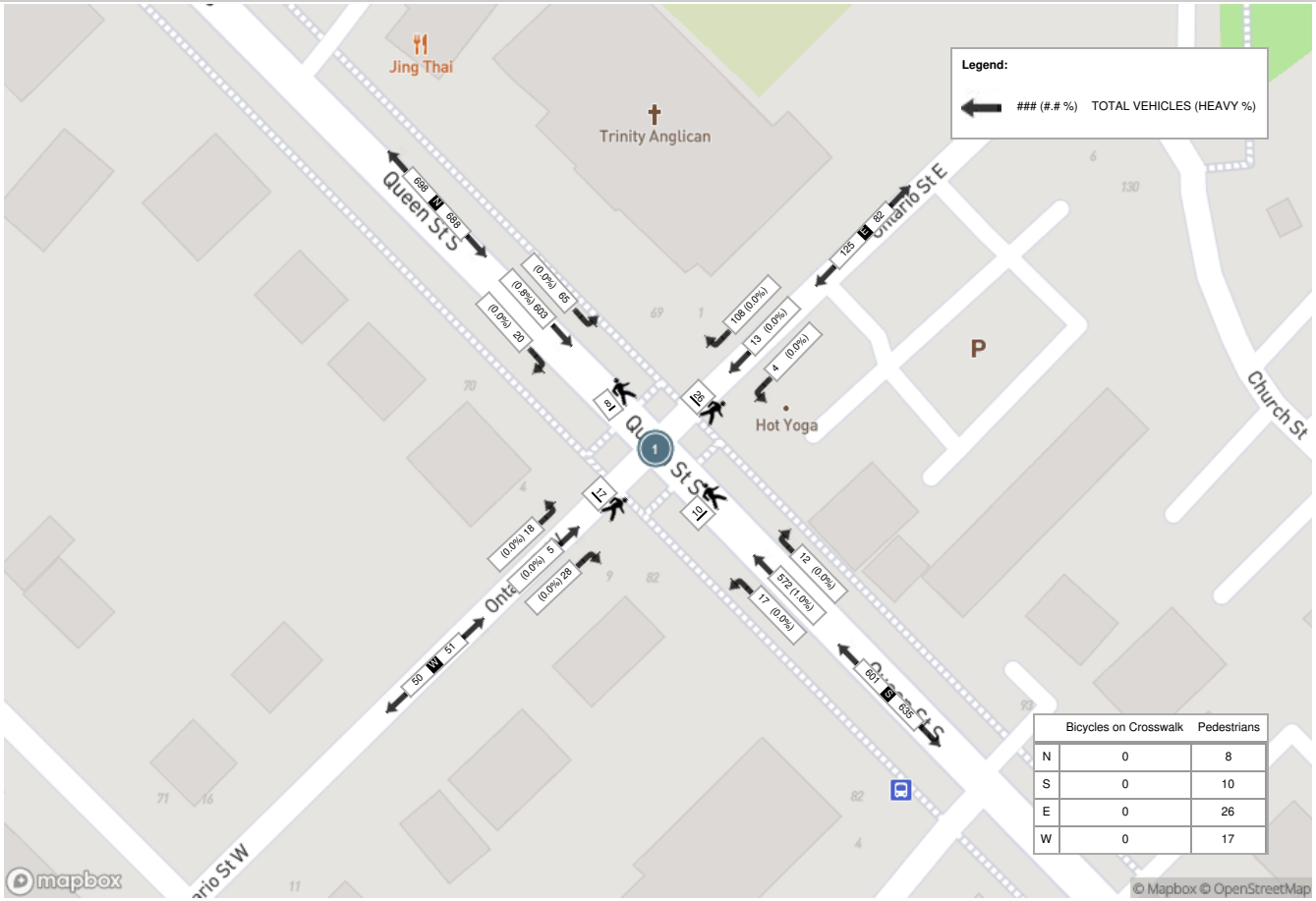


Spectrum

Turning Movement Count
Location Name: QUEEN ST & ONTARIO ST
Date: Thu, Mar 30, 2023 Deployment Lead: Peter Ilias

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

Peak Hour: 05:15 PM - 06:15 PM Weather: Scattered Clouds (3.74 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	8
S	0	10
E	0	26
W	0	17

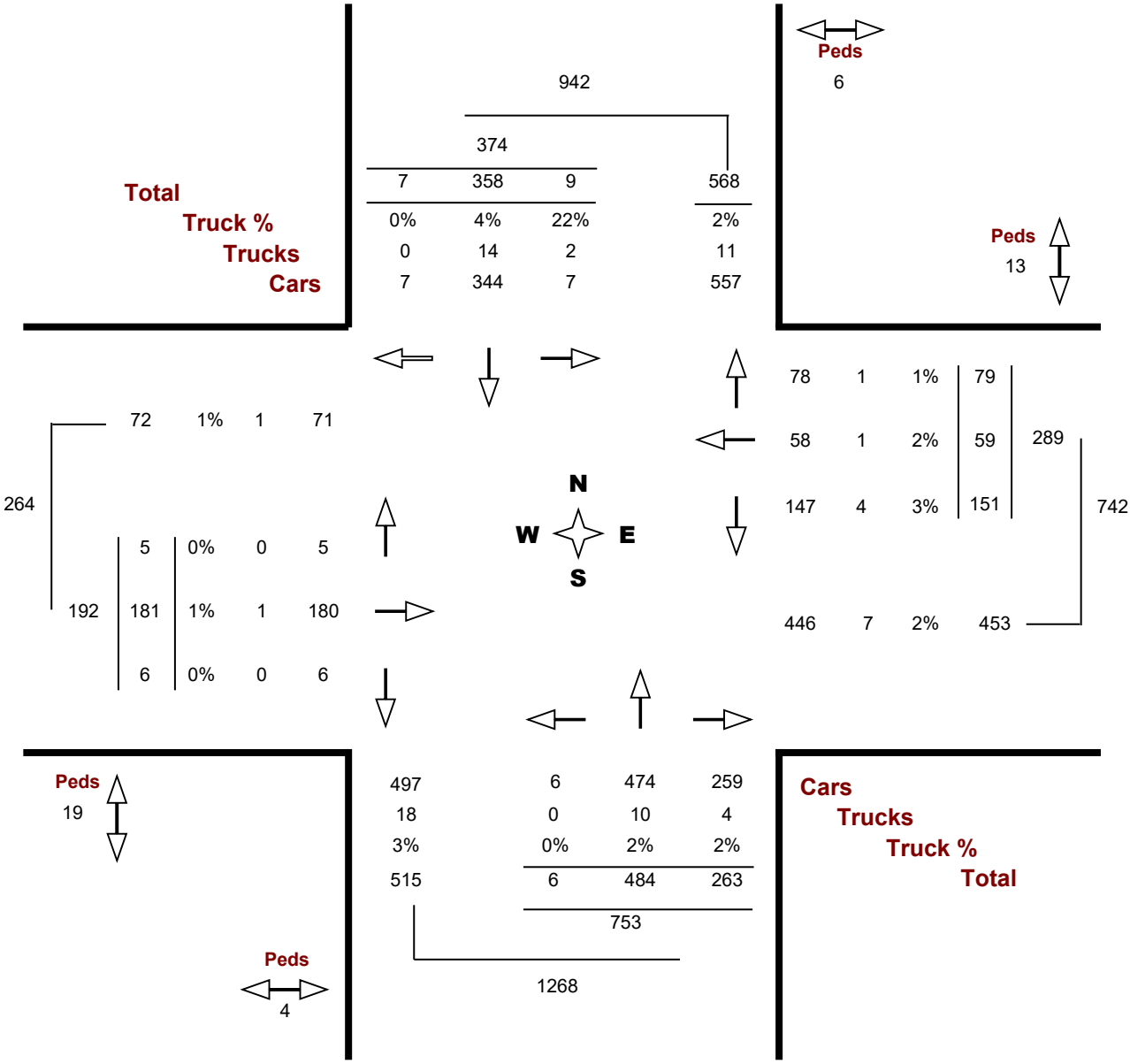
Turning Movements Report - AM Period

Location..... PEARL ST @ QUEEN ST S / MAIN ST

Municipality..... Mississauga **GeoID.....** 345244

Count Date..... Wednesday, 25 September, 2019 **Peak Hour.....** 07:45 AM — 08:45 AM

Road 1 PEARL ST **Road 2** QUEEN ST S / MAIN ST



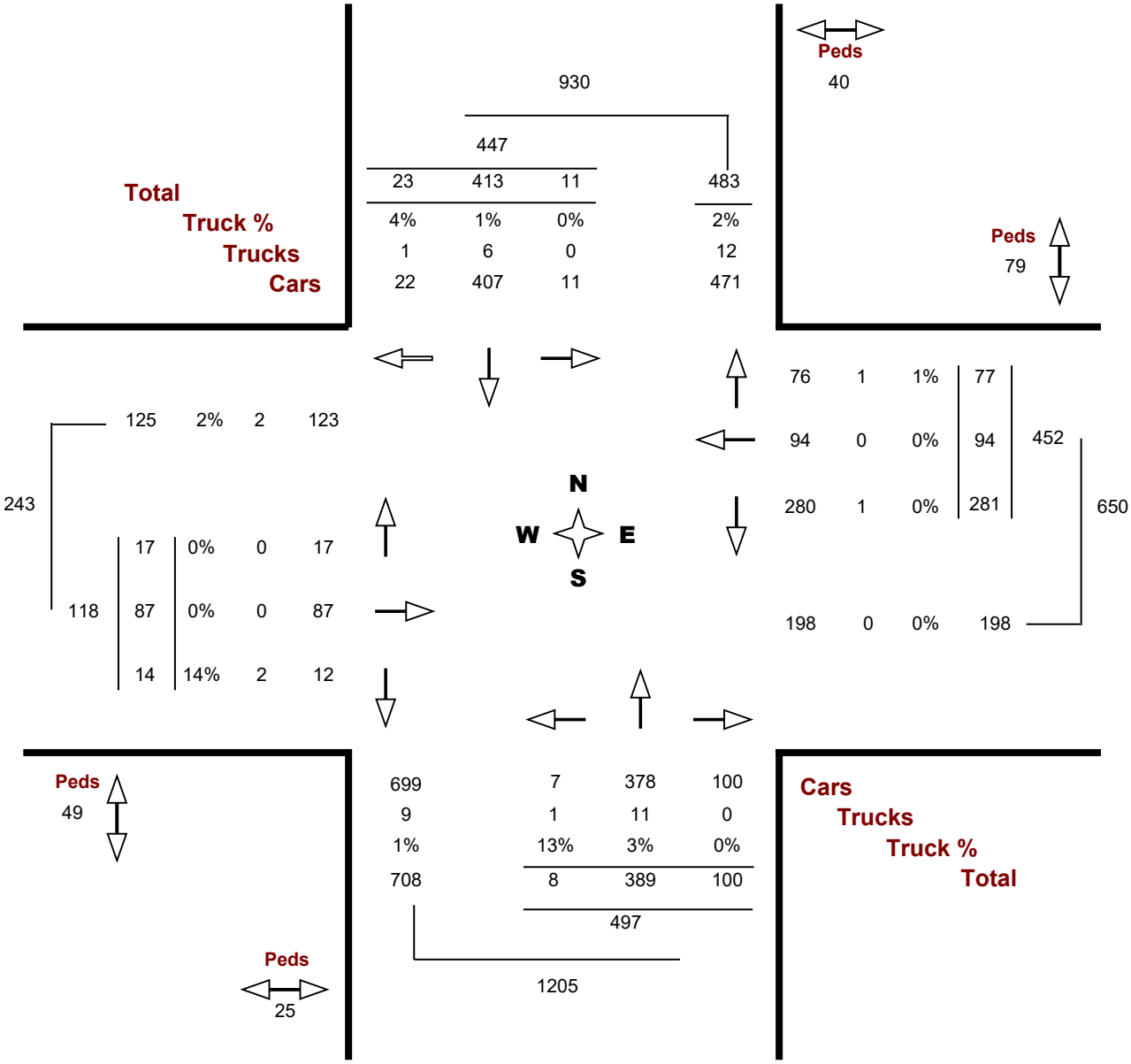
Turning Movements Report - PM Period

Location..... PEARL ST @ QUEEN ST S / MAIN ST

Municipality..... Mississauga **GeoID.....** 345244

Count Date..... Wednesday, 25 September, 2019 **Peak Hour.....** 05:00 PM — 06:00 PM

Road 1 PEARL ST **Road 2** QUEEN ST S / MAIN ST



Generic ASC		3821				QUEEN STREET N @ Ontario Court			
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	8	0	11	0	8	0	11
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	20	0	15	0	20	0	15
Maximum 2	Sec	0	20	0	15	0	20	0	15
Yellow Change	Sec	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clearance	Sec	0.0	2.5	0.0	2.5	0.0	2.5	0.0	2.5
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)

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	42	10	3	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	none	none	none
Split 1 - Time	Sec	70	30	70	30
Split 1 - Coord	Enum	True	False	True	False
Split 2 - Mode	Enum	none	none	none	none
Split 2 - Time	Sec	43	27	43	27
Split 2 - Coord	Enum	True	False	True	False
Split 3 - Mode	Enum	none	none	none	none
Split 3 - Time	Sec	83	27	83	27
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	12345678901234567890123456789 01	12345678901234567890123456789 01	12345678901234567890123456789 01	--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	0	0	0	3
Plan 2 Minute	Min	0	0	30	0	0	0	0
Plan 2 Action	Number	8	2	8	0	0	0	7
Plan 3 Hour	Hour	0	10	0	0	0	0	3
Plan 3 Minute	Min	0	0	0	0	0	0	0
Plan 3 Action	Number	8	2	0	0	0	0	7

Generic ASC		3805			Location:	QUEEN STREET N @ Streetsville Plaza			
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	19	0	12	0	19	0	12
Min Green	Sec	7	10	0	10	0	10	0	12
Passage	Sec	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0
Maximum 1	Sec	10	30	0	25	0	30	0	25
Maximum 2	Sec	10	30	0	25	0	30	0	25
Yellow Change	Sec	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clearance	Sec	0.0	3.5	0.0	2.5	0.0	3.5	0.0	2.5
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	phaseNotOn	redClear	other	phaseNotOn	other	redClear	other	phaseNotOn
[P2] Options	Bit	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk	5:Non Lock Detector Memory	0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase	5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk	5:Non Lock Detector Memory	0:Enabled Phase 5:Non Lock Detector Memory 6:Min. Vehicle Recall 10:Dual Entry Phase
[P2] Ring	Ring	1	1	0	1	0	2	0	2
[P2] Concurrency	Phase (,)	(6)	(6)	()	(8)	()	(1,2)	()	(4)

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	33	25	11	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 - Splits	**Units**	**Phase 1**	**Phase 2**	**Phase 4**	**Phase 6**	**Phase 8**
Split 1 - Mode	Enum	none	none	none	none	none
Split 1 - Time	Sec	0	68	32	68	32
Split 1 - Coord	Enum	False	True	False	True	False
Split 2 - Mode	Enum	none	none	none	none	none
Split 2 - Time	Sec	11	36	23	47	23
Split 2 - Coord	Enum	False	True	False	True	False
Split 3 - Mode	Enum	none	none	none	none	none
Split 3 - Time	Sec	11	71	28	82	28
Split 3 - Coord	Enum	False	True	False	True	False
Split 4 - Mode	Enum	none	none	none	none	none
Split 4 - Time	Sec	0	0	0	0	0
Split 4 - Coord	Enum	False	True	False	True	False
Split 5 - Mode	Enum	none	none	none	none	none
Split 5 - Time	Sec	0	0	0	0	0
Split 5 - Coord	Enum	False	True	False	True	False
Split 6 - Mode	Enum	none	none	none	none	none
Split 6 - Time	Sec	0	0	0	0	0
Split 6 - Coord	Enum	False	True	False	True	False
Split 7 - Mode	Enum	none	none	none	none	none
Split 7 - Time	Sec	0	0	0	0	0
Split 7 - Coord	Enum	False	True	False	True	False
Split 8 - Mode	Enum	none	none	none	none	none
Split 8 - Time	Sec	0	0	0	0	0
Split 8 - Coord	Enum	False	True	False	True	False
Split 9 - Mode	Enum	none	none	none	none	none
Split 9 - Time	Sec	0	0	0	0	0
Split 9 - Coord	Enum	False	True	False	True	False
Split 10 - Mode	Enum	none	none	none	none	none
Split 10 - Time	Sec	0	0	0	0	0

Split 10 - Coord	Enum	False	True	False	True	False			
Split 11 - Mode	Enum	none	none	none	none	none			
Split 11 - Time	Sec	0	0	0	0	0			
Split 11 - Coord	Enum	False	True	False	True	False			
Split 12 - Mode	Enum	none	none	none	none	none			
Split 12 - Time	Sec	0	0	0	0	0			
Split 12 - Coord	Enum	False	True	False	True	False			
Split 13 - Mode	Enum	none	none	none	none	none			
Split 13 - Time	Sec	0	0	0	0	0			
Split 13 - Coord	Enum	False	True	False	True	False			
Split 14 - Mode	Enum	none	none	none	none	none			
Split 14 - Time	Sec	0	0	0	0	0			
Split 14 - Coord	Enum	False	True	False	True	False			
Split 15 - Mode	Enum	none	none	none	none	none			
Split 15 - Time	Sec	0	0	0	0	0			
Split 15 - Coord	Enum	False	True	False	True	False			
Split 16 - Time	Sec	0	0	0	0	0			
Split 16 - Mode	Enum	none	none	none	none	none			
Split 16 - Coord	Enum	False	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	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567890123456789012	12345678901234567890123456789012	12345678901234567890123456789012	1----------	----------7----------	---------0----------	----------8----------	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	----------	----------
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	--3----------	------7----------	----------2----------	----------5---	----------	----------4----	----------	----------
Day Plan	Number	3	3	3	3	3	3	0	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	3	21
Plan 1 Minute	Min	0	0	0	0	30	0	30
Plan 1 Action	Number	8	1	2	3	2	7	8
Plan 2 Hour	Hour	0	9	3	21	0	0	0
Plan 2 Minute	Min	0	0	0	30	0	0	0
Plan 2 Action	Number	8	2	7	8	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		

Generic ASC | 3806 | QUEEN STREET N @ Tannery 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	13	0	11	0	13	0	11
Min Green	Sec	0	10	0	10	0	10	0	10
Passage	Sec	3.0	3.0	0.0	3.0	2.0	3.0	3.0	3.0
Maximum 1	Sec	0	30	0	20	0	30	0	20
Maximum 2	Sec	0	30	0	20	0	30	0	20
Yellow Change	Sec	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clearance	Sec	0.0	3.0	0.0	2.5	0.0	3.0	0.0	2.5
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	phaseNotOn	redClear	other	phaseNotOn
[P2] Options	Bit	5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk	5:Non Lock Detector Memory	0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase	5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk	5:Non Lock Detector Memory	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	1	1	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	1.5	1.5	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	84	48	37	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	none	none	none				
Split 1 - Time	Sec	66	34	66	34				
Split 1 - Coord	Enum	True	False	True	False				
Split 2 - Mode	Enum	none	none	none	none				
Split 2 - Time	Sec	43	27	43	27				
Split 2 - Coord	Enum	True	False	True	False				
Split 3 - Mode	Enum	none	none	none	none				
Split 3 - Time	Sec	83	27	83	27				
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	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	12345678901234567 89012345678901	12345678901234567 89012345678901	12345678901234567 89012345678901	1---------- ---	----------7---------- ---	--------0---------- ---	----------8---------- ---	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	----------	----------
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	--3---------- ---	------7---------- ---	----------2---------- ---	----------5--- ---	---------- 8---	----------4---- ---	---------- --	---------- --
Day Plan	Number	3	3	3	3	3	3	0	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		

Generic ASC | 3807 | QUEEN STREET N @ Main Street/ Pearl Street

Phase - Parameter 1-16	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	10	0	10	0	0	0	0
Ped Clear	Sec	0	6	0	10	0	0	0	0
Min Green	Sec	0	10	7	10	0	0	0	0
Passage	Sec	0.0	3.0	2.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	0	42	12	40	0	0	0	0
Maximum 2	Sec	0	42	12	40	0	0	0	0
Yellow Change	Sec	3.0	3.0	3.0	3.5	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	3.0	0.0	3.5	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	redClear	phaseNotOn	phaseNotOn	other	other	other	other
[P2] Options	Bit		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 13:Actuated Rest In Walk	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 5:Non Lock Detector Memory				
[P2] Ring	Ring	0	1	1	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

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	110	0	0	0
Offset	Sec	98	51	33	0	40	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 3	Phase 4
Split 1 - Mode	Enum	none	none	none

Split 1 - Time	Sec	58	15	27
Split 1 - Coord	Enum	True	False	False
Split 2 - Mode	Enum	none	phaseOmitted	none
Split 2 - Time	Sec	43	0	27
Split 2 - Coord	Enum	True	False	False
Split 3 - Mode	Enum	none	none	other
Split 3 - Time	Sec	59	24	27
Split 3 - Coord	Enum	True	False	False
Split 5 - Mode	Enum	none	none	none
Split 5 - Time	Sec	46	37	27
Split 5 - Coord	Enum	True	False	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-----	SMTWTFS	SMTWTFS	SMTWTFS	-----F-	SMTWTFS
Day of Month	Bit	1---------- ---	----5---------- ---	--------0---------- ---	----------7- ---	---------- 8---	----------4---- ---	---------- 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**	**Evt 8**
Plan 1 Hour	Hour	0	7	9	16	19	21	17	3
Plan 1 Minute	Min	0	0	0	0	0	30	0	0
Plan 1 Action	Number	8	1	2	3	2	8	5	7
Plan 2 Hour	Hour	0	7	21	0	0	0	0	3
Plan 2 Minute	Min	0	0	30	0	0	0	0	0
Plan 2 Action	Number	8	2	8	0	0	0	0	7
Plan 3 Hour	Hour	0	10	18	0	0	0	0	3
Plan 3 Minute	Min	0	0	30	0	0	0	0	0
Plan 3 Action	Number	8	2	8	0	0	0	0	7

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								1:Special Function 2

Time Base - Action 1-16	**Units**	**9**	**10**
Pattern	Enum	Pattern 9	Pattern 10
Aux. Functions	Bit		
Spec. Functions	Bit		

Level of Service Definitions

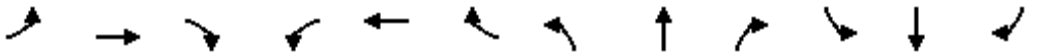
Two-Way Stop Controlled Intersections

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

APPENDIX F

2023 Detailed Capacity Analysis

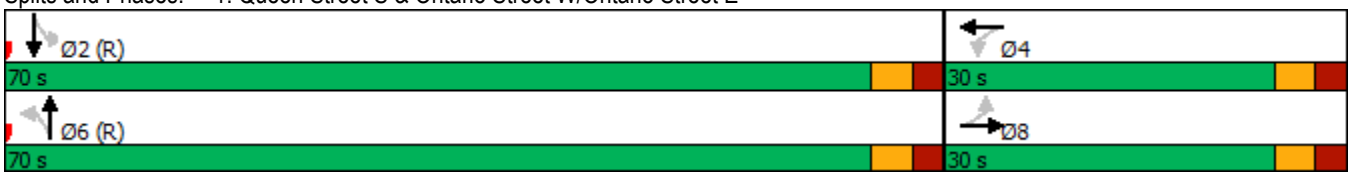


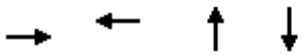
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	6	16	0	8	87	6	524	3	80	446	12
Future Volume (vph)	27	6	16	0	8	87	6	524	3	80	446	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.96			1.00			1.00	
Frt		0.957			0.877			0.999			0.997	
Flt Protected		0.973						0.999			0.993	
Satd. Flow (prot)	0	1441	0	0	1622	0	0	1827	0	0	1831	0
Flt Permitted		0.765						0.994			0.847	
Satd. Flow (perm)	0	1121	0	0	1622	0	0	1818	0	0	1559	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			95			1			2	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	9		5	5		9	14		11	11		14
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 (%)	26%	34%	13%	2%	0%	0%	0%	5%	0%	3%	4%	0%
Adj. Flow (vph)	29	7	17	0	9	95	7	570	3	87	485	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	0	104	0	0	580	0	0	585	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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			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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0		70.0	70.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	24.5	24.5		24.5	24.5		64.5	64.5		64.5	64.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.8			10.8			82.4			82.4	
Actuated g/C Ratio		0.11			0.11			0.82			0.82	
v/c Ratio		0.39			0.40			0.39			0.46	
Control Delay		39.3			15.2			2.3			4.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		39.3			15.2			2.3			4.9	
LOS		D			B			A			A	
Approach Delay		39.3			15.2			2.3			4.9	
Approach LOS		D			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 42 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

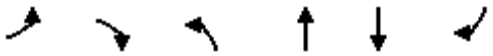
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



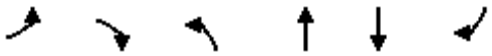


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	53	104	580	585
v/c Ratio	0.39	0.40	0.39	0.46
Control Delay	39.3	15.2	2.3	4.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.3	15.2	2.3	4.9
Queue Length 50th (m)	6.1	1.5	18.6	27.3
Queue Length 95th (m)	16.5	15.0	13.9	50.3
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	287	469	1499	1285
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.22	0.39	0.46

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	48	48	36	501	410	49
Future Volume (vph)	48	48	36	501	410	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98	0.99		1.00	
Frt		0.850			0.986	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1830	1798	0
Flt Permitted	0.950		0.473			
Satd. Flow (perm)	1682	1547	877	1830	1798	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		52			11	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	6	2	8			8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	5%	5%	5%
Adj. Flow (vph)	52	52	39	545	446	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	52	39	545	499	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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				2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	2	2	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)	27.5	27.5	35.5	35.5	35.5	
Total Split (s)	32.0	32.0	68.0	68.0	68.0	
Total Split (%)	32.0%	32.0%	68.0%	68.0%	68.0%	
Maximum Green (s)	26.5	26.5	61.5	61.5	61.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	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)	12.0	12.0	19.0	19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	10.4	10.4	82.0	82.0	82.0	
Actuated g/C Ratio	0.10	0.10	0.82	0.82	0.82	
v/c Ratio	0.30	0.25	0.05	0.36	0.34	
Control Delay	46.1	14.9	4.1	4.7	3.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.1	14.9	4.1	4.7	3.6	
LOS	D	B	A	A	A	
Approach Delay	30.5			4.7	3.6	
Approach LOS	C			A	A	

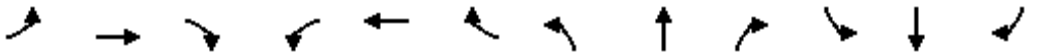
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 33 (33%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 6.5		Intersection LOS: A	
Intersection Capacity Utilization 48.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	52	52	39	545	499
v/c Ratio	0.30	0.25	0.05	0.36	0.34
Control Delay	46.1	14.9	4.1	4.7	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	14.9	4.1	4.7	3.6
Queue Length 50th (m)	8.8	0.0	1.5	21.4	20.3
Queue Length 95th (m)	19.0	9.8	m5.2	48.1	32.8
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	445	448	719	1501	1476
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	0.12	0.12	0.05	0.36	0.34

Intersection Summary

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

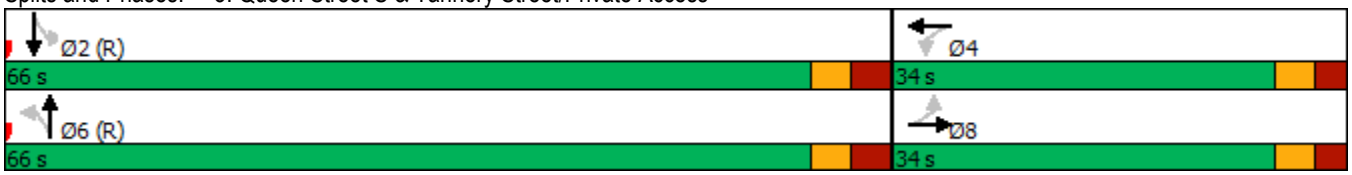


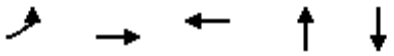
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	12	56	6	5	7	78	425	7	9	318	85
Future Volume (vph)	98	12	56	6	5	7	78	425	7	9	318	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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)	1755	1622	0	0	1756	0	0	1834	0	0	1769	0
Flt Permitted	0.744				0.903			0.869			0.988	
Satd. Flow (perm)	1343	1622	0	0	1610	0	0	1602	0	0	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			8			1			23	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	4%	0%	0%	5%	2%
Adj. Flow (vph)	107	13	61	7	5	8	85	462	8	10	346	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	74	0	0	20	0	0	555	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)		4.9			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	13.8	13.8			13.8			74.7			74.7	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
v/c Ratio	0.58	0.27			0.09			0.46			0.34	
Control Delay	52.3	15.0			26.5			6.7			5.3	
Queue Delay	0.0	0.0			0.0			0.5			0.0	
Total Delay	52.3	15.0			26.5			7.2			5.3	
LOS	D	B			C			A			A	
Approach Delay		37.0			26.5			7.2			5.3	
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: 11.3		Intersection LOS: B	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	107	74	20	555	448
v/c Ratio	0.58	0.27	0.09	0.46	0.34
Control Delay	52.3	15.0	26.5	6.7	5.3
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay	52.3	15.0	26.5	7.2	5.3
Queue Length 50th (m)	18.3	2.1	1.9	26.2	11.2
Queue Length 95th (m)	31.8	12.6	7.5	m47.8	43.4
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	382	505	464	1196	1312
Starvation Cap Reductn	0	0	0	281	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	0.61	0.34

Intersection Summary

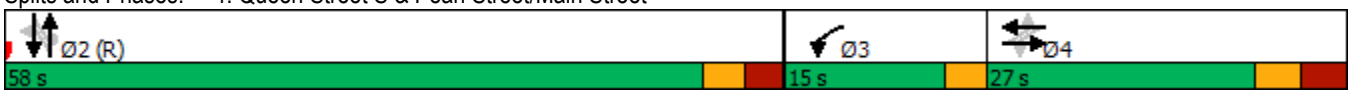
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	181	6	151	59	79	6	484	263	9	358	7
Future Volume (vph)	5	181	6	151	59	79	6	484	263	9	358	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			1.00	
Frt		0.995			0.963			0.953			0.997	
Flt Protected		0.999			0.975						0.999	
Satd. Flow (prot)	0	1890	0	0	1743	0	0	1747	0	0	1830	0
Flt Permitted		0.991			0.691			0.997			0.979	
Satd. Flow (perm)	0	1874	0	0	1231	0	0	1741	0	0	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			19			40			2	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	6		4	4		6	19		13	13		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%	1%	0%	3%	2%	2%	0%	3%	2%	23%	4%	0%
Adj. Flow (vph)	5	197	7	164	64	86	7	526	286	10	389	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	0	314	0	0	819	0	0	407	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		9.5	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		15.0	27.0		58.0	58.0		58.0	58.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.0%	27.0%		15.0%	27.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	20.0	20.0		12.0	20.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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	
Flash Dont Walk (s)	10.0	10.0			10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		31.4			31.4			55.6			55.6	
Actuated g/C Ratio		0.31			0.31			0.56			0.56	
v/c Ratio		0.35			0.79			0.83			0.41	
Control Delay		27.1			43.5			27.9			17.9	
Queue Delay		0.0			0.0			0.0			0.3	
Total Delay		27.1			43.5			27.9			18.2	
LOS		C			D			C			B	
Approach Delay		27.1			43.5			27.9			18.2	
Approach LOS		C			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 98 (98%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 28.3		Intersection LOS: C	
Intersection Capacity Utilization 89.0%		ICU Level of Service E	
Analysis Period (min) 15			

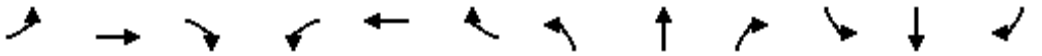
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	209	314	819	407
v/c Ratio	0.35	0.79	0.83	0.41
Control Delay	27.1	43.5	27.9	17.9
Queue Delay	0.0	0.0	0.0	0.3
Total Delay	27.1	43.5	27.9	18.2
Queue Length 50th (m)	26.7	45.2	119.3	60.0
Queue Length 95th (m)	43.5	74.8	#194.3	87.4
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	590	400	985	997
Starvation Cap Reductn	0	0	0	183
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.79	0.83	0.50

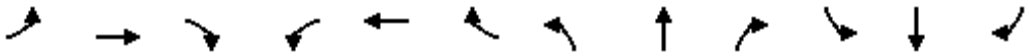
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	129	64	19	153	6	24	26	25	9	25	12
Future Volume (vph)	24	129	64	19	153	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			0.995			0.984			0.990	
Satd. Flow (prot)	0	1772	0	0	1854	0	0	1730	0	0	1755	0
Flt Permitted		0.995			0.995			0.984			0.990	
Satd. Flow (perm)	0	1772	0	0	1854	0	0	1730	0	0	1755	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	26	140	70	21	166	7	26	28	27	10	27	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	0	194	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)		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
Sign Control		Free			Free			Stop			Stop	

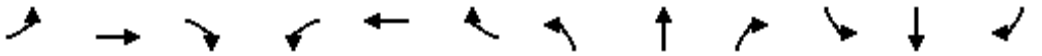
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	129	64	19	153	6	24	26	25	9	25	12
Future Volume (Veh/h)	24	129	64	19	153	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	166	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)					169							
pX, platoon unblocked												
vC, conflicting volume	216			218			477	493	185	524	524	216
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	216			218			477	493	185	524	524	216
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	98			98			94	93	97	97	94	98
cM capacity (veh/h)	1311			1353			428	431	854	371	418	792

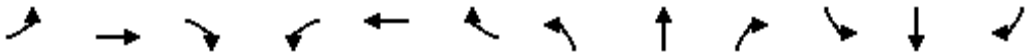
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	236	194	81	50
Volume Left	26	21	26	10
Volume Right	70	7	27	13
cSH	1311	1353	515	463
Volume to Capacity	0.02	0.02	0.16	0.11
Queue Length 95th (m)	0.4	0.3	3.9	2.5
Control Delay (s)	1.0	1.0	13.3	13.7
Lane LOS	A	A	B	B
Approach Delay (s)	1.0	1.0	13.3	13.7
Approach LOS			B	B

Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	30.4%	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)	1	40	18	2	17	1	19	4	7	7	9	2
Future Volume (vph)	1	40	18	2	17	1	19	4	7	7	9	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												
Frt		0.958			0.994			0.967			0.986	
Flt Protected		0.999			0.995			0.969			0.980	
Satd. Flow (prot)	0	1566	0	0	1900	0	0	1737	0	0	1584	0
Flt Permitted		0.999			0.995			0.969			0.980	
Satd. Flow (perm)	0	1566	0	0	1900	0	0	1737	0	0	1584	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	1					1	3		3	3		3
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%	18%	17%	0%	0%	0%	0%	0%	15%	43%	0%	0%
Adj. Flow (vph)	1	43	20	2	18	1	21	4	8	8	10	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	21	0	0	33	0	0	20	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	

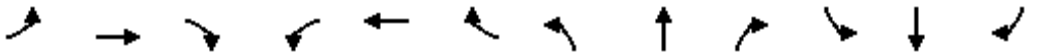
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	40	18	2	17	1	19	4	7	7	9	2
Future Volume (Veh/h)	1	40	18	2	17	1	19	4	7	7	9	2
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)	1	43	20	2	18	1	21	4	8	8	10	2
Pedestrians		3			3						1	
Lane Width (m)		3.7			3.7						3.7	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			63			88	79	56	92	88	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			63			88	79	56	92	88	22
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.5	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.9	4.0	3.3
p0 queue free %	100			100			98	100	99	99	99	100
cM capacity (veh/h)	1608			1553			888	813	972	789	803	1056

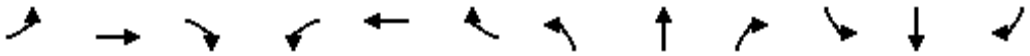
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	64	21	33	20
Volume Left	1	2	21	8
Volume Right	20	1	8	2
cSH	1608	1553	897	817
Volume to Capacity	0.00	0.00	0.04	0.02
Queue Length 95th (m)	0.0	0.0	0.8	0.5
Control Delay (s)	0.1	0.7	9.2	9.5
Lane LOS	A	A	A	A
Approach Delay (s)	0.1	0.7	9.2	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	14.6%	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	0	20	2	0	3	40	490	4	5	410	30
Future Volume (vph)	40	0	20	2	0	3	40	490	4	5	410	30
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		0.954			0.919			0.999			0.991	
Flt Protected		0.968			0.980			0.996			0.999	
Satd. Flow (prot)	0	1685	0	0	1730	0	0	1844	0	0	1818	0
Flt Permitted		0.968			0.980			0.996			0.999	
Satd. Flow (perm)	0	1685	0	0	1730	0	0	1844	0	0	1818	0
Link Speed (k/h)		30			48			40			40	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		7.0			3.0			9.4			12.5	
Confl. Peds. (#/hr)							7					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 (%)	8%	2%	0%	0%	2%	0%	0%	4%	0%	0%	5%	0%
Adj. Flow (vph)	43	0	22	2	0	3	43	533	4	5	446	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	5	0	0	580	0	0	484	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			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	97		97	24		97	97		14
Sign Control		Stop			Stop			Free			Free	

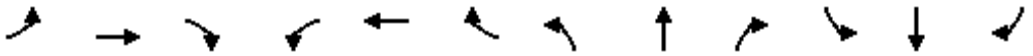
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	20	2	0	3	40	490	4	5	410	30
Future Volume (Veh/h)	40	0	20	2	0	3	40	490	4	5	410	30
Sign Control		Stop			Stop			Free			Free	
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	0	22	2	0	3	43	533	4	5	446	33
Pedestrians		7										
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)								105			139	
pX, platoon unblocked	0.89	0.89	0.94	0.89	0.89	0.86	0.94			0.86		
vC, conflicting volume	1104	1102	470	1116	1117	535	486			537		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	913	912	409	926	928	380	426			382		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	79	100	96	99	100	99	96			100		
cM capacity (veh/h)	210	231	607	207	226	579	1073			1023		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	65	5	580	484
Volume Left	43	2	43	5
Volume Right	22	3	4	33
cSH	269	337	1073	1023
Volume to Capacity	0.24	0.01	0.04	0.00
Queue Length 95th (m)	6.5	0.3	0.9	0.1
Control Delay (s)	22.6	15.9	1.1	0.1
Lane LOS	C	C	A	A
Approach Delay (s)	22.6	15.9	1.1	0.1
Approach LOS	C	C		

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	63.6%	ICU Level of Service	B	
Analysis Period (min)	15			

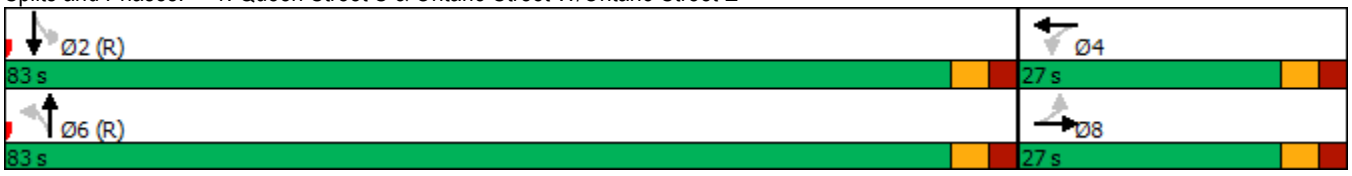


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	5	28	4	13	108	17	572	12	65	603	20
Future Volume (vph)	18	5	28	4	13	108	17	572	12	65	603	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.97			0.96			1.00			1.00	
Frt		0.926			0.883			0.997			0.996	
Flt Protected		0.982			0.999			0.999			0.995	
Satd. Flow (prot)	0	1424	0	0	1634	0	0	1874	0	0	1878	0
Flt Permitted		0.611			0.990			0.974			0.888	
Satd. Flow (perm)	0	881	0	0	1618	0	0	1826	0	0	1672	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			117			2			3	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		10	10		8	17		26	26		17
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 (%)	26%	34%	13%	2%	0%	0%	0%	2%	0%	3%	1%	0%
Adj. Flow (vph)	20	5	30	4	14	117	18	622	13	71	655	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	135	0	0	653	0	0	748	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		83.0	83.0		83.0	83.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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		77.5	77.5		77.5	77.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.6			10.6			88.4			88.4	
Actuated g/C Ratio		0.10			0.10			0.80			0.80	
v/c Ratio		0.49			0.52			0.45			0.56	
Control Delay		41.1			19.0			4.0			5.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		41.1			19.0			4.0			5.8	
LOS		D			B			A			A	
Approach Delay		41.1			19.0			4.0			5.8	
Approach LOS		D			B			A			A	

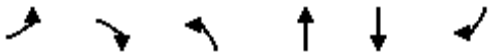
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 7.4		Intersection LOS: A	
Intersection Capacity Utilization 86.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E

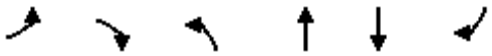


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	55	135	653	748
v/c Ratio	0.49	0.52	0.45	0.56
Control Delay	41.1	19.0	4.0	5.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	41.1	19.0	4.0	5.8
Queue Length 50th (m)	4.7	3.3	35.1	39.4
Queue Length 95th (m)	16.4	19.5	32.9	69.1
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	196	410	1467	1344
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.33	0.45	0.56

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	98	84	100	504	509	107
Future Volume (vph)	98	84	100	504	509	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.93	0.94	0.99		0.99	
Frt		0.850			0.977	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1902	1829	0
Flt Permitted	0.950		0.331			
Satd. Flow (perm)	1586	1495	612	1902	1829	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		91			17	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	28	15	17			17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	1%	1%	5%
Adj. Flow (vph)	107	91	109	548	553	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	91	109	548	669	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



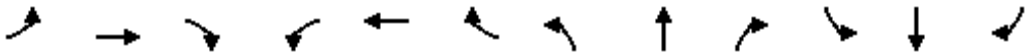
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	27.5	27.5	10.0	35.5	35.5	
Total Split (s)	28.0	28.0	11.0	71.0	71.0	
Total Split (%)	25.5%	25.5%	10.0%	64.5%	64.5%	
Maximum Green (s)	22.5	22.5	8.0	64.5	64.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	13.3	13.3	85.2	74.6	74.6	
Actuated g/C Ratio	0.12	0.12	0.77	0.68	0.68	
v/c Ratio	0.56	0.35	0.20	0.42	0.54	
Control Delay	56.4	12.6	4.5	11.7	8.8	
Queue Delay	0.0	0.0	0.0	0.0	0.1	
Total Delay	56.4	12.6	4.5	11.7	8.9	
LOS	E	B	A	B	A	
Approach Delay	36.3			10.5	8.9	
Approach LOS	D			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	107	91	109	548	669
v/c Ratio	0.56	0.35	0.20	0.42	0.54
Control Delay	56.4	12.6	4.5	11.7	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.1
Total Delay	56.4	12.6	4.5	11.7	8.9
Queue Length 50th (m)	20.4	0.0	3.5	40.2	43.2
Queue Length 95th (m)	34.8	12.7	12.7	95.2	54.9
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	324	378	563	1290	1246
Starvation Cap Reductn	0	0	0	0	70
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.24	0.19	0.42	0.57

Intersection Summary

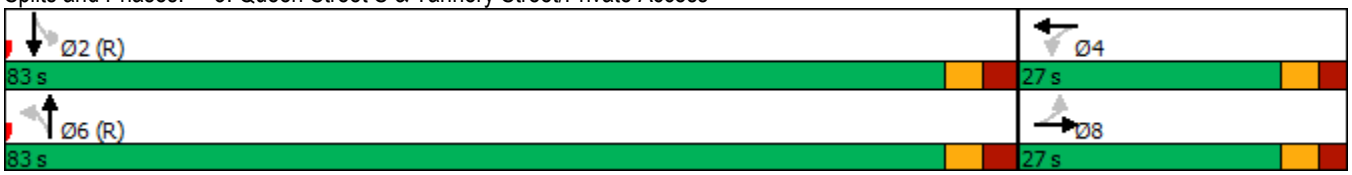


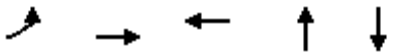
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	6	44	2	4	8	53	503	3	2	447	84
Future Volume (vph)	80	6	44	2	4	8	53	503	3	2	447	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	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			7.6			7.6		
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)	1755	1557	0	0	1689	0	0	1871	0	0	1814	0
Flt Permitted	0.748				0.964			0.904			0.999	
Satd. Flow (perm)	1325	1557	0	0	1632	0	0	1691	0	0	1812	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)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	2%	0%	0%	1%	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)		4.9			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	13.1	13.1			13.1			89.7			89.7	
Actuated g/C Ratio	0.12	0.12			0.12			0.82			0.82	
v/c Ratio	0.55	0.24			0.07			0.44			0.39	
Control Delay	58.4	16.9			27.4			2.8			5.9	
Queue Delay	0.0	0.0			0.0			0.3			0.0	
Total Delay	58.4	16.9			27.4			3.1			5.9	
LOS	E	B			C			A			A	
Approach Delay		42.3			27.4			3.1			5.9	
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: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 87.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access

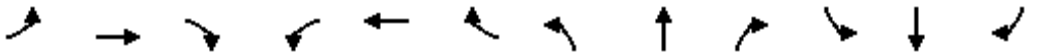




Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	87	55	15	608	579
v/c Ratio	0.55	0.24	0.07	0.44	0.39
Control Delay	58.4	16.9	27.4	2.8	5.9
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	58.4	16.9	27.4	3.1	5.9
Queue Length 50th (m)	16.6	1.3	1.1	16.1	43.5
Queue Length 95th (m)	30.0	11.4	6.3	m22.4	77.1
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	258	342	326	1379	1481
Starvation Cap Reductn	0	0	0	290	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.16	0.05	0.56	0.39

Intersection Summary

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

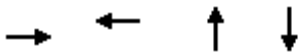


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	63	9	167	86	96	11	430	104	15	439	26
Future Volume (vph)	15	63	9	167	86	96	11	430	104	15	439	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.98			0.95			0.96			0.99	
Frt		0.986			0.963			0.974			0.993	
Flt Protected		0.992			0.977			0.999			0.998	
Satd. Flow (prot)	0	1851	0	0	1726	0	0	1771	0	0	1852	0
Flt Permitted		0.913			0.814			0.988			0.977	
Satd. Flow (perm)	0	1688	0	0	1408	0	0	1750	0	0	1813	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			19			15			4	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	34		19	19		34	57		47	47		57
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%	1%	0%	1%	2%	2%	0%	2%	2%	23%	1%	0%
Adj. Flow (vph)	16	68	10	182	93	104	12	467	113	16	477	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	379	0	0	592	0	0	521	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		10.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		24.0	27.0		59.0	59.0		59.0	59.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	24.5%	24.5%		21.8%	24.5%		53.6%	53.6%		53.6%	53.6%	
Maximum Green (s)	20.0	20.0		21.0	20.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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		0.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	10.0	10.0		0.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		32.0			32.0			65.0			65.0	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
v/c Ratio		0.19			0.90			0.57			0.49	
Control Delay		26.3			58.9			18.0			8.8	
Queue Delay		0.0			0.0			0.0			0.3	
Total Delay		26.3			58.9			18.0			9.1	
LOS		C			E			B			A	
Approach Delay		26.3			58.9			18.0			9.1	
Approach LOS		C			E			B			A	

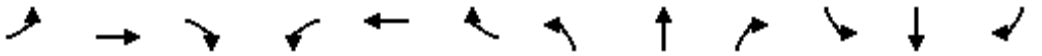
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 25.3		Intersection LOS: C	
Intersection Capacity Utilization 72.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



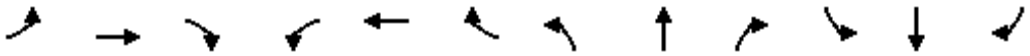
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	94	379	592	521
v/c Ratio	0.19	0.90	0.57	0.49
Control Delay	26.3	58.9	18.0	8.8
Queue Delay	0.0	0.0	0.0	0.3
Total Delay	26.3	58.9	18.0	9.1
Queue Length 50th (m)	13.3	69.2	65.1	21.5
Queue Length 95th (m)	21.0	88.5	123.9	37.5
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	494	423	1040	1073
Starvation Cap Reductn	0	0	0	162
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.90	0.57	0.57

Intersection Summary



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	1800	0	0	1832	0	0	1724	0	0	1739	0
Flt Permitted		0.986			0.989			0.989			0.994	
Satd. Flow (perm)	0	1800	0	0	1832	0	0	1724	0	0	1739	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
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)		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
Sign Control		Free			Free			Stop			Stop	

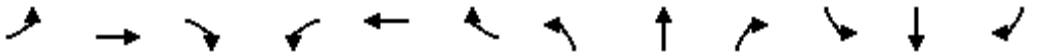
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.4%		ICU Level of Service A	
Analysis Period (min) 15			



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)					169							
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	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	98			98			94	92	95	98	92	95
cM capacity (veh/h)	1479			1484			480	542	937	458	546	939

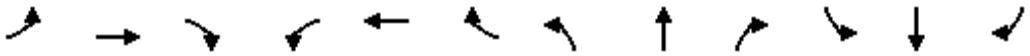
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	120	130	119	95
Volume Left	35	30	27	11
Volume Right	20	16	49	43
cSH	1479	1484	633	656
Volume to Capacity	0.02	0.02	0.19	0.14
Queue Length 95th (m)	0.5	0.4	4.8	3.5
Control Delay (s)	2.3	1.8	12.0	11.4
Lane LOS	A	A	B	B
Approach Delay (s)	2.3	1.8	12.0	11.4
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)	0	9	8	11	16	5	3	4	6	5	8	0
Future Volume (vph)	0	9	8	11	16	5	3	4	6	5	8	0
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		0.936			0.980			0.932				
Flt Protected					0.983			0.989			0.982	
Satd. Flow (prot)	0	1530	0	0	1739	0	0	1647	0	0	1554	0
Flt Permitted					0.983			0.989			0.982	
Satd. Flow (perm)	0	1530	0	0	1739	0	0	1647	0	0	1554	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	4		1	1		4	8		2	2		8
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%	18%	17%	0%	7%	20%	0%	0%	15%	60%	0%	0%
Adj. Flow (vph)	0	10	9	12	17	5	3	4	7	5	9	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	34	0	0	14	0	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)		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	

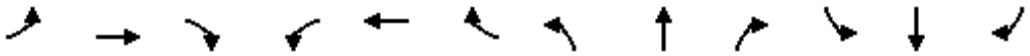
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	8	11	16	5	3	4	6	5	8	0
Future Volume (Veh/h)	0	9	8	11	16	5	3	4	6	5	8	0
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)	0	10	9	12	17	5	3	4	7	5	9	0
Pedestrians		8			2			1			4	
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		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	26			20			72	66	18	73	68	32
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			20			72	66	18	73	68	32
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			99			100	100	99	99	99	100
cM capacity (veh/h)	1595			1608			901	819	1022	774	817	1037

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	19	34	14	14
Volume Left	0	12	3	5
Volume Right	9	5	7	0
cSH	1595	1608	929	801
Volume to Capacity	0.00	0.01	0.02	0.02
Queue Length 95th (m)	0.0	0.2	0.3	0.4
Control Delay (s)	0.0	2.6	8.9	9.6
Lane LOS		A	A	A
Approach Delay (s)	0.0	2.6	8.9	9.6
Approach LOS			A	A

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	21.4%	ICU Level of Service	A	
Analysis Period (min)	15			



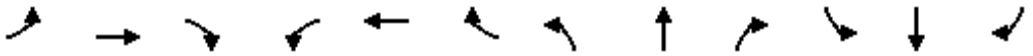
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	0	40	6	0	6	60	530	8	3	500	70
Future Volume (vph)	50	0	40	6	0	6	60	530	8	3	500	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.940			0.932			0.998			0.984	
Flt Protected		0.973			0.976			0.995				
Satd. Flow (prot)	0	1682	0	0	1748	0	0	1891	0	0	1874	0
Flt Permitted		0.973			0.976			0.995				
Satd. Flow (perm)	0	1682	0	0	1748	0	0	1891	0	0	1874	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							15					14
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 (%)	8%	2%	0%	0%	2%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	54	0	43	7	0	7	65	576	9	3	543	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	14	0	0	650	0	0	622	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			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		97	24		14	97		14	24		97
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 79.4%		ICU Level of Service D	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	0	40	6	0	6	60	530	8	3	500	70
Future Volume (Veh/h)	50	0	40	6	0	6	60	530	8	3	500	70
Sign Control		Stop			Stop			Free			Free	
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	0	43	7	0	7	65	576	9	3	543	76
Pedestrians		15										
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)								105			139	
pX, platoon unblocked	0.90	0.90	0.83	0.90	0.90	0.86	0.83			0.86		
vC, conflicting volume	1320	1317	596	1340	1350	580	634			585		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	959	956	410	982	993	436	456			442		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	100	92	96	100	99	93			100		
cM capacity (veh/h)	188	211	528	177	201	540	912			976		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	97	14	650	622
Volume Left	54	7	65	3
Volume Right	43	7	9	76
cSH	263	267	912	976
Volume to Capacity	0.37	0.05	0.07	0.00
Queue Length 95th (m)	11.4	1.2	1.6	0.1
Control Delay (s)	26.5	19.3	1.8	0.1
Lane LOS	D	C	A	A
Approach Delay (s)	26.5	19.3	1.8	0.1
Approach LOS	D	C		

Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	79.4%	ICU Level of Service	D	
Analysis Period (min)	15			

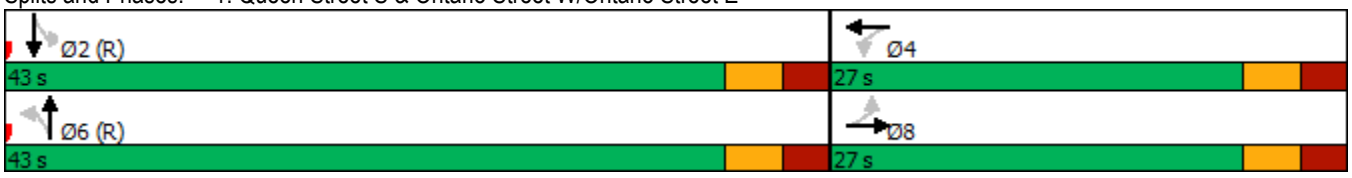


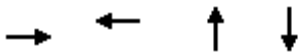
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	3	3	10	3	66	6	550	11	43	536	9
Future Volume (vph)	7	3	3	10	3	66	6	550	11	43	536	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.97			1.00			1.00	
Frt		0.971			0.887			0.997			0.998	
Flt Protected		0.972			0.994			0.999			0.996	
Satd. Flow (prot)	0	1536	0	0	1615	0	0	1892	0	0	1887	0
Flt Permitted		0.836			0.953			0.994			0.931	
Satd. Flow (perm)	0	1312	0	0	1547	0	0	1882	0	0	1762	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			72			2			2	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		2	2		8	24		19	19		24
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 (%)	29%	2%	2%	2%	2%	2%	2%	1%	2%	2%	1%	2%
Adj. Flow (vph)	8	3	3	11	3	72	7	598	12	47	583	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	86	0	0	617	0	0	640	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.5	37.5		37.5	37.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.0			10.0			53.2			53.2	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
v/c Ratio		0.07			0.30			0.43			0.48	
Control Delay		24.5			13.0			8.0			5.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.5			13.0			8.0			5.9	
LOS		C			B			A			A	
Approach Delay		24.5			13.0			8.0			5.9	
Approach LOS		C			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 10 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 7.5		Intersection LOS: A	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			

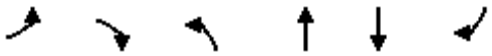
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



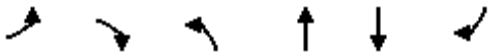


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	14	86	617	640
v/c Ratio	0.07	0.30	0.43	0.48
Control Delay	24.5	13.0	8.0	5.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.5	13.0	8.0	5.9
Queue Length 50th (m)	1.2	1.5	25.4	29.2
Queue Length 95th (m)	5.4	11.7	72.1	47.6
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	405	525	1430	1339
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.16	0.43	0.48

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	108	109	444	430	120
Future Volume (vph)	119	108	109	444	430	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.91	0.94	0.98		0.98	
Frt		0.850			0.971	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	1902	1813	0
Flt Permitted	0.950		0.326			
Satd. Flow (perm)	1625	1500	601	1902	1813	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		117			25	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	46	22	54			54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	129	117	118	483	467	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	129	117	118	483	597	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



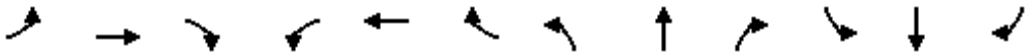
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	10.0	35.5	35.5	
Total Split (s)	23.0	23.0	11.0	36.0	36.0	
Total Split (%)	32.9%	32.9%	15.7%	51.4%	51.4%	
Maximum Green (s)	17.5	17.5	8.0	29.5	29.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	5.5	5.5		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	11.8	11.8	47.3	38.1	38.1	
Actuated g/C Ratio	0.17	0.17	0.68	0.54	0.54	
v/c Ratio	0.47	0.34	0.22	0.47	0.60	
Control Delay	31.8	8.2	5.8	14.2	10.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.8	8.2	5.8	14.2	10.1	
LOS	C	A	A	B	B	
Approach Delay	20.6			12.5	10.1	
Approach LOS	C			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 25 (36%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 61.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	129	117	118	483	597
v/c Ratio	0.47	0.34	0.22	0.47	0.60
Control Delay	31.8	8.2	5.8	14.2	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	8.2	5.8	14.2	10.1
Queue Length 50th (m)	14.5	0.0	4.2	37.8	10.3
Queue Length 95th (m)	26.3	10.6	10.6	74.2	85.2
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	406	462	547	1035	998
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	0.32	0.25	0.22	0.47	0.60

Intersection Summary

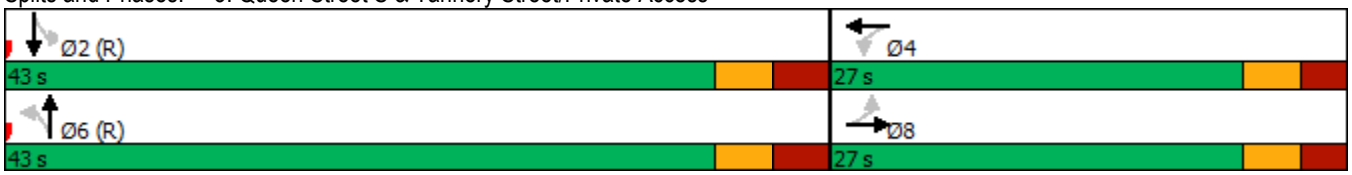


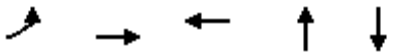
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	1	61	1	1	0	64	415	1	1	428	87
Future Volume (vph)	81	1	61	1	1	0	64	415	1	1	428	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	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			7.6			7.6		
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	0.95	0.92			0.97			0.99			0.97	
Frt		0.852									0.977	
Flt Protected	0.950				0.976			0.993				
Satd. Flow (prot)	1789	1483	0	0	1838	0	0	1886	0	0	1802	0
Flt Permitted	0.757				0.871			0.875				
Satd. Flow (perm)	1348	1483	0	0	1597	0	0	1649	0	0	1801	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66									22	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
Confl. Peds. (#/hr)	33		35	35		33	101		84	84		101
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%	2%	1%	2%
Adj. Flow (vph)	88	1	66	1	1	0	70	451	1	1	465	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	67	0	0	2	0	0	522	0	0	561	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.0	37.0		37.0	37.0	
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)	11.2	11.2			11.2			51.6			51.6	
Actuated g/C Ratio	0.16	0.16			0.16			0.74			0.74	
v/c Ratio	0.41	0.23			0.01			0.43			0.42	
Control Delay	32.0	9.4			23.5			4.6			2.1	
Queue Delay	0.0	0.0			0.0			0.1			0.0	
Total Delay	32.0	9.4			23.5			4.7			2.1	
LOS	C	A			C			A			A	
Approach Delay		22.2			23.5			4.7			2.1	
Approach LOS		C			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 48 (69%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.43			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 83.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	88	67	2	522	561
v/c Ratio	0.41	0.23	0.01	0.43	0.42
Control Delay	32.0	9.4	23.5	4.6	2.1
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	32.0	9.4	23.5	4.7	2.1
Queue Length 50th (m)	9.9	0.1	0.2	12.8	5.4
Queue Length 95th (m)	20.0	8.4	1.7	m31.4	8.3
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	414	501	490	1215	1333
Starvation Cap Reductn	0	0	0	74	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.13	0.00	0.46	0.42

Intersection Summary

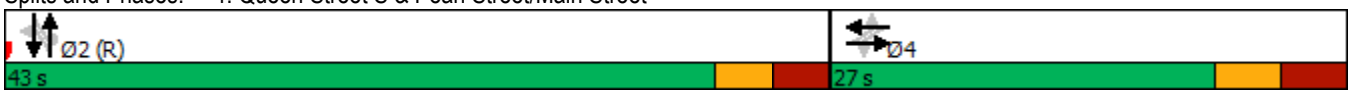
m Volume for 95th percentile queue is metered by upstream signal.

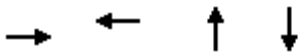
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	18	7	148	41	93	11	369	127	65	390	26
Future Volume (vph)	14	18	7	148	41	93	11	369	127	65	390	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.97			0.93			0.96			0.98	
Frt		0.975			0.956			0.966			0.993	
Flt Protected		0.983			0.974			0.999			0.993	
Satd. Flow (prot)	0	1774	0	0	1699	0	0	1761	0	0	1837	0
Flt Permitted		0.855			0.813			0.987			0.870	
Satd. Flow (perm)	0	1516	0	0	1366	0	0	1737	0	0	1598	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			35			36			6	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	53		42	42		53	87		66	66		87
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%	1%	2%	2%	2%	1%	1%	2%	2%	2%
Adj. Flow (vph)	15	20	8	161	45	101	12	401	138	71	424	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	307	0	0	551	0	0	523	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			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	
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)	10.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		17.7			17.7			39.3			39.3	
Actuated g/C Ratio		0.25			0.25			0.56			0.56	
v/c Ratio		0.11			0.83			0.56			0.58	
Control Delay		16.8			41.3			12.5			7.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.8			41.3			12.5			7.2	
LOS		B			D			B			A	
Approach Delay		16.8			41.3			12.5			7.2	
Approach LOS		B			D			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 51 (73%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Queen Street S & Pearl Street/Main Street

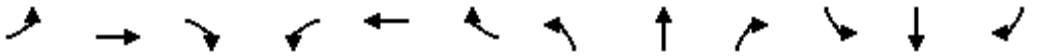




Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	43	307	551	523
v/c Ratio	0.11	0.83	0.56	0.58
Control Delay	16.8	41.3	12.5	7.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.8	41.3	12.5	7.2
Queue Length 50th (m)	3.1	29.6	38.8	6.8
Queue Length 95th (m)	9.2	#62.6	64.4	18.1
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	438	415	991	899
Starvation Cap Reductn	0	0	0	10
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.74	0.56	0.59

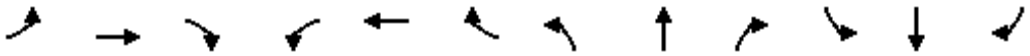
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	52	7	31	75	10	12	39	40	14	22	37
Future Volume (vph)	30	52	7	31	75	10	12	39	40	14	22	37
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		0.989			0.988			0.941			0.932	
Flt Protected		0.983			0.987			0.993			0.991	
Satd. Flow (prot)	0	1831	0	0	1837	0	0	1760	0	0	1720	0
Flt Permitted		0.983			0.987			0.993			0.991	
Satd. Flow (perm)	0	1831	0	0	1837	0	0	1760	0	0	1720	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
Confl. Peds. (#/hr)	15		13	13		15	5		8	8		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%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Adj. Flow (vph)	33	57	8	34	82	11	13	42	43	15	24	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	98	0	0	127	0	0	98	0	0	79	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
Sign Control		Free			Free			Stop			Stop	

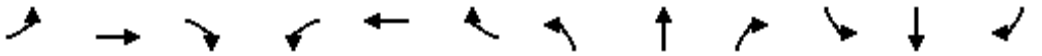
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	52	7	31	75	10	12	39	40	14	22	37
Future Volume (Veh/h)	30	52	7	31	75	10	12	39	40	14	22	37
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)	33	57	8	34	82	11	13	42	43	15	24	40
Pedestrians		5			8			13			15	
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)					169							
pX, platoon unblocked												
vC, conflicting volume	108			78			352	316	82	370	314	108
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	108			78			352	316	82	370	314	108
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	98			98			97	92	96	97	96	96
cM capacity (veh/h)	1462			1502			519	558	959	481	559	929

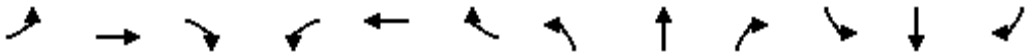
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	98	127	98	79
Volume Left	33	34	13	15
Volume Right	8	11	43	40
cSH	1462	1502	675	674
Volume to Capacity	0.02	0.02	0.15	0.12
Queue Length 95th (m)	0.5	0.5	3.5	2.8
Control Delay (s)	2.6	2.1	11.2	11.0
Lane LOS	A	A	B	B
Approach Delay (s)	2.6	2.1	11.2	11.0
Approach LOS			B	B

Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	24.8%	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	5	4	1	9	5	0	3	9	3	3	0
Future Volume (vph)	0	5	4	1	9	5	0	3	9	3	3	0
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		0.940			0.958			0.896				
Flt Protected					0.997						0.976	
Satd. Flow (prot)	0	1770	0	0	1657	0	0	1569	0	0	1431	0
Flt Permitted					0.997						0.976	
Satd. Flow (perm)	0	1770	0	0	1657	0	0	1569	0	0	1431	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	5					5	4					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%	2%	2%	2%	7%	20%	2%	2%	12%	60%	2%	2%
Adj. Flow (vph)	0	5	4	1	10	5	0	3	10	3	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	16	0	0	13	0	0	6	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	

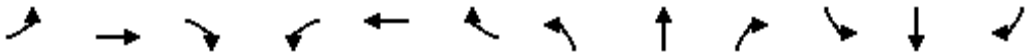
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	5	4	1	9	5	0	3	9	3	3	0
Future Volume (Veh/h)	0	5	4	1	9	5	0	3	9	3	3	0
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)	0	5	4	1	10	5	0	3	10	3	3	0
Pedestrians		4									5	
Lane Width (m)		3.7									3.7	
Walking Speed (m/s)		1.1									1.1	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			9			27	29	7	38	28	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			9			27	29	7	38	28	22
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			100			100	100	99	100	100	100
cM capacity (veh/h)	1589			1611			973	859	1047	822	860	1047

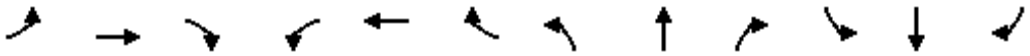
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	16	13	6
Volume Left	0	1	0	3
Volume Right	4	5	10	0
cSH	1589	1611	997	840
Volume to Capacity	0.00	0.00	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.3	0.2
Control Delay (s)	0.0	0.5	8.7	9.3
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.5	8.7	9.3
Approach LOS			A	A

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	16.1%	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)	60	0	60	3	0	3	50	420	6	4	480	60
Future Volume (vph)	60	0	60	3	0	3	50	420	6	4	480	60
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		0.932			0.932			0.998			0.985	
Flt Protected		0.976			0.976			0.995				
Satd. Flow (prot)	0	1713	0	0	1713	0	0	1870	0	0	1855	0
Flt Permitted		0.976			0.976			0.995				
Satd. Flow (perm)	0	1713	0	0	1713	0	0	1870	0	0	1855	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							44					40
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)	65	0	65	3	0	3	54	457	7	4	522	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	0	0	6	0	0	518	0	0	591	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			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)	97		97	97		97	97		97	97		97
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 72.8%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	60	3	0	3	50	420	6	4	480	60
Future Volume (Veh/h)	60	0	60	3	0	3	50	420	6	4	480	60
Sign Control		Stop			Stop			Free			Free	
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)	65	0	65	3	0	3	54	457	7	4	522	65
Pedestrians		44										
Lane Width (m)		3.7										
Walking Speed (m/s)		1.1										
Percent Blockage		4										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								105			139	
pX, platoon unblocked	0.86	0.86	0.80	0.86	0.86	0.88	0.80			0.88		
vC, conflicting volume	1178	1178	598	1196	1208	460	631			464		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	824	824	379	845	858	324	420			328		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	100	87	98	100	100	94			100		
cM capacity (veh/h)	221	238	515	196	228	634	879			1089		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	130	6	518	591
Volume Left	65	3	54	4
Volume Right	65	3	7	65
cSH	310	300	879	1089
Volume to Capacity	0.42	0.02	0.06	0.00
Queue Length 95th (m)	14.0	0.4	1.4	0.1
Control Delay (s)	24.8	17.3	1.7	0.1
Lane LOS	C	C	A	A
Approach Delay (s)	24.8	17.3	1.7	0.1
Approach LOS	C	C		

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	72.8%	ICU Level of Service	C	
Analysis Period (min)	15			

APPENDIX G

Background Development Traffic Volumes

nextrans
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Transportation Impact Study

PROPOSED RESIDENTIAL DEVELOPMENT

8, 10 & 12 Queen Street S and
2 William Street & 16 James Street
MISSISSAUGA, ONTARIO

August 2021
Project No: NT-20-212

Table 5 – Site Trip Generation

ITE Land Use	Magnitude (units)	Parameters	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing (Low-rise) LUC 220 General Urban/Suburban	77	Trip Rates AM - Ln(T) = 0.95Ln(X) - 0.51 PM - Ln(T) = 0.89Ln(X) - 0.02	0.11	0.37	0.48	0.38	0.23	0.61
		Total Trips	9	28	37	30	17	47

Based on the analysis noted above, the proposed development is expected to generate 37 total two-way trips (9 inbound and 28 outbound) and 47 total two-way trips (30 inbound and 17 outbound) during the AM and PM peak hours, respectively.

If a 10% non-auto modal split is applied, the proposed development is expected to generate 4 two-way non-auto trips (1 inbound and 3 outbound) and 5 two-way non-auto trips (3 inbound and 2 outbound) during the AM and PM peak hours, respectively.

5.4. Site Trip Distribution and Assignment

The 2016 Transportation Tomorrow Survey (TTS) data was reviewed for Traffic Zones 3620, 3621, 3694, 3697 and 3826 in order to estimate the general trip distribution for the proposed development. Table 6 summarizes the planning district/traffic zones distribution based on the 2016 TTS data, with Table 7 summarizing the site trip assignment based on the 2016 TTS data and the existing traffic turning movement counts at the McLaughlin Road/Navigator Drive intersection.

Table 6 – Trip Distribution for Residential Component

Mode	Mississauga	Toronto	Brampton	Caledon	York Region	Halton	Durham	Total
Auto	76%	7%	5%	1%	3%	8%	0%	100%

Table 7 – Site Trip Distribution

Direction	Percentage
North (via Queen Street S/Mississauga Road)	15%
South (via Queen Street S/Mississauga Road)	70%
East (via Britannia Road W/Hwy 401/Hwy 403)	7%
West (via Britannia Road W/Hwy 401/Hwy 403)	8%

Figure 10 illustrates the proposed development generated traffic volumes. It should be noted that the auto site trip distribution and assignment have been taken into consideration the 2016 TTS information, existing turning movements at the intersections and intersection operations.

6.0 FUTURE TOTAL TRAFFIC CONDITIONS

6.1. Future Total Traffic Assessment for Auto Mode

The estimated 2028 future total traffic volumes (future background traffic volumes plus site generated traffic volumes) are illustrated in Figure 11, and were analyzed using Synchro Version 10 software. The detailed calculations are provided in Appendix F and summarized in Table 8.

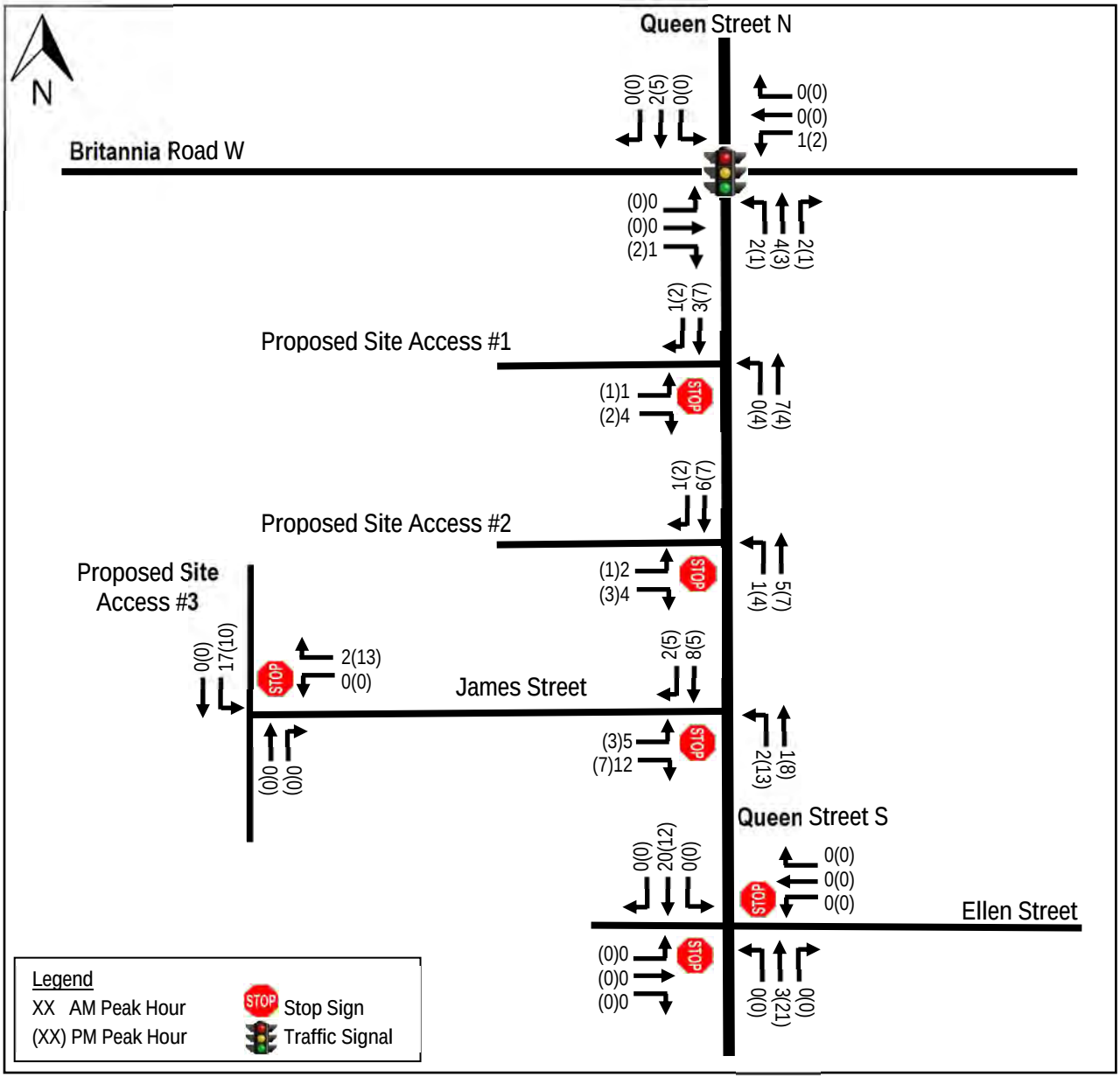
Based on the intersection capacity analysis, under the future total traffic conditions, the following observations are made:

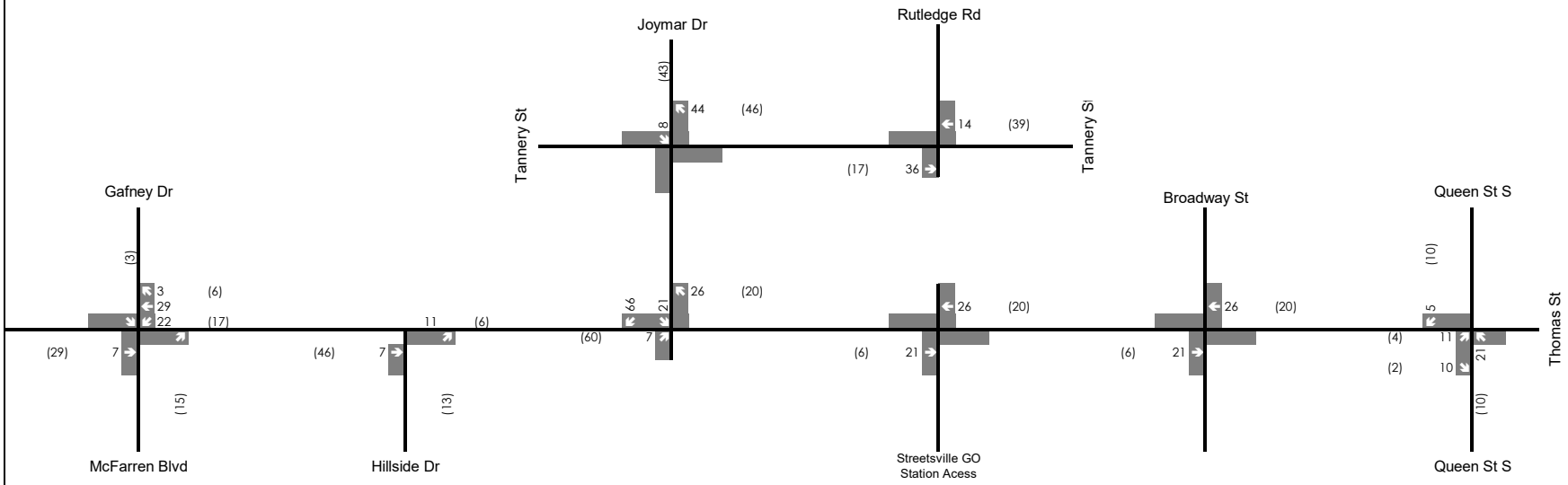
- The signalized intersection of the Queen Street S/Britannia Road W is expected to operate at acceptable level of service based on overall intersection operation. However, the eastbound through movement is expected to operate at higher delay and v/c ratio due to heavy traffic volumes during the morning peak hour, which is similar

to the existing conditions. During the afternoon peak hour, the northbound left turn is expected to operate at higher delay and v/c ratio. This is due to higher traffic volumes demand for this movement. It is anticipated that with traffic signal timing optimization, the intersection will improve slight. Nextrans has provided a potential signal optimization (Table 9) for both the morning and afternoon peak hours under the future total conditions with the proposed development traffic. With the potential allocation of additional green time to the critical movements, the overall intersection and critical movements will be improved significantly. The cycle length will remain the same at 160 seconds.

- The existing James Street/Queen Street S unsignalized intersection is expected to operate at acceptable levels of service during both the morning and afternoon peak hours.
- The existing Queen Street S/Ellen Street/Private Access unsignalized intersection is expected to operate at acceptable levels of service, with slightly higher delay during the afternoon peak hour due to the high through traffic volumes on Queen Street S. This condition is typical for unsignalized intersection at any major arterial roads in the City of Mississauga and the GTA. Due to the low side street volumes, it is anticipated that a traffic signal will not be warranted or required at this time.

Figure 10 – Site Traffic Volumes





Legend

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

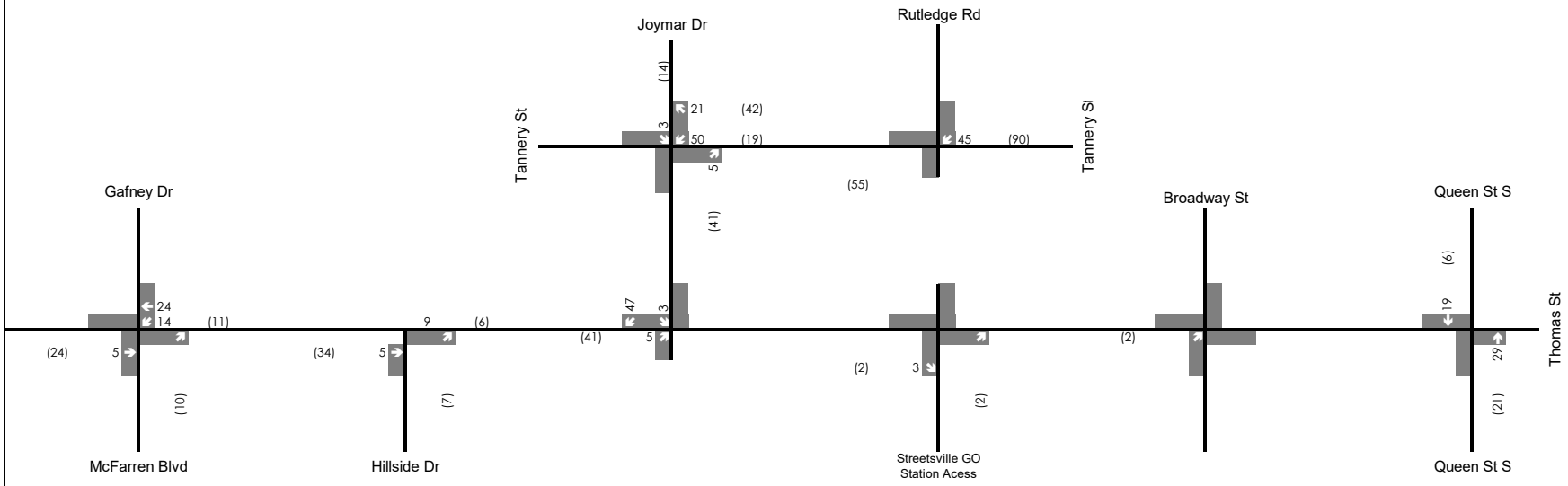
66 Thomas Street

Site Generated Trips

CROZIER CONSULTING ENGINEERS

Figure 3

Project No. 1419-4679
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

51 & 57 Tannery Street and 208 Emby Drive

Site Generated Trips

CROZIER CONSULTING ENGINEERS

Figure 3

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

BA Group

21-51 Queen Street North
Proposed Mixed-Use Development

Urban Transportation Considerations
Zoning By-law Amendment Application
City of Mississauga

Prepared For: Miss BJL Corporation

December 2021

8.3 SITE TRAFFIC

8.3.1 Trip Distribution and Assignment

Trip distribution patterns and traffic route assignment for the residential component of the Site are derived from a 2016 Transportation Tomorrow Survey (TTS) residential travel query for 2006 GTA Zones 3715, 3717, 3718 and 3836. Retail traffic distribution is derived from existing traffic survey patterns.

Table 13 presents adopted distribution of inbound and outbound vehicle traffic**.**

TABLE 13 SITE TRIP DISTRIBUTION

Direction (to or from)	Residential Traffic		Retail Traffic	
	Outbound	Inbound	Outbound	Inbound
North via Queen Street North	35%	30%	40%	35%
South via Queen Street South	25%	20%	50%	35%
East via Britannia Road West	25%	40%	5%	15%
West via Britannia Road West	15%	10%	5%	15%
Total	**100%**	**100%**	**100%**	**100%**

8.3.2 Existing Site Traffic

Traffic surveys for the Site's existing driveway demonstrated the generation of some peak hour traffic. Future total conditions account for existing Site traffic removal based on the approximate trip distribution patterns realized within the existing survey data.

8.3.3 Site Vehicle Trip Forecast

The vehicle trip generation rates adopted for the purposes of this study are based on rates outlined within the *ITE Trip Generation Manual 11th Edition* for Land Use Codes 221 (Mid-Rise Residential) and 822 (Strip Retail Plaza <40k).

Table 14 is a summary of trip generation, including the rates utilized for each component and an existing site traffic removal allowance.

TABLE 14 VEHICLE TRIP GENERATION

Land Use / Land Use Code	Weekday Morning Peak Hour			Weekday Afternoon Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Trip Generation Rates						
Land Use Code 221 (Mid-Rise), Not Close to Rail Transit – trips per unit	*0.09*	*0.28*	*0.37*	*0.24*	*0.15*	*0.39*
Land Use Code 822 (Strip Retail Plaza <40k) – trips per 1,000 sqft GFA	*1.42*	*0.94*	*2.36*	*3.29*	*3.30*	*6.59*
Trip Generation						
Residential (390 units)	35	110	145	95	60	155
Retail (1,198 m^2 or 12,895 ft^2)	20	10	30	45	45	90
Existing Site Trips to be Removed (based on survey data) [2]	-15	-5	-20	-40	-50	-90
Net-New Site Traffic	**40**	**115**	**155**	**100**	**55**	**155**

Notes:
1. Trips rounded to the nearest five (5).
2. Traffic volumes based on counts conducted on September 9, 2021.

Based on the trip generation methodology outlined above**,** the site is expected to generate in the order of **155** new two-way vehicle trips in both the weekday morning and afternoon peak hours.

Net-new site traffic volumes are illustrated on **Figure 13**.

8.3.4 Mode Split

Modal share characteristics for resident (home-based) travel during the morning and afternoon peak periods are summarized in **Table 15** and are based on a 2016 Transportation Tomorrow Survey (TTS) data query.

TABLE 15 AREA RESIDENTIAL MODE SPLIT (2016 TTS ZONES -3718, 3715, 3717 AND 3836)

Mode	Morning Peak Period Outbound	Afternoon Peak Period Inbound
Auto Driver	64%	67%
Auto Passenger	17%	19%
Transit	13%	10%
Cycle	0%	0%
Walk	6%	4%

Notes:
1. Based on 2016 TTS results for morning (6:00 - 8:59) and afternoon (15:00 - 17:59) peak traffic periods for TTS 2006 GTA Zones 3715, 3717, 3718 and 3836.
2. Auto passenger trips (includes auto passengers, school bus passengers and taxi passengers).

Overall, the area has an auto driver mode share in the order of 64% and 67% for morning outbound and afternoon inbound home-based trips during the peak travel periods, respectively.

8.3.5 Site Multimodal Trips

A multimodal person trip forecast was undertaken through back-calculation of vehicular trip generation and modal split percentages. **Table 16** summarizes net-new person trips forecast to result from the proposed development.

TABLE 16 NET-NEW SITE PERSON TRIPS

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Area Mode Split						
Driver	64%			67%		
Passenger	17%			19%		
Transit	13%			10%		
Active (Walk/Cycle)	6%			4%		
Multimodal Trips Generated						
Trips	-	-	-	-	-	-
Driver	40	115	155	100	55	155
Passenger	10	30	40	30	15	45
Transit	10	25	35	15	10	25
Active (Walk/Cycle)	5	10	15	5	5	10
Total New Site Trips	**65**	**180**	**245**	**150**	**85**	**235**

The proposed development is forecast to generate **245** and **235** net-new two-way person trips during the weekday morning and weekday afternoon peak hours, respectively.

It is envisioned that the relatively small number of new transit trips will utilize nearby transit options that are available within the study area, including the nearby GO rail and bus services.

8.4 FUTURE TOTAL TRAFFIC VOLUMES

Future total traffic volumes during the weekday morning and afternoon peak hours reflect the sum of future background traffic volumes and new site traffic volumes. Future total traffic volumes for the 5-year and 10-year study horizons are summarized in **Figure 13** and **Figure 14**, respectively.

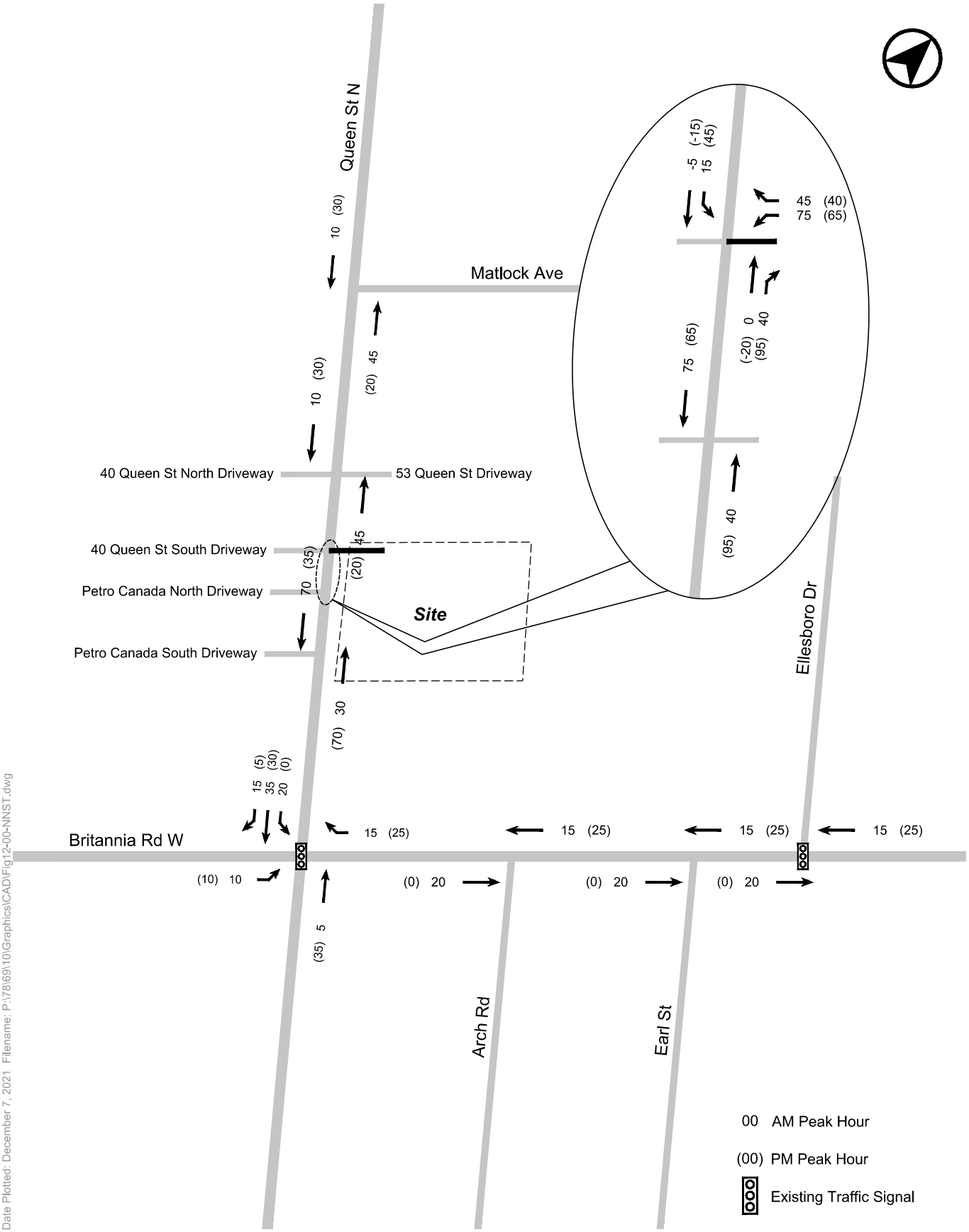
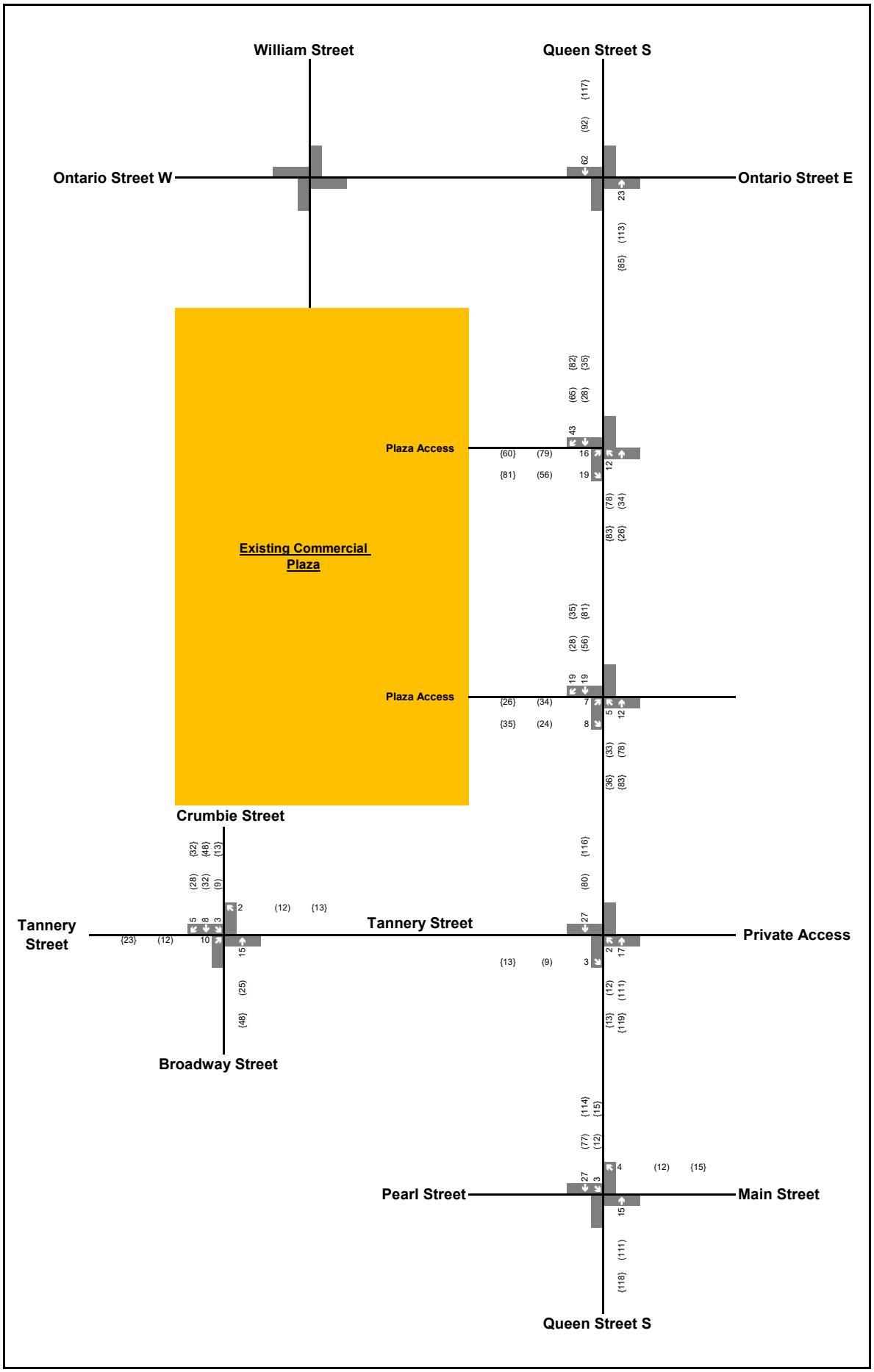


FIGURE 12 NET-NEW SITE TRAFFIC



Legend	142-148 Queen Street South	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	Existing Commercial Plaza Trips		Project No. 1419-6615 Date. 13-03-2022 Analyst. Aarzoo.D

APPENDIX H

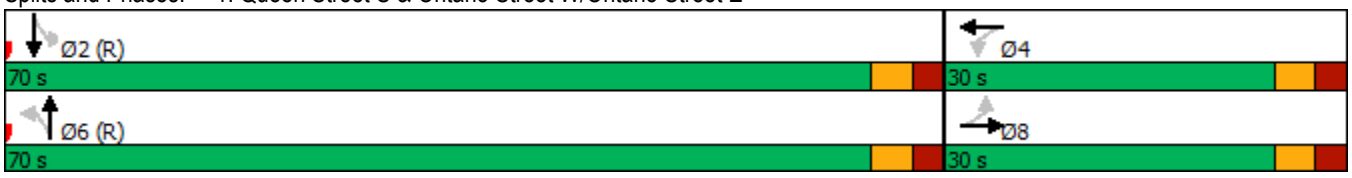
2027 Future Background Detailed Capacity Analysis

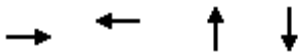
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	6	16	0	8	87	6	649	3	80	546	12
Future Volume (vph)	27	6	16	0	8	87	6	649	3	80	546	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.96			1.00			1.00	
Frt		0.957			0.877			0.999			0.997	
Flt Protected		0.973									0.994	
Satd. Flow (prot)	0	1441	0	0	1622	0	0	1829	0	0	1832	0
Flt Permitted		0.765						0.994			0.842	
Satd. Flow (perm)	0	1121	0	0	1622	0	0	1817	0	0	1550	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			95						2	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	9		5	5		9	14		11	11		14
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 (%)	26%	34%	13%	2%	0%	0%	0%	5%	0%	3%	4%	0%
Adj. Flow (vph)	29	7	17	0	9	95	7	705	3	87	593	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	0	104	0	0	715	0	0	693	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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			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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0		70.0	70.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	24.5	24.5		24.5	24.5		64.5	64.5		64.5	64.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.8			10.8			82.4			82.4	
Actuated g/C Ratio		0.11			0.11			0.82			0.82	
v/c Ratio		0.39			0.40			0.48			0.54	
Control Delay		39.3			15.2			2.5			5.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		39.3			15.2			2.5			5.9	
LOS		D			B			A			A	
Approach Delay		39.3			15.2			2.5			5.9	
Approach LOS		D			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 42 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 6.1		Intersection LOS: A	
Intersection Capacity Utilization 93.2%		ICU Level of Service F	
Analysis Period (min) 15			

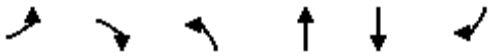
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



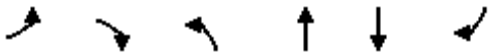


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	53	104	715	693
v/c Ratio	0.39	0.40	0.48	0.54
Control Delay	39.3	15.2	2.5	5.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.3	15.2	2.5	5.9
Queue Length 50th (m)	6.1	1.5	12.3	36.5
Queue Length 95th (m)	16.5	15.0	26.3	68.4
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	287	469	1498	1278
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.22	0.48	0.54

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	48	48	36	626	510	49
Future Volume (vph)	48	48	36	626	510	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98	0.99		1.00	
Frt		0.850			0.988	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1830	1802	0
Flt Permitted	0.950		0.414			
Satd. Flow (perm)	1682	1547	768	1830	1802	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		52			9	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	6	2	8			8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	5%	5%	5%
Adj. Flow (vph)	52	52	39	680	554	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	52	39	680	607	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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				2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	2	2	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)	27.5	27.5	35.5	35.5	35.5	
Total Split (s)	32.0	32.0	68.0	68.0	68.0	
Total Split (%)	32.0%	32.0%	68.0%	68.0%	68.0%	
Maximum Green (s)	26.5	26.5	61.5	61.5	61.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	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)	12.0	12.0	19.0	19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	10.4	10.4	82.0	82.0	82.0	
Actuated g/C Ratio	0.10	0.10	0.82	0.82	0.82	
v/c Ratio	0.30	0.25	0.06	0.45	0.41	
Control Delay	46.1	14.9	2.4	4.0	4.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.1	14.9	2.4	4.0	4.0	
LOS	D	B	A	A	A	
Approach Delay	30.5			3.9	4.0	
Approach LOS	C			A	A	

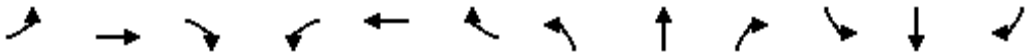
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 33 (33%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 51.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	52	52	39	680	607
v/c Ratio	0.30	0.25	0.06	0.45	0.41
Control Delay	46.1	14.9	2.4	4.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	14.9	2.4	4.0	4.0
Queue Length 50th (m)	8.8	0.0	1.7	36.8	27.2
Queue Length 95th (m)	19.0	9.8	m1.6	42.0	43.4
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	445	448	630	1501	1480
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	0.12	0.12	0.06	0.45	0.41

Intersection Summary

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

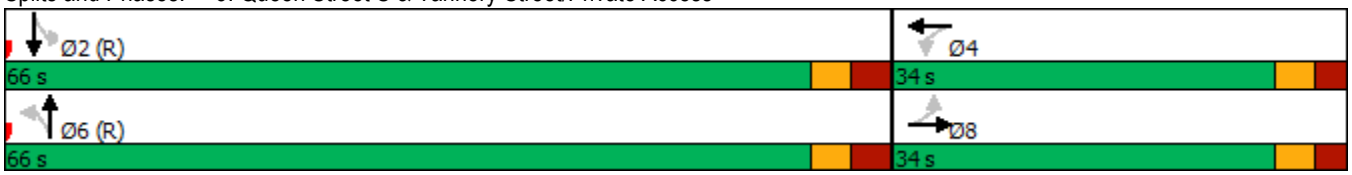


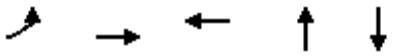
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	12	75	6	5	7	107	453	7	9	385	116
Future Volume (vph)	193	12	75	6	5	7	107	453	7	9	385	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	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			7.6			7.6		
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			0.969	
Flt Protected	0.950				0.983			0.991			0.999	
Satd. Flow (prot)	1755	1610	0	0	1756	0	0	1833	0	0	1762	0
Flt Permitted	0.744				0.918			0.809			0.989	
Satd. Flow (perm)	1343	1610	0	0	1637	0	0	1492	0	0	1744	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		82			8			1			26	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	4%	0%	0%	5%	2%
Adj. Flow (vph)	210	13	82	7	5	8	116	492	8	10	418	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	95	0	0	20	0	0	616	0	0	554	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	20.8	20.8			20.8			67.7			67.7	
Actuated g/C Ratio	0.21	0.21			0.21			0.68			0.68	
v/c Ratio	0.76	0.24			0.06			0.61			0.47	
Control Delay	53.4	10.0			20.9			10.7			11.5	
Queue Delay	0.0	0.0			0.0			0.5			0.0	
Total Delay	53.4	10.0			20.9			11.2			11.5	
LOS	D	B			C			B			B	
Approach Delay		39.9			20.9			11.2			11.5	
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: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 90.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	210	95	20	616	554
v/c Ratio	0.76	0.24	0.06	0.61	0.47
Control Delay	53.4	10.0	20.9	10.7	11.5
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay	53.4	10.0	20.9	11.2	11.5
Queue Length 50th (m)	35.4	1.9	1.7	44.0	54.8
Queue Length 95th (m)	53.1	12.2	6.6	m56.9	107.3
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	382	517	472	1010	1189
Starvation Cap Reductn	0	0	0	119	0
Spillback Cap Reductn	0	0	0	0	16
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.18	0.04	0.69	0.47

Intersection Summary

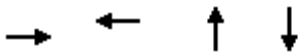
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	181	6	151	59	79	6	542	263	9	445	7
Future Volume (vph)	5	181	6	151	59	79	6	542	263	9	445	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			1.00	
Frt		0.995			0.963			0.956			0.998	
Flt Protected		0.999			0.975						0.999	
Satd. Flow (prot)	0	1890	0	0	1743	0	0	1754	0	0	1834	0
Flt Permitted		0.991			0.691			0.996			0.981	
Satd. Flow (perm)	0	1874	0	0	1231	0	0	1747	0	0	1801	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			19			36			1	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	6		4	4		6	19		13	13		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%	1%	0%	3%	2%	2%	0%	3%	2%	23%	4%	0%
Adj. Flow (vph)	5	197	7	164	64	86	7	589	286	10	484	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	0	314	0	0	882	0	0	502	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		9.5	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		15.0	27.0		58.0	58.0		58.0	58.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.0%	27.0%		15.0%	27.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	20.0	20.0		12.0	20.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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	
Flash Dont Walk (s)	10.0	10.0			10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		31.4			31.4			55.6			55.6	
Actuated g/C Ratio		0.31			0.31			0.56			0.56	
v/c Ratio		0.35			0.79			0.89			0.50	
Control Delay		27.1			43.5			33.7			14.9	
Queue Delay		0.0			0.0			0.0			0.2	
Total Delay		27.1			43.5			33.7			15.1	
LOS		C			D			C			B	
Approach Delay		27.1			43.5			33.7			15.1	
Approach LOS		C			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 98 (98%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 92.3%		ICU Level of Service F	
Analysis Period (min) 15			

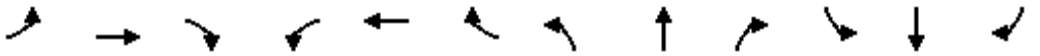
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	209	314	882	502
v/c Ratio	0.35	0.79	0.89	0.50
Control Delay	27.1	43.5	33.7	14.9
Queue Delay	0.0	0.0	0.0	0.2
Total Delay	27.1	43.5	33.7	15.1
Queue Length 50th (m)	26.7	45.2	138.7	79.2
Queue Length 95th (m)	43.5	74.8	#220.0	60.9
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	590	400	986	1001
Starvation Cap Reductn	0	0	0	114
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.79	0.89	0.57

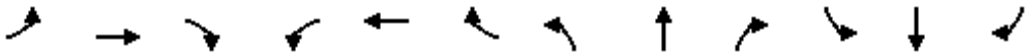
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	243	64	19	212	6	24	26	25	9	25	12
Future Volume (vph)	24	243	64	19	212	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		0.974			0.996			0.955			0.965	
Flt Protected		0.996			0.996			0.984			0.990	
Satd. Flow (prot)	0	1797	0	0	1856	0	0	1730	0	0	1755	0
Flt Permitted		0.996			0.996			0.984			0.990	
Satd. Flow (perm)	0	1797	0	0	1856	0	0	1730	0	0	1755	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	26	264	70	21	230	7	26	28	27	10	27	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	360	0	0	258	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)		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
Sign Control		Free			Free			Stop			Stop	

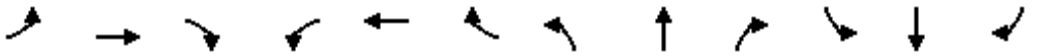
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	243	64	19	212	6	24	26	25	9	25	12
Future Volume (Veh/h)	24	243	64	19	212	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	264	70	21	230	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)					169							
pX, platoon unblocked												
vC, conflicting volume	280			342			665	681	309	712	712	280
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	280			342			665	681	309	712	712	280
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	98			98			92	92	96	96	92	98
cM capacity (veh/h)	1242			1219			315	335	729	271	325	730

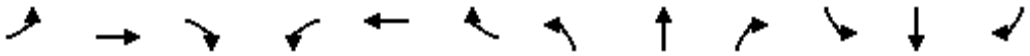
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	360	258	81	50
Volume Left	26	21	26	10
Volume Right	70	7	27	13
cSH	1242	1219	399	363
Volume to Capacity	0.02	0.02	0.20	0.14
Queue Length 95th (m)	0.4	0.4	5.3	3.3
Control Delay (s)	0.8	0.8	16.3	16.5
Lane LOS	A	A	C	C
Approach Delay (s)	0.8	0.8	16.3	16.5
Approach LOS			C	C

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	37.2%	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)	1	40	18	2	17	1	19	4	7	7	9	2
Future Volume (vph)	1	40	18	2	17	1	19	4	7	7	9	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												
Frt		0.958			0.994			0.967			0.986	
Flt Protected		0.999			0.995			0.969			0.980	
Satd. Flow (prot)	0	1566	0	0	1900	0	0	1737	0	0	1584	0
Flt Permitted		0.999			0.995			0.969			0.980	
Satd. Flow (perm)	0	1566	0	0	1900	0	0	1737	0	0	1584	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	1					1	3		3	3		3
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%	18%	17%	0%	0%	0%	0%	0%	15%	43%	0%	0%
Adj. Flow (vph)	1	43	20	2	18	1	21	4	8	8	10	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	21	0	0	33	0	0	20	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	

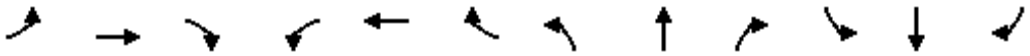
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	40	18	2	17	1	19	4	7	7	9	2
Future Volume (Veh/h)	1	40	18	2	17	1	19	4	7	7	9	2
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)	1	43	20	2	18	1	21	4	8	8	10	2
Pedestrians		3			3						1	
Lane Width (m)		3.7			3.7						3.7	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			63			88	79	56	92	88	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			63			88	79	56	92	88	22
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.5	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.9	4.0	3.3
p0 queue free %	100			100			98	100	99	99	99	100
cM capacity (veh/h)	1608			1553			888	813	972	789	803	1056

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	64	21	33	20
Volume Left	1	2	21	8
Volume Right	20	1	8	2
cSH	1608	1553	897	817
Volume to Capacity	0.00	0.00	0.04	0.02
Queue Length 95th (m)	0.0	0.0	0.8	0.5
Control Delay (s)	0.1	0.7	9.2	9.5
Lane LOS	A	A	A	A
Approach Delay (s)	0.1	0.7	9.2	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	14.6%	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	0	20	2	0	3	40	614	4	5	510	30
Future Volume (vph)	40	0	20	2	0	3	40	614	4	5	510	30
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		0.954			0.919			0.999			0.992	
Flt Protected		0.968			0.980			0.997				
Satd. Flow (prot)	0	1685	0	0	1730	0	0	1845	0	0	1821	0
Flt Permitted		0.968			0.980			0.997				
Satd. Flow (perm)	0	1685	0	0	1730	0	0	1845	0	0	1821	0
Link Speed (k/h)		30			48			40			40	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		7.0			3.0			9.4			12.5	
Confl. Peds. (#/hr)							7					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 (%)	8%	2%	0%	0%	2%	0%	0%	4%	0%	0%	5%	0%
Adj. Flow (vph)	43	0	22	2	0	3	43	667	4	5	554	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	65	0	0	5	0	0	714	0	0	592	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			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	97		97	24		97	97		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	20	2	0	3	40	614	4	5	510	30
Future Volume (Veh/h)	40	0	20	2	0	3	40	614	4	5	510	30
Sign Control		Stop			Stop			Free			Free	
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	0	22	2	0	3	43	667	4	5	554	33
Pedestrians		7										
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)								105			139	
pX, platoon unblocked	0.80	0.80	0.91	0.80	0.80	0.75	0.91			0.75		
vC, conflicting volume	1346	1344	578	1358	1359	669	594			671		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1044	1042	483	1059	1060	394	501			397		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	72	100	96	99	100	99	96			99		
cM capacity (veh/h)	152	173	530	150	169	495	967			881		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	65	5	714	592
Volume Left	43	2	43	5
Volume Right	22	3	4	33
cSH	201	257	967	881
Volume to Capacity	0.32	0.02	0.04	0.01
Queue Length 95th (m)	9.3	0.4	1.0	0.1
Control Delay (s)	31.3	19.3	1.1	0.2
Lane LOS	D	C	A	A
Approach Delay (s)	31.3	19.3	1.1	0.2
Approach LOS	D	C		

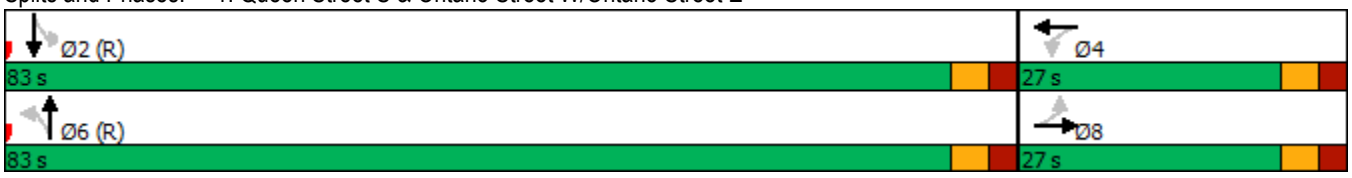
Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	71.0%	ICU Level of Service	C	
Analysis Period (min)	15			

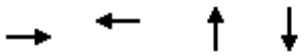
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	5	28	4	13	108	17	682	12	65	774	20
Future Volume (vph)	18	5	28	4	13	108	17	682	12	65	774	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.97			0.96			1.00			1.00	
Frt		0.926			0.883			0.998			0.997	
Flt Protected		0.982			0.999			0.999			0.996	
Satd. Flow (prot)	0	1424	0	0	1634	0	0	1876	0	0	1883	0
Flt Permitted		0.611			0.990			0.972			0.892	
Satd. Flow (perm)	0	881	0	0	1618	0	0	1825	0	0	1684	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			117			2			3	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		10	10		8	17		26	26		17
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 (%)	26%	34%	13%	2%	0%	0%	0%	2%	0%	3%	1%	0%
Adj. Flow (vph)	20	5	30	4	14	117	18	741	13	71	841	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	135	0	0	772	0	0	934	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		83.0	83.0		83.0	83.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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		77.5	77.5		77.5	77.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.6			10.6			88.4			88.4	
Actuated g/C Ratio		0.10			0.10			0.80			0.80	
v/c Ratio		0.49			0.52			0.53			0.69	
Control Delay		41.1			19.0			4.6			8.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		41.1			19.0			4.6			8.2	
LOS		D			B			A			A	
Approach Delay		41.1			19.0			4.6			8.2	
Approach LOS		D			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 97.5%		ICU Level of Service F	
Analysis Period (min) 15			

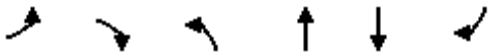
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



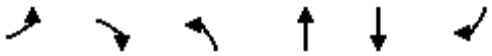


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	55	135	772	934
v/c Ratio	0.49	0.52	0.53	0.69
Control Delay	41.1	19.0	4.6	8.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	41.1	19.0	4.6	8.2
Queue Length 50th (m)	4.7	3.3	37.1	61.0
Queue Length 95th (m)	16.4	19.5	40.7	111.4
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	196	410	1466	1353
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.33	0.53	0.69

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	98	84	100	613	678	107
Future Volume (vph)	98	84	100	613	678	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.93	0.94	0.99		0.99	
Frt		0.850			0.982	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1902	1845	0
Flt Permitted	0.950		0.228			
Satd. Flow (perm)	1586	1495	422	1902	1845	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		91			12	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	28	15	17			17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	1%	1%	5%
Adj. Flow (vph)	107	91	109	666	737	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	107	91	109	666	853	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	27.5	27.5	10.0	35.5	35.5	
Total Split (s)	28.0	28.0	11.0	71.0	71.0	
Total Split (%)	25.5%	25.5%	10.0%	64.5%	64.5%	
Maximum Green (s)	22.5	22.5	8.0	64.5	64.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	13.3	13.3	85.2	74.6	74.6	
Actuated g/C Ratio	0.12	0.12	0.77	0.68	0.68	
v/c Ratio	0.56	0.35	0.26	0.52	0.68	
Control Delay	56.4	12.6	5.3	14.2	10.3	
Queue Delay	0.0	0.0	0.0	0.0	0.2	
Total Delay	56.4	12.6	5.3	14.2	10.5	
LOS	E	B	A	B	B	
Approach Delay	36.3			13.0	10.5	
Approach LOS	D			B	B	

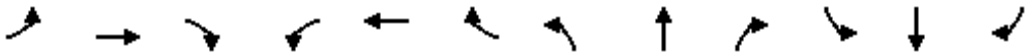
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 73.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	107	91	109	666	853
v/c Ratio	0.56	0.35	0.26	0.52	0.68
Control Delay	56.4	12.6	5.3	14.2	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	56.4	12.6	5.3	14.2	10.5
Queue Length 50th (m)	20.4	0.0	5.5	66.9	55.3
Queue Length 95th (m)	34.8	12.7	m11.4	118.9	67.5
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	324	378	428	1290	1255
Starvation Cap Reductn	0	0	0	0	64
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.24	0.25	0.52	0.72

Intersection Summary

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

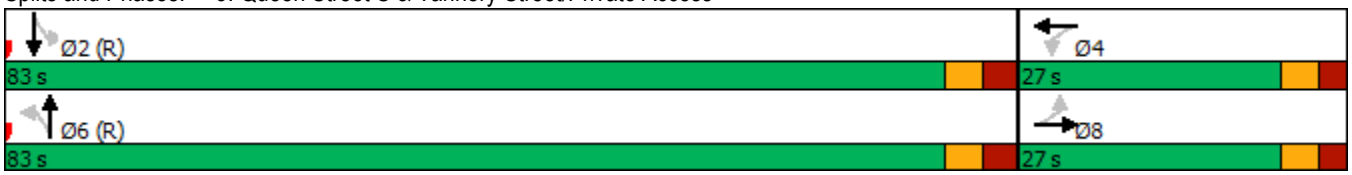


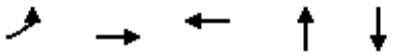
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	6	50	2	4	8	74	574	3	2	509	190
Future Volume (vph)	118	6	50	2	4	8	74	574	3	2	509	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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			0.96	
Frt		0.867			0.919			0.999			0.963	
Flt Protected	0.950				0.993			0.994				
Satd. Flow (prot)	1755	1552	0	0	1689	0	0	1869	0	0	1749	0
Flt Permitted	0.748				0.971			0.845			0.999	
Satd. Flow (perm)	1325	1552	0	0	1644	0	0	1579	0	0	1747	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			9						41	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	2%	0%	0%	1%	2%
Adj. Flow (vph)	128	7	54	2	4	9	80	624	3	2	553	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	61	0	0	15	0	0	707	0	0	762	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	15.8	15.8			15.8			82.7			82.7	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
v/c Ratio	0.67	0.23			0.06			0.60			0.58	
Control Delay	61.3	14.5			25.1			5.2			11.3	
Queue Delay	0.0	0.0			0.0			0.8			0.0	
Total Delay	61.3	14.5			25.1			6.0			11.3	
LOS	E	B			C			A			B	
Approach Delay		46.2			25.1			6.0			11.3	
Approach LOS		D			C			A			B	

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: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 103.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access

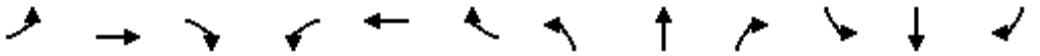




Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	128	61	15	707	762
v/c Ratio	0.67	0.23	0.06	0.60	0.58
Control Delay	61.3	14.5	25.1	5.2	11.3
Queue Delay	0.0	0.0	0.0	0.8	0.0
Total Delay	61.3	14.5	25.1	6.0	11.3
Queue Length 50th (m)	24.3	1.2	1.0	16.4	111.1
Queue Length 95th (m)	40.3	11.2	6.1	m23.4	154.7
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	258	346	328	1186	1323
Starvation Cap Reductn	0	0	0	210	0
Spillback Cap Reductn	0	0	0	0	1
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.18	0.05	0.72	0.58

Intersection Summary

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

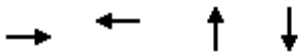


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	63	9	167	86	96	11	520	104	15	506	26
Future Volume (vph)	15	63	9	167	86	96	11	520	104	15	506	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.98			0.95			0.97			0.99	
Frt		0.986			0.963			0.978			0.994	
Flt Protected		0.992			0.977			0.999			0.999	
Satd. Flow (prot)	0	1851	0	0	1726	0	0	1787	0	0	1860	0
Flt Permitted		0.913			0.814			0.988			0.977	
Satd. Flow (perm)	0	1688	0	0	1408	0	0	1766	0	0	1819	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			19			12			3	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	34		19	19		34	57		47	47		57
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%	1%	0%	1%	2%	2%	0%	2%	2%	23%	1%	0%
Adj. Flow (vph)	16	68	10	182	93	104	12	565	113	16	550	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	379	0	0	690	0	0	594	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		10.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		24.0	27.0		59.0	59.0		59.0	59.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	24.5%	24.5%		21.8%	24.5%		53.6%	53.6%		53.6%	53.6%	
Maximum Green (s)	20.0	20.0		21.0	20.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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		0.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	10.0	10.0		0.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		32.0			32.0			65.0			65.0	
Actuated g/C Ratio		0.29			0.29			0.59			0.59	
v/c Ratio		0.19			0.90			0.66			0.55	
Control Delay		26.3			58.9			20.6			12.3	
Queue Delay		0.0			0.0			0.0			0.5	
Total Delay		26.3			58.9			20.6			12.8	
LOS		C			E			C			B	
Approach Delay		26.3			58.9			20.6			12.8	
Approach LOS		C			E			C			B	

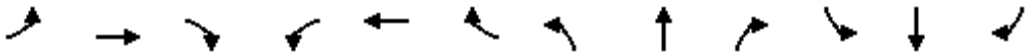
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 26.5		Intersection LOS: C	
Intersection Capacity Utilization 77.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



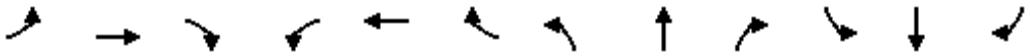
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	94	379	690	594
v/c Ratio	0.19	0.90	0.66	0.55
Control Delay	26.3	58.9	20.6	12.3
Queue Delay	0.0	0.0	0.0	0.5
Total Delay	26.3	58.9	20.6	12.8
Queue Length 50th (m)	13.3	69.2	83.2	23.2
Queue Length 95th (m)	21.0	88.5	157.3	67.9
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	494	423	1048	1076
Starvation Cap Reductn	0	0	0	159
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.90	0.66	0.65

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	104	18	28	204	15	25	40	45	10	38	40
Future Volume (vph)	32	104	18	28	204	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		0.984			0.992			0.944			0.939	
Flt Protected		0.990			0.994			0.989			0.994	
Satd. Flow (prot)	0	1814	0	0	1848	0	0	1724	0	0	1739	0
Flt Permitted		0.990			0.994			0.989			0.994	
Satd. Flow (perm)	0	1814	0	0	1848	0	0	1724	0	0	1739	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	35	113	20	30	222	16	27	43	49	11	41	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	0	0	268	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)		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
Sign Control		Free			Free			Stop			Stop	

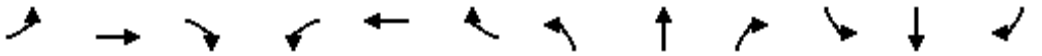
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	104	18	28	204	15	25	40	45	10	38	40
Future Volume (Veh/h)	32	104	18	28	204	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	113	20	30	222	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)					169							
pX, platoon unblocked												
vC, conflicting volume	248			148			566	516	149	574	518	245
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	248			148			566	516	149	574	518	245
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	97			98			92	90	94	97	90	95
cM capacity (veh/h)	1317			1426			350	423	881	336	427	788

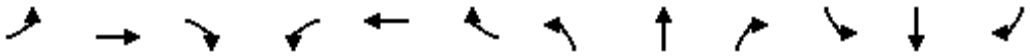
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	168	268	119	95
Volume Left	35	30	27	11
Volume Right	20	16	49	43
cSH	1317	1426	508	518
Volume to Capacity	0.03	0.02	0.23	0.18
Queue Length 95th (m)	0.6	0.5	6.3	4.7
Control Delay (s)	1.8	1.0	14.2	13.5
Lane LOS	A	A	B	B
Approach Delay (s)	1.8	1.0	14.2	13.5
Approach LOS			B	B

Intersection Summary				
Average Delay	5.5			
Intersection Capacity Utilization	34.0%	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)	0	9	8	11	16	5	3	4	6	5	8	0
Future Volume (vph)	0	9	8	11	16	5	3	4	6	5	8	0
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		0.936			0.980			0.932				
Flt Protected					0.983			0.989			0.982	
Satd. Flow (prot)	0	1530	0	0	1739	0	0	1647	0	0	1554	0
Flt Permitted					0.983			0.989			0.982	
Satd. Flow (perm)	0	1530	0	0	1739	0	0	1647	0	0	1554	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	4		1	1		4	8		2	2		8
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%	18%	17%	0%	7%	20%	0%	0%	15%	60%	0%	0%
Adj. Flow (vph)	0	10	9	12	17	5	3	4	7	5	9	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	34	0	0	14	0	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)		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	

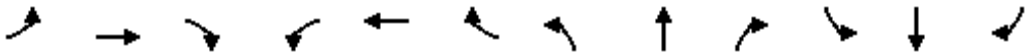
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	8	11	16	5	3	4	6	5	8	0
Future Volume (Veh/h)	0	9	8	11	16	5	3	4	6	5	8	0
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)	0	10	9	12	17	5	3	4	7	5	9	0
Pedestrians		8			2			1			4	
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		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	26			20			72	66	18	73	68	32
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			20			72	66	18	73	68	32
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			99			100	100	99	99	99	100
cM capacity (veh/h)	1595			1608			901	819	1022	774	817	1037

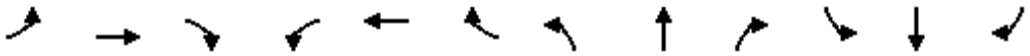
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	19	34	14	14
Volume Left	0	12	3	5
Volume Right	9	5	7	0
cSH	1595	1608	929	801
Volume to Capacity	0.00	0.01	0.02	0.02
Queue Length 95th (m)	0.0	0.2	0.3	0.4
Control Delay (s)	0.0	2.6	8.9	9.6
Lane LOS		A	A	A
Approach Delay (s)	0.0	2.6	8.9	9.6
Approach LOS			A	A

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	21.4%	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)	50	0	40	6	0	6	60	639	8	3	669	70
Future Volume (vph)	50	0	40	6	0	6	60	639	8	3	669	70
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		0.940			0.932			0.998			0.987	
Flt Protected		0.973			0.976			0.996				
Satd. Flow (prot)	0	1682	0	0	1748	0	0	1892	0	0	1879	0
Flt Permitted		0.973			0.976			0.996				
Satd. Flow (perm)	0	1682	0	0	1748	0	0	1892	0	0	1879	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							15					14
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 (%)	8%	2%	0%	0%	2%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	54	0	43	7	0	7	65	695	9	3	727	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	97	0	0	14	0	0	769	0	0	806	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			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		97	24		14	97		14	24		97
Sign Control		Stop			Stop			Free			Free	

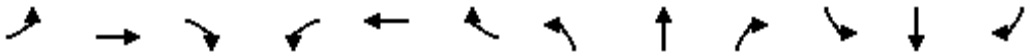
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	0	40	6	0	6	60	639	8	3	669	70
Future Volume (Veh/h)	50	0	40	6	0	6	60	639	8	3	669	70
Sign Control		Stop			Stop			Free			Free	
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	0	43	7	0	7	65	695	9	3	727	76
Pedestrians		15										
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)								105			139	
pX, platoon unblocked	0.83	0.83	0.72	0.83	0.83	0.79	0.72			0.79		
vC, conflicting volume	1622	1620	780	1644	1654	700	818			704		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1070	1067	502	1095	1107	483	555			489		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	62	100	89	95	100	98	91			100		
cM capacity (veh/h)	143	165	408	131	156	463	730			854		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	97	14	769	806
Volume Left	54	7	65	3
Volume Right	43	7	9	76
cSH	201	205	730	854
Volume to Capacity	0.48	0.07	0.09	0.00
Queue Length 95th (m)	16.6	1.5	2.0	0.1
Control Delay (s)	38.5	23.9	2.3	0.1
Lane LOS	E	C	A	A
Approach Delay (s)	38.5	23.9	2.3	0.1
Approach LOS	E	C		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	92.4%	ICU Level of Service	F	
Analysis Period (min)	15			

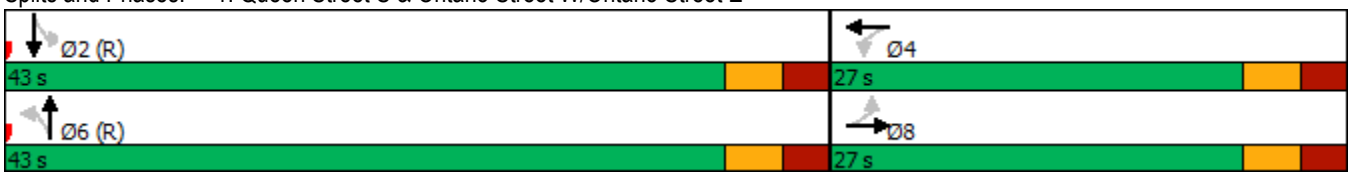


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	3	3	10	3	66	6	698	11	43	651	9
Future Volume (vph)	7	3	3	10	3	66	6	698	11	43	651	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.97			1.00			1.00	
Frt		0.971			0.887			0.998			0.998	
Flt Protected		0.972			0.994						0.997	
Satd. Flow (prot)	0	1536	0	0	1615	0	0	1896	0	0	1890	0
Flt Permitted		0.836			0.953			0.994			0.927	
Satd. Flow (perm)	0	1312	0	0	1547	0	0	1885	0	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			72			2			1	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		2	2		8	24		19	19		24
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 (%)	29%	2%	2%	2%	2%	2%	2%	1%	2%	2%	1%	2%
Adj. Flow (vph)	8	3	3	11	3	72	7	759	12	47	708	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	86	0	0	778	0	0	765	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.5	37.5		37.5	37.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.0			10.0			53.2			53.2	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
v/c Ratio		0.07			0.30			0.54			0.57	
Control Delay		24.5			13.0			11.0			7.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.5			13.0			11.0			7.2	
LOS		C			B			B			A	
Approach Delay		24.5			13.0			11.0			7.2	
Approach LOS		C			B			B			A	

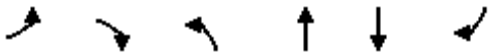
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 10 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 83.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E

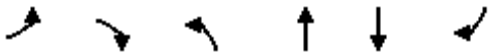


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	14	86	778	765
v/c Ratio	0.07	0.30	0.54	0.57
Control Delay	24.5	13.0	11.0	7.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.5	13.0	11.0	7.2
Queue Length 50th (m)	1.2	1.5	48.3	39.6
Queue Length 95th (m)	5.4	11.7	114.1	65.6
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	405	525	1432	1334
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.16	0.54	0.57

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	108	109	592	545	120
Future Volume (vph)	119	108	109	592	545	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.91	0.94	0.98		0.98	
Frt		0.850			0.976	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	1902	1828	0
Flt Permitted	0.950		0.232			
Satd. Flow (perm)	1625	1500	427	1902	1828	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		117			20	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	46	22	54			54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	129	117	118	643	592	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	129	117	118	643	722	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	10.0	35.5	35.5	
Total Split (s)	23.0	23.0	11.0	36.0	36.0	
Total Split (%)	32.9%	32.9%	15.7%	51.4%	51.4%	
Maximum Green (s)	17.5	17.5	8.0	29.5	29.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	5.5	5.5		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	11.8	11.8	47.3	38.1	38.1	
Actuated g/C Ratio	0.17	0.17	0.68	0.54	0.54	
v/c Ratio	0.47	0.34	0.28	0.62	0.72	
Control Delay	31.8	8.2	4.9	14.5	13.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.8	8.2	4.9	14.5	13.3	
LOS	C	A	A	B	B	
Approach Delay	20.6			13.0	13.3	
Approach LOS	C			B	B	

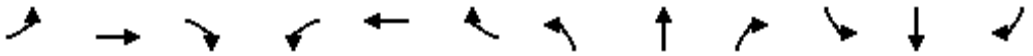
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 25 (36%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 67.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	129	117	118	643	722
v/c Ratio	0.47	0.34	0.28	0.62	0.72
Control Delay	31.8	8.2	4.9	14.5	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	8.2	4.9	14.5	13.3
Queue Length 50th (m)	14.5	0.0	4.1	48.1	14.0
Queue Length 95th (m)	26.3	10.6	m6.1	91.2	#130.2
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	406	462	448	1035	1004
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	0.32	0.25	0.26	0.62	0.72

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.

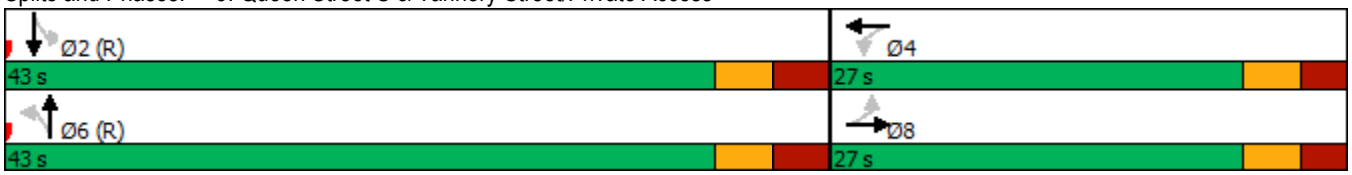


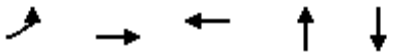
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	1	90	1	1	0	104	489	1	1	482	148
Future Volume (vph)	155	1	90	1	1	0	104	489	1	1	482	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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	0.95	0.92			0.97			0.99			0.96	
Frt		0.852									0.968	
Flt Protected	0.950				0.976			0.991				
Satd. Flow (prot)	1789	1482	0	0	1838	0	0	1881	0	0	1763	0
Flt Permitted	0.757				0.906			0.800				
Satd. Flow (perm)	1348	1482	0	0	1663	0	0	1503	0	0	1763	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98									33	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
Confl. Peds. (#/hr)	33		35	35		33	101		84	84		101
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%	2%	1%	2%
Adj. Flow (vph)	168	1	98	1	1	0	113	532	1	1	524	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	99	0	0	2	0	0	646	0	0	686	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.0	37.0		37.0	37.0	
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)	14.4	14.4			14.4			44.1			44.1	
Actuated g/C Ratio	0.21	0.21			0.21			0.63			0.63	
v/c Ratio	0.61	0.26			0.01			0.68			0.61	
Control Delay	34.2	6.9			19.0			11.2			6.3	
Queue Delay	0.0	0.0			0.0			0.1			0.0	
Total Delay	34.2	6.9			19.0			11.2			6.3	
LOS	C	A			B			B			A	
Approach Delay		24.0			19.0			11.2			6.3	
Approach LOS		C			B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 48 (69%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 11.3		Intersection LOS: B	
Intersection Capacity Utilization 98.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access

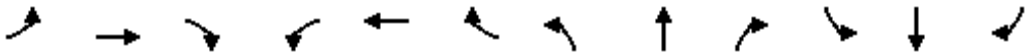




Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	168	99	2	646	686
v/c Ratio	0.61	0.26	0.01	0.68	0.61
Control Delay	34.2	6.9	19.0	11.2	6.3
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	34.2	6.9	19.0	11.2	6.3
Queue Length 50th (m)	18.7	0.1	0.2	24.1	6.4
Queue Length 95th (m)	31.6	8.8	1.5	#61.5	42.4
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	414	523	510	947	1123
Starvation Cap Reductn	0	0	0	10	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.19	0.00	0.69	0.61

Intersection Summary

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

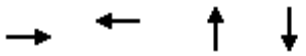


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	18	7	148	41	93	11	483	127	65	473	26
Future Volume (vph)	14	18	7	148	41	93	11	483	127	65	473	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.97			0.93			0.97			0.99	
Frt		0.975			0.956			0.972			0.994	
Flt Protected		0.983			0.974			0.999			0.994	
Satd. Flow (prot)	0	1774	0	0	1699	0	0	1786	0	0	1843	0
Flt Permitted		0.855			0.813			0.988			0.871	
Satd. Flow (perm)	0	1516	0	0	1366	0	0	1764	0	0	1608	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			35			28			5	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	53		42	42		53	87		66	66		87
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%	1%	2%	2%	2%	1%	1%	2%	2%	2%
Adj. Flow (vph)	15	20	8	161	45	101	12	525	138	71	514	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	307	0	0	675	0	0	613	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			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	
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)	10.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		17.7			17.7			39.3			39.3	
Actuated g/C Ratio		0.25			0.25			0.56			0.56	
v/c Ratio		0.11			0.83			0.67			0.68	
Control Delay		16.8			41.3			15.3			7.8	
Queue Delay		0.0			0.0			0.1			0.1	
Total Delay		16.8			41.3			15.5			7.8	
LOS		B			D			B			A	
Approach Delay		16.8			41.3			15.5			7.8	
Approach LOS		B			D			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 51 (73%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 98.9%		ICU Level of Service F	
Analysis Period (min) 15			

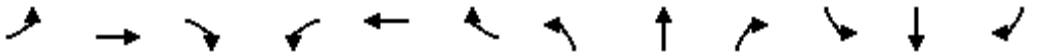
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	43	307	675	613
v/c Ratio	0.11	0.83	0.67	0.68
Control Delay	16.8	41.3	15.3	7.8
Queue Delay	0.0	0.0	0.1	0.1
Total Delay	16.8	41.3	15.5	7.8
Queue Length 50th (m)	3.1	29.6	54.3	8.8
Queue Length 95th (m)	9.2	#62.6	89.5	31.3
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	438	415	1002	904
Starvation Cap Reductn	0	0	0	11
Spillback Cap Reductn	0	0	23	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.74	0.69	0.69

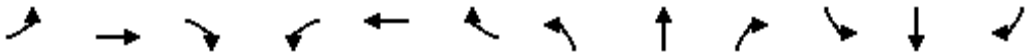
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	155	7	31	176	10	12	39	40	14	22	37
Future Volume (vph)	30	155	7	31	176	10	12	39	40	14	22	37
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			0.994			0.941			0.932	
Flt Protected		0.992			0.993			0.993			0.991	
Satd. Flow (prot)	0	1859	0	0	1859	0	0	1760	0	0	1720	0
Flt Permitted		0.992			0.993			0.993			0.991	
Satd. Flow (perm)	0	1859	0	0	1859	0	0	1760	0	0	1720	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
Confl. Peds. (#/hr)	15		13	13		15	5		8	8		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%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Adj. Flow (vph)	33	168	8	34	191	11	13	42	43	15	24	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	0	236	0	0	98	0	0	79	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
Sign Control		Free			Free			Stop			Stop	

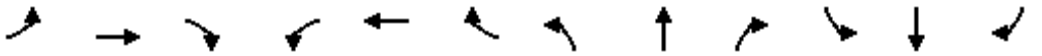
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	155	7	31	176	10	12	39	40	14	22	37
Future Volume (Veh/h)	30	155	7	31	176	10	12	39	40	14	22	37
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)	33	168	8	34	191	11	13	42	43	15	24	40
Pedestrians		5			8			13			15	
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)					169							
pX, platoon unblocked												
vC, conflicting volume	217			189			572	536	193	590	534	216
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	217			189			572	536	193	590	534	216
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	98			98			96	90	95	95	94	95
cM capacity (veh/h)	1334			1368			363	418	832	332	419	808

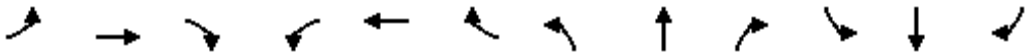
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	209	236	98	79
Volume Left	33	34	13	15
Volume Right	8	11	43	40
cSH	1334	1368	521	520
Volume to Capacity	0.02	0.02	0.19	0.15
Queue Length 95th (m)	0.5	0.5	4.8	3.7
Control Delay (s)	1.4	1.3	13.5	13.2
Lane LOS	A	A	B	B
Approach Delay (s)	1.4	1.3	13.5	13.2
Approach LOS			B	B

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	30.0%	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)	0	5	4	1	9	5	0	3	9	3	3	0
Future Volume (vph)	0	5	4	1	9	5	0	3	9	3	3	0
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		0.940			0.958			0.896				
Flt Protected					0.997						0.976	
Satd. Flow (prot)	0	1770	0	0	1657	0	0	1569	0	0	1431	0
Flt Permitted					0.997						0.976	
Satd. Flow (perm)	0	1770	0	0	1657	0	0	1569	0	0	1431	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	5					5	4					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%	2%	2%	2%	7%	20%	2%	2%	12%	60%	2%	2%
Adj. Flow (vph)	0	5	4	1	10	5	0	3	10	3	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	16	0	0	13	0	0	6	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	

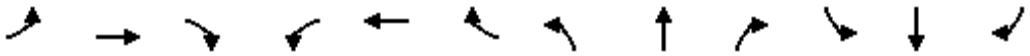
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	5	4	1	9	5	0	3	9	3	3	0
Future Volume (Veh/h)	0	5	4	1	9	5	0	3	9	3	3	0
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)	0	5	4	1	10	5	0	3	10	3	3	0
Pedestrians		4									5	
Lane Width (m)		3.7									3.7	
Walking Speed (m/s)		1.1									1.1	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			9			27	29	7	38	28	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			9			27	29	7	38	28	22
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			100			100	100	99	100	100	100
cM capacity (veh/h)	1589			1611			973	859	1047	822	860	1047

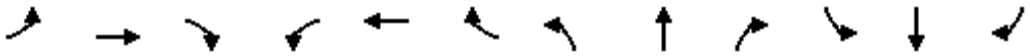
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	16	13	6
Volume Left	0	1	0	3
Volume Right	4	5	10	0
cSH	1589	1611	997	840
Volume to Capacity	0.00	0.00	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.3	0.2
Control Delay (s)	0.0	0.5	8.7	9.3
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.5	8.7	9.3
Approach LOS			A	A

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	16.1%	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)	60	0	60	3	0	3	50	568	6	4	595	60
Future Volume (vph)	60	0	60	3	0	3	50	568	6	4	595	60
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		0.932			0.932			0.999			0.988	
Flt Protected		0.976			0.976			0.996				
Satd. Flow (prot)	0	1713	0	0	1713	0	0	1874	0	0	1861	0
Flt Permitted		0.976			0.976			0.996				
Satd. Flow (perm)	0	1713	0	0	1713	0	0	1874	0	0	1861	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							44					40
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)	65	0	65	3	0	3	54	617	7	4	647	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	0	0	6	0	0	678	0	0	716	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			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)	97		97	97		97	97		97	97		97
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	60	3	0	3	50	568	6	4	595	60
Future Volume (Veh/h)	60	0	60	3	0	3	50	568	6	4	595	60
Sign Control		Stop			Stop			Free			Free	
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)	65	0	65	3	0	3	54	617	7	4	647	65
Pedestrians		44										
Lane Width (m)		3.7										
Walking Speed (m/s)		1.1										
Percent Blockage		4										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								105			139	
pX, platoon unblocked	0.84	0.84	0.71	0.84	0.84	0.75	0.71			0.75		
vC, conflicting volume	1463	1464	724	1481	1492	620	756			624		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	792	793	409	814	828	333	455			338		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	71	100	85	98	100	99	93			100		
cM capacity (veh/h)	223	238	438	193	227	534	755			921		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	130	6	678	716
Volume Left	65	3	54	4
Volume Right	65	3	7	65
cSH	296	283	755	921
Volume to Capacity	0.44	0.02	0.07	0.00
Queue Length 95th (m)	14.9	0.5	1.6	0.1
Control Delay (s)	26.4	18.0	1.9	0.1
Lane LOS	D	C	A	A
Approach Delay (s)	26.4	18.0	1.9	0.1
Approach LOS	D	C		

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	81.2%	ICU Level of Service	D	
Analysis Period (min)	15			

APPENDIX I

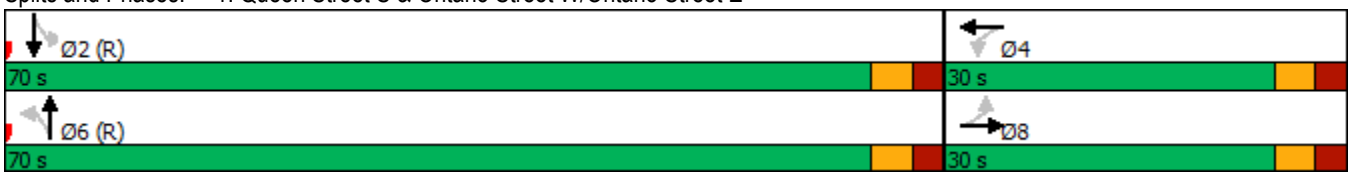
2033 Future Background Detailed Capacity Analysis

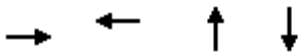
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	6	16	0	8	87	6	637	3	80	494	12
Future Volume (vph)	27	6	16	0	8	87	6	637	3	80	494	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.96			1.00			1.00	
Frt		0.957			0.877			0.999			0.997	
Flt Protected		0.973									0.993	
Satd. Flow (prot)	0	1441	0	0	1622	0	0	1829	0	0	1830	0
Flt Permitted		0.765						0.995			0.833	
Satd. Flow (perm)	0	1121	0	0	1622	0	0	1819	0	0	1534	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			95						2	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	9		5	5		9	14		11	11		14
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 (%)	26%	34%	13%	2%	0%	0%	0%	5%	0%	3%	4%	0%
Adj. Flow (vph)	29	7	17	0	9	95	7	692	3	87	537	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	0	104	0	0	702	0	0	637	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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			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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0		70.0	70.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	24.5	24.5		24.5	24.5		64.5	64.5		64.5	64.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.8			10.8			82.4			82.4	
Actuated g/C Ratio		0.11			0.11			0.82			0.82	
v/c Ratio		0.39			0.40			0.47			0.50	
Control Delay		39.3			15.2			2.3			5.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		39.3			15.2			2.3			5.4	
LOS		D			B			A			A	
Approach Delay		39.3			15.2			2.3			5.4	
Approach LOS		D			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 42 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 89.8%		ICU Level of Service E	
Analysis Period (min) 15			

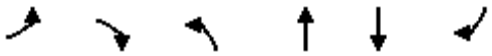
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



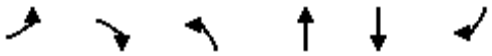


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	53	104	702	637
v/c Ratio	0.39	0.40	0.47	0.50
Control Delay	39.3	15.2	2.3	5.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.3	15.2	2.3	5.4
Queue Length 50th (m)	6.1	1.5	9.1	31.7
Queue Length 95th (m)	16.5	15.0	22.5	59.0
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	287	469	1499	1265
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.22	0.47	0.50

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	29	24	637	519	6
Future Volume (vph)	32	29	24	637	519	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98	1.00		1.00	
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1830	1825	0
Flt Permitted	0.950		0.434			
Satd. Flow (perm)	1682	1547	806	1830	1825	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		32			1	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	6	2	8			8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	5%	5%	5%
Adj. Flow (vph)	35	32	26	692	564	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	32	26	692	571	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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				2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	2	2	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)	27.5	27.5	35.5	35.5	35.5	
Total Split (s)	32.0	32.0	68.0	68.0	68.0	
Total Split (%)	32.0%	32.0%	68.0%	68.0%	68.0%	
Maximum Green (s)	26.5	26.5	61.5	61.5	61.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	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)	12.0	12.0	19.0	19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	10.0	10.0	82.4	82.4	82.4	
Actuated g/C Ratio	0.10	0.10	0.82	0.82	0.82	
v/c Ratio	0.21	0.17	0.04	0.46	0.38	
Control Delay	44.7	17.0	2.0	3.9	3.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.7	17.0	2.0	3.9	3.8	
LOS	D	B	A	A	A	
Approach Delay	31.4			3.8	3.8	
Approach LOS	C			A	A	

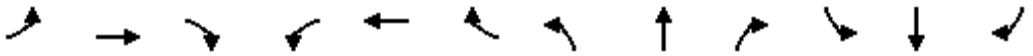
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 33 (33%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 5.2		Intersection LOS: A	
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	35	32	26	692	571
v/c Ratio	0.21	0.17	0.04	0.46	0.38
Control Delay	44.7	17.0	2.0	3.9	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	44.7	17.0	2.0	3.9	3.8
Queue Length 50th (m)	5.8	0.0	1.1	36.8	25.2
Queue Length 95th (m)	14.4	7.9	m0.9	36.3	36.4
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	445	433	663	1507	1503
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	0.08	0.07	0.04	0.46	0.38

Intersection Summary

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

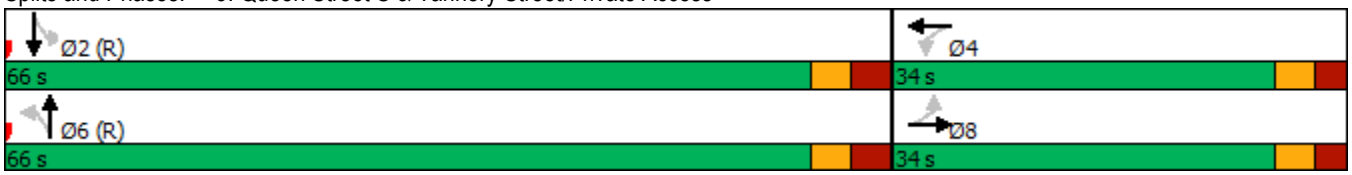


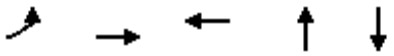
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	12	72	6	5	7	105	445	7	9	365	116
Future Volume (vph)	193	12	72	6	5	7	105	445	7	9	365	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	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			7.6			7.6		
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			0.968	
Flt Protected	0.950				0.983			0.991			0.999	
Satd. Flow (prot)	1755	1610	0	0	1756	0	0	1833	0	0	1760	0
Flt Permitted	0.744				0.919			0.812			0.988	
Satd. Flow (perm)	1343	1610	0	0	1639	0	0	1498	0	0	1740	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			8			1			28	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	4%	0%	0%	5%	2%
Adj. Flow (vph)	210	13	78	7	5	8	114	484	8	10	397	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	91	0	0	20	0	0	606	0	0	533	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	20.8	20.8			20.8			67.7			67.7	
Actuated g/C Ratio	0.21	0.21			0.21			0.68			0.68	
v/c Ratio	0.76	0.23			0.06			0.60			0.45	
Control Delay	53.4	10.2			20.9			10.6			10.8	
Queue Delay	0.0	0.0			0.0			0.5			0.0	
Total Delay	53.4	10.2			20.9			11.1			10.8	
LOS	D	B			C			B			B	
Approach Delay		40.3			20.9			11.1			10.8	
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: 17.2		Intersection LOS: B	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	210	91	20	606	533
v/c Ratio	0.76	0.23	0.06	0.60	0.45
Control Delay	53.4	10.2	20.9	10.6	10.8
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay	53.4	10.2	20.9	11.1	10.8
Queue Length 50th (m)	35.4	1.9	1.7	42.4	51.2
Queue Length 95th (m)	53.1	12.0	6.6	m55.7	96.6
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	382	514	472	1014	1187
Starvation Cap Reductn	0	0	0	123	0
Spillback Cap Reductn	0	0	0	0	20
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.18	0.04	0.68	0.46

Intersection Summary

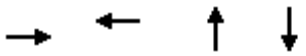
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	181	6	151	59	75	6	537	263	6	426	7
Future Volume (vph)	5	181	6	151	59	75	6	537	263	6	426	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			1.00	
Frt		0.995			0.964			0.956			0.998	
Flt Protected		0.999			0.974						0.999	
Satd. Flow (prot)	0	1890	0	0	1743	0	0	1754	0	0	1836	0
Flt Permitted		0.991			0.688			0.996			0.988	
Satd. Flow (perm)	0	1874	0	0	1227	0	0	1747	0	0	1815	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			18			36			1	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	6		4	4		6	19		13	13		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%	1%	0%	3%	2%	2%	0%	3%	2%	23%	4%	0%
Adj. Flow (vph)	5	197	7	164	64	82	7	584	286	7	463	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	0	310	0	0	877	0	0	478	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		9.5	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		15.0	27.0		58.0	58.0		58.0	58.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.0%	27.0%		15.0%	27.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	20.0	20.0		12.0	20.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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	
Flash Dont Walk (s)	10.0	10.0			10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		31.3			31.3			55.7			55.7	
Actuated g/C Ratio		0.31			0.31			0.56			0.56	
v/c Ratio		0.36			0.78			0.89			0.47	
Control Delay		27.2			43.4			32.9			15.7	
Queue Delay		0.0			0.0			0.0			0.2	
Total Delay		27.2			43.4			32.9			15.9	
LOS		C			D			C			B	
Approach Delay		27.2			43.4			32.9			15.9	
Approach LOS		C			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 98 (98%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 92.2%		ICU Level of Service F	
Analysis Period (min) 15			

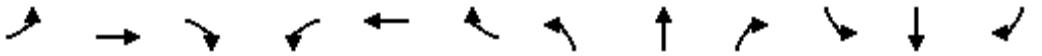
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	209	310	877	478
v/c Ratio	0.36	0.78	0.89	0.47
Control Delay	27.2	43.4	32.9	15.7
Queue Delay	0.0	0.0	0.0	0.2
Total Delay	27.2	43.4	32.9	15.9
Queue Length 50th (m)	26.7	44.5	137.3	75.3
Queue Length 95th (m)	43.5	74.1	#217.7	71.0
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	588	396	988	1011
Starvation Cap Reductn	0	0	0	130
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.78	0.89	0.54

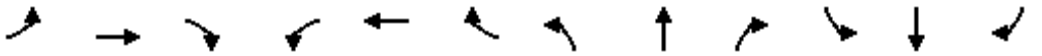
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	243	64	19	212	4	24	11	25	6	17	7
Future Volume (vph)	24	243	64	19	212	4	24	11	25	6	17	7
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		0.974			0.998			0.944			0.967	
Flt Protected		0.996			0.996			0.980			0.990	
Satd. Flow (prot)	0	1797	0	0	1859	0	0	1718	0	0	1756	0
Flt Permitted		0.996			0.996			0.980			0.990	
Satd. Flow (perm)	0	1797	0	0	1859	0	0	1718	0	0	1756	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	26	264	70	21	230	4	26	12	27	7	18	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	360	0	0	255	0	0	65	0	0	33	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
Sign Control		Free			Free			Stop			Stop	

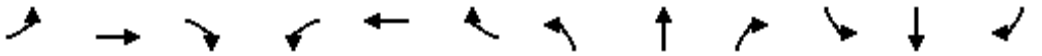
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	243	64	19	212	4	24	11	25	6	17	7
Future Volume (Veh/h)	24	243	64	19	212	4	24	11	25	6	17	7
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	264	70	21	230	4	26	12	27	7	18	8
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)					169							
pX, platoon unblocked												
vC, conflicting volume	277			342			654	678	309	703	711	279
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	277			342			654	678	309	703	711	279
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	98			98			92	96	96	98	94	99
cM capacity (veh/h)	1245			1219			330	336	729	285	326	731

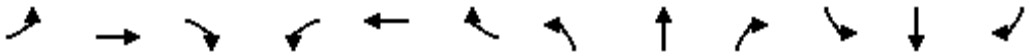
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	360	255	65	33
Volume Left	26	21	26	7
Volume Right	70	4	27	8
cSH	1245	1219	429	364
Volume to Capacity	0.02	0.02	0.15	0.09
Queue Length 95th (m)	0.4	0.4	3.7	2.1
Control Delay (s)	0.8	0.8	14.9	15.9
Lane LOS	A	A	B	C
Approach Delay (s)	0.8	0.8	14.9	15.9
Approach LOS			B	C

Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	36.7%	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)	1	40	18	2	17	1	19	4	7	7	9	2
Future Volume (vph)	1	40	18	2	17	1	19	4	7	7	9	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												
Frt		0.958			0.994			0.967			0.986	
Flt Protected		0.999			0.995			0.969			0.980	
Satd. Flow (prot)	0	1566	0	0	1900	0	0	1737	0	0	1584	0
Flt Permitted		0.999			0.995			0.969			0.980	
Satd. Flow (perm)	0	1566	0	0	1900	0	0	1737	0	0	1584	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	1					1	3		3	3		3
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%	18%	17%	0%	0%	0%	0%	0%	15%	43%	0%	0%
Adj. Flow (vph)	1	43	20	2	18	1	21	4	8	8	10	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	21	0	0	33	0	0	20	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	

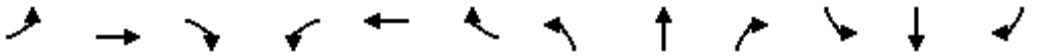
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	40	18	2	17	1	19	4	7	7	9	2
Future Volume (Veh/h)	1	40	18	2	17	1	19	4	7	7	9	2
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)	1	43	20	2	18	1	21	4	8	8	10	2
Pedestrians		3			3						1	
Lane Width (m)		3.7			3.7						3.7	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			63			88	79	56	92	88	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			63			88	79	56	92	88	22
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.5	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.9	4.0	3.3
p0 queue free %	100			100			98	100	99	99	99	100
cM capacity (veh/h)	1608			1553			888	813	972	789	803	1056

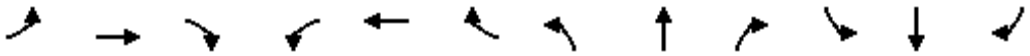
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	64	21	33	20
Volume Left	1	2	21	8
Volume Right	20	1	8	2
cSH	1608	1553	897	817
Volume to Capacity	0.00	0.00	0.04	0.02
Queue Length 95th (m)	0.0	0.0	0.8	0.5
Control Delay (s)	0.1	0.7	9.2	9.5
Lane LOS	A	A	A	A
Approach Delay (s)	0.1	0.7	9.2	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	14.6%	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	0	12	2	0	3	25	613	4	5	500	11
Future Volume (vph)	33	0	12	2	0	3	25	613	4	5	500	11
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			0.919			0.999			0.997	
Flt Protected		0.965			0.980			0.998				
Satd. Flow (prot)	0	1688	0	0	1730	0	0	1845	0	0	1827	0
Flt Permitted		0.965			0.980			0.998				
Satd. Flow (perm)	0	1688	0	0	1730	0	0	1845	0	0	1827	0
Link Speed (k/h)		30			48			40			40	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		7.0			3.0			9.4			12.5	
Confl. Peds. (#/hr)							7					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 (%)	8%	2%	0%	0%	2%	0%	0%	4%	0%	0%	5%	0%
Adj. Flow (vph)	36	0	13	2	0	3	27	666	4	5	543	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	5	0	0	697	0	0	560	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			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	97		97	24		97	97		14
Sign Control		Stop			Stop			Free			Free	

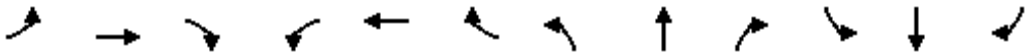
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.5%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	0	12	2	0	3	25	613	4	5	500	11
Future Volume (Veh/h)	33	0	12	2	0	3	25	613	4	5	500	11
Sign Control		Stop			Stop			Free			Free	
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	0	13	2	0	3	27	666	4	5	543	12
Pedestrians		7										
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)								105			139	
pX, platoon unblocked	0.80	0.80	0.92	0.80	0.80	0.76	0.92			0.76		
vC, conflicting volume	1291	1290	556	1294	1294	668	562			670		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1000	999	468	1004	1004	401	475			404		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	78	100	98	99	100	99	97			99		
cM capacity (veh/h)	166	187	544	169	186	495	998			883		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	49	5	697	560
Volume Left	36	2	27	5
Volume Right	13	3	4	12
cSH	203	279	998	883
Volume to Capacity	0.24	0.02	0.03	0.01
Queue Length 95th (m)	6.4	0.4	0.6	0.1
Control Delay (s)	28.2	18.1	0.7	0.2
Lane LOS	D	C	A	A
Approach Delay (s)	28.2	18.1	0.7	0.2
Approach LOS	D	C		

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	59.5%	ICU Level of Service	B	
Analysis Period (min)	15			

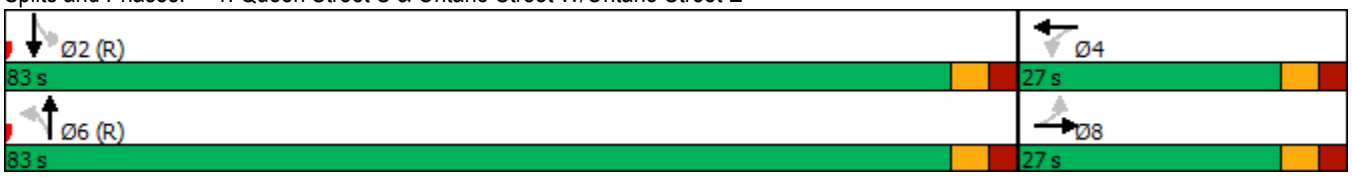


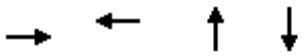
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	5	28	4	13	108	17	569	12	65	682	20
Future Volume (vph)	18	5	28	4	13	108	17	569	12	65	682	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.97			0.96			1.00			1.00	
Frt		0.926			0.883			0.997			0.996	
Flt Protected		0.982			0.999			0.999			0.996	
Satd. Flow (prot)	0	1424	0	0	1634	0	0	1874	0	0	1881	0
Flt Permitted		0.611			0.990			0.971			0.899	
Satd. Flow (perm)	0	881	0	0	1618	0	0	1821	0	0	1694	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			117			2			3	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		10	10		8	17		26	26		17
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 (%)	26%	34%	13%	2%	0%	0%	0%	2%	0%	3%	1%	0%
Adj. Flow (vph)	20	5	30	4	14	117	18	618	13	71	741	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	135	0	0	649	0	0	834	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		83.0	83.0		83.0	83.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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		77.5	77.5		77.5	77.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.6			10.6			88.4			88.4	
Actuated g/C Ratio		0.10			0.10			0.80			0.80	
v/c Ratio		0.49			0.52			0.44			0.61	
Control Delay		41.1			19.0			5.5			6.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		41.1			19.0			5.5			6.6	
LOS		D			B			A			A	
Approach Delay		41.1			19.0			5.5			6.6	
Approach LOS		D			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 8.3		Intersection LOS: A	
Intersection Capacity Utilization 90.7%		ICU Level of Service E	
Analysis Period (min) 15			

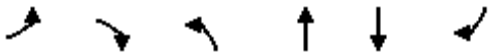
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



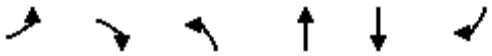


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	55	135	649	834
v/c Ratio	0.49	0.52	0.44	0.61
Control Delay	41.1	19.0	5.5	6.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	41.1	19.0	5.5	6.6
Queue Length 50th (m)	4.7	3.3	48.9	47.8
Queue Length 95th (m)	16.4	19.5	3.4	84.9
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	196	410	1463	1361
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.33	0.44	0.61

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	4	0	613	678	15
Future Volume (vph)	0	4	0	613	678	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.94			1.00	
Frt		0.850			0.997	
Flt Protected						
Satd. Flow (prot)	1795	1585	1865	1902	1893	0
Flt Permitted						
Satd. Flow (perm)	1795	1495	1865	1902	1893	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		294			2	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	28	15	17			17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	1%	1%	5%
Adj. Flow (vph)	0	4	0	666	737	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	4	0	666	753	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	27.5	27.5	10.0	35.5	35.5	
Total Split (s)	28.0	28.0	11.0	71.0	71.0	
Total Split (%)	25.5%	25.5%	10.0%	64.5%	64.5%	
Maximum Green (s)	22.5	22.5	8.0	64.5	64.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)		10.0		105.6	105.6	
Actuated g/C Ratio		0.09		0.96	0.96	
v/c Ratio		0.01		0.36	0.41	
Control Delay		0.0		2.6	1.6	
Queue Delay		0.0		0.0	0.0	
Total Delay		0.0		2.6	1.6	
LOS		A		A	A	
Approach Delay				2.6	1.6	
Approach LOS				A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 2.0		Intersection LOS: A	
Intersection Capacity Utilization 58.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBR	NBT	SBT
Lane Group Flow (vph)	4	666	753
v/c Ratio	0.01	0.36	0.41
Control Delay	0.0	2.6	1.6
Queue Delay	0.0	0.0	0.0
Total Delay	0.0	2.6	1.6
Queue Length 50th (m)	0.0	0.0	0.0
Queue Length 95th (m)	0.0	86.8	51.7
Internal Link Dist (m)		114.6	190.4
Turn Bay Length (m)			
Base Capacity (vph)	539	1826	1817
Starvation Cap Reductn	0	0	44
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.01	0.36	0.42

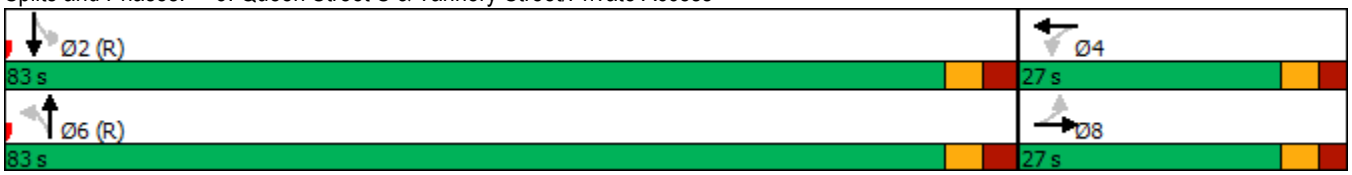
Intersection Summary

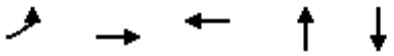
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	6	41	2	4	8	62	463	3	2	429	190
Future Volume (vph)	118	6	41	2	4	8	62	463	3	2	429	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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			0.95	
Frt		0.870			0.919			0.999			0.959	
Flt Protected	0.950				0.993			0.994				
Satd. Flow (prot)	1755	1560	0	0	1689	0	0	1869	0	0	1732	0
Flt Permitted	0.748				0.972			0.863			0.999	
Satd. Flow (perm)	1325	1560	0	0	1645	0	0	1615	0	0	1730	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			9			1			48	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	2%	0%	0%	1%	2%
Adj. Flow (vph)	128	7	45	2	4	9	67	503	3	2	466	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	52	0	0	15	0	0	573	0	0	675	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	15.8	15.8			15.8			82.7			82.7	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
v/c Ratio	0.67	0.20			0.06			0.47			0.51	
Control Delay	61.3	15.6			25.1			4.5			6.2	
Queue Delay	0.0	0.0			0.0			0.4			0.0	
Total Delay	61.3	15.6			25.1			4.9			6.2	
LOS	E	B			C			A			A	
Approach Delay		48.1			25.1			4.9			6.2	
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: 0.67			
Intersection Signal Delay: 11.1		Intersection LOS: B	
Intersection Capacity Utilization 93.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access

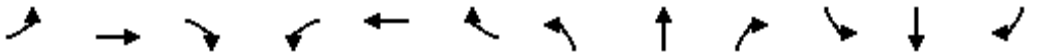




Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	128	52	15	573	675
v/c Ratio	0.67	0.20	0.06	0.47	0.51
Control Delay	61.3	15.6	25.1	4.5	6.2
Queue Delay	0.0	0.0	0.0	0.4	0.0
Total Delay	61.3	15.6	25.1	4.9	6.2
Queue Length 50th (m)	24.3	1.2	1.0	14.5	9.1
Queue Length 95th (m)	40.3	10.5	6.1	m21.3	120.8
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	258	341	328	1214	1312
Starvation Cap Reductn	0	0	0	252	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.15	0.05	0.60	0.51

Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	63	9	167	86	84	11	409	104	3	429	26
Future Volume (vph)	15	63	9	167	86	84	11	409	104	3	429	26
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		0.98			0.95			0.96			0.99	
Frt		0.986			0.966			0.973			0.992	
Flt Protected		0.992			0.976			0.999				
Satd. Flow (prot)	0	1851	0	0	1735	0	0	1767	0	0	1863	0
Flt Permitted		0.914			0.810			0.988			0.998	
Satd. Flow (perm)	0	1690	0	0	1409	0	0	1747	0	0	1859	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			16			16			4	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	34		19	19		34	57		47	47		57
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%	1%	0%	1%	2%	2%	0%	2%	2%	23%	1%	0%
Adj. Flow (vph)	16	68	10	182	93	91	12	445	113	3	466	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	366	0	0	570	0	0	497	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		10.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		24.0	27.0		59.0	59.0		59.0	59.0	

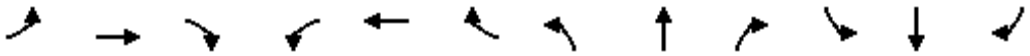
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	24.5%	24.5%		21.8%	24.5%		53.6%	53.6%		53.6%	53.6%	
Maximum Green (s)	20.0	20.0		21.0	20.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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		0.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	10.0	10.0		0.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		31.2			31.2			65.8			65.8	
Actuated g/C Ratio		0.28			0.28			0.60			0.60	
v/c Ratio		0.20			0.89			0.54			0.45	
Control Delay		27.0			59.5			16.7			12.3	
Queue Delay		0.0			0.0			0.0			0.3	
Total Delay		27.0			59.5			16.7			12.6	
LOS		C			E			B			B	
Approach Delay		27.0			59.5			16.7			12.6	
Approach LOS		C			E			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 26.3		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Queen Street S & Pearl Street/Main Street

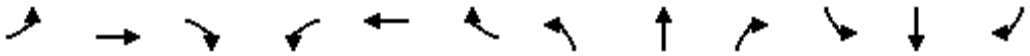
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	94	366	570	497
v/c Ratio	0.20	0.89	0.54	0.45
Control Delay	27.0	59.5	16.7	12.3
Queue Delay	0.0	0.0	0.0	0.3
Total Delay	27.0	59.5	16.7	12.6
Queue Length 50th (m)	13.4	67.0	60.3	39.7
Queue Length 95th (m)	21.5	87.2	113.5	49.5
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	482	410	1052	1114
Starvation Cap Reductn	0	0	0	204
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.89	0.54	0.55

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	104	18	28	204	3	25	15	45	1	6	12
Future Volume (vph)	32	104	18	28	204	3	25	15	45	1	6	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		0.984			0.998			0.928			0.916	
Flt Protected		0.990			0.994			0.986			0.998	
Satd. Flow (prot)	0	1814	0	0	1857	0	0	1709	0	0	1723	0
Flt Permitted		0.990			0.994			0.986			0.998	
Satd. Flow (perm)	0	1814	0	0	1857	0	0	1709	0	0	1723	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	35	113	20	30	222	3	27	16	49	1	7	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	0	0	255	0	0	92	0	0	21	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
Sign Control		Free			Free			Stop			Stop	

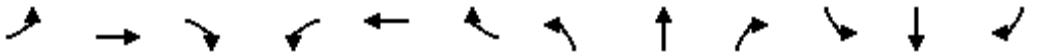
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	104	18	28	204	3	25	15	45	1	6	12
Future Volume (Veh/h)	32	104	18	28	204	3	25	15	45	1	6	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)	35	113	20	30	222	3	27	16	49	1	7	13
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)					169							
pX, platoon unblocked												
vC, conflicting volume	235			148			513	503	149	554	512	238
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	235			148			513	503	149	554	512	238
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	97			98			94	96	94	100	98	98
cM capacity (veh/h)	1332			1426			422	430	881	365	431	794

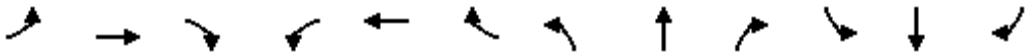
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	168	255	92	21
Volume Left	35	30	27	1
Volume Right	20	3	49	13
cSH	1332	1426	587	594
Volume to Capacity	0.03	0.02	0.16	0.04
Queue Length 95th (m)	0.6	0.5	3.9	0.8
Control Delay (s)	1.8	1.1	12.3	11.3
Lane LOS	A	A	B	B
Approach Delay (s)	1.8	1.1	12.3	11.3
Approach LOS			B	B

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	33.8%	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	9	8	11	16	5	3	4	6	5	8	0
Future Volume (vph)	0	9	8	11	16	5	3	4	6	5	8	0
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		0.936			0.980			0.932				
Flt Protected					0.983			0.989			0.982	
Satd. Flow (prot)	0	1530	0	0	1739	0	0	1647	0	0	1554	0
Flt Permitted					0.983			0.989			0.982	
Satd. Flow (perm)	0	1530	0	0	1739	0	0	1647	0	0	1554	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	4		1	1		4	8		2	2		8
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%	18%	17%	0%	7%	20%	0%	0%	15%	60%	0%	0%
Adj. Flow (vph)	0	10	9	12	17	5	3	4	7	5	9	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	34	0	0	14	0	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)		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	

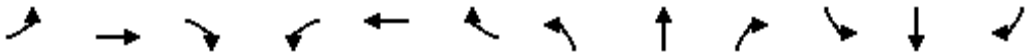
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	8	11	16	5	3	4	6	5	8	0
Future Volume (Veh/h)	0	9	8	11	16	5	3	4	6	5	8	0
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)	0	10	9	12	17	5	3	4	7	5	9	0
Pedestrians		8			2			1			4	
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		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	26			20			72	66	18	73	68	32
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			20			72	66	18	73	68	32
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			99			100	100	99	99	99	100
cM capacity (veh/h)	1595			1608			901	819	1022	774	817	1037

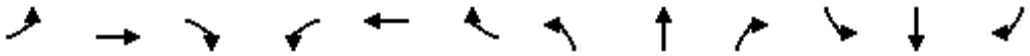
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	19	34	14	14
Volume Left	0	12	3	5
Volume Right	9	5	7	0
cSH	1595	1608	929	801
Volume to Capacity	0.00	0.01	0.02	0.02
Queue Length 95th (m)	0.0	0.2	0.3	0.4
Control Delay (s)	0.0	2.6	8.9	9.6
Lane LOS		A	A	A
Approach Delay (s)	0.0	2.6	8.9	9.6
Approach LOS			A	A

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	21.4%	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)	16	0	16	6	0	6	27	561	8	3	613	42
Future Volume (vph)	16	0	16	6	0	6	27	561	8	3	613	42
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		0.932			0.932			0.998			0.991	
Flt Protected		0.976			0.976			0.998				
Satd. Flow (prot)	0	1680	0	0	1748	0	0	1896	0	0	1886	0
Flt Permitted		0.976			0.976			0.998				
Satd. Flow (perm)	0	1680	0	0	1748	0	0	1896	0	0	1886	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							15					14
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 (%)	8%	2%	0%	0%	2%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	17	0	17	7	0	7	29	610	9	3	666	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	0	14	0	0	648	0	0	715	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			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		97	24		14	97		14	24		97
Sign Control		Stop			Stop			Free			Free	

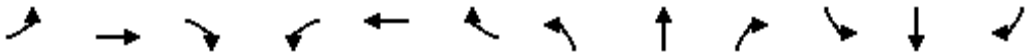
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	0	16	6	0	6	27	561	8	3	613	42
Future Volume (Veh/h)	16	0	16	6	0	6	27	561	8	3	613	42
Sign Control		Stop			Stop			Free			Free	
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)	17	0	17	7	0	7	29	610	9	3	666	46
Pedestrians		15										
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)								105			139	
pX, platoon unblocked	0.88	0.88	0.90	0.88	0.88	0.83	0.90			0.83		
vC, conflicting volume	1390	1387	704	1384	1406	614	727			619		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1130	1127	620	1124	1148	437	645			443		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	100	96	95	100	99	97			100		
cM capacity (veh/h)	145	171	438	150	166	520	847			940		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	34	14	648	715
Volume Left	17	7	29	3
Volume Right	17	7	9	46
cSH	218	233	847	940
Volume to Capacity	0.16	0.06	0.03	0.00
Queue Length 95th (m)	3.8	1.3	0.7	0.1
Control Delay (s)	24.5	21.5	0.9	0.1
Lane LOS	C	C	A	A
Approach Delay (s)	24.5	21.5	0.9	0.1
Approach LOS	C	C		

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	59.5%	ICU Level of Service	B	
Analysis Period (min)	15			

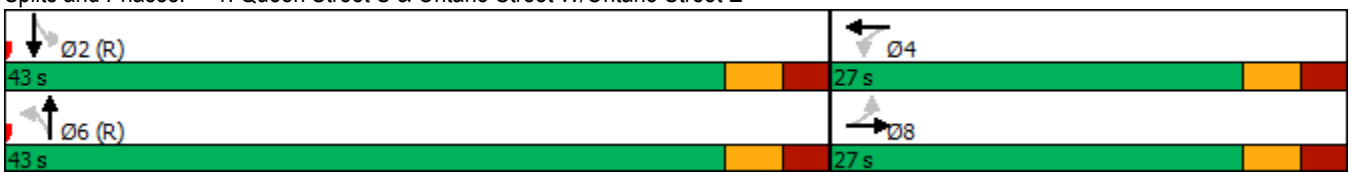


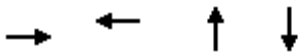
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	3	3	10	3	66	6	613	11	43	534	9
Future Volume (vph)	7	3	3	10	3	66	6	613	11	43	534	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.97			1.00			1.00	
Frt		0.971			0.887			0.998			0.998	
Flt Protected		0.972			0.994			0.999			0.996	
Satd. Flow (prot)	0	1536	0	0	1615	0	0	1894	0	0	1887	0
Flt Permitted		0.836			0.953			0.995			0.924	
Satd. Flow (perm)	0	1312	0	0	1547	0	0	1886	0	0	1749	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			72			2			2	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		2	2		8	24		19	19		24
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 (%)	29%	2%	2%	2%	2%	2%	2%	1%	2%	2%	1%	2%
Adj. Flow (vph)	8	3	3	11	3	72	7	666	12	47	580	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	86	0	0	685	0	0	637	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.5	37.5		37.5	37.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.0			10.0			53.2			53.2	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
v/c Ratio		0.07			0.30			0.48			0.48	
Control Delay		24.5			13.0			7.8			5.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.5			13.0			7.8			5.9	
LOS		C			B			A			A	
Approach Delay		24.5			13.0			7.8			5.9	
Approach LOS		C			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 10 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 7.4		Intersection LOS: A	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

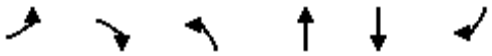
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



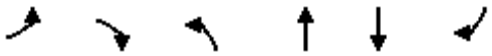


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	14	86	685	637
v/c Ratio	0.07	0.30	0.48	0.48
Control Delay	24.5	13.0	7.8	5.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.5	13.0	7.8	5.9
Queue Length 50th (m)	1.2	1.5	28.2	29.1
Queue Length 95th (m)	5.4	11.7	82.7	47.6
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	405	525	1433	1329
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.16	0.48	0.48

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	59	27	26	566	510	38
Future Volume (vph)	59	27	26	566	510	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.91	0.94	0.98		0.99	
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	1902	1874	0
Flt Permitted	0.950		0.376			
Satd. Flow (perm)	1625	1500	697	1902	1874	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		29			7	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	46	22	54			54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	64	29	28	615	554	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	29	28	615	595	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	10.0	35.5	35.5	
Total Split (s)	23.0	23.0	11.0	36.0	36.0	
Total Split (%)	32.9%	32.9%	15.7%	51.4%	51.4%	
Maximum Green (s)	17.5	17.5	8.0	29.5	29.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	5.5	5.5		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	10.3	10.3	53.1	48.1	48.1	
Actuated g/C Ratio	0.15	0.15	0.76	0.69	0.69	
v/c Ratio	0.27	0.12	0.04	0.47	0.46	
Control Delay	29.7	11.8	2.5	8.2	5.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.7	11.8	2.5	8.2	5.8	
LOS	C	B	A	A	A	
Approach Delay	24.1			7.9	5.8	
Approach LOS	C			A	A	

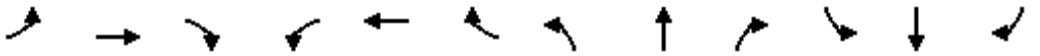
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 25 (36%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 51.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	64	29	28	615	595
v/c Ratio	0.27	0.12	0.04	0.47	0.46
Control Delay	29.7	11.8	2.5	8.2	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.7	11.8	2.5	8.2	5.8
Queue Length 50th (m)	7.0	0.0	0.9	23.8	14.4
Queue Length 95th (m)	15.9	5.9	m1.2	75.7	20.1
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	406	396	657	1308	1291
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	0.16	0.07	0.04	0.47	0.46

Intersection Summary

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

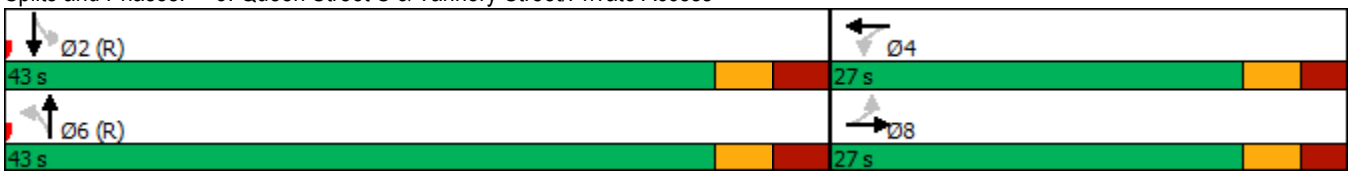


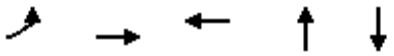
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	1	77	1	1	0	91	370	1	1	365	148
Future Volume (vph)	155	1	77	1	1	0	91	370	1	1	365	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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	0.95	0.92			0.97			0.99			0.95	
Frt		0.852									0.961	
Flt Protected	0.950				0.976			0.990				
Satd. Flow (prot)	1789	1482	0	0	1838	0	0	1879	0	0	1733	0
Flt Permitted	0.757				0.909			0.809				
Satd. Flow (perm)	1348	1482	0	0	1668	0	0	1521	0	0	1733	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		84									44	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
Confl. Peds. (#/hr)	33		35	35		33	101		84	84		101
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%	2%	1%	2%
Adj. Flow (vph)	168	1	84	1	1	0	99	402	1	1	397	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	85	0	0	2	0	0	502	0	0	559	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.0	37.0		37.0	37.0	
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)	14.4	14.4			14.4			44.1			44.1	
Actuated g/C Ratio	0.21	0.21			0.21			0.63			0.63	
v/c Ratio	0.61	0.23			0.01			0.52			0.50	
Control Delay	34.2	7.1			19.0			7.3			6.6	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	34.2	7.1			19.0			7.3			6.6	
LOS	C	A			B			A			A	
Approach Delay		25.1			19.0			7.3			6.6	
Approach LOS		C			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 48 (69%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 85.9%		ICU Level of Service E	
Analysis Period (min) 15			

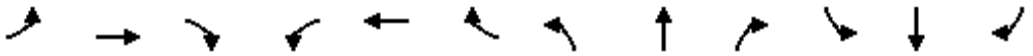
Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	168	85	2	502	559
v/c Ratio	0.61	0.23	0.01	0.52	0.50
Control Delay	34.2	7.1	19.0	7.3	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	7.1	19.0	7.3	6.6
Queue Length 50th (m)	18.7	0.1	0.2	17.8	23.9
Queue Length 95th (m)	31.6	8.3	1.5	36.8	82.9
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	414	513	512	958	1109
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	0.41	0.17	0.00	0.52	0.50

Intersection Summary

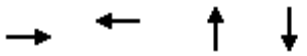


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	18	7	148	41	78	11	365	127	50	359	26
Future Volume (vph)	14	18	7	148	41	78	11	365	127	50	359	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.97			0.93			0.96			0.98	
Frt		0.975			0.961			0.966			0.992	
Flt Protected		0.983			0.973			0.999			0.994	
Satd. Flow (prot)	0	1774	0	0	1713	0	0	1760	0	0	1834	0
Flt Permitted		0.857			0.804			0.988			0.897	
Satd. Flow (perm)	0	1519	0	0	1362	0	0	1739	0	0	1646	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			30			37			7	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	53		42	42		53	87		66	66		87
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%	1%	2%	2%	2%	1%	1%	2%	2%	2%
Adj. Flow (vph)	15	20	8	161	45	85	12	397	138	54	390	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	291	0	0	547	0	0	472	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			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	
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)	10.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		17.3			17.3			39.7			39.7	
Actuated g/C Ratio		0.25			0.25			0.57			0.57	
v/c Ratio		0.11			0.81			0.55			0.50	
Control Delay		16.9			40.4			12.1			4.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		16.9			40.4			12.1			4.4	
LOS		B			D			B			A	
Approach Delay		16.9			40.4			12.1			4.4	
Approach LOS		B			D			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 51 (73%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 15.6		Intersection LOS: B	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

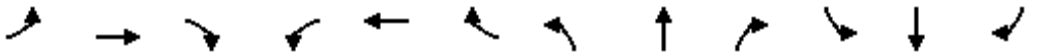
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	43	291	547	472
v/c Ratio	0.11	0.81	0.55	0.50
Control Delay	16.9	40.4	12.1	4.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	16.9	40.4	12.1	4.4
Queue Length 50th (m)	3.1	28.5	37.3	6.2
Queue Length 95th (m)	9.2	#58.4	63.7	14.7
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	439	410	1001	936
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.71	0.55	0.50

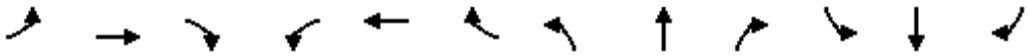
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	155	7	31	176	0	12	0	40	1	0	4
Future Volume (vph)	7	155	7	31	176	0	12	0	40	1	0	4
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		0.994						0.896			0.892	
Flt Protected		0.998			0.993			0.989			0.990	
Satd. Flow (prot)	0	1868	0	0	1870	0	0	1669	0	0	1644	0
Flt Permitted		0.998			0.993			0.989			0.990	
Satd. Flow (perm)	0	1868	0	0	1870	0	0	1669	0	0	1644	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
Confl. Peds. (#/hr)	15		13	13		15	5		8	8		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%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Adj. Flow (vph)	8	168	8	34	191	0	13	0	43	1	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	184	0	0	225	0	0	56	0	0	5	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
Sign Control		Free			Free			Stop			Stop	

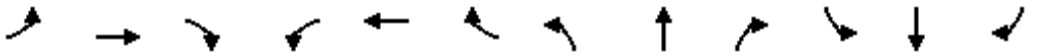
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	155	7	31	176	0	12	0	40	1	0	4
Future Volume (Veh/h)	7	155	7	31	176	0	12	0	40	1	0	4
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)	8	168	8	34	191	0	13	0	43	1	0	4
Pedestrians		5			8			13			15	
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)					169							
pX, platoon unblocked												
vC, conflicting volume	206			189			469	475	193	513	479	211
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	206			189			469	475	193	513	479	211
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	99			98			97	100	95	100	100	100
cM capacity (veh/h)	1346			1368			473	461	832	411	459	814

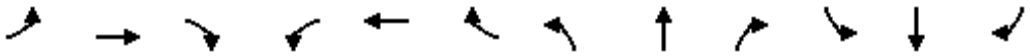
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	184	225	56	5
Volume Left	8	34	13	1
Volume Right	8	0	43	4
cSH	1346	1368	707	680
Volume to Capacity	0.01	0.02	0.08	0.01
Queue Length 95th (m)	0.1	0.5	1.8	0.2
Control Delay (s)	0.4	1.3	10.5	10.3
Lane LOS	A	A	B	B
Approach Delay (s)	0.4	1.3	10.5	10.3
Approach LOS			B	B

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	35.6%	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)	0	5	4	1	9	5	0	3	9	3	3	0
Future Volume (vph)	0	5	4	1	9	5	0	3	9	3	3	0
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		0.940			0.958			0.896				
Flt Protected					0.997						0.976	
Satd. Flow (prot)	0	1770	0	0	1657	0	0	1569	0	0	1431	0
Flt Permitted					0.997						0.976	
Satd. Flow (perm)	0	1770	0	0	1657	0	0	1569	0	0	1431	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	5					5	4					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%	2%	2%	2%	7%	20%	2%	2%	12%	60%	2%	2%
Adj. Flow (vph)	0	5	4	1	10	5	0	3	10	3	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	16	0	0	13	0	0	6	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	

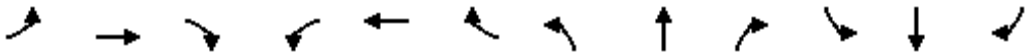
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	5	4	1	9	5	0	3	9	3	3	0
Future Volume (Veh/h)	0	5	4	1	9	5	0	3	9	3	3	0
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)	0	5	4	1	10	5	0	3	10	3	3	0
Pedestrians		4									5	
Lane Width (m)		3.7									3.7	
Walking Speed (m/s)		1.1									1.1	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			9			27	29	7	38	28	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			9			27	29	7	38	28	22
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			100			100	100	99	100	100	100
cM capacity (veh/h)	1589			1611			973	859	1047	822	860	1047

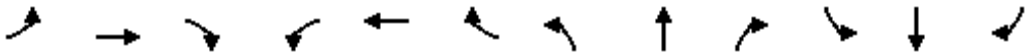
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	16	13	6
Volume Left	0	1	0	3
Volume Right	4	5	10	0
cSH	1589	1611	997	840
Volume to Capacity	0.00	0.00	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.3	0.2
Control Delay (s)	0.0	0.5	8.7	9.3
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.5	8.7	9.3
Approach LOS			A	A

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	16.1%	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)	34	0	25	3	0	3	14	485	6	4	514	25
Future Volume (vph)	34	0	25	3	0	3	14	485	6	4	514	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		0.943			0.932			0.998			0.994	
Flt Protected		0.972			0.976			0.999				
Satd. Flow (prot)	0	1726	0	0	1713	0	0	1878	0	0	1872	0
Flt Permitted		0.972			0.976			0.999				
Satd. Flow (perm)	0	1726	0	0	1713	0	0	1878	0	0	1872	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							44					40
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)	37	0	27	3	0	3	15	527	7	4	559	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	6	0	0	549	0	0	590	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			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)	97		97	97		97	97		97	97		97
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.4%	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)	34	0	25	3	0	3	14	485	6	4	514	25
Future Volume (Veh/h)	34	0	25	3	0	3	14	485	6	4	514	25
Sign Control		Stop			Stop			Free			Free	
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)	37	0	27	3	0	3	15	527	7	4	559	27
Pedestrians		44										
Lane Width (m)		3.7										
Walking Speed (m/s)		1.1										
Percent Blockage		4										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								105			139	
pX, platoon unblocked	0.91	0.91	0.82	0.91	0.91	0.82	0.82			0.82		
vC, conflicting volume	1188	1188	616	1168	1198	530	630			534		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	721	721	426	699	732	322	442			327		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	100	95	99	100	99	98			100		
cM capacity (veh/h)	284	302	496	291	298	592	882			1015		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	64	6	549	590
Volume Left	37	3	15	4
Volume Right	27	3	7	27
cSH	346	390	882	1015
Volume to Capacity	0.18	0.02	0.02	0.00
Queue Length 95th (m)	4.7	0.3	0.4	0.1
Control Delay (s)	17.7	14.4	0.5	0.1
Lane LOS	C	B	A	A
Approach Delay (s)	17.7	14.4	0.5	0.1
Approach LOS	C	B		

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	46.4%	ICU Level of Service	A	
Analysis Period (min)	15			

APPENDIX J

ITE Trip Generation

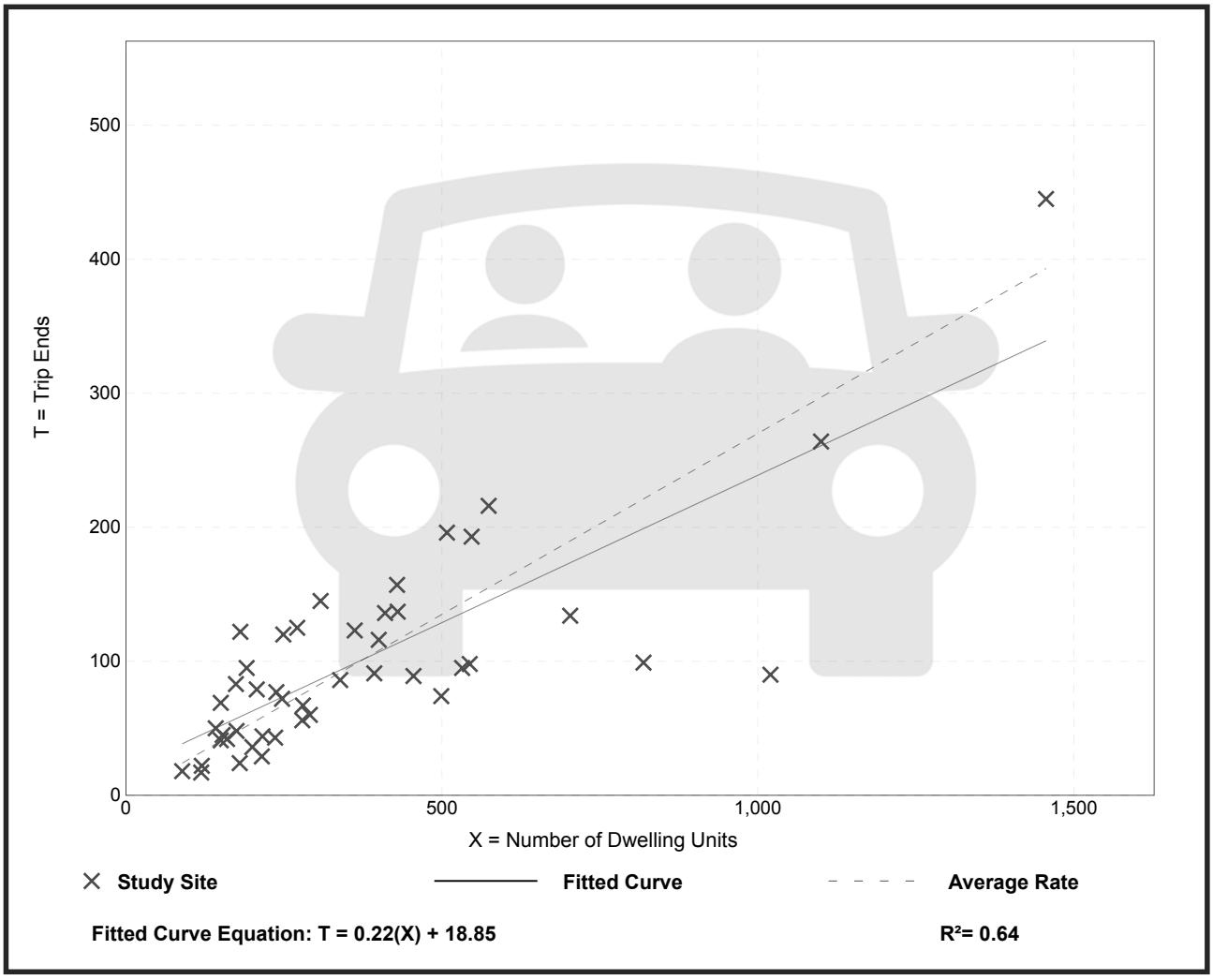
Multifamily Housing (High-Rise)
Not Close to Rail Transit (222)

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



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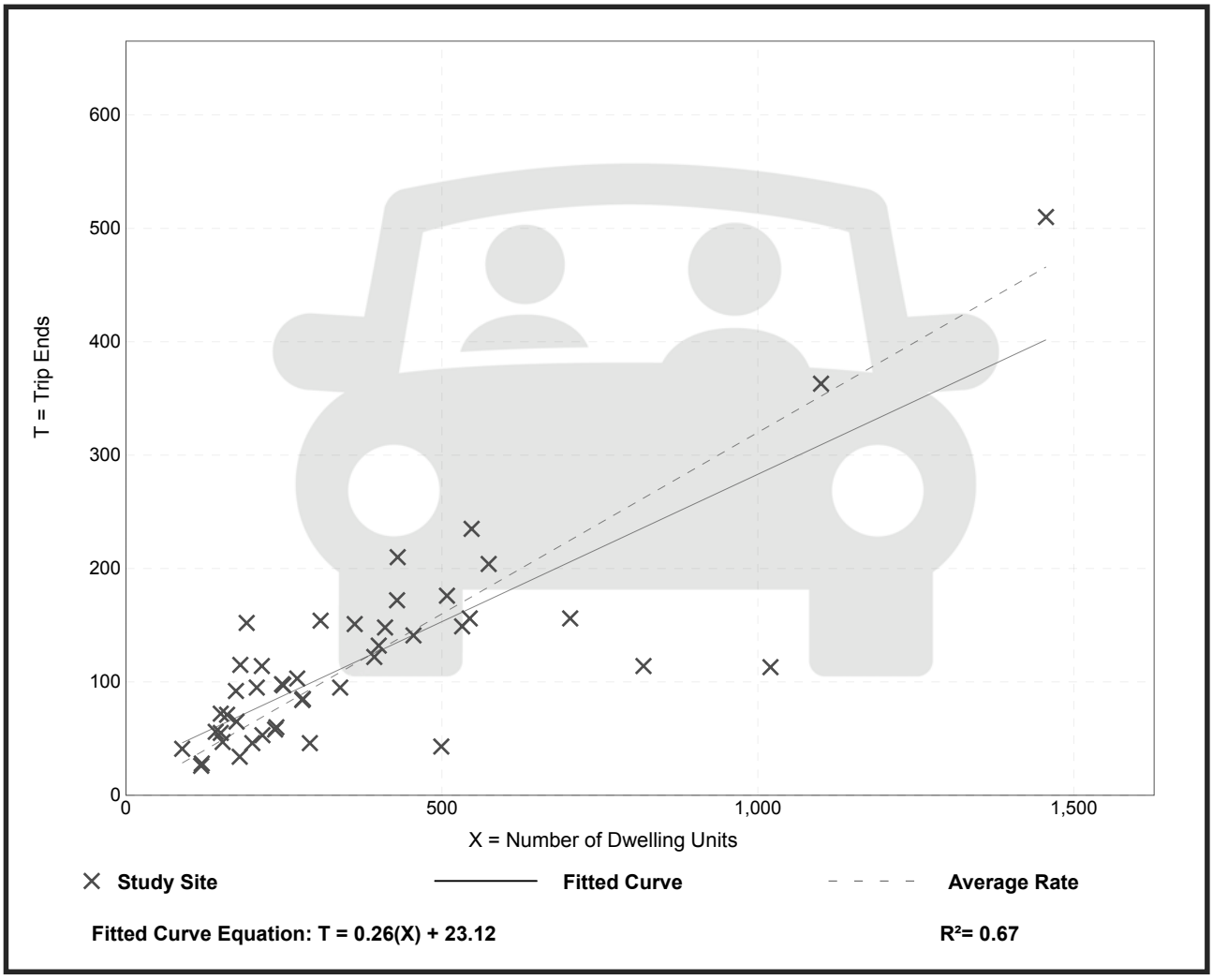
Multifamily Housing (High-Rise)
Not Close to Rail Transit (222)

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



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

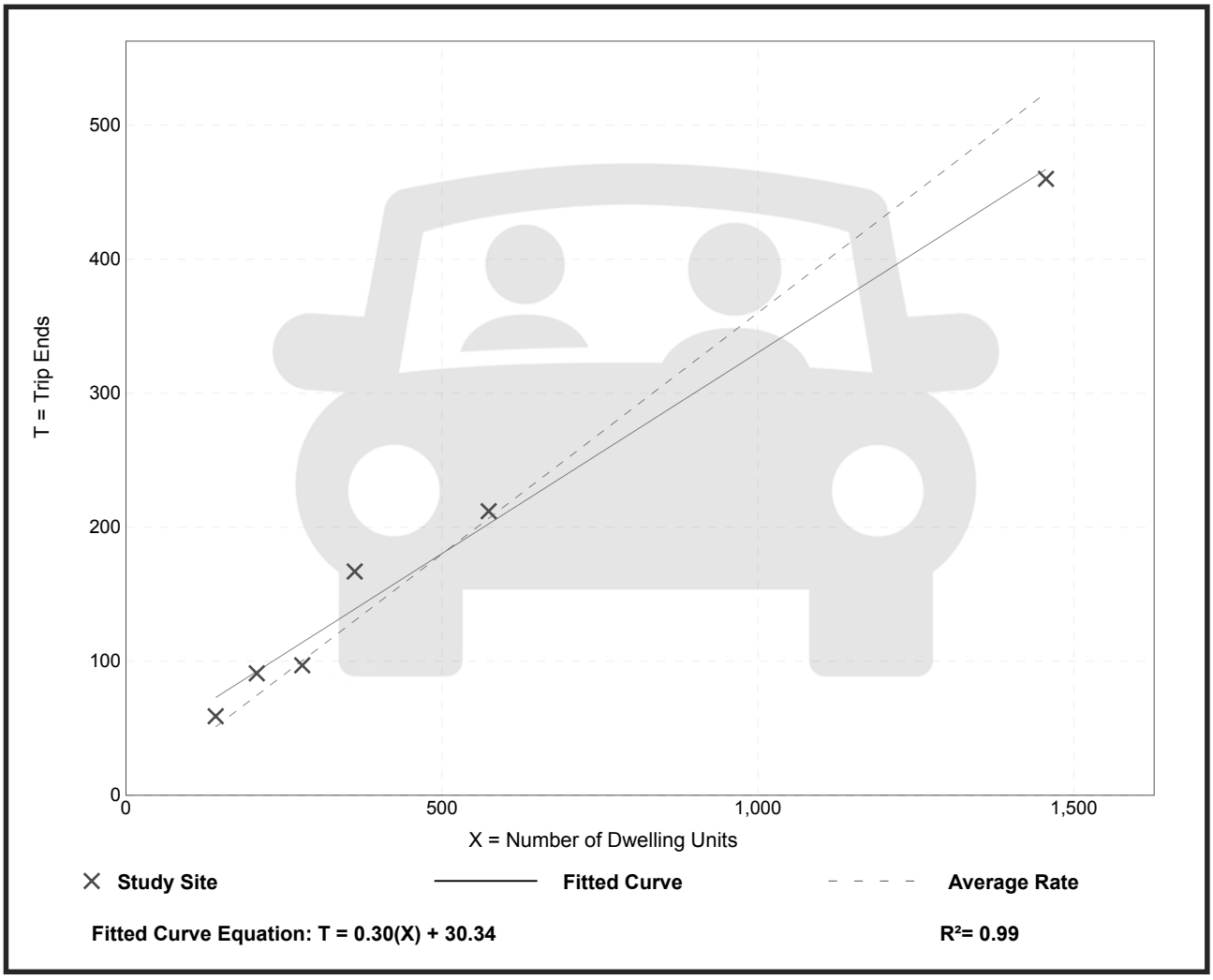
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 6
Avg. Num. of Dwelling Units: 503
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.36	0.32 - 0.46	0.06

Data Plot and Equation



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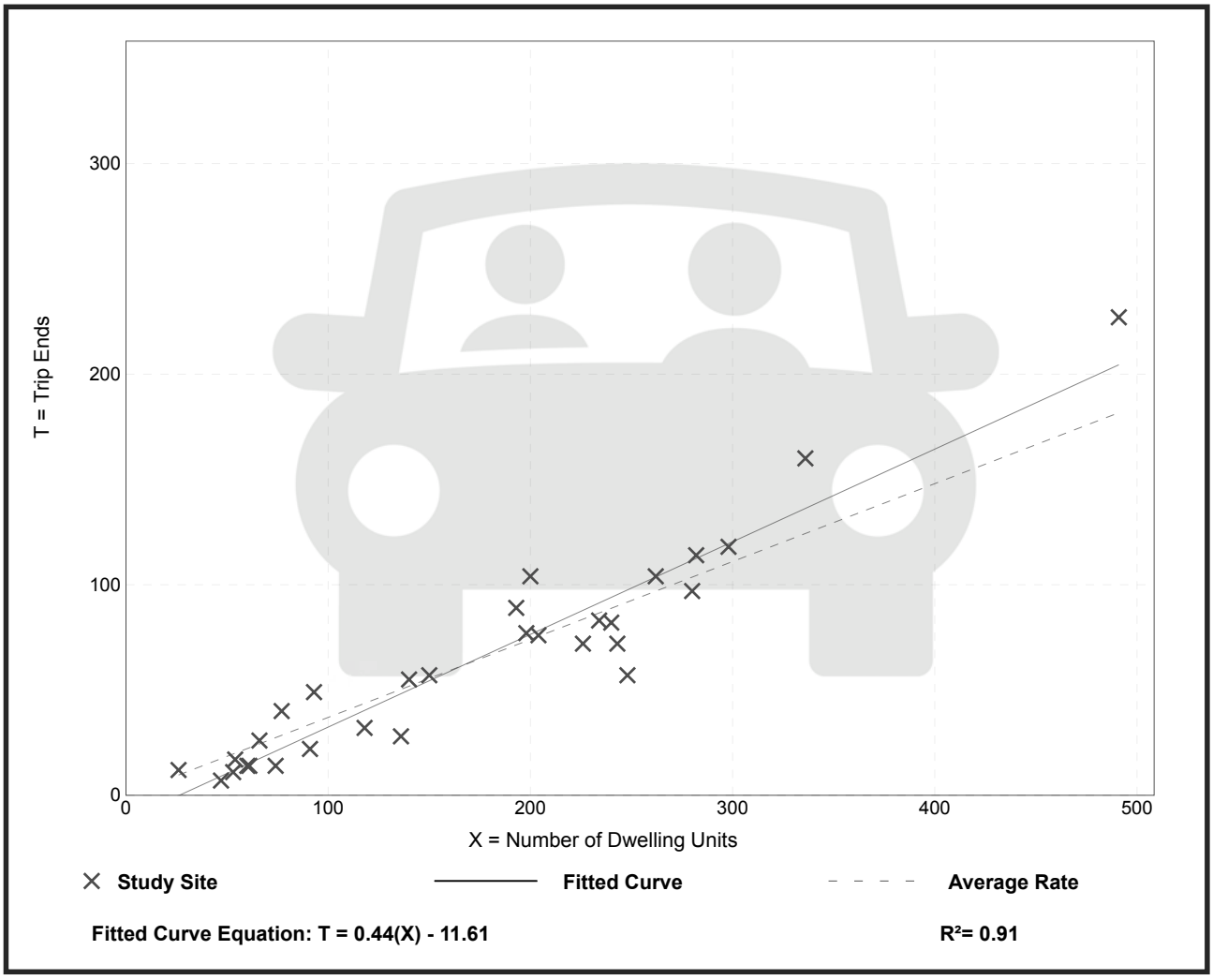
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

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: 30
Avg. Num. of Dwelling Units: 173
Directional Distribution: 23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



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Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

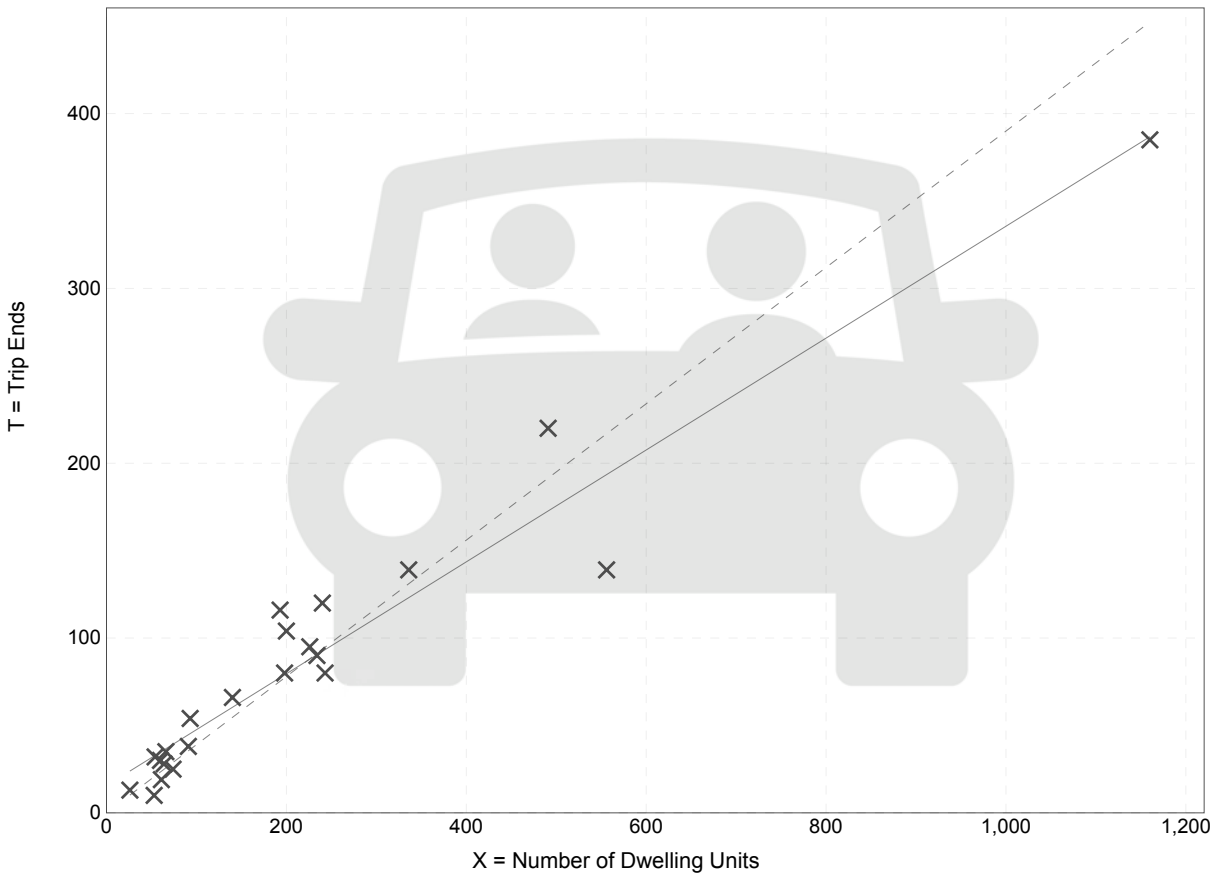
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 22
Avg. Num. of Dwelling Units: 221
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.60	0.10

Data Plot and Equation



Fitted Curve Equation: T = 0.32(X) + 15.57 **R^2= 0.93**

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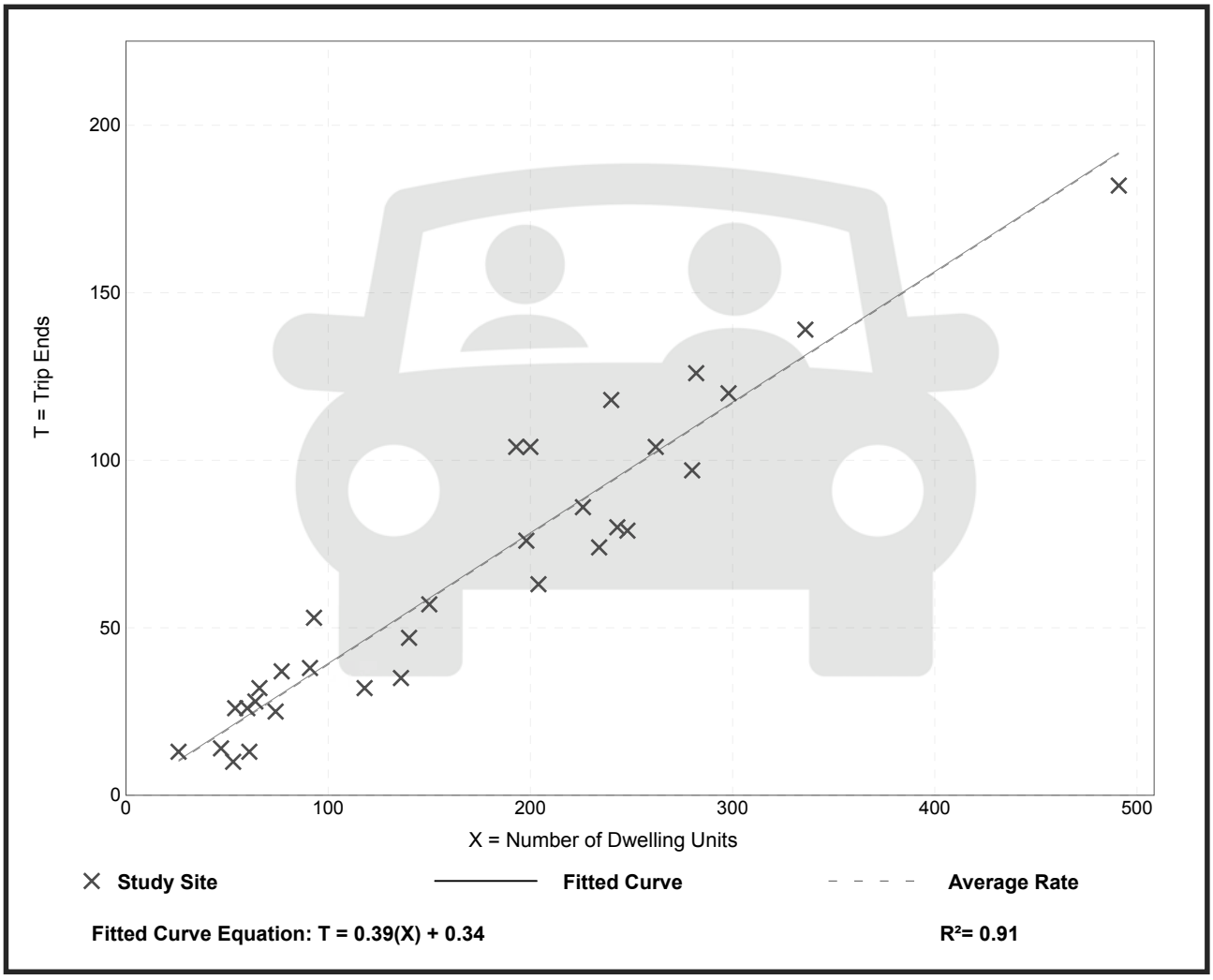
Multifamily Housing (Mid-Rise)
Not Close to Rail Transit (221)

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: 31
Avg. Num. of Dwelling Units: 169
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



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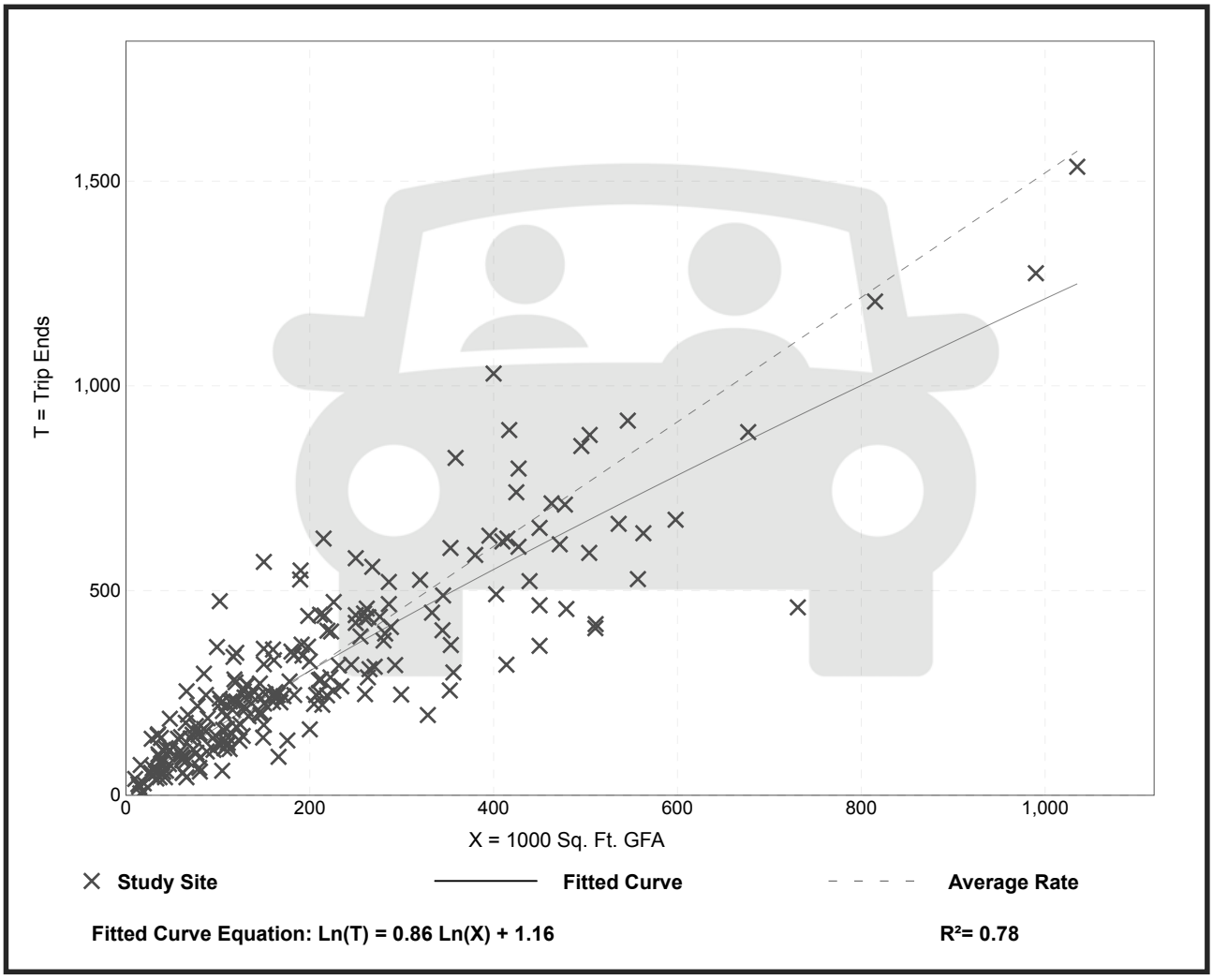
General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
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: 221
Avg. 1000 Sq. Ft. GFA: 201
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.52	0.32 - 4.93	0.58

Data Plot and Equation



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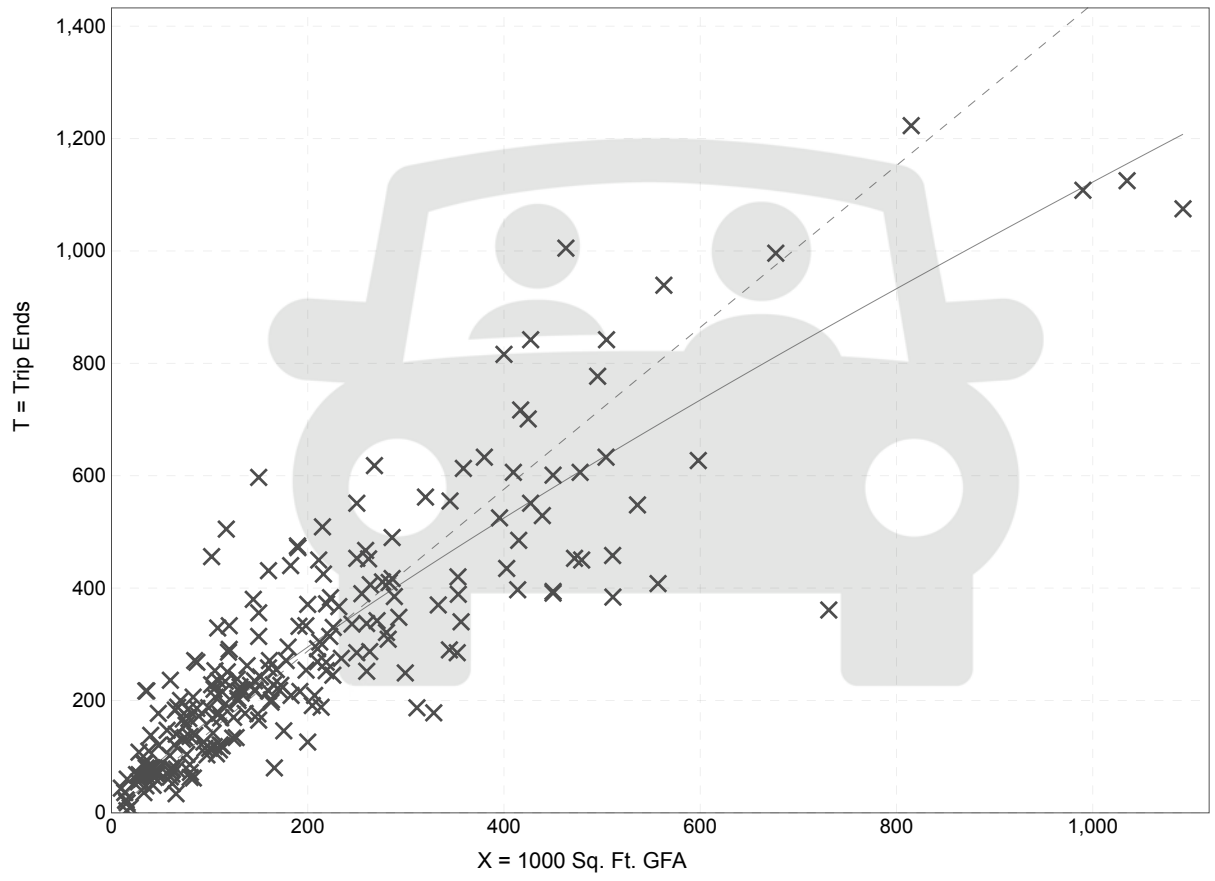
General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
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: 232
Avg. 1000 Sq. Ft. GFA: 199
Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.44	0.26 - 6.20	0.60

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.83 Ln(X) + 1.29 **R^2= 0.77**

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General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

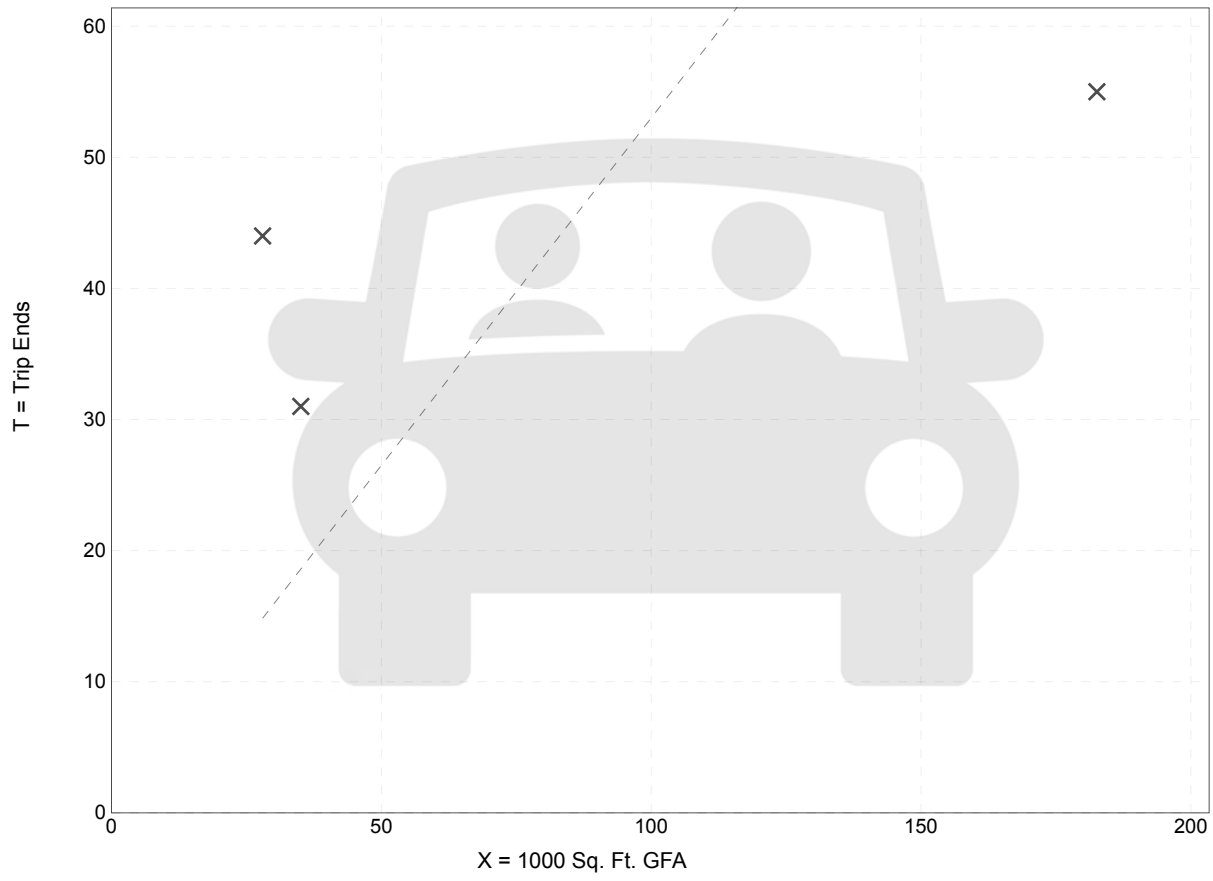
Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 82
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.53	0.30 - 1.57	0.52

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

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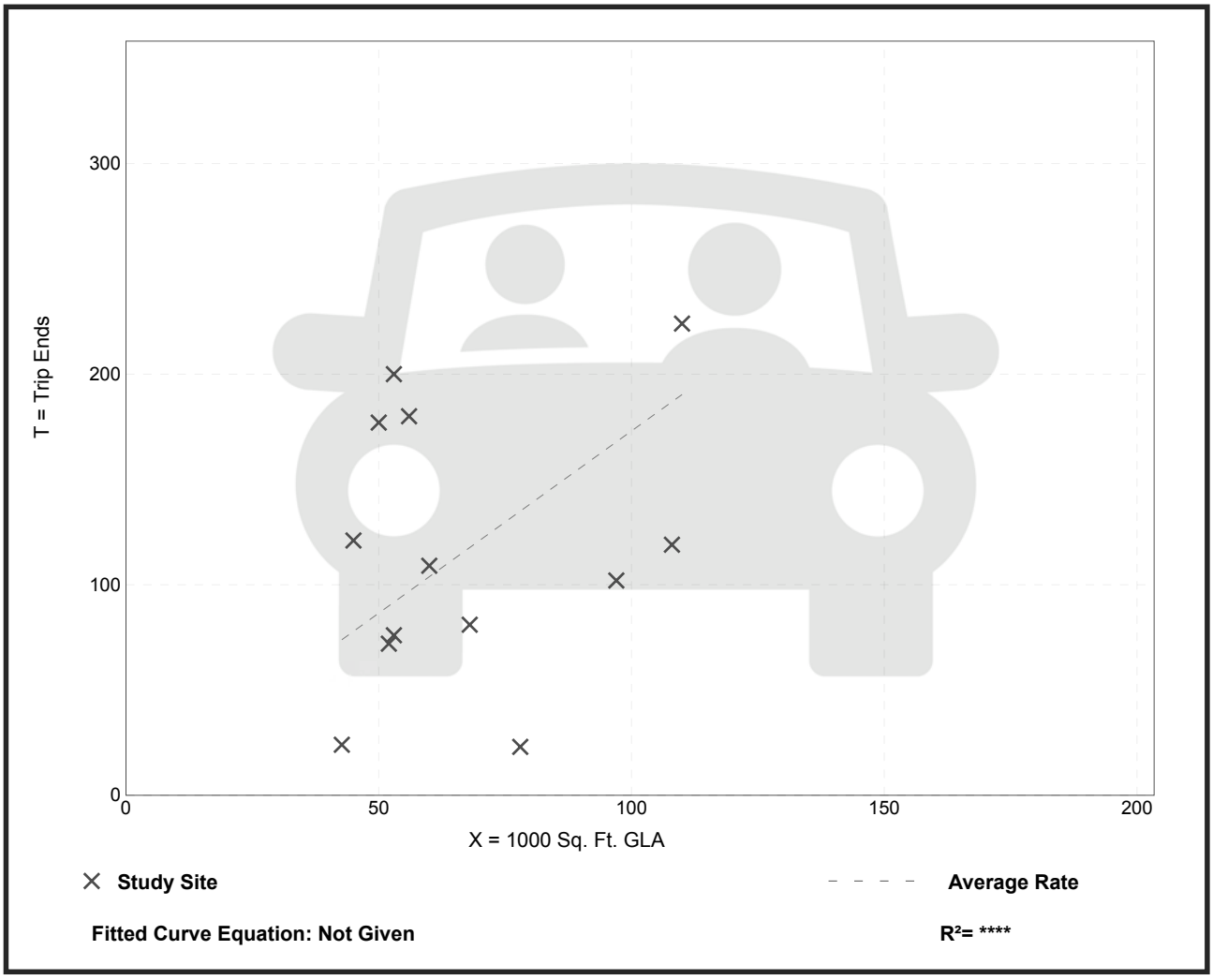
Shopping Plaza (40-150k) - Supermarket - No (821)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
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: 13
Avg. 1000 Sq. Ft. GLA: 67
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
1.73	0.29 - 3.77	1.06

Data Plot and Equation



Fitted Curve Equation: Not Given **R^2= ****

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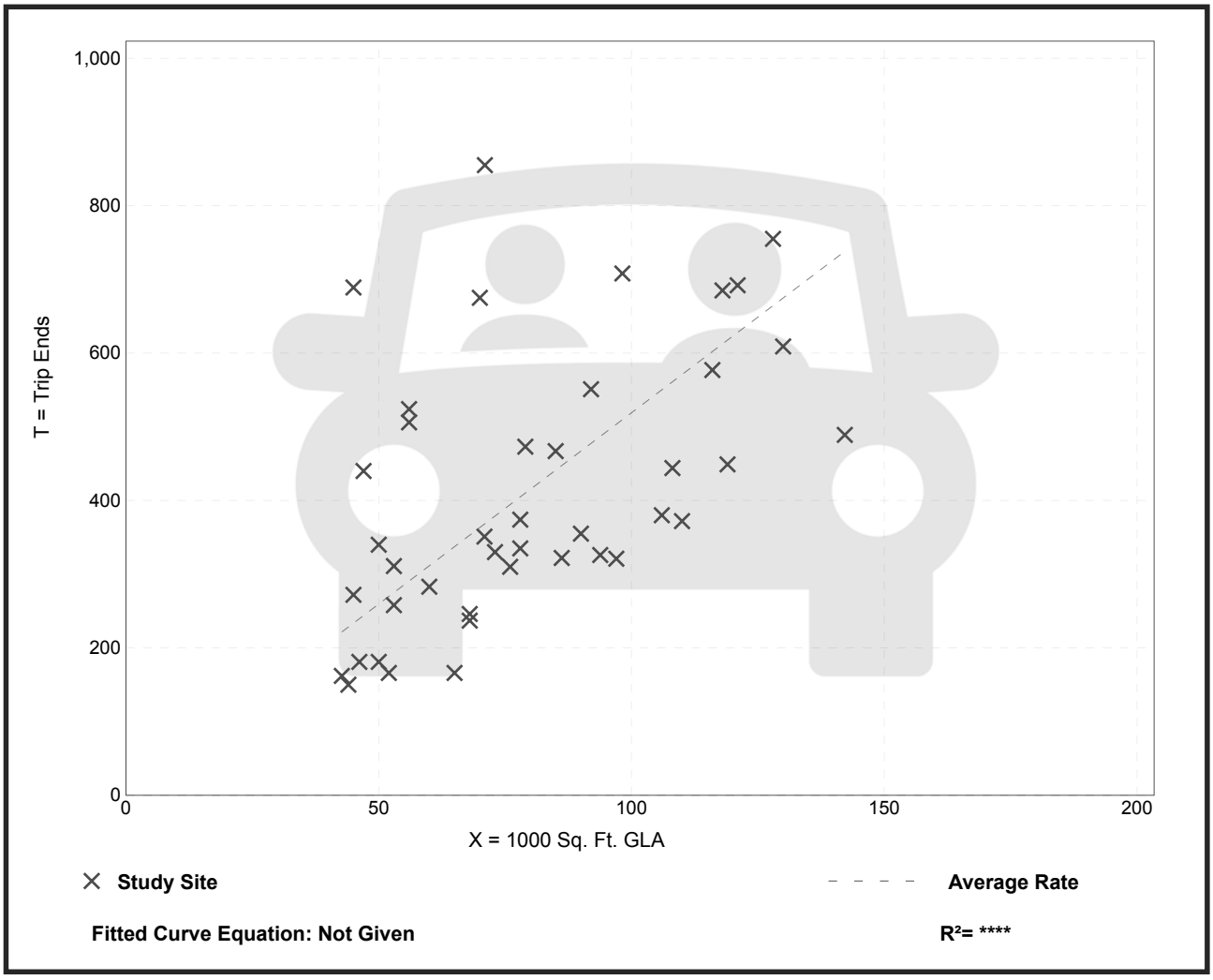
Shopping Plaza (40-150k) - Supermarket - No (821)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
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: 42
Avg. 1000 Sq. Ft. GLA: 79
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
5.19	2.55 - 15.31	2.28

Data Plot and Equation



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Shopping Plaza (40-150k) - Supermarket - No (821)

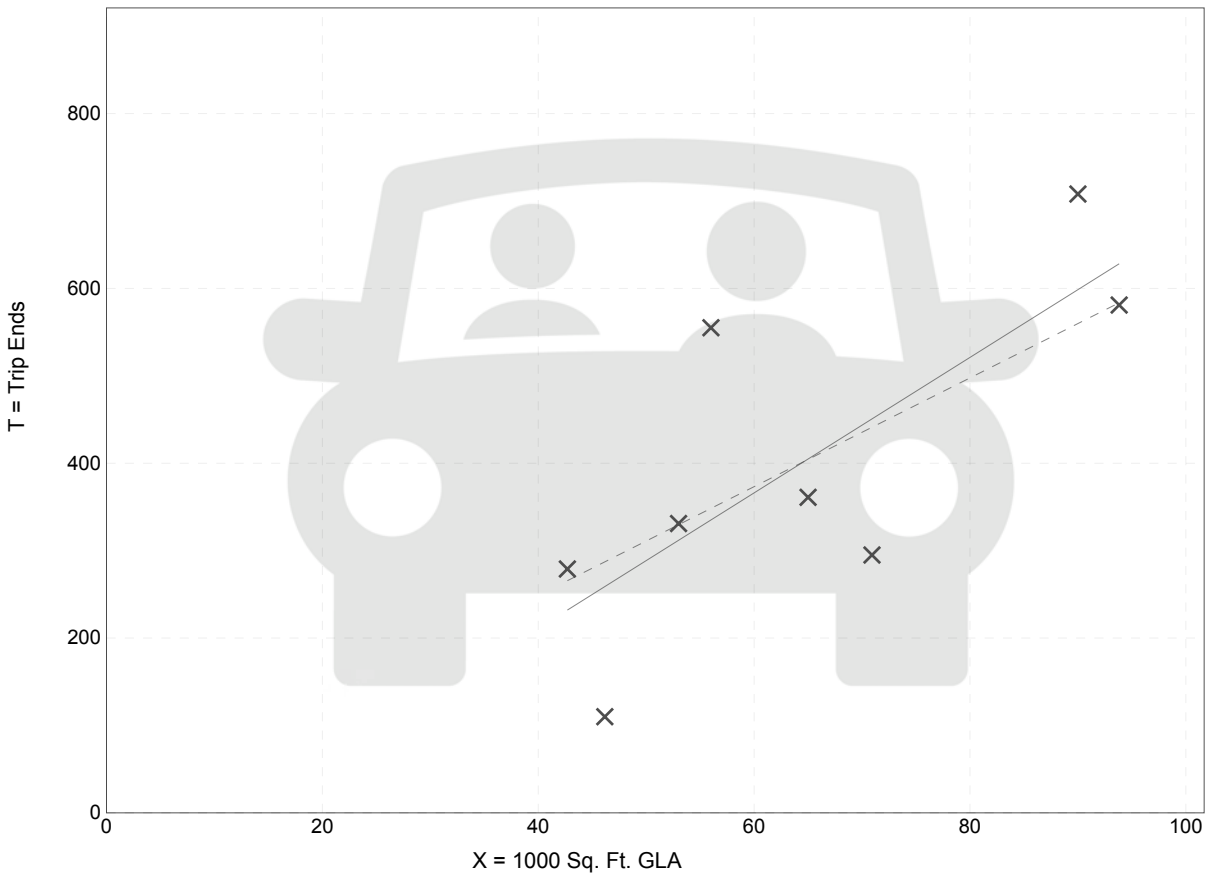
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
Avg. 1000 Sq. Ft. GLA: 65
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.22	2.38 - 9.91	2.11

Data Plot and Equation



Fitted Curve Equation: T = 7.75(X) - 98.93 **R^2= 0.58**

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APPENDIX K

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)	3.8%	21.0%	13.8%	0.0%	8.4%	3.2%	17.2%	2.7%	1.8%	7.6%	12.6%	0.0%	1.0%	0.0%	7.0%	0.0%	100.0%
AM (OUT)	4.3%	9.4%	5.5%	16.2%	9.6%	5.2%	13.4%	1.0%	0.9%	2.4%	3.3%	10.1%	12.0%	0.0%	5.6%	1.2%	100.0%
PM (IN)	2.2%	10.4%	3.9%	18.2%	8.0%	6.8%	8.7%	1.1%	1.1%	2.1%	5.1%	12.2%	14.4%	0.0%	4.2%	1.7%	100.0%
PM (OUT)	11.9%	10.0%	7.7%	13.5%	6.0%	15.7%	9.6%	12.7%	0.5%	2.6%	0.8%	5.1%	1.7%	0.0%	2.2%	0.0%	100.0%
SAT (IN)	7.35%	9.69%	6.52%	14.78%	22.84%	3.02%	14.46%	1.99%	0.83%	3.66%	5.36%	2.90%	3.02%	0.79%	2.78%	0.00%	100.0%
SAT (OUT)	8.30%	0.44%	7.19%	16.97%	19.46%	8.47%	15.46%	8.70%	1.51%	1.68%	2.39%	0.74%	2.79%	0.00%	2.35%	3.56%	100.0%

APPENDIX L

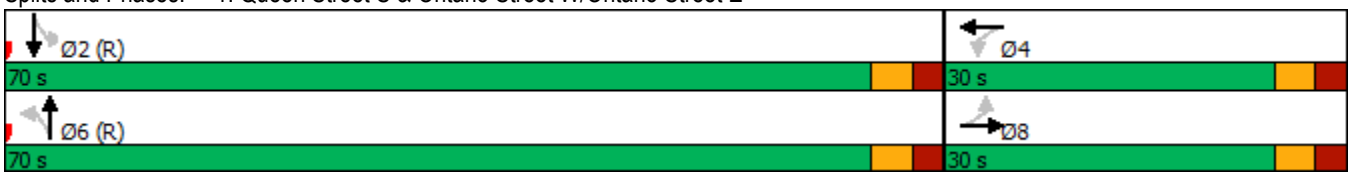
2027 Future Total Detailed Capacity Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	6	16	0	8	87	6	693	3	80	591	12
Future Volume (vph)	27	6	16	0	8	87	6	693	3	80	591	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		0.98			0.96			1.00			1.00	
Frt		0.957			0.877			0.999			0.998	
Flt Protected		0.973									0.994	
Satd. Flow (prot)	0	1441	0	0	1622	0	0	1829	0	0	1834	0
Flt Permitted		0.765						0.994			0.841	
Satd. Flow (perm)	0	1121	0	0	1622	0	0	1817	0	0	1550	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			95						2	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	9		5	5		9	14		11	11		14
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 (%)	26%	34%	13%	2%	0%	0%	0%	5%	0%	3%	4%	0%
Adj. Flow (vph)	29	7	17	0	9	95	7	753	3	87	642	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	0	104	0	0	763	0	0	742	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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			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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0		70.0	70.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	24.5	24.5		24.5	24.5		64.5	64.5		64.5	64.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.8			10.8			82.4			82.4	
Actuated g/C Ratio		0.11			0.11			0.82			0.82	
v/c Ratio		0.39			0.40			0.51			0.58	
Control Delay		39.3			15.2			2.9			6.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		39.3			15.2			2.9			6.5	
LOS		D			B			A			A	
Approach Delay		39.3			15.2			2.9			6.5	
Approach LOS		D			B			A			A	

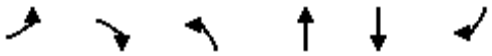
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 42 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 6.4		Intersection LOS: A	
Intersection Capacity Utilization 97.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E

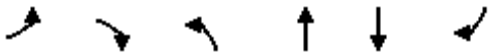


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	53	104	763	742
v/c Ratio	0.39	0.40	0.51	0.58
Control Delay	39.3	15.2	2.9	6.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.3	15.2	2.9	6.5
Queue Length 50th (m)	6.1	1.5	19.9	41.5
Queue Length 95th (m)	16.5	15.0	35.3	78.4
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	287	469	1498	1278
Starvation Cap Reductn	0	0	15	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.18	0.22	0.51	0.58

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	86	92	45	632	510	94
Future Volume (vph)	86	92	45	632	510	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98	1.00		0.99	
Frt		0.850			0.979	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1830	1782	0
Flt Permitted	0.950		0.377			
Satd. Flow (perm)	1682	1547	700	1830	1782	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		100			17	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	6	2	8			8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	5%	5%	5%
Adj. Flow (vph)	93	100	49	687	554	102
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	100	49	687	656	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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				2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	2	2	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)	27.5	27.5	35.5	35.5	35.5	
Total Split (s)	32.0	32.0	68.0	68.0	68.0	
Total Split (%)	32.0%	32.0%	68.0%	68.0%	68.0%	
Maximum Green (s)	26.5	26.5	61.5	61.5	61.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	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)	12.0	12.0	19.0	19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	11.8	11.8	76.2	76.2	76.2	
Actuated g/C Ratio	0.12	0.12	0.76	0.76	0.76	
v/c Ratio	0.47	0.37	0.09	0.49	0.48	
Control Delay	48.7	12.1	3.2	5.2	5.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.7	12.1	3.2	5.2	5.3	
LOS	D	B	A	A	A	
Approach Delay	29.7			5.0	5.3	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 33 (33%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 56.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	93	100	49	687	656
v/c Ratio	0.47	0.37	0.09	0.49	0.48
Control Delay	48.7	12.1	3.2	5.2	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	12.1	3.2	5.2	5.3
Queue Length 50th (m)	15.9	0.0	2.3	38.6	32.4
Queue Length 95th (m)	28.7	12.8	m2.8	54.5	47.9
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	445	483	533	1394	1362
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	0.21	0.21	0.09	0.49	0.48

Intersection Summary

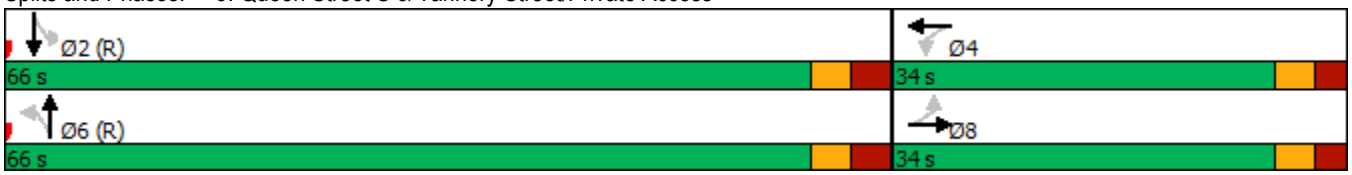
m Volume for 95th percentile queue is metered by upstream signal.

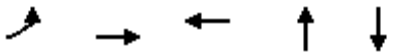
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	12	81	6	5	7	109	466	7	9	436	116
Future Volume (vph)	193	12	81	6	5	7	109	466	7	9	436	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	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			7.6			7.6		
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		0.869			0.946			0.998			0.972	
Flt Protected	0.950				0.983			0.991			0.999	
Satd. Flow (prot)	1755	1606	0	0	1756	0	0	1833	0	0	1769	0
Flt Permitted	0.744				0.917			0.798			0.989	
Satd. Flow (perm)	1343	1606	0	0	1635	0	0	1473	0	0	1751	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			8			1			23	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	4%	0%	0%	5%	2%
Adj. Flow (vph)	210	13	88	7	5	8	118	507	8	10	474	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	101	0	0	20	0	0	633	0	0	610	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	20.8	20.8			20.8			67.7			67.7	
Actuated g/C Ratio	0.21	0.21			0.21			0.68			0.68	
v/c Ratio	0.76	0.25			0.06			0.63			0.51	
Control Delay	53.4	9.8			20.9			11.0			14.1	
Queue Delay	0.0	0.0			0.0			0.5			0.0	
Total Delay	53.4	9.8			20.9			11.5			14.2	
LOS	D	A			C			B			B	
Approach Delay		39.3			20.9			11.5			14.2	
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: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 18.1		Intersection LOS: B	
Intersection Capacity Utilization 93.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	210	101	20	633	610
v/c Ratio	0.76	0.25	0.06	0.63	0.51
Control Delay	53.4	9.8	20.9	11.0	14.1
Queue Delay	0.0	0.0	0.0	0.5	0.0
Total Delay	53.4	9.8	20.9	11.5	14.2
Queue Length 50th (m)	35.4	1.9	1.7	47.0	67.9
Queue Length 95th (m)	53.1	12.5	6.6	m57.8	131.9
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	382	520	471	998	1193
Starvation Cap Reductn	0	0	0	107	0
Spillback Cap Reductn	0	0	0	0	11
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.19	0.04	0.71	0.52

Intersection Summary

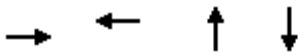
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	181	6	151	59	82	6	553	263	15	496	7
Future Volume (vph)	5	181	6	151	59	82	6	553	263	15	496	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			1.00	
Frt		0.995			0.962			0.957			0.998	
Flt Protected		0.999			0.975						0.999	
Satd. Flow (prot)	0	1890	0	0	1741	0	0	1757	0	0	1831	0
Flt Permitted		0.991			0.694			0.996			0.968	
Satd. Flow (perm)	0	1874	0	0	1235	0	0	1749	0	0	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			20			35			1	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	6		4	4		6	19		13	13		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%	1%	0%	3%	2%	2%	0%	3%	2%	23%	4%	0%
Adj. Flow (vph)	5	197	7	164	64	89	7	601	286	16	539	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	0	317	0	0	894	0	0	563	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		9.5	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		15.0	27.0		58.0	58.0		58.0	58.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.0%	27.0%		15.0%	27.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	20.0	20.0		12.0	20.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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	
Flash Dont Walk (s)	10.0	10.0			10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		31.6			31.6			55.4			55.4	
Actuated g/C Ratio		0.32			0.32			0.55			0.55	
v/c Ratio		0.35			0.79			0.91			0.57	
Control Delay		27.0			43.4			35.3			14.0	
Queue Delay		0.0			0.0			0.0			0.3	
Total Delay		27.0			43.4			35.3			14.3	
LOS		C			D			D			B	
Approach Delay		27.0			43.4			35.3			14.3	
Approach LOS		C			D			D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 98 (98%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 29.7		Intersection LOS: C	
Intersection Capacity Utilization 92.5%		ICU Level of Service F	
Analysis Period (min) 15			

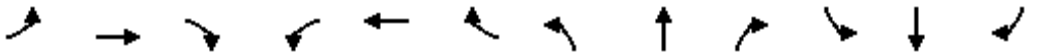
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	209	317	894	563
v/c Ratio	0.35	0.79	0.91	0.57
Control Delay	27.0	43.4	35.3	14.0
Queue Delay	0.0	0.0	0.0	0.3
Total Delay	27.0	43.4	35.3	14.3
Queue Length 50th (m)	26.7	45.5	142.8	91.4
Queue Length 95th (m)	43.5	75.6	#224.5	41.7
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	592	403	985	983
Starvation Cap Reductn	0	0	0	84
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.79	0.91	0.63

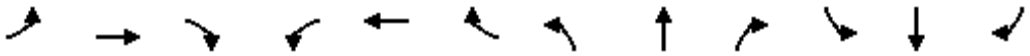
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	243	64	19	212	8	24	37	25	15	41	21
Future Volume (vph)	32	243	64	19	212	8	24	37	25	15	41	21
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		0.974			0.995			0.961			0.963	
Flt Protected		0.995			0.996			0.986			0.991	
Satd. Flow (prot)	0	1797	0	0	1855	0	0	1736	0	0	1756	0
Flt Permitted		0.995			0.996			0.986			0.991	
Satd. Flow (perm)	0	1797	0	0	1855	0	0	1736	0	0	1756	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	35	264	70	21	230	9	26	40	27	16	45	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	0	0	260	0	0	93	0	0	84	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
Sign Control		Free			Free			Stop			Stop	

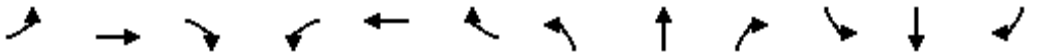
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	243	64	19	212	8	24	37	25	15	41	21
Future Volume (Veh/h)	32	243	64	19	212	8	24	37	25	15	41	21
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	264	70	21	230	9	26	40	27	16	45	23
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)					169							
pX, platoon unblocked												
vC, conflicting volume	282			342			703	701	309	738	732	282
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	282			342			703	701	309	738	732	282
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	97			98			91	88	96	94	86	97
cM capacity (veh/h)	1240			1219			277	323	729	250	315	729

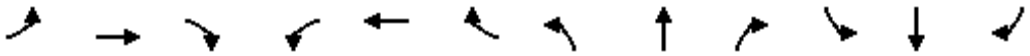
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	369	260	93	84
Volume Left	35	21	26	16
Volume Right	70	9	27	23
cSH	1240	1219	365	352
Volume to Capacity	0.03	0.02	0.25	0.24
Queue Length 95th (m)	0.6	0.4	7.0	6.4
Control Delay (s)	1.0	0.8	18.2	18.4
Lane LOS	A	A	C	C
Approach Delay (s)	1.0	0.8	18.2	18.4
Approach LOS			C	C

Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	40.0%	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)	1	40	18	2	17	1	19	4	7	7	9	2
Future Volume (vph)	1	40	18	2	17	1	19	4	7	7	9	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												
Frt		0.958			0.994			0.967			0.986	
Flt Protected		0.999			0.995			0.969			0.980	
Satd. Flow (prot)	0	1566	0	0	1900	0	0	1737	0	0	1584	0
Flt Permitted		0.999			0.995			0.969			0.980	
Satd. Flow (perm)	0	1566	0	0	1900	0	0	1737	0	0	1584	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	1					1	3		3	3		3
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%	18%	17%	0%	0%	0%	0%	0%	15%	43%	0%	0%
Adj. Flow (vph)	1	43	20	2	18	1	21	4	8	8	10	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	21	0	0	33	0	0	20	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	

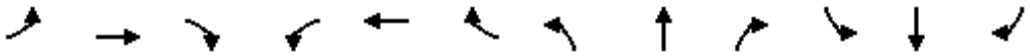
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	40	18	2	17	1	19	4	7	7	9	2
Future Volume (Veh/h)	1	40	18	2	17	1	19	4	7	7	9	2
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)	1	43	20	2	18	1	21	4	8	8	10	2
Pedestrians		3			3						1	
Lane Width (m)		3.7			3.7						3.7	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			63			88	79	56	92	88	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			63			88	79	56	92	88	22
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.5	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.9	4.0	3.3
p0 queue free %	100			100			98	100	99	99	99	100
cM capacity (veh/h)	1608			1553			888	813	972	789	803	1056

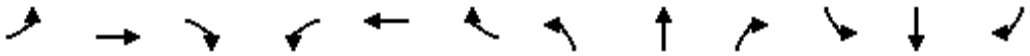
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	64	21	33	20
Volume Left	1	2	21	8
Volume Right	20	1	8	2
cSH	1608	1553	897	817
Volume to Capacity	0.00	0.00	0.04	0.02
Queue Length 95th (m)	0.0	0.0	0.8	0.5
Control Delay (s)	0.1	0.7	9.2	9.5
Lane LOS	A	A	A	A
Approach Delay (s)	0.1	0.7	9.2	9.5
Approach LOS			A	A

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	14.6%	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)	46	0	28	2	0	3	34	623	4	5	554	30
Future Volume (vph)	46	0	28	2	0	3	34	623	4	5	554	30
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		0.949			0.919			0.999			0.993	
Flt Protected		0.970			0.980			0.997				
Satd. Flow (prot)	0	1684	0	0	1730	0	0	1844	0	0	1822	0
Flt Permitted		0.970			0.980			0.997				
Satd. Flow (perm)	0	1684	0	0	1730	0	0	1844	0	0	1822	0
Link Speed (k/h)		30			48			40			40	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		7.0			3.0			9.4			12.5	
Confl. Peds. (#/hr)							7					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 (%)	8%	2%	0%	0%	2%	0%	0%	4%	0%	0%	5%	0%
Adj. Flow (vph)	50	0	30	2	0	3	37	677	4	5	602	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	5	0	0	718	0	0	640	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			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	97		97	24		97	97		14
Sign Control		Stop			Stop			Free			Free	

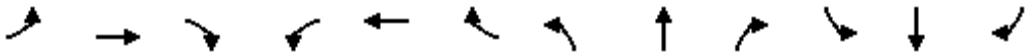
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	0	28	2	0	3	34	623	4	5	554	30
Future Volume (Veh/h)	46	0	28	2	0	3	34	623	4	5	554	30
Sign Control		Stop			Stop			Free			Free	
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)	50	0	30	2	0	3	37	677	4	5	602	33
Pedestrians		7										
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)								105			139	
pX, platoon unblocked	0.81	0.81	0.88	0.81	0.81	0.75	0.88			0.75		
vC, conflicting volume	1392	1390	626	1412	1405	679	642			681		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1032	1031	507	1057	1049	399	526			402		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	100	94	99	100	99	96			99		
cM capacity (veh/h)	157	178	498	149	174	488	920			871		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	80	5	718	640
Volume Left	50	2	37	5
Volume Right	30	3	4	33
cSH	211	255	920	871
Volume to Capacity	0.38	0.02	0.04	0.01
Queue Length 95th (m)	11.6	0.4	0.9	0.1
Control Delay (s)	32.1	19.4	1.0	0.2
Lane LOS	D	C	A	A
Approach Delay (s)	32.1	19.4	1.0	0.2
Approach LOS	D	C		

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	68.8%	ICU Level of Service	C	
Analysis Period (min)	15			

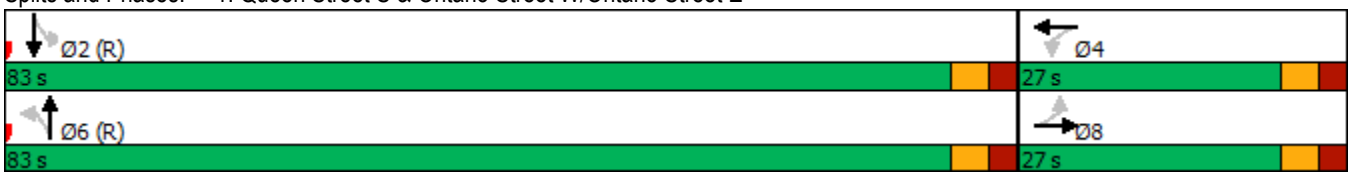


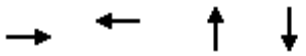
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	5	28	4	13	108	17	736	12	65	830	20
Future Volume (vph)	18	5	28	4	13	108	17	736	12	65	830	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.97			0.96			1.00			1.00	
Frt		0.926			0.883			0.998			0.997	
Flt Protected		0.982			0.999			0.999			0.996	
Satd. Flow (prot)	0	1424	0	0	1634	0	0	1876	0	0	1884	0
Flt Permitted		0.611			0.990			0.972			0.890	
Satd. Flow (perm)	0	881	0	0	1618	0	0	1825	0	0	1681	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			117			2			3	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		10	10		8	17		26	26		17
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 (%)	26%	34%	13%	2%	0%	0%	0%	2%	0%	3%	1%	0%
Adj. Flow (vph)	20	5	30	4	14	117	18	800	13	71	902	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	55	0	0	135	0	0	831	0	0	995	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		83.0	83.0		83.0	83.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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		77.5	77.5		77.5	77.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.6			10.6			88.4			88.4	
Actuated g/C Ratio		0.10			0.10			0.80			0.80	
v/c Ratio		0.49			0.52			0.57			0.74	
Control Delay		41.1			19.0			5.2			9.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		41.1			19.0			5.2			9.6	
LOS		D			B			A			A	
Approach Delay		41.1			19.0			5.2			9.6	
Approach LOS		D			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 101.3%		ICU Level of Service G	
Analysis Period (min) 15			

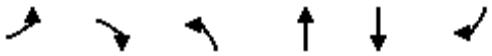
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



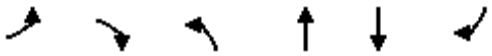


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	55	135	831	995
v/c Ratio	0.49	0.52	0.57	0.74
Control Delay	41.1	19.0	5.2	9.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	41.1	19.0	5.2	9.6
Queue Length 50th (m)	4.7	3.3	46.7	71.0
Queue Length 95th (m)	16.4	19.5	52.5	132.7
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	196	410	1466	1351
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.28	0.33	0.57	0.74

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	146	117	153	613	678	163
Future Volume (vph)	146	117	153	613	678	163
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.93	0.94			0.99	
Frt		0.850			0.974	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1902	1820	0
Flt Permitted	0.950		0.173			
Satd. Flow (perm)	1586	1495	323	1902	1820	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		127			19	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	28	15	17			17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	1%	1%	5%
Adj. Flow (vph)	159	127	166	666	737	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	127	166	666	914	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	27.5	27.5	10.0	35.5	35.5	
Total Split (s)	28.0	28.0	11.0	71.0	71.0	
Total Split (%)	25.5%	25.5%	10.0%	64.5%	64.5%	
Maximum Green (s)	22.5	22.5	8.0	64.5	64.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	16.3	16.3	82.2	71.3	71.3	
Actuated g/C Ratio	0.15	0.15	0.75	0.65	0.65	
v/c Ratio	0.68	0.39	0.49	0.54	0.77	
Control Delay	58.1	10.3	9.8	17.1	15.0	
Queue Delay	0.0	0.0	0.0	0.0	0.4	
Total Delay	58.1	10.3	9.8	17.1	15.4	
LOS	E	B	A	B	B	
Approach Delay	36.9			15.6	15.4	
Approach LOS	D			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 18.5		Intersection LOS: B	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	159	127	166	666	914
v/c Ratio	0.68	0.39	0.49	0.54	0.77
Control Delay	58.1	10.3	9.8	17.1	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.4
Total Delay	58.1	10.3	9.8	17.1	15.4
Queue Length 50th (m)	30.1	0.0	10.9	76.5	58.9
Queue Length 95th (m)	47.0	13.9	m18.8	125.8	#80.9
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	324	406	348	1232	1186
Starvation Cap Reductn	0	0	0	0	45
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.31	0.48	0.54	0.80

Intersection Summary

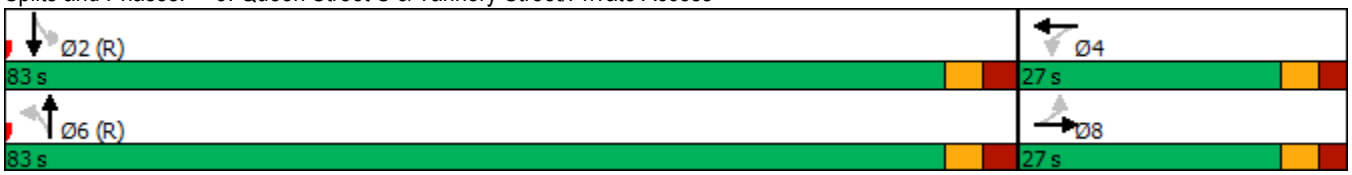
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

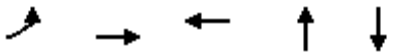
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	6	55	2	4	8	82	642	3	2	547	190
Future Volume (vph)	118	6	55	2	4	8	82	642	3	2	547	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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			0.96	
Frt		0.866			0.919			0.999			0.965	
Flt Protected	0.950				0.993			0.994				
Satd. Flow (prot)	1755	1549	0	0	1689	0	0	1869	0	0	1757	0
Flt Permitted	0.748				0.971			0.833			0.999	
Satd. Flow (perm)	1325	1549	0	0	1644	0	0	1560	0	0	1755	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			9						38	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	2%	0%	0%	1%	2%
Adj. Flow (vph)	128	7	60	2	4	9	89	698	3	2	595	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	67	0	0	15	0	0	790	0	0	804	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	15.8	15.8			15.8			82.7			82.7	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
v/c Ratio	0.67	0.24			0.06			0.67			0.61	
Control Delay	61.3	14.1			25.1			6.6			9.7	
Queue Delay	0.0	0.0			0.0			1.2			0.3	
Total Delay	61.3	14.1			25.1			7.8			10.0	
LOS	E	B			C			A			B	
Approach Delay		45.1			25.1			7.8			10.0	
Approach LOS		D			C			A			B	

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: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 109.6%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access

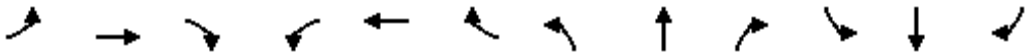




Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	128	67	15	790	804
v/c Ratio	0.67	0.24	0.06	0.67	0.61
Control Delay	61.3	14.1	25.1	6.6	9.7
Queue Delay	0.0	0.0	0.0	1.2	0.3
Total Delay	61.3	14.1	25.1	7.8	10.0
Queue Length 50th (m)	24.3	1.2	1.0	17.7	114.3
Queue Length 95th (m)	40.3	11.8	6.1	m24.9	147.6
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	258	351	328	1172	1328
Starvation Cap Reductn	0	0	0	188	143
Spillback Cap Reductn	0	0	0	0	24
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.19	0.05	0.80	0.68

Intersection Summary

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

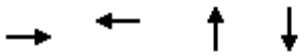


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	63	9	167	86	103	11	588	104	21	543	26
Future Volume (vph)	15	63	9	167	86	103	11	588	104	21	543	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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		0.98			0.95			0.97			0.99	
Frt		0.986			0.961			0.980			0.994	
Flt Protected		0.992			0.977			0.999			0.998	
Satd. Flow (prot)	0	1851	0	0	1719	0	0	1796	0	0	1856	0
Flt Permitted		0.912			0.816			0.988			0.961	
Satd. Flow (perm)	0	1686	0	0	1406	0	0	1776	0	0	1787	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			20			11			3	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	34		19	19		34	57		47	47		57
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%	1%	0%	1%	2%	2%	0%	2%	2%	23%	1%	0%
Adj. Flow (vph)	16	68	10	182	93	112	12	639	113	23	590	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	387	0	0	764	0	0	641	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		10.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		24.0	27.0		59.0	59.0		59.0	59.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	24.5%	24.5%		21.8%	24.5%		53.6%	53.6%		53.6%	53.6%	
Maximum Green (s)	20.0	20.0		21.0	20.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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		0.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	10.0	10.0		0.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		32.5			32.5			64.5			64.5	
Actuated g/C Ratio		0.30			0.30			0.59			0.59	
v/c Ratio		0.19			0.90			0.73			0.61	
Control Delay		26.0			59.4			23.5			14.1	
Queue Delay		0.0			0.0			0.4			0.6	
Total Delay		26.0			59.4			23.9			14.7	
LOS		C			E			C			B	
Approach Delay		26.0			59.4			23.9			14.7	
Approach LOS		C			E			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 28.1		Intersection LOS: C	
Intersection Capacity Utilization 80.6%		ICU Level of Service D	
Analysis Period (min) 15			

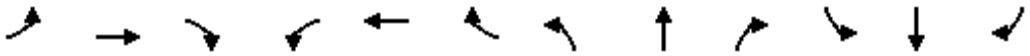
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	94	387	764	641
v/c Ratio	0.19	0.90	0.73	0.61
Control Delay	26.0	59.4	23.5	14.1
Queue Delay	0.0	0.0	0.4	0.6
Total Delay	26.0	59.4	23.9	14.7
Queue Length 50th (m)	13.2	70.8	99.8	28.6
Queue Length 95th (m)	20.9	90.8	#201.9	78.2
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	501	428	1046	1049
Starvation Cap Reductn	0	0	0	137
Spillback Cap Reductn	0	0	52	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.90	0.77	0.70

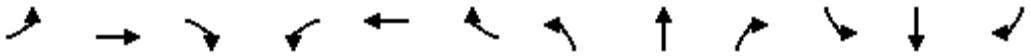
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	104	18	28	204	23	25	54	45	15	53	54
Future Volume (vph)	40	104	18	28	204	23	25	54	45	15	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		0.985			0.988			0.951			0.940	
Flt Protected		0.988			0.995			0.990			0.994	
Satd. Flow (prot)	0	1815	0	0	1844	0	0	1731	0	0	1740	0
Flt Permitted		0.988			0.995			0.990			0.994	
Satd. Flow (perm)	0	1815	0	0	1844	0	0	1731	0	0	1740	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	43	113	20	30	222	25	27	59	49	16	58	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	176	0	0	277	0	0	135	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)		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
Sign Control		Free			Free			Stop			Stop	

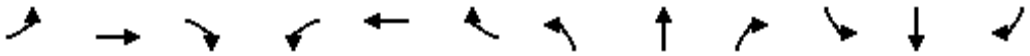
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	104	18	28	204	23	25	54	45	15	53	54
Future Volume (Veh/h)	40	104	18	28	204	23	25	54	45	15	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	113	20	30	222	25	27	59	49	16	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)					169							
pX, platoon unblocked												
vC, conflicting volume	257			148			612	541	149	603	538	250
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	257			148			612	541	149	603	538	250
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	97			98			91	85	94	95	86	92
cM capacity (veh/h)	1307			1426			307	407	881	308	413	783

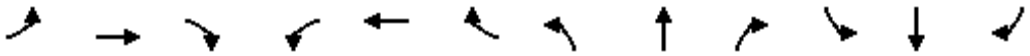
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	176	277	135	133
Volume Left	43	30	27	16
Volume Right	20	25	49	59
cSH	1307	1426	468	497
Volume to Capacity	0.03	0.02	0.29	0.27
Queue Length 95th (m)	0.7	0.5	8.3	7.5
Control Delay (s)	2.1	1.0	15.8	14.9
Lane LOS	A	A	C	B
Approach Delay (s)	2.1	1.0	15.8	14.9
Approach LOS			C	B

Intersection Summary				
Average Delay	6.6			
Intersection Capacity Utilization	35.3%	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)	0	9	8	11	16	5	3	4	6	5	8	0
Future Volume (vph)	0	9	8	11	16	5	3	4	6	5	8	0
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		0.936			0.980			0.932				
Flt Protected					0.983			0.989			0.982	
Satd. Flow (prot)	0	1530	0	0	1739	0	0	1647	0	0	1554	0
Flt Permitted					0.983			0.989			0.982	
Satd. Flow (perm)	0	1530	0	0	1739	0	0	1647	0	0	1554	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	4		1	1		4	8		2	2		8
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%	18%	17%	0%	7%	20%	0%	0%	15%	60%	0%	0%
Adj. Flow (vph)	0	10	9	12	17	5	3	4	7	5	9	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	34	0	0	14	0	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)		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	

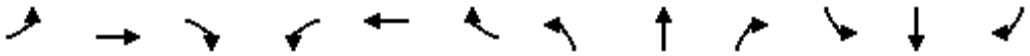
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	8	11	16	5	3	4	6	5	8	0
Future Volume (Veh/h)	0	9	8	11	16	5	3	4	6	5	8	0
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)	0	10	9	12	17	5	3	4	7	5	9	0
Pedestrians		8			2			1			4	
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		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	26			20			72	66	18	73	68	32
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			20			72	66	18	73	68	32
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			99			100	100	99	99	99	100
cM capacity (veh/h)	1595			1608			901	819	1022	774	817	1037

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	19	34	14	14
Volume Left	0	12	3	5
Volume Right	9	5	7	0
cSH	1595	1608	929	801
Volume to Capacity	0.00	0.01	0.02	0.02
Queue Length 95th (m)	0.0	0.2	0.3	0.4
Control Delay (s)	0.0	2.6	8.9	9.6
Lane LOS		A	A	A
Approach Delay (s)	0.0	2.6	8.9	9.6
Approach LOS			A	A

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	21.4%	ICU Level of Service	A	
Analysis Period (min)	15			



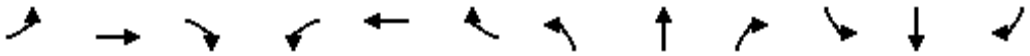
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	0	45	6	0	6	75	639	8	3	669	70
Future Volume (vph)	56	0	45	6	0	6	75	639	8	3	669	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.940			0.932			0.998			0.987	
Flt Protected		0.973			0.976			0.995				
Satd. Flow (prot)	0	1682	0	0	1748	0	0	1891	0	0	1879	0
Flt Permitted		0.973			0.976			0.995				
Satd. Flow (perm)	0	1682	0	0	1748	0	0	1891	0	0	1879	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							15					14
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 (%)	8%	2%	0%	0%	2%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	61	0	49	7	0	7	82	695	9	3	727	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	110	0	0	14	0	0	786	0	0	806	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			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		97	24		14	97		14	24		97
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	0	45	6	0	6	75	639	8	3	669	70
Future Volume (Veh/h)	56	0	45	6	0	6	75	639	8	3	669	70
Sign Control		Stop			Stop			Free			Free	
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)	61	0	49	7	0	7	82	695	9	3	727	76
Pedestrians		15										
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)								105			139	
pX, platoon unblocked	0.78	0.78	0.66	0.78	0.78	0.76	0.66			0.76		
vC, conflicting volume	1656	1654	780	1684	1688	700	818			704		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1019	1015	412	1053	1058	452	469			458		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	57	100	88	95	100	99	89			100		
cM capacity (veh/h)	143	162	420	128	152	467	720			851		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	110	14	786	806
Volume Left	61	7	82	3
Volume Right	49	7	9	76
cSH	203	201	720	851
Volume to Capacity	0.54	0.07	0.11	0.00
Queue Length 95th (m)	20.0	1.6	2.7	0.1
Control Delay (s)	42.0	24.3	3.0	0.1
Lane LOS	E	C	A	A
Approach Delay (s)	42.0	24.3	3.0	0.1
Approach LOS	E	C		

Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	95.6%	ICU Level of Service	F	
Analysis Period (min)	15			

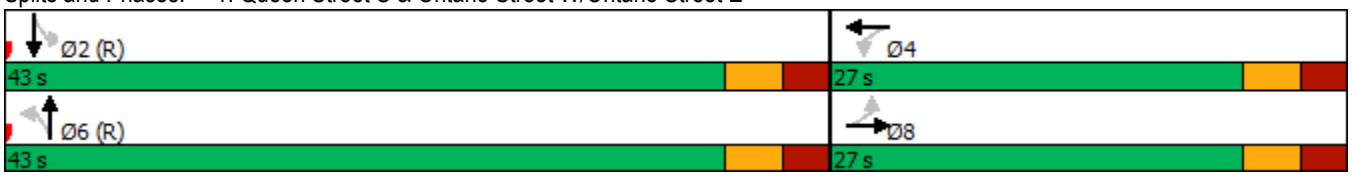


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	3	3	10	3	66	6	737	11	43	714	9
Future Volume (vph)	7	3	3	10	3	66	6	737	11	43	714	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.97			1.00			1.00	
Frt		0.971			0.887			0.998			0.998	
Flt Protected		0.972			0.994						0.997	
Satd. Flow (prot)	0	1536	0	0	1615	0	0	1896	0	0	1890	0
Flt Permitted		0.836			0.953			0.994			0.928	
Satd. Flow (perm)	0	1312	0	0	1547	0	0	1885	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			72			2			1	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		2	2		8	24		19	19		24
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 (%)	29%	2%	2%	2%	2%	2%	2%	1%	2%	2%	1%	2%
Adj. Flow (vph)	8	3	3	11	3	72	7	801	12	47	776	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	14	0	0	86	0	0	820	0	0	833	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.5	37.5		37.5	37.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.0			10.0			53.2			53.2	
Actuated g/C Ratio		0.14			0.14			0.76			0.76	
v/c Ratio		0.07			0.30			0.57			0.62	
Control Delay		24.5			13.0			12.7			8.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		24.5			13.0			12.7			8.1	
LOS		C			B			B			A	
Approach Delay		24.5			13.0			12.7			8.1	
Approach LOS		C			B			B			A	

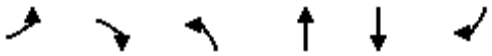
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 10 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 86.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E

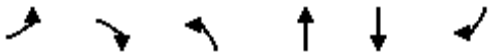


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	14	86	820	833
v/c Ratio	0.07	0.30	0.57	0.62
Control Delay	24.5	13.0	12.7	8.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.5	13.0	12.7	8.1
Queue Length 50th (m)	1.2	1.5	54.7	46.2
Queue Length 95th (m)	5.4	11.7	129.9	77.9
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	405	525	1432	1335
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.16	0.57	0.62

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	152	153	156	598	545	183
Future Volume (vph)	152	153	156	598	545	183
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.6		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.91	0.94	0.98		0.98	
Frt		0.850			0.966	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	1902	1799	0
Flt Permitted	0.950		0.141			
Satd. Flow (perm)	1625	1500	261	1902	1799	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		166			30	
Link Speed (k/h)	40			40	40	
Link Distance (m)	53.9			138.6	214.4	
Travel Time (s)	4.9			12.5	19.3	
Confl. Peds. (#/hr)	46	22	54			54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	165	166	170	650	592	199
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	166	170	650	791	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	10.0	35.5	35.5	
Total Split (s)	23.0	23.0	11.0	36.0	36.0	
Total Split (%)	32.9%	32.9%	15.7%	51.4%	51.4%	
Maximum Green (s)	17.5	17.5	8.0	29.5	29.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	5.5	5.5		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	12.9	12.9	45.6	34.7	34.7	
Actuated g/C Ratio	0.18	0.18	0.65	0.50	0.50	
v/c Ratio	0.55	0.40	0.51	0.69	0.87	
Control Delay	32.7	7.4	10.7	18.7	22.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.7	7.4	10.7	18.7	22.9	
LOS	C	A	B	B	C	
Approach Delay	20.0			17.1	22.9	
Approach LOS	B			B	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 25 (36%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 19.9		Intersection LOS: B	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

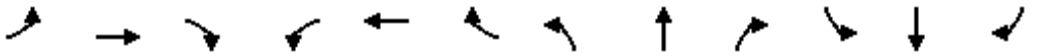
Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	165	166	170	650	791
v/c Ratio	0.55	0.40	0.51	0.69	0.87
Control Delay	32.7	7.4	10.7	18.7	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	7.4	10.7	18.7	22.9
Queue Length 50th (m)	18.4	0.0	6.5	54.5	27.5
Queue Length 95th (m)	31.5	11.9	m10.0	m#114.7	#156.9
Internal Link Dist (m)	29.9			114.6	190.4
Turn Bay Length (m)			23.0		
Base Capacity (vph)	406	499	348	941	905
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	0.41	0.33	0.49	0.69	0.87

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.

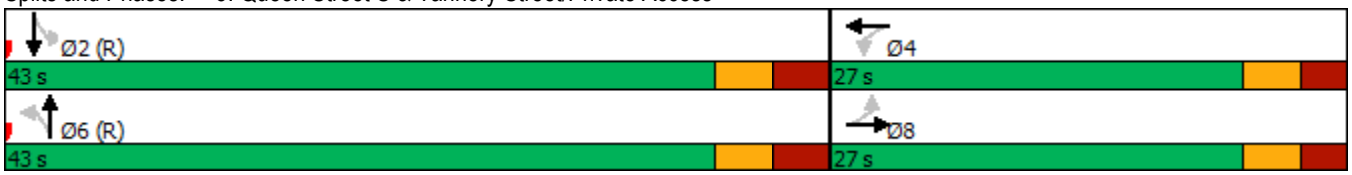


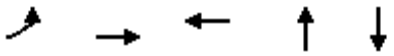
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	1	96	1	1	0	112	555	1	1	535	148
Future Volume (vph)	155	1	96	1	1	0	112	555	1	1	535	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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	0.95	0.92			0.97			0.99			0.96	
Frt		0.851									0.971	
Flt Protected	0.950				0.976			0.992				
Satd. Flow (prot)	1789	1480	0	0	1838	0	0	1883	0	0	1775	0
Flt Permitted	0.757				0.904			0.790			0.999	
Satd. Flow (perm)	1348	1480	0	0	1660	0	0	1488	0	0	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		104									30	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
Confl. Peds. (#/hr)	33		35	35		33	101		84	84		101
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%	2%	1%	2%
Adj. Flow (vph)	168	1	104	1	1	0	122	603	1	1	582	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	105	0	0	2	0	0	726	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)		4.9			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.0	37.0		37.0	37.0	
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)	14.4	14.4			14.4			44.1			44.1	
Actuated g/C Ratio	0.21	0.21			0.21			0.63			0.63	
v/c Ratio	0.61	0.27			0.01			0.77			0.66	
Control Delay	34.2	6.9			19.0			14.5			6.2	
Queue Delay	0.0	0.0			0.0			0.0			0.1	
Total Delay	34.2	6.9			19.0			14.5			6.3	
LOS	C	A			B			B			A	
Approach Delay		23.7			19.0			14.5			6.3	
Approach LOS		C			B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 48 (69%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 105.3%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	168	105	2	726	744
v/c Ratio	0.61	0.27	0.01	0.77	0.66
Control Delay	34.2	6.9	19.0	14.5	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.1
Total Delay	34.2	6.9	19.0	14.5	6.3
Queue Length 50th (m)	18.7	0.1	0.2	30.8	9.3
Queue Length 95th (m)	31.6	9.1	1.5	#132.8	m14.0
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	414	526	509	938	1129
Starvation Cap Reductn	0	0	0	4	0
Spillback Cap Reductn	0	1	0	0	32
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.20	0.00	0.78	0.68

Intersection Summary

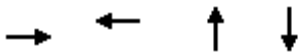
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	18	7	148	41	101	11	548	127	72	525	26
Future Volume (vph)	14	18	7	148	41	101	11	548	127	72	525	26
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		0.97			0.93			0.97			0.99	
Frt		0.975			0.953			0.975			0.994	
Flt Protected		0.983			0.975			0.999			0.994	
Satd. Flow (prot)	0	1774	0	0	1691	0	0	1797	0	0	1845	0
Flt Permitted		0.853			0.817			0.988			0.860	
Satd. Flow (perm)	0	1512	0	0	1367	0	0	1776	0	0	1590	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			38			25			5	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	53		42	42		53	87		66	66		87
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%	1%	2%	2%	2%	1%	1%	2%	2%	2%
Adj. Flow (vph)	15	20	8	161	45	110	12	596	138	78	571	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	316	0	0	746	0	0	677	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			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	
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)	10.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		17.9			17.9			39.1			39.1	
Actuated g/C Ratio		0.26			0.26			0.56			0.56	
v/c Ratio		0.11			0.84			0.74			0.76	
Control Delay		16.8			42.3			18.1			11.2	
Queue Delay		0.0			0.0			0.6			0.1	
Total Delay		16.8			42.4			18.6			11.3	
LOS		B			D			B			B	
Approach Delay		16.8			42.4			18.6			11.3	
Approach LOS		B			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 51 (73%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 20.0		Intersection LOS: C	
Intersection Capacity Utilization 107.5%		ICU Level of Service G	
Analysis Period (min) 15			

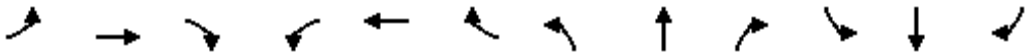
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	43	316	746	677
v/c Ratio	0.11	0.84	0.74	0.76
Control Delay	16.8	42.3	18.1	11.2
Queue Delay	0.0	0.0	0.6	0.1
Total Delay	16.8	42.4	18.6	11.3
Queue Length 50th (m)	3.1	30.4	64.9	10.1
Queue Length 95th (m)	9.2	#64.6	#109.6	#115.4
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	437	417	1004	891
Starvation Cap Reductn	0	0	0	7
Spillback Cap Reductn	0	1	60	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.76	0.79	0.77

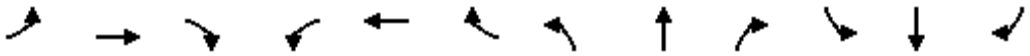
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	155	7	31	176	18	12	66	40	20	44	52
Future Volume (vph)	43	155	7	31	176	18	12	66	40	20	44	52
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			0.989			0.955			0.939	
Flt Protected		0.990			0.993			0.995			0.991	
Satd. Flow (prot)	0	1855	0	0	1850	0	0	1790	0	0	1735	0
Flt Permitted		0.990			0.993			0.995			0.991	
Satd. Flow (perm)	0	1855	0	0	1850	0	0	1790	0	0	1735	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
Confl. Peds. (#/hr)	15		13	13		15	5		8	8		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%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Adj. Flow (vph)	47	168	8	34	191	20	13	72	43	22	48	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	223	0	0	245	0	0	128	0	0	127	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
Sign Control		Free			Free			Stop			Stop	

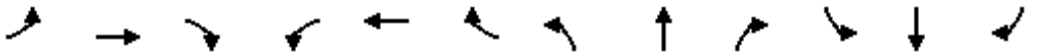
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	155	7	31	176	18	12	66	40	20	44	52
Future Volume (Veh/h)	43	155	7	31	176	18	12	66	40	20	44	52
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)	47	168	8	34	191	20	13	72	43	22	48	57
Pedestrians		5			8			13			15	
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)					169							
pX, platoon unblocked												
vC, conflicting volume	226			189			634	573	193	637	567	221
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	226			189			634	573	193	637	567	221
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	96			98			96	82	95	92	88	93
cM capacity (veh/h)	1324			1368			304	394	832	285	397	803

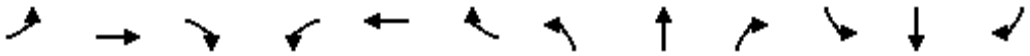
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	223	245	128	127
Volume Left	47	34	13	22
Volume Right	8	20	43	57
cSH	1324	1368	462	472
Volume to Capacity	0.04	0.02	0.28	0.27
Queue Length 95th (m)	0.8	0.5	7.8	7.5
Control Delay (s)	1.9	1.3	15.8	15.4
Lane LOS	A	A	C	C
Approach Delay (s)	1.9	1.3	15.8	15.4
Approach LOS			C	C

Intersection Summary				
Average Delay	6.5			
Intersection Capacity Utilization	35.0%	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)	0	5	4	1	9	5	0	3	9	3	3	0
Future Volume (vph)	0	5	4	1	9	5	0	3	9	3	3	0
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		0.940			0.958			0.896				
Flt Protected					0.997						0.976	
Satd. Flow (prot)	0	1770	0	0	1657	0	0	1569	0	0	1431	0
Flt Permitted					0.997						0.976	
Satd. Flow (perm)	0	1770	0	0	1657	0	0	1569	0	0	1431	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	5					5	4					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%	2%	2%	2%	7%	20%	2%	2%	12%	60%	2%	2%
Adj. Flow (vph)	0	5	4	1	10	5	0	3	10	3	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	16	0	0	13	0	0	6	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	

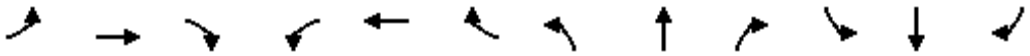
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	5	4	1	9	5	0	3	9	3	3	0
Future Volume (Veh/h)	0	5	4	1	9	5	0	3	9	3	3	0
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)	0	5	4	1	10	5	0	3	10	3	3	0
Pedestrians		4									5	
Lane Width (m)		3.7									3.7	
Walking Speed (m/s)		1.1									1.1	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			9			27	29	7	38	28	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			9			27	29	7	38	28	22
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			100			100	100	99	100	100	100
cM capacity (veh/h)	1589			1611			973	859	1047	822	860	1047

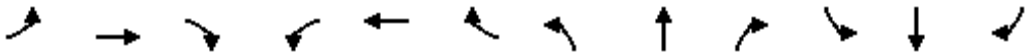
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	16	13	6
Volume Left	0	1	0	3
Volume Right	4	5	10	0
cSH	1589	1611	997	840
Volume to Capacity	0.00	0.00	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.3	0.2
Control Delay (s)	0.0	0.5	8.7	9.3
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.5	8.7	9.3
Approach LOS			A	A

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	16.1%	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)	66	0	68	3	0	3	69	615	6	4	640	60
Future Volume (vph)	66	0	68	3	0	3	69	615	6	4	640	60
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		0.932			0.932			0.999			0.989	
Flt Protected		0.976			0.976			0.995				
Satd. Flow (prot)	0	1713	0	0	1713	0	0	1872	0	0	1863	0
Flt Permitted		0.976			0.976			0.995				
Satd. Flow (perm)	0	1713	0	0	1713	0	0	1872	0	0	1863	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							44					40
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)	72	0	74	3	0	3	75	668	7	4	696	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	146	0	0	6	0	0	750	0	0	765	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			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)	97		97	97		97	97		97	97		97
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 94.1%		ICU Level of Service F	
Analysis Period (min) 15			



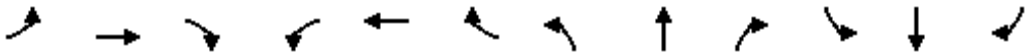
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	0	68	3	0	3	69	615	6	4	640	60
Future Volume (Veh/h)	66	0	68	3	0	3	69	615	6	4	640	60
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	0	74	3	0	3	75	668	7	4	696	65
Pedestrians		44										
Lane Width (m)		3.7										
Walking Speed (m/s)		1.1										
Percent Blockage		4										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								105			139	
pX, platoon unblocked	0.79	0.79	0.64	0.79	0.79	0.71	0.64			0.71		
vC, conflicting volume	1605	1606	772	1632	1634	672	805			675		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	801	802	363	835	838	332	414			337		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	64	100	82	98	100	99	89			100		
cM capacity (veh/h)	201	213	418	164	202	503	703			867		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	146	6	750	765
Volume Left	72	3	75	4
Volume Right	74	3	7	65
cSH	273	248	703	867
Volume to Capacity	0.54	0.02	0.11	0.00
Queue Length 95th (m)	20.4	0.5	2.5	0.1
Control Delay (s)	32.4	19.9	2.8	0.1
Lane LOS	D	C	A	A
Approach Delay (s)	32.4	19.9	2.8	0.1
Approach LOS	D	C		

Intersection Summary				
Average Delay	4.2			
Intersection Capacity Utilization	94.1%	ICU Level of Service	F	
Analysis Period (min)	15			

APPENDIX M

2033 Future Total Detailed Capacity Analysis

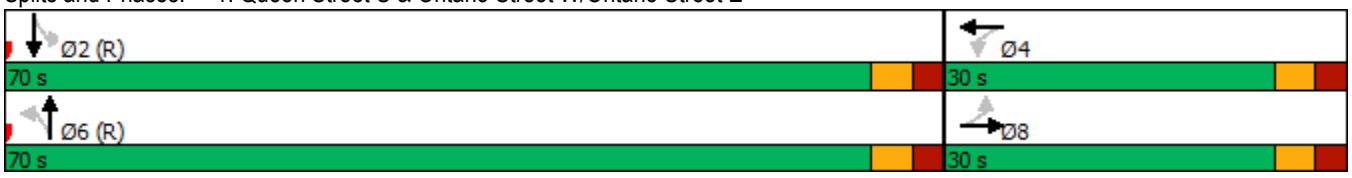


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	6	16	0	8	87	6	743	3	80	569	37
Future Volume (vph)	63	6	16	0	8	87	6	743	3	80	569	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.96			1.00			1.00	
Frt		0.975			0.877						0.993	
Flt Protected		0.964									0.994	
Satd. Flow (prot)	0	1445	0	0	1622	0	0	1830	0	0	1823	0
Flt Permitted		0.716						0.995			0.831	
Satd. Flow (perm)	0	1059	0	0	1622	0	0	1821	0	0	1523	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			95						6	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	9		5	5		9	14		11	11		14
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 (%)	26%	34%	13%	2%	0%	0%	0%	5%	0%	3%	4%	0%
Adj. Flow (vph)	68	7	17	0	9	95	7	808	3	87	618	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	0	104	0	0	818	0	0	745	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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			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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0		70.0	70.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	24.5	24.5		24.5	24.5		64.5	64.5		64.5	64.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.9			13.9			79.3			79.3	
Actuated g/C Ratio		0.14			0.14			0.79			0.79	
v/c Ratio		0.59			0.34			0.57			0.62	
Control Delay		50.1			12.2			5.2			9.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		50.1			12.2			5.2			9.2	
LOS		D			B			A			A	
Approach Delay		50.1			12.2			5.2			9.2	
Approach LOS		D			B			A			A	

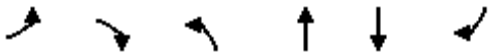
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 42 (42%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 102.5%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E

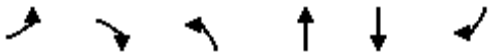


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	92	104	818	745
v/c Ratio	0.59	0.34	0.57	0.62
Control Delay	50.1	12.2	5.2	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	50.1	12.2	5.2	9.2
Queue Length 50th (m)	13.8	1.4	28.2	51.1
Queue Length 95th (m)	26.8	13.7	44.8	109.6
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	267	469	1444	1209
Starvation Cap Reductn	0	0	10	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.22	0.57	0.62

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	124	170	44	651	519	81
Future Volume (vph)	124	170	44	651	519	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	15.0		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98	1.00		1.00	
Frt		0.850			0.982	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1830	1789	0
Flt Permitted	0.950		0.371			
Satd. Flow (perm)	1682	1547	689	1830	1789	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		185			15	
Link Speed (k/h)	40			40	40	
Link Distance (m)	80.8			138.6	214.4	
Travel Time (s)	7.3			12.5	19.3	
Confl. Peds. (#/hr)	6	2	8			8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	5%	5%	5%
Adj. Flow (vph)	135	185	48	708	564	88
Shared Lane Traffic (%)						
Lane Group Flow (vph)	135	185	48	708	652	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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				2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	2	2	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)	27.5	27.5	35.5	35.5	35.5	
Total Split (s)	32.0	32.0	68.0	68.0	68.0	
Total Split (%)	32.0%	32.0%	68.0%	68.0%	68.0%	
Maximum Green (s)	26.5	26.5	61.5	61.5	61.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	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)	12.0	12.0	19.0	19.0	19.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	13.8	13.8	74.2	74.2	74.2	
Actuated g/C Ratio	0.14	0.14	0.74	0.74	0.74	
v/c Ratio	0.58	0.50	0.09	0.52	0.49	
Control Delay	50.1	10.4	4.0	6.3	6.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.1	10.4	4.0	6.3	6.8	
LOS	D	B	A	A	A	
Approach Delay	27.2			6.1	6.8	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 33 (33%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 10.3		Intersection LOS: B	
Intersection Capacity Utilization 55.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	135	185	48	708	652
v/c Ratio	0.58	0.50	0.09	0.52	0.49
Control Delay	50.1	10.4	4.0	6.3	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	10.4	4.0	6.3	6.8
Queue Length 50th (m)	23.0	0.0	2.6	41.4	36.3
Queue Length 95th (m)	38.0	16.0	m3.4	70.5	61.8
Internal Link Dist (m)	56.8			114.6	190.4
Turn Bay Length (m)	35.0		23.0		
Base Capacity (vph)	445	545	511	1357	1331
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	0.30	0.34	0.09	0.52	0.49

Intersection Summary

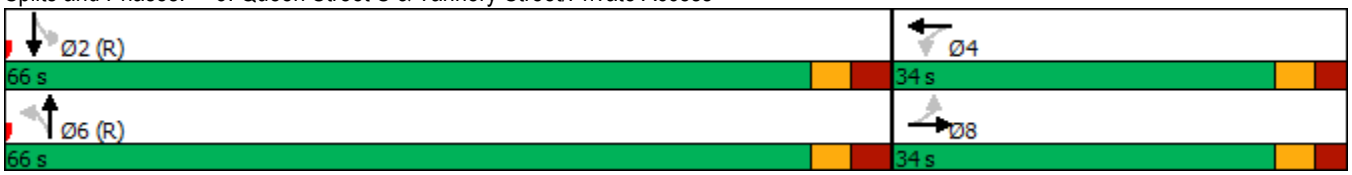
m Volume for 95th percentile queue is metered by upstream signal.

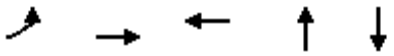
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	12	91	6	5	7	108	472	7	9	531	116
Future Volume (vph)	193	12	91	6	5	7	108	472	7	9	531	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	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			7.6			7.6		
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		0.867			0.946			0.998			0.976	
Flt Protected	0.950				0.983			0.991			0.999	
Satd. Flow (prot)	1755	1601	0	0	1756	0	0	1833	0	0	1777	0
Flt Permitted	0.744				0.915			0.775			0.991	
Satd. Flow (perm)	1343	1601	0	0	1632	0	0	1431	0	0	1763	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		99			8			1			19	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	4%	0%	0%	5%	2%
Adj. Flow (vph)	210	13	99	7	5	8	117	513	8	10	577	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	112	0	0	20	0	0	638	0	0	713	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	20.8	20.8			20.8			67.7			67.7	
Actuated g/C Ratio	0.21	0.21			0.21			0.68			0.68	
v/c Ratio	0.76	0.27			0.06			0.66			0.59	
Control Delay	53.4	9.4			20.9			11.3			16.3	
Queue Delay	0.0	0.0			0.0			0.6			0.4	
Total Delay	53.4	9.4			20.9			11.9			16.7	
LOS	D	A			C			B			B	
Approach Delay		38.1			20.9			11.9			16.7	
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: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 99.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	210	112	20	638	713
v/c Ratio	0.76	0.27	0.06	0.66	0.59
Control Delay	53.4	9.4	20.9	11.3	16.3
Queue Delay	0.0	0.0	0.0	0.6	0.4
Total Delay	53.4	9.4	20.9	11.9	16.7
Queue Length 50th (m)	35.4	1.9	1.7	48.8	94.7
Queue Length 95th (m)	53.1	12.9	6.6	m58.0	146.7
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	382	527	470	969	1200
Starvation Cap Reductn	0	0	0	93	0
Spillback Cap Reductn	0	8	0	0	153
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.22	0.04	0.73	0.68

Intersection Summary

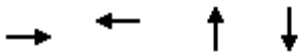
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	181	6	151	59	81	6	562	263	25	591	7
Future Volume (vph)	5	181	6	151	59	81	6	562	263	25	591	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			1.00	
Frt		0.995			0.962			0.957			0.998	
Flt Protected		0.999			0.975						0.998	
Satd. Flow (prot)	0	1890	0	0	1741	0	0	1757	0	0	1826	0
Flt Permitted		0.991			0.693			0.995			0.946	
Satd. Flow (perm)	0	1874	0	0	1233	0	0	1748	0	0	1731	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			19			35			1	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	6		4	4		6	19		13	13		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%	1%	0%	3%	2%	2%	0%	3%	2%	23%	4%	0%
Adj. Flow (vph)	5	197	7	164	64	88	7	611	286	27	642	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	0	316	0	0	904	0	0	677	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		9.5	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		15.0	27.0		58.0	58.0		58.0	58.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	27.0%	27.0%		15.0%	27.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	20.0	20.0		12.0	20.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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	
Flash Dont Walk (s)	10.0	10.0			10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)		31.6			31.6			55.4			55.4	
Actuated g/C Ratio		0.32			0.32			0.55			0.55	
v/c Ratio		0.35			0.79			0.92			0.71	
Control Delay		27.0			43.6			36.8			15.1	
Queue Delay		0.0			0.0			0.0			0.4	
Total Delay		27.0			43.6			36.8			15.6	
LOS		C			D			D			B	
Approach Delay		27.0			43.6			36.8			15.6	
Approach LOS		C			D			D			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 98 (98%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 30.0		Intersection LOS: C	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	
Analysis Period (min) 15			

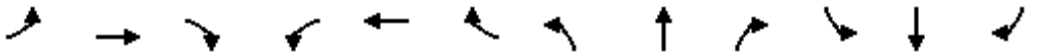
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	209	316	904	677
v/c Ratio	0.35	0.79	0.92	0.71
Control Delay	27.0	43.6	36.8	15.1
Queue Delay	0.0	0.0	0.0	0.4
Total Delay	27.0	43.6	36.8	15.6
Queue Length 50th (m)	26.7	45.6	146.4	119.1
Queue Length 95th (m)	43.5	75.4	#228.8	62.5
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	592	401	984	960
Starvation Cap Reductn	0	0	0	56
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.35	0.79	0.92	0.75

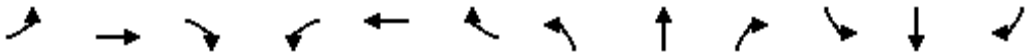
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	243	64	19	212	7	24	36	25	25	68	35
Future Volume (vph)	41	243	64	19	212	7	24	36	25	25	68	35
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		0.975			0.996			0.960			0.963	
Flt Protected		0.994			0.996			0.986			0.990	
Satd. Flow (prot)	0	1798	0	0	1856	0	0	1735	0	0	1753	0
Flt Permitted		0.994			0.996			0.986			0.990	
Satd. Flow (perm)	0	1798	0	0	1856	0	0	1735	0	0	1753	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	45	264	70	21	230	8	26	39	27	27	74	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	379	0	0	259	0	0	92	0	0	139	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
Sign Control		Free			Free			Stop			Stop	

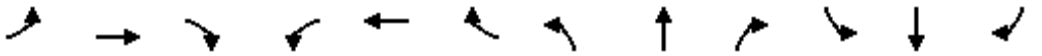
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	243	64	19	212	7	24	36	25	25	68	35
Future Volume (Veh/h)	41	243	64	19	212	7	24	36	25	25	68	35
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	264	70	21	230	8	26	39	27	27	74	38
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)					169							
pX, platoon unblocked												
vC, conflicting volume	281			342			752	720	309	756	751	281
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	281			342			752	720	309	756	751	281
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	96			98			89	88	96	89	76	95
cM capacity (veh/h)	1241			1219			228	313	729	241	304	729

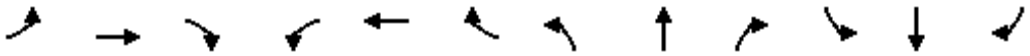
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	379	259	92	139
Volume Left	45	21	26	27
Volume Right	70	8	27	38
cSH	1241	1219	334	341
Volume to Capacity	0.04	0.02	0.28	0.41
Queue Length 95th (m)	0.8	0.4	7.7	13.4
Control Delay (s)	1.3	0.8	19.8	22.6
Lane LOS	A	A	C	C
Approach Delay (s)	1.3	0.8	19.8	22.6
Approach LOS			C	C

Intersection Summary				
Average Delay	6.5			
Intersection Capacity Utilization	44.0%	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)	1	40	18	27	17	1	19	4	43	7	9	2
Future Volume (vph)	1	40	18	27	17	1	19	4	43	7	9	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												
Frt		0.958			0.997			0.912			0.986	
Flt Protected		0.999			0.971			0.986			0.980	
Satd. Flow (prot)	0	1566	0	0	1860	0	0	1573	0	0	1584	0
Flt Permitted		0.999			0.971			0.986			0.980	
Satd. Flow (perm)	0	1566	0	0	1860	0	0	1573	0	0	1584	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	1					1	3		3	3		3
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%	18%	17%	0%	0%	0%	0%	0%	15%	43%	0%	0%
Adj. Flow (vph)	1	43	20	29	18	1	21	4	47	8	10	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	64	0	0	48	0	0	72	0	0	20	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	

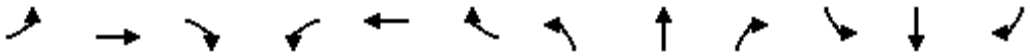
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	40	18	27	17	1	19	4	43	7	9	2
Future Volume (Veh/h)	1	40	18	27	17	1	19	4	43	7	9	2
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)	1	43	20	29	18	1	21	4	47	8	10	2
Pedestrians		3			3						1	
Lane Width (m)		3.7			3.7						3.7	
Walking Speed (m/s)		1.1			1.1						1.1	
Percent Blockage		0			0						0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			63			142	133	56	184	142	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			63			142	133	56	184	142	22
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.5	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.9	4.0	3.3
p0 queue free %	100			98			97	99	95	99	99	100
cM capacity (veh/h)	1608			1553			808	746	972	646	737	1056

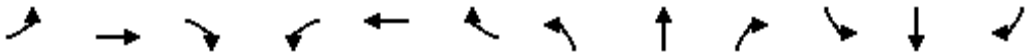
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	64	48	72	20
Volume Left	1	29	21	8
Volume Right	20	1	47	2
cSH	1608	1553	903	718
Volume to Capacity	0.00	0.02	0.08	0.03
Queue Length 95th (m)	0.0	0.4	1.8	0.6
Control Delay (s)	0.1	4.5	9.3	10.2
Lane LOS	A	A	A	B
Approach Delay (s)	0.1	4.5	9.3	10.2
Approach LOS			A	B

Intersection Summary				
Average Delay	5.4			
Intersection Capacity Utilization	21.6%	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)	47	0	37	2	0	3	33	633	4	5	641	11
Future Volume (vph)	47	0	37	2	0	3	33	633	4	5	641	11
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		0.941			0.919			0.999			0.998	
Flt Protected		0.973			0.980			0.998				
Satd. Flow (prot)	0	1683	0	0	1730	0	0	1846	0	0	1828	0
Flt Permitted		0.973			0.980			0.998				
Satd. Flow (perm)	0	1683	0	0	1730	0	0	1846	0	0	1828	0
Link Speed (k/h)		30			48			40			40	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		7.0			3.0			9.4			12.5	
Confl. Peds. (#/hr)							7					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 (%)	8%	2%	0%	0%	2%	0%	0%	4%	0%	0%	5%	0%
Adj. Flow (vph)	51	0	40	2	0	3	36	688	4	5	697	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	5	0	0	728	0	0	714	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			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	97		97	24		97	97		14
Sign Control		Stop			Stop			Free			Free	

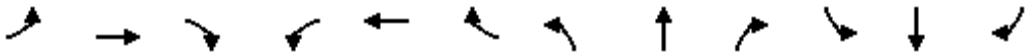
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.6%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	0	37	2	0	3	33	633	4	5	641	11
Future Volume (Veh/h)	47	0	37	2	0	3	33	633	4	5	641	11
Sign Control		Stop			Stop			Free			Free	
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)	51	0	40	2	0	3	36	688	4	5	697	12
Pedestrians		7										
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)								105			139	
pX, platoon unblocked	0.81	0.81	0.87	0.81	0.81	0.74	0.87			0.74		
vC, conflicting volume	1485	1484	710	1515	1488	690	716			692		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1122	1120	593	1159	1125	408	600			411		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	63	100	91	98	100	99	96			99		
cM capacity (veh/h)	136	157	441	123	156	480	854			860		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	91	5	728	714
Volume Left	51	2	36	5
Volume Right	40	3	4	12
cSH	196	222	854	860
Volume to Capacity	0.47	0.02	0.04	0.01
Queue Length 95th (m)	15.6	0.5	0.9	0.1
Control Delay (s)	38.5	21.6	1.1	0.2
Lane LOS	E	C	A	A
Approach Delay (s)	38.5	21.6	1.1	0.2
Approach LOS	E	C		

Intersection Summary				
Average Delay	2.9			
Intersection Capacity Utilization	69.6%	ICU Level of Service	C	
Analysis Period (min)	15			

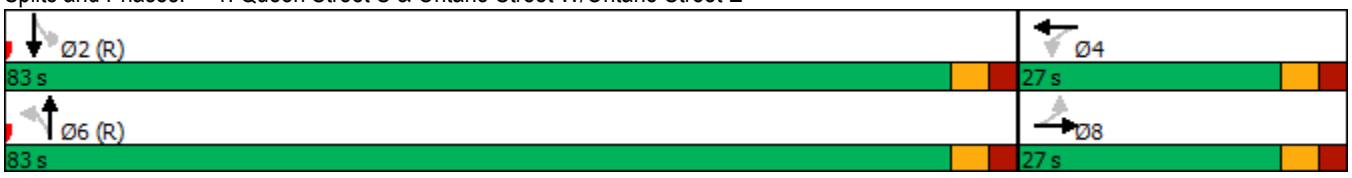


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	5	28	4	13	108	17	665	12	65	799	59
Future Volume (vph)	50	5	28	4	13	108	17	665	12	65	799	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	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		0.98			0.96			1.00			0.99	
Frt		0.954			0.883			0.998			0.991	
Flt Protected		0.971			0.999			0.999			0.996	
Satd. Flow (prot)	0	1435	0	0	1634	0	0	1876	0	0	1867	0
Flt Permitted		0.565			0.991			0.969			0.901	
Satd. Flow (perm)	0	828	0	0	1620	0	0	1819	0	0	1687	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			117			2			8	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		10	10		8	17		26	26		17
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 (%)	26%	34%	13%	2%	0%	0%	0%	2%	0%	3%	1%	0%
Adj. Flow (vph)	54	5	30	4	14	117	18	723	13	71	868	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	89	0	0	135	0	0	754	0	0	1003	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		83.0	83.0		83.0	83.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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		77.5	77.5		77.5	77.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.8			13.8			85.2			85.2	
Actuated g/C Ratio		0.13			0.13			0.77			0.77	
v/c Ratio		0.73			0.44			0.54			0.77	
Control Delay		66.5			15.0			5.0			13.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		66.5			15.0			5.0			13.0	
LOS		E			B			A			B	
Approach Delay		66.5			15.0			5.0			13.0	
Approach LOS		E			B			A			B	

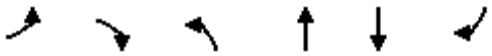
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 113.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E

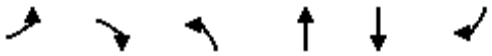


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	89	135	754	1003
v/c Ratio	0.73	0.44	0.54	0.77
Control Delay	66.5	15.0	5.0	13.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	66.5	15.0	5.0	13.0
Queue Length 50th (m)	13.2	3.2	29.9	85.9
Queue Length 95th (m)	27.8	17.9	33.8	186.3
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	178	410	1409	1308
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.50	0.33	0.54	0.77

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	75	90	162	613	678	132
Future Volume (vph)	75	90	162	613	678	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	15.0		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.93	0.94			0.99	
Frt		0.850			0.978	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1706	1585	1772	1902	1833	0
Flt Permitted	0.950		0.218			
Satd. Flow (perm)	1586	1495	407	1902	1833	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		98			15	
Link Speed (k/h)	40			40	40	
Link Distance (m)	80.8			138.6	214.4	
Travel Time (s)	7.3			12.5	19.3	
Confl. Peds. (#/hr)	28	15	17			17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	3%	3%	1%	1%	5%
Adj. Flow (vph)	82	98	176	666	737	143
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	98	176	666	880	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	27.5	27.5	10.0	35.5	35.5	
Total Split (s)	28.0	28.0	11.0	71.0	71.0	
Total Split (%)	25.5%	25.5%	10.0%	64.5%	64.5%	
Maximum Green (s)	22.5	22.5	8.0	64.5	64.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	11.9	11.9	86.6	75.3	75.3	
Actuated g/C Ratio	0.11	0.11	0.79	0.68	0.68	
v/c Ratio	0.48	0.39	0.42	0.51	0.70	
Control Delay	55.0	13.6	6.1	13.8	11.5	
Queue Delay	0.0	0.0	0.0	0.0	0.3	
Total Delay	55.0	13.6	6.1	13.8	11.8	
LOS	E	B	A	B	B	
Approach Delay	32.5			12.2	11.8	
Approach LOS	C			B	B	

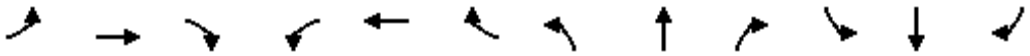
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 3 (3%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 78.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	82	98	176	666	880
v/c Ratio	0.48	0.39	0.42	0.51	0.70
Control Delay	55.0	13.6	6.1	13.8	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.3
Total Delay	55.0	13.6	6.1	13.8	11.8
Queue Length 50th (m)	15.6	0.0	8.1	70.0	55.9
Queue Length 95th (m)	28.5	13.4	m14.1	121.8	94.8
Internal Link Dist (m)	56.8			114.6	190.4
Turn Bay Length (m)	35.0		23.0		
Base Capacity (vph)	324	383	428	1301	1259
Starvation Cap Reductn	0	0	0	0	75
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.25	0.26	0.41	0.51	0.74

Intersection Summary

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

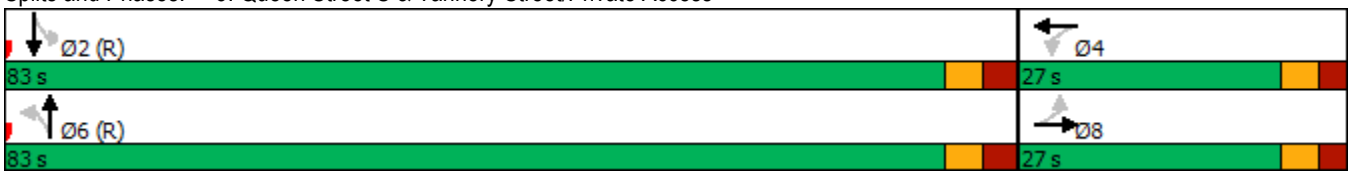


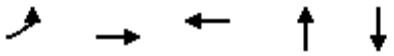
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	6	52	2	4	8	83	651	3	2	520	190
Future Volume (vph)	118	6	52	2	4	8	83	651	3	2	520	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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			0.964	
Flt Protected	0.950				0.993			0.994				
Satd. Flow (prot)	1755	1549	0	0	1689	0	0	1869	0	0	1753	0
Flt Permitted	0.748				0.971			0.839			0.999	
Satd. Flow (perm)	1325	1549	0	0	1644	0	0	1571	0	0	1751	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57			9						40	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
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 (%)	4%	0%	2%	0%	0%	0%	2%	2%	0%	0%	1%	2%
Adj. Flow (vph)	128	7	57	2	4	9	90	708	3	2	565	207
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	64	0	0	15	0	0	801	0	0	774	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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)	15.8	15.8			15.8			82.7			82.7	
Actuated g/C Ratio	0.14	0.14			0.14			0.75			0.75	
v/c Ratio	0.67	0.24			0.06			0.68			0.58	
Control Delay	61.3	14.4			25.1			6.6			10.2	
Queue Delay	0.0	0.0			0.0			1.3			0.0	
Total Delay	61.3	14.4			25.1			7.9			10.3	
LOS	E	B			C			A			B	
Approach Delay		45.7			25.1			7.9			10.3	
Approach LOS		D			C			A			B	

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: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 108.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access

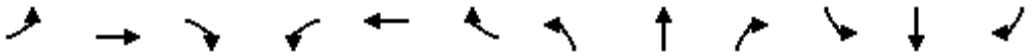




Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	128	64	15	801	774
v/c Ratio	0.67	0.24	0.06	0.68	0.58
Control Delay	61.3	14.4	25.1	6.6	10.2
Queue Delay	0.0	0.0	0.0	1.3	0.0
Total Delay	61.3	14.4	25.1	7.9	10.3
Queue Length 50th (m)	24.3	1.2	1.0	17.9	85.5
Queue Length 95th (m)	40.3	11.4	6.1	m25.0	153.8
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	258	348	328	1180	1325
Starvation Cap Reductn	0	0	0	191	0
Spillback Cap Reductn	0	0	0	0	9
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.18	0.05	0.81	0.59

Intersection Summary

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

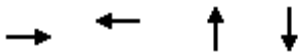


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	63	9	167	86	104	11	597	104	17	516	26
Future Volume (vph)	15	63	9	167	86	104	11	597	104	17	516	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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		0.98			0.95			0.97			0.99	
Frt		0.986			0.961			0.980			0.994	
Flt Protected		0.992			0.977			0.999			0.999	
Satd. Flow (prot)	0	1851	0	0	1719	0	0	1796	0	0	1859	0
Flt Permitted		0.912			0.816			0.989			0.970	
Satd. Flow (perm)	0	1686	0	0	1406	0	0	1778	0	0	1805	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			20			11			3	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	34		19	19		34	57		47	47		57
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%	1%	0%	1%	2%	2%	0%	2%	2%	23%	1%	0%
Adj. Flow (vph)	16	68	10	182	93	113	12	649	113	18	561	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	94	0	0	388	0	0	774	0	0	607	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		3	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		10.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		24.0	27.0		59.0	59.0		59.0	59.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	24.5%	24.5%		21.8%	24.5%		53.6%	53.6%		53.6%	53.6%	
Maximum Green (s)	20.0	20.0		21.0	20.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	3.5	3.5		3.0	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		0.0	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			6.0			6.0	
Lead/Lag	Lag	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
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		0.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	10.0	10.0		0.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		32.5			32.5			64.5			64.5	
Actuated g/C Ratio		0.30			0.30			0.59			0.59	
v/c Ratio		0.19			0.90			0.74			0.57	
Control Delay		26.0			59.6			23.9			13.0	
Queue Delay		0.0			0.0			0.4			0.5	
Total Delay		26.0			59.6			24.3			13.5	
LOS		C			E			C			B	
Approach Delay		26.0			59.6			24.3			13.5	
Approach LOS		C			E			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 28.2		Intersection LOS: C	
Intersection Capacity Utilization 81.5%		ICU Level of Service D	
Analysis Period (min) 15			

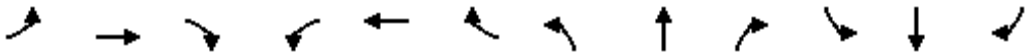
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	94	388	774	607
v/c Ratio	0.19	0.90	0.74	0.57
Control Delay	26.0	59.6	23.9	13.0
Queue Delay	0.0	0.0	0.4	0.5
Total Delay	26.0	59.6	24.3	13.5
Queue Length 50th (m)	13.2	70.9	102.1	27.1
Queue Length 95th (m)	20.9	91.1	#205.9	70.5
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	501	429	1047	1059
Starvation Cap Reductn	0	0	0	150
Spillback Cap Reductn	0	0	52	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.19	0.90	0.78	0.67

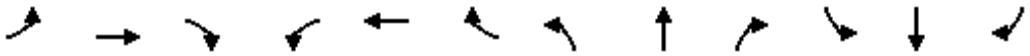
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	104	18	28	204	24	25	56	45	12	42	44
Future Volume (vph)	53	104	18	28	204	24	25	56	45	12	42	44
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		0.986			0.987			0.952			0.939	
Flt Protected		0.985			0.995			0.990			0.994	
Satd. Flow (prot)	0	1815	0	0	1843	0	0	1732	0	0	1738	0
Flt Permitted		0.985			0.995			0.990			0.994	
Satd. Flow (perm)	0	1815	0	0	1843	0	0	1732	0	0	1738	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
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 (%)	0%	4%	4%	0%	3%	0%	5%	8%	0%	12%	4%	0%
Adj. Flow (vph)	58	113	20	30	222	26	27	61	49	13	46	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	191	0	0	278	0	0	137	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)		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
Sign Control		Free			Free			Stop			Stop	

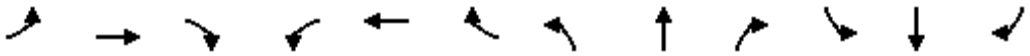
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	104	18	28	204	24	25	56	45	12	42	44
Future Volume (Veh/h)	53	104	18	28	204	24	25	56	45	12	42	44
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)	58	113	20	30	222	26	27	61	49	13	46	48
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)					169							
pX, platoon unblocked												
vC, conflicting volume	258			148			625	572	149	634	569	250
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	258			148			625	572	149	634	569	250
tC, single (s)	4.1			4.1			7.1	6.6	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.1	3.3	3.6	4.0	3.3
p0 queue free %	96			98			91	84	94	95	88	94
cM capacity (veh/h)	1306			1426			308	386	881	288	392	783

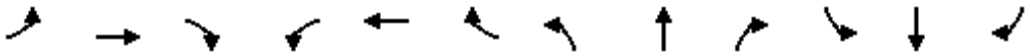
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	191	278	137	107
Volume Left	58	30	27	13
Volume Right	20	26	49	48
cSH	1306	1426	455	478
Volume to Capacity	0.04	0.02	0.30	0.22
Queue Length 95th (m)	1.0	0.5	8.8	5.9
Control Delay (s)	2.7	1.0	16.3	14.7
Lane LOS	A	A	C	B
Approach Delay (s)	2.7	1.0	16.3	14.7
Approach LOS			C	B

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	39.1%	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	9	8	50	16	5	3	4	38	5	8	0
Future Volume (vph)	0	9	8	50	16	5	3	4	38	5	8	0
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		0.936			0.991			0.885				
Flt Protected					0.966			0.997			0.982	
Satd. Flow (prot)	0	1530	0	0	1798	0	0	1503	0	0	1821	0
Flt Permitted					0.966			0.997			0.982	
Satd. Flow (perm)	0	1530	0	0	1798	0	0	1503	0	0	1821	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	4		1	1		4	8		2	2		8
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%	18%	17%	0%	7%	11%	0%	0%	15%	10%	0%	0%
Adj. Flow (vph)	0	10	9	54	17	5	3	4	41	5	9	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	76	0	0	48	0	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)		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	

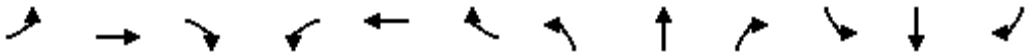
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	9	8	50	16	5	3	4	38	5	8	0
Future Volume (Veh/h)	0	9	8	50	16	5	3	4	38	5	8	0
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)	0	10	9	54	17	5	3	4	41	5	9	0
Pedestrians		8			2			1			4	
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		1			0			0			0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	26			20			156	150	18	191	152	32
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	26			20			156	150	18	191	152	32
tC, single (s)	4.1			4.1			7.1	6.5	6.4	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	3.6	4.0	3.3
p0 queue free %	100			97			100	99	96	99	99	100
cM capacity (veh/h)	1595			1608			778	717	1022	694	716	1037

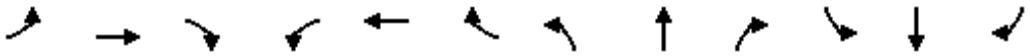
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	19	76	48	14
Volume Left	0	54	3	5
Volume Right	9	5	41	0
cSH	1595	1608	969	708
Volume to Capacity	0.00	0.03	0.05	0.02
Queue Length 95th (m)	0.0	0.7	1.1	0.4
Control Delay (s)	0.0	5.3	8.9	10.2
Lane LOS		A	A	B
Approach Delay (s)	0.0	5.3	8.9	10.2
Approach LOS			A	B

Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	23.3%	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)	22	0	21	6	0	6	42	561	8	3	613	42
Future Volume (vph)	22	0	21	6	0	6	42	561	8	3	613	42
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		0.934			0.932			0.998			0.991	
Flt Protected		0.975			0.976			0.997				
Satd. Flow (prot)	0	1681	0	0	1748	0	0	1894	0	0	1886	0
Flt Permitted		0.975			0.976			0.997				
Satd. Flow (perm)	0	1681	0	0	1748	0	0	1894	0	0	1886	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							15					14
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 (%)	8%	2%	0%	0%	2%	0%	0%	1%	0%	0%	1%	0%
Adj. Flow (vph)	24	0	23	7	0	7	46	610	9	3	666	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	0	14	0	0	665	0	0	715	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			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		97	24		14	97		14	24		97
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	21	6	0	6	42	561	8	3	613	42
Future Volume (Veh/h)	22	0	21	6	0	6	42	561	8	3	613	42
Sign Control		Stop			Stop			Free			Free	
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)	24	0	23	7	0	7	46	610	9	3	666	46
Pedestrians		15										
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)								105			139	
pX, platoon unblocked	0.84	0.84	0.73	0.84	0.84	0.79	0.73			0.79		
vC, conflicting volume	1424	1421	704	1424	1440	614	727			619		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	856	853	416	857	875	385	447			391		
tC, single (s)	7.2	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	88	100	95	97	100	99	94			100		
cM capacity (veh/h)	209	230	464	210	223	530	814			936		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	47	14	665	715
Volume Left	24	7	46	3
Volume Right	23	7	9	46
cSH	286	301	814	936
Volume to Capacity	0.16	0.05	0.06	0.00
Queue Length 95th (m)	4.1	1.0	1.3	0.1
Control Delay (s)	20.1	17.6	1.5	0.1
Lane LOS	C	C	A	A
Approach Delay (s)	20.1	17.6	1.5	0.1
Approach LOS	C	C		

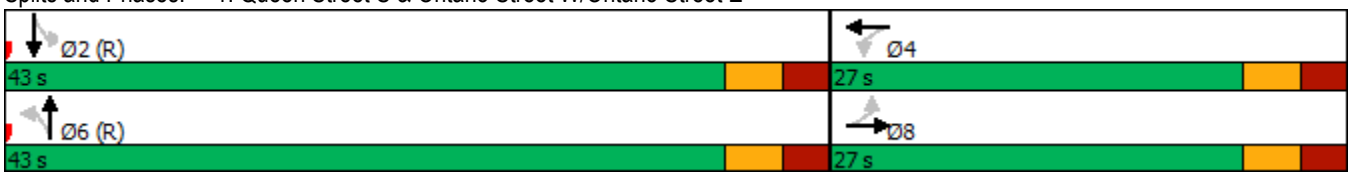
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	70.7%	ICU Level of Service	C	
Analysis Period (min)	15			

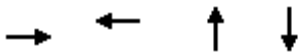
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	3	3	10	3	66	6	687	11	43	658	51
Future Volume (vph)	32	3	3	10	3	66	6	687	11	43	658	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	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		0.99			0.97			1.00			1.00	
Frt		0.990			0.887			0.998			0.991	
Flt Protected		0.959			0.994						0.997	
Satd. Flow (prot)	0	1456	0	0	1615	0	0	1896	0	0	1869	0
Flt Permitted		0.821			0.950			0.994			0.932	
Satd. Flow (perm)	0	1234	0	0	1543	0	0	1885	0	0	1746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			72			2			8	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		108.1			79.1			214.4			366.2	
Travel Time (s)		9.7			7.1			19.3			33.0	
Confl. Peds. (#/hr)	8		2	2		8	24		19	19		24
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 (%)	29%	2%	2%	2%	2%	2%	2%	1%	2%	2%	1%	2%
Adj. Flow (vph)	35	3	3	11	3	72	7	747	12	47	715	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	0	0	86	0	0	766	0	0	817	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
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (m)	6.1	6.0		6.1	6.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-3.0		0.0	-3.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	9.0		6.1	0.0		6.1	0.0	
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												
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		25.5	25.5		26.5	26.5	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.5	37.5		37.5	37.5	
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		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.5			5.5			5.5			5.5	
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		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.3			10.3			52.9			52.9	
Actuated g/C Ratio		0.15			0.15			0.76			0.76	
v/c Ratio		0.22			0.30			0.54			0.62	
Control Delay		28.1			12.6			11.9			8.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.1			12.6			11.9			8.2	
LOS		C			B			B			A	
Approach Delay		28.1			12.6			11.9			8.2	
Approach LOS		C			B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 10 (14%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 86.1%		ICU Level of Service E	
Analysis Period (min) 15			

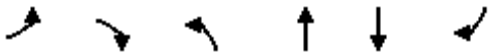
Splits and Phases: 1: Queen Street S & Ontario Street W/Ontario Street E



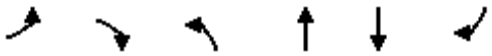


Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	41	86	766	817
v/c Ratio	0.22	0.30	0.54	0.62
Control Delay	28.1	12.6	11.9	8.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.1	12.6	11.9	8.2
Queue Length 50th (m)	4.1	1.5	46.8	44.3
Queue Length 95th (m)	11.4	11.4	121.8	81.2
Internal Link Dist (m)	84.1	55.1	190.4	342.2
Turn Bay Length (m)				
Base Capacity (vph)	381	523	1425	1321
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.11	0.16	0.54	0.62

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	123	141	147	576	510	162
Future Volume (vph)	123	141	147	576	510	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0	0.0	23.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	15.0		75.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.91	0.94	0.98		0.98	
Frt		0.850			0.967	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	1902	1802	0
Flt Permitted	0.950		0.200			
Satd. Flow (perm)	1625	1500	371	1902	1802	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		153			28	
Link Speed (k/h)	40			40	40	
Link Distance (m)	80.8			138.6	214.4	
Travel Time (s)	7.3			12.5	19.3	
Confl. Peds. (#/hr)	46	22	54			54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%
Adj. Flow (vph)	134	153	160	626	554	176
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	153	160	626	730	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	1	0	0	
Detector Template						
Leading Detector (m)	7.5	7.5	21.5	0.0	0.0	
Trailing Detector (m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Position(m)	-1.5	-1.5	12.5	0.0	0.0	
Detector 1 Size(m)	9.0	9.0	9.0	0.0	0.0	
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	pm+pt	NA	NA	
Protected Phases			1	2	2	
Permitted Phases	4	4	2			
Detector Phase	4	4	1	2	2	
Switch Phase						



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Minimum Initial (s)	10.0	10.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	10.0	35.5	35.5	
Total Split (s)	23.0	23.0	11.0	36.0	36.0	
Total Split (%)	32.9%	32.9%	15.7%	51.4%	51.4%	
Maximum Green (s)	17.5	17.5	8.0	29.5	29.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.5	2.5	0.0	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	3.0	6.5	6.5	
Lead/Lag			Lead	Lag	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	C-Max	C-Max	
Walk Time (s)	5.5	5.5		10.0	10.0	
Flash Dont Walk (s)	12.0	12.0		19.0	19.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	11.9	11.9	46.6	35.4	35.4	
Actuated g/C Ratio	0.17	0.17	0.67	0.51	0.51	
v/c Ratio	0.49	0.40	0.40	0.65	0.79	
Control Delay	32.0	8.0	6.3	16.9	16.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.0	8.0	6.3	16.9	16.9	
LOS	C	A	A	B	B	
Approach Delay	19.2			14.7	16.9	
Approach LOS	B			B	B	

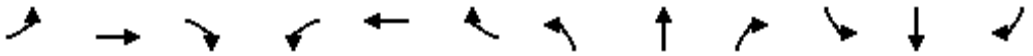
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 25 (36%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Queen Street S & Site Access

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	134	153	160	626	730
v/c Ratio	0.49	0.40	0.40	0.65	0.79
Control Delay	32.0	8.0	6.3	16.9	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	8.0	6.3	16.9	16.9
Queue Length 50th (m)	15.0	0.0	5.7	44.7	14.1
Queue Length 95th (m)	27.1	11.9	m8.1	#110.1	#137.7
Internal Link Dist (m)	56.8			114.6	190.4
Turn Bay Length (m)	35.0		23.0		
Base Capacity (vph)	406	489	420	960	924
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	0.31	0.38	0.65	0.79

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.

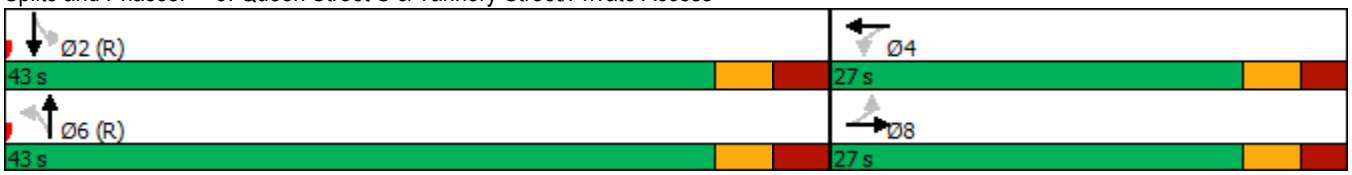


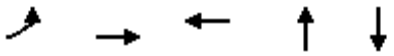
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	1	92	1	1	0	110	539	1	1	499	148
Future Volume (vph)	155	1	92	1	1	0	110	539	1	1	499	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		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			7.6			7.6		
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	0.95	0.92			0.97			0.99			0.96	
Frt		0.851									0.969	
Flt Protected	0.950				0.976			0.992				
Satd. Flow (prot)	1789	1480	0	0	1838	0	0	1883	0	0	1767	0
Flt Permitted	0.757				0.905			0.798			0.999	
Satd. Flow (perm)	1348	1480	0	0	1661	0	0	1503	0	0	1765	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		100									32	
Link Speed (k/h)		40			30			40			40	
Link Distance (m)		168.7			59.3			134.1			104.5	
Travel Time (s)		15.2			7.1			12.1			9.4	
Confl. Peds. (#/hr)	33		35	35		33	101		84	84		101
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%	2%	1%	2%
Adj. Flow (vph)	168	1	100	1	1	0	120	586	1	1	542	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	101	0	0	2	0	0	707	0	0	704	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			1.6			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	1		1	1		1	0		1	0	
Detector Template				Left			Left			Left		
Leading Detector (m)	8.5	8.5		2.0	8.5		6.1	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		6.1	0.0		2.0	0.0	
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		43.0	43.0		43.0	43.0	
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	21.5	21.5		21.5	21.5		37.0	37.0		37.0	37.0	
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)	14.4	14.4			14.4			44.1			44.1	
Actuated g/C Ratio	0.21	0.21			0.21			0.63			0.63	
v/c Ratio	0.61	0.26			0.01			0.75			0.63	
Control Delay	34.2	6.9			19.0			13.4			5.9	
Queue Delay	0.0	0.0			0.0			0.1			0.0	
Total Delay	34.2	6.9			19.0			13.4			5.9	
LOS	C	A			B			B			A	
Approach Delay		23.9			19.0			13.4			5.9	
Approach LOS		C			B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 48 (69%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 102.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Queen Street S & Tannery Street/Private Access





Lane Group	EBL	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	168	101	2	707	704
v/c Ratio	0.61	0.26	0.01	0.75	0.63
Control Delay	34.2	6.9	19.0	13.4	5.9
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	34.2	6.9	19.0	13.4	5.9
Queue Length 50th (m)	18.7	0.1	0.2	27.4	7.8
Queue Length 95th (m)	31.6	9.0	1.5	#126.7	m12.4
Internal Link Dist (m)		144.7	35.3	110.1	80.5
Turn Bay Length (m)	20.0				
Base Capacity (vph)	414	523	510	947	1124
Starvation Cap Reductn	0	0	0	6	0
Spillback Cap Reductn	0	0	0	0	11
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.19	0.00	0.75	0.63

Intersection Summary

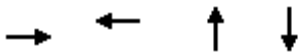
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	18	7	148	41	99	11	532	127	68	490	26
Future Volume (vph)	14	18	7	148	41	99	11	532	127	68	490	26
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		0.97			0.93			0.97			0.99	
Frt		0.975			0.954			0.974			0.994	
Flt Protected		0.983			0.975			0.999			0.994	
Satd. Flow (prot)	0	1774	0	0	1694	0	0	1794	0	0	1844	0
Flt Permitted		0.853			0.816			0.988			0.864	
Satd. Flow (perm)	0	1513	0	0	1367	0	0	1772	0	0	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			38			26			5	
Link Speed (k/h)		50			30			40			40	
Link Distance (m)		128.8			87.7			130.2			134.1	
Travel Time (s)		9.3			10.5			11.7			12.1	
Confl. Peds. (#/hr)	53		42	42		53	87		66	66		87
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%	1%	2%	2%	2%	1%	1%	2%	2%	2%
Adj. Flow (vph)	15	20	8	161	45	108	12	578	138	74	533	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	314	0	0	728	0	0	635	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
Number of Detectors	1	1		1	0		1	0		1	0	
Detector Template	Left			Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	7.5		6.1	0.0		6.1	0.0		6.1	0.0	
Trailing Detector (m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	-1.5		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	9.0		6.1	1.8		6.1	1.8		6.1	1.8	
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		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		27.0	27.0		27.0	27.0	
Total Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%		38.6%	38.6%		61.4%	61.4%		61.4%	61.4%	
Maximum Green (s)	20.0	20.0		20.0	20.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		7.0			7.0			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	
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)	10.0	10.0		10.0	10.0		6.0	6.0		6.0	6.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		17.8			17.8			39.2			39.2	
Actuated g/C Ratio		0.25			0.25			0.56			0.56	
v/c Ratio		0.11			0.84			0.73			0.71	
Control Delay		16.8			41.9			17.3			9.1	
Queue Delay		0.0			0.0			0.4			0.1	
Total Delay		16.8			42.0			17.7			9.2	
LOS		B			D			B			A	
Approach Delay		16.8			42.0			17.7			9.2	
Approach LOS		B			D			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 51 (73%), Referenced to phase 2:NBSB and 6:, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 18.9		Intersection LOS: B	
Intersection Capacity Utilization 102.9%		ICU Level of Service G	
Analysis Period (min) 15			

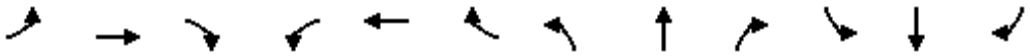
Splits and Phases: 4: Queen Street S & Pearl Street/Main Street



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	43	314	728	635
v/c Ratio	0.11	0.84	0.73	0.71
Control Delay	16.8	41.9	17.3	9.1
Queue Delay	0.0	0.0	0.4	0.1
Total Delay	16.8	42.0	17.7	9.2
Queue Length 50th (m)	3.1	30.1	62.1	9.5
Queue Length 95th (m)	9.2	#64.0	102.0	33.9
Internal Link Dist (m)	104.8	63.7	106.2	110.1
Turn Bay Length (m)				
Base Capacity (vph)	438	417	1002	895
Starvation Cap Reductn	0	0	0	9
Spillback Cap Reductn	0	1	49	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.75	0.76	0.72

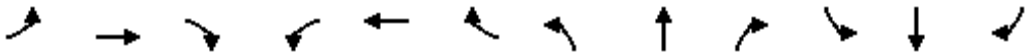
Intersection Summary

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	155	7	31	176	16	12	59	40	16	29	42
Future Volume (vph)	41	155	7	31	176	16	12	59	40	16	29	42
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			0.991			0.952			0.935	
Flt Protected		0.990			0.993			0.995			0.991	
Satd. Flow (prot)	0	1855	0	0	1853	0	0	1784	0	0	1727	0
Flt Permitted		0.990			0.993			0.995			0.991	
Satd. Flow (perm)	0	1855	0	0	1853	0	0	1784	0	0	1727	0
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		153.4			168.7			70.1			70.4	
Travel Time (s)		13.8			15.2			6.3			6.3	
Confl. Peds. (#/hr)	15		13	13		15	5		8	8		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%	2%	2%	2%	2%	2%	2%	2%	2%	8%	2%	2%
Adj. Flow (vph)	45	168	8	34	191	17	13	64	43	17	32	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	0	242	0	0	120	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)		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
Sign Control		Free			Free			Stop			Stop	

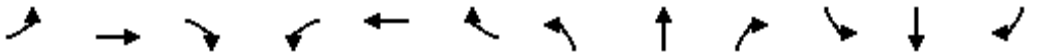
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	155	7	31	176	16	12	59	40	16	29	42
Future Volume (Veh/h)	41	155	7	31	176	16	12	59	40	16	29	42
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	168	8	34	191	17	13	64	43	17	32	46
Pedestrians		5			8			13			15	
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)					169							
pX, platoon unblocked												
vC, conflicting volume	223			189			610	566	193	628	562	220
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	223			189			610	566	193	628	562	220
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.0	3.3
p0 queue free %	97			98			96	84	95	94	92	94
cM capacity (veh/h)	1327			1368			332	398	832	296	400	805

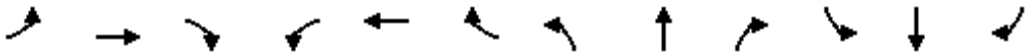
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	221	242	120	95
Volume Left	45	34	13	17
Volume Right	8	17	43	46
cSH	1327	1368	477	488
Volume to Capacity	0.03	0.02	0.25	0.19
Queue Length 95th (m)	0.7	0.5	6.9	5.0
Control Delay (s)	1.8	1.3	15.1	14.1
Lane LOS	A	A	C	B
Approach Delay (s)	1.8	1.3	15.1	14.1
Approach LOS			C	B

Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	32.4%	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)	0	5	4	43	9	5	0	3	34	3	3	0
Future Volume (vph)	0	5	4	43	9	5	0	3	34	3	3	0
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		0.940			0.989			0.875				
Flt Protected					0.963						0.976	
Satd. Flow (prot)	0	1770	0	0	1755	0	0	1511	0	0	1431	0
Flt Permitted					0.963						0.976	
Satd. Flow (perm)	0	1770	0	0	1755	0	0	1511	0	0	1431	0
Link Speed (k/h)		40			40			48			48	
Link Distance (m)		78.7			108.1			113.7			213.0	
Travel Time (s)		7.1			9.7			8.5			16.0	
Confl. Peds. (#/hr)	5					5	4					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%	2%	2%	2%	7%	20%	2%	2%	12%	60%	2%	2%
Adj. Flow (vph)	0	5	4	47	10	5	0	3	37	3	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	62	0	0	40	0	0	6	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	

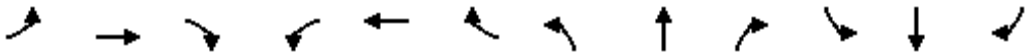
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	5	4	43	9	5	0	3	34	3	3	0
Future Volume (Veh/h)	0	5	4	43	9	5	0	3	34	3	3	0
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)	0	5	4	47	10	5	0	3	37	3	3	0
Pedestrians		4									5	
Lane Width (m)		3.7									3.7	
Walking Speed (m/s)		1.1									1.1	
Percent Blockage		0									0	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					108							
pX, platoon unblocked												
vC, conflicting volume	20			9			119	121	7	157	120	22
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	20			9			119	121	7	157	120	22
tC, single (s)	4.1			4.1			7.1	6.5	6.3	7.7	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.4	4.0	4.0	3.3
p0 queue free %	100			97			100	100	96	100	100	100
cM capacity (veh/h)	1589			1611			829	743	1047	648	744	1047

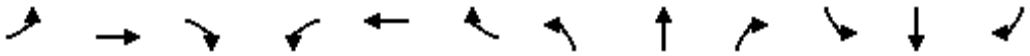
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	62	40	6
Volume Left	0	47	0	3
Volume Right	4	5	37	0
cSH	1589	1611	1016	693
Volume to Capacity	0.00	0.03	0.04	0.01
Queue Length 95th (m)	0.0	0.6	0.9	0.2
Control Delay (s)	0.0	5.6	8.7	10.2
Lane LOS		A	A	B
Approach Delay (s)	0.0	5.6	8.7	10.2
Approach LOS			A	B

Intersection Summary				
Average Delay	6.5			
Intersection Capacity Utilization	21.7%	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)	44	0	46	3	0	3	62	606	6	4	628	25
Future Volume (vph)	44	0	46	3	0	3	62	606	6	4	628	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		0.931			0.932			0.999			0.995	
Flt Protected		0.976			0.976			0.995				
Satd. Flow (prot)	0	1711	0	0	1713	0	0	1872	0	0	1874	0
Flt Permitted		0.976			0.976			0.995				
Satd. Flow (perm)	0	1711	0	0	1713	0	0	1872	0	0	1874	0
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		58.4			39.4			104.5			138.6	
Travel Time (s)		4.4			3.0			7.8			10.4	
Confl. Peds. (#/hr)							44					40
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)	48	0	50	3	0	3	67	659	7	4	683	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	98	0	0	6	0	0	733	0	0	714	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			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)	97		97	97		97	97		97	97		97
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 87.1%		ICU Level of Service E	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	0	46	3	0	3	62	606	6	4	628	25
Future Volume (Veh/h)	44	0	46	3	0	3	62	606	6	4	628	25
Sign Control		Stop			Stop			Free			Free	
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)	48	0	50	3	0	3	67	659	7	4	683	27
Pedestrians		44										
Lane Width (m)		3.7										
Walking Speed (m/s)		1.1										
Percent Blockage		4										
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								105			139	
pX, platoon unblocked	0.84	0.84	0.70	0.84	0.84	0.72	0.70			0.72		
vC, conflicting volume	1548	1548	740	1551	1558	662	754			666		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	807	808	413	811	820	338	432			342		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	78	100	88	98	100	99	91			100		
cM capacity (veh/h)	216	230	428	199	226	508	755			877		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	98	6	733	714
Volume Left	48	3	67	4
Volume Right	50	3	7	27
cSH	289	286	755	877
Volume to Capacity	0.34	0.02	0.09	0.00
Queue Length 95th (m)	10.2	0.4	2.0	0.1
Control Delay (s)	23.7	17.9	2.3	0.1
Lane LOS	C	C	A	A
Approach Delay (s)	23.7	17.9	2.3	0.1
Approach LOS	C	C		

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	87.1%	ICU Level of Service	E	
Analysis Period (min)	15			

APPENDIX N

City of Mississauga Zoning By-Law Excerpts

TABLE OF CONTENTS
Part 3: Parking, Loading, Stacking Lane and Bicycle Parking Regulations

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	F
Line 1.0	**TYPE OF USE**	**UNIT OF MEASUREMENT**	**PRECINCT 1**	**PRECINCT 2**	**PRECINCT 3**	**PRECINCT 4**
Table 3.1.2.1 continued from previous page						
12.0	**Back to Back** and **Stacked Townhouse** with exclusive use **garage** and **driveway**	resident spaces per unit	2.0	2.0	2.0	2.0
		visitor spaces per unit	0.25	0.25	0.25	0.25
13.0	**Long-Term Care Building**	spaces per bed	0.33	0.33	0.33	0.33
14.0	**Retirement Building**	spaces per unit	0.5	0.5	0.5	0.5
15.0	**Public authority dwelling unit** or **dwelling unit** provided by a **non-profit housing provider** in a **retirement building**	spaces per unit	0.25	0.35	0.35	0.35
16.0	**Transitional Housing**	spaces per unit or sleeping rooms, whichever is greater	0.1	0.1	0.1	0.1
17.0	All other housing forms not identified above with more than two **dwelling units**	resident spaces per unit	2.0	2.0	2.0	2.0
		visitor spaces per unit	0.25	0.25	0.25	0.25

NOTES: (1) See Sentence 3.1.2.1.2 of this By-law.
(2) *deleted by 0117-2022*

3.1.2.1.2 Visitor **parking spaces** shall not be required for an **apartment** legally **existing** within CC1 to CC4 zones for which a building permit has been issued on or before May 29, 2009. *(0207-2008), (0174-2017), (0018-2021), (0117-2022)*

3.1.2.1.3 Shared Arrangement for Residential Visitor and Non-Residential Parking Component

For the purpose of Article 3.1.2.1 of this By-law, a shared parking arrangement may be used for the calculation of required residential visitor/non-residential parking in accordance with the following:
(0117-2022)

the greater of

(1) Visitor spaces per unit in accordance with applicable regulations contained in Table 3.1.2.1 of this By-law;

or

(2) Parking required for all non-residential **uses**, located in the same **building** or on the same **lot** as the residential **use**, except **banquet hall/conference centre/convention centre**, **entertainment establishment**, **overnight accommodation**, **place of religious assembly**, **recreational establishment** and **restaurant** over 220 m^2 **GFA - non-residential**.

Parking for **banquet hall**/**conference centre**/**convention centre**, **entertainment establishment**, **overnight accommodation**, **place of religious assembly**, **recreational establishment** and **restaurant** over 220 m^2 **GFA - non-residential** shall not be included in the above shared parking arrangement and shall be provided in accordance with applicable regulations contained in Table 3.1.2.2 of this By-law.

3.1.2.1.4 Notwithstanding the regulations contained in Table 3.1.2.1 of this By-law, the required number of off-street **parking spaces** for **dwelling units** that are **affordable ownership housing units** or **affordable rental housing units** located within the Inclusionary Zoning Overlay Area boundaries identified on Schedule B of Part 13 of this By-law shall be subject to a parking rate of:
(0213-2022)

(1) Precinct 1: 50% of the required number of **parking spaces** for the corresponding residential **uses** as otherwise required pursuant to this By-law;

(2) Precincts 2, 3 and 4: 70% of the required number of **parking spaces** for the corresponding residential **use** as otherwise required pursuant to this By-law.

3.1.2.2 Required Number of Parking Spaces for Non-Residential Uses

Off-street **parking spaces** for non-residential **uses** shall be provided in accordance with Table 3.1.2.2. - Required Number of Off-Street Parking Spaces for Non-Residential Uses. *(0117-2022)*

Table 3.1.2.2 - Required Number of Off-Street Parking Spaces for Non-Residential Uses
(0358-2007), (0207-2008), (0325-2008), (0379-2009), (0308-2011), (0190-2014), (0050-2013/LPAT Order 2020 June 08), (0018-2015), (0055-2015), (0212-2015), (0111-2019/LPAT Order 2021 March 09), (0018-2021), (0117-2022)

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	**Active Recreational Use**	spaces per 100 m^2 **GFA - non-residential**, except for an arena or a **marina**	4.5	4.5	4.5	4.5
3.0	**Adult Entertainment Establishment**	spaces per 100 m^2 **GFA - non-residential**	16.3	16.3	16.3	16.3
4.0	Animal Services:					
4.1	**Animal Boarding Establishment**	spaces per 100 m^2 **GFA - non-residential**	3.0	3.0	3.6	3.6
4.2	**Animal Care Establishment**	spaces per 100 m^2 **GFA - non-residential**	3.0	3.0	4.0	5.0
5.0	Arena	space per four seats of permanent fixed seating (1)	1.0	1.0	1.0	1.0
6.0	Art Gallery, Museum	spaces per 100 m^2 **GFA - non-residential**	3.0	3.0	3.6	3.6
7.0	**Banquet Hall/ Conference Centre/ Convention Centre**	spaces per 100 m^2 **GFA - non-residential**	10.8	10.8	10.8	10.8
8.0	**Commercial School**	spaces per 100 m^2 **GFA - non-residential**	5.0	5.0	5.0	5.0
9.0	**Community Centre**	spaces per 100 m^2 **GFA - non-residential**, except for an arena	4.5	4.5	4.5	4.5
10.0	**Composting Facility**	spaces per 100 m^2 **GFA - non-residential** up to 2 325 m^2 **GFA - non-residential**;	1.6	1.6	1.6	1.6
		and				
		spaces per 100 m^2 **GFA - non-residential** between 2 325 m^2 and 9 300 m^2 **GFA - non-residential**;	1.1	1.1	1.1	1.1
		and				
		spaces per 100 m^2 **GFA - non-residential** over 9 300 m^2 **GFA - non-residential**.	0.6	0.6	0.6	0.6

Table 3.1.2.2 continued on next page

Column A		B	C	D	E	F
Line 1.0	**TYPE OF USE**	**UNIT OF MEASUREMENT**	**PRECINCT 1**	**PRECINCT 2**	**PRECINCT 3**	**PRECINCT 4**
Table 3.1.2.2 continued from previous page						
34.0	**Office**:					
34.1	**Office** (6)	spaces per 100 m^2 **GFA - non-residential**	2.0	2.5	2.8	3.0
		Where the non-**office uses**, including **medical office**, in an **office building**, are greater than 10% of the total **GFA - non-residential** of the **office building**, separate parking will be required for all of such **uses** in accordance with the regulations contained in Table 3.1.2.2 of this By-law.				
34.2	**Medical Office**, **Medical Office - Restricted**	spaces per 100 m^2 **GFA - non-residential**	3.8	4.0	4.5	5.5
35.0	**Overnight Accommodation**	space per guest room;	0.8	0.8	0.8	0.8
		plus				
		spaces per 100 m^2 **GFA - non-residential** used for public **use** areas including meeting rooms, conference rooms, recreational facilities, dining and lounge areas and other commercial facilities, but excluding bedrooms, kitchens, laundry rooms, washrooms, lobbies, hallways, elevators, stairways and recreational facilities directly related to the function of the **overnight accommodation**.	10.0	10.0	10.0	10.0
36.0	**Pilot Plant, Prototype Production Facility**	spaces per 100 m^2 **GFA - non-residential** up to 2 325 m^2 **GFA - non-residential**;	1.6	1.6	1.6	1.6
		and				
		spaces per 100 m^2 **GFA - non-residential** between 2 325 m^2 and 9 300 m^2 **GFA - non-residential**;	1.1	1.1	1.1	1.1
		and				
		spaces per 100 m^2 **GFA - non-residential** over 9 300 m^2 **GFA - non-residential**.	0.6	0.6	0.6	0.6

Table 3.1.2.2 continued on next page

Column A		B	C	D	E	F
Line 1.0	**TYPE OF USE**	**UNIT OF MEASUREMENT**	**PRECINCT 1**	**PRECINCT 2**	**PRECINCT 3**	**PRECINCT 4**
Table 3.1.2.2 continued from previous page						
37.0	**Place of Religious Assembly**	space per 4.5 seats for permanent fixed seating (1);	1.0	1.0	1.0	1.0
		plus				
		spaces for any non-fixed moveable seating per 100 m^2 **GFA - non-residential**, all in the **worship area**;	27.1	27.1	27.1	27.1
		or				
		spaces for all non-fixed moveable seating per 100 m^2 **GFA - non-residential**, in the **worship area**;	27.1	27.1	27.1	27.1
		or				
		spaces per 100 m^2 **GFA - non-residential**, whichever is greater.	10.0	10.0	10.0	10.0
		Where the **worship area** of a **place of religious assembly** includes permanent fixed seating or non-fixed moveable seating for clergy, leaders, choirs, or musicians, such seating or area shall be included in the calculation of seating for the purpose of calculating required parking. Where a community/multi-use hall is equal to or less than the **gross floor area** of the **worship area**, no additional parking shall be required for that **use**.				
38.0	**Power Generating Facility**	space per staff on duty with a minimum of 2.0 spaces	1.0	1.0	1.0	1.0
39.0	**Private Club**	spaces per 100 m^2 **GFA - non-residential**	4.5	4.5	4.5	4.5
40.0	**Recreational Establishment**	spaces per 100 m^2 **GFA - non-residential**, except for an arena	4.5	4.5	4.5	4.5
41.0	**Repair Establishment**	spaces per 100 m^2 **GFA - non-residential**	3.0	3.0	4.0	5.0
42.0	Retail Centre:					
42.1	Retail Centre (Less than or equal to 2 000 m^2 **GFA - non-residential**)	spaces per 100 m^2 **GFA - non-residential**	3.0	3.0	3.5	4.3
		Parking for **restaurant** and **convenience restaurant** over 220 m^2 **GFA - non-residential**, **place of religious assembly**, **funeral establishment**, **overnight accommodation**, **banquet hall/ conference centre/convention centre** and **entertainment establishment uses** will be provided in accordance with the applicable regulations contained in Table 3.1.2.2 of this By-law.				
42.2	Retail Centre (Greater than 2 000 m^2 **GFA - non-residential**)	spaces per 100 m^2 **GFA - non-residential**	3.8	3.8	4.5	5.4

Table 3.1.2.2 continued on next page

Column A		B	C	D	E	F
Line 1.0	**TYPE OF USE**	**UNIT OF MEASUREMENT**	**PRECINCT 1**	**PRECINCT 2**	**PRECINCT 3**	**PRECINCT 4**
Table 3.1.2.2 continued from previous page						
43.0	**Retail Store**	spaces per 100 m^2 **GFA** - **non-residential**	3.0	3.0	4.0	5.0
44.0	**Restaurants**:					
44.1	**Convenience Restaurant**	spaces per 100 m^2 **GFA** - **non-residential**				
		Less than or equal to 220 m^2 **GFA** - **non-residential**	3.0	3.0	4.0	5.0
		Over 220 m^2 **GFA** - **non-residential** plus a **stacking lane** (2)	6.0	6.0	9.0	9.0
44.2	**Restaurant**	spaces per 100 m^2 **GFA** - **non-residential**				
		Less than or equal to 220 m^2 **GFA** - **non-residential**	3.0	3.0	4.0	5.0
		Over 220 m^2 **GFA** - **non-residential**	6.0	6.0	9.0	9.0
44.3	**Take-out Restaurant**	spaces per 100 m^2 **GFA** - **non-residential**	3.0	3.0	4.0	5.0
45.0	Schools:					
45.1	College, University	spaces per 100 m^2 **GFA** - **non-residential** used for academic purposes;	1.1	1.1	1.1	1.1
		plus				
		spaces per resident student and/or staff.	0.15	0.15	0.15	0.15
45.2	**Public/Private School** (up to and including Grade 8)	space per 100 m^2 **GFA** - **non-residential** (excluding portables)	1.0	1.0	1.0	1.0
		plus				
		spaces per portable classroom (3)	1.0	1.0	1.0	1.0
45.3	**Public/Private School** (Grade 9 and above)	spaces per 100 m^2 **GFA** - **non-residential** (excluding portables)	1.5	1.5	1.5	1.5
		plus				
		spaces per portable classroom (3)	1.0	1.0	1.0	1.0
46.0	**Science and Technology Facility**	spaces per 100 m^2 **GFA** - **non-residential**	2.0	2.5	2.8	3.0
47.0	Self Storage Facility	spaces per 100 m^2 **GFA** - **non-residential** (exclusive of storage parking)	0.25	0.25	0.25	0.25

Table 3.1.2.2 continued on next page

3.1.2.2.3 For the purpose of Article 3.1.2.2 of this By-law, a **warehouse/distribution facility**, **wholesaling facility** (multiple-occupancy **building**) is a **building(s)** occupied by more than one occupant located on one **lot**, where the primary function of all occupants is warehousing, distribution or wholesaling. *(0379-2009), (0018-2021)*

3.1.2.2.4 For the purpose of Article 3.1.2.2 of this By-law, where a single occupant **office building** includes a **manufacturing**, **warehouse/distribution** and/or **wholesaling facility** component and the **GFA - non-residential** of the **manufacturing**, **warehouse/ distribution** and/or **wholesaling facility** component is greater than 10% of the total **GFA - non-residential** of the **building**, parking for the **manufacturing**, **warehouse/ distribution** and/or **wholesaling facility** component shall be calculated in accordance with the applicable **manufacturing**, **warehouse/distribution** and/or **wholesaling facility** (single occupancy) regulations contained in Table 3.1.2.2 of this By-law. *(0308-2011), (0018-2021)*

3.1.2.3 C4 Zone Parking Requirement

For the purpose of Article 3.1.2.2 of this By-law, off-street **parking spaces** for non-residential **uses** in C4 zones shall be provided in accordance with Precinct 1 requirements in Table 3.1.2.2 of this By-law. *(0117-2022)*

3.1.2.4 Mixed Use Development Shared Parking

A shared parking formula may be used for the calculation of required parking for a mixed use development. A mixed use development means the following:
(0379-2009), (0174-2017), (0018-2021), (0117-2022)

(1) Non-office **uses** in an **office** or **medical office building** or group of **buildings** on the same **lot**;
(2) **Office** or **medical office** space in a **building** or group of **buildings** on the same **lot** primarily occupied by retail **uses**;
(3) A **building** or group of **buildings** on the same **lot** containing a mix of **office** or **medical office**, commercial **uses** and **dwelling units**;
(4) Non-residential **uses** in an **apartment**.

Shared parking is to be calculated in compliance with Table 3.1.2.4 - Mixed Use Development Shared Parking Formula.

The initial step in determining required parking for a mixed use development is to calculate the parking requirement for each **use** in the development as if these **uses** were free-standing **buildings**. The parking requirement for each **use** is then multiplied by the percent of the peak period for each time period (i.e. noon), contained in Table 3.1.2.4 - Mixed Use Development Shared Parking Formula. Each column is totalled for weekday and weekend. The highest figure obtained from all time periods shall become the required parking for the mixed use development.

Table 3.1.2.4 - Mixed Use Development Shared Parking Formula [(2)]
(0379-2009), (0111-2019/LPAT Order 2021 March 09), (0018-2021), (0117-2022)

Column	A	B	C	D	E
Line 1.0	**TYPE OF USE**	**PERCENTAGE OF PEAK PERIOD (WEEKDAY)**			
		Morning	**Noon**	**Afternoon**	**Evening**
1.1	**Office/Medical Office/Financial Institution**	100	90	95	10
1.2	Retail Centre/ **Retail Store/Service Establishment**	80	90	90	90
1.3	**Restaurant/ Convenience Restaurant/ Take-out Restaurant**	20	100	30	100
1.4	**Overnight Accommodation**	70	70	70	100
1.5	Residential - Resident [(1)] Residential - Visitor	90 20	65 20	90 60	100 100

Table 3.1.2.4 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

Column	A	B	C
Line 1.0	**TYPE OF USE**	**BICYCLE PARKING - CLASS A**	**BICYCLE PARKING - CLASS B**
Table 3.1.6.6 continued from previous page			
4.0	College, University	1.0 spaces per 100 m^2 **GFA - non-residential**	1.2 spaces per 100 m^2 **GFA - non-residential**
5.0	College, University (within CC1 to CC4 and CCO zones)	1.0 spaces per 100 m^2 **GFA - non-residential**	1.2 spaces per 100 m^2 **GFA - non-residential**
6.0	Contractor's Yard, **Essential Emergency Service**, **Power Generating Facility**, Self Storage Facility, Utilities (**Electric Transformer and Distribution Facility**, **Sewage Treatment Plant**, **Utility Building**, **Water Treatment Facility)** and **Waste Transfer Station**	n/a	2.0 spaces
7.0	**Education and Training Facility**, **Financial Institution**, **Manufacturing Facility**, **Science and Technology Facility**, **Warehouse/Distribution Facility**, and **Wholesaling Facility**	0.1 spaces per 100 m^2 **GFA - non-residential**	2.0 spaces
8.0	**Education and Training Facility**, **Financial Institution**, **Manufacturing Facility**, **Science and Technology Facility**, **Warehouse/Distribution Facility**, and **Wholesaling Facility** (within CC1 to CC4 and CCO zones)	0.15 spaces per 100 m^2 **GFA - non-residential**	0.15 spaces per 100 m^2 **GFA - non-residential**
9.0	**Entertainment Establishment**, **Restaurant**, **Convenience Restaurant**, **Take-out Restaurant** Retail Centre, **Retail Store**, and **Service Establishment**	0.15 spaces per 100 m^2 **GFA - non-residential**	0.2 spaces per 100 m^2 **GFA - non-residential**
10.0	**Entertainment Establishment**, **Restaurant**, **Convenience Restaurant**, **Take-out Restaurant**, Retail Centre, **Retail Store**, and **Service Establishment** (within CC1 to CC4 and CCO zones)	0.15 spaces per 100 m^2 **GFA - non-residential**	0.3 spaces per 100 m^2 **GFA - non-residential**
11.0	**Medical Office** and **Medical Office - Restricted**	0.1 spaces per 100 m^2 **GFA - non-residential**	0.1 spaces per 100 m^2 **GFA - non-residential**
12.0	**Medical Office** and **Medical Office - Restricted** (within CC1 to CC4 and CCO zones)	0.15 spaces per 100 m^2 **GFA - non-residential**	0.2 spaces per 100 m^2 **GFA - non-residential**
13.0	**Office**	0.1 spaces per 100 m^2 **GFA - non-residential**	0.1 spaces per 100 m^2 **GFA - non-residential**
14.0	**Office** (within CC1 to CC4 and CCO zones)	0.2 spaces per 100 m^2 **GFA - non-residential**	0.15 spaces per 100 m^2 **GFA - non-residential**
15.0	**Public/Private School**	0.1 spaces per 100 m^2 **GFA - non-residential**	0.4 spaces per 100 m^2 **GFA - non-residential**
16.0	**Public/Private School** (within CC1 to CC4 and CCO zones)	0.1 spaces per 100 m^2 **GFA - non-residential**	0.4 spaces per 100 m^2 **GFA - non-residential**

Table 3.1.6.6 continued on next page

Column	A	B	C
Line 1.0	**TYPE OF USE**	**BICYCLE PARKING - CLASS A**	**BICYCLE PARKING - CLASS B**
Table 3.1.6.6 continued from previous page			
17.0	All other non-residential **uses**	0.05 spaces per 100 m^2 **GFA - non-residential**	0.1 spaces per 100 m^2 **GFA - non-residential**
18.0	All other non-residential **uses** (within CC1 to CC4 and CCO zones)	0.05 spaces per 100 m^2 **GFA - non-residential**	0.1 spaces per 100 m^2 **GFA - non-residential**

APPENDIX O

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%