DRAFT - FOR REVIEW

MEMO

TO: Eddy Lam and Anson Yuen, City of Toronto

FROM: Chris Tam, Ismet Medic, Jacob Louie

SUBJECT: **Lower Yonge Precinct EA – Traffic Modelling Assumptions and Results**

DATE: **May 19, 2017**

CC: Bob Koziol, WSP; Amanda Santo, Waterfront Toronto

1.0 PURPOSE AND BACKGROUND

This memo documents the methodology and assumptions used in the development of the Paramics and Synchro traffic models for the Phases 3 and 4 of the Lower Yonge EA Study.

1.1 BACKGROUND

The Lower Yonge Precinct Transportation Master Plan (TMP) EA was completed in August 2014 and subsequently endorsed by City Council in April 2015. The TMP completed phases 1 and 2 (of 4) of a Municipal Class EA process and was jointly led by the City of Toronto and Waterfront Toronto. Eight key transportation infrastructure improvements were recommended in the TMP EA report:

1) Conversion of Harbour Street from York Street to Yonge Street into two-way operation;
2) Removal of the Bay Street on-ramp to the eastbound Gardiner Expressway;
3) Shortening of the Lower Jarvis Street off-ramp from the eastbound Gardiner Expressway to land west of Yonge Street;
4) Elimination of the eastbound "S-curve" on Harbour Street and normalization of the Yonge Street/Harbour Street and Yonge Street/Lake Shore Boulevard intersections;
5) Extension of Harbour Street from Yonge Street to Lower Jarvis Street as a two-way road;
6) Creation of one additional eastbound lane on Lake Shore Boulevard East from Yonge Street to Lower Jarvis Street;
7) Tunnel connection between Cooper Street and Church Street under the rail corridor; and,
8) Creation of a new north-south street (New Street) between Cooper Street and Lower Jarvis Street.

A Paramics traffic model was developed by Arup for the Lower Yonge TMP in 2014. It should be noted that the Lower Yonge TMP was completed at the time when the *Gardiner Expressway & Lake Shore Boulevard Reconfiguration Environmental Assessment Study* was underway. As such, the Gardiner "Maintain" option (Status Quo option) was assumed for the traffic model developed for the Lower Yonge TMP study.

100 Commerce Valley Drive West
Thornhill, ON, Canada L3T 0A1

Tel.: +1 905 882-1100
Fax: +1 905 882-0055
www.wsp.com

1.2 MODELING SCENARIOS

In 2016, MMM was retained to undertake the Phases 3 and 4 of the Lower Yonge EA study. In discussions with the City of Toronto and Waterfront Toronto it was agreed that the following three modeling scenarios should be developed:

- Scenario 1 – EA Base Model
  (Aug 2014 TMP Preferred Alternative, with modifications)
- Scenario 2 – Preliminary Preferred Alternative Design
  (Full build out of Lower Yonge Precinct, no Cooper Street tunnel)
- Scenario 3 – Ultimate Scenario
  (Full build out of Lower Yonge Precinct with Cooper Street tunnel)

For Scenarios 1 and 2, the results summarized in this memo reflect a road network which was determined, through multiple analysis iterations, to operate without significant operational issues. Thus, the results that follow reflect a road network which has been tested to be acceptable from an analysis perspective.

2.0 SUMMARY OF MODEL DEVELOPMENT AND MODIFICATIONS

As noted previously in this memo, the Lower Yonge TMP Paramics model was completed in 2014, at the time when the *Gardiner Expressway & Lake Shore Boulevard Reconfiguration Environmental Assessment Study* was underway. Therefore, the "Maintain" option (Status Quo option) was assumed.

City Council, on June 10, 2015, endorsed the "Hybrid" option as the preferred alternative solution for the *Gardiner Expressway & Lake Shore Boulevard Reconfiguration Environmental Assessment Study*. Under the "Hybrid" alternative, the existing expressway structure and alignment will remain generally the same, but there will be modifications to the on / off-ramps east of Lower Jarvis Street.

As a result of the decision made by City Council, the City retained Dillon Consulting in late 2015 to confirm the Lower Yonge TMP recommendations given the differences in traffic patterns between the Gardiner "Maintain" and "Hybrid" alternatives. Dillon tested various scenarios for their sensitivity on the Lower Yonge Precinct, which included development density changes, lane configurations and Gardiner ramps modifications. Dillon's main conclusion was that the final design for the Gardiner "Hybrid" ramps and the exact alignment will not have a significant effect on the Lower Yonge Precinct.

Given that Dillon had already coded the preferred future Gardiner "Hybrid" design as well as the TMP Preferred Alternative elements in their traffic analysis model, MMM derived a new EA Base Model (for Phases 3 and 4 of the EA) from Dillon's work. Furthermore, as requested by the City, MMM applied a number of changes to correctly represent other future improvements recently planned in the vicinity of the study area.

This section outlines the changes that have been incorporated into the Lower Yonge EA Base Model (Scenario 1) and the Preliminary Preferred Alternative Design (Scenario 2), in order to improve performance and accuracy of the model compared to previous iterations, and to reflect preferred lane configurations as a result of discussions with staff.

This section presents the changes in three categories: geometric modifications, traffic signal modifications, and trip generation modifications.

2.1 GEOMETRIC MODIFICATIONS – EA BASE MODEL (SCENARIO 1)

The geometric changes made to Scenario 1 from the August 2014 Lower Yonge TMP are described below in **Table 1**.

Table 1
EA Base Model (Scenario 1) Geometric Modifications

Location / Description	August 2014 TMP Model	MMM's EA Base Model (Scenario 1)
Gardiner "Hybrid" Design	"Maintain" option (Status Quo option) assumed	New on/off-ramps east of Lower Jarvis Street as per the approved Gardiner EA
Bay Street Bike Plan	Bike lanes not considered	Lanes reduced at Lake Shore Boulevard, Harbour Street and Queens Quay to match the bike plans provided by the City
Yonge Street/The Esplanade New signal and lane configurations	Unsignalized	Implemented new signal and lane configurations. Coordinated signal with Yonge Street/Front Street
Bay Street/Harbour Street	Lane configuration coded incorrectly	Lane configurations revised to correctly show left turn lanes at intersections under two-way Harbour Street scenario (WBTL + WBR lane configuration assumed in the TMP cannot be implemented. The WBT traffic is directed into the EBL turn lane) Lane configuration for northbound approach revised to a left turn lane and a shared through-right lane.
Yonge Street/Front Street Extension of southwest curb	Status Quo assumed	Modified control points change geometry and to lower speed of eastbound right turn.
Front Street east of Yonge Street Widening of south sidewalk	Status Quo assumed	No changes made.
Lower Sherbourne Street/Lake Shore Boulevard Removal of southbound and westbound right turn channels	Status Quo assumed	Right turn channels removed. Gardiner Off-Ramp at Lower Sherbourne Street changed to exit onto Lake Shore Boulevard east of Lower Sherbourne Street.
Market Street Road narrowing	Market Street represented by zone connector.	No changes made.
Scott Street Road narrowing	Scott Street represented by zone connector	No changes made.

Location / Description	August 2014 TMP Model	MMM's EA Base Model (Scenario 1)
Yonge Street between Harbour Street and Queens Quay	Northbound incorrectly coded as 2 lanes	Revised to be only 1 lane northbound at Yonge Street/Harbour Street.
Yonge Street/Lake Shore Boulevard	Lane configurations coded incorrectly	Lane configurations revised to have 3 lanes northbound north of Harbour Street, with one lane turning into a dedicated left turn lane at the intersection. The northbound shared through-right lane was modified to an exclusive right turn lane.
Zone Split and additional connectors	Zone system and connectors did not provide sufficient granularity for the road network.	Three traffic zones divided into seven zones to represent each block in the Lower Yonge area. Zone connectors modified to connect the old and new zones to Freeland Street and New Street only.
Queens Quay/Freeland Street	Lane configurations coded incorrectly	Lane configuration for southbound approach revised to a shared through-left lane and a right turn lane. Lane configuration for eastbound approach revised to prohibit right turns.
Major vs Minor Streets	Zone connectors and Cooper Street northbound were incorrectly coded as major street	Zone connectors and Cooper Street northbound revised and coded as minor streets.

2.2 GEOMETRIC MODIFICATIONS – PRELIMINARY PREFERRED ALTERNATIVE DESIGN (SCENARIO 2)

Scenario 2 includes all of the geometric changes noted in Scenario 1, but also makes some modifications as noted in **Table 2** below.

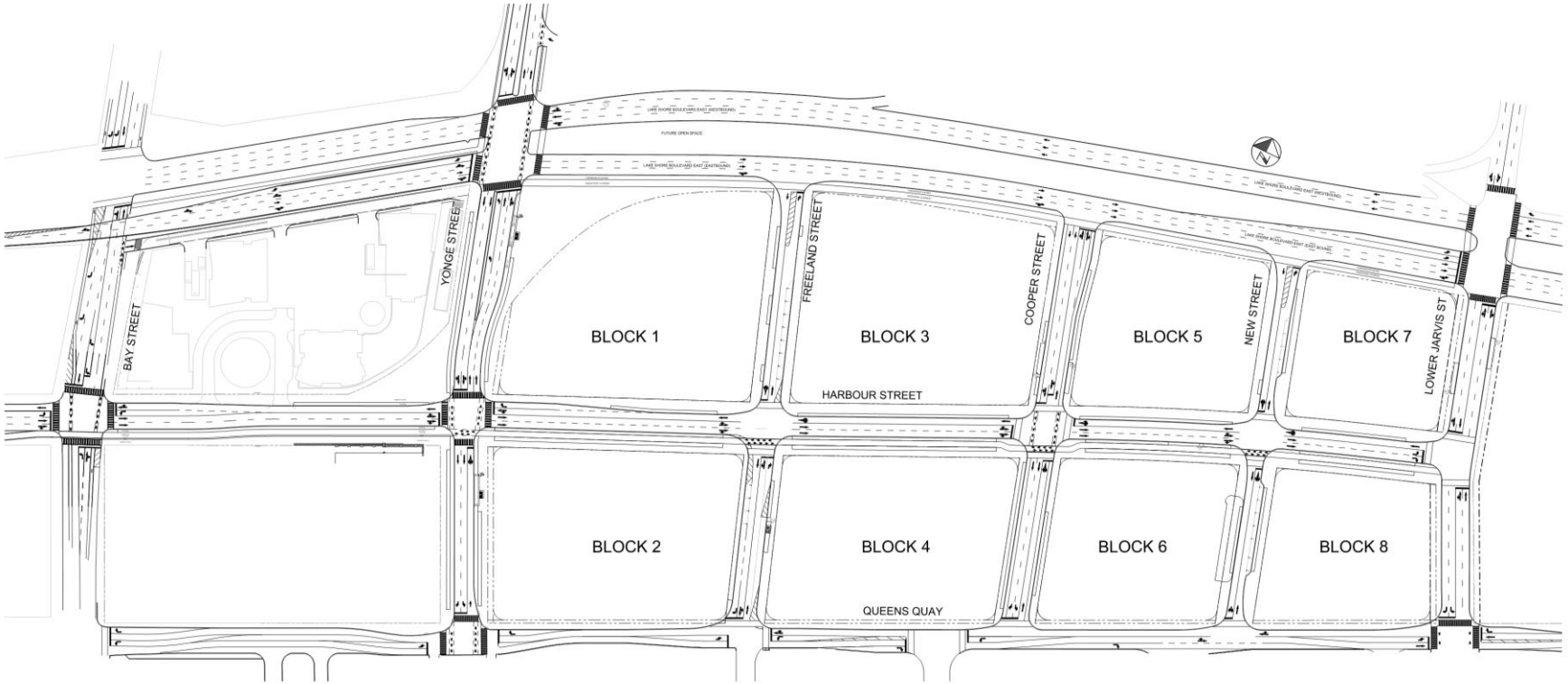
Table 2
Scenario 2 Modifications

Location / Improvement	Modifications
Jarvis Street/Harbour Street	1 lane configuration modified to 2 lane configuration; EBL + EBR Revise NB stop bar location.

Location / Improvement	Modifications
Lake Shore Boulevard/Gardiner EB Off-Ramp/Yonge Street	3 lane configuration modified to 4 lane configuration at EB Off-Ramp; EBL + EBTL + EBT + EBTR
Yonge Street/Harbour Street	Revise westbound lanes to WBR + WBTL.
Harbour Street	West of Bay Street: 4 lanes; 3 EB + 1 WB East of Bay Street: 3 lanes; 2 EB + 1 WB
Harbour Street Alignment	Intersection at Lower Jarvis Street moved farther north to better reflect the streets and blocks plan.
Freeland Street/Harbour Street	Revised to two-way stop control Revised eastbound lanes to EBTL + EBTR Revised northbound lanes to NBTL + NBR Revised westbound lane to WBLTR
Cooper Street/Harbour Street	Revised to 4-way stop control Revised eastbound lanes to EBTL + EBTR Revised northbound lane to NBLTR Revised westbound lane to WBLTR
New Street/Harbour Street	Revised to two-way stop control Revised eastbound lanes to EBTL + EBTR Revised westbound lane to WBLTR
Section of Lake Shore Boulevard WB between Lower Jarvis Street and Cooper Street	Incorrectly coded as 2 lanes in the Arup's TMP model; revised to be 3 lanes.

A functional design drawing for Scenario 2 which reflects the modifications noted above is illustrated in **Figure 1**.

Figure 1: Scenario 2 Functional Design



2.2.1 JARVIS STREET AND HARBOUR STREET INTERSECTION

As noted in Table 2, modifications from Scenario 1 to Scenario 2 included the provision of a dedicated EB left turn lane to accommodate eastbound left turns at this intersection. The net result of this new movement was to provide an additional route option for Lower Yonge or other vehicles to traverse the area, and to reduce queuing on Harbour Street. Without the additional lane, the typical queues were observed to spill back to the New/Harbour intersection.

2.3 GEOMETRIC MODIFICATIONS – ULTIMATE SCENARIO (SCENARIO 3)

The geometric changes made to Scenario 3 are listed in **Table 3** below. Please note that Scenario 3 was developed from Scenario 2 and reflects the changes made in that scenario in addition to those below.

Table 3
Ultimate Scenario (Scenario 3) Geometric Modifications

Location / Description	Modifications
Cooper Street/Lake Shore Boulevard	New north leg of the intersection connecting Lake Shore Boulevard to The Esplanade north of the railway corridor via the "Cooper Street Tunnel". Change and expansion of northbound and southbound lane configurations to through-left and through-right.

As illustrated on Figure 1, the south leg of the Cooper/Lake Shore intersection has space reserved for the additional through-right turn lane which will be utilized upon opening of the Cooper Street Tunnel.

2.4 TRAFFIC SIGNAL MODIFICATIONS – EA BASE MODEL

The following signal modifications shown in **Table 4** identify the changes made as a result of requests from the City in the memo dated January 22, 2016 , as well as additional signal issues MMM has noted during the process of preparing the Scenario models.

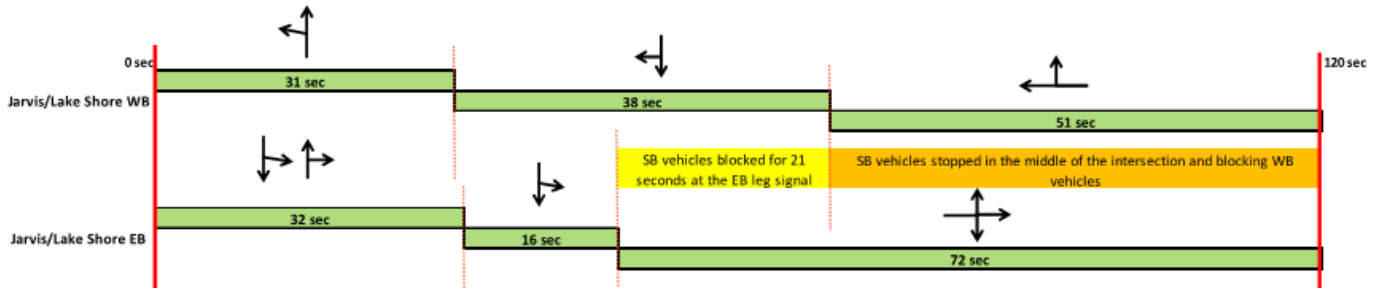
Table 4
EA Base Model Signal Modifications

Location / Description	August 2014 TMP Model	MMM's EA Base Model (Scenario 1)
Cooper Street/Queens Quay and New Street/Queens Quay	Incorrectly coded as signal controlled intersections	Signals removed.
Yonge Street/Lake Shore Boulevard/ Gardiner Eastbound Off-Ramp	North and south controllers not coordinated	Changes to offsets incorporated into model. Implemented split EB/WB phasing. Please see below for explanation on EB/WB split phasing and why it was implemented.

Location / Description	August 2014 TMP Model	MMM's EA Base Model (Scenario 1)
Yonge Street/Lake Shore Boulevard/ Gardiner Eastbound Off-Ramp	Pedestrian walk times not evaluated	Pedestrian walk times were reviewed and implemented during the intersection analysis exercise in Synchro. Please note that in the base model, signal timings were maintained due to City staff's instruction to maintain signal timings for consistency.
Yonge Street/Harbour Street	Signal running as split phase operation for east and west movements	Signal changed to two phase operation (N/S, E/W)
Cooper Street/Lake Shore Boulevard	Incorrectly coded as signalized with northbound dual right turn.	Signal removed and turn changed to single right only.
Lower Jarvis Street/Lake Shore Boulevard	Incorrectly coded resulting in excessive queues for eastbound left turn vehicles.	Signal timing revised to incorporate protected eastbound left turn phase. See below for additional explanation.
Lower Jarvis Street/Lake Shore Boulevard	Pedestrian walk times not evaluated	Signal timings were revised to reduce southbound right turn queues by extending the southbound phase. Please note that this intersection will require two-stage pedestrian crossings based on the current north-south timing.

The model prepared by Dillon in 2015 contained several traffic signal timing errors at the major intersections that required revisions. The signal timing assumed in the Dillon's model resulted in excessive queuing at the intersection of Lower Jarvis Street/Lake Shore Boulevard. Due to limitations in the Paramics model, this intersection is represented by two intersections, one for westbound Lake Shore Boulevard and one for eastbound Lake Shore Boulevard. This requires well-coordinated signal timing and phasing plans between these two signals, which was not provided in the Dillon's model. The exact signal timing issue as a result of the signal phasing plan is highlighted below in **Figure 2**.

Figure 2: Signal Timing Errors Contained in Dillon's Model for the Jarvis/Lake Shore Intersection



The 21 seconds that the EB left turns are permitted to turn, while being blocked at the north signal at the intersection of Lower Jarvis Street/Lake Shore Boulevard, resulted in significant vehicle queuing. Additionally, the SB through movement had a green light at the WB (north) leg while at the same time being stopped at the EB (south) leg. The SB vehicles remain blocked in the middle of the intersection for the next 51 seconds blocking the WBT vehicles during the entire WBT phase. The signal timing was revised in the Scenario 1 Model to correct this situation and improve the performance of the intersection.

Dillon's signal timing plan implemented at the intersection of the Yonge Street/Lake Shore Boulevard contained a similar error. This was revised for the Scenario 1 model.

2.5 TRAFFIC SIGNAL MODIFICATIONS – SCENARIO 2

Building upon the changes implemented in Scenario 1, Scenario 2 included additional changes which are shown in **Table 5** below.

The signal timings at the intersection of Yonge Street/Lake Shore Boulevard was further revised with significant phase structure changes, which were made in order to accurately reflect a reasonable phasing at this location. Furthermore, in addition to the modifications to the eastbound and westbound phasing at Lower Jarvis/Lake Shore, a north-south split phase movement was also implemented. The reason for this is described in further detail in **Section 2.5.2.** Finally, a number of signals were determined to be erroneously coded in Dillon's model. For comparison purposes they were maintained in Scenario 1, but removed in Scenario 2.

Table 5
Preliminary Preferred Alternative Design Signal Modifications

Location / Description	EA Base Model (Scenario 1)	Preliminary Preferred Alternative Design Model (Scenario 2)
Yonge Street/Lake Shore Boulevard/ Gardiner Eastbound Off-Ramp	No prohibition on the southbound left movement	The southbound left turn movement from Yonge Street onto Lake Shore Boulevard was prohibited in the a.m. peak period due to capacity constraints. This movement is also restricted under existing conditions.
Lower Jarvis Street/Lake Shore Boulevard	NB/SB phasing not split	Implemented split NB/SB phasing. Please see below for explanation on NB/SB split phasing and why it was implemented.
Mid-block locations along Harbour Street between	Mid-block locations erroneously contained signals.	Signals removed.

Location / Description	EA Base Model (Scenario 1)	Preliminary Preferred Alternative Design Model (Scenario 2)
Yonge Street and Lower Jarvis Street		

2.5.1 YONGE STREET AND LAKE SHORE BOULEVARD INTERSECTION

A number of changes have been made to this intersection between Scenarios 1 and 2, which have warranted a more detailed investigation at this intersection. In the Scenario 1 model, it was assumed that, consistent with the Arup's TMP and Dillon's models, the EB and WB advanced left turn phases will run simultaneously. However, based on our review of the intersection geometric this would not be feasible. A vehicle swept path analysis was conducted and it was confirmed that the turning pats of the EB and WB left turning vehicles overlap, as illustrated in **Figure 3**. Consequently, it will not be feasible to allow simultaneous EB and WB phases from the intersection safety perspective. Hence, split EB and WB phasing was assumed in Scenario 2. This had the impact of reducing the flexibility in the amount and proportion of cycle time allocated to all movements at the intersection.

Furthermore, the reduced flexibility in the Scenario 2 signal timing plan required two-stage pedestrian crossing operations to be considered. It should be noted that this is consistent with the Arup's TMP and Dillon's models, which allocated 32 seconds for the north south movements when the minimum required pedestrian crossing time for a single-stage crossing is 41 seconds.

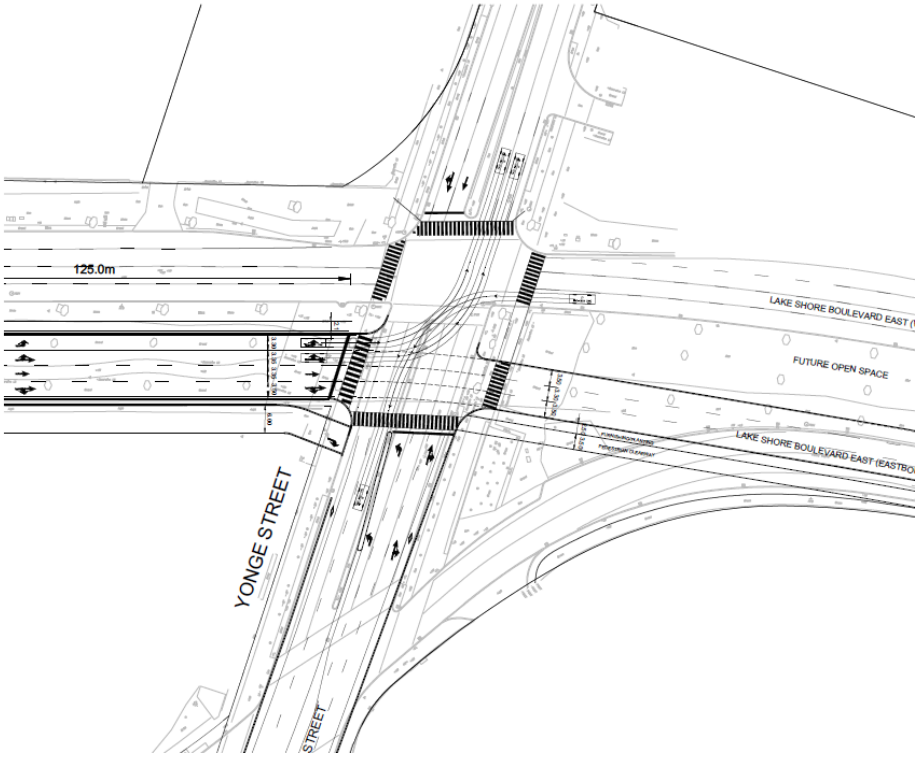


Figure 3: Yonge St. /Lake Shore Blvd. EBL and WBL Vehicle Swept Path Analysis

In addition, the initial results from the Scenario 2 a.m. and p.m. analysis indicated that the SB left turn movement is able to accommodate a significant number of left turning vehicles, up to 300 in the p.m. peak hour. However, these results must be interpreted carefully given that the Paramics model is not able to model pedestrian/vehicle conflicts. Pedestrian movements can

have the same if not bigger impact as opposing vehicles on the capacity of the turning movement, especially for a permissive phase such as the SB left turn in this case. Hence, a supplementary Synchro analysis was conducted to assess the impact of pedestrian/vehicle conflicts on operations of the NB and SB left turn movements at this intersection.

The Synchro analysis indicated that the pedestrian/vehicle conflicts significantly reduce capacity of the proposed new SB left turn movement which is expected to operate 40% above capacity in the a.m. peak hour. It is assumed that the SB left turn demand includes a number of the inbound vehicles heading to the Lower Yonge Precinct area. In reality these vehicles will have an option to proceed southbound through the intersection of Yonge Street/Lake Shore Boulevard and then turn left on Harbour Street. A sensitivity capacity analysis was conducted to assess the impact of restricting the SB left turn movement at the intersection of Yonge Street/Lake Shore Boulevard. The results show that the restriction of the SB left turn movement during the a.m. peak hour will significantly improve operations of this intersection. Additionally, the Yonge Street/Harbour Street and Harbour Street/Freeland Street intersections will have adequate capacity to accommodate the diverted SB left turn demand. Hence, it is recommended to restrict the SB left turn movement at the intersection of Yonge Street/Lake Shore Boulevard in the a.m. peak hour. This will also reduce the potential for pedestrian/vehicle conflicts during the SB left turn movement's permissive phase. During the p.m. peak hour, all movements at this intersection are expected to operate below capacity. Hence, there is no need to restrict the SB left turn movement in the p.m. peak hour.

Overall, the SB left turn movement restriction in the a.m. peak hour is expected to significantly improve operations for this movement and intersection. Furthermore, it is expected to reduce the potential for pedestrian/vehicle and cyclist/vehicle conflicts, which will grow in number as the Lower Yonge Precinct is developed.

2.5.2 LOWER JARVIS STREET AND LAKE SHORE INTERSECTION

Similar to the intersection of Yonge Street/Lake Shore Boulevard, the intersection of Lower Jarvis Street/Lake Shore Boulevard has been modelled as two separate intersections in Paramics. In Scenario 1 it was assumed that NB and SB phases will run simultaneously (typical phasing). However, due to a significant increase in the NB and SB left turn volumes and the intersection geometry, the implementation of the split NB/SB phasing plan was considered.

Due to the wide spacing between the EB and WB lanes, the NB and SB permissive movements, from the shared through/left lanes block each other in the case when the permissive left turn volumes are high, as illustrated in **Figure 4**. Additionally, considering reduced gap opportunities under future conditions due to pedestrian/vehicle conflicts, this might result in the extensive vehicle queuing on Lower Jarvis Street. Hence, it is likely that these movements will experience greater delays and queues than shown in the Scenario 1 Paramics model.

City staff requested an option of converting the existing shared through/left lane into an exclusive left turn lane and of implementation of a protected only left turn phase on both the northbound and southbound approaches to be assessed. The protected left turn phase implies that turning movements are not in conflict with any other road users (pedestrians, cyclists, vehicles). However, in this case, due to intersection geometry, NB and SB left turn movements will be in conflict and will need to yield to each other under typical simultaneous protected left turn phase operations. Hence, the typical simultaneous protected NB and SB left turn phases cannot be implemented at this intersection. This option with the exclusive turning lanes and protected left turn phases on Lower Jarvis Street will work only with lead/lag operations. However, lead/lag left turn phasing plans are not used in the City of Toronto, and for this reason this option was not considered in the Scenario 2 model.

Hence, the split NB and SB phasing plan was used in Scenario 2 since the intersection cannot provide any priority to NB or SB left turn phases under any other acceptable arrangement. With the expected increase in NB left turns from the Lower Yonge Precinct, implementation of this split phase will be a necessity. Additionally, Scenario 2 has assumed a 160s cycle length which is consistent with the current timing. The proposed signal timing and phasing assumes that a two-stage pedestrian crossing will be provided as the north-south phase split does not provide enough crossing time for a single stage pedestrian crossing. Overall, it is expected that

the implementation of the split phase will reduce the number of vehicle/pedestrian and vehicle/cyclist conflicts since only the NB and SB right turns have the potential for conflicts once the split phase is implemented.

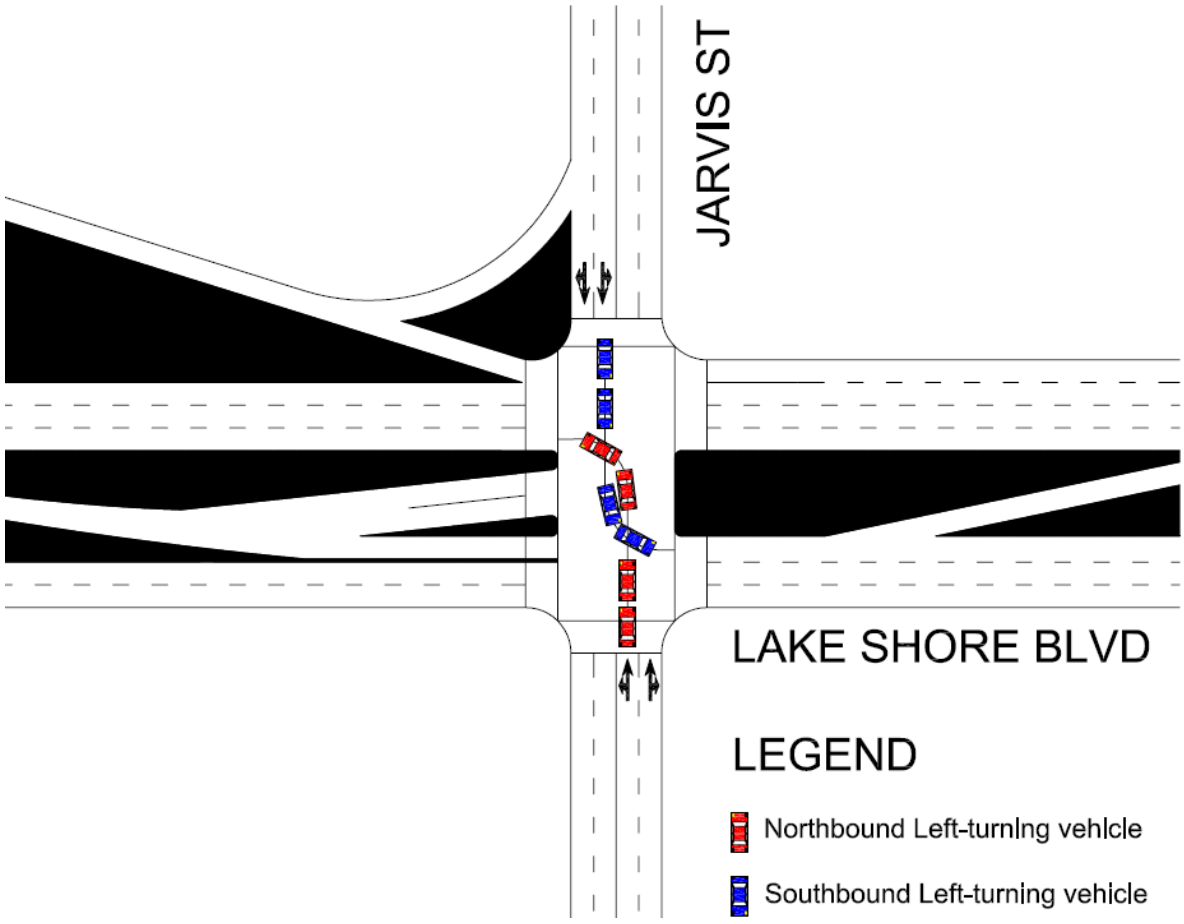


Figure 4: Potential SBL and NBL Queue Blockage Issue – Lower Jarvis Street/Lake Shore Boulevard

2.6 TRAFFIC SIGNAL MODIFICATIONS–COOPER STREET TUNNEL (SCENARIO 3)

In addition to the signal changes noted in the previous section, some additional modifications were made to support the new Cooper Street Tunnel in Scenario 3. These are noted in **Table 6** below.

Table 6
Cooper Street Tunnel (Scenario 3) Traffic Signal Modifications

Location / Description	Modifications
Cooper Street/Lake Shore Boulevard	Intersection signalized as 3-phase signal control. Eastbound and westbound movements operate as split phase due to geometric constraints.

2.7 TRIP GENERATION MODIFICATIONS–ALL SCENARIOS

The 2014 Lower Yonge TMP originally assumed a FSI of 11x net (i.e. exclusive of roads) for the Lower Yonge Precinct Area. A land use mix of 60% residential and 40% commercial was developed to create a vibrant and walkable district, with complementary park land to support both new residential and commercial development. A total of 630,476 m^2 land-use was contemplated for the entire precinct. **Table 7** below summarizes the development program contemplated in the TMP.

Table 7
Lower Yonge TMP (August 2014) Land Use Program

Gross Floor Area (sq. m)	Commercial		Residential		
	Gross Floor Area (sq. m)	# of Employees	Gross Floor Area (sq. m)	# of Units	# of Residents
630,476	252,190	10,088	378,286	5,328	8,525

Subsequent to City Council endorsement for the Lower Yonge TMP, additional built-form modelling analysis and discussions with various landowners occurred, leading to contemplation of additional built-form density. The land use estimates adopted for the Phases 3 and 4 of the EA was provided by the City in January 2016, and is summarized in **Table 8.**

Table 8
Current (January 2016) Lower Yonge Land Use Program

Gross Floor Area	Commercial		Residential		
	Gross Floor Area	# of Employees	Gross Floor Area	# of Units	# of Residents
943,991m2	377,596m2	15,104	566,395m2	7,977	12,763

In our investigations of the trip generation for the Lower Yonge area, it was determined that the Lower Yonge TMP model had incorrectly applied higher volumes to and from the Lower Yonge area. These discrepancies are described in further detail below in **Table 9**.

As a result, MMM incorporated revised trips in order to match the current (January 2016) Lower Yonge land use program. The proportional distribution of trips and the trip generation rates will remain the same as previous model.

MMM estimated that the current (January 2016) Lower Yonge land use program will generate 1,331 and 1,217 two-way trips during the a.m. and p.m. peak hours, respectively. This travel demand was applied to all of the Scenario models.

Table 9
Comparison of Lower Yonge Trip Generation between Model Versions

Total Lower Yonge Trips (In and Out)	Lower Yonge TMP Report	Lower Yonge TMP Model	MMM's Models (All Scenarios)
AM Peak Hour	890	1340	1331
PM Peak Hour	820	1470	1217

3.0 MODELING RESULTS FOR SCENARIO 1 AND SCENARIO 2

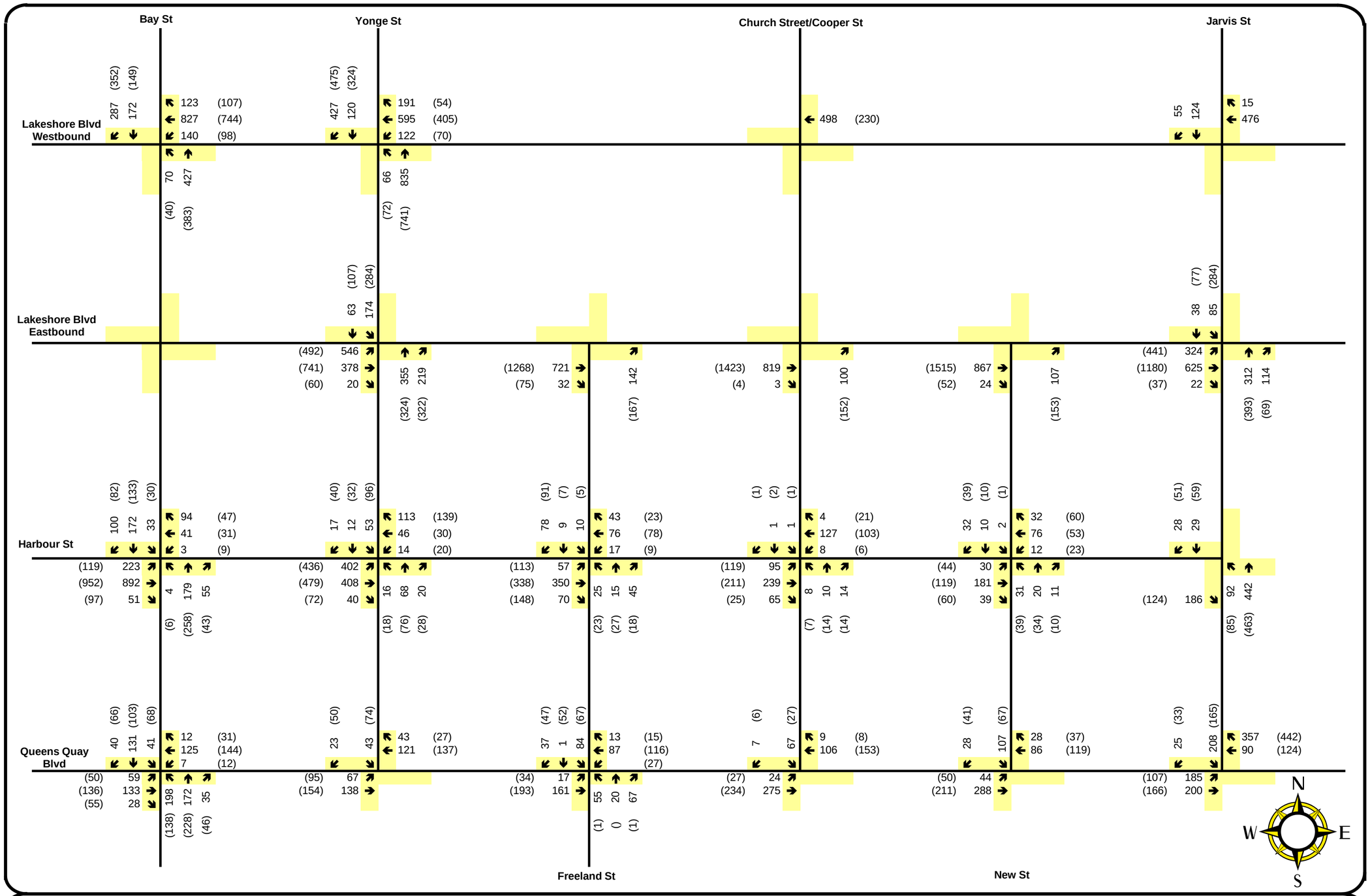
The results for Scenario 1 and Scenario 2 Paramics models are summarized in Table 10. The results present intersection performance via the average vehicle delay (seconds) and LOS. Please note that the results are an average of 10 runs, with the following seed numbers for AM and PM:

- AM Seeds: 23726, 23950, 28304, 24278, 18837, 9813, 2567, 15949, 23515, 2759
- PM Seeds: 23772, 10588, 16258, 716, 32169, 32019, 13374, 7735, 25301, 14990

The runs were analyzed using the Paramics software version 6.9.3. Detailed results are provided in **Appendix A**. Finally, average volumes over the 10 runs as developed from the model runs are provided in **Figures 5** and **6**.

Table 10
Paramics Intersection Operations Analysis – Scenarios 1 and 2

Study Area Intersection	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Bay St & Lake Shore Blvd WB	18	B	20	B	14	B	52	D
Bay St & Harbour St	20	C	34	C	20	C	26	C
Bay St & Queens Quay E	25	C	29	C	27	C	30	C
Yonge St & Lake Shore Blvd WB	44	D	24	C	21	C	23	C
Yonge St & Lake Shore Blvd EB	39	D	42	D	65	E	60	E
Yonge St & Harbour St	18	B	23	C	19	B	19	B

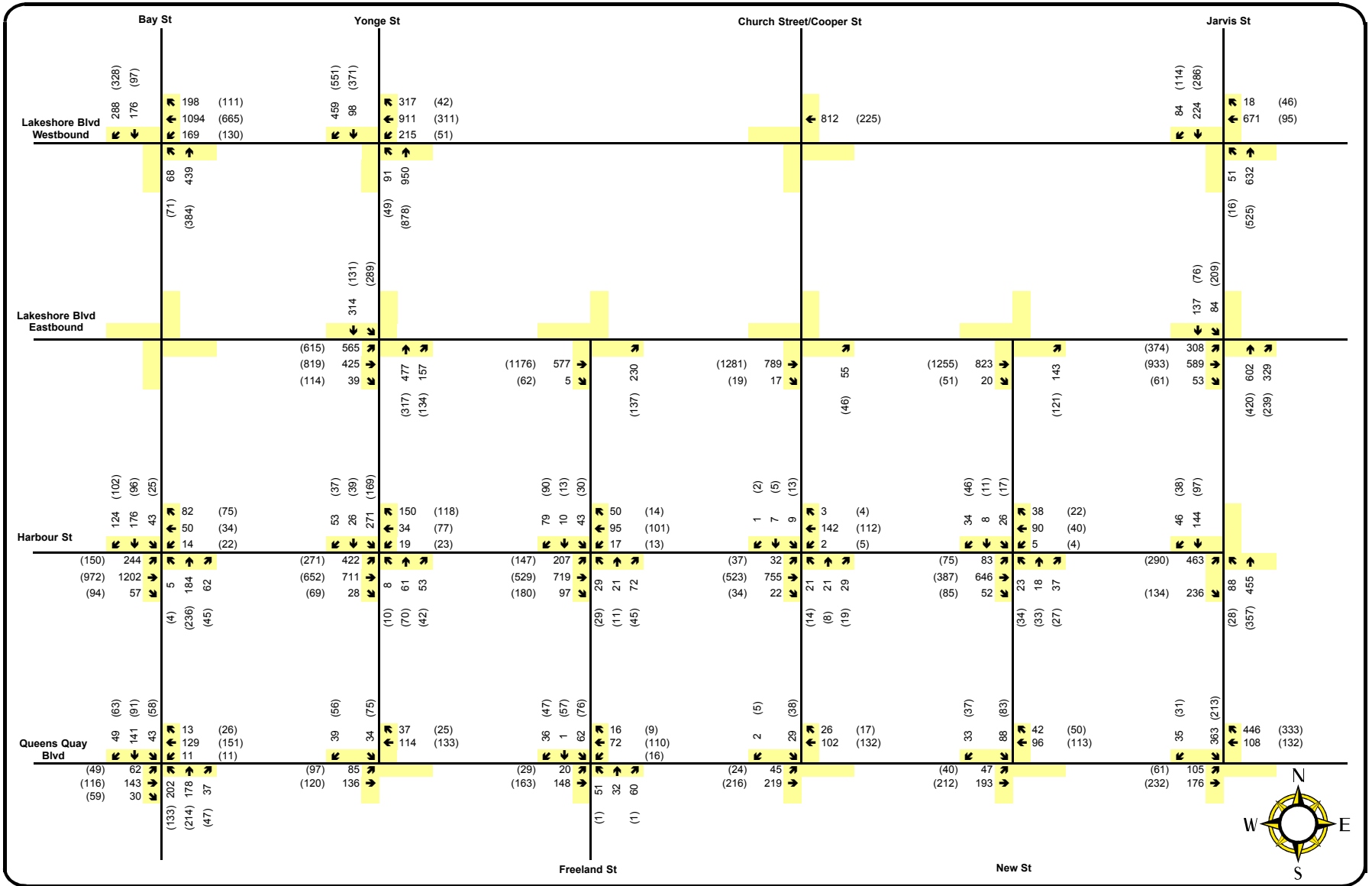


WSP | MMM GROUP

LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

FIGURE 5
Scenario 1 Peak Hour Traffic Volumes



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

FIGURE 6
Scenario 2 Peak Hour Traffic Volumes

Study Area Intersection	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Yonge St & Queens Quay E	8	A	14	B	7	A	12	B
Freeland St & Lake Shore Blvd EB	2	A	2	A	2	A	7	A
Freeland St & Future Site Driveways for Lower Yonge Blocks 1 and 3	1	A	1	A	1	A	4	A
Freeland St & Harbour St	13	B	22	C	9	A	8	A
Freeland St & Future Site Driveways for Lower Yonge Block 2	1	A	14	B	7	A	4	A
Freeland St & Queens Quay E	18	B	20	C	18	B	19	B
Cooper St & Queens Quay E	1	A	23	C	5	A	7	A
Cooper St & Harbour St	13	B	25	C	34	C	26	C
Cooper St & Lake Shore Blvd EB	0	A	0	A	1	A	23	C
Cooper St & Lake Shore Blvd WB	13	B	0	A	0	A	0	A
New Street & Lake Shore Blvd EB	6	A	2	A	4	A	40	D
New Street & Future Site Driveways for Lower Yonge Blocks 5 and 7	3	A	1	A	7	A	28	C
New Street & Harbour St	17	B	33	C	31	C	21	C
New Street & Future Site Driveways for Lower Yonge Blocks 6 and 8	1	A	11	B	11	B	4	A
New Street & Queens Quay E	1	A	9	A	7	A	6	A
Lower Jarvis St & Queens Quay E	18	B	40	D	38	D	34	C

Study Area Intersection	Scenario 1				Scenario 2			
	AM		PM		AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Lower Jarvis St & Harbour St	15	B	42	D	46	D	68	E
Lower Jarvis St & Lake Shore Blvd EB	40	D	31	C	52	D	63	E
Lower Jarvis St & Lake Shore Blvd WB	65	E	113	F	67	E	69	E
Jarvis St & Front St	40	D	43	D	26	C	41	D
Church St & Front St	25	C	25	C	23	C	31	C
Yonge St & Front St	11	B	30	C	10	B	15	B
York St & Queens Quay E	42	D	38	D	30	C	26	C
York St & Harbour St	24	C	31	C	26	C	28	C
York St & Lake Shore Blvd WB	37	D	56	E	45	D	66	E
Queens Quay E & Harbourfront Centre	122	F	6	A	1	A	1	A
Lower Simcoe St & Queens Quay E	540	F	41	D	40	D	41	D
Lower Simcoe St & Lake Shore Blvd EB	24	C	41	D	15	B	12	B
Lower Simcoe St & Lake Shore Blvd WB	23	C	26	C	12	B	22	C

The Paramics analysis indicated that all study area intersctions are expected to operate within generally acceptable operating thresholds. The results for key individual intersections and poorly operating intersections are discussed below.

3.1.1 LOWER JARVIS STREET AND LAKE SHORE BOULEVARD INTERSECTION

The queues from this intersection may extend to the Harbour Street/Lower Jarvis intersection, which in turn may have impacts on the wider Lower Yonge network. However, queues extending from one intersection to the next is not an unexpected occurrence in highly pedestrianized urban environments in the downtown, and generally traffic operations are not drastically affected by these occasional occurrences. Furthermore, it should be also noted that vehicles queues are very sensitive to changes in traffic signal

timing, vehicle volumes and arrival patterns. Thus, the precision of the queue estimates is not at a level where we would recommend using this information as a primary criterion in making a decision regarding the Harbour Street alignment.

Furthermore, southbound queues at this intersection have been seen during the simulation to routinely block the channelized right turn onto the Gardiner. However, this is an already existing condition due to high volumes on Lower Jarvis Street.

3.1.2 NEW INTERSECTIONS ON HARBOUR STREET

The new intersections on Harbour Street were assumed to have the lane configurations shown below in **Table 11**.

Table 11
Intersection Controls at New Intersections on Harbour Street

Harbour Street at	Scenario 1	Scenario 2
Freeland Street	Signalized Intersection	Two-Way Stop Control
Cooper Street	Signalized Intersection	All-Way Stop Control
New Street	Signalized Intersection	Two-Way Stop Control
Jarvis Street	Signalized Intersection	Signalized Intersection

The majority of the proposed intersections along Harbour Street between Bay Street and Lower Jarvis Street operate at LOS 'C' or better in Scenario 2, indicating that they are relatively lightly travelled intersections. The intersection of Lower Jarvis Street/Harbour Street operates at LOS 'E' in the p.m. peak hour, and LOS 'D" in the a.m. peak hour. Furthermore, the intersection of Cooper Street/Harbour Street is expected to operate at LOS 'C' in the a.m. peak hour. Notwithstanding the Lower Jarvis intersection, we believe that the proposed Harbour Street configuration of two eastbound and one westbound lane from Lower Jarvis Street to Bay Street, is appropriate from a traffic capacity point of view.

An assessment of the appropriate traffic control devices to install at the intersections of Harbour Street with Freeland Street, Cooper Street and New Street was conducted, to determine whether warrants identified a need to upgrade the traffic controls from the configurations noted above. Traffic signal warrants were calculated based on the "Justification 7 – Projected Volumes" criteria from OTM Book 12, while All-way stop warrants were based on criteria from OTM Book 5. A summary of these assessments is shown in **Table 12** below, and detailed results are provided in **Appendix B**. Please note that the assessment did not include pedestrians, since the estimation of pedestrian route choices at this stage of design would be highly speculative.

Table 12
Traffic Control Warrant Analysis Results

Intersection	Warrant Evaluated	Warrant Met?	Notes
Freeland / Harbour	All-Way Stop	No	Minor street volumes of below threshold for all-way stop control. Additional volume of ~80 vehicles or pedestrians crossing Harbour required to meet warrant.
Cooper / Harbour	Traffic Signal	No	Major and minor street volumes below threshold for traffic signals. Additional volume of between 900-1000 vehicles or pedestrians crossing Cooper, and 100 vehicles or pedestrians crossing Harbour, required to meet warrant.
New / Harbour	All-Way Stop	No	Major and minor street volumes below threshold for all-way stop control. Additional volume of ~40 vehicles or pedestrians crossing New Street, and ~120 vehicles or pedestrians crossing Harbour, required to meet warrant.

Based on the results from the above table, vehicle traffic will not justify upgrading the traffic controls at Freeland Street, Cooper Street or New Street. However. The Lower Yonge precinct is anticipated to have a large number of pedestrians travelling to and from origins and destinations within the precinct. Furthermore, a public school, daycare facilities, and a community recreation centre have been proposed within the precinct. These uses generally generate high numbers of pedestrians, which will likely trigger the upgrades to the traffic controls. As these developments move through the development review process, further analysis will be required for these intersections. Nevertheless, given the potential for signalization in the future, sufficient space should be reserved for traffic signal equipment installation.

3.1.3 NEW GARDINER EB OFF-RAMP AT YONGE STREET

The Paramics results show the intersection of Yonge Street/Lake Shore Boulevard is expected to operate within generally acceptable operating thresholds with the lane configurations and signal timings described above (4-lane Gardiner EB off ramp at Yonge, SBL movement restricted in the a.m. peak period). A sensitivity analysis which reviewed the lane requirements for the proposed new Gardiner EB off-ramp at Yonge Street was conducted. Both a 3-lane and 4-lane off-ramp was tested and evaluated in terms of delay, level of service and queues to determine whether the number of lanes on the ramp could be reduced and still provide an appropriate level of service.

The sensitivity analysis was conducted using the Paramics model which was used to develop the volumes expected to use the ramp between the two options and estimate the potential queues, as well as a supplementary Synchro model to better evaluate traffic operations metrics such as v/c ratio. The key performance metrics between these two options are shown below in **Tables 13** to **16**.

Table 13
Yonge Off-Ramp Operations Analysis 3-Lane vs. 4-Lane Configuration Paramics Results – AM Peak Hour

Scenario	Movement	Volume	Delay (seconds)	LOS	95th Percentile Queue (m)
(3 Lane Ramp)	EBL	570	125	F	188
	EBT	399	59	E	35
	EBTR	38	55	D	86
(4 Lane Ramp)	EBL	565	145	F	55
	EBTL*	425	54	D	186
	EBT*		54	D	38
	EBTR	39	49	D	84

*Note: Through volume is associated in the table with the EBTL and EBT lanes, though in reality the EBTL will contain left turn volumes and the EBTR lane will also contain some through volumes.

Table 14
Yonge Off-Ramp Operations Analysis 3-Lane vs. 4-Lane Configuration Paramics Results – PM Peak Hour

Scenario	Movement	Volume	Delay (seconds)	LOS	95th Percentile Queue (m)
(3 Lane Ramp)	EBL	611	57	E	138
	EBT	803	47	D	50
	EBTR	112	43	D	128
(4 Lane Ramp)	EBL	615	81	F	53
	EBTL*	819	68	E	130
	EBT*		68	E	89
	EBTR	114	61	E	95

*Note: Through volume is associated in the table with the EBTL and EBT lanes, though in reality the EBTL will contain left turn volumes and the EBTR lane will also contain some through volumes.

Table 15
Yonge Off-Ramp Operations Analysis 3-Lane vs. 4-Lane Configuration Synchro Results - AM Peak Hour

Scenario	Movement	Delay (seconds)	LOS	V/C Ratio	95th Percentile Queue (m)
(3 Lane Ramp)	EBL	313.8	F	1.60	#258.7*
	EBLTR	45.3	D	0.59	65.0*
(4 Lane Ramp)	EBL	83.7	F	0.93	#134.5*
	EBLTR	49.8	D	0.76	79.5

*Note: # 95th percentile volumes exceeds capacity, queue may be longer. Queue shown is maximum after two cycles

Table 16
Yonge Off-Ramp Operations Analysis 3-Lane vs. 4-Lane Configuration Synchro Results - PM Peak Hour

Scenario	Movement	Delay (seconds)	LOS	V/C Ratio	95th Percentile Queue (m)
(3 Lane Ramp)	EBL	173.6	F	1.27	#250*
	EBLTR	57.3	E	0.93	#148.0*
(4 Lane Ramp)	EBL	73.6	E	0.94	#167.4*
	EBLTR	50.3	D	0.89	#120*

*Note: # 95th percentile volumes exceeds capacity, queue may be longer. Queue shown is maximum after two cycles

The Paramics results indicate that the 4-lane ramp configuration increases the capacity, and the attractiveness, of the Gardiner EB Off-Ramp at Yonge Street. In the a.m. peak hour, the maximum queue in Scenario 2 in the EBTL lane is longer than the queues in Scenario 1 primarily as a result of the increased attractiveness of the ramp, as evidenced by the increased volumes. In the p.m. peak hour, queues are only slightly longer. The Synchro results show that with the 3-lane ramp configurations, the ramp movements will operate above capacity in the p.m. peak hour. Additionally, vehicle queues on the ramp are longer in the majority of cases under the 3-lane configuration option, especially for the eastbound left turn. Therefore, the 4-lane ramp configuration option is preferred.

After confirming that the 4-lane ramp configuration is preferred, an additional sensitivity capacity analysis was conducted to assess the impact of the two different Gardiner EB Off-ramp lane configuration scenarios: duel left turn lane vs. left turn lane + shared left/through lane. The results show the scenario with the dual EB left turn lane yields slightly better results during the a.m. peak hour, and the scenario with EBL and EBLT lane configuration operates better during the p.m. peak hour. The difference in the results between the two scenarios is due to different “theoretic” lane utilization factors used in the analysis, and it is likely that in real conditions the both scenarios will yield very similar results. Hence, from the traffic operations perspective, there is no

significant difference between these two scenarios. However, given that there are three receiving lanes on the east side of the intersection, it is recommended that the lane configuration with the shared EBLT lane be implemented.

A weaving analysis was completed for the section of the Gardiner Expressway between the Rees On-Ramp and the Yonge Off-Ramp. The analysis results for the 4-lane ramp configuration option indicate that the breakdown of the weaving segment is not expected, and all vehicles entering the segment are expected to clear the weaving segment. The weaving analysis was not completed for the 3-lane ramp configuration option, but given that the Yonge Off-Ramp volumes are lower compared to the 4-lane ramp configuration option, it can be concluded that the weaving issues are not expected under this option. The weaving analysis is documented is Section 7.0 below.

4.0 SUPPLEMENARY SYNCHRO ANALYSIS FOR SCENARIO 2

Due to limitations in the Paramics model, it was required to represent the intersections of Yonge Street/Lake Shore Boulevard and Lower Jarvis Street/Lake Shore Boulevard by two separate intersections, one for westbound Lake Shore Boulevard and one for eastbound Lake Shore Boulevard. Additionally, Paramics does not model pedestrian/vehicle conflicts. Therefore the supplementary Synchro analysis was conducted to gauge such impacts on operations of permissive left turn movements at the study area intersections. The analysis was conducting using the Scenario 2 Paramics output volumes shown in **Figure 6**. The results of the supplementary Synchro analysis are summarized in **Table 17**. Detailed results are provided in **Appendix C.**

Table 17
Synchro Intersection Operations Analysis - Scenario 2

Intersection	Control Type	Scenario 2 AM Results			Scenario 2 P M results		
		Overall LOS (Delay) in Seconds	Critical Movements (v/c)	95th %ile Queues (m)	Overall LOS (Delay) in Seconds	Critical Movements (v/c)	95th %ile Queues (m)
Bay St. & Lake Shore Blvd.	Signalized	C (23)			C (21)		
Bay St. & Harbour St.	Signalized	B (18)			C (20)		
Harbour Front Parking Garage/Bay St. & Queens Quay	Signalized	C (33)	NB-LTR (0.91)	NB-LTR 132 m	C (21)		
Yonge St. & Lake Shore Blvd.	Signalized	E (65)	EB-L (0.93) WB-LTR (0.99) NB-L (0.85) NB-TR (1.00)	EB-L 134 m WB-LTR 159 m NB-L 47 m	E (66)	EB-L (0.94) EB-LTR (0.89) SB-LTR (1.20)	EB-L 167 m EB-LTR 120 m SB-LTR 167 m

				NB-TR 185 m			
Yonge St. & Harbour St.	Signalized	C (23)	SB-LTR (0.88dl)	SB-LTR 51 m	C (32)		
Queens Quay & Yonge St.	Signalized	B (11)			B (10)		
Freeland St. & Lake Shore Blvd.	Unsignalized	NB-R B (11)			NB-R B (14)		
Freeland St. & Harbour St.	Unsignalized	NB-TL D (29)			NB-TL C (19)		
Queens Quay & Freeland St.	Signalized	B (15)			B (14)		
Queens Quay & Cooper St.	Unsignalized	SB-L B (12)			SB-L B (12)		
Cooper Street & Harbour St.	Unsignalized	EB-TL B (13)			EB-TL B (10)		
Cooper Street & Lake Shore Blvd.	Unsignalized	NB-R B (10)			NB-R B (12)		
New Street & Lake Shore Blvd.	Unsignalized	NB-R B (11)			NB-R B (14)		
New Street & Harbour St.	Unsignalized	NB-TLR C (21)			NB-TLR C (18)		
Queens Quay & New Street	Unsignalized	SB-LR B (12)			SB-LR B (12)		
Queens Quay & Jarvis St.	Signalized	C (20)	SB-L (0.87)	SB-L 107 m	B (11)		
Lower Jarvis St. & Harbour St.	Signalized	C (20)			B (15)		
Jarvis St. & Lake Shore Blvd.	Signalized	E (61)	EB-L (0.86)	EB-L 82 m	E (55)		

Church St. & Front St. / Wellington St.	Signalized	B (18)	SB-TL (0.96dr)		B (20)	SB-TL (0.85)	SB-TL 68 m
Yonge St. & Front St.	Signalized	B (17)			C (22)	SB-LTR (0.85)	SB-LTR 94 m
York St. & Queens Quay	Signalized	B (20)			C (26)		
York St. & Harbour St.	Signalized	C (30)			C (34)		
York St. & Lake Shore Blvd.	Signalized	C (20)			B (18)		
Queens Quay & Simcoe St.	Signalized	B (17)			B (16)		
Gardiner off-ramp / Lake Shore Blvd. & Simcoe St.	Signalized	D (44)	SB-L (0.89)	SB-L 50 m	D (38)		

The results of the capacity analysis shows that all study area intersections will have adequate capacity to accommodate the projected future demands.

The introduction of new eastbound movements from the Gardiner EB off-ramp and the SB left turn movement on Yonge Street, is expected to significantly impact the capacity of the intersection of Yonge Street/Lake Shore Boulevard. Due to geometric constrains it is not feasible to allow simultaneous protected EB and WB left turn phases. Hence, the implementation of split EB and WB phasing in needed which significantly reduces time and flexibility available for the all movements at the intersection. The results of an initial capacity analysis with the permissive SB left turn movement show multiple movements at this intersection operating above capacity during the a.m. peak hour. The pedestrian/vehicle conflicts significantly reduce capacity of the SB left turn movement which the analysis shows operating 40% above capacity in the a.m. peak hour. A capacity analysis with the restricted SB left turn movement in the a.m. peak hour shows significantly improved operations at this intersection. Additionally, the intersections of Yonge Street/Harbour Street and Harbour Street/Freeland will have adequate capacity to accommodate the diverted SB left turn demand. During the p.m. peak hour, all movements at this intersection are expected to operate below capacity. Hence, there is no need to restrict the SBL turn movement during the p.m. peak hour.

The intersection of Lower Jarvis Street/Lake Shore Boulevard is expected to operate with a LOS E in the a.m. peak hour, but without any movement exceeding the capacity. In the p.m. peak hour this intersection is also expected to operate with a LOS E.

The results of the traffic signal warrant analysis show that the intersections of Harbour Street/Freeland Street, Harbour Street/Cooper Street and Harbour Street/New Street are not expected to meet the traffic signal warrant criteria. Hence, these new intersections were analyzed as unsignalized intersections. The intersection of Harbour Street/Cooper Street was analyzed as an all-way stop controlled intersection, and the intersections of Harbour Street/Freeland Street and Harbour Street/New Street were analyzed as two-way stop controlled intersections.

The results show that the intersections of Harbour Street/Cooper Street and Harbour Street/New Street are expected to operate at very good levels of service under unsignalized conditions. At the intersection of Harbour Street/Freeland Street, the northbound movements are expected to operate at a LOS D (29 seconds delay) under the two-way stop control conditions in the a.m. peak hour. The results of a sensitivity analysis show that under the all-way stop conditions all movements at this intersection are expected to operate at a very good LOS. The all-way stop warrants are not satisfied at this intersection, and the 29 second delay for unsignalized side street movements is typically acceptable in the busy urban environments. However, considering that under all-way stop control this intersection is expected to operate significantly better and that it would be easier for pedestrians to cross Harbour Street, it is recommended to monitor future traffic conditions at this intersection when the Lower Yonge area is developed substantially to determine if the all-way stop control is more suitable.

5.0 MODELING RESULTS FOR SCENARIO 3

The Scenario 3 network builds upon the Scenario 2 network with the only material change of the addition of the Cooper Street Tunnel, and corresponding intersection of Cooper Street with Lake Shore Boulevard. The Scenario 3 functional plan is shown in **Figure 7**.

The results for the Scenario 3 Paramics model are summarized below in **Table 18**. The results present intersection performance via the average vehicle delay (seconds) and LOS at each intersection. Detailed results are provided in **Appendix D.**

Table 18
Paramics Intersection Operations Analysis – Scenario 3

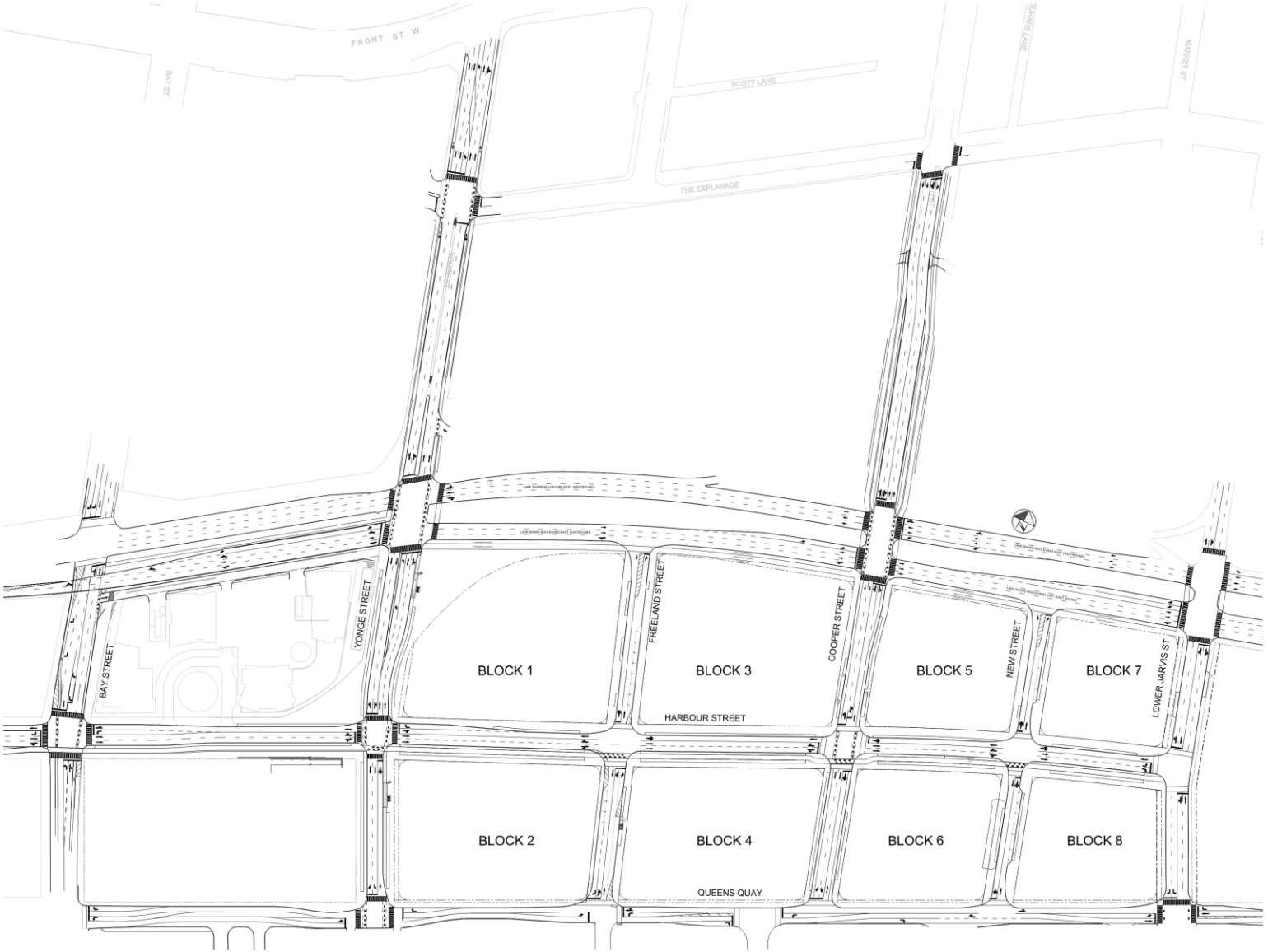
Study Area Intersection	Scenario 3 – Cooper Tunnel				Scenario 2 – City Preferred			
	AM		PM		AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Bay St & Lake Shore Blvd WB	14	B	60	E	14	B	52	D
Bay St & Harbour St	19	B	22	C	20	C	26	C
Bay St & Queens Quay E	26	C	27	C	27	C	30	C
Yonge St & Lake Shore Blvd WB	21	C	18	B	21	C	23	C
Yonge St & Lake Shore Blvd EB	74	E	44	D	65	E	60	E
Yonge St & Harbour St	14	B	15	B	19	B	19	B
Yonge St & Queens Quay E	8	A	9	A	7	A	12	B
Freeland St & Lake Shore Blvd EB	8	A	11	B	2	A	7	A
Freeland St & Future Site Driveways for Lower Yonge Blocks 1 and 3	2	A	4	A	1	A	4	A
Freeland St & Harbour St	7	A	2	A	9	A	8	A
Freeland St & Future Site Driveways for Lower Yonge Block 2	6	A	1	A	7	A	4	A
Freeland St & Queens Quay E	23	C	14	B	18	B	19	B
Cooper St & Queens Quay E	14	B	2	A	5	A	7	A

Study Area Intersection	Scenario 3 – Cooper Tunnel				Scenario 2 – City Preferred			
	AM		PM		AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Cooper St & Harbour St	28	C	16	B	34	C	26	C
Cooper St & Lake Shore Blvd EB	54	D	51	D	1	A	23	C
Cooper St & Lake Shore Blvd WB	33	C	25	C	0	A	0	A
New Street & Lake Shore Blvd EB	71	E	19	B	4	A	40	D
New Street & Future Site Driveways for Lower Yonge Blocks 5 and 7	5	A	16	B	7	A	28	C
New Street & Harbour St	24	C	9	A	31	C	21	C
New Street & Future Site Driveways for Lower Yonge Blocks 6 and 8	12	B	1	A	11	B	4	A
New Street & Queens Quay E	12	B	3	A	7	A	6	A
Lower Jarvis St & Queens Quay E	38	D	32	C	38	D	34	C
Lower Jarvis St & Harbour St	43	D	65	E	46	D	68	E
Lower Jarvis St & Lake Shore Blvd EB	83	F	58	E	52	D	63	E
Lower Jarvis St & Lake Shore Blvd WB	70	E	67	E	67	E	69	E
Jarvis St & Front St	26	C	41	D	26	C	41	D
Church St & Front St	23	C	33	C	23	C	31	C
Yonge St & Front St	11	B	15	B	10	B	15	B
York St & Queens Quay E	30	C	27	C	30	C	26	C
York St & Harbour St	26	C	28	C	26	C	28	C

Study Area Intersection	Scenario 3 – Cooper Tunnel				Scenario 2 – City Preferred			
	AM		PM		AM		PM	
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
York St & Lake Shore Blvd WB	44	D	67	E	45	D	66	E
Queens Quay E & Harbourfront Centre	1	A	2	A	1	A	1	A
Lower Simcoe St & Queens Quay E	39	D	41	D	40	D	41	D
Lower Simcoe St & Lake Shore Blvd EB	14	B	11	B	15	B	12	B
Lower Simcoe St & Lake Shore Blvd WB	12	B	21	C	12	B	22	C

The Paramics results indicate under Scenario 3 study area intersection are expected to operarate very similar to Scenario 2. All study area intersctions are expected to operate similarly within generally acceptable operating thresholds. The new full-move signalized intersection of Lake Shore Boulevard/Cooper Steet is expected to operate adequately in both the a.m. and p.m. peak hours.

Figure 7 – Scenario 3 Functional Design

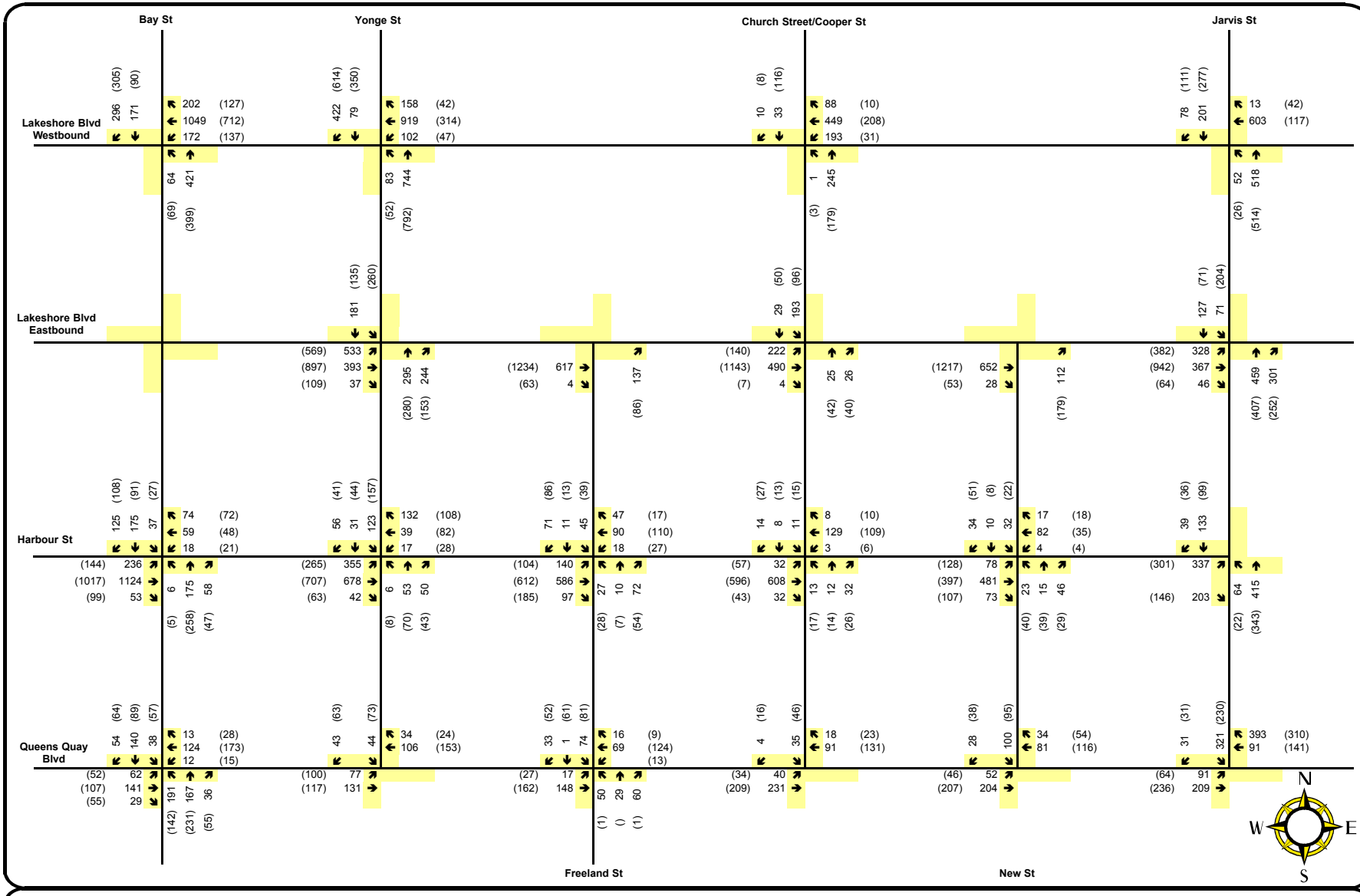


6.0 SUPPLEMENARY SYNCHRO ANALYSIS FOR SCENARIO 3

The analysis was conducting using the Scenario 3 Paramics output volumes shown in **Figure 8.** The results of Synchro analysis for Scenario 3 are summarized in **Table 19**. Detailed results are provided in **Appendix D.**

Table 19
Synchro Intersection Operations Analysis – Scenario 3

Intersection	Control Type	Scenario 3 AM Results			Scenario 3 PM Results		
		Overall LOS (Delay) in Seconds	Critical Movements (v/c)	95th %ile Queues (m)	Overall LOS (Delay) in Seconds	Critical Movements (v/c)	95th %ile Queues (m)
Bay St. & Lake Shore Blvd.	Signalized	C (23)			C (21)		
Bay St. & Harbour Street	Signalized	B (18)			C (21)		
Harbour Front Parking Garage/Bay St. & Queens Quay	Signalized	C (32)	NB-LTR (0.90)	NB-LTR 122 m	C (22)		
Yonge St. & Lake Shore Blvd	Signalized	D (45)	EB-L (0.90) NB-TR (0.93)	EB-L 124 m NB-TR 156 m	E (64)	EB-L (0.94) EB-LTR (0.90) SB-LTR (1.18)	EB-L 172 m EB-LTR 125 m SB-LTR 167 m
Yonge St. & Harbour Street	Signalized	B (19)			C (33)		
Queens Quay & Yonge St.	Signalized	B (11)			B (10)		
Freeland Street & Lake Shore Blvd.	Unsignalized	NB-R B (10)			NB-R B (13)		
Freeland Street & Harbour Street	Unsignalized	NB-TL C (16)			NB-TL C (17)		



WSP | MMM GROUP

LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

FIGURE 8
Scenario 3 Peak Hour Traffic Volumes

Queens Quay & Freeland Street	Signalized	B (16)			B (14)		
Queens Quay & Cooper Street	Unsignalized	SB-L B (12)			SB-L B (12)		
Cooper Street & Harbour Street	Unsignalized	EB-TL B (11)			EB-TL B (12)		
Cooper Street/Church Street & Lake Shore Blvd.	Signalized	C (35)	SB-LTR (0.98dl)	SB-LTR 38 m	C (20)		
New Street & Lake Shore Blvd.	Unsignalized	NB-R A (9)			NB-R A (10)		
New Street & Harbour Street	Unsignalized	NB-TLR C (16)			NB-TLR C (24)		
Queens Quay & New Street	Unsignalized	SB-LR B (12)			SB-LR B (13)		
Queens Quay & Lower Jarvis St.	Signalized	B (18)			B (12)		
Lower Jarvis St. & Harbour Street	Signalized	B (15)			B (15)		
Lower Jarvis St. / Jarvis St. & Lake Shore Blvd.	Signalized	E (73)	NB-LTR (0.88)	NB-LTR 160 m	D (54)		
Church St. & Front St. / Wellington St.	Signalized	B (18)	SB-TL (0.97dr)		C (20)	SB-TL (0.88)	
Church Street & The Esplanade	Signalized	B (14)			B (11)		
Yonge St. & Front St.	Signalized	B (14)			C (23)	SB-LTR (0.89)	SB-LTR 103 m
Yonge St. & The Esplanade	Signalized	B (11)			A (6)		
York St. & Queens Quay	Signalized	B (20)			C (27)		

York St. & Harbour Street	Signalized	C (29)			C (35)		
York St. & Lake Shore Blvd.	Signalized	B (17)			B (18)		
Queens Quay & Simcoe St.	Signalized	B (16)			B (16)		
Gardiner off-ramp / Lake Shore Blvd. & Simcoe St.	Signalized	D (43)			D (37)		

As shown in Table 17, the capacity analysis results show that all study area intersections under Scenario 3 will operate similar to Scenario 2, with adequate capacity to accommodate the projected future demands.

The intersection at Lake Shore Boulevard/Cooper Street/Church Street is expected to operate at LOS 'C' or better during both peak hours. We note that due to geometric constrains, it is not feasible to allow simultaneous protected EB and WB left turn phases at this intersection. Hence, the implementation of split EB and WB phasing is needed, which significantly reduces time and flexibility available for the all movements at the intersection. However, as noted, despite the split phasing, this intersection is expected to operate with adequate capacity.

Once the tunnel linking Cooper Street and Church Street is completed, we expect an increase in volumes at the intersection of Church Street/The Esplanade. This increase in volumes is not expected to significantly exacerbate traffic operations at this intersection. The intersection of Church Street/The Esplanade is expected to operate at a very good LOS 'B' during both peak hours, with all individual movements operating below the critical v/c ratio threshold of 0.85.

7.0 THE GARDINER WEAVING ANALYSIS BETWEEN THE REES ON-RAMP AND THE YONGE OFF-RAMP

This section documents the findings of a weaving analysis undertaken for the Scenario 2 and Scenario 0 models. Scenario 0 represents the "Do Nothing" alternative – using the future base network (without "Lower Yonge" road network improvements) and trip generation.

The weaving analysis was conducted for this section of the Gardiner Expressway based on the HCM 2010 weaving methodology. The analysis was conducted using volumes from the respective Paramics Scenario 2 and Scenario 0 models. The a.m. and p.m. peak hour traffic volumes used in the weaving analysis are illustrated in **Figures 9** to **12**.

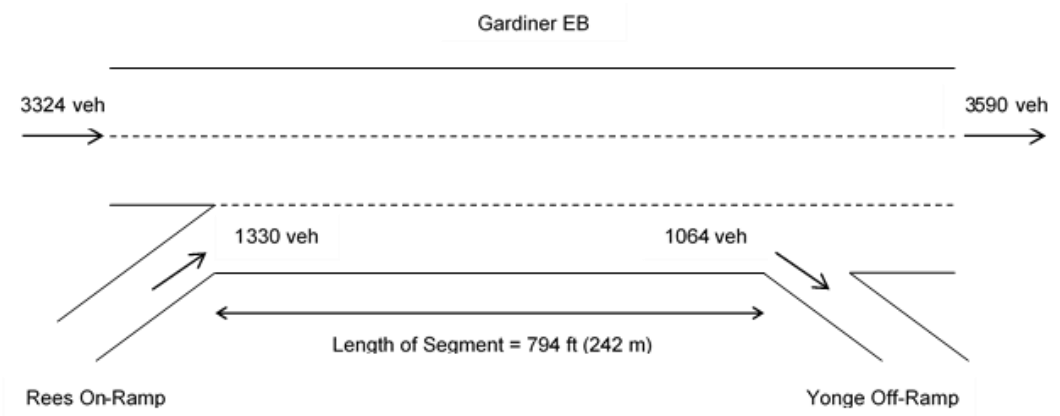


Figure 9: Scenario 2 Gardiner Weaving Volumes – AM Peak Hour

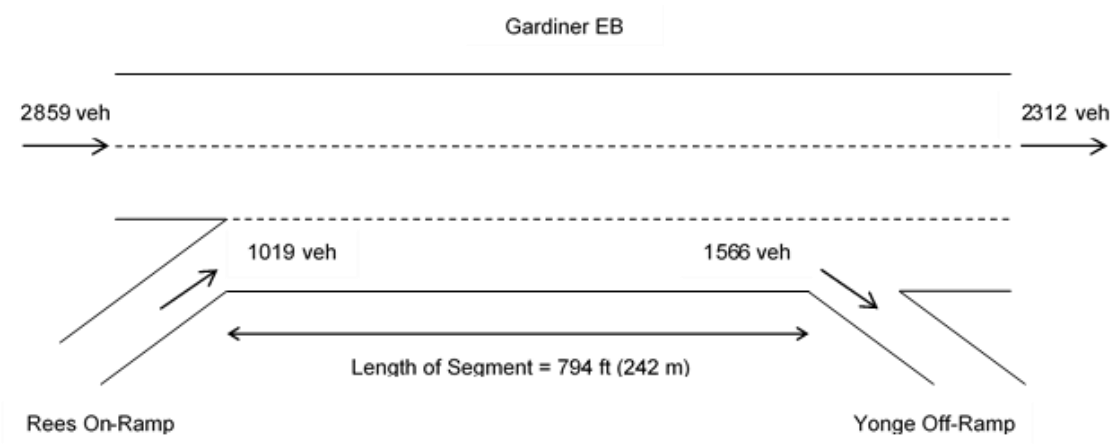


Figure 10: Scenario 2 Gardiner Weaving Volumes – PM Peak Hour

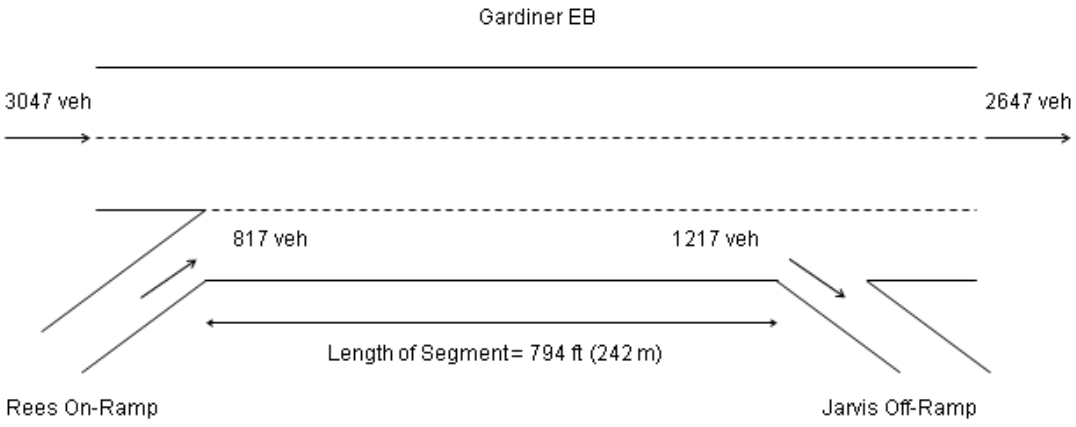


Figure 11: Scenario 0 Gardiner Weaving Volumes – AM Peak Hour

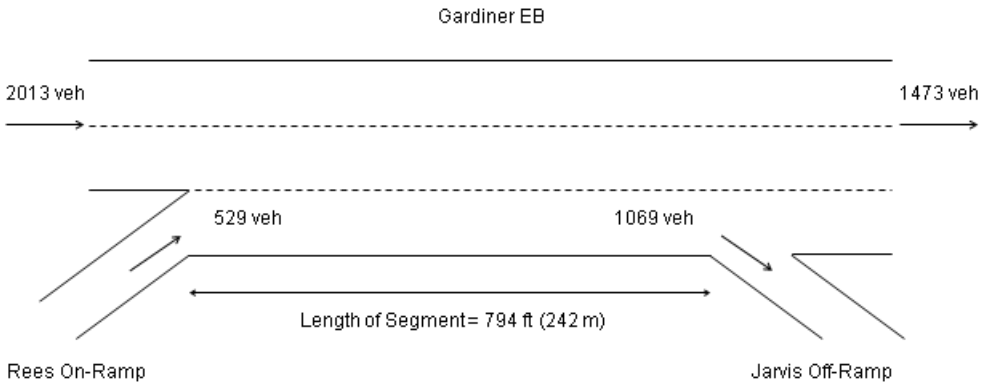


Figure 12: Scenario 0 Gardiner Weaving Volumes – PM Peak Hour

The weaving segment between the Rees On-ramp and the Yonge (Jarvis in Scenario 0) Off-ramp has the atypical configuration. The Rees On-ramp becomes an additional mainline eastbound lane, and the Rees On-ramp traffic does not have to make a single lane change to access the Gardiner Expressway mainline (ramp-to-freeway weaving volumes are zero). The length of the weaving segment constrains the time and space in which drivers have to make the required lane changes. The weaving segment between Rees On-ramp and the Yonge Off-ramp is 242 metres (794 feet)[1] long, as shown in **Figure 13**. The length of the weaving segment is identical in both the Scenario 2 and Scenario 0.

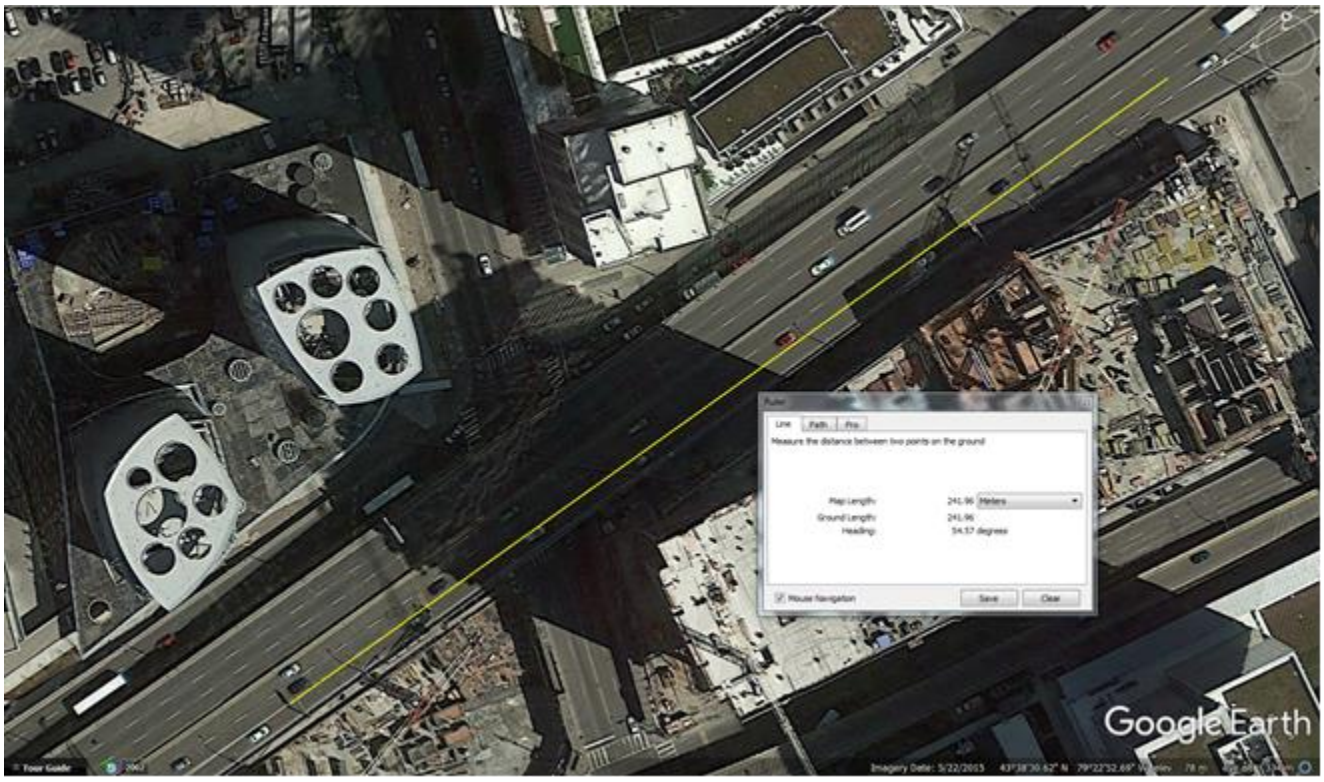


Figure 13: Gardiner Expressway Weaving Segment between Rees On-Ramp and Yonge Off-Ramp

[1] HCM 2010 Computational Engine uses imperial measures only.

The HCM 2010 accounts for three weaving segment lane configuration scenarios, and each of these three scenarios assumes that both ramp-to-freeway and freeway-to-ramp vehicles need to make at least one lane change. The HCM 2010 weaving configuration scenarios are shown in **Figure 14.**

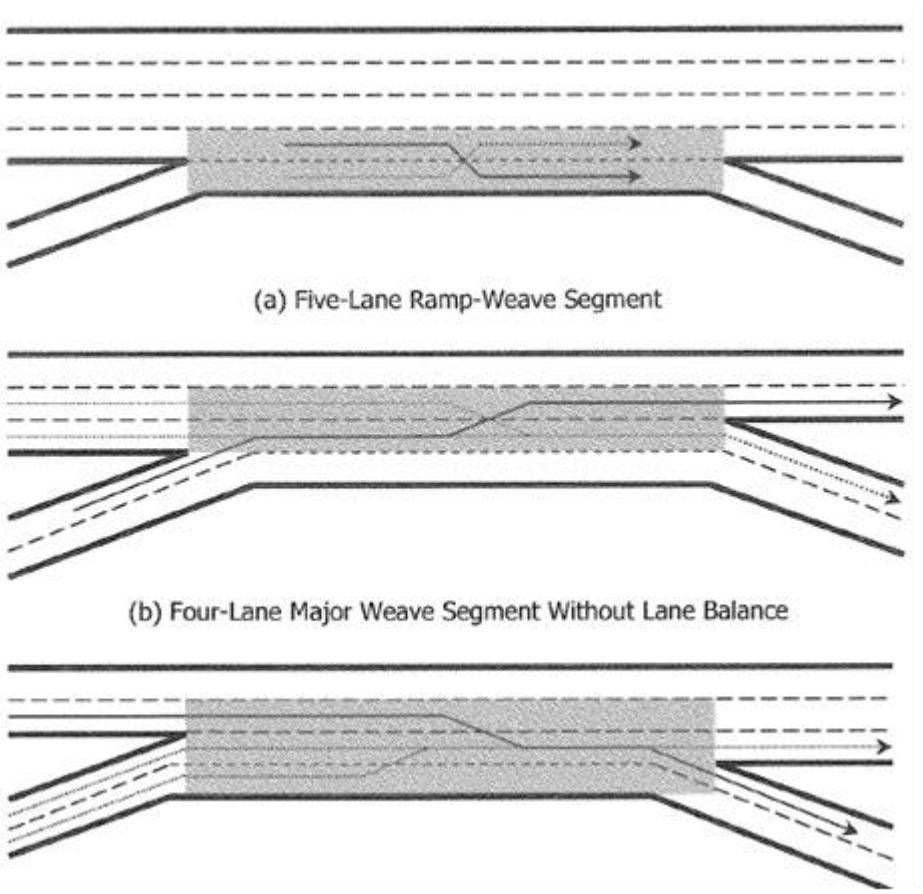


Figure 14: HCM 2010 Weaving Segment Configuration Scenarios

Since the HCM 2010 weaving methodology requires that the ramp-to-freeway vehicles need to make at least one lane change, the Rees On-ramp volumes going to freeway were analyzed as weaving volumes although they do not have to make any lane changes (this is illustrated in **Figure 15**). Hence, our analysis yields the more conservative results than what will occur in the field.

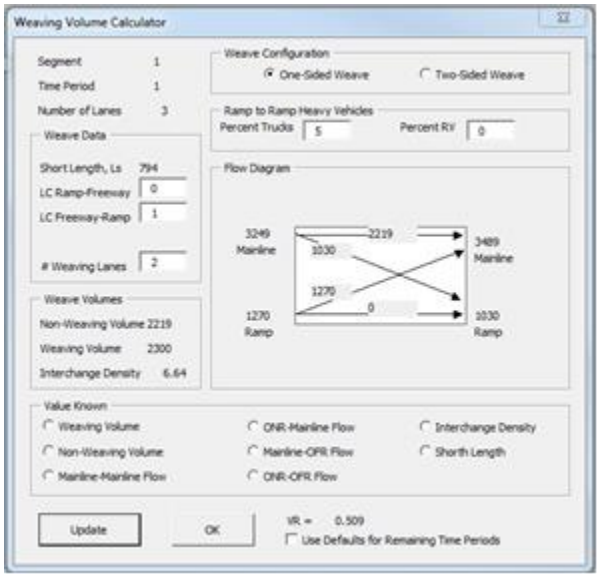


Figure 15: Weaving Volumes from the HCM 2010 Computational Engine

The HCM 2010 LOS criteria based on density was used to assess weaving operations for this section of the Gardiner Expressway. Breakdown of a weaving segment is expected to occur when the average density off all vehicles in the segment reaches 43 pc/mi/pl (26.7 pc/km/pl). The HCM 2010 LOS criteria are illustrated in **Figure 16**.

LOS	Density (pc/mi/ln)	
	Freeway Weaving Segments	Weaving Segments on Multilane Highways or C-D Roadways
A	0–10	0–12
B	>10–20	>12–24
C	>20–28	>24–32
D	>28–35	>32–36
E	>35	>36
F	Demand exceeds capacity	

Figure 16: HCM 2010 LOS Criteria Based on Density

The results of the weaving analysis show that the Gardiner Expressway weaving segment between the Rees On-ramp and the Yonge Off-ramp is expected to operate at LOS E based on the average density of 40.9 pc/mi/pl (25.4 pc/km/pl) during the Scenario 2 a.m. peak hour and at LOS D with an average density of 31.4 pc/mi/pl (19.5 pc/km/pl) during the Scenario 0 a.m. peak hour. It should be noted this represents conservative results as the Rees On-ramp volumes were assessed as the weaving volumes, and that the actual results are expected to be better than shown in both Scenario 2 and Scenario 0 analyses.

This weaving segment is expected to operate at LOS D based on the average density of 33.3 pc/mi/pl (20.7 pc/km/pl) during the Scenario 2 p.m. peak hour and at LOS C with an average density of 18.9 pc/mi/pl (11.7 pc/km/pl) during the Scenario 0 p.m. peak hour. The results of the weaving analysis are illustrated in **Figures 17** to **20**.

The analysis results indicate that the breakdown of the weaving segment is not expected, and all vehicles entering the segment are expected to clear the weaving segment under both scenarios. Scenario 0 performs slightly better (lower density of the weaving segment and better LOS) compared to Scenario 2, but weaving operations are acceptable in both scenarios

Facility-Level Summary	Release June 25, 2011		
Title	Freeway Name		
Number of ValidTime Intervals	1		
Period Duration (min)	15	SECTION AND	
		PERIOD TOTALS	
SEGMENT NUMBER :	1		units
SEGMENT LABEL :	ork to Yonge		
Input or estimated segment type (B,W,ONR,OFR)	W		
Segment length (ft)	794	0.15	miles
Number of lanes	3		
Free flow speed (mi/hr)	60		
Maximum d/c ratio**	0.85	Globally Undersaturated	
Time interval queueing begins			
Travel time per vehicle (min)	0.23	0.2	min
VMTD Veh-miles (Demand)	175.0	175	VMT
VMTV Veh-miles (Volume)	175.0	175	VMT
VHT travel (hrs)	4.5	4.5	VHT
VHD delay (hrs)	1.6	1.6	VHD
Space mean speed = VMTV / VHT (mph)	38.81	38.8	mph
Average density (vpmpl)	39.9	39.9	veh/mi/ln
Average density (pcpmpl)	40.9	40.9	pc/mi/ln

All entry vehicles have cleared within the analysis period.

Figure 17: Weaving Analysis Results – Scenario 2 AM Peak Hour

Facility-Level Summary	Release June 25, 2011		
Title	Freeway Name		
Number of ValidTime Intervals	1		
Period Duration (min)	15	SECTION AND	
		PERIOD TOTALS	
SEGMENT NUMBER :	1		units
SEGMENT LABEL :	ork to Yonge		
Input or estimated segment type (B,W,ONR,OFR)	W		
Segment length (ft)	794	0.15	miles
Number of lanes	3		
Free flow speed (mi/hr)	60		
Maximum d/c ratio**	0.74	Globally Undersaturated	
Time interval queueing begins			
Travel time per vehicle (min)	0.23	0.2	min
VMTD Veh-miles (Demand)	145.8	146	VMT
VMTV Veh-miles (Volume)	145.8	146	VMT
VHT travel (hrs)	3.7	3.7	VHT
VHD delay (hrs)	1.2	1.2	VHD
Space mean speed = VMTV / VHT (mph)	39.67	39.7	mph
Average density (vpmpl)	32.5	32.5	veh/mi/ln
Average density (pcpmpl)	33.3	33.3	pc/mi/ln

All entry vehicles have cleared within the analysis period.

Figure 18: Weaving Analysis Results – Scenario 2 PM Peak Hour

Facility-Level Summary	Release June 25, 2011 Title Gardiner EB	
Number of ValidTime Intervals	1	
Period Duration (min)	15	SECTION AND PERIOD TOTALS
SEGMENT NUMBER :	1	units
SEGMENT LABEL :	es to Yonge	
Input or estimated segment type (B,W,ONR,OFR)	W	
Segment length (ft)	794	0.15 miles
Number of lanes	3	
Free flow speed (mi/hr)	60	
Maximum d/c ratio**	0.76	Globally Undersaturated
Time interval queueing begins		
Travel time per vehicle (min)	0.21	0.2 min
VMTD Veh-miles (Demand)	145.3	145 VMT
VMTV Veh-miles (Volume)	145.3	145 VMT
VHT travel (hrs)	3.5	3.5 VHT
VHD delay (hrs)	1.0	1.0 VHD
Space mean speed = VMTV / VHT (mph)	41.99	42.0 mph
Average density (vpmpl)	30.7	30.7 veh/mi/ln
Average density (pcpmpl)	31.4	31.4 pc/mi/ln

All entry vehicles have cleared within the analysis period.

Figure 19: Weaving Analysis Results – Scenario 0 AM Peak Hour

Facility-Level Summary	Release June 25, 2011	
	Title Gardiner EB	
Number of ValidTime Intervals	1	
Period Duration (min)	15	SECTION AND PERIOD TOTALS
SEGMENT NUMBER :	1	units
SEGMENT LABEL :	ees to Yonge	
Input or estimated segment type (B,W,ONR,OFR)	W	
Segment length (ft)	794	0.15 miles
Number of lanes	3	
Free flow speed (mi/hr)	60	
Maximum d/c ratio**	0.54	Globally Undersaturated
Time interval queueing begins		
Travel time per vehicle (min)	0.19	0.2 min
VMTD Veh-miles (Demand)	97.5	98 VMT
VMTV Veh-miles (Volume)	97.5	98 VMT
VHT travel (hrs)	2.1	2.1 VHT
VHD delay (hrs)	0.5	0.5 VHD
Space mean speed = VMTV / VHT (mph)	46.94	46.9 mph
Average density (vpmpl)	18.4	18.4 veh/mi/ln
Average density (pcpmpl)	18.9	18.9 pc/mi/ln

All entry vehicles have cleared within the analysis period.

Figure 20: Weaving Analysis Results – Scenario 0 PM Peak Hour

APPENDIX A

Scenario 1 and 2 Paramics Outputs

DRAFT - FOR REVIEW

SCENARIO 1 AM

			legs							Turning Movement Counts												Gardiner off-ramp		Gardiner on-ramp (Jarvis and York)		
			N	E	S	W				1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3					
		Index	Intersectio	1	2	3	4	5	6	SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	171.8	287.3	123	140.3	826.5	426.7	#N/A	69.7	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911			32.5	171.7	100.4	93.8	3.3	40.8	179.2	55	3.8	222.5	891.7	50.6					
Bay	Queens Quay E	3	12	1243	243	886	724			41.3	131.4	40	12.4	6.7	124.8	172.2	34.7	197.5	58.9	132.5	28.3					
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	17.8	61.1	#N/A	105.8	76.9	#N/A	750.9	211.2					
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	119.9	426.7	190.6	121.6	595	835.1	#N/A	65.9	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1265	722			174.1	62.6	#N/A	#N/A	#N/A	#N/A	355.2	218.6	#N/A	546	377.8	19.5					
Yonge	Harbour	7	16	1265	1253	1244	694			53	12	16.5	112.6	14.3	46.1	68.3	20.3	16.2	401.8	407.5	39.6					
Yonge	Queens Quay E	8	7030	1244	242	0	130			43.1	#N/A	22.9	43.1	#N/A	121.3	#N/A	#N/A	#N/A	66.9	138.2	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	142.4	#N/A	#N/A	720.7	31.5					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			12	1	18.5	#N/A	#N/A	#N/A	26.6	30.3	56.8	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1269	1253			10.4	9.4	78.4	43.4	16.5	75.7	14.7	45.4	24.7	56.9	349.8	69.7					
Freeland Street	Zone 248	12	1269	696	0	7040	1266			#N/A	34	61.5	#N/A	#N/A	#N/A	39.7	#N/A	9.3	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			83.6	0.7	36.9	12.6	0.2	86.6	19.8	66.7	54.7	16.6	160.5	#N/A					
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			66.5	#N/A	6.9	8.6	#N/A	105.7	#N/A	#N/A	#N/A	23.7	275.2	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			1.1	1.2	0.4	3.8	8	126.6	9.6	14.3	8.1	94.5	238.9	65.1					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	100.1	#N/A	#N/A	819.4	2.8					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	497.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	106.7	#N/A	#N/A	867.4	24.1					
New Street	Zones 122&251	19	1271	1259	1268	1257	949			7.1	4.8	12.2	#N/A	#N/A	#N/A	30.9	14.5	32.6	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1271	684	1116	1258			1.7	9.9	31.8	31.5	12.1	75.7	20.1	11.2	30.8	30.1	180.9	39.4					
New Street	Zones 250&121	21	1116	1257	1117	1231	1267			13.9	30.2	16.8	#N/A	#N/A	#N/A	26.7	13	32.3	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232			107.4	#N/A	28	28	#N/A	86.2	#N/A	#N/A	#N/A	44.4	288.1	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			207.6	#N/A	25.3	357.4	#N/A	90.4	#N/A	#N/A	#N/A	184.5	200.3	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	29.1	27.6	#N/A	#N/A	#N/A	442.3	#N/A	92.1	#N/A	#N/A	186.2					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			85.1	37.8	#N/A	#N/A	#N/A	#N/A	311.5	113.6	#N/A	324.4	625.2	22.3					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	123.5	54.9	15.1	#N/A	475.9	441.1	#N/A	22.8	#N/A	#N/A	#N/A			466.7	163.6	
Jarvis	Front	27	660	1037	383	661	654	655		36.9	447.1	69.1	45	149.3	777.6	309.9	54.5	40.8	299.5	189.3	31.6					
Church	Front	28	653	904	194	974	563	654	905	43.2	115.7	376.1	56	96.8	747.3	305.2	34.1	6.1	220.1	459.8	4					
Yonge	Front	29	3	666	561	423	559			7.1	374.8	236.9	#N/A	#N/A	#N/A	769.7	273.8	190.6	141.9	413.8	83.4					
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	19	#N/A	332	#N/A	#N/A	#N/A	19.2	152.5	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448			26.6	#N/A	2	101.2	#N/A	43.8	#N/A	#N/A	#N/A	253.6	1152.5	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	1184.6	#N/A	#N/A	71.3	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	354.8	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725			82.1	222.8	49.1	195	37.4	196.3	144.7	37.6	18.1	98.3	52.8	#N/A					
York	Harbour	35	448	446	911	689	10			122.7	258	#N/A	45.7	#N/A	#N/A	337.9	89.5	#N/A	561.5	1223.7	95.8					
York	Lakeshore WB	36	446	451	705	448	73	707		#N/A	263.7	21.8	118.9	117.6	452.3	742.1	#N/A	24.7	#N/A	#N/A	#N/A			554	172.2	307.3
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	263.2	#N/A	#N/A	#N/A	#N/A	155.8	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			12.7	47	21.9	8.6	54.3	201.7	176.3	79.5	6.4	45.8	63.9	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		111.8	39.5	#N/A	#N/A	#N/A	#N/A	176.3	52.5	#N/A	199	808.5	#N/A	936.7	42.1			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	152.8	107.8	78	#N/A	420.3	342.8	#N/A	32.1	#N/A	#N/A	#N/A					

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 1 AM

			legs						Turning Movement Delay													Gardiner off-ramp		Gardiner on-ramp (Jarvis and York)		
		Index	Intersectio	1	2	3	4	5	6	1->2 SBL	1->3 SBT	1->4 SBR	2 ->1 WBR	2->3 WBL	2->4 WBT	3->1 NBT	3->2 NBR	3->4 NBL	4->1 EBL	4->2 EBT	4->3 EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	24.29	25.6954	0.764158	2.66448	4.07949	30.7437	#N/A	31.0562	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911			44.8488	32.0788	43.0808	9.44091	30.9243	25.5887	33.3668	24.0341	77.9277	8.33243	11.4207	10.1134					
Bay	Queens Quay E	3	12	1243	243	886	724			37.5518	25.2681	11.8958	0.318009	12.5667	4.74289	36.388	29.3005	36.8839	10.6156	8.9794	4.1208					
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	9.14144	2.38903	#N/A	38.1362	39.3213	#N/A	7.3094	4.73448					
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	43.3102	14.2771	61.669	210.264	65.8016	5.91185	#N/A	30.5789	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1265	722			93.9855	36.8654	#N/A	#N/A	#N/A	#N/A	49.2758	43.1628	#N/A	71.1857	54.7634	52.0737					
Yonge	Harbour	7	16	1265	1253	1244	694			13.1834	12.1049	14.9038	5.34542	22.6866	14.1608	17.3827	8.85436	19.0116	24.4587	13.0751	9.46912					
Yonge	Queens Quay E	8	7030	1244	242	0	130			25.5847	#N/A	0.712626	0.040515	#N/A	7.36886	#N/A	#N/A	#N/A	8.09057	5.39657	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	2.29335	#N/A	#N/A	5.0689	1.88364					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			0	0	0	#N/A	#N/A	#N/A	2.01286	0.598375	0.921626	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1269	1253			26.2578	26.5091	3.69462	1.32467	32.2154	12.7251	29.6317	8.77515	26.5389	35.8722	10.1082	6.00801					
Freeland Street	Zone 248	12	1269	696	0	7040	1266			#N/A	0.391728	0.005366	#N/A	#N/A	#N/A	2.6874	#N/A	1.63476	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			22.3458	12.0164	19.6395	13.5561	7.83389	13.6065	17.5228	16.4958	28.3626	29.3191	12.7879	#N/A					
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			5.06638	#N/A	0.86576	0	#N/A	0	#N/A	#N/A	#N/A	4.28407	2.51215	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			32.3768	19.3268	0.032405	6.88103	3.24257	19.9428	31.5767	2.85293	30.7073	3.92914	12.0021	7.17343					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	10.2761	#N/A	#N/A	14.8832	9.15183					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	100.435	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	68.2639	#N/A	#N/A	24.4924	12.2903					
New Street	Zones 122&251	19	1271	1259	1268	1257	949			0	0	0	#N/A	#N/A	#N/A	25.3307	23.7382	21.1543	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1271	684	1116	1258			18.6646	17.5758	2.32761	5.19294	13.9948	9.00015	22.517	5.90748	23.8661	26.4894	31.4456	22.3784					
New Street	Zones 250&212	21	1116	1257	1117	1231	1267			0.163889	3.57147	0.004522	#N/A	#N/A	#N/A	2.11541	1.82849	1.01007	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232			3.89236	#N/A	2.30026	1.10625	#N/A	1.41849	#N/A	#N/A	#N/A	1.50422	1.28155	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			44.0711	#N/A	0	17.6131	#N/A	23.2595	#N/A	#N/A	#N/A	26.1398	6.65396	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	14.4799	5.6781	#N/A	#N/A	#N/A	10.317	#N/A	7.92239	#N/A	#N/A	67.9744					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			27.6346	7.05605	#N/A	#N/A	#N/A	#N/A	78.6708	66.5162	#N/A	120.636	21.1725	13.8095					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	29.2641	49.8316	50.3208	#N/A	119.962	14.6941	#N/A	23.9453	#N/A	#N/A	#N/A			132.118	28.2649	
Jarvis	Front	27	660	1037	383	661	654	655		69.4339	59.8426	45.1901	13.068	48.2345	17.4845	14.7065	10.3592	33.8893	52.9989	16.8372	56.4643					
Church	Front	28	653	904	194	974	563	654	905	35.726	18.2472	6.27921	16.2727	17.5691	17.3786	32.0141	3.8208	50.353	46.3363	24.0103	0.321461					
Yonge	Front	29	3	666	561	423	559			40.9274	13.1005	8.41929	#N/A	#N/A	#N/A	4.10265	2.36587	12.5418	17.7078	19.1124	13.535					
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	0.434233	#N/A	1.54096	#N/A	#N/A	#N/A	2.29135	0	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448			18.0818	#N/A	2.78471	0.067095	#N/A	2.13548	#N/A	#N/A	#N/A	2.37064	3.31228	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	0.41048	#N/A	#N/A	4.83981	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725			26.0817	29.3556	2.05594	3.2518	51.0253	39.438	44.4825	40.9659	46.5984	53.4406	36.3063	#N/A					
York	Harbour	35	448	446	911	689	10			45.3635	51.2299	#N/A	50.9816	#N/A	#N/A	44.537	34.1099	#N/A	22.6033	12.1748	14.1419					
York	Lakeshore WB	36	446	451	705	448	73	707		#N/A	31.2116	28.471	59.6113	39.2015	56.0461	10.9899	#N/A	32.7659	#N/A	#N/A	#N/A			71.0812	26.6491	22.6572
Queens Quay E	Harbourfront Cer	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	0.004032	#N/A	#N/A	#N/A	#N/A	1.67491	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			73.79	42.7919	12.8336	26.681	67.6824	26.6976	47.1824	43.0691	57.7178	65.6398	21.2661	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		24.46	4.22953	#N/A	#N/A	#N/A	#N/A	42.2809	43.6233	#N/A	52.4602	5.48942	#N/A	5.46744	4.1125			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	32.9747	14.259	8.29251	#N/A	6.42005	10.3539	#N/A	14.3042	#N/A	#N/A	#N/A					

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 1 AM

		Index	Intersection	legs 1	2	3	4	5	6
Bay	Lakeshore WB	1	697	704	703	472	705		
Bay	Harbour St	2	11	472	694	1243	911		
Bay	Queens Quay E	3	12	1243	243	886	724		
Harbour St	Zone 218	4	694	0	16	931	11		
Yonge	Lakeshore WB	5	702	348	8010	565	703		
Yonge	Lakeshore EB	6	565	702	1100	1265	722		
Yonge	Harbour	7	16	1265	1253	1244	694		
Yonge	Queens Quay E	8	7030	1244	242	0	130		
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565		
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83		
Freeland Street	Harbour	11	696	1247	1254	1269	1253		
Freeland Street	Zone 248	12	1269	696	0	7040	1266		
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242		
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040		
Cooper Street	Harbour St	15	1256	946	1258	1270	1255		
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100		
Cooper Street	Lakeshore WB	17	361	916	80	343	8010		
New Street	Lakeshore EB	18	1259	0	1115	1271	343		
New Street	Zones 122&251	19	1271	1259	1268	1257	949		
New Street	Harbour St	20	1257	1271	684	1116	1258		
New Street	Zones 250&212	21	1116	1257	1117	1231	1267		
New Street	Queens Quay E	22	1231	1116	1510	0	1232		
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231		
Lower Jarvis	Harbour	24	1114	1115	0	1510	684		
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259		
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349	
Jarvis	Front	27	660	1037	383	661	654	655	
Church	Front	28	653	904	194	974	563	654	905
Yonge	Front	29	3	666	561	423	559		
Zone 247	Queens Quay E	30	724	692	12	0	239		
Harbour St	Zone 217	31	911	918	11	0	448		
Lakeshore	Zone 217	32	705	0	697	918	446		
Zone 217	Zone 217	33	918	705	920	911	0		
York	Queens Quay E	34	324	689	239	13	725		
York	Harbour	35	448	446	911	689	10		
York	Lakeshore WB	36	446	451	705	448	707		
Queens Quay E	Harbourfront Ce	37	726	0	725	1238	691		
Lower Simcoe	Queens Quay E	38	691	681	726	14	728		
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685	
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706		

Turning Movement LOS

1->2 SBL	1->3 SBT	1->4 SBR	2 ->1 WBR	2->3 WBL	2->4 WBT	3->1 NBT	3->2 NBR	3->4 NBL	4->1 EBL	4->2 EBT	4->3 EBR	Gardiner off-ramp EBT	Gardiner off-ramp EBR	Gardiner on-ramp (Jarvis and York) WBT	NBL	SBR
#N/A	C	C	A	A	A	C	#N/A	C	#N/A	#N/A	#N/A					
D	C	D	A	C	C	C	C	E	A	B	B					
D	C	B	A	B	A	D	C	D	B	A	A					
#N/A	#N/A	#N/A	#N/A	A	A	#N/A	D	D	#N/A	A	A					
#N/A	D	B	E	F	E	A	#N/A	C	#N/A	#N/A	#N/A					
F	D	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	E	D	D					
B	B	B	A	C	B	B	A	B	C	B	A					
C	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A					
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	A					
A	A	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A					
C	C	A	A	C	B	C	A	C	D	B	A					
#N/A	A	A	#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A					
C	B	B	B	A	B	B	B	C	C	B	#N/A					
A	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A					
C	B	A	A	A	B	C	A	C	A	B	A					
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	B	#N/A	#N/A	B	A					
#N/A	#N/A	#N/A	#N/A	#N/A	F	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	E	#N/A	#N/A	C	B					
A	A	A	#N/A	#N/A	#N/A	C	C	C	#N/A	#N/A	#N/A					
C	A	#N/A	#N/A	#N/A	#N/A	E	E	#N/A	F	C	B					
#N/A	C	D	D	#N/A	F	B	#N/A	C	#N/A	#N/A	#N/A			F	C	
E	E	D	B	D	B	B	B	C	D	B	E					
D	B	A	B	B	B	C	A	D	D	C	A					
D	B	A	#N/A	#N/A	#N/A	A	A	B	B	B	B					
#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A					
B	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A					
#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	#N/A	#N/A	#N/A					
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A					
C	C	A	A	D	D	D	D	D	D	D	#N/A					
D	D	#N/A	D	#N/A	#N/A	D	C	#N/A	C	B	B					
#N/A	C	C	E	D	E	B	#N/A	C	#N/A	#N/A	#N/A			E	C	C
#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	A	#N/A					
E	D	B	C	E	C	D	D	E	E	C	#N/A					
C	A	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	D	A	#N/A	A	A			
#N/A	C	B	A	#N/A	A	B	#N/A	B	#N/A	#N/A	#N/A					

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 1 AM

Average Intersection Delay and LOS		Delay	LOS
Bay	Lakeshore WB	15	B
Bay	Harbour St	18	B
Bay	Queens Quay E	23	C
Harbour St	Zone 218	11	B
Yonge	Lakeshore WB	40	D
Yonge	Lakeshore EB	61	E
Yonge	Harbour	16	B
Yonge	Queens Quay E	8	A
Freeland Street	Lakeshore EB	5	A
Freeland Street	Zone 219/249	1	A
Freeland Street	Harbour	12	B
Freeland Street	Zone 248	1	A
Freeland Street	Queens Quay E	18	B
Cooper Street	Queens Quay E	2	A
Cooper Street	Harbour St	12	B
Cooper Street	Lakeshore EB	14	B
Cooper Street	Lakeshore WB	100	F
New Street	Lakeshore EB	29	C
New Street	Zones 122&251	18	B
New Street	Harbour St	21	C
New Street	Zones 250&212	2	A
New Street	Queens Quay E	2	A
Lower Jarvis	Queens Quay E	22	C
Lower Jarvis	Harbour	24	C
Lower Jarvis	Lakeshore EB	57	E
Lower Jarvis	Lakeshore WB	78	E
Jarvis	Front	33	C
Church	Front	22	C
Yonge	Front	10	B
Zone 247	Queens Quay E	1	A
Harbour St	Zone 217	3	A
Lakeshore	Zone 217	1	A
Zone 217	Zone 217	0	A
York	Queens Quay E	31	C
York	Harbour	25	C
York	Lakeshore WB	38	D
Queens Quay E	Harbourfront Centre	1	A
Lower Simcoe	Queens Quay E	40	D
Lower Simcoe	Lakeshore EB	14	B
Lower Simcoe	Lakeshore WB	12	B

SCENARIO 1 AM

				legs				Link Volume			
		Index	Intersection N	1	2	3	4	SB	WB	NB	EB
Bay	Lakeshore WB	1	697	704	703	472	705	459.1	1089.8	496.4	#N/A
Bay	Harbour St	2	11	472	694	1243	911	304.6	137.9	238	1164.8
Bay	Queens Quay E	3	12	1243	243	886	724	212.7	143.9	404.4	219.7
Harbour St	Zone 218	4	694	0	16	931	11	#N/A	78.9	182.7	962.1
Yonge	Lakeshore WB	5	702	348	8010	565	703	546.6	907.2	901	#N/A
Yonge	Lakeshore EB	6	565	702	1100	1265	722	236.7	#N/A	#N/A	943.3
Yonge	Harbour	7	16	1265	1253	1244	694	#N/A	173	104.8	848.9
Yonge	Queens Quay E	8	7030	1244	242	0	130	66	164.4	#N/A	205.1
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565	#N/A	#N/A	142.4	752.2
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83	31.5	#N/A	113.7	#N/A
Freeland Street	Harbour	11	696	1247	1254	1269	1253	98.2	135.6	84.8	476.4
Freeland Street	Zone 248	12	1269	696	0	7040	1266	95.5	#N/A	49	#N/A
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242	121.2	99.4	141.2	177.1
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040	73.4	114.3	#N/A	298.9
Cooper Street	Harbour St	15	1256	946	1258	1270	1255	2.7	138.4	32	398.5
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100	#N/A	#N/A	100.1	822.2
Cooper Street	Lakeshore WB	17	361	916	80	343	8010	#N/A	497.7	#N/A	#N/A
New Street	Lakeshore EB	18	1259	0	1115	1271	343	#N/A	#N/A	106.7	891.5
New Street	Zones 122&251	19	1271	1259	1268	1257	949	24.1	#N/A	78	#N/A
New Street	Harbour St	20	1257	1271	684	1116	1258	#N/A	119.3	62.1	250.4
New Street	Zones 250&212	21	1116	1257	1117	1231	1267	60.9	#N/A	72	#N/A
New Street	Queens Quay E	22	1231	1116	1510	0	1232	135.4	114.2	#N/A	332.5
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231	232.9	447.8	#N/A	384.8
Lower Jarvis	Harbour	24	1114	1115	0	1510	684	56.7	#N/A	534.4	186.2
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259	122.9	#N/A	425.1	971.9
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	302	957.7	627.5	#N/A
Jarvis	Front	27	660	1037	383	661	654	553.1	971.9	405.2	520.4
Church	Front	28	653	904	194	974	563	535	900.1	345.4	683.9
Yonge	Front	29	39	899	905	666	838	607.5	1080.4	802.6	#N/A
Zone 247	Queens Quay E	30	724	692	12	0	239	#N/A	351	#N/A	171.7
Harbour St	Zone 217	31	911	918	11	0	448	28.6	145	#N/A	1406.1
Lakeshore	Zone 217	32	705	0	697	918	446	#N/A	1184.6	71.3	#N/A
Zone 217	Zone 217	33	918	705	920	911	0	#N/A	#N/A	354.8	#N/A
York	Queens Quay E	34	324	689	239	13	725	354	428.7	200.4	151.1
York	Harbour	35	448	446	911	689	10	380.7	45.7	427.4	1881
York	Lakeshore WB	36	446	451	705	448	73	592.8	1242.8	939	#N/A
Queens Quay E		37	726	0	725	1238	691	#N/A	263.2	#N/A	155.8
Lower Simcoe	Queens Quay E	38	691	681	726	14	728	81.6	264.6	262.2	109.7
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	151.3	#N/A	228.8	1007.5
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706	260.6	498.3	374.9	#N/A

DRAFT - FOR REVIEW

SCENARIO 1 AM

			legs						95th percentile queue length (m)																
									SB				WB					NB				EB				
		Index	Intersectio	1	2	3	4	5	6	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	5
Bay	Lakeshore WB	1	697	704	703	472	705			33.3	27.5	37.5	#N/A	30.8	25.1	17.6	19	#N/A	41.8	40.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Bay	Harbour St	2	11	472	694	1243	911			60.6	32.9	#N/A	#N/A	35.8	0.9	#N/A	#N/A	#N/A	41.3	5.4	#N/A	#N/A	67.4	53.8	28.2	#N/A	#N/A
Bay	Queens Quay E	3	12	1243	243	886	724			42.6	24.1	#N/A	#N/A	2.6	19.2	1.6	#N/A	#N/A	37.7	#N/A	#N/A	#N/A	26.9	31.4	#N/A	#N/A	#N/A
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	0	3.8	#N/A	#N/A	#N/A	50.6	#N/A	#N/A	#N/A	66.8	57.2	#N/A	#N/A	#N/A
Yonge	Lakeshore WB	5	702	348	8010	565	703			47	32.4	#N/A	#N/A	102.6	55	114.9	#N/A	#N/A	11	14.5	14.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Yonge	Lakeshore EB	6	565	702	1100	1265	722			16	52.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	50.3	42.6	48.6	#N/A	98	98.2	46.5	#N/A	#N/A
Yonge	Harbour	7	16	1265	1253	1244	694			10.3	16	#N/A	#N/A	38.9	11.3	#N/A	#N/A	#N/A	19.7	#N/A	#N/A	#N/A	39.8	66.7	#N/A	#N/A	#N/A
Yonge	Queens Quay E	8	7030	1244	242	0	130			0.9	21	#N/A	#N/A	17.5	19	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	23.2	20.4	#N/A	#N/A	#N/A
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	39.6	#N/A	#N/A	#N/A	4.2	117.6	33	#N/A	#N/A
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			0.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	6.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Harbour	11	696	1247	1254	1269	1253			25.3	#N/A	#N/A	#N/A	20.6	12	#N/A	#N/A	#N/A	22.3	#N/A	#N/A	#N/A	36.2	22.7	#N/A	#N/A	#N/A
Freeland Street	Zone 248	12	1269	696	0	7040	1266			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			18.3	24.5	#N/A	#N/A	25.7	0	#N/A	#N/A	#N/A	37	16.6	#N/A	#N/A	30.7	7.2	#N/A	#N/A	#N/A
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			0	12.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	83.9	#N/A	#N/A	#N/A	#N/A
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			0	1.1	#N/A	#N/A	31.5	0.7	#N/A	#N/A	#N/A	6.5	4.3	#N/A	#N/A	37	18.3	#N/A	#N/A	#N/A
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	39.5	0	#N/A	#N/A	113.7	128	121.5	#N/A	#N/A
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	161.1	180.9	15.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	59.3	#N/A	#N/A	#N/A	93.2	74.4	78.1	#N/A	#N/A
New Street	Zones 122&251	19	1271	1259	1268	1257	949			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	38.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Harbour St	20	1257	1271	684	1116	1258			16.4	#N/A	#N/A	#N/A	29.1	6.6	#N/A	#N/A	#N/A	22.3	#N/A	#N/A	#N/A	52.7	20.5	#N/A	#N/A	#N/A
New Street	Zones 250&212	21	1116	1257	1117	1231	1267			2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	4.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Queens Quay E	22	1231	1116	1510	0	1232			11.3	#N/A	#N/A	#N/A	13.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	12	4.5	#N/A	#N/A	#N/A
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			6.1	52.1	#N/A	#N/A	41.2	28.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	58.4	56.6	#N/A	#N/A	#N/A
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			12.9	15.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	52	46.4	#N/A	#N/A	59.8	#N/A	#N/A	#N/A	#N/A
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			1.1	27.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	98.6	95.9	#N/A	#N/A	37.3	37.9	57	113	50.5
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		23.3	24.3	#N/A	#N/A	20.9	275.3	75.1	72	#N/A	23.3	52.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Jarvis	Front	27	660	1037	383	661	654	655		63.3	62	#N/A	#N/A	31.3	31.2	25.4	#N/A	#N/A	38.5	31.4	#N/A	#N/A	33	21.3	43.6	#N/A	#N/A
Church	Front	28	653	904	194	974	563	654	905	46.1	13.7	#N/A	#N/A	15.3	29.1	29	15.3	#N/A	8.6	84.7	#N/A	#N/A	0.7	37.5	34.3	44.3	#N/A
Yonge	Front	29	3	666	561	423	559			45.3	33.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	29.3	26.2	29.9	#N/A	60.3	40.1	30.7	#N/A	#N/A
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	8.8	#N/A	#N/A	#N/A	#N/A
Harbour St	Zone 217	31	911	918	11	0	448			22.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	70.6	58.7	72.9	#N/A	#N/A
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	15.7	25.2	5.2	0	#N/A	2.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	3.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
York	Queens Quay E	34	324	689	239	13	725			9.6	44.2	24	#N/A	40.5	53	20.2	#N/A	#N/A	41.9	25.9	#N/A	#N/A	29.5	31	#N/A	#N/A	#N/A
York	Harbour	35	448	446	911	689	10			48	71.5	#N/A	#N/A	32.2	#N/A	#N/A	#N/A	#N/A	48.2	47.5	#N/A	#N/A	67.6	38.2	63	97.9	#N/A
York	Lakeshore WB	36	446	451	705	448	73	707		85.2	52.6	#N/A	#N/A	112.8	100.3	51.2	39.6	51.9	73.6	47.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Queens Quay E	Harbourfront Cer	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	4.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			25.2	9.9	#N/A	#N/A	61.4	25.3	#N/A	#N/A	#N/A	64.9	4.2	#N/A	#N/A	22.9	23.7	#N/A	#N/A	#N/A
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		0.8	20.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	51.9	22.6	#N/A	#N/A	20.9	41.8	47.7	#N/A	#N/A
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			41.3	29.6	#N/A	#N/A	13.5	8.2	9.5	#N/A	#N/A	26.5	1.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 1 AM

			legs						Turning Movement Delay													Gardiner off-ramp		Gardiner on-ramp (Jarvis and Yorl		
			N	E	S	W			1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3					
		Index	Intersectio	1	2	3	4	5	6 SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1							#N/A	4173.022	7382.288	93.99143	373.8265	3371.698	13118.33679	#N/A	2164.617	#N/A	#N/A	#N/A	0	0	0	0	0
Bay	Harbour St	2							1457.586	5507.93	4325.312	885.5574	102.0502	1044.019	5979.33056	1321.876	296.1253	1853.966	10183.84	511.738	0	0	0	0	0
Bay	Queens Quay E	3							1550.889	3320.228	475.832	3.943312	84.19689	591.9127	6266.0136	1016.727	7284.57	625.2588	1189.771	116.6186	0	0	0	0	0
Harbour St	Zone 218	4							#N/A	#N/A	#N/A	#N/A	162.7176	145.9697	#N/A	4034.81	3023.808	#N/A	5488.628	999.9222	0	0	0	0	0
Yonge	Lakeshore WB	5							#N/A	5192.893	6092.039	11754.11	25568.1	39151.95	4936.985935	#N/A	2015.15	#N/A	#N/A	#N/A	0	0	0	0	0
Yonge	Lakeshore EB	6							16362.88	2307.774	#N/A	#N/A	#N/A	#N/A	17502.76416	9435.388	#N/A	38867.39	20689.61	1015.437	0	0	0	0	0
Yonge	Harbour	7							698.7202	145.2588	245.9127	601.8943	324.4184	652.8129	1187.23841	179.7435	307.9879	9827.506	5328.103	374.9772	0	0	0	0	0
Yonge	Queens Quay E	8							1102.701	#N/A	16.31914	1.746184	#N/A	893.8427	#N/A	#N/A	#N/A	541.2591	745.806	#N/A	0	0	0	0	0
Freeland Street	Lakeshore EB	9							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	326.573	#N/A	#N/A	3653.156	59.33466	0	0	0	0	0
Freeland Street	Zone 219/249	10							0	0	0	#N/A	#N/A	#N/A	53.542076	18.13076	52.34836	#N/A	#N/A	#N/A	0	0	0	0	0
Freeland Street	Harbour	11							273.0811	249.1855	289.6582	57.49068	531.5541	963.2901	435.58599	398.3918	655.5108	2041.128	3535.848	418.7583	0	0	0	0	0
Freeland Street	Zone 248	12							#N/A	13.31875	0.329998	#N/A	#N/A	#N/A	106.68978	#N/A	15.20327	#N/A	#N/A	#N/A	0	0	0	0	0
Freeland Street	Queens Quay E	13							1868.109	8.41148	724.6976	170.8069	1.566778	1178.323	346.95144	1100.27	1551.434	486.6971	2052.458	#N/A	0	0	0	0	0
Cooper Street	Queens Quay E	14							336.9143	#N/A	5.973744	0	#N/A	0	#N/A	#N/A	#N/A	101.5325	691.3437	#N/A	0	0	0	0	0
Cooper Street	Harbour St	15							35.61448	23.19216	0.012962	26.14791	25.94056	2524.758	303.13632	40.7969	248.7291	371.3037	2867.302	466.9903	0	0	0	0	0
Cooper Street	Lakeshore EB	16							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1028.638	#N/A	#N/A	12195.29	25.62512	0	0	0	0	0
Cooper Street	Lakeshore WB	17							#N/A	#N/A	#N/A	#N/A	#N/A	49986.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0	0	0	0
New Street	Lakeshore EB	18							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	7283.758	#N/A	#N/A	21244.71	296.1962	0	0	0	0	0
New Street	Zones 122&251	19							0	0	0	#N/A	#N/A	#N/A	782.71863	344.2039	689.6302	#N/A	#N/A	#N/A	0	0	0	0	0
New Street	Harbour St	20							31.72982	174.0004	74.018	163.5776	169.3371	681.3114	452.5917	66.16378	735.0759	797.3309	5688.509	881.709	0	0	0	0	0
New Street	Zones 250&121	21							2.278057	107.8584	0.075971	#N/A	#N/A	#N/A	56.481447	23.77037	32.62526	#N/A	#N/A	#N/A	0	0	0	0	0
New Street	Queens Quay E	22							418.0395	#N/A	64.40728	30.975	#N/A	122.2738	#N/A	#N/A	#N/A	66.78737	369.2146	#N/A	0	0	0	0	0
Lower Jarvis	Queens Quay E	23							9149.16	#N/A	0	6294.922	#N/A	2102.659	#N/A	#N/A	#N/A	4822.793	1332.788	#N/A	0	0	0	0	0
Lower Jarvis	Harbour	24							#N/A	421.3651	156.7156	#N/A	#N/A	#N/A	4563.2091	#N/A	729.6521	#N/A	#N/A	12656.83	0	0	0	0	0
Lower Jarvis	Lakeshore EB	25							2351.704	266.7187	#N/A	#N/A	#N/A	#N/A	24505.9542	7556.24	#N/A	39134.32	13237.05	307.9519	0	0	0	0	0
Lower Jarvis	Lakeshore WB	26							#N/A	3614.116	2735.755	759.8441	#N/A	57089.92	6481.56751	#N/A	545.9528	#N/A	#N/A	#N/A	0	0	61659.47	4624.138	0
Jarvis	Front	27							2562.111	26755.63	3122.636	588.06	7201.411	13595.95	4557.54435	564.5764	1382.683	15873.17	3187.282	1784.272	0	0	0	0	0
Church	Front	28							1543.363	2111.201	2361.611	911.2712	1700.689	12987.03	9770.70332	130.2893	307.1533	10198.62	11039.94	1.285844	0	0	0	0	0
Yonge	Front	29							290.5845	4910.067	1994.53	#N/A	#N/A	#N/A	3157.809705	647.7752	2390.467	2512.737	7908.711	1128.819	0	0	0	0	0
Zone 247	Queens Quay E	30							#N/A	#N/A	#N/A	8.250427	#N/A	511.5987	#N/A	#N/A	#N/A	43.99392	0	#N/A	0	0	0	0	0
Harbour St	Zone 217	31							480.9759	#N/A	5.56942	6.789994	#N/A	93.53402	#N/A	#N/A	#N/A	601.1943	3817.403	#N/A	0	0	0	0	0
Lakeshore	Zone 217	32							#N/A	#N/A	#N/A	#N/A	#N/A	486.2546	#N/A	#N/A	345.0785	#N/A	#N/A	#N/A	0	0	0	0	0
Zone 217	Zone 217	33							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A	0	0	0	0	0
York	Queens Quay E	34							2141.308	6540.428	100.9467	634.101	1908.346	7741.679	6436.61775	1540.318	843.431	5253.211	1916.973	#N/A	0	0	0	0	0
York	Harbour	35							5566.101	13217.31	#N/A	2329.859	#N/A	#N/A	15049.0523	3052.836	#N/A	12691.75	14898.3	1354.794	0	0	0	0	0
York	Lakeshore WB	36							#N/A	8230.499	620.6678	7087.784	4610.096	25349.65	8155.60479	#N/A	809.3177	#N/A	#N/A	#N/A	0	0	39378.98	4588.975	6962.558
Queens Quay E	Harbourfront Centre	37							#N/A	#N/A	#N/A	#N/A	#N/A	1.06122	#N/A	#N/A	#N/A	#N/A	260.951	#N/A	0	0	0	0	0
Lower Simcoe	Queens Quay E	38							937.133	2011.219	281.0558	229.4566	3675.154	5384.906	8318.25712	3423.993	369.3939	3006.303	1358.904	#N/A	0	0	0	0	0
Lower Simcoe	Lakeshore EB	39							2734.628	167.0664	#N/A	#N/A	#N/A	#N/A	7454.12267	2290.223	#N/A	10439.58	4438.196	#N/A	5121.351	173.1363	0	0	0
Lower Simcoe	Lakeshore WB	40							#N/A	5038.534	1537.12	646.8158	#N/A	2698.347	3549.31692	#N/A	459.1648	#N/A	#N/A	#N/A	0	0	0	0	0

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 1 PM

			legs							Turning Movement Counts													Gardiner off-ramp		Gardiner on-ramp (Jarvis and York)		
			N	E	S	W				1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3					
		Index	Intersectio	1	2	3	4	5	6	SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	149.4	352.1	106.7	98	743.9	382.8	#N/A	40.3	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911			30	132.9	82.3	46.5	8.8	31	258.2	42.9	5.9	119.2	952.1	96.7					
Bay	Queens Quay E	3	12	1243	243	886	724			68.4	103.4	65.7	30.8	12.1	143.9	227.8	45.7	137.6	49.9	135.6	55.1					
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	46.3	41.6	#N/A	58.1	45.4	#N/A	932.7	91.1					
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	324.1	475	54.2	70.2	404.8	741.3	#N/A	72.4	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1270	722			284.3	106.7	#N/A	#N/A	#N/A	#N/A	324.3	321.6	#N/A	491.9	740.5	60.4					
Yonge	Harbour	7	16	1270	1253	1244	694			96.1	31.7	39.5	138.5	20.3	30.3	75.6	27.9	18.2	435.8	478.5	71.7					
Yonge	Queens Quay E	8	7030	1244	242	0	130			74.2	#N/A	49.7	27.2	#N/A	136.7	#N/A	#N/A	#N/A	94.5	154	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	166.8	#N/A	#N/A	1267.5	74.7					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			39.6	2	33.3	#N/A	#N/A	#N/A	86	27.9	49.4	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1268	1253			4.8	7.1	90.5	23.3	9.3	78.3	27.1	18.1	22.7	112.9	338.3	148.2					
Freeland Street	Zone 248	12	1268	696	0	7040	1265			#N/A	92.4	72	#N/A	#N/A	#N/A	38.3	#N/A	10.8	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242			67.2	51.7	47.2	15.2	27	116.1	0.2	1.2	0.5	33.9	193.2	#N/A					
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040			27.1	#N/A	6	7.9	#N/A	152.5	#N/A	#N/A	#N/A	27.3	233.7	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1500	1255			1.2	1.6	0.7	21.1	6.2	102.9	14	13.8	7.1	119.4	210.6	25.3					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	152.4	#N/A	#N/A	1423.4	3.5					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	229.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1269	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	152.8	#N/A	#N/A	1515.3	52.2					
New Street	Zones 122&251	19	1269	1259	1267	1257	949			10.3	6.2	35.7	#N/A	#N/A	#N/A	88.5	22	25.4	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1269	684	1116	1258			1	9.7	39	59.9	22.6	53.2	33.5	9.6	38.6	43.7	119.3	59.9					
New Street	Zones 250&121	21	1116	1257	1117	1231	1266			16.8	36.6	38.7	#N/A	#N/A	#N/A	44.7	13.4	27.9	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232			67.1	#N/A	41.4	36.6	#N/A	119.1	#N/A	#N/A	#N/A	49.8	210.7	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			165.3	#N/A	33	441.7	#N/A	123.6	#N/A	#N/A	#N/A	107	166	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	59.2	51.1	#N/A	#N/A	#N/A	463.1	#N/A	84.6	#N/A	#N/A	123.8					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			283.8	77.4	#N/A	#N/A	#N/A	#N/A	393	68.9	#N/A	440.6	1179.9	37					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	361.8	118.2	73.4	#N/A	93.4	462	#N/A	18.6	#N/A	#N/A	#N/A			948	351.3	
Jarvis	Front	27	660	1037	383	661	654	655		110.1	612.4	62.6	30.5	183.4	614.9	379.3	78.8	71.4	327.6	266.3	46.6					
Church	Front	28	653	904	194	974	563	654	905	74.3	284.7	407.9	50.1	71.4	629.6	265.1	28.6	3.1	210.2	551.9	24.2					
Yonge	Front	29	3	666	561	423	559			20.5	601.9	312.1	#N/A	#N/A	#N/A	332.2	344	107.4	147.6	449.1	125.3					
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	62	#N/A	284.9	#N/A	#N/A	#N/A	76.4	209.1	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448			123.9	#N/A	60.2	22.6	#N/A	96.4	#N/A	#N/A	#N/A	39.4	1048.5	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	1119.6	#N/A	#N/A	383.8	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	61.9	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725			148.6	381.4	66.2	156.3	34.5	158.1	198.9	44.9	33.5	65.8	90.6	#N/A					
York	Harbour	35	448	446	911	689	10			250.3	336.3	#N/A	153.8	#N/A	#N/A	322.3	94.3	#N/A	412.5	743.8	262.6					
York	Lakeshore WB	36	446	451	705	448	73	707		#N/A	418.7	22.2	91.6	168.3	267.1	588.9	#N/A	74.8	#N/A	#N/A	#N/A			953.4	221.7	305.3
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	257.7	#N/A	#N/A	#N/A	#N/A	158.1	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			28.2	59.2	32.9	23.1	35.3	198.5	102.3	40.1	3.9	47.1	89.7	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		191.8	52.8	#N/A	#N/A	#N/A	#N/A	124.7	46	#N/A	44.5	220.4	#N/A	961	68.5			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	248.6	194.6	122.1	#N/A	241.7	146.9	#N/A	22.6	#N/A	#N/A	#N/A					

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 1 PM

			legs							Turning Movement Delay													Gardiner off-ramp		Gardiner on-ramp (Jarvis and York)		
			N	E	S	W				1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3					
		Index	Intersectio	1	2	3	4	5	6	SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	35.5983	126.258	4.2337	5.65297	7.61181	44.7402	#N/A	82.1169	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911			269.7	47.1114	37.7226	1.77645	60.945	51.0718	44.3626	39.451	107.613	5.1334	6.24865	5.51472					
Bay	Queens Quay E	3	12	1243	243	886	724			62.4947	23.821	12.8582	9.61128	9.57779	4.94957	49.1642	41.9801	48.0568	22.1538	8.01329	3.54383					
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	10.4674	2.43376	#N/A	26.3089	29.4804	#N/A	5.6426	2.82407					
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	81.5606	24.7163	37.924	161.573	52.4886	3.64328	#N/A	26.243	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1270	722			59.3462	26.2209	#N/A	#N/A	#N/A	#N/A	36.5359	36.4318	#N/A	49.2094	50.8251	46.931					
Yonge	Harbour	7	16	1270	1253	1244	694			25.6273	25.1349	19.3138	3.36332	19.0185	11.3295	19.1715	8.89745	21.5848	17.8928	14.9907	7.97124					
Yonge	Queens Quay E	8	7030	1244	242	0	130			25.3635	#N/A	0.819996	0.00564	#N/A	7.57836	#N/A	#N/A	#N/A	10.7553	5.53463	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.70184	#N/A	#N/A	1.89655	1.54301					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			0	0	0	#N/A	#N/A	#N/A	1.76159	1.18611	1.17609	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1268	1253			26.9586	23.2706	1.55857	2.73226	32.0162	18.8566	28.3384	28.957	27.6644	36.7196	10.7573	6.98104					
Freeland Street	Zone 248	12	1268	696	0	7040	1265			#N/A	0.062192	0	#N/A	#N/A	#N/A	2.92188	#N/A	2.51376	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242			20.0596	20.4117	21.4485	9.43706	25.7114	13.7132	2.46584	10.0284	15.7292	21.2828	10.2479	#N/A					
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040			3.39731	#N/A	2.17158	0	#N/A	0	#N/A	#N/A	#N/A	3.23683	1.01802	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1500	1255			36.9426	18.8268	0.194432	8.92984	19.4203	18.1009	37.8731	6.22709	38.1925	22.374	14.5543	15.0666					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	0.548304	1.01619					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1269	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	44.0302	#N/A	#N/A	1.40738	0.092554					
New Street	Zones 122&251	19	1269	1259	1267	1257	949			0.177231	0	0	#N/A	#N/A	#N/A	15.2909	6.27715	7.68485	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1269	684	1116	1258			12.5414	20.3272	16.0659	3.82106	10.3059	9.51795	29.7597	11.1217	25.3904	25.9166	32.8549	22.1291					
New Street	Zones 250&121	21	1116	1257	1117	1231	1266			0.377649	0.609795	0	#N/A	#N/A	#N/A	4.64541	1.06378	1.67894	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232			3.6202	#N/A	1.98737	3.13068	#N/A	2.88964	#N/A	#N/A	#N/A	2.70645	0.647946	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			56.1037	#N/A	0	15.1429	#N/A	22.7759	#N/A	#N/A	#N/A	23.3356	21.0375	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	21.6171	6.64529	#N/A	#N/A	#N/A	11.5553	#N/A	6.06068	#N/A	#N/A	60.5189					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			5.56764	4.67446	#N/A	#N/A	#N/A	#N/A	86.8414	67.3854	#N/A	69.9347	15.5294	9.34075					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	21.7358	23.9299	70.0642	#N/A	85.7814	8.287	#N/A	5.5321	#N/A	#N/A	#N/A			141.655	5.18513	
Jarvis	Front	27	660	1037	383	661	654	655		83.0104	48.7924	37.9312	15.0081	48.0288	17.1924	21.5272	12.7903	92.7401	56.8925	16.7604	28.9754					
Church	Front	28	653	904	194	974	563	654	905	41.4424	23.4491	13.9753	19.9119	19.6625	19.9745	28.0454	5.0435	62.6783	42.3293	37.2602	1.35337					
Yonge	Front	29	3	666	561	423	559			28.8129	28.7732	24.7827	#N/A	#N/A	#N/A	2.23695	0.909379	24.4547	21.377	39.1984	78.5719					
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	0.263607	#N/A	1.62816	#N/A	#N/A	#N/A	2.07404	0	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448			12.6463	#N/A	6.56509	0.119665	#N/A	1.95941	#N/A	#N/A	#N/A	1.0826	1.66738	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	77.9151	#N/A	#N/A	21.2796	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725			26.5285	27.4572	1.94368	2.01931	47.7003	36.5689	46.8031	42.8154	45.5276	56.2754	36.3805	#N/A					
York	Harbour	35	448	446	911	689	10			49.3906	50.7757	#N/A	37.8812	#N/A	#N/A	46.9076	33.9381	#N/A	14.0487	8.503	16.5658					
York	Lakeshore WB	36	446	451	705	448	73	707		#N/A	69.2699	43.3108	107.77	60.2071	74.7487	12.758	#N/A	23.5963	#N/A	#N/A	#N/A			129.584	19.0509	43.8004
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	0.139751	#N/A	#N/A	#N/A	#N/A	2.49834	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			64.7849	43.8178	17.6904	30.2273	68.6173	34.1236	41.3808	33.0419	61.7913	67.3343	23.5186	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		50.0142	5.03098	#N/A	#N/A	#N/A	#N/A	36.1678	37.8878	#N/A	33.7829	1.84059	#N/A	6.66782	5.71925			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	72.7606	41.2409	10.4327	#N/A	11.0967	2.71596	#N/A	8.48739	#N/A	#N/A	#N/A					

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 1 PM

			legs							Turning Movement LOS																
			N	E	S	W				1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3	Gardiner off-ramp		Gardiner on-ramp (Jarvis and York)		
		Index	Intersection	1	2	3	4	5	6	SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	D	F	A	A	A	D	#N/A	F	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911			F	D	D	A	E	D	D	D	F	A	A	A					
Bay	Queens Quay E	3	12	1243	243	886	724			E	C	B	A	A	A	D	D	D	C	A	A					
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	B	A	#N/A	C	C	#N/A	A	A					
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	F	C	D	F	D	A	#N/A	C	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1270	722			E	C	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	D	D	D					
Yonge	Harbour	7	16	1270	1253	1244	694			C	C	B	A	B	B	B	A	C	B	B	A					
Yonge	Queens Quay E	8	7030	1244	242	0	130			C	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	B	A	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	A					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			A	A	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1268	1253			C	C	A	A	C	B	C	C	C	D	B	A					
Freeland Street	Zone 248	12	1268	696	0	7040	1265			#N/A	A	A	#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242			C	C	C	A	C	B	A	B	B	C	B	#N/A					
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040			A	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1500	1255			D	B	A	A	B	B	D	A	D	C	B	B					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	A					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1269	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	D	#N/A	#N/A	A	A					
New Street	Zones 122&251	19	1269	1259	1267	1257	949			A	A	A	#N/A	#N/A	#N/A	B	A	A	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1269	684	1116	1258			B	C	B	A	B	A	C	B	C	C	C	C					
New Street	Zones 250&121	21	1116	1257	1117	1231	1266			A	A	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232			A	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			E	#N/A	A	B	#N/A	C	#N/A	#N/A	#N/A	C	C	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	C	A	#N/A	#N/A	#N/A	B	#N/A	A	#N/A	#N/A	E					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			A	A	#N/A	#N/A	#N/A	#N/A	F	E	#N/A	E	B	A					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	C	C	E	#N/A	F	A	#N/A	A	#N/A	#N/A	#N/A			F	A	
Jarvis	Front	27	660	1037	383	661	654	655		F	D	D	B	D	B	C	B	F	E	B	C					
Church	Front	28	653	904	194	974	563	654	905	D	C	B	B	B	B	C	A	E	D	D	A					
Yonge	Front	29	3	666	561	423	559			C	C	C	#N/A	#N/A	#N/A	A	A	C	C	D	E					
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448			B	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	E	#N/A	#N/A	C	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725			C	C	A	A	D	D	D	D	D	E	D	#N/A					
York	Harbour	35	448	446	911	689	10			D	D	#N/A	D	#N/A	#N/A	D	C	#N/A	B	A	B					
York	Lakeshore WB	36	446	451	705	448	707			#N/A	E	D	F	E	E	B	#N/A	C	#N/A	#N/A	#N/A			F	B	D
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	A	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			E	D	B	C	E	C	D	C	E	E	C	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		D	A	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	C	A	#N/A	A	A			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	E	D	B	#N/A	B	A	#N/A	A	#N/A	#N/A	#N/A					

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

SCENARIO 1 PM

Average Intersection Delay and LOS		Delay	LOS
Bay	Lakeshore WB	41	D
Bay	Harbour St	22	C
Bay	Queens Quay E	29	C
Harbour St	Zone 218	7	A
Yonge	Lakeshore WB	36	D
Yonge	Lakeshore EB	46	D
Yonge	Harbour	16	B
Yonge	Queens Quay E	9	A
Freeland Street	Lakeshore EB	2	A
Freeland Street	Zone 219/249	1	A
Freeland Street	Harbour	15	B
Freeland Street	Zone 248	1	A
Freeland Street	Queens Quay E	15	B
Cooper Street	Queens Quay E	1	A
Cooper Street	Harbour St	18	B
Cooper Street	Lakeshore EB	0	A
Cooper Street	Lakeshore WB	0	A
New Street	Lakeshore EB	5	A
New Street	Zones 122&251	9	A
New Street	Harbour St	21	C
New Street	Zones 250&121	2	A
New Street	Queens Quay E	2	A
Lower Jarvis	Queens Quay E	24	C
Lower Jarvis	Harbour	19	B
Lower Jarvis	Lakeshore EB	36	D
Lower Jarvis	Lakeshore WB	68	E
Jarvis	Front	36	D
Church	Front	26	C
Yonge	Front	25	C
Zone 247	Queens Quay E	1	A
Harbour St	Zone 217	3	A
Lakeshore	Zone 217	63	E
Zone 217	Zone 217	0	A
York	Queens Quay E	30	C
York	Harbour	27	C
York	Lakeshore WB	71	E
Queens Quay E	Harbourfront Centre	1	A
Lower Simcoe	Queens Quay E	39	D
Lower Simcoe	Lakeshore EB	15	B
Lower Simcoe	Lakeshore WB	31	C

SCENARIO 1 PM

				legs				Link Volume			
		Index	Intersection N	1	2	3	4	SB	WB	NB	EB
Bay	Lakeshore WB	1	697	704	703	472	705	502.9	918.8	409.4	#N/A
Bay	Harbour St	2	11	472	694	1243	911	#N/A	#N/A	#N/A	#N/A
Bay	Queens Quay E	3	12	1243	243	886	724	#N/A	#N/A	#N/A	#N/A
Harbour St	Zone 218	4	694	0	16	931	11	#N/A	#N/A	97.2	#N/A
Yonge	Lakeshore WB	5	702	348	8010	565	703	782.4	512.2	810.1	#N/A
Yonge	Lakeshore EB	6	565	702	1100	1270	722	386.8	#N/A	#N/A	1286.4
Yonge	Harbour	7	16	1270	1253	1244	694	#N/A	#N/A	#N/A	#N/A
Yonge	Queens Quay E	8	7030	1244	242	0	130	109.4	164.7	#N/A	243.9
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565	#N/A	#N/A	164.9	1318.2
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83	73.1	#N/A	155.6	#N/A
Freeland Street	Harbour	11	696	1247	1254	1268	1253	100	108.3	69.6	555.2
Freeland Street	Zone 248	12	1268	696	0	7040	1265	157.6	#N/A	50	#N/A
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242	159.7	161.4	1.9	216
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040	26.8	167.1	#N/A	245.3
Cooper Street	Harbour St	15	1256	946	1258	1500	1255	2.71429	123.8	46.7	323.5
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100	#N/A	#N/A	153.6	1408.8
Cooper Street	Lakeshore WB	17	361	916	80	343	8010	#N/A	231	#N/A	#N/A
New Street	Lakeshore EB	18	1259	0	1115	1269	343	#N/A	#N/A	148.1	1558.1
New Street	Zones 122&251	19	1269	1259	1267	1257	949	51.6	#N/A	130.1	#N/A
New Street	Harbour St	20	1257	1269	684	1116	1258	47.6	128	86.2	200.5
New Street	Zones 250&212	21	1116	1257	1117	1231	1266	88.9	#N/A	86.3	#N/A
New Street	Queens Quay E	22	1231	1116	1510	0	1232	103.1	163.7	#N/A	230.3
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231	171.5	603.3	#N/A	240.1
Lower Jarvis	Harbour	24	1114	1115	0	1510	684	102.4	#N/A	567.7	106.6
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259	365	#N/A	487.9	1646.9
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	482.9	1108.6	863.3	#N/A
Jarvis	Front	27	660	1037	383	661	654	828.1	793.4	561.9	683.7
Church	Front	28	653	904	194	974	563	798.5	741.4	316.1	842.5
Yonge	Front	29	3	666	561	423	559	#N/A	#N/A	#N/A	#N/A
Zone 247	Queens Quay E	30	724	692	12	0	239	#N/A	#N/A	#N/A	283.4
Harbour St	Zone 217	31	911	918	11	0	448	174.3	#N/A	#N/A	1033
Lakeshore	Zone 217	32	705	0	697	918	446	#N/A	1110.6	377.7	#N/A
Zone 217	Zone 217	33	918	705	920	911	0	#N/A	#N/A	59.5	#N/A
York	Queens Quay E	34	324	689	239	13	725	587.5	331.7	#N/A	157.9
York	Harbour	35	448	446	911	689	10	574.8	142.4	409.5	#N/A
York	Lakeshore WB	36	446	451	705	448	707	719.7	1468	864.9	#N/A
Queens Quay E		37	726	0	725	1238	691	#N/A	245.6	#N/A	160.5
Lower Simcoe	Queens Quay E	38	691	681	726	14	728	123.6	243.3	#N/A	137.2
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	244.3	#N/A	164.2	258.8
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706	419.1	358.3	160.2	#N/A

SCENARIO 1 PM

95th percentile queues (m)

			legs						SB				WB					NB				EB				
		Index	Intersectio	1	2	3	4	5	6	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	5
Bay	Lakeshore WB	1	697	704	703	472	705			103.7	95.5	42.9	#N/A	33.4	25.8	16.7	34.2	#N/A	46.9	43.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Bay	Harbour St	2	11	472	694	1243	911			60.2	40.5	#N/A	#N/A	3.7	17.9	#N/A	#N/A	#N/A	41.7	4.5	#N/A	#N/A	31.5	22.5	22.6	#N/A	#N/A
Bay	Queens Quay E	3	12	1243	243	886	724			39.8	35.4	#N/A	#N/A	10.1	22.3	7.3	#N/A	#N/A	42.5	#N/A	#N/A	#N/A	38.4	18.5	#N/A	#N/A	#N/A
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	0	15	#N/A	#N/A	#N/A	34.2	#N/A	#N/A	#N/A	29	30.4	#N/A	#N/A	#N/A
Yonge	Lakeshore WB	5	702	348	8010	565	703			47.8	47.8	#N/A	#N/A	60.6	38.7	78.9	#N/A	#N/A	16.3	21.2	15.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Yonge	Lakeshore EB	6	565	702	1100	1270	722			0	43.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	55.7	50	26.9	#N/A	104.7	87.7	36.4	#N/A	#N/A
Yonge	Harbour	7	16	1270	1253	1244	694			19.4	29.5	#N/A	#N/A	19.8	10.5	#N/A	#N/A	#N/A	26.2	#N/A	#N/A	#N/A	36.8	59.1	#N/A	#N/A	#N/A
Yonge	Queens Quay E	8	7030	1244	242	0	130			3.3	24.6	#N/A	#N/A	0	42.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	22.4	20	#N/A	#N/A	#N/A
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	4.3	#N/A	#N/A	#N/A	0.6	21	5.7	#N/A	#N/A
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Harbour	11	696	1247	1254	1268	1253			20.8	#N/A	#N/A	#N/A	16.6	7.8	#N/A	#N/A	#N/A	21.8	#N/A	#N/A	#N/A	36.9	31.9	#N/A	#N/A	#N/A
Freeland Street	Zone 248	12	1268	696	0	7040	1265			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242			13.8	20.9	#N/A	#N/A	38.1	17.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	27.4	14.3	#N/A	#N/A	#N/A
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040			0	4.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	7.5	#N/A	#N/A	#N/A	#N/A
Cooper Street	Harbour St	15	1256	946	1258	1500	1255			0	2.2	#N/A	#N/A	24.1	3.7	#N/A	#N/A	#N/A	11.7	6.6	#N/A	#N/A	34.9	38.4	#N/A	#N/A	#N/A
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	8	0	#N/A	#N/A	11.2	23.3	12.5	#N/A	#N/A
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Lakeshore EB	18	1259	0	1115	1269	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	57.8	#N/A	#N/A	#N/A	31.2	43.2	31.7	#N/A	#N/A
New Street	Zones 122&251	19	1269	1259	1267	1257	949			1.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	42.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Harbour St	20	1257	1269	684	1116	1258			15.2	#N/A	#N/A	#N/A	24	12.6	#N/A	#N/A	#N/A	28.9	#N/A	#N/A	#N/A	44.8	20.9	#N/A	#N/A	#N/A
New Street	Zones 250&121	21	1116	1257	1117	1231	1266			1.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	9.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Queens Quay E	22	1231	1116	1510	0	1232			11.5	#N/A	#N/A	#N/A	21.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	3.7	6.1	#N/A	#N/A	#N/A
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			15.4	50.7	#N/A	#N/A	38.6	33.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	49.3	28.1	#N/A	#N/A	#N/A
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			23.2	15.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	52.9	37.1	#N/A	#N/A	50.7	#N/A	#N/A	#N/A	#N/A
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			0.7	9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	72.5	95.4	#N/A	#N/A	33.6	36.8	54.1	83.6	56.4
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		22	23.5	#N/A	#N/A	40.3	277	41.5	16.8	#N/A	13.3	18.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Jarvis	Front	27	660	1037	383	661	654	655		55.8	61.7	#N/A	#N/A	30.6	31.2	22	#N/A	#N/A	52	56.5	#N/A	#N/A	36.9	21.5	45.2	#N/A	#N/A
Church	Front	28	653	904	194	974	563	654	905	63.6	26.8	#N/A	#N/A	14.7	28.8	28.8	15	#N/A	3.2	69.9	#N/A	#N/A	1.6	43	39.4	46.3	#N/A
Yonge	Front	29	3	666	561	423	559			54.2	47.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	28.2	14.6	27.1	#N/A	92.4	64.1	31	#N/A	#N/A
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	17.6	#N/A	#N/A	#N/A	#N/A
Harbour St	Zone 217	31	911	918	11	0	448			27.5	#N/A	#N/A	#N/A	0.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	138.9	123.4	24.1	36	#N/A	46.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
York	Queens Quay E	34	324	689	239	13	725			10.3	43.9	26.9	#N/A	19	37.9	17.2	#N/A	#N/A	41.3	24.2	#N/A	#N/A	41.4	22.4	#N/A	#N/A	#N/A
York	Harbour	35	448	446	911	689	10			59.6	83.6	#N/A	#N/A	63	#N/A	#N/A	#N/A	#N/A	49.7	47.1	#N/A	#N/A	54	19.1	17.9	58.2	#N/A
York	Lakeshore WB	36	446	451	705	448	73	707		85.7	70.7	#N/A	#N/A	131	125.9	58.4	39.1	62.8	57.3	45.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	10.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	7.2	#N/A	#N/A	#N/A
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			30.4	15.6	#N/A	#N/A	56.7	18.1	#N/A	#N/A	#N/A	34.6	2.6	#N/A	#N/A	39.5	25.2	#N/A	#N/A	#N/A
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		0.6	30.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	35.1	18.8	#N/A	#N/A	5.2	8.8	22.9	#N/A	#N/A
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			91	70.8	#N/A	#N/A	16.8	11.5	13	#N/A	#N/A	1.7	7.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 1 PM

			legs						Turning Movement Delay																	
			N	E	S	W			1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3	Gardiner off-ramp		Gardiner on-ramp (Jarvis and York)			
		Index	Intersectio	1	2	3	4	5	6 SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1							#N/A	5318.386	44455.44	451.7358	553.9911	5662.425	17126.54856	#N/A	3309.311	#N/A	#N/A	#N/A	0	0	0	0	0
Bay	Harbour St	2							8091	6261.105	3104.57	82.60493	536.316	1583.226	11454.42332	1692.448	634.9167	611.9013	5949.34	533.2734	0	0	0	0	0
Bay	Queens Quay E	3							4274.637	2463.091	844.7837	296.0274	115.8913	712.2431	11199.60476	1918.491	6612.616	1105.475	1086.602	195.265	0	0	0	0	0
Harbour St	Zone 218	4							#N/A	#N/A	#N/A	#N/A	484.6406	101.2444	#N/A	1528.547	1338.41	#N/A	5262.853	257.2728	0	0	0	0	0
Yonge	Lakeshore WB	5							#N/A	26433.79	11740.24	2055.481	11342.42	21247.39	2700.763464	#N/A	1899.993	#N/A	#N/A	#N/A	0	0	0	0	0
Yonge	Lakeshore EB	6							16872.12	2797.77	#N/A	#N/A	#N/A	#N/A	11848.59237	11716.47	#N/A	24206.1	37635.99	2834.632	0	0	0	0	0
Yonge	Harbour	7							2462.784	796.7763	762.8951	465.8198	386.0756	343.2839	1449.3654	248.2389	392.8434	7797.682	7173.05	571.5379	0	0	0	0	0
Yonge	Queens Quay E	8							1881.972	#N/A	40.7538	0.153413	#N/A	1035.962	#N/A	#N/A	#N/A	1016.376	852.333	#N/A	0	0	0	0	0
Freeland Street	Lakeshore EB	9							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	117.0669	#N/A	#N/A	2403.877	115.2628	0	0	0	0	0
Freeland Street	Zone 219/249	10							0	0	0	#N/A	#N/A	#N/A	151.49674	33.09247	58.09885	#N/A	#N/A	#N/A	0	0	0	0	0
Freeland Street	Harbour	11							129.4013	165.2213	141.0506	63.66166	297.7507	1476.472	767.97064	524.1217	627.9819	4145.643	3639.195	1034.59	0	0	0	0	0
Freeland Street	Zone 248	12							#N/A	5.746532	0	#N/A	#N/A	#N/A	111.908004	#N/A	27.14861	#N/A	#N/A	#N/A	0	0	0	0	0
Freeland Street	Queens Quay E	13							1348.005	1055.285	1012.369	143.4433	694.2078	1592.103	0.493168	12.03408	7.8646	721.4869	1979.894	#N/A	0	0	0	0	0
Cooper Street	Queens Quay E	14							92.0671	#N/A	13.02948	0	#N/A	0	#N/A	#N/A	#N/A	88.36546	237.9113	#N/A	0	0	0	0	0
Cooper Street	Harbour St	15							44.33112	30.12288	0.136102	188.4196	120.4059	1862.583	530.2234	85.93384	271.1668	2671.456	3065.136	381.185	0	0	0	0	0
Cooper Street	Lakeshore EB	16							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	780.4559	3.556665	0	0	0	0	0
Cooper Street	Lakeshore WB	17							#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0	0	0	0
New Street	Lakeshore EB	18							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	6727.815	#N/A	#N/A	2132.603	4.831319	0	0	0	0	0
New Street	Zones 122&251	19							1.825479	0	0	#N/A	#N/A	#N/A	1353.24465	138.0973	195.1952	#N/A	#N/A	#N/A	0	0	0	0	0
New Street	Harbour St	20							12.5414	197.1738	626.5701	228.8815	232.9133	506.3549	996.94995	106.7683	980.0694	1132.555	3919.59	1325.533	0	0	0	0	0
New Street	Zones 250&121	21							6.344503	22.3185	0	#N/A	#N/A	#N/A	207.649827	14.25465	46.84243	#N/A	#N/A	#N/A	0	0	0	0	0
New Street	Queens Quay E	22							242.9154	#N/A	82.27712	114.5829	#N/A	344.1561	#N/A	#N/A	#N/A	134.7812	136.5222	#N/A	0	0	0	0	0
Lower Jarvis	Queens Quay E	23							9273.942	#N/A	0	6688.619	#N/A	2815.101	#N/A	#N/A	#N/A	2496.909	3492.225	#N/A	0	0	0	0	0
Lower Jarvis	Harbour	24							#N/A	1279.732	339.5743	#N/A	#N/A	#N/A	5351.25943	#N/A	512.7335	#N/A	#N/A	7492.24	0	0	0	0	0
Lower Jarvis	Lakeshore EB	25							1580.096	361.8032	#N/A	#N/A	#N/A	#N/A	34128.6702	4642.854	#N/A	30813.23	18323.14	345.6078	0	0	0	0	0
Lower Jarvis	Lakeshore WB	26							#N/A	7864.012	2828.514	5142.712	#N/A	8011.983	3828.594	#N/A	102.8971	#N/A	#N/A	#N/A	0	0	134288.9	1821.536	0
Jarvis	Front	27							9139.445	29880.47	2374.493	457.7471	8808.482	10571.61	8165.26696	1007.876	6621.643	18637.98	4463.295	1350.254	0	0	0	0	0
Church	Front	28							3079.17	6675.959	5700.525	997.5862	1403.903	12575.95	7434.83554	144.2441	194.3027	8897.619	20563.9	32.75155	0	0	0	0	0
Yonge	Front	29							590.6645	17318.59	7734.681	#N/A	#N/A	#N/A	743.11479	312.8264	2626.435	3155.245	17604	9845.059	0	0	0	0	0
Zone 247	Queens Quay E	30							#N/A	#N/A	#N/A	16.34363	#N/A	463.8628	#N/A	#N/A	#N/A	158.4567	0	#N/A	0	0	0	0	0
Harbour St	Zone 217	31							1566.877	#N/A	395.2184	2.704429	#N/A	188.8871	#N/A	#N/A	#N/A	42.65444	1748.248	#N/A	0	0	0	0	0
Lakeshore	Zone 217	32							#N/A	#N/A	#N/A	#N/A	#N/A	87233.75	#N/A	#N/A	8167.11	#N/A	#N/A	#N/A	0	0	0	0	0
Zone 217	Zone 217	33							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A	0	0	0	0	0
York	Queens Quay E	34							3942.135	10472.18	128.6716	315.6182	1645.66	5781.543	9309.13659	1922.411	1525.175	3702.921	3296.073	#N/A	0	0	0	0	0
York	Harbour	35							12362.47	17075.87	#N/A	5826.129	#N/A	#N/A	15118.31948	3200.363	#N/A	5795.089	6324.531	4350.179	0	0	0	0	0
York	Lakeshore WB	36							#N/A	29003.31	961.4998	9871.732	10132.85	19965.38	7513.1862	#N/A	1765.003	#N/A	#N/A	#N/A	0	0	123545.4	4223.585	13372.26
Queens Quay E	Harbourfront Centre	37							#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	36.01383	#N/A	#N/A	#N/A	#N/A	394.9876	#N/A	0	0	0	0	0
Lower Simcoe	Queens Quay E	38							1826.934	2594.014	582.0142	698.2506	2422.191	6773.535	4233.25584	1324.98	240.9861	3171.446	2109.618	#N/A	0	0	0	0	0
Lower Simcoe	Lakeshore EB	39							9592.724	265.6357	#N/A	#N/A	#N/A	#N/A	4510.12466	1742.839	#N/A	1503.339	405.666	#N/A	6407.775	391.7686	0	0	0
Lower Simcoe	Lakeshore WB	40							#N/A	18088.29	8025.479	1273.833	#N/A	2682.072	398.974524	#N/A	191.815	#N/A	#N/A	#N/A	0	0	0	0	0

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 2 AM

			legs						Turning Movement Counts																
			N	E	S	W			1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3	Gardiner off-ramp		Gardiner on-ramp		
		Index	Intersectio	1	2	3	4	5	6 SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705		#N/A	176.3	287.6	198	168.8	1094.1	439	#N/A	68	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911		43.1	175.5	123.5	81.8	13.5	50.3	184.1	62.2	5	243.6	1201.5	57.3					
Bay	Queens Quay E	3	12	1243	243	886	724		42.6	141.2	48.9	12.5	11	128.6	178.4	37	202.3	62.1	142.8	29.9					
Harbour St	Zone 218	4	694	0	16	931	11		#N/A	#N/A	#N/A	#N/A	29	65.5	#N/A	121.7	81.1	#N/A	1050.7	250.6					
Yonge	Lakeshore WB	5	702	348	8010	565	703		#N/A	98.2	459.1	316.6	215.3	911	950	#N/A	91.3	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1265	722		#N/A	313.5	#N/A	#N/A	#N/A	#N/A	476.6	156.5	#N/A	565.2	425.3	38.6					
Yonge	Harbour	7	16	1265	1253	1244	694		271.4	25.7	53.3	150	19.1	33.7	61.3	53.4	7.5	421.6	711.3	27.9					
Yonge	Queens Quay E	8	7030	1244	242	0	130		33.8	#N/A	38.8	36.9	#N/A	114	#N/A	#N/A	#N/A	85.2	136	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	229.5	#N/A	#N/A	577	4.6					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83		#N/A	1.2	3.4	#N/A	#N/A	#N/A	133.5	54	90.5	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1269	1253		43.2	10.4	79.3	50.3	16.8	94.8	21.4	71.9	28.5	206.7	719.4	97.2					
Freeland Street	Zone 248	12	1269	696	0	7040	1266		#N/A	51.2	72.8	#N/A	#N/A	#N/A	52.5	#N/A	12.4	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242		61.6	1.3	36.1	16.1	0.2	72.3	31.6	59.6	51.4	20.1	148	#N/A					
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040		29.3	#N/A	2	25.5	#N/A	102.3	#N/A	#N/A	#N/A	45.1	219.3	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1270	1255		9.3	7.1	0.5	2.5	2.2	141.9	20.6	29.4	20.7	32.1	755.1	22.2					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	55.3	#N/A	#N/A	789.2	16.9					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010		#N/A	#N/A	#N/A	#N/A	#N/A	812	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1271	343		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	143	#N/A	#N/A	822.9	20.4					
New Street	Zones 122&251	19	1271	1259	1268	1257	949		4.1	10.4	5.1	#N/A	#N/A	#N/A	62.4	25	52	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1271	684	1116	1258		26.1	8	33.5	38.1	4.9	90	18.1	37.3	23.1	83.1	646.2	51.6					
New Street	Zones 250&121	21	1116	1257	1117	1231	1267		13.1	34.3	17.1	#N/A	#N/A	#N/A	30.9	18.4	37.7	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232		88.3	#N/A	33.3	41.7	#N/A	96.2	#N/A	#N/A	#N/A	47.3	193.1	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231		363.3	#N/A	34.9	446.1	#N/A	108.3	#N/A	#N/A	#N/A	105.1	176	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684		#N/A	143.6	45.5	#N/A	#N/A	#N/A	455.2	#N/A	87.7	462.5	#N/A	235.7					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259		84.4	137.1	#N/A	#N/A	#N/A	#N/A	602.2	329.1	#N/A	307.5	589.2	53.2					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349	#N/A	224.3	83.9	18	#N/A	670.9	631.7	#N/A	50.7	#N/A	#N/A	#N/A			683.5	225	
Jarvis	Front	27	660	1037	383	661	654	655	50.6	687	134.7	52.8	209.6	863.8	411.8	80.4	58	335.7	183.2	40.3					
Church	Front	28	653	904	194	974	563	654	905 45.5	110.7	372.8	67.2	111.1	882.2	334.8	33.7	8.3	235.6	498.5	6.6					
Yonge	Front	29	3	666	561	423	559		8.6	361.5	258.4	#N/A	#N/A	#N/A	946.3	334.3	242.2	147.9	430.4	74.2					
Zone 247	Queens Quay E	30	724	692	12	0	239		#N/A	#N/A	#N/A	24.7	#N/A	342.9	#N/A	#N/A	#N/A	20.5	163.7	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448		28.9	#N/A	3.4	140.1	#N/A	38.6	#N/A	#N/A	#N/A	280.4	1480.8	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446		#N/A	#N/A	#N/A	#N/A	#N/A	1448.3	#N/A	#N/A	71.6	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	420.2	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725		82.3	267.9	64.4	200.6	43.6	202.3	154.6	39.8	19.9	116.8	62.9	#N/A					
York	Harbour	35	448	446	911	689	10		151.6	310.1	#N/A	41	#N/A	#N/A	354.4	114.2	#N/A	676.1	1495.6	107.9					
York	Lakeshore WB	36	446	451	705	448	73	707	#N/A	302.1	24.2	156.8	165.9	535.3	854.9	#N/A	29.3	#N/A	#N/A	#N/A			640.3	183	333.9
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691		#N/A	#N/A	#N/A	#N/A	#N/A	286.4	#N/A	#N/A	#N/A	#N/A	182	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728		17.8	47.7	26.3	12.3	65.4	207.3	174.6	82	6.9	56.6	82.5	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685	125.2	39.8	#N/A	#N/A	#N/A	#N/A	188.3	55.1	#N/A	214.2	874.6	#N/A	1241.1	52.4			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706		#N/A	165.4	110.7	115.4	#N/A	473.1	372.8	#N/A	27.6	#N/A	#N/A	#N/A					
Esplanade	Yonge	41	332	423	564	348	0		62.5	372.7	#N/A	21	189	#N/A	1500.6	279.5	#N/A	#N/A	#N/A	#N/A					
Esplanade	Church	42	974	653	1182	916	564		15.4	89.6	121.5	239.2	59.7	89.5	107.7	110.6	2.3	42.3	107.7	191.8					
Gardiner	York On-Ramp	43	683		680		682		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1329.7	#N/A					
Gardiner	Gardiner	44	680		9018		679		#N/A	#N/A	#N/A	#N/A	#N/A	3703	#N/A	#N/A	#N/A	#N/A	3324	#N/A					
Gardiner	Yonge Off-Ramp	45	9018		722		680		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1063.9	#N/A					

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 2 AM

		Index	Intersectio	legs 1	2	3	4	5	6	Turning Movement Delay 1->2 SBL	1->3 SBT	1->4 SBR	2 ->1 WBR	2->3 WBL	2->4 WBT	3->1 NBT	3->2 NBR	3->4 NBL	4->1 EBL	4->2 EBT	4->3 EBR	Gardiner off-ramp EBT	EBR	Gardiner on-ramp WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	26.784	27.077	1.43377	2.20079	4.16011	31.8585	#N/A	35.1872	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911			56.8297	36.9344	46.3876	10.4792	28.8007	28.6929	33.8926	26.6881	69.9549	8.46889	13.8591	11.9934					
Bay	Queens Quay E	3	12	1243	243	886	724			37.5979	24.4132	10.4188	1.57389	9.62812	5.45088	46.8966	38.8591	47.6137	14.3067	8.47121	3.69986					
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	20.1442	6.02133	#N/A	57.1601	70.7767	#N/A	8.93792	6.48232					
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	28.7748	12.0861	33.225	29.7252	36.1409	4.75487	#N/A	8.16965	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1265	722			#N/A	3.5589	#N/A	#N/A	#N/A	#N/A	33.3243	27.7204	#N/A	145.334	54.4507	48.7456					
Yonge	Harbour	7	16	1265	1253	1244	694			37.6929	26.617	4.27276	0.441282	41.0096	21.775	17.4563	8.82207	24.019	20.7015	15.5198	10.9297					
Yonge	Queens Quay E	8	7030	1244	242	0	130			26.3157	#N/A	0.705896	0	#N/A	7.07119	#N/A	#N/A	#N/A	7.93833	4.70069	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	3.68581	#N/A	#N/A	1.59914	1.67138					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			#N/A	0	0	#N/A	#N/A	#N/A	2.37024	0.526296	0.782816	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1269	1253			37.4796	53.9807	20.3454	0.051959	7.68004	0.28651	33.6555	28.3075	32.7647	5.29091	4.5322	5.25797					
Freeland Street	Zone 248	12	1269	696	0	7040	1266			#N/A	0.655026	0.543955	#N/A	#N/A	#N/A	18.0857	#N/A	21.6025	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			23.7501	12.2662	19.7042	17.1212	3.83389	12.3031	19.3374	19.8844	25.8996	36.5072	11.1758	#N/A					
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			13.8249	#N/A	0.306528	0	#N/A	0	#N/A	#N/A	#N/A	12.8011	5.61916	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			10.1649	14.6395	2.60843	9.75287	13.3579	10.8112	16.0392	11.5241	15.2798	42.0929	41.0952	34.003					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0.028223	#N/A	#N/A	0.926713	1.23943					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	9.77017	#N/A	#N/A	3.3488	5.45032					
New Street	Zones 122&251	19	1271	1259	1268	1257	949			93.1374	36.308	31.9241	#N/A	#N/A	#N/A	2.61644	1.39165	0.368738	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1271	684	1116	1258			143.74	124.213	110.897	0.009014	9.30888	0.015405	103.516	127.135	109.143	18.1335	19.9958	13.9572					
New Street	Zones 250&212	21	1116	1257	1117	1231	1267			0.439223	0.567955	0	#N/A	#N/A	#N/A	23.6152	15.7202	16.1266	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232			3.29467	#N/A	1.67526	15.5592	#N/A	16.0734	#N/A	#N/A	#N/A	9.82548	2.61079	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			69.9007	#N/A	3.67418	31.6031	#N/A	27.3078	#N/A	#N/A	#N/A	25.9867	8.63615	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	23.083	8.85868	#N/A	#N/A	#N/A	56.9732	#N/A	41.1469	47.76	#N/A	44.1775					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			51.5385	51.9464	#N/A	#N/A	#N/A	#N/A	53.5753	47.9828	#N/A	95.2597	34.0272	24.1806					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	52.4748	52.5513	60.4709	#N/A	90.9504	3.0725	#N/A	3.6861	#N/A	#N/A	#N/A			133.857	3.75959	
Jarvis	Front	27	660	1037	383	661	654	655		42.345	26.1416	22.0084	10.5248	34.7908	17.1163	19.2445	12.2955	49.4399	55.169	15.2583	18.0048					
Church	Front	28	653	904	194	974	563	654	905	34.5706	18.4602	6.70332	17.4228	17.3892	17.0557	35.5605	4.40442	54.634	49.1815	25.4596	0.280588					
Yonge	Front	29	3	666	561	423	559			61.7925	13.5246	8.18419	#N/A	#N/A	#N/A	5.15708	4.42279	13.0915	18.4442	19.1661	14.1937					
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	0.495321	#N/A	2.02299	#N/A	#N/A	#N/A	1.8856	0	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448			22.0571	#N/A	2.06971	0.186482	#N/A	2.05165	#N/A	#N/A	#N/A	3.3236	5.1579	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	1.94495	#N/A	#N/A	5.60515	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725			25.4789	25.3115	2.15326	3.13986	52.6659	38.2396	41.6772	42.8894	40.2737	55.1445	35.6701	#N/A					
York	Harbour	35	448	446	911	689	10			46.024	52.8718	#N/A	49.3798	#N/A	#N/A	45.9612	32.321	#N/A	25.7244	14.3528	15.9686					
York	Lakeshore WB	36	446	451	705	448	73	707		#N/A	35.2794	29.0041	78.825	44.0722	62.5407	10.5697	#N/A	28.5603	#N/A	#N/A	#N/A			88.3295	25.7256	25.42
Queens Quay E	Harbourfront Cei	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	0.10475	#N/A	#N/A	#N/A	#N/A	1.6779	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			64.5771	44.2501	13.9699	23.6986	67.5273	26.6541	45.1747	43.4732	59.5499	60.4569	23.2989	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		29.1241	4.54403	#N/A	#N/A	#N/A	#N/A	38.744	42.2137	#N/A	54.2656	9.02709	#N/A	7.17125	6.34759			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	32.3914	14.0546	8.04885	#N/A	6.52751	10.0318	#N/A	13.2351	#N/A	#N/A	#N/A					
Esplanade	Yonge	41	332	423	564	348	0			4.06261	3.54456	#N/A	13.5017	31.1535	#N/A	10.7712	13.6334	#N/A	#N/A	#N/A	#N/A					
Esplanade	Church	42	974	653	1182	916	564			16.2837	9.76767	9.73716	23.565	23.6255	19.3292	12.4492	13.2243	13.3303	22.9268	12.549	18.6221					

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 2 AM

			legs						Turning Movement LOS															
		Index	Intersection	1	2	3	4	5	6	1->2 SBL	1->3 SBT	1->4 SBR	2 ->1 WBR	2->3 WBL	2->4 WBT	3->1 NBT	3->2 NBR	3->4 NBL	4->1 EBL	4->2 EBT	4->3 EBR	Gardiner off-ramp EBT	Gardiner off-ramp EBR	Gardiner on-ramp (Jarvis) WBT	Gardiner on-ramp (Jarvis) NBL
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	C	C	A	A	A	C	#N/A	D	#N/A	#N/A	#N/A				
Bay	Harbour St	2	11	472	694	1243	911			E	D	D	B	C	C	C	C	E	A	B	B				
Bay	Queens Quay E	3	12	1243	243	886	724			D	C	B	A	A	A	D	D	D	B	A	A				
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	C	A	#N/A	E	E	#N/A	A	A				
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	C	B	C	C	D	A	#N/A	A	#N/A	#N/A	#N/A				
Yonge	Lakeshore EB	6	565	702	1100	1265	722			#N/A	A	#N/A	#N/A	#N/A	#N/A	C	C	#N/A	F	D	D				
Yonge	Harbour	7	16	1265	1253	1244	694			D	C	A	A	D	C	B	A	C	C	B	B				
Yonge	Queens Quay E	8	7030	1244	242	0	130			C	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	A				
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			#N/A	A	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A				
Freeland Street	Harbour	11	696	1247	1254	1269	1253			D	D	C	A	A	A	C	C	C	A	A	A				
Freeland Street	Zone 248	12	1269	696	0	7040	1266			#N/A	A	A	#N/A	#N/A	#N/A	B	#N/A	C	#N/A	#N/A	#N/A				
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			C	B	B	B	A	B	B	B	C	D	B	#N/A				
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			B	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	B	A	#N/A				
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			B	B	A	A	B	B	B	B	B	D	D	C				
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	A				
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A				
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	A				
New Street	Zones 122&251	19	1271	1259	1268	1257	949			F	D	C	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A				
New Street	Harbour St	20	1257	1271	684	1116	1258			F	F	F	A	A	A	F	F	F	B	B	B				
New Street	Zones 250&212	21	1116	1257	1117	1231	1267			A	A	A	#N/A	#N/A	#N/A	C	B	B	#N/A	#N/A	#N/A				
New Street	Queens Quay E	22	1231	1116	1510	0	1232			A	#N/A	A	B	#N/A	B	#N/A	#N/A	#N/A	A	A	#N/A				
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			E	#N/A	A	C	#N/A	C	#N/A	#N/A	#N/A	C	A	#N/A				
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	C	A	#N/A	#N/A	#N/A	E	#N/A	D	D	#N/A	D				
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			D	D	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	F	C	C				
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	D	D	E	#N/A	F	A	#N/A	A	#N/A	#N/A	#N/A			F	A
Jarvis	Front	27	660	1037	383	661	654	655		D	C	C	B	C	B	B	B	D	E	B	B				
Church	Front	28	653	904	194	974	563	654	905	C	B	A	B	B	B	D	A	D	D	C	A				
Yonge	Front	29	3	666	561	423	559			E	B	A	#N/A	#N/A	#N/A	A	A	B	B	B	B				
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Harbour St	Zone 217	31	911	918	11	0	448			C	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	#N/A	#N/A	#N/A				
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A				
York	Queens Quay E	34	324	689	239	13	725			C	C	A	A	D	D	D	D	D	E	D	#N/A				
York	Harbour	35	448	446	911	689	10			D	D	#N/A	D	#N/A	#N/A	D	C	#N/A	C	B	B				
York	Lakeshore WB	36	446	451	705	448	707			#N/A	D	C	E	D	E	B	#N/A	C	#N/A	#N/A	#N/A				
Queens Quay E	Harbourfront Cei	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	A	#N/A				
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			E	D	B	C	E	C	D	D	E	E	C	#N/A				
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		C	A	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	D	A	#N/A	A	A		
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	C	B	A	#N/A	A	B	#N/A	B	#N/A	#N/A	#N/A				
Esplanade	Yonge	41	332	423	564	348	0			A	A	#N/A	B	C	#N/A	B	B	#N/A	#N/A	#N/A	#N/A				
Esplanade	Church	42	974	653	1182	916	564			B	A	A	C	C	B	B	B	B	C	B	B				

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

SCENARIO 2 AM

Average Intersection Delay and LOS		Delay	LOS
Bay	Lakeshore WB	14	B
Bay	Harbour St	20	C
Bay	Queens Quay E	27	C
Harbour St	Zone 218	15	B
Yonge	Lakeshore WB	21	C
Yonge	Lakeshore EB	65	E
Yonge	Harbour	19	B
Yonge	Queens Quay E	7	A
Freeland Street	Lakeshore EB	2	A
Freeland Street	Zone 219/249	1	A
Freeland Street	Harbour	9	A
Freeland Street	Zone 248	7	A
Freeland Street	Queens Quay E	18	B
Cooper Street	Queens Quay E	5	A
Cooper Street	Harbour St	34	C
Cooper Street	Lakeshore EB	1	A
Cooper Street	Lakeshore WB	0	A
New Street	Lakeshore EB	4	A
New Street	Zones 122&251	7	A
New Street	Harbour St	31	C
New Street	Zones 250&212	11	B
New Street	Queens Quay E	7	A
Lower Jarvis	Queens Quay E	38	D
Lower Jarvis	Harbour	46	D
Lower Jarvis	Lakeshore EB	52	D
Lower Jarvis	Lakeshore WB	67	E
Jarvis	Front	26	C
Church	Front	23	C
Yonge	Front	10	B
Zone 247	Queens Quay E	1	A
Harbour St	Zone 217	5	A
Lakeshore	Zone 217	2	A
Zone 217	Zone 217	0	A
York	Queens Quay E	30	C
York	Harbour	26	C
York	Lakeshore WB	45	D
Queens Quay E	Harbourfront Centre	1	A
Lower Simcoe	Queens Quay E	40	D
Lower Simcoe	Lakeshore EB	15	B
Lower Simcoe	Lakeshore WB	12	B
Esplanade	Yonge	11	B
Esplanade	Church	10	B

SCENARIO 2 AM

95th percentile queue length (m)

		Index	legs Intersectio	1	2	3	4	5	6	SB 1	2	3	4	WB 1	2	3	4	5	NB 1	2	3	4	EB 1	2	3	4	5
Bay	Lakeshore WB	1	697	704	703	472	705			39.7	35.9	40	#N/A	28.8	23.7	18.2	23.8	#N/A	44.2	45.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Bay	Harbour St	2	11	472	694	1243	911			62.1	22	#N/A	#N/A	29.2	13.9	#N/A	#N/A	#N/A	41.5	3.4	#N/A	#N/A	65.1	59.9	26.1	#N/A	#N/A
Bay	Queens Quay E	3	12	1243	243	886	724			41.9	19.5	#N/A	#N/A	0	21.2	1.7	#N/A	#N/A	42.3	#N/A	#N/A	#N/A	23.5	18.1	#N/A	#N/A	#N/A
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	22.8	#N/A	#N/A	#N/A	#N/A	53.2	#N/A	#N/A	#N/A	56.5	58	#N/A	#N/A	#N/A
Yonge	Lakeshore WB	5	702	348	8010	565	703			47	20	#N/A	#N/A	114.1	57.6	70.4	#N/A	#N/A	29.3	21.4	18.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Yonge	Lakeshore EB	6	565	702	1100	1265	722			3.5	11.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	50.1	45.8	28.9	#N/A	83.8	37.6	186.4	55.3	#N/A
Yonge	Harbour	7	16	1265	1253	1244	694			19.9	58.9	#N/A	#N/A	5.1	20.4	#N/A	#N/A	#N/A	21	#N/A	#N/A	#N/A	46.2	66.9	#N/A	#N/A	#N/A
Yonge	Queens Quay E	8	7030	1244	242	0	130			3.1	17.5	#N/A	#N/A	0	20.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	25.7	17	#N/A	#N/A	#N/A
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	22.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	2.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Harbour	11	696	1247	1254	1269	1253			40.1	#N/A	#N/A	#N/A	11.3	#N/A	#N/A	#N/A	#N/A	27.2	19.6	#N/A	#N/A	26.2	30.3	#N/A	#N/A	#N/A
Freeland Street	Zone 248	12	1269	696	0	7040	1266			3.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	17.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			14.7	24.4	#N/A	#N/A	48.8	0	#N/A	#N/A	#N/A	39.1	14.3	#N/A	#N/A	23.6	9.8	#N/A	#N/A	#N/A
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			0	7.9	#N/A	#N/A	8.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	55.5	#N/A	#N/A	#N/A	#N/A
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			0.7	5.7	#N/A	#N/A	20.5	#N/A	#N/A	#N/A	#N/A	18.9	#N/A	#N/A	#N/A	53.7	54	#N/A	#N/A	#N/A
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	9.2	2	0	#N/A	#N/A
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	0	0	0.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	35	#N/A	#N/A	#N/A	35.7	20	15.9	#N/A	#N/A
New Street	Zones 122&251	19	1271	1259	1268	1257	949			17.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	4.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Harbour St	20	1257	1271	684	1116	1258			44.6	#N/A	#N/A	#N/A	6.9	#N/A	#N/A	#N/A	#N/A	50.2	#N/A	#N/A	#N/A	46.7	48.3	#N/A	#N/A	#N/A
New Street	Zones 250&212	21	1116	1257	1117	1231	1267			0.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	19.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Queens Quay E	22	1231	1116	1510	0	1232			15.2	#N/A	#N/A	#N/A	70.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	21.2	#N/A	#N/A	#N/A	#N/A
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			14.4	85.5	#N/A	#N/A	43	28.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	28.8	33	#N/A	#N/A	#N/A
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			25.7	30.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	68.2	45	#N/A	#N/A	56.4	59	#N/A	#N/A	#N/A
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			15.2	32.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	90.9	79.9	#N/A	#N/A	54	38.1	63.1	68.1	34.8
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		22.9	23.6	#N/A	#N/A	25.1	269.8	97.4	105.3	#N/A	10.5	16.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Jarvis	Front	27	660	1037	383	661	654	655		56.6	56.2	#N/A	#N/A	31.1	32	22.4	#N/A	#N/A	49	43.9	#N/A	#N/A	26.8	19.3	43.7	#N/A	#N/A
Church	Front	28	653	904	194	974	563	654	905	42.2	16.3	#N/A	#N/A	15.3	29.1	29	15.1	#N/A	5.6	96.7	#N/A	#N/A	0	39.3	36.4	47.1	#N/A
Yonge	Front	29	3	666	561	423	559			39.3	33.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	37.6	32.2	32	#N/A	41.6	32.5	29	#N/A	#N/A
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	#N/A	3.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	5.3	#N/A	#N/A	#N/A	#N/A
Harbour St	Zone 217	31	911	918	11	0	448			15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	46	40	26.2	#N/A	#N/A
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	38.9	41.2	9.5	2.7	#N/A	6.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	3.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
York	Queens Quay E	34	324	689	239	13	725			12.7	44.2	26.3	#N/A	23.5	51.6	19.2	#N/A	#N/A	31.8	21.2	#N/A	#N/A	30	31.1	#N/A	#N/A	#N/A
York	Harbour	35	448	446	911	689	10			52.1	77.3	#N/A	#N/A	21.1	#N/A	#N/A	#N/A	#N/A	50.2	46.5	#N/A	#N/A	60.6	39	71.6	97.4	#N/A
York	Lakeshore WB	36	446	451	705	448	73	707		84.7	47.9	#N/A	#N/A	141.2	105.7	57.9	49.8	71.9	67.4	43.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Queens Quay E	Harbourfront Cei	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	8.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	0.4	#N/A	#N/A	#N/A
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			25.5	12.8	#N/A	#N/A	50.5	26.8	#N/A	#N/A	#N/A	59.5	5.3	#N/A	#N/A	29.8	22.1	#N/A	#N/A	#N/A
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		0	24	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	52.4	22.5	#N/A	#N/A	24.5	61.3	50.7	#N/A	#N/A
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			31	25.3	#N/A	#N/A	14.3	7.1	8	#N/A	#N/A	32.7	0.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Esplanade	Yonge	41	332	423	564	348	0			21.7	15.4	13.9	#N/A	51.7	#N/A	#N/A	#N/A	#N/A	57.3	44.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Esplanade	Church	42	974	653	1182	916	564			20.1	#N/A	#N/A	#N/A	68.6	#N/A	#N/A	#N/A	#N/A	20.1	16.2	#N/A	#N/A	58.6	#N/A	#N/A	#N/A	#N/A

Movement does not exist

Barred/One-Way

Turning Movements Into Zones

SCENARIO 2 PM

			legs						Turning Movement Counts																				
			N	E	S	W			1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3	Gardiner off-ramp		Gardiner on-ramp						
		Index	Intersectio	1	2	3	4	5	6 SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR				
Bay	Lakeshore WB	1	697	704	703	472	705		#N/A	97.1	328	111.1	130.3	664.5	384.2	#N/A	71.1	#N/A	#N/A	#N/A									
Bay	Harbour St	2	11	472	694	1243	911		24.8	96.3	102.3	74.9	21.9	34.3	235.8	45.2	4.2	149.8	971.7	94.1									
Bay	Queens Quay E	3	12	1243	243	886	724		57.8	91.2	62.5	26.1	11.3	150.7	213.7	46.9	133.4	49.4	115.6	58.6									
Harbour St	Zone 218	4	694	0	16	931	11		#N/A	#N/A	#N/A	#N/A	34	87.6	#N/A	52.7	45	#N/A	942.5	93.9									
Yonge	Lakeshore WB	5	702	348	8010	565	703		#N/A	370.9	550.5	41.8	51	311.4	877.9	#N/A	49.3	#N/A	#N/A	#N/A									
Yonge	Lakeshore EB	6	565	702	1100	1270	722		288.6	131.2	#N/A	#N/A	#N/A	#N/A	316.5	134	#N/A	614.7	818.5	113.6									
Yonge	Harbour	7	16	1270	1253	1244	694		168.7	39.3	36.6	117.6	23.2	76.7	69.6	41.5	9.5	270.7	651.7	69.3									
Yonge	Queens Quay E	8	7030	1244	242	0	130		75.3	#N/A	55.7	24.5	#N/A	133.2	#N/A	#N/A	#N/A	97.4	119.9	#N/A									
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	136.7	#N/A	#N/A	1175.7	62.2									
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83		26.9	6.8	28.8	#N/A	#N/A	#N/A	86	32.2	52	#N/A	#N/A	#N/A									
Freeland Street	Harbour	11	696	1247	1254	1268	1253		29.5	13.1	90.2	13.5	13.2	100.8	10.5	45	28.9	147	528.7	180									
Freeland Street	Zone 248	12	1268	696	0	7040	1265		#N/A	132.7	73.6	#N/A	#N/A	#N/A	32.5	#N/A	4.5	#N/A	#N/A	#N/A									
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242		75.8	57	47	9.4	15.7	110.4	#N/A	1.3	0.6	28.5	163.2	#N/A									
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040		38.3	#N/A	5.2	17.1	#N/A	131.9	#N/A	#N/A	#N/A	23.8	216.1	#N/A									
Cooper Street	Harbour St	15	1256	946	1258	1500	1255		13.2	4.5	1.5	3.5	5	112	7.5	19.2	14.2	36.5	522.6	34									
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	46.4	#N/A	#N/A	1280.7	19.1									
Cooper Street	Lakeshore WB	17	361	916	80	343	8010		#N/A	#N/A	#N/A	#N/A	#N/A	225	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A									
New Street	Lakeshore EB	18	1259	0	1115	1269	343		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	121.4	#N/A	#N/A	1255.2	51.3									
New Street	Zones 122&251	19	1269	1259	1267	1257	949		6.8	15.8	26	#N/A	#N/A	#N/A	83.1	22.8	23.8	#N/A	#N/A	#N/A									
New Street	Harbour St	20	1257	1269	684	1116	1258		16.9	10.8	46.3	21.6	4.3	39.7	33.3	27.2	34.4	74.6	387	85.2									
New Street	Zones 250&121	21	1116	1257	1117	1231	1266		14.2	56.9	29.1	#N/A	#N/A	#N/A	50.5	13.8	25.1	#N/A	#N/A	#N/A									
New Street	Queens Quay E	22	1231	1116	1510	0	1232		83.2	#N/A	36.5	49.5	#N/A	113.1	#N/A	#N/A	#N/A	40.3	211.7	#N/A									
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231		213	#N/A	30.7	332.9	#N/A	132	#N/A	#N/A	#N/A	61	231.5	#N/A									
Lower Jarvis	Harbour	24	1114	1115	0	1510	684		#N/A	96.9	37.8	#N/A	#N/A	#N/A	356.9	#N/A	27.8	290.3	#N/A	133.6									
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259		209.2	76.4	#N/A	#N/A	#N/A	#N/A	419.9	238.5	#N/A	374.1	933	60.5									
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349	#N/A	285.9	113.8	46	#N/A	94.8	525.2	#N/A	16.3	#N/A	#N/A	#N/A					884	249.8			
Jarvis	Front	27	660	1037	383	661	654	655	97	552.4	61.3	27.5	148	579.7	425.1	83.9	82.3	340.7	231.4	39.7									
Church	Front	28	653	904	194	974	563	654	905 61.1	218.6	314.9	58.6	91.5	572.7	240.4	42.9	8.1	224.2	518.1	9.7									
Yonge	Front	29	3	666	561	423	559		18	667.1	330.3	#N/A	#N/A	#N/A	338.5	362.3	90.1	161.9	424.5	137									
Zone 247	Queens Quay E	30	724	692	12	0	239		#N/A	#N/A	#N/A	54.4	#N/A	292.1	#N/A	#N/A	#N/A	78.7	193.4	#N/A									
Harbour St	Zone 217	31	911	918	11	0	448		114.9	#N/A	43.8	15.6	#N/A	125.4	#N/A	#N/A	#N/A	44.5	1106.7	#N/A									
Lakeshore	Zone 217	32	705	0	697	918	446		#N/A	#N/A	#N/A	#N/A	#N/A	1046.6	#N/A	#N/A	389.1	#N/A	#N/A	#N/A									
Zone 217	Zone 217	33	918	705	920	911	0		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	60.2	#N/A	#N/A	#N/A	#N/A									
York	Queens Quay E	34	324	689	239	13	725		169.2	364.6	60.8	170.3	29.5	154.6	193	45.3	34.4	67.4	57.8	#N/A									
York	Harbour	35	448	446	911	689	10		254.9	320.6	#N/A	167.7	#N/A	#N/A	326.5	99.1	#N/A	494.5	804.7	277.2									
York	Lakeshore WB	36	446	451	705	448	73	707	#N/A	423	16.7	81.2	152.1	258.3	667.8	#N/A	67.7	#N/A	#N/A	#N/A					919.4	246	309.7		
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691		#N/A	#N/A	#N/A	#N/A	#N/A	249.4	#N/A	#N/A	#N/A	#N/A	127.8	#N/A									
Lower Simcoe	Queens Quay E	38	691	681	726	14	728		40.5	64.1	35.1	27.9	28.7	194.9	101	41.6	4	29.9	46	#N/A									
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685	178.5	54.6	#N/A	#N/A	#N/A	#N/A	123.9	35.3	#N/A	31	286.5	#N/A	1089.9	85.3							
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706		#N/A	235.8	246.8	109.7	#N/A	233.3	126.6	#N/A	28.3	#N/A	#N/A	#N/A									
Esplanade	Yonge	41	332	423	564	348	0		30.3	768.7	#N/A	25	165.6	#N/A	780	194.5	#N/A	#N/A	#N/A	#N/A									
Esplanade	Church	42	974	653	1182	916	564		23.2	166.6	127.8	120.4	28.1	58	123.3	62.6	7	61.6	58.4	100.9									
Gardiner	York On-Ramp	43	683		680		682		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1018.6	#N/A									
Gardiner	Gardiner	44	680		9018		679		#N/A	#N/A	#N/A	#N/A	#N/A	2078.1	#N/A	#N/A	#N/A	#N/A	2858.6	#N/A									
Gardiner	Yonge Off-Ramp	45	9018		722		680		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1566	#N/A									

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 2 PM

			legs						Turning Movement Delay																		
			N	E	S	W			1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3	Gardiner off-ramp		Gardiner on-ramp (Jarvis)				
		Index	Intersectio	1	2	3	4	5	6 SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR		
Bay	Lakeshore WB	1	697	704	703	472	705		#N/A	46.2452	161.168	5.63141	13.5122	9.69674	44.6693	#N/A	126.421	#N/A	#N/A	#N/A							
Bay	Harbour St	2	11	472	694	1243	911		364.117	47.5173	36.8449	25.7271	66.5676	56.3156	48.8026	40.084	76.1191	10.9891	10.4029	9.04345							
Bay	Queens Quay E	3	12	1243	243	886	724		74.645	23.0764	9.02071	10.589	8.3695	4.82149	49.3785	49.0591	48.9041	33.1003	7.90128	2.66666							
Harbour St	Zone 218	4	694	0	16	931	11		#N/A	#N/A	#N/A	#N/A	12.7651	5.77516	#N/A	67.3684	94.4553	#N/A	10.6375	8.2039							
Yonge	Lakeshore WB	5	702	348	8010	565	703		#N/A	46.9191	15.7208	28.3698	92.5093	40.1686	7.12411	#N/A	36.9621	#N/A	#N/A	#N/A							
Yonge	Lakeshore EB	6	565	702	1100	1270	722		41.2286	19.384	#N/A	#N/A	#N/A	#N/A	37.657	40.0996	#N/A	80.676	68.4223	60.7738							
Yonge	Harbour	7	16	1270	1253	1244	694		34.1082	22.9479	5.91112	1.03951	35.5123	17.8265	20.1889	16.5392	23.4571	20.1664	17.4813	14.7453							
Yonge	Queens Quay E	8	7030	1244	242	0	130		37.0222	#N/A	0.963135	0.120842	#N/A	8.48202	#N/A	#N/A	#N/A	11.2027	8.43988	#N/A							
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1.13405	#N/A	#N/A	7.93871	4.91212							
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83		7.40533	17.2401	9.38007	#N/A	#N/A	#N/A	2.12455	1.40227	1.15375	#N/A	#N/A	#N/A							
Freeland Street	Harbour	11	696	1247	1254	1268	1253		32.2903	40.0793	17.3987	0.346591	14.3543	2.51748	25.5464	29.7482	41.964	5.19346	3.7235	5.47648							
Freeland Street	Zone 248	12	1268	696	0	7040	1265		#N/A	2.77271	0.677408	#N/A	#N/A	#N/A	19.5898	#N/A	3.3128	#N/A	#N/A	#N/A							
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242		23.8673	20.132	18.2958	30.6722	25.8613	22.5547	#N/A	39.2767	12.4292	32.0303	9.48591	#N/A							
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040		9.27957	#N/A	3.51325	0.05513	#N/A	2.35735	#N/A	#N/A	#N/A	10.4797	10.2146	#N/A							
Cooper Street	Harbour St	15	1256	946	1258	1500	1255		19.5933	21.7126	2.86721	6.70853	12.0205	8.25768	44.5047	26.0692	45.2023	27.0882	28.6358	35.5157							
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	77.5589	#N/A	#N/A	21.492	21.948							
Cooper Street	Lakeshore WB	17	361	916	80	343	8010		#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A							
New Street	Lakeshore EB	18	1259	0	1115	1269	343		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	83.0822	#N/A	#N/A	36.2566	36.5511							
New Street	Zones 122&251	19	1269	1259	1267	1257	949		1.8665	0.222308	0.065538	#N/A	#N/A	#N/A	40.951	37.3591	29.8347	#N/A	#N/A	#N/A							
New Street	Harbour St	20	1257	1269	684	1116	1258		17.4036	8.99232	10.7557	11.0365	17.4069	6.07924	51.2507	54.0368	57.2045	29.1779	18.5652	9.33309							
New Street	Zones 250&212	21	1116	1257	1117	1231	1266		2.32223	1.4758	0.982534	#N/A	#N/A	#N/A	8.03183	2.58384	6.95672	#N/A	#N/A	#N/A							
New Street	Queens Quay E	22	1231	1116	1510	0	1232		4.78416	#N/A	2.19784	12.3928	#N/A	9.35286	#N/A	#N/A	#N/A	5.77361	3.65123	#N/A							
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231		76.3725	#N/A	0.026629	29.8452	#N/A	23.2724	#N/A	#N/A	#N/A	33.478	11.0305	#N/A							
Lower Jarvis	Harbour	24	1114	1115	0	1510	684		#N/A	14.6441	8.06763	#N/A	#N/A	#N/A	104.17	#N/A	68.5966	56.5249	#N/A	49.2555							
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259		28.1901	28.2954	#N/A	#N/A	#N/A	#N/A	95.4502	77.6952	#N/A	111.429	37.3971	21.0323							
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349	#N/A	40.4677	47.8077	93.8303	#N/A	59.6808	8.08793	#N/A	6.44783	#N/A	#N/A	#N/A			136.972	4.664			
Jarvis	Front	27	660	1037	383	661	654	655	114.926	48.8209	36.4405	10.8084	37.0081	16.8441	30.6212	25.1415	200.311	54.5947	15.7579	22.4434							
Church	Front	28	653	904	194	974	563	654	905 78.9587	28.3891	20.6447	18.027	26.0371	21.2102	31.2884	8.27651	63.9541	38.6049	41.9505	42.7007							
Yonge	Front	29	3	666	561	423	559		20.4405	16.7277	12.658	#N/A	#N/A	#N/A	4.47233	5.03522	23.8089	20.5005	23.6564	27.5781							
Zone 247	Queens Quay E	30	724	692	12	0	239		#N/A	#N/A	#N/A	0.550357	#N/A	1.64384	#N/A	#N/A	#N/A	2.79422	0.250683	#N/A							
Harbour St	Zone 217	31	911	918	11	0	448		25.4238	#N/A	14.922	3.30918	#N/A	8.81682	#N/A	#N/A	#N/A	3.52546	6.24316	#N/A							
Lakeshore	Zone 217	32	705	0	697	918	446		#N/A	#N/A	#N/A	#N/A	#N/A	72.5402	#N/A	#N/A	24.8899	#N/A	#N/A	#N/A							
Zone 217	Zone 217	33	918	705	920	911	0		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A							
York	Queens Quay E	34	324	689	239	13	725		16.9388	16.3041	0.254458	3.86255	45.6247	38.5451	46.9669	44.7394	46.3616	54.3245	33.6687	#N/A							
York	Harbour	35	448	446	911	689	10		50.1588	49.9743	#N/A	62.4339	#N/A	#N/A	46.2635	31.3444	#N/A	16.3774	8.70666	16.7985							
York	Lakeshore WB	36	446	451	705	448	73	707	#N/A	57.1726	35.0617	101.085	60.8733	74.7807	18.8512	#N/A	32.432	#N/A	#N/A	#N/A			123.124	24.1854	38.2925		
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691		#N/A	#N/A	#N/A	#N/A	#N/A	0.782813	#N/A	#N/A	#N/A	#N/A	2.87656	#N/A							
Lower Simcoe	Queens Quay E	38	691	681	726	14	728		71.1505	47.2978	20.5825	27.2457	69.8153	33.5906	40.879	42.2744	64.3823	63.2468	19.3673	#N/A							
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685	55.4125	9.04486	#N/A	#N/A	#N/A	#N/A	35.5157	34.4342	#N/A	33.0143	0.424248	#N/A	4.21923	4.24674					
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706		#N/A	46.0156	23.9076	7.16219	#N/A	11.0861	5.92522	#N/A	13.3921	#N/A	#N/A	#N/A							
Esplanade	Yonge	41	332	423	564	348	0		68.1768	17.2863	#N/A	26.0125	34.7753	#N/A	12.1865	17.4773	#N/A	#N/A	#N/A	#N/A							
Esplanade	Church	42	974	653	1182	916	564		54.3512	30.5072	42.849	21.7051	13.8422	12.4562	17.9171	53.4456	29.1867	50.4521	55.938	52.1719							

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 2 PM

			legs						Turning Movement LOS																
			N	E	S	W																		Gardiner off-ramp		Gardiner on-ramp (Jarvis)	
		Index	Intersection	1	2	3	4	5	6	1->2 SBL	1->3 SBT	1->4 SBR	2 ->1 WBR	2->3 WBL	2->4 WBT	3->1 NBT	3->2 NBR	3->4 NBL	4->1 EBL	4->2 EBT	4->3 EBR	EBT	EBR	WBT	NBL
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	D	F	A	B	A	D	#N/A	F	#N/A	#N/A	#N/A				
Bay	Harbour St	2	11	472	694	1243	911			F	D	D	C	E	E	D	D	E	B	B	A				
Bay	Queens Quay E	3	12	1243	243	886	724			E	C	A	B	A	A	D	D	D	C	A	A				
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	B	A	#N/A	E	F	#N/A	B	A				
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	D	B	C	F	D	A	#N/A	D	#N/A	#N/A	#N/A				
Yonge	Lakeshore EB	6	565	702	1100	1270	722			D	B	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	F	E	E				
Yonge	Harbour	7	16	1270	1253	1244	694			C	C	A	A	D	B	C	B	C	C	B	B				
Yonge	Queens Quay E	8	7030	1244	242	0	130			D	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	B	A	#N/A				
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	A				
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			A	B	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A				
Freeland Street	Harbour	11	696	1247	1254	1268	1253			C	D	B	A	B	A	C	C	D	A	A	A				
Freeland Street	Zone 248	12	1268	696	0	7040	1265			#N/A	A	A	#N/A	#N/A	#N/A	B	#N/A	A	#N/A	#N/A	#N/A				
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242			C	C	B	C	C	C	#N/A	D	B	C	A	#N/A				
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040			A	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	B	B	#N/A				
Cooper Street	Harbour St	15	1256	946	1258	1500	1255			B	C	A	A	B	A	D	C	D	C	C	D				
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	E	#N/A	#N/A	C	C				
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A				
New Street	Lakeshore EB	18	1259	0	1115	1269	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	F	#N/A	#N/A	D	D				
New Street	Zones 122&251	19	1269	1259	1267	1257	949			A	A	A	#N/A	#N/A	#N/A	D	D	C	#N/A	#N/A	#N/A				
New Street	Harbour St	20	1257	1269	684	1116	1258			B	A	B	B	B	A	D	D	E	C	B	A				
New Street	Zones 250&212	21	1116	1257	1117	1231	1266			A	A	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A				
New Street	Queens Quay E	22	1231	1116	1510	0	1232			A	#N/A	A	B	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			E	#N/A	A	C	#N/A	C	#N/A	#N/A	#N/A	C	B	#N/A				
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	B	A	#N/A	#N/A	#N/A	F	#N/A	E	E	#N/A	D				
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			C	C	#N/A	#N/A	#N/A	#N/A	F	E	#N/A	F	D	C				
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	D	D	F	#N/A	E	A	#N/A	A	#N/A	#N/A	#N/A			F	A
Jarvis	Front	27	660	1037	383	661	654	655		F	D	D	B	D	B	C	C	F	D	B	C				
Church	Front	28	653	904	194	974	563	654	905	E	C	C	B	C	C	C	A	E	D	D	D				
Yonge	Front	29	3	666	561	423	559			C	B	B	#N/A	#N/A	#N/A	A	A	C	C	C	C				
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Harbour St	Zone 217	31	911	918	11	0	448			C	#N/A	B	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	E	#N/A	#N/A	C	#N/A	#N/A	#N/A				
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A				
York	Queens Quay E	34	324	689	239	13	725			B	B	A	A	D	D	D	D	D	D	C	#N/A				
York	Harbour	35	448	446	911	689	10			D	D	#N/A	E	#N/A	#N/A	D	C	#N/A	B	A	B				
York	Lakeshore WB	36	446	451	705	448	707			#N/A	E	D	F	E	E	B	#N/A	C	#N/A	#N/A	#N/A				
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	A	#N/A				
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			E	D	C	C	E	C	D	D	E	E	B	#N/A				
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		E	A	#N/A	#N/A	#N/A	#N/A	D	C	#N/A	C	A	#N/A	A	A		
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	D	C	A	#N/A	B	A	#N/A	B	#N/A	#N/A	#N/A				
Esplanade	Yonge	41	332	423	564	348	0			E	B	#N/A	C	C	#N/A	B	B	#N/A	#N/A	#N/A	#N/A				
Esplanade	Church	42	974	653	1182	916	564			D	C	D	C	B	B	B	D	C	D	E	D				

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 2 PM

Average Intersection Delay and LOS		Delay	LOS
Bay	Lakeshore WB	52	D
Bay	Harbour St	26	C
Bay	Queens Quay E	30	C
Harbour St	Zone 218	16	B
Yonge	Lakeshore WB	23	C
Yonge	Lakeshore EB	60	E
Yonge	Harbour	19	B
Yonge	Queens Quay E	12	B
Freeland Street	Lakeshore EB	7	A
Freeland Street	Zone 219/249	4	A
Freeland Street	Harbour	8	A
Freeland Street	Zone 248	4	A
Freeland Street	Queens Quay E	19	B
Cooper Street	Queens Quay E	7	A
Cooper Street	Harbour St	26	C
Cooper Street	Lakeshore EB	23	C
Cooper Street	Lakeshore WB	0	A
New Street	Lakeshore EB	40	D
New Street	Zones 122&251	28	C
New Street	Harbour St	21	C
New Street	Zones 250&212	4	A
New Street	Queens Quay E	6	A
Lower Jarvis	Queens Quay E	34	C
Lower Jarvis	Harbour	68	E
Lower Jarvis	Lakeshore EB	63	E
Lower Jarvis	Lakeshore WB	69	E
Jarvis	Front	41	D
Church	Front	31	C
Yonge	Front	15	B
Zone 247	Queens Quay E	1	A
Harbour St	Zone 217	8	A
Lakeshore	Zone 217	60	E
Zone 217	Zone 217	0	A
York	Queens Quay E	26	C
York	Harbour	28	C
York	Lakeshore WB	66	E
Queens Quay E	Harbourfront Centre	1	A
Lower Simcoe	Queens Quay E	41	D
Lower Simcoe	Lakeshore EB	12	B
Lower Simcoe	Lakeshore WB	22	C
Esplanade	Yonge	10	A
Esplanade	Church	20	B

DRAFT - FOR REVIEW

SCENARIO 2 PM

				legs						95th percentile queue length (m)															
										SB				WB					NB				EB				
		Index	Intersectio	1	2	3	4	5	6	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	5
Bay	Lakeshore WB	1	697	704	703	472	705			104.1	96.8	39.5	#N/A	50.4	29.4	21.4	56.3	#N/A	47.5	47.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Bay	Harbour St	2	11	472	694	1243	911			62.9	37.3	#N/A	#N/A	43.3	14.8	#N/A	#N/A	#N/A	41.6	2.3	#N/A	#N/A	53.1	49	26	#N/A	#N/A
Bay	Queens Quay E	3	12	1243	243	886	724			36.6	37.1	#N/A	#N/A	9.6	19.4	3.5	#N/A	#N/A	42.1	#N/A	#N/A	#N/A	25.4	22.2	#N/A	#N/A	#N/A
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	27.7	#N/A	#N/A	#N/A	#N/A	44.6	#N/A	#N/A	#N/A	61.2	67.3	#N/A	#N/A	#N/A
Yonge	Lakeshore WB	5	702	348	8010	565	703			47.7	47.7	#N/A	#N/A	63.1	27.7	49.5	#N/A	#N/A	25.7	31.4	17.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Yonge	Lakeshore EB	6	565	702	1100	1270	722			14.1	47.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	47.6	39.3	23.1	#N/A	94.9	89.1	130.2	52.9	#N/A
Yonge	Harbour	7	16	1270	1253	1244	694			19.3	46.3	#N/A	#N/A	15.4	28	#N/A	#N/A	#N/A	24.2	#N/A	#N/A	#N/A	45.8	60.8	#N/A	#N/A	#N/A
Yonge	Queens Quay E	8	7030	1244	242	0	130			4.4	32.6	#N/A	#N/A	2.5	34.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	27.1	25.8	#N/A	#N/A	#N/A
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	27.1	#N/A	#N/A	#N/A	3.9	81.4	36	#N/A	#N/A
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			7.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Harbour	11	696	1247	1254	1268	1253			28.6	#N/A	#N/A	#N/A	10.4	#N/A	#N/A	#N/A	#N/A	15.9	12.2	#N/A	#N/A	14.4	19.7	#N/A	#N/A	#N/A
Freeland Street	Zone 248	12	1268	696	0	7040	1265			12.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	5.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242			14.4	28.5	#N/A	#N/A	43.6	11.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	24.3	14.7	#N/A	#N/A	#N/A
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040			0.9	9.3	#N/A	#N/A	5.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	28	#N/A	#N/A	#N/A	#N/A
Cooper Street	Harbour St	15	1256	946	1258	1500	1255			0.4	9.3	#N/A	#N/A	15.8	#N/A	#N/A	#N/A	#N/A	15.7	#N/A	#N/A	#N/A	45.8	44.2	#N/A	#N/A	#N/A
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	32.3	#N/A	#N/A	#N/A	78.6	102.8	101.5	#N/A	#N/A
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Lakeshore EB	18	1259	0	1115	1269	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	52.3	#N/A	#N/A	#N/A	101.2	100	90.9	#N/A	#N/A
New Street	Zones 122&251	19	1269	1259	1267	1257	949			16.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	42.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Harbour St	20	1257	1269	684	1116	1258			32.2	#N/A	#N/A	#N/A	15	#N/A	#N/A	#N/A	#N/A	38.7	#N/A	#N/A	#N/A	42.9	47.8	#N/A	#N/A	#N/A
New Street	Zones 250&212	21	1116	1257	1117	1231	1266			6.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	4.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Queens Quay E	22	1231	1116	1510	0	1232			13.7	#N/A	#N/A	#N/A	21.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	14.5	#N/A	#N/A	#N/A	#N/A
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			10.5	82	#N/A	#N/A	35.5	32.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	52.7	22.9	#N/A	#N/A	#N/A
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			24.8	20.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	74.7	46.4	#N/A	#N/A	50.1	56.2	#N/A	#N/A	#N/A
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			10	21	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	90.1	81.9	#N/A	#N/A	33.7	36.2	85.5	96.1	46.2
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		22.3	23.3	#N/A	#N/A	33	269.6	32.6	27.9	#N/A	14.4	19.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Jarvis	Front	27	660	1037	383	661	654	655		58.6	55.8	#N/A	#N/A	29.8	29.8	17.4	#N/A	#N/A	55.9	57.9	#N/A	#N/A	32.6	20.6	45	#N/A	#N/A
Church	Front	28	653	904	194	974	563	654	905	52.7	34	#N/A	#N/A	14.5	28.8	28.5	15	#N/A	18.8	105.2	#N/A	#N/A	4.6	40.7	39.4	39	#N/A
Yonge	Front	29	3	666	561	423	559			46.5	41.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	44.1	18.8	23.5	#N/A	73.4	50.9	36.3	#N/A	#N/A
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	#N/A	0.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	18.8	#N/A	#N/A	#N/A	#N/A
Harbour St	Zone 217	31	911	918	11	0	448			32.9	#N/A	#N/A	#N/A	30.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	35.1	27.3	25.9	#N/A	#N/A
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	140.7	119.1	16.5	26.3	#N/A	47.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
York	Queens Quay E	34	324	689	239	13	725			5.7	23.8	21	#N/A	30.2	40.6	16	#N/A	#N/A	42.8	24.1	#N/A	#N/A	20.8	24.2	#N/A	#N/A	#N/A
York	Harbour	35	448	446	911	689	10			59.2	86	#N/A	#N/A	107.5	#N/A	#N/A	#N/A	#N/A	42.3	40.6	#N/A	#N/A	67.2	20.6	37.9	73.5	#N/A
York	Lakeshore WB	36	446	451	705	448	73	707		85.6	67.6	#N/A	#N/A	132.2	120.7	53.9	38.5	62	82.9	52	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	2.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			32.2	20.2	#N/A	#N/A	53.7	18.1	#N/A	#N/A	#N/A	34.8	1.8	#N/A	#N/A	16.7	21.2	#N/A	#N/A	#N/A
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		4.3	41.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	33.8	19.2	#N/A	#N/A	7.9	17	17.7	#N/A	#N/A
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			70	46.3	#N/A	#N/A	16.9	10	10.4	#N/A	#N/A	3.2	13.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Esplanade	Yonge	41	332	423	564	348	0			57.5	43.6	29	#N/A	70.7	#N/A	#N/A	#N/A	#N/A	81.9	53	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Esplanade	Church	42	974	653	1182	916	564			81.6	#N/A	#N/A	#N/A	61	#N/A	#N/A	#N/A	#N/A	47.8	35.4	#N/A	#N/A	107.1	#N/A	#N/A	#N/A	#N/A

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

APPENDIX B

Traffic Signal Warrants

Traffic Signal Warrant Analysis

DRAFT - FOR REVIEW

Based on the Ontario Traffic Mannual Book 12

Project Name:	Lower Yonge
Project Number.:	15M-00267-01 TP1
Analyst:	Jacob Louie
Date:	Friday, March 24, 2017
Major Street:	Harbour Street
Minor Street:	Freeland Street
Comments:	Sample

Free Flow - Rural (FF) or Restricted Flow - Urban (Res)	RES
Major Street Approach Lanes (Per Direction):	2 or More
Three or four legged intersection (3 or 4)	4
Future Condition (YES or NO):	Yes
New Intersection (YES or NO):	Yes

Justification 1 (Minimum Vehicle Volume)*

A (All Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	1440	1200	720	600	1350
Percent Compliance	-	-	53%	44%	-
				Sectional Percentage	53%

B (Minor Street Both Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	255	217.2	127	109	255
Percent Compliance	-	-	50%	43%	-
				Sectional Percentage	50%
				Entire Justification 1 Percentage	**50%**

Justification 2 (Delay Cross Traffic)*

A (Major Street Both Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	1185	983.2	593	492	1350
Percent Compliance	-	-	44%	36%	-
				Sectional Percentage	**44%**

B (Traffic Crossing Major Street)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	93	71.5	47	36	113
Percent Compliance	-	-	41%	32%	-
				Sectional Percentage	41%
				Entire Justification 2 Percentage	**41%**

** Includes Justification 3 and 7*

Are signals warranted at the intersection of Harbour Street/Freeland Street? NO

All way Stop Warrant (Major Roads)

Conditions	
1.	Vehicles > 500 on all intersection approaches
2.	Delay > 30 seconds and Minor Street > 200
3.	Volume Split 70/30 or less

Intersection:	Harbour and Freeland
Date Taken:	Future Projections

Hours Ending	Total Vehicles	Minor Street Volumes	Volume Split of Minor Street
7:00	659	117	17.75%
8:00	659	117	17.75%
9:00	659	117	17.75%
12:00	659	117	17.75%
13:00	659	117	17.75%
16:00	659	117	17.75%
17:00	659	117	17.75%
18:00	659	117	17.75%
Met Conditions?	YES	NO	NO

All-way Stop Justified?	NO

All way Stop Warrant (Minor Roads)

Conditions	
1.	Vehicles > 350 on all intersection approaches
2.	Volume split 75/25 (3-way) or 65/35 (4-way)

Intersection:	Harbour and Freeland
Date Taken:	Future Projections

Peak Hour	Total Vehicles	Volume Split
0:00	1,440	82.31%
Met Conditions?	YES	NO

All-way Stop Justified?	NO

Traffic Signal Warrant Analysis

DRAFT - FOR REVIEW

Based on the Ontario Traffic Manual Book 12

Project Name:	Lower Yonge
Project Number.:	15M-00267-01 TP1
Analyst:	Jacob Louie
Date:	Friday, March 24, 2017
Major Street:	Harbour Street
Minor Street:	Cooper Street
Comments:	Sample

Free Flow - Rural (FF) or Restricted Flow - Urban (Res)	RES
Major Street Approach Lanes (Per Direction):	2 or More
Three or four legged intersection (3 or 4)	4
Future Condition (YES or NO):	Yes
New Intersection (YES or NO):	Yes

Justification 1 (Minimum Vehicle Volume)*

A (All Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	1044	774	522	387	1350
Percent Compliance	-	-	39%	29%	-
				Sectional Percentage	39%

B (Minor Street Both Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	88	60.1	44	30	255
Percent Compliance	-	-	17%	12%	-
				Sectional Percentage	17%
				Entire Justification 1 Percentage	**17%**

Justification 2 (Delay Cross Traffic)*

A (Major Street Both Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	956	713.6	478	357	1350
Percent Compliance	-	-	35%	26%	-
				Sectional Percentage	**35%**

B (Traffic Crossing Major Street)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	51	34.9	25	17	113
Percent Compliance	-	-	22%	16%	-
				Sectional Percentage	22%
				Entire Justification 2 Percentage	**22%**

** Includes Justification 3 and 7*

Are signals warranted at the intersection of Harbour Street/Cooper Street? NO

All way Stop Warrant (Major Roads)

Conditions	
1.	Vehicles > 500 on all intersection approaches
2.	Delay > 30 seconds and Minor Street > 200
3.	Volume Split 70/30 or less

Intersection:	Harbour and Cooper Streets
Date Taken:	Future Projections

Hours Ending	Total Vehicles	Minor Street Volumes	Volume Split of Minor Street
7:00	455	38	8.35%
8:00	455	38	8.35%
9:00	455	38	8.35%
12:00	455	38	8.35%
13:00	455	38	8.35%
16:00	455	38	8.35%
17:00	455	38	8.35%
18:00	455	38	8.35%
Met Conditions?	NO	NO	NO

All-way Stop Justified?	NO

All way Stop Warrant (Minor Roads)

Conditions	
1.	Vehicles > 350 on all intersection approaches
2.	Volume split 75/25 (3-way) or 65/35 (4-way)

Intersection:	Harbour and Cooper Streets
Date Taken:	Future Projections

Peak Hour	Total Vehicles	Volume Split
0:00	1,044	91.61%
Met Conditions?	YES	NO

All-way Stop Justified?	NO

Traffic Signal Warrant Analysis

DRAFT - FOR REVIEW

Based on the Ontario Traffic Mannual Book 12

Project Name:	Lower Yonge
Project Number.:	15M-00267-01 TP1
Analyst:	Jacob Louie
Date:	Friday, March 24, 2017
Major Street:	Harbour Street
Minor Street:	New Street
Comments:	0

Free Flow - Rural (FF) or Restricted Flow - Urban (Res)	RES
Major Street Approach Lanes (Per Direction):	2 or More
Three or four legged intersection (3 or 4)	4
Future Condition (YES or NO):	Yes
New Intersection (YES or NO):	Yes

Justification 1 (Minimum Vehicle Volume)*

A (All Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	1060	781	530	391	1350
Percent Compliance	-	-	39%	29%	-
				Sectional Percentage	39%

B (Minor Street Both Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	146	168.9	73	84	255
Percent Compliance	-	-	29%	33%	-
				Sectional Percentage	33%
				Entire Justification 1 Percentage	**33%**

Justification 2 (Delay Cross Traffic)*

A (Major Street Both Approaches)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	914	612.4	457	306	1350
Percent Compliance	-	-	34%	23%	-
				Sectional Percentage	**34%**

B (Traffic Crossing Major Street)

	AM PHV	PM PHV	AM AHV	PM AHV	Threshold
Volume	67	84.6	34	42	113
Percent Compliance	-	-	30%	38%	-
				Sectional Percentage	38%
				Entire Justification 2 Percentage	**34%**

** Includes Justification 3 and 7*

Are signals warranted at the intersection of Harbour Street/New Street? NO

J:\01 PROJECTS\2015 jobs\16-15113-001 (Lower Yonge)\Transportation\03 Working Files\Modelling\Paramics\Scen 2 - City Preferred\Signal and Stop Control Warrants\Harbour and New Traffic Signal warrants.xlsx

All way Stop Warrant (Major Roads)

Conditions	
1.	Vehicles > 500 on all intersection approaches
2.	Delay > 30 seconds and Minor Street > 200
3.	Volume Split 70/30 or less

Intersection:	Harbour and New Streets
Date Taken:	Future Projections

Hours Ending	Total Vehicles	Minor Street Volumes	Volume Split of Minor Street
7:00	459	79	17.21%
8:00	459	79	17.21%
9:00	459	79	17.21%
12:00	459	79	17.21%
13:00	459	79	17.21%
16:00	459	79	17.21%
17:00	459	79	17.21%
18:00	459	79	17.21%
Met Conditions?	NO	NO	NO

All-way Stop Justified?	NO

All way Stop Warrant (Minor Roads)

Conditions	
1.	Vehicles > 350 on all intersection approaches
2.	Volume split 75/25 (3-way) or 65/35 (4-way)

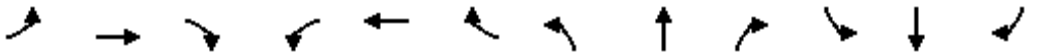
Intersection:	Harbour and New Streets
Date Taken:	Future Projections

Peak Hour	Total Vehicles	Volume Split
0:00	1,060	86.22%
Met Conditions?	YES	NO

All-way Stop Justified?	NO

APPENDIX C

Scenario 2 Synchro Outputs

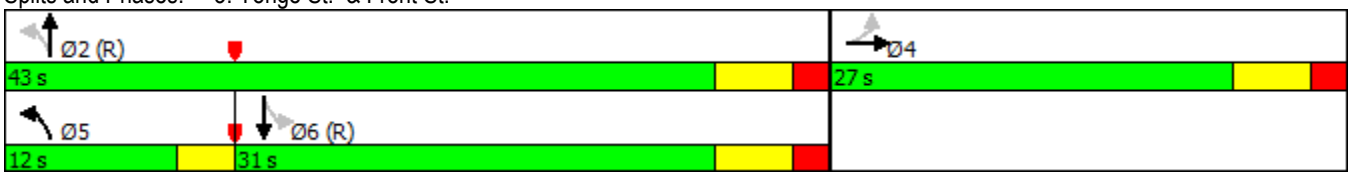


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	148	430	74	0	0	0	242	946	334	9	362	258
Future Volume (vph)	148	430	74	0	0	0	242	946	334	9	362	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	50.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.978						0.961			0.938	
Flt Protected	0.950						0.950				0.999	
Satd. Flow (prot)	1750	3423	0	0	0	0	1750	3363	0	0	3280	0
Flt Permitted	0.950						0.292				0.928	
Satd. Flow (perm)	1750	3423	0	0	0	0	538	3363	0	0	3047	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29						111			272	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		206.2			315.8			221.6			118.7	
Travel Time (s)		14.8			22.7			16.0			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	156	453	78	0	0	0	255	996	352	9	381	272
Shared Lane Traffic (%)												
Lane Group Flow (vph)	156	531	0	0	0	0	255	1348	0	0	662	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1					1	1		1	1	
Detector Template	Left	Thru					Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5					17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5					12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5					12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0					5.0	9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA					pm+pt	NA		Perm	NA	
Protected Phases		4					5	2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4					5	2		6	6	
Switch Phase												
Minimum Initial (s)	21.0	21.0					9.0	25.0		25.0	25.0	
Minimum Split (s)	27.0	27.0					12.0	31.0		31.0	31.0	
Total Split (s)	27.0	27.0					12.0	43.0		31.0	31.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%					17.1%	61.4%		44.3%	44.3%	
Maximum Green (s)	21.0	21.0					9.0	37.0		25.0	25.0	
Yellow Time (s)	4.0	4.0					3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0					-1.0	-1.0			-1.0	
Total Lost Time (s)	5.0	5.0					2.0	5.0			5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					None	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0						12.0		12.0	12.0	
Flash Dont Walk (s)	11.0	11.0						13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)	22.0	22.0					41.0	38.0			26.0	
Actuated g/C Ratio	0.31	0.31					0.59	0.54			0.37	
v/c Ratio	0.28	0.48					0.52	0.72			0.51	
Control Delay	19.8	20.1					11.2	13.6			22.0	
Queue Delay	0.0	0.0					0.0	0.0			0.0	
Total Delay	19.8	20.1					11.2	13.6			22.0	
LOS	B	C					B	B			C	
Approach Delay		20.0						13.2			22.0	
Approach LOS		C						B			C	

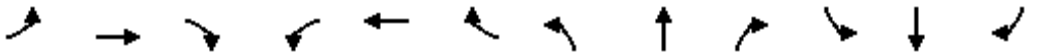
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 66 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 87.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Yonge St. & Front St.



Lane Group	EBL	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	156	531	255	1348	662
v/c Ratio	0.28	0.48	0.52	0.72	0.51
Control Delay	19.8	20.1	11.2	13.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	20.1	11.2	13.6	22.0
Queue Length 50th (m)	15.2	27.5	14.5	58.4	28.2
Queue Length 95th (m)	28.7	40.8	25.1	81.1	40.0
Internal Link Dist (m)		182.2		197.6	94.7
Turn Bay Length (m)	35.0		50.0		
Base Capacity (vph)	550	1095	488	1876	1302
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.48	0.52	0.72	0.51

Intersection Summary

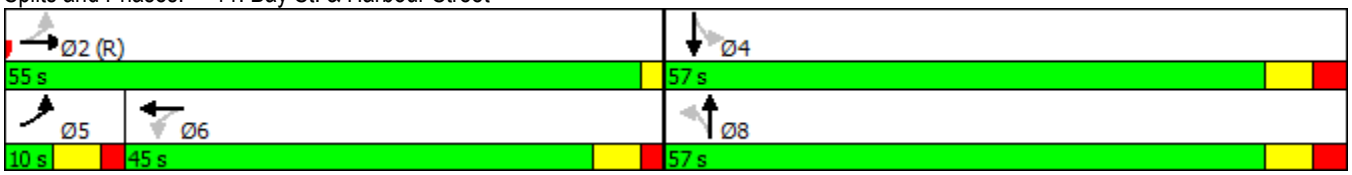


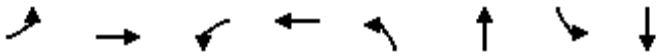
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	244	1202	57	14	50	82	5	184	62	43	176	124
Future Volume (vph)	244	1202	57	14	50	82	5	184	62	43	176	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	30.0		30.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	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	0.99		0.48	0.93		0.81	0.63	
Frt		0.993			0.907			0.962			0.938	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3449	0	1652	1652	0	1652	1642	0	1652	1084	0
Flt Permitted	0.616			0.190			0.419			0.497		
Satd. Flow (perm)	1130	3449	0	324	1652	0	352	1642	0	703	1084	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			82			18			42	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		290.5			113.2			126.3			48.5	
Travel Time (s)		20.9			8.2			9.1			3.5	
Confl. Peds. (#/hr)	3		125	125		3	1078		203	203		1078
Peak Hour 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
Adj. Flow (vph)	244	1202	57	14	50	82	5	184	62	43	176	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	244	1259	0	14	132	0	5	246	0	43	300	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)		3.5			3.5			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.09	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	37.0		4.0	4.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	10.0	53.0		22.0	22.0		31.0	31.0		31.0	31.0	
Total Split (s)	10.0	55.0		45.0	45.0		57.0	57.0		57.0	57.0	
Total Split (%)	8.9%	49.1%		40.2%	40.2%		50.9%	50.9%		50.9%	50.9%	
Maximum Green (s)	4.0	53.0		39.0	39.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	2.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	0.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	1.0		5.0	5.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	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	C-Max		None	None		None	None		None	None	
Walk Time (s)		37.0		5.0	5.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)		9.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	66.4	70.4		50.3	50.3		34.6	34.6		34.6	34.6	
Actuated g/C Ratio	0.59	0.63		0.45	0.45		0.31	0.31		0.31	0.31	
v/c Ratio	0.33	0.58		0.10	0.17		0.05	0.47		0.20	0.83	
Control Delay	12.2	12.9		25.7	10.5		16.6	20.2		22.5	41.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.2	
Total Delay	12.2	12.9		25.7	10.5		16.6	20.2		22.5	41.9	
LOS	B	B		C	B		B	C		C	D	
Approach Delay		12.8			11.9			20.1			39.5	
Approach LOS		B			B			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 89.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Bay St. & Harbour Street





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	244	1259	14	132	5	246	43	300
v/c Ratio	0.33	0.58	0.10	0.17	0.05	0.47	0.20	0.83
Control Delay	12.2	12.9	25.7	10.5	16.6	20.2	22.5	41.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	12.2	12.9	25.7	10.5	16.6	20.2	22.5	41.9
Queue Length 50th (m)	23.5	68.6	1.8	6.3	0.4	19.4	6.4	59.2
Queue Length 95th (m)	m35.5	85.8	7.1	20.2	m0.8	m19.7	m11.1	85.1
Internal Link Dist (m)		266.5		89.2		102.3		24.5
Turn Bay Length (m)			30.0		30.0		30.0	
Base Capacity (vph)	731	2168	145	787	160	757	320	516
Starvation Cap Reductn	0	0	0	0	0	0	0	20
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.58	0.10	0.17	0.03	0.32	0.13	0.60

Intersection Summary

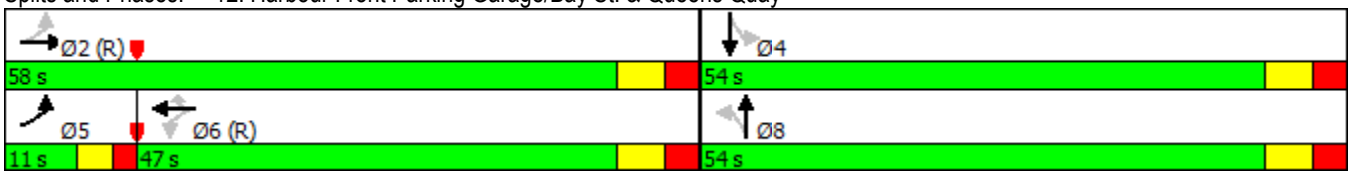
m Volume for 95th percentile queue is metered by upstream signal.

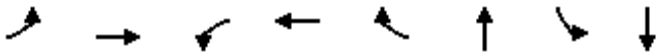
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	143	30	11	129	13	202	178	37	43	141	49
Future Volume (vph)	62	143	30	11	129	13	202	178	37	43	141	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	15.0			15.0			15.0			15.0		
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	0.76	0.96		0.85		0.68		0.91		0.84	0.96	
Frt		0.974				0.850		0.988			0.961	
Flt Protected	0.950			0.950				0.976		0.950		
Satd. Flow (prot)	1652	1731	0	1652	1842	1478	0	1716	0	1652	1694	0
Flt Permitted	0.622			0.648				0.714		0.508		
Satd. Flow (perm)	823	1731	0	961	1842	1001	0	1184	0	742	1694	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13				88		5			20	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		294.0			189.2			54.2			126.3	
Travel Time (s)		21.2			13.6			3.9			9.1	
Confl. Peds. (#/hr)	149		90	90		149	136		191	191		136
Peak Hour 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
Adj. Flow (vph)	62	143	30	11	129	13	202	178	37	43	141	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	173	0	11	129	13	0	417	0	43	190	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)		3.5			3.5			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	38.0		27.0	27.0	27.0	29.0	29.0		29.0	29.0	
Minimum Split (s)	11.0	45.0		34.0	34.0	34.0	36.0	36.0		36.0	36.0	
Total Split (s)	11.0	58.0		47.0	47.0	47.0	54.0	54.0		54.0	54.0	
Total Split (%)	9.8%	51.8%		42.0%	42.0%	42.0%	48.2%	48.2%		48.2%	48.2%	
Maximum Green (s)	6.0	51.0		40.0	40.0	40.0	47.0	47.0		47.0	47.0	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	4.0	6.0		6.0	6.0	6.0		6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	Min	Min		Min	Min	
Walk Time (s)		15.0		15.0	15.0	15.0	14.0	14.0		14.0	14.0	
Flash Dont Walk (s)		12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	59.1	57.1		48.1	48.1	48.1		42.9		42.9	42.9	
Actuated g/C Ratio	0.53	0.51		0.43	0.43	0.43		0.38		0.38	0.38	
v/c Ratio	0.13	0.19		0.03	0.16	0.03		0.91		0.15	0.29	
Control Delay	15.6	15.8		23.0	23.1	0.1		57.5		14.8	13.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	15.6	15.8		23.0	23.1	0.1		57.5		14.8	13.2	
LOS	B	B		C	C	A		E		B	B	
Approach Delay		15.8			21.2			57.5			13.5	
Approach LOS		B			C			E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 32.8		Intersection LOS: C	
Intersection Capacity Utilization 114.9%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 12: Harbour Front Parking Garage/Bay St. & Queens Quay





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	62	173	11	129	13	417	43	190
v/c Ratio	0.13	0.19	0.03	0.16	0.03	0.91	0.15	0.29
Control Delay	15.6	15.8	23.0	23.1	0.1	57.5	14.8	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	15.8	23.0	23.1	0.1	57.5	14.8	13.2
Queue Length 50th (m)	6.8	19.3	1.5	18.7	0.0	80.8	3.2	11.9
Queue Length 95th (m)	14.5	33.9	5.4	32.9	0.0	#132.3	m7.7	28.1
Internal Link Dist (m)		270.0		165.2		30.2		102.3
Turn Bay Length (m)	30.0		30.0		30.0		30.0	
Base Capacity (vph)	486	888	412	791	480	510	318	737
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.19	0.03	0.16	0.03	0.82	0.14	0.26

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)	422	711	28	19	34	150	8	61	53	271	26	53
Future Volume (vph)	422	711	28	19	34	150	8	61	53	271	26	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		1.00				0.98		0.83			0.74	
Frt		0.996				0.850		0.941			0.977	
Flt Protected		0.982			0.982			0.997			0.963	
Satd. Flow (prot)	0	3416	0	0	1809	1566	0	1471	0	0	3013	0
Flt Permitted		0.816			0.687			0.972			0.686	
Satd. Flow (perm)	0	2835	0	0	1265	1541	0	1406	0	0	1731	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				119		35			18	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		86.1			151.2			128.1			141.9	
Travel Time (s)		6.2			10.9			9.2			10.2	
Confl. Peds. (#/hr)	2		39	39		2	228		243	243		228
Peak Hour 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
Adj. Flow (vph)	422	711	28	19	34	150	8	61	53	271	26	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1161	0	0	53	150	0	122	0	0	350	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			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	24.0	24.0		24.0	24.0	
Total Split (s)	75.0	75.0		75.0	75.0	75.0	45.0	45.0		45.0	45.0	
Total Split (%)	62.5%	62.5%		62.5%	62.5%	62.5%	37.5%	37.5%		37.5%	37.5%	
Maximum Green (s)	69.0	69.0		69.0	69.0	69.0	39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		70.0			70.0	70.0		40.0			40.0	
Actuated g/C Ratio		0.58			0.58	0.58		0.33			0.33	
v/c Ratio		0.70			0.07	0.16		0.25			0.88dl	
Control Delay		20.5			11.3	3.5		22.1			38.1	
Queue Delay		1.0			0.0	0.1		0.0			0.0	
Total Delay		21.5			11.3	3.6		22.1			38.1	
LOS		C			B	A		C			D	
Approach Delay		21.5			5.6			22.1			38.1	
Approach LOS		C			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 22.9		Intersection LOS: C	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			

Splits and Phases: 16: Yonge St. & Harbour Street

Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1161	53	150	122	350
v/c Ratio	0.70	0.07	0.16	0.25	0.88dl
Control Delay	20.5	11.3	3.5	22.1	38.1
Queue Delay	1.0	0.0	0.1	0.0	0.0
Total Delay	21.5	11.3	3.6	22.1	38.1
Queue Length 50th (m)	95.8	5.1	2.9	14.5	39.6
Queue Length 95th (m)	120.8	10.9	11.6	29.5	m50.7
Internal Link Dist (m)	62.1	127.2		104.1	117.9
Turn Bay Length (m)			30.0		
Base Capacity (vph)	1655	737	948	492	589
Starvation Cap Reductn	154	0	0	0	0
Spillback Cap Reductn	244	0	266	5	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.82	0.07	0.22	0.25	0.59

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

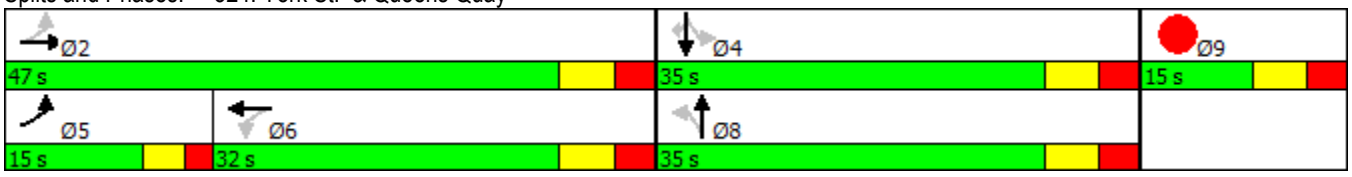
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	63	0	44	202	201	20	155	40	82	268	64
Future Volume (vph)	117	63	0	44	202	201	20	155	40	82	268	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	0		0	0		0	0		0	1		1
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.933			0.975				0.850
Flt Protected		0.969			0.995			0.995		0.950		
Satd. Flow (prot)	0	3391	0	0	3249	0	0	1787	0	1750	1842	1566
Flt Permitted		0.596			0.903			0.953		0.552		
Satd. Flow (perm)	0	2086	0	0	2949	0	0	1712	0	1017	1842	1566
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					201			12				180
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		219.8			294.0			33.7			130.9	
Travel Time (s)		15.8			21.2			2.4			9.4	
Peak Hour 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
Adj. Flow (vph)	117	63	0	44	202	201	20	155	40	82	268	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	180	0	0	447	0	0	215	0	82	268	64
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	7.5
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	25.0		25.0	25.0		28.0	28.0		28.0	28.0	28.0
Minimum Split (s)	11.0	32.0		32.0	32.0		35.0	35.0		35.0	35.0	35.0
Total Split (s)	15.0	47.0		32.0	32.0		35.0	35.0		35.0	35.0	35.0

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (m)	
Storage Lanes	
Taper Length (m)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	8.0
Minimum Split (s)	15.0
Total Split (s)	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.5%	48.5%		33.0%	33.0%		36.1%	36.1%		36.1%	36.1%	36.1%
Maximum Green (s)	10.0	40.0		25.0	25.0		28.0	28.0		28.0	28.0	28.0
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)		6.0			6.0			6.0		6.0	6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max		Max	Max		None	None		None	None	None
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)		41.0			41.0			29.0		29.0	29.0	29.0
Actuated g/C Ratio		0.42			0.42			0.30		0.30	0.30	0.30
v/c Ratio		0.20			0.33			0.41		0.27	0.49	0.11
Control Delay		18.5			10.6			28.6		29.0	31.5	0.4
Queue Delay		0.0			0.0			0.0		0.0	0.0	0.0
Total Delay		18.5			10.6			28.6		29.0	31.5	0.4
LOS		B			B			C		C	C	A
Approach Delay		18.5			10.6			28.6			26.2	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 97			
Actuated Cycle Length: 97			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 20.0		Intersection LOS: B	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 324: York St. & Queens Quay

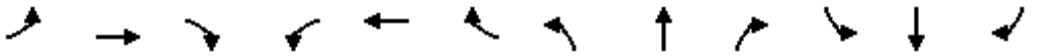


Lane Group	Ø9
Total Split (%)	15%
Maximum Green (s)	8.0
Yellow Time (s)	4.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBT	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	180	447	215	82	268	64
v/c Ratio	0.20	0.33	0.41	0.27	0.49	0.11
Control Delay	18.5	10.6	28.6	29.0	31.5	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	10.6	28.6	29.0	31.5	0.4
Queue Length 50th (m)	10.9	14.9	30.2	11.7	41.1	0.0
Queue Length 95th (m)	18.2	25.6	50.6	24.1	64.6	0.0
Internal Link Dist (m)	195.8	270.0	9.7		106.9	
Turn Bay Length (m)				20.0		
Base Capacity (vph)	881	1362	520	304	550	594
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.33	0.41	0.27	0.49	0.11

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	789	17	0	0	0	0	0	55	0	0	0
Future Volume (vph)	0	789	17	0	0	0	0	0	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997							0.865			
Flt Protected												
Satd. Flow (prot)	0	5014	0	0	5029	0	0	0	1593	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	5014	0	0	5029	0	0	0	1593	0	0	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		93.7			109.3			46.7			133.0	
Travel Time (s)		6.7			7.9			3.4			9.6	
Peak Hour 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
Adj. Flow (vph)	0	789	17	0	0	0	0	0	55	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	806	0	0	0	0	0	0	55	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

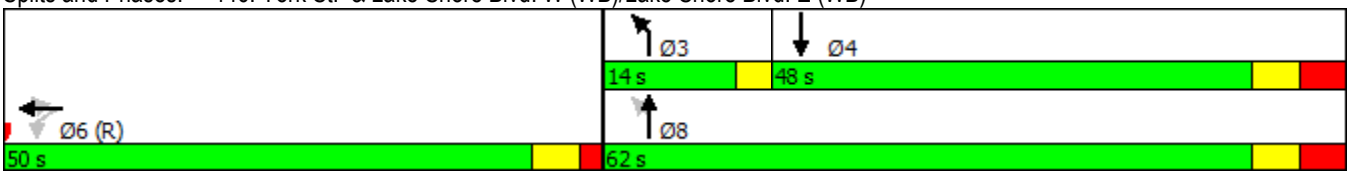
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.7%		ICU Level of Service A	
Analysis Period (min) 15			

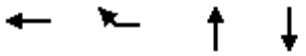
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	166	535	157	29	855	302	24
Future Volume (vph)	166	535	157	29	855	302	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.88	0.95	0.95	0.95	0.95
Frt			0.850			0.989	
Flt Protected		0.988			0.998		
Satd. Flow (prot)	0	4968	2756	0	3493	3461	0
Flt Permitted		0.988			0.935		
Satd. Flow (perm)	0	4968	2756	0	3272	3461	0
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (k/h)		50			50	50	
Link Distance (m)		93.2			63.0	159.0	
Travel Time (s)		6.7			4.5	11.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	166	535	157	29	855	302	24
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	701	157	0	884	326	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Left	Right
Median Width(m)		0.0			0.0	3.5	
Link Offset(m)		0.0			0.0	0.0	
Crosswalk Width(m)		1.6			1.6	1.6	
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24			14
Number of Detectors	1	1	1	1	1	1	
Detector Template	Left	Thru	Right	Left	Thru	Thru	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA	Perm	pm+pt	NA	NA	
Protected Phases		6		3	8	4	
Permitted Phases	6		6	8			
Detector Phase	6	6	6	3	8	4	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	11.0	10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	14.0	38.0	38.0	
Total Split (s)	50.0	50.0	50.0	14.0	62.0	48.0	
Total Split (%)	44.6%	44.6%	44.6%	12.5%	55.4%	42.9%	
Maximum Green (s)	44.0	44.0	44.0	11.0	54.0	40.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
All-Red Time (s)	2.0	2.0	2.0	0.0	4.0	4.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0	5.0		7.0	7.0	
Lead/Lag				Lead		Lag	
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	Max	Max	Max	
Walk Time (s)	4.0	4.0	4.0		10.0	10.0	
Flash Dont Walk (s)	15.0	15.0	15.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	
Act Effct Green (s)		45.0	45.0		55.0	41.0	
Actuated g/C Ratio		0.40	0.40		0.49	0.37	
v/c Ratio		0.35	0.14		0.55	0.26	
Control Delay		12.7	12.1		17.2	16.9	
Queue Delay		0.0	0.0		11.2	0.0	
Total Delay		12.7	12.1		28.4	16.9	
LOS		B	B		C	B	
Approach Delay		12.6			28.4	16.9	
Approach LOS		B			C	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 26 (23%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			

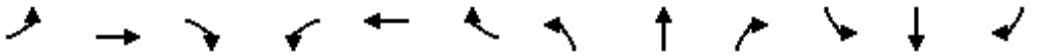
Splits and Phases: 446: York St. & Lake Shore Blvd. W (WB)/Lake Shore Blvd. E (WB)





Lane Group	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	701	157	884	326
v/c Ratio	0.35	0.14	0.55	0.26
Control Delay	12.7	12.1	17.2	16.9
Queue Delay	0.0	0.0	11.2	0.0
Total Delay	12.7	12.1	28.4	16.9
Queue Length 50th (m)	16.8	5.6	49.0	15.2
Queue Length 95th (m)	20.4	9.0	63.9	23.7
Internal Link Dist (m)	69.2		39.0	135.0
Turn Bay Length (m)				
Base Capacity (vph)	1996	1107	1620	1266
Starvation Cap Reductn	0	0	714	0
Spillback Cap Reductn	147	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.14	0.98	0.26

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	676	1496	108	0	0	41	0	354	114	152	310	0
Future Volume (vph)	676	1496	108	0	0	41	0	354	114	152	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Frt		0.990				0.865		0.963				
Flt Protected	0.950										0.984	
Satd. Flow (prot)	1750	4979	0	0	0	1593	0	3370	0	0	3444	0
Flt Permitted	0.950										0.572	
Satd. Flow (perm)	1750	4979	0	0	0	1593	0	3370	0	0	2002	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				348		34				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.3			290.5			130.9			63.0	
Travel Time (s)		12.3			20.9			9.4			4.5	
Peak Hour 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
Adj. Flow (vph)	676	1496	108	0	0	41	0	354	114	152	310	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	676	1604	0	0	0	41	0	468	0	0	462	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1				1		1		1	1	
Detector Template	Left	Thru				Right		Thru		Left	Thru	
Leading Detector (m)	17.0	7.5				7.5		7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5				-1.5		-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5				-1.5		-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0				9.0		9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA				Perm		NA		pm+pt	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2					6				4		
Detector Phase	2	2				6		8		7	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0				4.0		12.0		7.0	12.0	
Minimum Split (s)	44.0	44.0				22.0		28.0		11.0	28.0	
Total Split (s)	73.0	73.0				22.0		28.0		11.0	39.0	
Total Split (%)	65.2%	65.2%				19.6%		25.0%		9.8%	34.8%	
Maximum Green (s)	67.0	67.0				16.0		20.0		7.0	31.0	
Yellow Time (s)	4.0	4.0				4.0		4.0		2.0	4.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0				2.0		4.0		2.0	4.0	
Lost Time Adjust (s)	-1.0	-1.0				-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0				5.0		7.0			7.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0				3.0		3.0		3.0	3.0	
Recall Mode	C-Max	C-Max				None		Max		Max	Max	
Walk Time (s)	24.0	24.0				5.0		8.0			8.0	
Flash Dont Walk (s)	14.0	14.0				11.0		12.0			12.0	
Pedestrian Calls (#/hr)	0	0				0		0			0	
Act Effct Green (s)	68.0	68.0				68.0		21.0			32.0	
Actuated g/C Ratio	0.61	0.61				0.61		0.19			0.29	
v/c Ratio	0.64	0.53				0.04		0.71			0.74	
Control Delay	16.7	13.0				0.0		46.2			40.3	
Queue Delay	1.1	0.0				0.0		0.1			54.6	
Total Delay	17.8	13.0				0.0		46.3			94.9	
LOS	B	B				A		D			F	
Approach Delay		14.4						46.3			94.9	
Approach LOS		B						D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 30.3		Intersection LOS: C	
Intersection Capacity Utilization 79.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 448: York St. & Harbour Street

Lane Group	EBL	EBT	WBR	NBT	SBT
Lane Group Flow (vph)	676	1604	41	468	462
v/c Ratio	0.64	0.53	0.04	0.71	0.74
Control Delay	16.7	13.0	0.0	46.2	40.3
Queue Delay	1.1	0.0	0.0	0.1	54.6
Total Delay	17.8	13.0	0.0	46.3	94.9
Queue Length 50th (m)	72.4	58.8	0.0	47.3	34.2
Queue Length 95th (m)	108.5	76.6	m0.0	65.2	50.8
Internal Link Dist (m)		146.3		106.9	39.0
Turn Bay Length (m)					
Base Capacity (vph)	1062	3030	1103	659	623
Starvation Cap Reductn	0	0	0	0	234
Spillback Cap Reductn	183	0	209	7	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.77	0.53	0.05	0.72	1.19

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	499	7	111	882	67	8	335	34	46	111	373
Future Volume (vph)	236	499	7	111	882	67	8	335	34	46	111	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0	0.0		0.0		0.0	0.0		0.0
Storage Lanes	1		1	1	3		0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	*0.91	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850		*0.982			0.986			0.894	
Flt Protected	0.950			0.950				0.999			0.996	
Satd. Flow (prot)	1750	3500	1566	1750	*4800	0	0	3447	0	0	3116	0
Flt Permitted	0.950			0.950				0.939			0.876	
Satd. Flow (perm)	1750	3500	1566	1750	*4800	0	0	3240	0	0	2741	0
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			140		140			14				
Link Speed (k/h)		50						50			50	
Link Distance (m)		315.8						118.8			153.5	
Travel Time (s)		22.7						8.6			11.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	248	525	7	117	928	71	8	353	36	48	117	393
Shared Lane Traffic (%)												
Lane Group Flow (vph)	248	525	7	117	999	0	0	397	0	0	558	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5						0.0			0.0	
Link Offset(m)		0.0						0.0			0.0	
Crosswalk Width(m)		1.6						1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24	50	14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	1		1	1	
Detector Template	Left	Thru	Right	Left	Right		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0		5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Split	NA	Perm	Prot	Perm		Perm	NA		Perm	NA	
Protected Phases	4	4		8				2			6	
Permitted Phases			4		8		2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	17.0	17.0		17.0	17.0		17.0	17.0	
Minimum Split (s)	24.0	24.0	24.0	23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	24.0	24.0	24.0	23.0	23.0		23.0	23.0		23.0	23.0	

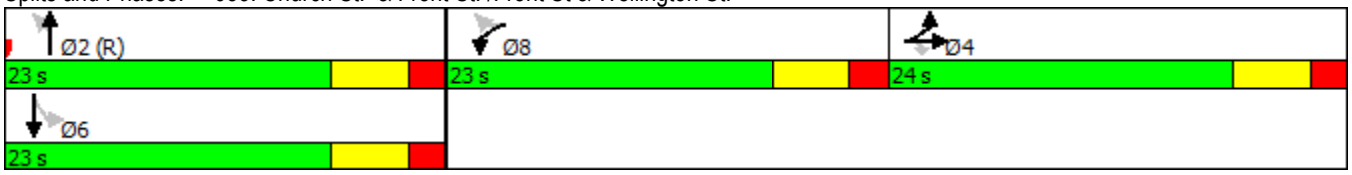
Lane Group	EBL	EBT	EBR	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	34.3%	34.3%	34.3%	32.9%	32.9%		32.9%	32.9%		32.9%	32.9%	
Maximum Green (s)	18.0	18.0	18.0	17.0	17.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	Max	Max		C-Max	C-Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	10.0	10.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	19.0	19.0	19.0	18.0	18.0			18.0			18.0	
Actuated g/C Ratio	0.27	0.27	0.27	0.26	0.26			0.26			0.26	
v/c Ratio	0.52	0.55	0.01	0.26	0.75			0.47			0.96dr	
Control Delay	19.2	17.6	0.0	10.4	11.0			23.4			27.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	19.2	17.6	0.0	10.4	11.0			23.4			27.0	
LOS	B	B	A	B	B			C			C	
Approach Delay		18.0						23.4			27.0	
Approach LOS		B						C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 65 (93%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 84.4%		ICU Level of Service E	
Analysis Period (min) 15			

* User Entered Value

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 653: Church St. & Front St. /Front St & Wellington St.



Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	248	525	7	117	999	397	558
v/c Ratio	0.52	0.55	0.01	0.26	0.75	0.47	0.96dr
Control Delay	19.2	17.6	0.0	10.4	11.0	23.4	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	17.6	0.0	10.4	11.0	23.4	27.0
Queue Length 50th (m)	18.9	21.1	0.0	4.1	8.0	22.2	30.8
Queue Length 95th (m)	m33.3	33.7	m0.0	m6.9	11.7	34.3	#59.7
Internal Link Dist (m)		291.8				94.8	129.5
Turn Bay Length (m)	20.0			25.0			
Base Capacity (vph)	475	950	527	450	1338	843	704
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.55	0.01	0.26	0.75	0.47	0.79

Intersection Summary

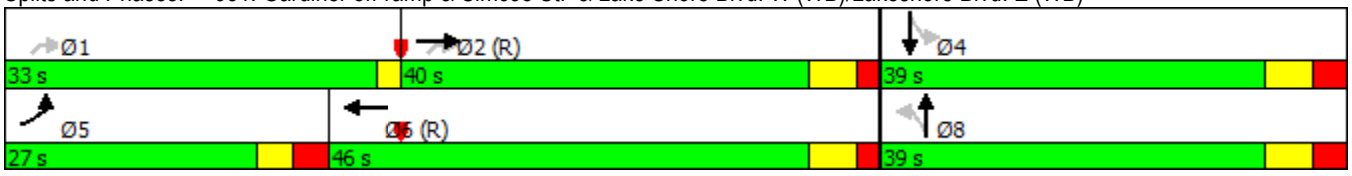
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBT	NER	Ø1
Lane Configurations										
Traffic Volume (vph)	214	875	0	0	188	55	125	40	0	
Future Volume (vph)	214	875	0	0	188	55	125	40	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	0.0			0.0		0.0	0.0		0.0	
Storage Lanes	1			1		0	1		2	
Taper Length (m)	15.0			15.0			15.0			
Lane Util. Factor	1.00	0.95	0.91	1.00	1.00	1.00	1.00	1.00	0.88	
Frt					0.966					
Flt Protected	0.950						0.950			
Satd. Flow (prot)	1750	3500	5029	1842	1779	0	1750	1842	3242	
Flt Permitted	0.950						0.388			
Satd. Flow (perm)	1750	3500	5029	1842	1779	0	715	1842	3242	
Right Turn on Red						Yes				
Satd. Flow (RTOR)					13					
Link Speed (k/h)		50	50		50			50		
Link Distance (m)		242.1	36.5		121.1			219.5		
Travel Time (s)		17.4	2.6		8.7			15.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	214	875	0	0	188	55	125	40	0	
Shared Lane Traffic (%)										
Lane Group Flow (vph)	214	875	0	0	243	0	125	40	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Left	Left	Right	Left	Left	Right	
Median Width(m)		3.5	0.0		7.0			7.0		
Link Offset(m)		0.0	0.0		0.0			0.0		
Crosswalk Width(m)		1.6	1.6		1.6			1.6		
Two way Left Turn Lane										
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24			24		14	24		14	
Number of Detectors	1	1	1	1	1		1	1	1	
Detector Template	Left	Thru	Thru	Left	Thru		Left	Thru	Right	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5		17.0	7.5	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0		5.0	9.0	9.0	
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	Prot	NA		Perm	NA		Perm	NA	Perm	
Protected Phases	5	2	6		8			4		1
Permitted Phases				8			4		1 2	
Detector Phase	5	2	6	8	8		4	4	1 2	
Switch Phase										
Minimum Initial (s)	7.0	8.0	8.0	14.0	14.0		14.0	14.0		8.0
Minimum Split (s)	13.0	26.0	26.0	39.0	39.0		39.0	39.0		10.0
Total Split (s)	27.0	40.0	46.0	39.0	39.0		39.0	39.0		33.0

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBT	NER	Ø1
Total Split (%)	24.1%	35.7%	41.1%	34.8%	34.8%		34.8%	34.8%		29%
Maximum Green (s)	21.0	34.0	40.0	32.0	32.0		32.0	32.0		31.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	3.0	2.0	2.0	3.0	3.0		3.0	3.0		0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0		6.0	6.0		
Lead/Lag	Lead	Lag	Lag							Lead
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	C-Max	C-Max	None	None		None	None		Max
Walk Time (s)		8.0	8.0	8.0	8.0		8.0	8.0		
Flash Dont Walk (s)		12.0	12.0	24.0	24.0		24.0	24.0		
Pedestrian Calls (#/hr)		0	0	0	0		0	0		
Act Effct Green (s)	18.8	35.0			22.2		22.2	22.2		
Actuated g/C Ratio	0.17	0.31			0.20		0.20	0.20		
v/c Ratio	0.73	0.80			0.67		0.89	0.11		
Control Delay	62.2	33.4			47.8		90.2	31.1		
Queue Delay	0.0	0.0			0.1		0.0	0.0		
Total Delay	62.2	33.4			47.9		90.2	31.1		
LOS	E	C			D		F	C		
Approach Delay		39.0			47.9			75.9		
Approach LOS		D			D			E		

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 31 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 44.5		Intersection LOS: D	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

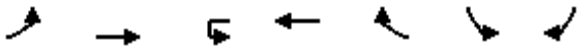
Splits and Phases: 681: Gardiner off-ramp & Simcoe St. & Lake Shore Blvd. W (WB)/Lakeshore Blvd. E (WB)



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	214	875	243	125	40
v/c Ratio	0.73	0.80	0.67	0.89	0.11
Control Delay	62.2	33.4	47.8	90.2	31.1
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	62.2	33.4	47.9	90.2	31.1
Queue Length 50th (m)	39.4	107.9	47.5	28.3	6.7
Queue Length 95th (m)	m44.2	m123.5	66.0	#49.5	13.2
Internal Link Dist (m)		218.1	97.1		195.5
Turn Bay Length (m)					
Base Capacity (vph)	349	1093	533	210	542
Starvation Cap Reductn	0	0	28	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.80	0.48	0.60	0.07

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.

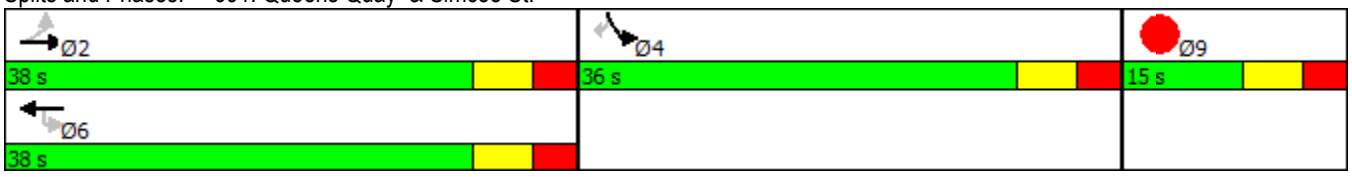


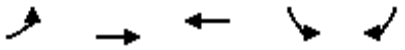
Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR	Ø9
Lane Configurations								
Traffic Volume (vph)	57	83	0	207	12	18	26	
Future Volume (vph)	57	83	0	207	12	18	26	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	55.0		50.0		0.0	0.0	0.0	
Storage Lanes	1		1		0	1	1	
Taper Length (m)	15.0		15.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	1.00	1.00	
Frt				0.992			0.850	
Flt Protected	0.950					0.950		
Satd. Flow (prot)	1750	3500	1842	3472	0	1750	1566	
Flt Permitted	0.615					0.950		
Satd. Flow (perm)	1133	3500	1842	3472	0	1750	1566	
Right Turn on Red					Yes		Yes	
Satd. Flow (RTOR)				7			26	
Link Speed (k/h)		50		50		50		
Link Distance (m)		323.9		219.8		121.1		
Travel Time (s)		23.3		15.8		8.7		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	57	83	0	207	12	18	26	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	57	83	0	219	0	18	26	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right	
Median Width(m)		3.5		3.5		3.5		
Link Offset(m)		0.0		0.0		0.0		
Crosswalk Width(m)		1.6		1.6		1.6		
Two way Left Turn Lane								
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14		14	24	14	
Number of Detectors	1	1	1	1		1	1	
Detector Template	Left	Thru	Left	Thru		Left	Right	
Leading Detector (m)	17.0	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA	Perm	NA		Prot	Perm	
Protected Phases		2		6		4		9
Permitted Phases	2		6				4	
Detector Phase	2	2	6	6		4	4	
Switch Phase								
Minimum Initial (s)	31.0	31.0	31.0	31.0		29.0	29.0	8.0
Minimum Split (s)	38.0	38.0	38.0	38.0		36.0	36.0	15.0
Total Split (s)	38.0	38.0	38.0	38.0		36.0	36.0	15.0

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR	Ø9
Total Split (%)	42.7%	42.7%	42.7%	42.7%		40.4%	40.4%	17%
Maximum Green (s)	31.0	31.0	31.0	31.0		29.0	29.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max		None	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0		0	0	
Act Effct Green (s)	34.1	34.1		34.1		32.0	32.0	
Actuated g/C Ratio	0.46	0.46		0.46		0.43	0.43	
v/c Ratio	0.11	0.05		0.14		0.02	0.04	
Control Delay	19.0	17.3		16.3		20.1	8.5	
Queue Delay	0.0	0.0		0.0		0.0	0.0	
Total Delay	19.0	17.3		16.3		20.1	8.5	
LOS	B	B		B		C	A	
Approach Delay		18.0		16.3		13.2		
Approach LOS		B		B		B		

Intersection Summary			
Area Type:	Other		
Cycle Length: 89			
Actuated Cycle Length: 74.6			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.14			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 81.5%		ICU Level of Service D	
Analysis Period (min) 15			

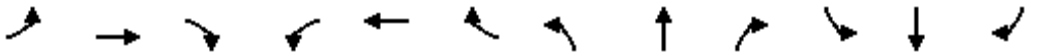
Splits and Phases: 691: Queens Quay & Simcoe St.





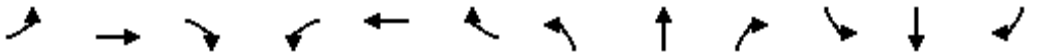
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	57	83	219	18	26
v/c Ratio	0.11	0.05	0.14	0.02	0.04
Control Delay	19.0	17.3	16.3	20.1	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	17.3	16.3	20.1	8.5
Queue Length 50th (m)	6.5	4.8	12.7	2.1	0.0
Queue Length 95th (m)	14.7	9.5	20.6	6.5	5.2
Internal Link Dist (m)		299.9	195.8	97.1	
Turn Bay Length (m)	55.0				
Base Capacity (vph)	518	1600	1591	749	686
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	0.11	0.05	0.14	0.02	0.04

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	719	97	17	95	50	29	21	72	43	10	79
Future Volume (vph)	207	719	97	17	95	50	29	21	72	43	10	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.958				0.850		0.919	
Flt Protected		0.990			0.995			0.972			0.984	
Satd. Flow (prot)	0	3416	0	0	1756	0	0	1790	1566	0	1666	0
Flt Permitted		0.990			0.995			0.972			0.984	
Satd. Flow (perm)	0	3416	0	0	1756	0	0	1790	1566	0	1666	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		151.2			143.9			101.8			172.0	
Travel Time (s)		10.9			10.4			7.3			12.4	
Peak Hour 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
Adj. Flow (vph)	207	719	97	17	95	50	29	21	72	43	10	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1023	0	0	162	0	0	50	72	0	132	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			



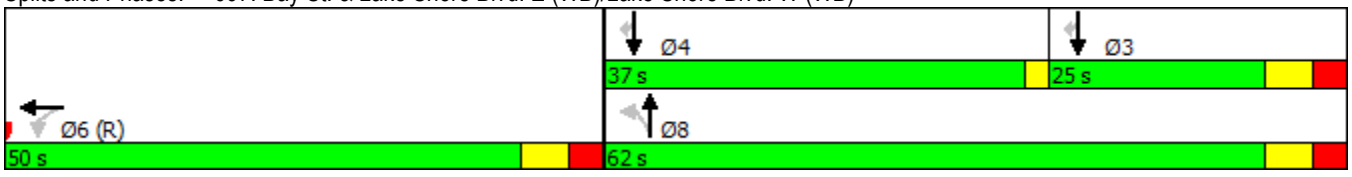
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	169	1094	198	68	439	0	0	176	288
Future Volume (vph)	0	0	0	169	1094	198	68	439	0	0	176	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	0.0		50.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	1.00	0.88
Ped Bike Factor					0.94			0.95				0.64
Frt					0.980							0.850
Flt Protected					0.994			0.993				
Satd. Flow (prot)	0	0	0	0	5914	0	0	3475	0	0	1842	2756
Flt Permitted					0.994			0.878				
Satd. Flow (perm)	0	0	0	0	5799	0	0	2925	0	0	1842	1769
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					42							
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		153.1			169.6			64.6			325.1	
Travel Time (s)		11.0			12.2			4.7			23.4	
Confl. Peds. (#/hr)	171		54	54		171	942		193	193		942
Peak Hour 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
Adj. Flow (vph)	0	0	0	169	1094	198	68	439	0	0	176	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1461	0	0	507	0	0	176	288
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			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1	1		1	1			1	1
Detector Template				Left	Thru		Left	Thru			Thru	Right
Leading Detector (m)				17.0	7.5		17.0	7.5			7.5	7.5
Trailing Detector (m)				12.0	-1.5		12.0	-1.5			-1.5	-1.5
Detector 1 Position(m)				12.0	-1.5		12.0	-1.5			-1.5	-1.5
Detector 1 Size(m)				5.0	9.0		5.0	9.0			9.0	9.0
Detector 1 Type				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
Detector 1 Queue (s)				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
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					6			8			4 3	
Permitted Phases				6			8					4 3
Detector Phase				6	6		8	8			4 3	4 3
Switch Phase												
Minimum Initial (s)				18.0	18.0		14.0	14.0				

Lane Group	Ø3	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	7.0	14.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				25.0	25.0		56.0	56.0				
Total Split (s)				50.0	50.0		62.0	62.0				
Total Split (%)				44.6%	44.6%		55.4%	55.4%				
Maximum Green (s)				43.0	43.0		55.0	55.0				
Yellow Time (s)				4.0	4.0		4.0	4.0				
All-Red Time (s)				3.0	3.0		3.0	3.0				
Lost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0				
Recall Mode				C-Max	C-Max		Max	Max				
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				11.0	11.0		10.0	10.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)					44.0			56.0			61.0	61.0
Actuated g/C Ratio					0.39			0.50			0.54	0.54
v/c Ratio					0.63			0.35			0.18	0.30
Control Delay					28.1			17.1			13.4	14.9
Queue Delay					0.0			0.5			0.0	0.0
Total Delay					28.1			17.7			13.4	14.9
LOS					C			B			B	B
Approach Delay					28.1			17.7			14.4	
Approach LOS					C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 23.3		Intersection LOS: C	
Intersection Capacity Utilization 72.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 697: Bay St. & Lake Shore Blvd. E (WB)/Lake Shore Blvd. W (WB)

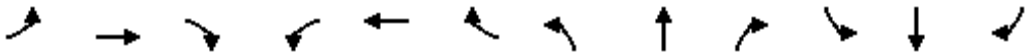


Lane Group	Ø3	Ø4
Minimum Split (s)	25.0	31.0
Total Split (s)	25.0	37.0
Total Split (%)	22%	33%
Maximum Green (s)	18.0	35.0
Yellow Time (s)	4.0	2.0
All-Red Time (s)	3.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)	7.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	1461	507	176	288
v/c Ratio	0.63	0.35	0.18	0.30
Control Delay	28.1	17.1	13.4	14.9
Queue Delay	0.0	0.5	0.0	0.0
Total Delay	28.1	17.7	13.4	14.9
Queue Length 50th (m)	72.0	24.4	18.5	18.5
Queue Length 95th (m)	84.3	62.0	30.1	28.0
Internal Link Dist (m)	145.6	40.6	301.1	
Turn Bay Length (m)				50.0
Base Capacity (vph)	2303	1462	1003	963
Starvation Cap Reductn	0	537	0	0
Spillback Cap Reductn	0	0	71	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.63	0.55	0.19	0.30

Intersection Summary

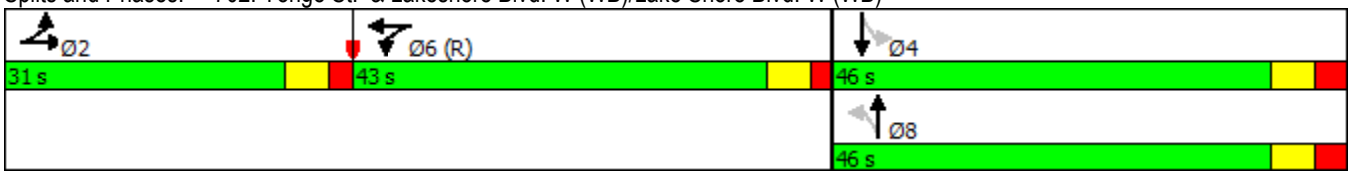


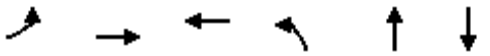
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	565	425	39	215	911	317	91	950	157	0	314	459
Future Volume (vph)	565	425	39	215	911	317	91	950	157	0	314	459
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	40.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.86	0.86	0.91	0.91	0.91	0.91	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.97	0.97			0.93		0.91	0.96			0.79	
Frt		0.992			0.967			0.979			0.911	
Flt Protected	0.950	0.981			0.993		0.950					
Satd. Flow (prot)	1420	4559	0	0	4548	0	1652	3277	0	0	2531	0
Flt Permitted	0.950	0.981			0.993		0.203					
Satd. Flow (perm)	1371	4499	0	0	4484	0	322	3277	0	0	2531	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		6						17			333	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		37.6			39.2			141.9			81.5	
Travel Time (s)		2.7			2.8			10.2			5.9	
Confl. Peds. (#/hr)	179		185	185		179	495		296	296		495
Peak Hour 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
Adj. Flow (vph)	565	425	39	215	911	317	91	950	157	0	314	459
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	282	747	0	0	1443	0	91	1107	0	0	773	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)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	Split	NA		Split	NA		Perm	NA			NA	
Protected Phases	2	2		6	6			8			4	
Permitted Phases							8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		42.0	42.0		42.0	42.0	
Total Split (s)	31.0	31.0		43.0	43.0		46.0	46.0		46.0	46.0	
Total Split (%)	25.8%	25.8%		35.8%	35.8%		38.3%	38.3%		38.3%	38.3%	
Maximum Green (s)	25.0	25.0		37.0	37.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0			-1.0		-1.0	-1.0			-1.0	
Total Lost Time (s)	5.0	5.0			5.0		6.0	6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		C-Min	C-Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	25.6	25.6			38.4		40.0	40.0			40.0	
Actuated g/C Ratio	0.21	0.21			0.32		0.33	0.33			0.33	
v/c Ratio	0.93	0.76			0.99		0.85	1.00			0.73	
Control Delay	83.7	49.8			62.9		89.7	63.5			23.8	
Queue Delay	0.0	0.0			0.0		0.0	34.6			0.0	
Total Delay	83.7	49.8			62.9		89.7	98.2			23.8	
LOS	F	D			E		F	F			C	
Approach Delay		59.1			62.9			97.5			23.8	
Approach LOS		E			E			F			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 64.6		Intersection LOS: E	
Intersection Capacity Utilization 131.7%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 702: Yonge St. & Lakeshore Blvd. W (WB)/Lake Shore Blvd. W (WB)





Lane Group	EBL	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	282	747	1443	91	1107	773
v/c Ratio	0.93	0.76	0.99	0.85	1.00	0.73
Control Delay	83.7	49.8	62.9	89.7	63.5	23.8
Queue Delay	0.0	0.0	0.0	0.0	34.6	0.0
Total Delay	83.7	49.8	62.9	89.7	98.2	23.8
Queue Length 50th (m)	75.9	63.7	~124.7	20.2	~139.1	48.9
Queue Length 95th (m)	#134.5	79.5	#159.1	m#47.2	#185.2	72.6
Internal Link Dist (m)		13.6	15.2		117.9	57.5
Turn Bay Length (m)				40.0		
Base Capacity (vph)	307	992	1454	107	1103	1065
Starvation Cap Reductn	0	0	0	0	109	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.75	0.99	0.85	1.11	0.73

Intersection Summary

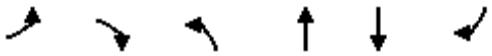
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	577	5	0	0	0	230
Future Volume (vph)	577	5	0	0	0	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt	0.999					0.865
Flt Protected						
Satd. Flow (prot)	5024	0	0	5029	0	1593
Flt Permitted						
Satd. Flow (perm)	5024	0	0	5029	0	1593
Link Speed (k/h)	50			50	50	
Link Distance (m)	84.9			53.4	172.0	
Travel Time (s)	6.1			3.8	12.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	577	5	0	0	0	230
Shared Lane Traffic (%)						
Lane Group Flow (vph)	582	0	0	0	0	230
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			

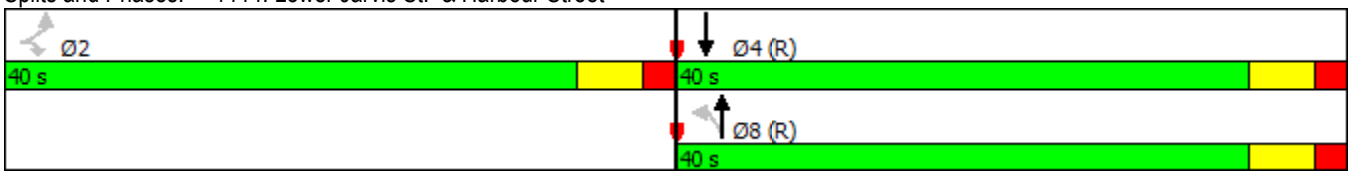


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	463	236	88	455	144	46
Future Volume (vph)	463	236	88	455	144	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850			0.964	
Flt Protected	0.950			0.992		
Satd. Flow (prot)	1750	1566	0	3472	3374	0
Flt Permitted	0.950			0.860		
Satd. Flow (perm)	1750	1566	0	3010	3374	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		236			46	
Link Speed (k/h)	50			50	50	
Link Distance (m)	109.2			96.2	131.1	
Travel Time (s)	7.9			6.9	9.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	463	236	88	455	144	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	463	236	0	543	190	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	7.5	7.5	17.0	7.5	7.5	
Trailing Detector (m)	-0.2	-1.5	12.0	-1.5	-1.5	
Detector 1 Position(m)	-0.2	-1.5	12.0	-1.5	-1.5	
Detector 1 Size(m)	7.7	9.0	5.0	9.0	9.0	
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				8	4	
Permitted Phases	2	2	8			
Detector Phase	2	2	8	8	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	24.0	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	35.0	35.0		35.0	35.0	
Actuated g/C Ratio	0.44	0.44		0.44	0.44	
v/c Ratio	0.61	0.29		0.41	0.13	
Control Delay	21.4	3.1		21.1	13.7	
Queue Delay	9.4	0.0		0.7	0.0	
Total Delay	30.8	3.1		21.8	13.7	
LOS	C	A		C	B	
Approach Delay	21.4			21.8	13.7	
Approach LOS	C			C	B	

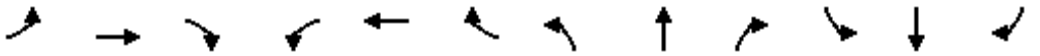
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 40 (50%), Referenced to phase 4:SBT and 8:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 58.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1114: Lower Jarvis St. & Harbour Street



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	463	236	543	190
v/c Ratio	0.61	0.29	0.41	0.13
Control Delay	21.4	3.1	21.1	13.7
Queue Delay	9.4	0.0	0.7	0.0
Total Delay	30.8	3.1	21.8	13.7
Queue Length 50th (m)	51.9	0.0	32.2	6.9
Queue Length 95th (m)	81.2	11.6	52.3	21.4
Internal Link Dist (m)	85.2		72.2	107.1
Turn Bay Length (m)				
Base Capacity (vph)	765	817	1316	1502
Starvation Cap Reductn	0	0	436	0
Spillback Cap Reductn	266	8	186	119
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.93	0.29	0.62	0.14

Intersection Summary

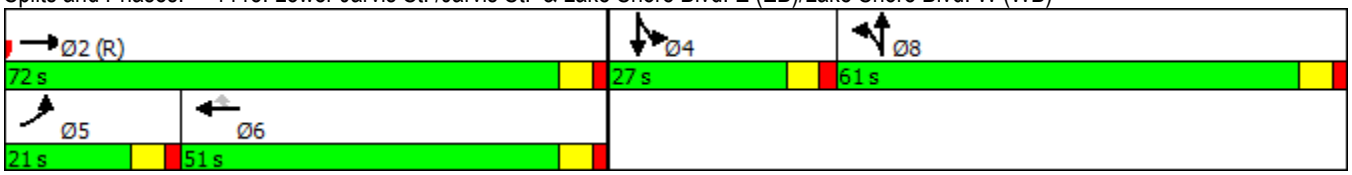


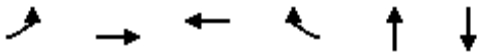
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	589	53	0	671	18	276	632	329	84	137	84
Future Volume (vph)	308	589	53	0	671	18	276	632	329	84	137	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	2		0	0		1	0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99	0.99				0.98		0.97			0.99	
Frt		0.988				0.850		0.960			0.959	
Flt Protected	0.950							0.989			0.986	
Satd. Flow (prot)	3204	4938	0	0	5029	1478	0	3211	0	0	3290	0
Flt Permitted	0.950							0.989			0.986	
Satd. Flow (perm)	3185	4938	0	0	5029	1447	0	3207	0	0	3271	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				102		35			28	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		90.3			232.9			131.1			52.0	
Travel Time (s)		6.5			16.8			9.4			3.7	
Confl. Peds. (#/hr)	4		28	28		4	4		51	51		4
Peak Hour 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
Adj. Flow (vph)	308	589	53	0	671	18	276	632	329	84	137	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	308	642	0	0	671	18	0	1237	0	0	305	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)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1			1	1	1	1		1	1	
Detector Template	Left	Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	7.5	7.5			7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	-0.2	-1.5			-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	-0.2	-1.5			-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	7.7	9.0			9.0	9.0	5.0	9.0		5.0	9.0	
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	Prot	NA			NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases						6						
Detector Phase	5	2			6	6	8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0			7.0	7.0	6.0	6.0		7.0	7.0	
Minimum Split (s)	13.0	29.0			29.0	29.0	27.0	27.0		27.0	27.0	
Total Split (s)	21.0	72.0			51.0	51.0	61.0	61.0		27.0	27.0	
Total Split (%)	13.1%	45.0%			31.9%	31.9%	38.1%	38.1%		16.9%	16.9%	
Maximum Green (s)	15.0	66.0			45.0	45.0	55.0	55.0		21.0	21.0	
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lead/Lag	Lead				Lag	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	Min	C-Min			Min	Min	Min	Min		Min	Min	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		14.0			14.0	14.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	17.9	51.1			28.3	28.3		74.0			19.9	
Actuated g/C Ratio	0.11	0.32			0.18	0.18		0.46			0.12	
v/c Ratio	0.86	0.41			0.76	0.05		0.82			0.70	
Control Delay	91.6	42.3			68.2	0.3		40.3			69.8	
Queue Delay	0.0	0.0			0.0	0.0		18.3			0.0	
Total Delay	91.6	42.3			68.2	0.3		58.6			69.8	
LOS	F	D			E	A		E			E	
Approach Delay		58.3			66.4			58.6			69.8	
Approach LOS		E			E			E			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 61.3		Intersection LOS: E	
Intersection Capacity Utilization 86.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1115: Lower Jarvis St. /Jarvis St. & Lake Shore Blvd. E (EB)/Lake Shore Blvd. W (WB)

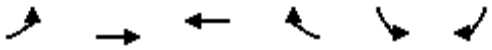




Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	308	642	671	18	1237	305
v/c Ratio	0.86	0.41	0.76	0.05	0.82	0.70
Control Delay	91.6	42.3	68.2	0.3	40.3	69.8
Queue Delay	0.0	0.0	0.0	0.0	18.3	0.0
Total Delay	91.6	42.3	68.2	0.3	58.6	69.8
Queue Length 50th (m)	50.2	57.4	75.5	0.0	167.2	45.3
Queue Length 95th (m)	#81.8	67.4	86.5	0.0	#240.7	60.0
Internal Link Dist (m)		66.3	208.9		107.1	28.0
Turn Bay Length (m)	55.0					
Base Capacity (vph)	358	2074	1445	488	1503	488
Starvation Cap Reductn	0	0	0	0	292	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.31	0.46	0.04	1.02	0.63

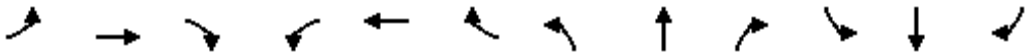
Intersection Summary

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



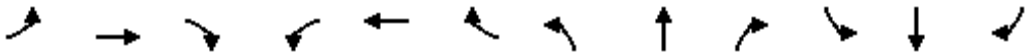
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	47	193	96	42	88	33
Future Volume (vph)	47	193	96	42	88	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.959		0.963	
Flt Protected		0.990			0.965	
Satd. Flow (prot)	0	1824	1767	0	1712	0
Flt Permitted		0.990			0.965	
Satd. Flow (perm)	0	1824	1767	0	1712	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		88.6	118.8		96.5	
Travel Time (s)		6.4	8.6		6.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	47	193	96	42	88	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	240	138	0	121	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.3%		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)	32	755	22	2	142	3	21	21	29	9	7	1
Future Volume (vph)	32	755	22	2	142	3	21	21	29	9	7	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.996			0.997			0.945			0.991	
Flt Protected		0.998			0.999			0.985			0.974	
Satd. Flow (prot)	0	3479	0	0	1835	0	0	1715	0	0	3378	0
Flt Permitted		0.998			0.999			0.985			0.974	
Satd. Flow (perm)	0	3479	0	0	1835	0	0	1715	0	0	3378	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		143.9			98.2			98.8			113.0	
Travel Time (s)		10.4			7.1			7.1			8.1	
Peak Hour 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
Adj. Flow (vph)	32	755	22	2	142	3	21	21	29	9	7	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	809	0	0	147	0	0	71	0	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

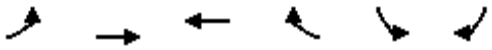


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	646	52	5	90	38	23	18	37	26	8	34
Future Volume (vph)	83	646	52	5	90	38	23	18	37	26	8	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.961			0.936			0.932	
Flt Protected		0.995			0.998			0.985			0.981	
Satd. Flow (prot)	0	3448	0	0	1767	0	0	1698	0	0	1684	0
Flt Permitted		0.995			0.998			0.985			0.981	
Satd. Flow (perm)	0	3448	0	0	1767	0	0	1698	0	0	1684	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		98.2			109.2			96.5			146.5	
Travel Time (s)		7.1			7.9			6.9			10.5	
Peak Hour 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
Adj. Flow (vph)	83	646	52	5	90	38	23	18	37	26	8	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	781	0	0	133	0	0	78	0	0	68	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.1%		ICU Level of Service A	
Analysis Period (min) 15			

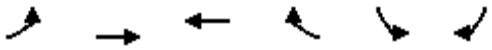
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	823	20	0	0	0	143
Future Volume (vph)	823	20	0	0	0	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt	0.996					0.865
Flt Protected						
Satd. Flow (prot)	5009	0	0	5029	0	1593
Flt Permitted						
Satd. Flow (perm)	5009	0	0	5029	0	1593
Link Speed (k/h)	50			50	50	
Link Distance (m)	109.3			90.3	146.5	
Travel Time (s)	7.9			6.5	10.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	823	20	0	0	0	143
Shared Lane Traffic (%)						
Lane Group Flow (vph)	843	0	0	0	0	143
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	6.0			6.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.9%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	219	102	26	29	2
Future Volume (vph)	45	219	102	26	29	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973			0.850
Flt Protected		0.992			0.950	
Satd. Flow (prot)	0	1827	1792	0	1750	1566
Flt Permitted		0.992			0.950	
Satd. Flow (perm)	0	1827	1792	0	1750	1566
Link Speed (k/h)		50	50		50	
Link Distance (m)		53.8	88.6		98.8	
Travel Time (s)		3.9	6.4		7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	219	102	26	29	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	264	128	0	29	2
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.3%		ICU Level of Service A	
Analysis Period (min) 15			

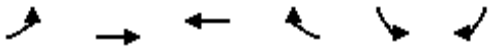


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	176	108	446	363	35
Future Volume (vph)	105	176	108	446	363	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	0.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95			0.92	0.99	0.97
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1750	1842	1842	1566	1750	1566
Flt Permitted	0.655				0.950	
Satd. Flow (perm)	1140	1842	1842	1446	1738	1514
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				446		35
Link Speed (k/h)		50	50		50	
Link Distance (m)		118.8	234.3		96.2	
Travel Time (s)		8.6	16.9		6.9	
Confl. Peds. (#/hr)	101			101	3	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	105	176	108	446	363	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	176	108	446	363	35
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	17.0	7.5	7.5	7.5	17.0	7.5
Trailing Detector (m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Position(m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Size(m)	5.0	9.0	9.0	9.0	5.0	9.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	9.0	30.0	30.0	30.0	7.0	7.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	12.0	44.0	44.0	44.0	24.0	24.0
Total Split (s)	12.0	56.0	44.0	44.0	24.0	24.0
Total Split (%)	15.0%	70.0%	55.0%	55.0%	30.0%	30.0%
Maximum Green (s)	9.0	50.0	38.0	38.0	18.0	18.0
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	2.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max
Walk Time (s)		7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		30.0	30.0	30.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	54.0	51.0	41.4	41.4	19.0	19.0
Actuated g/C Ratio	0.68	0.64	0.52	0.52	0.24	0.24
v/c Ratio	0.12	0.15	0.11	0.46	0.87	0.09
Control Delay	4.9	6.2	11.4	3.0	56.4	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.9	0.0
Total Delay	4.9	6.2	11.4	3.0	57.3	8.3
LOS	A	A	B	A	E	A
Approach Delay		5.7	4.7		53.0	
Approach LOS		A	A		D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			

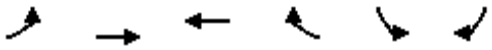
Splits and Phases: 1510: Queens Quay & Lower Jarvis St.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	105	176	108	446	363	35
v/c Ratio	0.12	0.15	0.11	0.46	0.87	0.09
Control Delay	4.9	6.2	11.4	3.0	56.4	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.9	0.0
Total Delay	4.9	6.2	11.4	3.0	57.3	8.3
Queue Length 50th (m)	4.7	9.5	8.5	0.0	66.2	1.1
Queue Length 95th (m)	9.3	16.8	16.7	13.8	#107.3	4.2
Internal Link Dist (m)		94.8	210.3		72.2	
Turn Bay Length (m)	30.0			30.0		
Base Capacity (vph)	845	1174	952	963	415	386
Starvation Cap Reductn	0	0	0	0	6	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.15	0.11	0.46	0.89	0.09

Intersection Summary

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

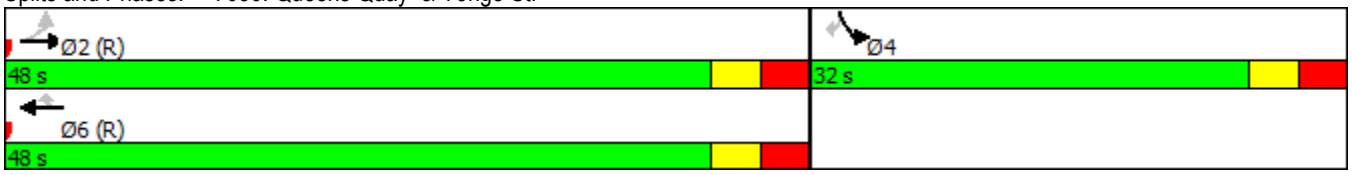


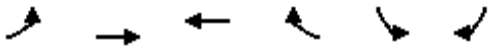
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	85	136	114	37	34	39
Future Volume (vph)	85	136	114	37	34	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	0.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97			0.94	0.86	0.89
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1750	1842	1842	1566	1750	1566
Flt Permitted	0.684				0.950	
Satd. Flow (perm)	1220	1842	1842	1477	1514	1389
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				37		39
Link Speed (k/h)		50	50		50	
Link Distance (m)		189.2	145.2		128.1	
Travel Time (s)		13.6	10.5		9.2	
Confl. Peds. (#/hr)	15			15	54	38
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	85	136	114	37	34	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	136	114	37	34	39
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	17.0	7.5	7.5	7.5	17.0	7.5
Trailing Detector (m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Position(m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Size(m)	5.0	9.0	9.0	9.0	5.0	9.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	16.0	16.0	16.0	16.0	16.0	16.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	48.0	48.0	48.0	48.0	32.0	32.0
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%
Maximum Green (s)	42.0	42.0	42.0	42.0	26.0	26.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	43.0	43.0	43.0	43.0	27.0	27.0
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.34	0.34
v/c Ratio	0.13	0.14	0.12	0.05	0.06	0.08
Control Delay	9.9	9.7	12.6	6.5	18.4	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	9.7	12.6	6.5	18.4	6.9
LOS	A	A	B	A	B	A
Approach Delay		9.8	11.1		12.2	
Approach LOS		A	B		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.14			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 35.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7030: Queens Quay & Yonge St.





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	85	136	114	37	34	39
v/c Ratio	0.13	0.14	0.12	0.05	0.06	0.08
Control Delay	9.9	9.7	12.6	6.5	18.4	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	9.7	12.6	6.5	18.4	6.9
Queue Length 50th (m)	6.0	9.6	10.3	0.0	3.5	0.0
Queue Length 95th (m)	12.8	18.0	23.4	5.3	9.2	6.0
Internal Link Dist (m)		165.2	121.2		104.1	
Turn Bay Length (m)	30.0			30.0		
Base Capacity (vph)	655	990	990	811	590	494
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.12	0.05	0.06	0.08

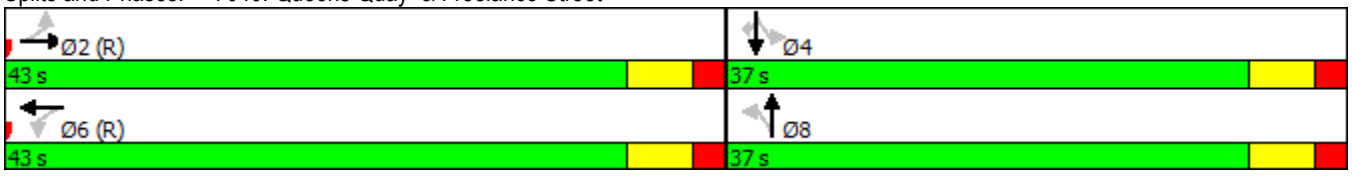
Intersection Summary

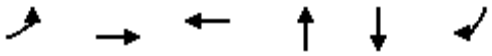
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	148	0	0	72	16	51	32	60	62	1	36
Future Volume (vph)	20	148	0	0	72	16	51	32	60	62	1	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	15.0			15.0			15.0			15.0		
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
Frt					0.973			0.943				0.850
Flt Protected	0.950							0.982			0.953	
Satd. Flow (prot)	1750	1842	0	1842	1792	0	0	1706	0	0	1755	1566
Flt Permitted	0.700							0.856			0.584	
Satd. Flow (perm)	1289	1842	0	1842	1792	0	0	1487	0	0	1076	1566
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					16			54				41
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		145.2			97.8			84.3			101.8	
Travel Time (s)		10.5			7.0			6.1			7.3	
Peak Hour 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
Adj. Flow (vph)	20	148	0	0	72	16	51	32	60	62	1	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	148	0	0	88	0	0	143	0	0	63	36
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)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	17.0	7.5		17.0	7.5		7.5	7.5		7.5	7.5	7.5
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		-0.2	-1.5		-0.2	-1.5	-1.5
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	37.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	53.8%	53.8%		53.8%	53.8%		46.3%	46.3%		46.3%	46.3%	46.3%
Maximum Green (s)	37.0	37.0		37.0	37.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	58.6	58.6			58.6			11.4			11.4	11.4
Actuated g/C Ratio	0.73	0.73			0.73			0.14			0.14	0.14
v/c Ratio	0.02	0.11			0.07			0.55			0.41	0.14
Control Delay	3.2	3.2			3.4			27.7			37.9	9.6
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	3.2	3.2			3.4			27.7			37.9	9.6
LOS	A	A			A			C			D	A
Approach Delay		3.2			3.4			27.7			27.6	
Approach LOS		A			A			C			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 45	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 31.0%	ICU Level of Service A
Analysis Period (min) 15	

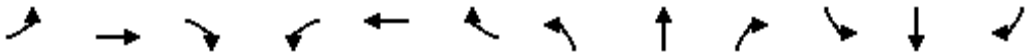
Splits and Phases: 7040: Queens Quay & Freelance Street





Lane Group	EBL	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	20	148	88	143	63	36
v/c Ratio	0.02	0.11	0.07	0.55	0.41	0.14
Control Delay	3.2	3.2	3.4	27.7	37.9	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.2	3.2	3.4	27.7	37.9	9.6
Queue Length 50th (m)	0.5	3.9	2.4	12.6	8.9	0.0
Queue Length 95th (m)	2.3	12.7	7.6	27.3	18.8	6.4
Internal Link Dist (m)		121.2	73.8	60.3	77.8	
Turn Bay Length (m)	30.0					30.0
Base Capacity (vph)	943	1348	1316	627	430	651
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.11	0.07	0.23	0.15	0.06

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	425	137	0	0	0	90	339	362	18	667	330
Future Volume (vph)	162	425	137	0	0	0	90	339	362	18	667	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	50.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.67	0.91					0.97	0.90			0.93	
Frt		0.963						0.923			0.951	
Flt Protected	0.950						0.950				0.999	
Satd. Flow (prot)	1750	3081	0	0	0	0	1750	2923	0	0	3103	0
Flt Permitted	0.950						0.134				0.934	
Satd. Flow (perm)	1169	3081	0	0	0	0	240	2923	0	0	2898	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65						1			132	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		206.2			315.8			221.6			118.7	
Travel Time (s)		14.8			22.7			16.0			8.5	
Confl. Peds. (#/hr)	459		538	538		459	235		209	209		235
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	171	447	144	0	0	0	95	357	381	19	702	347
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	591	0	0	0	0	95	738	0	0	1068	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1					1	1		1	1	
Detector Template	Left	Thru					Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5					17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5					12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5					12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0					5.0	9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA					pm+pt	NA		Perm	NA	
Protected Phases		4					5	2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4					5	2		6	6	
Switch Phase												
Minimum Initial (s)	21.0	21.0					9.0	25.0		25.0	25.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	27.0	27.0					12.0	31.0		31.0	31.0	
Total Split (s)	27.0	27.0					12.0	43.0		31.0	31.0	
Total Split (%)	38.6%	38.6%					17.1%	61.4%		44.3%	44.3%	
Maximum Green (s)	21.0	21.0					9.0	37.0		25.0	25.0	
Yellow Time (s)	4.0	4.0					3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0					-1.0	-1.0			-1.0	
Total Lost Time (s)	5.0	5.0					2.0	5.0			5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					None	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0						12.0		12.0	12.0	
Flash Dont Walk (s)	11.0	11.0						13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)	22.0	22.0					41.0	38.0			28.4	
Actuated g/C Ratio	0.31	0.31					0.59	0.54			0.41	
v/c Ratio	0.47	0.58					0.27	0.47			0.85	
Control Delay	24.4	20.6					8.3	11.0			32.5	
Queue Delay	0.0	0.0					0.0	0.0			0.0	
Total Delay	24.4	20.6					8.3	11.0			32.5	
LOS	C	C					A	B			C	
Approach Delay		21.4						10.7			32.5	
Approach LOS		C						B			C	

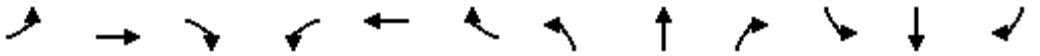
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 66 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 22.5		Intersection LOS: C	
Intersection Capacity Utilization 88.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Yonge St. & Front St.

Lane Group	EBL	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	171	591	95	738	1068
v/c Ratio	0.47	0.58	0.27	0.47	0.85
Control Delay	24.4	20.6	8.3	11.0	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	20.6	8.3	11.0	32.5
Queue Length 50th (m)	17.8	29.8	4.9	28.4	58.8
Queue Length 95th (m)	34.7	44.9	10.3	40.7	#94.5
Internal Link Dist (m)		182.2		197.6	94.7
Turn Bay Length (m)	35.0		50.0		
Base Capacity (vph)	367	1012	356	1587	1254
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	0.47	0.58	0.27	0.47	0.85

Intersection Summary

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

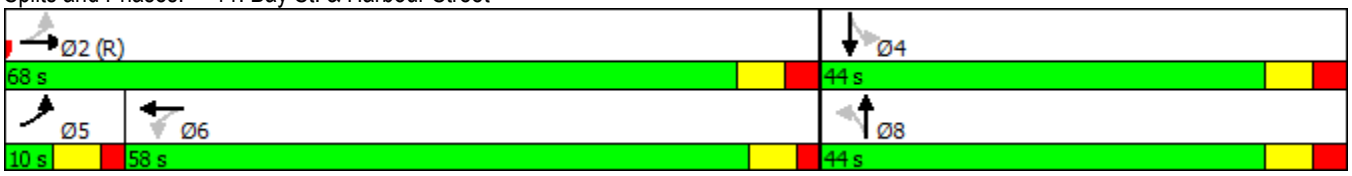


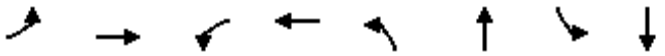
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	972	94	22	34	75	4	236	45	25	96	102
Future Volume (vph)	150	972	94	22	34	75	4	236	45	25	96	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	30.0		30.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.99		0.98	0.96		0.43	0.96		0.87	0.57	
Frt		0.987			0.897			0.976			0.923	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1785	3483	0	1685	1624	0	1685	1762	0	1685	997	0
Flt Permitted	0.631			0.254			0.497			0.331		
Satd. Flow (perm)	1150	3483	0	441	1624	0	379	1762	0	511	997	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					79			9			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		290.5			113.2			126.3			48.5	
Travel Time (s)		20.9			8.2			9.1			3.5	
Confl. Peds. (#/hr)	20		93	93		20	907		170	170		907
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	158	1023	99	23	36	79	4	248	47	26	101	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	1122	0	23	115	0	4	295	0	26	208	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)		3.5			3.5			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.09	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	37.0		4.0	4.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	10.0	53.0		22.0	22.0		31.0	31.0		31.0	31.0	
Total Split (s)	10.0	68.0		58.0	58.0		44.0	44.0		44.0	44.0	
Total Split (%)	8.9%	60.7%		51.8%	51.8%		39.3%	39.3%		39.3%	39.3%	
Maximum Green (s)	4.0	61.0		52.0	52.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	3.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	6.0		5.0	5.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	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	C-Max		None	None		None	None		None	None	
Walk Time (s)		37.0		5.0	5.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)		9.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	75.5	74.5		62.3	62.3		25.5	25.5		25.5	25.5	
Actuated g/C Ratio	0.67	0.67		0.56	0.56		0.23	0.23		0.23	0.23	
v/c Ratio	0.19	0.48		0.09	0.12		0.05	0.72		0.22	0.78	
Control Delay	7.6	9.3		26.3	15.8		30.0	48.1		38.3	49.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.2		0.0	0.0	
Total Delay	7.6	9.3		26.3	15.8		30.0	48.3		38.3	49.6	
LOS	A	A		C	B		C	D		D	D	
Approach Delay		9.1			17.6			48.1			48.4	
Approach LOS		A			B			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 112	
Actuated Cycle Length: 112	
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 69.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 11: Bay St. & Harbour Street





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	158	1122	23	115	4	295	26	208
v/c Ratio	0.19	0.48	0.09	0.12	0.05	0.72	0.22	0.78
Control Delay	7.6	9.3	26.3	15.8	30.0	48.1	38.3	49.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	7.6	9.3	26.3	15.8	30.0	48.3	38.3	49.6
Queue Length 50th (m)	10.4	50.1	3.1	8.2	0.7	59.0	5.6	36.1
Queue Length 95th (m)	21.5	69.8	9.2	19.6	3.3	76.7	m12.0	58.6
Internal Link Dist (m)		266.5		89.2		102.3		24.5
Turn Bay Length (m)			30.0		30.0		30.0	
Base Capacity (vph)	821	2316	245	938	128	603	173	372
Starvation Cap Reductn	0	0	0	0	0	39	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.48	0.09	0.12	0.03	0.52	0.15	0.56

Intersection Summary

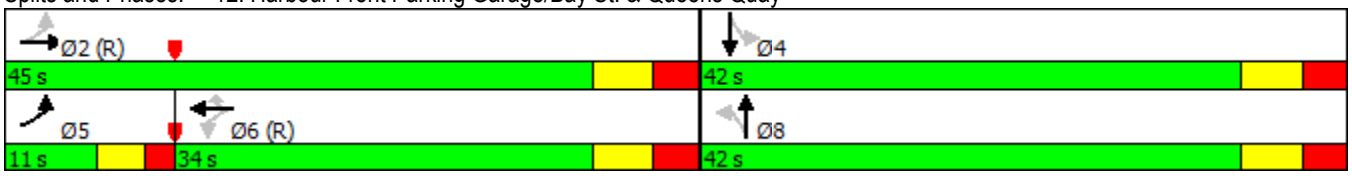
m Volume for 95th percentile queue is metered by upstream signal.

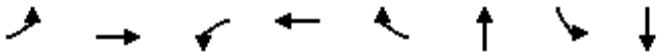
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	116	59	11	151	26	133	214	47	58	91	63
Future Volume (vph)	49	116	59	11	151	26	133	214	47	58	91	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	15.0			15.0			15.0			15.0		
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	0.75	0.90		0.79		0.65		0.92		0.87	0.92	
Frt		0.949				0.850		0.984			0.939	
Flt Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1452	1324	0	1685	1634	1288	0	1755	0	1416	1529	0
Flt Permitted	0.580			0.641				0.824		0.481		
Satd. Flow (perm)	664	1324	0	901	1634	835	0	1396	0	625	1529	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38				113		9			49	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		294.0			189.2			54.2			126.3	
Travel Time (s)		21.2			13.6			3.9			9.1	
Confl. Peds. (#/hr)	210		166	166		210	210		184	184		210
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	16%	33%	0%	0%	15%	17%	0%	0%	0%	19%	0%	15%
Adj. Flow (vph)	52	122	62	12	159	27	140	225	49	61	96	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	184	0	12	159	27	0	414	0	61	162	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)		3.5			3.5			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	38.0		27.0	27.0	27.0	29.0	29.0		29.0	29.0	
Minimum Split (s)	11.0	45.0		34.0	34.0	34.0	36.0	36.0		36.0	36.0	
Total Split (s)	11.0	45.0		34.0	34.0	34.0	42.0	42.0		42.0	42.0	
Total Split (%)	12.6%	51.7%		39.1%	39.1%	39.1%	48.3%	48.3%		48.3%	48.3%	
Maximum Green (s)	6.0	38.0		27.0	27.0	27.0	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	4.0	6.0		6.0	6.0	6.0		6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	Max	Max		Max	Max	
Walk Time (s)		15.0		15.0	15.0	15.0	14.0	14.0		14.0	14.0	
Flash Dont Walk (s)		12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	41.0	39.0		32.4	32.4	32.4		36.0		36.0	36.0	
Actuated g/C Ratio	0.47	0.45		0.37	0.37	0.37		0.41		0.41	0.41	
v/c Ratio	0.14	0.30		0.04	0.26	0.07		0.71		0.24	0.25	
Control Delay	13.7	13.6		20.9	22.2	0.3		28.9		19.7	12.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	13.7	13.6		20.9	22.2	0.3		28.9		19.7	12.6	
LOS	B	B		C	C	A		C		B	B	
Approach Delay		13.6			19.1			28.9			14.5	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 87			
Actuated Cycle Length: 87			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 104.1%		ICU Level of Service G	
Analysis Period (min) 15			

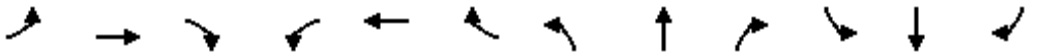
Splits and Phases: 12: Harbour Front Parking Garage/Bay St. & Queens Quay





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	52	184	12	159	27	414	61	162
v/c Ratio	0.14	0.30	0.04	0.26	0.07	0.71	0.24	0.25
Control Delay	13.7	13.6	20.9	22.2	0.3	28.9	19.7	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	13.6	20.9	22.2	0.3	28.9	19.7	12.6
Queue Length 50th (m)	4.6	14.6	1.4	19.7	0.0	54.6	6.5	11.6
Queue Length 95th (m)	10.6	28.7	5.2	35.1	0.0	88.9	15.6	24.4
Internal Link Dist (m)		270.0		165.2		30.2		102.3
Turn Bay Length (m)	30.0		30.0		30.0		30.0	
Base Capacity (vph)	376	614	335	608	381	582	258	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.30	0.04	0.26	0.07	0.71	0.24	0.25

Intersection Summary

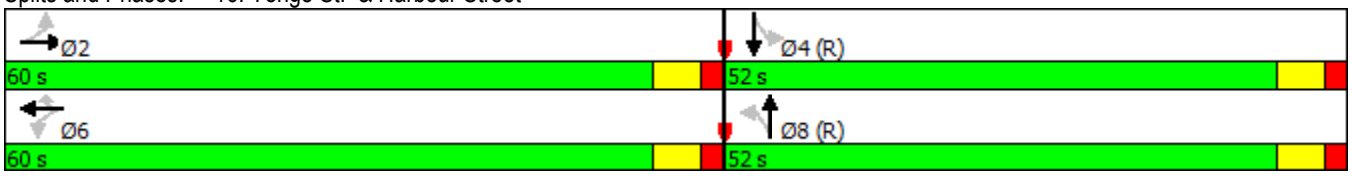


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	652	69	23	77	118	10	70	42	169	39	37
Future Volume (vph)	271	652	69	23	77	118	10	70	42	169	39	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99				0.97		0.86			0.76	
Frt		0.990				0.850		0.954			0.977	
Flt Protected		0.987			0.989			0.996			0.967	
Satd. Flow (prot)	0	3286	0	0	1858	1597	0	1511	0	0	2948	0
Flt Permitted		0.826			0.747			0.969			0.709	
Satd. Flow (perm)	0	2741	0	0	1404	1555	0	1420	0	0	1805	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				124		29			22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		86.1			151.2			128.1			141.9	
Travel Time (s)		6.2			10.9			9.2			10.2	
Confl. Peds. (#/hr)	7		40	40		7	251		181	181		251
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	4%	9%	0%	0%	0%	0%	9%	0%	0%	27%	0%
Adj. Flow (vph)	285	686	73	24	81	124	11	74	44	178	41	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1044	0	0	105	124	0	129	0	0	258	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			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	22.0	22.0		22.0	22.0	
Total Split (s)	60.0	60.0		60.0	60.0	60.0	52.0	52.0		52.0	52.0	
Total Split (%)	53.6%	53.6%		53.6%	53.6%	53.6%	46.4%	46.4%		46.4%	46.4%	
Maximum Green (s)	54.0	54.0		54.0	54.0	54.0	46.0	46.0		46.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		55.0			55.0	55.0		47.0			47.0	
Actuated g/C Ratio		0.49			0.49	0.49		0.42			0.42	
v/c Ratio		0.77			0.15	0.15		0.21			0.34	
Control Delay		41.1			16.4	3.2		17.0			21.5	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		41.1			16.4	3.2		17.0			21.5	
LOS		D			B	A		B			C	
Approach Delay		41.1			9.3			17.0			21.5	
Approach LOS		D			A			B			C	

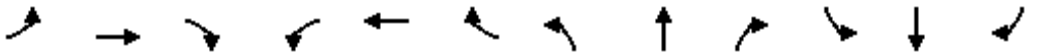
Intersection Summary	
Area Type:	Other
Cycle Length: 112	
Actuated Cycle Length: 112	
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 31.8	Intersection LOS: C
Intersection Capacity Utilization 67.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 16: Yonge St. & Harbour Street



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1044	105	124	129	258
v/c Ratio	0.77	0.15	0.15	0.21	0.34
Control Delay	41.1	16.4	3.2	17.0	21.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	16.4	3.2	17.0	21.5
Queue Length 50th (m)	124.6	12.2	0.0	13.4	17.8
Queue Length 95th (m)	146.9	22.4	9.2	26.4	28.2
Internal Link Dist (m)	62.1	127.2		104.1	117.9
Turn Bay Length (m)			30.0		
Base Capacity (vph)	1351	689	826	612	770
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	0.77	0.15	0.15	0.21	0.34

Intersection Summary



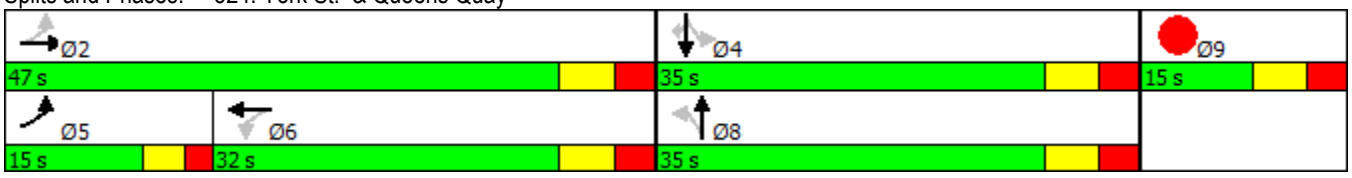
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	58	0	30	155	170	34	193	45	169	365	61
Future Volume (vph)	67	58	0	30	155	170	34	193	45	169	365	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	0		0	0		0	0		0	1		1
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.928			0.978				0.850
Flt Protected		0.974			0.996			0.994		0.950		
Satd. Flow (prot)	0	3477	0	0	3300	0	0	1827	0	1785	1879	1597
Flt Permitted		0.695			0.922			0.763		0.486		
Satd. Flow (perm)	0	2481	0	0	3054	0	0	1402	0	913	1879	1597
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					170			10				180
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		219.8			294.0			33.7			130.9	
Travel Time (s)		15.8			21.2			2.4			9.4	
Peak Hour 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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	67	58	0	30	155	170	34	193	45	169	365	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	125	0	0	355	0	0	272	0	169	365	61
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	7.5
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	25.0		25.0	25.0		28.0	28.0		28.0	28.0	28.0
Minimum Split (s)	11.0	32.0		32.0	32.0		35.0	35.0		35.0	35.0	35.0

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (m)	
Storage Lanes	
Taper Length (m)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	8.0
Minimum Split (s)	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0	47.0		32.0	32.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)	15.5%	48.5%		33.0%	33.0%		36.1%	36.1%		36.1%	36.1%	36.1%
Maximum Green (s)	10.0	40.0		25.0	25.0		28.0	28.0		28.0	28.0	28.0
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)		6.0			6.0			6.0		6.0	6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max		Max	Max		None	None		None	None	None
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)		41.0			41.0			29.0		29.0	29.0	29.0
Actuated g/C Ratio		0.42			0.42			0.30		0.30	0.30	0.30
v/c Ratio		0.12			0.26			0.64		0.62	0.65	0.10
Control Delay		17.4			9.6			36.3		40.9	36.0	0.3
Queue Delay		0.0			0.0			0.0		0.0	0.5	0.0
Total Delay		17.4			9.6			36.3		40.9	36.5	0.3
LOS		B			A			D		D	D	A
Approach Delay		17.4			9.6			36.3			34.0	
Approach LOS		B			A			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 97			
Actuated Cycle Length: 97			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 26.5		Intersection LOS: C	
Intersection Capacity Utilization 105.5%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 324: York St. & Queens Quay

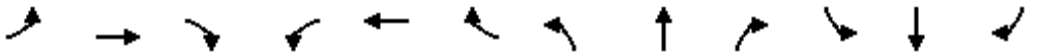


Lane Group	Ø9
Total Split (s)	15.0
Total Split (%)	15%
Maximum Green (s)	8.0
Yellow Time (s)	4.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBT	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	125	355	272	169	365	61
v/c Ratio	0.12	0.26	0.64	0.62	0.65	0.10
Control Delay	17.4	9.6	36.3	40.9	36.0	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	17.4	9.6	36.3	40.9	36.5	0.3
Queue Length 50th (m)	7.3	10.9	42.4	27.2	59.3	0.0
Queue Length 95th (m)	12.9	19.8	69.5	50.0	89.2	0.0
Internal Link Dist (m)	195.8	270.0	9.7		106.9	
Turn Bay Length (m)				20.0		
Base Capacity (vph)	1048	1389	426	272	561	603
Starvation Cap Reductn	0	0	0	0	33	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.26	0.64	0.62	0.69	0.10

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1281	19	0	0	0	0	0	46	0	0	0
Future Volume (vph)	0	1281	19	0	0	0	0	0	46	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998							0.865			
Flt Protected												
Satd. Flow (prot)	0	5119	0	0	5129	0	0	0	1625	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	5119	0	0	5129	0	0	0	1625	0	0	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		93.7			109.3			46.7			133.0	
Travel Time (s)		6.7			7.9			3.4			9.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	1348	20	0	0	0	0	0	48	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1368	0	0	0	0	0	0	48	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

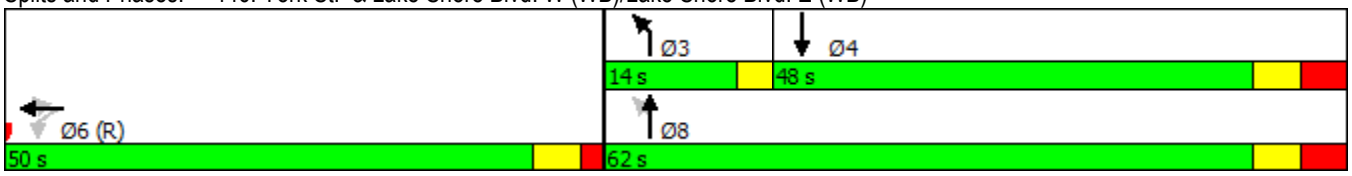
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			

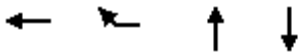
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	152	258	81	68	668	423	17
Future Volume (vph)	152	258	81	68	668	423	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.88	0.95	0.95	0.95	0.95
Frt			0.850			0.994	
Flt Protected		0.982			0.995		
Satd. Flow (prot)	0	5037	2811	0	3552	3548	0
Flt Permitted		0.982			0.849		
Satd. Flow (perm)	0	5037	2811	0	3031	3548	0
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (k/h)		50			50	50	
Link Distance (m)		93.2			63.0	159.0	
Travel Time (s)		6.7			4.5	11.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	152	258	81	68	668	423	17
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	410	81	0	736	440	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Left	Right
Median Width(m)		0.0			0.0	3.5	
Link Offset(m)		0.0			0.0	0.0	
Crosswalk Width(m)		1.6			1.6	1.6	
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24			14
Number of Detectors	1	1	1	1	1	1	
Detector Template	Left	Thru	Right	Left	Thru	Thru	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA	Perm	pm+pt	NA	NA	
Protected Phases		6		3	8	4	
Permitted Phases	6		6	8			
Detector Phase	6	6	6	3	8	4	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	11.0	10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	14.0	38.0	38.0	
Total Split (s)	50.0	50.0	50.0	14.0	62.0	48.0	
Total Split (%)	44.6%	44.6%	44.6%	12.5%	55.4%	42.9%	
Maximum Green (s)	44.0	44.0	44.0	11.0	54.0	40.0	

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	0.0	4.0	4.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0	5.0		7.0	7.0	
Lead/Lag				Lead		Lag	
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	Max	Max	Max	
Walk Time (s)	4.0	4.0	4.0		10.0	10.0	
Flash Dont Walk (s)	15.0	15.0	15.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	
Act Effct Green (s)		45.0	45.0		55.0	41.0	
Actuated g/C Ratio		0.40	0.40		0.49	0.37	
v/c Ratio		0.20	0.07		0.48	0.34	
Control Delay		16.3	15.8		16.1	17.9	
Queue Delay		0.1	0.0		2.2	0.0	
Total Delay		16.4	15.8		18.3	18.0	
LOS		B	B		B	B	
Approach Delay		16.3			18.3	18.0	
Approach LOS		B			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 26 (23%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 56.9%		ICU Level of Service B	
Analysis Period (min) 15			

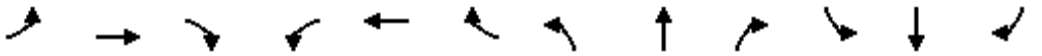
Splits and Phases: 446: York St. & Lake Shore Blvd. W (WB)/Lake Shore Blvd. E (WB)





Lane Group	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	410	81	736	440
v/c Ratio	0.20	0.07	0.48	0.34
Control Delay	16.3	15.8	16.1	17.9
Queue Delay	0.1	0.0	2.2	0.0
Total Delay	16.4	15.8	18.3	18.0
Queue Length 50th (m)	13.1	3.9	30.5	28.3
Queue Length 95th (m)	17.2	7.2	52.4	39.1
Internal Link Dist (m)	69.2		39.0	135.0
Turn Bay Length (m)				
Base Capacity (vph)	2023	1129	1521	1298
Starvation Cap Reductn	0	0	617	0
Spillback Cap Reductn	462	0	0	61
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.07	0.81	0.36

Intersection Summary

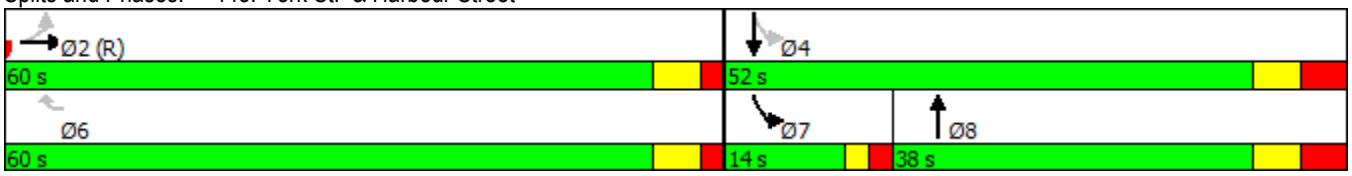


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	495	805	277	0	0	168	0	327	99	255	321	0
Future Volume (vph)	495	805	277	0	0	168	0	327	99	255	321	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Frt		0.962				0.865		0.965				
Flt Protected	0.950										0.978	
Satd. Flow (prot)	1785	4934	0	0	0	1625	0	3445	0	0	3491	0
Flt Permitted	0.950										0.604	
Satd. Flow (perm)	1785	4934	0	0	0	1625	0	3445	0	0	2156	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109				448		35				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.3			290.5			130.9			63.0	
Travel Time (s)		12.3			20.9			9.4			4.5	
Peak Hour 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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	495	805	277	0	0	168	0	327	99	255	321	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	495	1082	0	0	0	168	0	426	0	0	576	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1				1		1		1	1	
Detector Template	Left	Thru				Right		Thru		Left	Thru	
Leading Detector (m)	17.0	7.5				7.5		7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5				-1.5		-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5				-1.5		-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0				9.0		9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA				Perm		NA		pm+pt	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2					6				4		
Detector Phase	2	2				6		8		7	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0				4.0		12.0		7.0	12.0	
Minimum Split (s)	44.0	44.0				22.0		28.0		11.0	28.0	
Total Split (s)	60.0	60.0				60.0		38.0		14.0	52.0	
Total Split (%)	53.6%	53.6%				53.6%		33.9%		12.5%	46.4%	
Maximum Green (s)	54.0	54.0				54.0		30.0		10.0	44.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0				4.0		4.0		2.0	4.0	
All-Red Time (s)	2.0	2.0				2.0		4.0		2.0	4.0	
Lost Time Adjust (s)	-1.0	-1.0				-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0				5.0		7.0			7.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0				3.0		3.0		3.0	3.0	
Recall Mode	C-Max	C-Max				None		Max		Max	Max	
Walk Time (s)	24.0	24.0				5.0		8.0			8.0	
Flash Dont Walk (s)	14.0	14.0				11.0		12.0			12.0	
Pedestrian Calls (#/hr)	0	0				0		0			0	
Act Effct Green (s)	55.0	55.0				55.0		31.0			45.0	
Actuated g/C Ratio	0.49	0.49				0.49		0.28			0.40	
v/c Ratio	0.57	0.44				0.16		0.44			0.61	
Control Delay	22.2	16.2				1.9		32.1			36.3	
Queue Delay	0.1	0.0				0.0		0.3			53.6	
Total Delay	22.2	16.2				2.0		32.3			89.9	
LOS	C	B				A		C			F	
Approach Delay		18.1			2.0			32.3			89.9	
Approach LOS		B			A			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 34.4		Intersection LOS: C	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 448: York St. & Harbour Street



Lane Group	EBL	EBT	WBR	NBT	SBT
Lane Group Flow (vph)	495	1082	168	426	576
v/c Ratio	0.57	0.44	0.16	0.44	0.61
Control Delay	22.2	16.2	1.9	32.1	36.3
Queue Delay	0.1	0.0	0.0	0.3	53.6
Total Delay	22.2	16.2	2.0	32.3	89.9
Queue Length 50th (m)	70.9	47.3	4.3	36.9	45.7
Queue Length 95th (m)	101.1	59.3	6.9	51.5	64.0
Internal Link Dist (m)		146.3		106.9	39.0
Turn Bay Length (m)					
Base Capacity (vph)	876	2478	1025	978	949
Starvation Cap Reductn	0	0	0	0	430
Spillback Cap Reductn	19	0	62	151	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.58	0.44	0.17	0.52	1.11

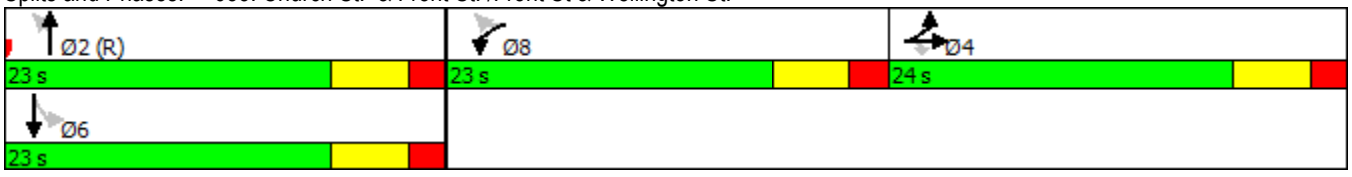
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	518	10	92	573	59	8	240	43	61	219	315
Future Volume (vph)	224	518	10	92	573	59	8	240	43	61	219	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0	0.0		0.0		0.0	0.0		0.0
Storage Lanes	1		1	1	3		0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	*0.91	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850		*0.982			0.978			0.921	
Flt Protected	0.950			0.950				0.999			0.995	
Satd. Flow (prot)	1785	3570	1597	1785	*4800	0	0	3488	0	0	3271	0
Flt Permitted	0.950			0.950				0.932			0.872	
Satd. Flow (perm)	1785	3570	1597	1785	*4800	0	0	3254	0	0	2867	0
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			140		140			27				
Link Speed (k/h)		50						50			50	
Link Distance (m)		315.8						118.8			153.5	
Travel Time (s)		22.7						8.6			11.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	236	545	11	97	603	62	8	253	45	64	231	332
Shared Lane Traffic (%)												
Lane Group Flow (vph)	236	545	11	97	665	0	0	306	0	0	627	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5						0.0			0.0	
Link Offset(m)		0.0						0.0			0.0	
Crosswalk Width(m)		1.6						1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24	50	14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	1		1	1	
Detector Template	Left	Thru	Right	Left	Right		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0		5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Split	NA	Perm	Prot	Perm		Perm	NA		Perm	NA	
Protected Phases	4	4		8				2			6	
Permitted Phases			4		8		2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	17.0	17.0		17.0	17.0		17.0	17.0	
Minimum Split (s)	24.0	24.0	24.0	23.0	23.0		23.0	23.0		23.0	23.0	

Lane Group	EBL	EBT	EBR	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	24.0	24.0	24.0	23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (%)	34.3%	34.3%	34.3%	32.9%	32.9%		32.9%	32.9%		32.9%	32.9%	
Maximum Green (s)	18.0	18.0	18.0	17.0	17.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	Max	Max		C-Max	C-Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	10.0	10.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	19.0	19.0	19.0	18.0	18.0			18.0			18.0	
Actuated g/C Ratio	0.27	0.27	0.27	0.26	0.26			0.26			0.26	
v/c Ratio	0.49	0.56	0.02	0.21	0.50			0.36			0.85	
Control Delay	22.2	21.1	0.1	11.0	8.0			20.7			31.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	22.2	21.1	0.1	11.0	8.0			20.7			31.6	
LOS	C	C	A	B	A			C			C	
Approach Delay		21.1						20.7			31.6	
Approach LOS		C						C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 65 (93%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 19.8		Intersection LOS: B	
Intersection Capacity Utilization 78.5%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 653: Church St. & Front St. /Front St & Wellington St.



Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	236	545	11	97	665	306	627
v/c Ratio	0.49	0.56	0.02	0.21	0.50	0.36	0.85
Control Delay	22.2	21.1	0.1	11.0	8.0	20.7	31.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	21.1	0.1	11.0	8.0	20.7	31.6
Queue Length 50th (m)	19.6	24.0	0.0	3.6	3.9	15.6	42.4
Queue Length 95th (m)	m38.8	m40.1	m0.0	m8.1	6.9	25.6	#68.5
Internal Link Dist (m)		291.8				94.8	129.5
Turn Bay Length (m)	20.0			25.0			
Base Capacity (vph)	484	969	535	459	1338	856	737
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.56	0.02	0.21	0.50	0.36	0.85

Intersection Summary

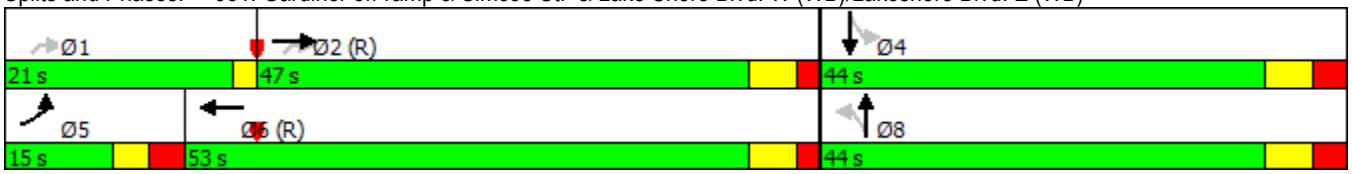
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBT	NER	Ø1
Lane Configurations										
Traffic Volume (vph)	31	287	0	0	124	35	179	55	0	
Future Volume (vph)	31	287	0	0	124	35	179	55	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	0.0			0.0		0.0	0.0		0.0	
Storage Lanes	1			1		0	1		2	
Taper Length (m)	15.0			15.0			15.0			
Lane Util. Factor	1.00	0.95	0.91	1.00	1.00	1.00	1.00	1.00	0.88	
Frt					0.967					
Flt Protected	0.950						0.950			
Satd. Flow (prot)	1785	3570	5129	1879	1817	0	1785	1879	3307	
Flt Permitted	0.950						0.581			
Satd. Flow (perm)	1785	3570	5129	1879	1817	0	1092	1879	3307	
Right Turn on Red						Yes				
Satd. Flow (RTOR)					14					
Link Speed (k/h)		50	50		50			50		
Link Distance (m)		242.1	36.5		121.1			219.5		
Travel Time (s)		17.4	2.6		8.7			15.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	31	287	0	0	124	35	179	55	0	
Shared Lane Traffic (%)										
Lane Group Flow (vph)	31	287	0	0	159	0	179	55	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Left	Left	Right	Left	Left	Right	
Median Width(m)		3.5	0.0		7.0			7.0		
Link Offset(m)		0.0	0.0		0.0			0.0		
Crosswalk Width(m)		1.6	1.6		1.6			1.6		
Two way Left Turn Lane										
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24			24		14	24		14	
Number of Detectors	1	1	1	1	1		1	1	1	
Detector Template	Left	Thru	Thru	Left	Thru		Left	Thru	Right	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5		17.0	7.5	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0		5.0	9.0	9.0	
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	Prot	NA		Perm	NA		Perm	NA	Perm	
Protected Phases	5	2	6		8			4		1
Permitted Phases				8			4		1 2	
Detector Phase	5	2	6	8	8		4	4	1 2	
Switch Phase										
Minimum Initial (s)	7.0	8.0	8.0	14.0	14.0		14.0	14.0		8.0
Minimum Split (s)	13.0	26.0	26.0	39.0	39.0		39.0	39.0		10.0

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBT	NER	Ø1
Total Split (s)	15.0	47.0	53.0	44.0	44.0		44.0	44.0		21.0
Total Split (%)	13.4%	42.0%	47.3%	39.3%	39.3%		39.3%	39.3%		19%
Maximum Green (s)	9.0	41.0	47.0	37.0	37.0		37.0	37.0		19.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	3.0	2.0	2.0	3.0	3.0		3.0	3.0		0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0		6.0	6.0		
Lead/Lag	Lead	Lag	Lag							Lead
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	C-Max	C-Max	None	None		None	None		Max
Walk Time (s)		8.0	8.0	8.0	8.0		8.0	8.0		
Flash Dont Walk (s)		12.0	12.0	24.0	24.0		24.0	24.0		
Pedestrian Calls (#/hr)		0	0	0	0		0	0		
Act Effct Green (s)	8.5	42.0			23.0		23.0	23.0		
Actuated g/C Ratio	0.08	0.38			0.21		0.21	0.21		
v/c Ratio	0.23	0.21			0.41		0.80	0.14		
Control Delay	61.0	19.0			36.9		66.2	33.8		
Queue Delay	0.0	0.0			0.0		0.0	0.0		
Total Delay	61.0	19.0			36.9		66.2	33.8		
LOS	E	B			D		E	C		
Approach Delay		23.1			36.9			58.6		
Approach LOS		C			D			E		

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 31 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 37.9		Intersection LOS: D	
Intersection Capacity Utilization 45.4%		ICU Level of Service A	
Analysis Period (min) 15			

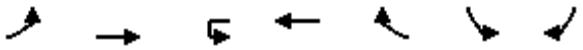
Splits and Phases: 681: Gardiner off-ramp & Simcoe St. & Lake Shore Blvd. W (WB)/Lakeshore Blvd. E (WB)



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	31	287	159	179	55
v/c Ratio	0.23	0.21	0.41	0.80	0.14
Control Delay	61.0	19.0	36.9	66.2	33.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	61.0	19.0	36.9	66.2	33.8
Queue Length 50th (m)	5.9	25.4	27.7	39.4	9.3
Queue Length 95th (m)	m7.9	m28.3	42.5	60.2	16.8
Internal Link Dist (m)		218.1	97.1		195.5
Turn Bay Length (m)					
Base Capacity (vph)	159	1338	625	370	637
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	0.19	0.21	0.25	0.48	0.09

Intersection Summary

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

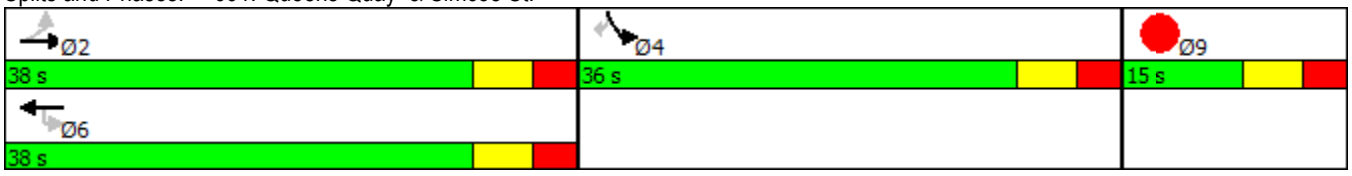


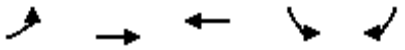
Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR	Ø9
Lane Configurations								
Traffic Volume (vph)	30	46	0	195	28	41	35	
Future Volume (vph)	30	46	0	195	28	41	35	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	55.0		50.0		0.0	0.0	0.0	
Storage Lanes	1		1		0	1	1	
Taper Length (m)	15.0		15.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	1.00	1.00	
Frt				0.981			0.850	
Flt Protected	0.950					0.950		
Satd. Flow (prot)	1785	3570	1842	3502	0	1785	1597	
Flt Permitted	0.612					0.950		
Satd. Flow (perm)	1150	3570	1842	3502	0	1785	1597	
Right Turn on Red					Yes		Yes	
Satd. Flow (RTOR)				20			35	
Link Speed (k/h)		50		50		50		
Link Distance (m)		323.9		219.8		121.1		
Travel Time (s)		23.3		15.8		8.7		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	
Adj. Flow (vph)	30	46	0	195	28	41	35	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	30	46	0	223	0	41	35	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right	
Median Width(m)		3.5		3.5		3.5		
Link Offset(m)		0.0		0.0		0.0		
Crosswalk Width(m)		1.6		1.6		1.6		
Two way Left Turn Lane								
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14		14	24	14	
Number of Detectors	1	1	1	1		1	1	
Detector Template	Left	Thru	Left	Thru		Left	Right	
Leading Detector (m)	17.0	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA	Perm	NA		Prot	Perm	
Protected Phases		2		6		4		9
Permitted Phases	2		6				4	
Detector Phase	2	2	6	6		4	4	
Switch Phase								
Minimum Initial (s)	31.0	31.0	31.0	31.0		29.0	29.0	8.0
Minimum Split (s)	38.0	38.0	38.0	38.0		36.0	36.0	15.0

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR	Ø9
Total Split (s)	38.0	38.0	38.0	38.0		36.0	36.0	15.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%		40.4%	40.4%	17%
Maximum Green (s)	31.0	31.0	31.0	31.0		29.0	29.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max		None	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0		0	0	
Act Effct Green (s)	34.1	34.1		34.1		32.0	32.0	
Actuated g/C Ratio	0.46	0.46		0.46		0.43	0.43	
v/c Ratio	0.06	0.03		0.14		0.05	0.05	
Control Delay	18.8	17.6		15.4		19.5	7.6	
Queue Delay	0.0	0.0		0.0		0.0	0.0	
Total Delay	18.8	17.6		15.4		19.5	7.6	
LOS	B	B		B		B	A	
Approach Delay		18.1		15.4		14.1		
Approach LOS		B		B		B		

Intersection Summary			
Area Type:	Other		
Cycle Length: 89			
Actuated Cycle Length: 74.6			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.14			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

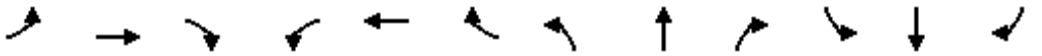
Splits and Phases: 691: Queens Quay & Simcoe St.





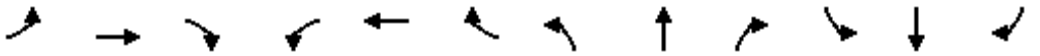
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	30	46	223	41	35
v/c Ratio	0.06	0.03	0.14	0.05	0.05
Control Delay	18.8	17.6	15.4	19.5	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	17.6	15.4	19.5	7.6
Queue Length 50th (m)	3.3	2.6	12.2	4.7	0.0
Queue Length 95th (m)	9.0	6.1	20.0	11.5	6.0
Internal Link Dist (m)		299.9	195.8	97.1	
Turn Bay Length (m)	55.0				
Base Capacity (vph)	525	1632	1611	765	704
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	0.06	0.03	0.14	0.05	0.05

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	529	180	13	101	14	29	11	45	30	13	90
Future Volume (vph)	147	529	180	13	101	14	29	11	45	30	13	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.985				0.850		0.909	
Flt Protected		0.991			0.995			0.965			0.989	
Satd. Flow (prot)	0	3428	0	0	1841	0	0	1813	1597	0	1689	0
Flt Permitted		0.991			0.995			0.965			0.989	
Satd. Flow (perm)	0	3428	0	0	1841	0	0	1813	1597	0	1689	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		151.2			143.9			101.8			172.0	
Travel Time (s)		10.9			10.4			7.3			12.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	155	557	189	14	106	15	31	12	47	32	14	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	901	0	0	135	0	0	43	47	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			



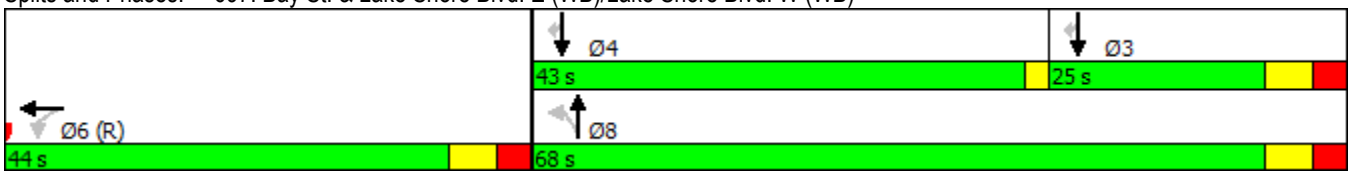
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	130	665	111	71	384	0	0	97	328
Future Volume (vph)	0	0	0	130	665	111	71	384	0	0	97	328
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	0.0		50.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	1.00	0.88
Ped Bike Factor					0.93			0.93				0.65
Frt					0.982							0.850
Flt Protected					0.993			0.992				
Satd. Flow (prot)	0	0	0	0	5597	0	0	3284	0	0	1528	2627
Flt Permitted					0.993			0.882				
Satd. Flow (perm)	0	0	0	0	5432	0	0	2718	0	0	1528	1713
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					34							
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		153.1			169.6			64.6			325.1	
Travel Time (s)		11.0			12.2			4.7			23.4	
Confl. Peds. (#/hr)	260		66	66		260	948		289	289		948
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	2%	9%	8%	7%	8%	2%	0%	23%	7%
Adj. Flow (vph)	0	0	0	137	700	117	75	404	0	0	102	345
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	954	0	0	479	0	0	102	345
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			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1	1		1	1			1	1
Detector Template				Left	Thru		Left	Thru			Thru	Right
Leading Detector (m)				17.0	7.5		17.0	7.5			7.5	7.5
Trailing Detector (m)				12.0	-1.5		12.0	-1.5			-1.5	-1.5
Detector 1 Position(m)				12.0	-1.5		12.0	-1.5			-1.5	-1.5
Detector 1 Size(m)				5.0	9.0		5.0	9.0			9.0	9.0
Detector 1 Type				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
Detector 1 Queue (s)				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
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					6			8			4 3	
Permitted Phases				6			8					4 3
Detector Phase				6	6		8	8			4 3	4 3
Switch Phase												

Lane Group	Ø3	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				18.0	18.0		14.0	14.0				
Minimum Split (s)				25.0	25.0		56.0	56.0				
Total Split (s)				44.0	44.0		68.0	68.0				
Total Split (%)				39.3%	39.3%		60.7%	60.7%				
Maximum Green (s)				37.0	37.0		61.0	61.0				
Yellow Time (s)				4.0	4.0		4.0	4.0				
All-Red Time (s)				3.0	3.0		3.0	3.0				
Lost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0				
Recall Mode				C-Max	C-Max		Max	Max				
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				11.0	11.0		10.0	10.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)					38.0			62.0			67.0	67.0
Actuated g/C Ratio					0.34			0.55			0.60	0.60
v/c Ratio					0.51			0.32			0.11	0.34
Control Delay					29.6			10.6			10.1	12.5
Queue Delay					0.0			0.0			0.0	0.0
Total Delay					29.6			10.6			10.1	12.5
LOS					C			B			B	B
Approach Delay					29.6			10.6			11.9	
Approach LOS					C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 66.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 697: Bay St. & Lake Shore Blvd. E (WB)/Lake Shore Blvd. W (WB)

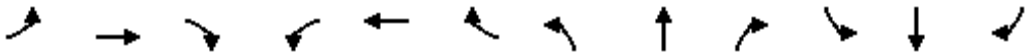


Lane Group	Ø3	Ø4
Minimum Initial (s)	7.0	14.0
Minimum Split (s)	25.0	31.0
Total Split (s)	25.0	43.0
Total Split (%)	22%	38%
Maximum Green (s)	18.0	41.0
Yellow Time (s)	4.0	2.0
All-Red Time (s)	3.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)	7.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	954	479	102	345
v/c Ratio	0.51	0.32	0.11	0.34
Control Delay	29.6	10.6	10.1	12.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.6	10.6	10.1	12.5
Queue Length 50th (m)	46.4	17.7	9.0	20.2
Queue Length 95th (m)	56.8	33.7	16.4	30.0
Internal Link Dist (m)	145.6	40.6	301.1	
Turn Bay Length (m)				50.0
Base Capacity (vph)	1865	1504	914	1024
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	0.51	0.32	0.11	0.34

Intersection Summary

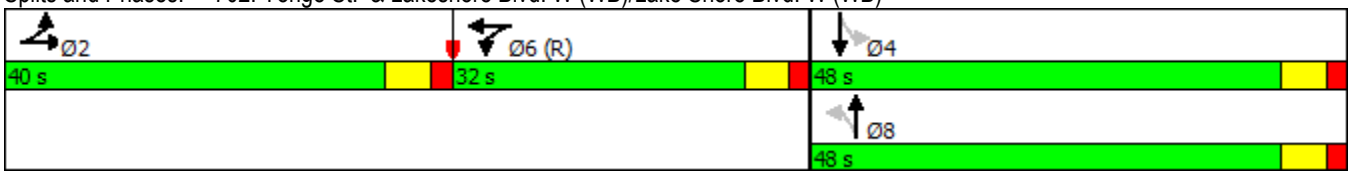


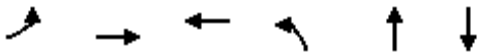
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	615	819	114	51	311	42	49	878	134	289	131	551
Future Volume (vph)	615	819	114	51	311	42	49	878	134	289	131	551
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	40.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.86	0.86	0.91	0.91	0.91	0.91	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99	0.99			1.00		0.97	0.98			0.88	
Frt		0.985			0.984			0.980			0.915	
Flt Protected	0.950	0.990			0.994		0.950				0.985	
Satd. Flow (prot)	1420	4530	0	0	4842	0	1652	3429	0	0	2833	0
Flt Permitted	0.950	0.990			0.994		0.176				0.505	
Satd. Flow (perm)	1406	4521	0	0	4839	0	296	3429	0	0	1445	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		14						16			307	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		37.6			39.2			141.9			81.5	
Travel Time (s)		2.7			2.8			10.2			5.9	
Confl. Peds. (#/hr)	12		15	15		12	188		108	108		188
Peak Hour 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
Heavy Vehicles (%)	2%	5%	1%	0%	2%	17%	2%	0%	3%	2%	0%	0%
Adj. Flow (vph)	615	819	114	51	311	42	49	878	134	289	131	551
Shared Lane Traffic (%)	38%											
Lane Group Flow (vph)	381	1167	0	0	404	0	49	1012	0	0	971	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)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		6	6			8			4	
Permitted Phases							8			4		
Detector Phase	2	2		6	6		8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		14.0	14.0		27.0	27.0		17.0	17.0	
Minimum Split (s)	31.0	31.0		32.0	32.0		44.0	44.0		44.0	44.0	
Total Split (s)	40.0	40.0		32.0	32.0		48.0	48.0		48.0	48.0	
Total Split (%)	33.3%	33.3%		26.7%	26.7%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	34.0	34.0		26.0	26.0		42.0	42.0		42.0	42.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0			-1.0		-1.0	-1.0			-1.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
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	Min	Min		C-Min	C-Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	34.4	34.4			17.4		53.2	53.2			53.2	
Actuated g/C Ratio	0.29	0.29			0.14		0.44	0.44			0.44	
v/c Ratio	0.94	0.89			0.58		0.37	0.66			1.20	
Control Delay	73.6	50.3			51.3		33.9	28.8			123.3	
Queue Delay	0.0	0.0			0.0		0.0	3.5			0.0	
Total Delay	73.6	50.3			51.3		33.9	32.2			123.3	
LOS	E	D			D		C	C			F	
Approach Delay		56.0			51.3			32.3			123.3	
Approach LOS		E			D			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay: 65.6		Intersection LOS: E	
Intersection Capacity Utilization 124.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 702: Yonge St. & Lakeshore Blvd. W (WB)/Lake Shore Blvd. W (WB)





Lane Group	EBL	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	381	1167	404	49	1012	971
v/c Ratio	0.94	0.89	0.58	0.37	0.66	1.20
Control Delay	73.6	50.3	51.3	33.9	28.8	123.3
Queue Delay	0.0	0.0	0.0	0.0	3.5	0.0
Total Delay	73.6	50.3	51.3	33.9	32.2	123.3
Queue Length 50th (m)	100.9	100.3	33.2	7.5	94.6	~123.3
Queue Length 95th (m)	#167.4	120.0	43.1	20.7	123.8	#167.3
Internal Link Dist (m)		13.6	15.2		117.9	57.5
Turn Bay Length (m)				40.0		
Base Capacity (vph)	414	1331	1089	131	1529	811
Starvation Cap Reductn	0	0	0	0	410	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.88	0.37	0.37	0.90	1.20

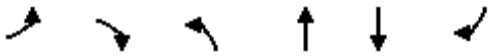
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1176	62	0	0	0	137
Future Volume (vph)	1176	62	0	0	0	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt	0.993					0.865
Flt Protected						
Satd. Flow (prot)	4991	0	0	5029	0	1609
Flt Permitted						
Satd. Flow (perm)	4991	0	0	5029	0	1609
Link Speed (k/h)	50			50	50	
Link Distance (m)	84.9			53.4	172.0	
Travel Time (s)	6.1			3.8	12.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	3%	2%	2%	0%	1%
Adj. Flow (vph)	1238	65	0	0	0	144
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1303	0	0	0	0	144
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.3%		ICU Level of Service A	
Analysis Period (min) 15			

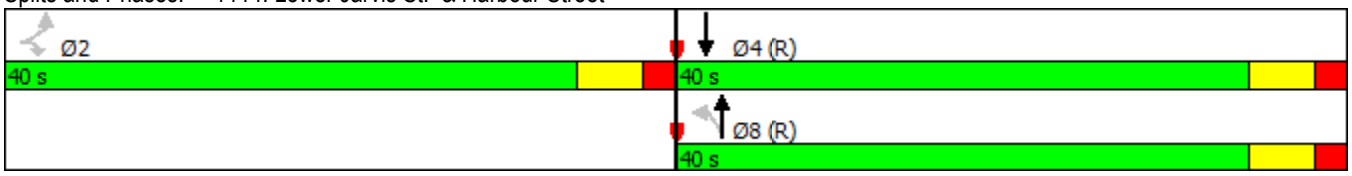


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	290	134	28	357	97	38
Future Volume (vph)	290	134	28	357	97	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850			0.958	
Flt Protected	0.950			0.996		
Satd. Flow (prot)	1785	1597	0	3556	3420	0
Flt Permitted	0.950			0.928		
Satd. Flow (perm)	1785	1597	0	3313	3420	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		141			40	
Link Speed (k/h)	50			50	50	
Link Distance (m)	109.2			96.2	131.1	
Travel Time (s)	7.9			6.9	9.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	305	141	29	376	102	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	305	141	0	405	142	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	7.5	7.5	17.0	7.5	7.5	
Trailing Detector (m)	-0.2	-1.5	12.0	-1.5	-1.5	
Detector 1 Position(m)	-0.2	-1.5	12.0	-1.5	-1.5	
Detector 1 Size(m)	7.7	9.0	5.0	9.0	9.0	
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				8	4	
Permitted Phases	2	2	8			
Detector Phase	2	2	8	8	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	C-Max	C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	35.0	35.0		35.0	35.0	
Actuated g/C Ratio	0.44	0.44		0.44	0.44	
v/c Ratio	0.39	0.18		0.28	0.09	
Control Delay	17.2	3.3		18.6	12.2	
Queue Delay	0.9	0.0		0.0	0.0	
Total Delay	18.0	3.3		18.6	12.2	
LOS	B	A		B	B	
Approach Delay	13.4			18.6	12.2	
Approach LOS	B			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 40 (50%), Referenced to phase 4:SBT and 8:NBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 43.1%		ICU Level of Service A	
Analysis Period (min) 15			

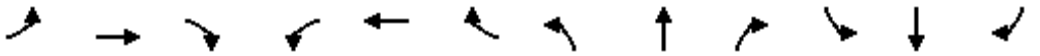
Splits and Phases: 1114: Lower Jarvis St. & Harbour Street



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	305	141	405	142
v/c Ratio	0.39	0.18	0.28	0.09
Control Delay	17.2	3.3	18.6	12.2
Queue Delay	0.9	0.0	0.0	0.0
Total Delay	18.0	3.3	18.6	12.2
Queue Length 50th (m)	30.3	0.0	21.8	7.1
Queue Length 95th (m)	49.2	9.2	38.3	m10.2
Internal Link Dist (m)	85.2		72.2	107.1
Turn Bay Length (m)				
Base Capacity (vph)	780	778	1449	1518
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	245	0	17	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.57	0.18	0.28	0.09

Intersection Summary

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

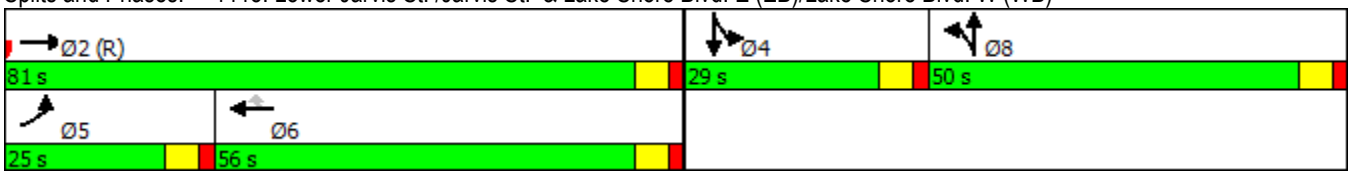


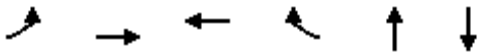
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	374	933	61	0	95	46	266	525	239	209	76	114
Future Volume (vph)	374	933	61	0	95	46	266	525	239	209	76	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	2		0	0		1	0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99	1.00				0.98		0.96			0.98	
Frt		0.991				0.850		0.965			0.957	
Flt Protected	0.950							0.987			0.974	
Satd. Flow (prot)	3143	4846	0	0	3638	919	0	3165	0	0	3222	0
Flt Permitted	0.950							0.987			0.974	
Satd. Flow (perm)	3101	4846	0	0	3638	900	0	3165	0	0	3163	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				102		25			31	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		90.3			232.9			131.1			52.0	
Travel Time (s)		6.5			16.8			9.4			3.7	
Confl. Peds. (#/hr)	4		31	31		4			64	64		
Peak Hour 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
Heavy Vehicles (%)	4%	4%	10%	0%	41%	64%	3%	5%	1%	3%	3%	4%
Adj. Flow (vph)	374	933	61	0	95	46	266	525	239	209	76	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	374	994	0	0	95	46	0	1030	0	0	399	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)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1			1	1	1	1		1	1	
Detector Template	Left	Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	7.5	7.5			7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	-0.2	-1.5			-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	-0.2	-1.5			-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	7.7	9.0			9.0	9.0	5.0	9.0		5.0	9.0	
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	Prot	NA			NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases						6						
Detector Phase	5	2			6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	27.0			27.0	27.0	29.0	29.0		29.0	29.0	
Total Split (s)	25.0	81.0			56.0	56.0	50.0	50.0		29.0	29.0	
Total Split (%)	15.6%	50.6%			35.0%	35.0%	31.3%	31.3%		18.1%	18.1%	
Maximum Green (s)	19.0	75.0			50.0	50.0	44.0	44.0		23.0	23.0	
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lead/Lag	Lead				Lag	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	Min	C-Min			None	None	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		14.0			14.0	14.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	25.1	53.6			23.5	23.5		66.7			24.7	
Actuated g/C Ratio	0.16	0.34			0.15	0.15		0.42			0.15	
v/c Ratio	0.76	0.61			0.18	0.21		0.77			0.76	
Control Delay	74.6	45.9			60.1	2.2		41.6			69.2	
Queue Delay	0.0	0.0			0.0	0.0		12.0			0.0	
Total Delay	74.6	45.9			60.1	2.2		53.7			69.2	
LOS	E	D			E	A		D			E	
Approach Delay		53.7			41.2			53.7			69.2	
Approach LOS		D			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 55.2		Intersection LOS: E	
Intersection Capacity Utilization 74.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1115: Lower Jarvis St. /Jarvis St. & Lake Shore Blvd. E (EB)/Lake Shore Blvd. W (WB)

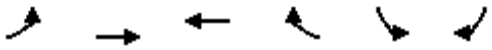




Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	374	994	95	46	1030	399
v/c Ratio	0.76	0.61	0.18	0.21	0.77	0.76
Control Delay	74.6	45.9	60.1	2.2	41.6	69.2
Queue Delay	0.0	0.0	0.0	0.0	12.0	0.0
Total Delay	74.6	45.9	60.1	2.2	53.7	69.2
Queue Length 50th (m)	58.5	91.8	9.6	0.0	143.1	60.1
Queue Length 95th (m)	#91.9	114.9	16.0	0.0	156.5	76.0
Internal Link Dist (m)		66.3	208.9		107.1	28.0
Turn Bay Length (m)	55.0					
Base Capacity (vph)	492	2306	1159	356	1334	551
Starvation Cap Reductn	0	0	0	0	295	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.43	0.08	0.13	0.99	0.72

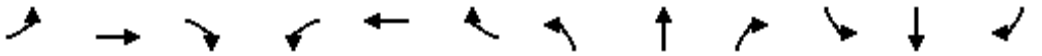
Intersection Summary

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



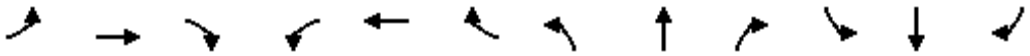
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	212	113	50	83	37
Future Volume (vph)	40	212	113	50	83	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.958		0.958	
Flt Protected		0.992			0.967	
Satd. Flow (prot)	0	1864	1800	0	1741	0
Flt Permitted		0.992			0.967	
Satd. Flow (perm)	0	1864	1800	0	1741	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		88.6	118.8		96.5	
Travel Time (s)		6.4	8.6		6.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	42	223	119	53	87	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	265	172	0	126	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.2%		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)	37	523	34	5	112	4	14	8	19	13	5	2
Future Volume (vph)	37	523	34	5	112	4	14	8	19	13	5	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.991			0.996			0.937			0.986	
Flt Protected		0.997			0.998			0.983			0.968	
Satd. Flow (prot)	0	3527	0	0	1868	0	0	1731	0	0	3407	0
Flt Permitted		0.997			0.998			0.983			0.968	
Satd. Flow (perm)	0	3527	0	0	1868	0	0	1731	0	0	3407	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		143.9			98.2			98.8			113.0	
Travel Time (s)		10.4			7.1			7.1			8.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	39	551	36	5	118	4	15	8	20	14	5	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	626	0	0	127	0	0	43	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)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.6%		ICU Level of Service A	
Analysis Period (min) 15			

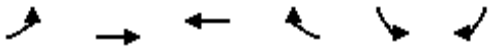


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	387	85	4	40	22	34	33	27	17	11	46
Future Volume (vph)	75	387	85	4	40	22	34	33	27	17	11	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.977			0.955			0.962			0.917	
Flt Protected		0.993			0.997			0.982			0.989	
Satd. Flow (prot)	0	3463	0	0	1789	0	0	1775	0	0	1704	0
Flt Permitted		0.993			0.997			0.982			0.989	
Satd. Flow (perm)	0	3463	0	0	1789	0	0	1775	0	0	1704	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		98.2			109.2			96.5			146.5	
Travel Time (s)		7.1			7.9			6.9			10.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	79	407	89	4	42	23	36	35	28	18	12	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	575	0	0	69	0	0	99	0	0	78	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.1%		ICU Level of Service A	
Analysis Period (min) 15			

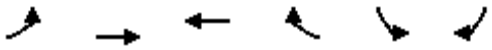
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1255	51	0	0	0	121
Future Volume (vph)	1255	51	0	0	0	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt	0.994					0.865
Flt Protected						
Satd. Flow (prot)	5099	0	0	5129	0	1625
Flt Permitted						
Satd. Flow (perm)	5099	0	0	5129	0	1625
Link Speed (k/h)	50			50	50	
Link Distance (m)	109.3			90.3	146.5	
Travel Time (s)	7.9			6.5	10.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1321	54	0	0	0	127
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1375	0	0	0	0	127
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	6.0			6.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.5%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	216	132	17	38	5
Future Volume (vph)	24	216	132	17	38	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.985			0.850
Flt Protected		0.995			0.950	
Satd. Flow (prot)	0	1869	1851	0	1785	1597
Flt Permitted		0.995			0.950	
Satd. Flow (perm)	0	1869	1851	0	1785	1597
Link Speed (k/h)		50	50		50	
Link Distance (m)		53.8	88.6		98.8	
Travel Time (s)		3.9	6.4		7.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	25	227	139	18	40	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	252	157	0	40	5
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.0%		ICU Level of Service A	
Analysis Period (min) 15			

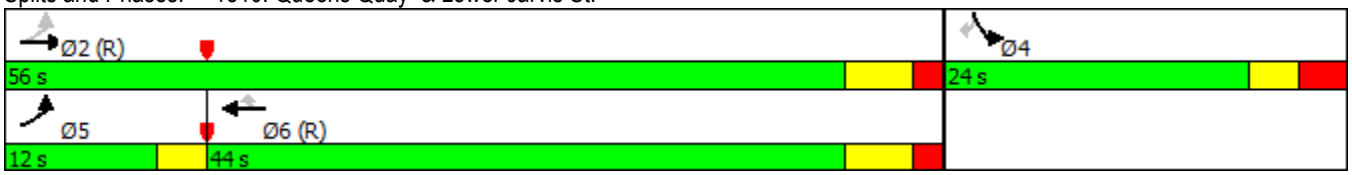


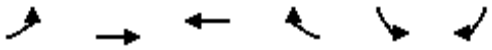
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	61	232	132	333	213	31
Future Volume (vph)	61	232	132	333	213	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	0.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97			0.95	0.96	0.95
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1352	1740	1566	1536	1785	1192
Flt Permitted	0.637				0.950	
Satd. Flow (perm)	876	1740	1566	1454	1714	1134
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				351		33
Link Speed (k/h)		50	50		50	
Link Distance (m)		118.8	234.3		96.2	
Travel Time (s)		8.6	16.9		6.9	
Confl. Peds. (#/hr)	66			66	18	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	32%	8%	20%	4%	0%	34%
Adj. Flow (vph)	64	244	139	351	224	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	244	139	351	224	33
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	17.0	7.5	7.5	7.5	17.0	7.5
Trailing Detector (m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Position(m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Size(m)	5.0	9.0	9.0	9.0	5.0	9.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Initial (s)	9.0	30.0	30.0	30.0	7.0	7.0
Minimum Split (s)	12.0	44.0	44.0	44.0	24.0	24.0
Total Split (s)	12.0	56.0	44.0	44.0	24.0	24.0
Total Split (%)	15.0%	70.0%	55.0%	55.0%	30.0%	30.0%
Maximum Green (s)	9.0	50.0	38.0	38.0	18.0	18.0
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	2.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max
Walk Time (s)		30.0	30.0	30.0	7.0	7.0
Flash Dont Walk (s)		8.0	8.0	8.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	54.0	51.0	41.4	41.4	19.0	19.0
Actuated g/C Ratio	0.68	0.64	0.52	0.52	0.24	0.24
v/c Ratio	0.10	0.22	0.17	0.38	0.53	0.11
Control Delay	4.9	6.7	12.0	2.7	31.1	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	6.7	12.0	2.7	31.1	8.7
LOS	A	A	B	A	C	A
Approach Delay		6.3	5.4		28.3	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			

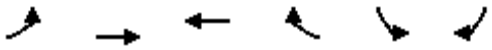
Splits and Phases: 1510: Queens Quay & Lower Jarvis St.



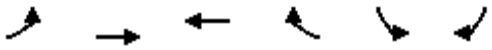


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	64	244	139	351	224	33
v/c Ratio	0.10	0.22	0.17	0.38	0.53	0.11
Control Delay	4.9	6.7	12.0	2.7	31.1	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	6.7	12.0	2.7	31.1	8.7
Queue Length 50th (m)	2.8	13.8	11.3	0.0	32.2	0.9
Queue Length 95th (m)	6.4	23.2	21.1	12.5	50.9	4.4
Internal Link Dist (m)		94.8	210.3		72.2	
Turn Bay Length (m)	30.0			30.0		
Base Capacity (vph)	650	1109	810	921	423	294
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.22	0.17	0.38	0.53	0.11

Intersection Summary



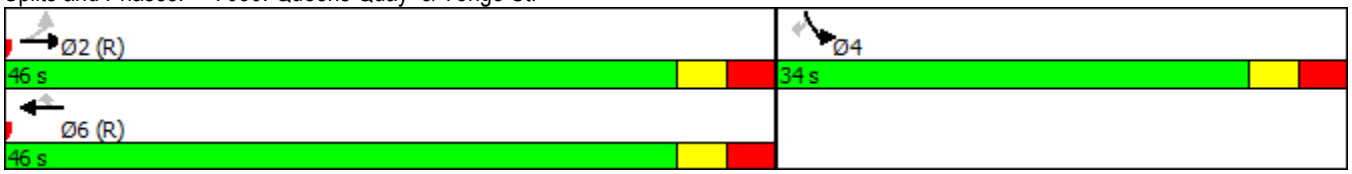
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	97	120	133	25	75	56
Future Volume (vph)	97	120	133	25	75	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	0.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1785	1879	1879	1597	1785	1597
Flt Permitted	0.668				0.950	
Satd. Flow (perm)	1255	1879	1879	1597	1785	1597
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				26		59
Link Speed (k/h)		50	50		50	
Link Distance (m)		189.2	145.2		128.1	
Travel Time (s)		13.6	10.5		9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	102	126	140	26	79	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	126	140	26	79	59
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	17.0	7.5	7.5	7.5	17.0	7.5
Trailing Detector (m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Position(m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Size(m)	5.0	9.0	9.0	9.0	5.0	9.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	16.0	16.0	16.0	16.0	16.0	16.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0

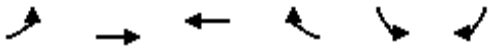


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (s)	46.0	46.0	46.0	46.0	34.0	34.0
Total Split (%)	57.5%	57.5%	57.5%	57.5%	42.5%	42.5%
Maximum Green (s)	40.0	40.0	40.0	40.0	28.0	28.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	41.0	41.0	41.0	41.0	29.0	29.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.36	0.36
v/c Ratio	0.16	0.13	0.15	0.03	0.12	0.10
Control Delay	11.2	10.7	8.9	2.9	17.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	10.7	8.9	2.9	17.7	5.5
LOS	B	B	A	A	B	A
Approach Delay		10.9	8.0		12.5	
Approach LOS		B	A		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.16			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			

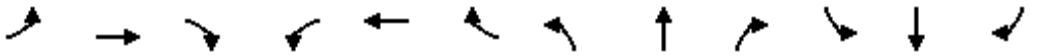
Splits and Phases: 7030: Queens Quay & Yonge St.





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	102	126	140	26	79	59
v/c Ratio	0.16	0.13	0.15	0.03	0.12	0.10
Control Delay	11.2	10.7	8.9	2.9	17.7	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	10.7	8.9	2.9	17.7	5.5
Queue Length 50th (m)	7.8	9.4	10.4	0.7	7.9	0.0
Queue Length 95th (m)	15.8	17.9	12.3	0.1	16.6	7.1
Internal Link Dist (m)		165.2	121.2		104.1	
Turn Bay Length (m)	30.0			30.0		
Base Capacity (vph)	643	962	962	831	647	616
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.13	0.15	0.03	0.12	0.10

Intersection Summary

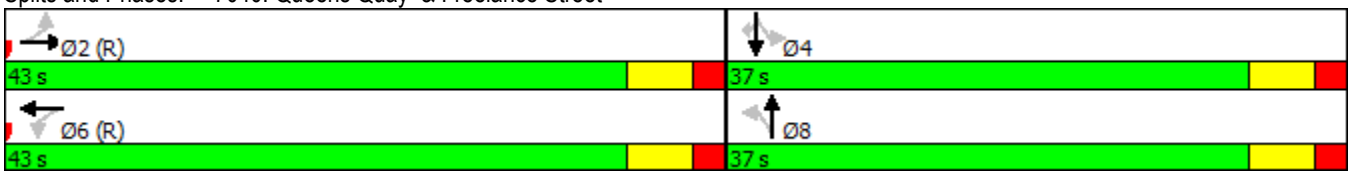


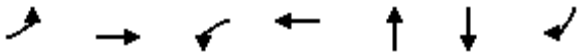
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	163	0	16	110	9	1	0	1	76	57	47
Future Volume (vph)	29	163	0	16	110	9	1	0	1	76	57	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	15.0			15.0			15.0			15.0		
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	0.86			0.93	0.99			0.87			0.89	0.90
Frt					0.989			0.932				0.850
Flt Protected	0.950			0.950				0.976			0.972	
Satd. Flow (prot)	1566	1773	0	1785	1739	0	0	1533	0	0	1816	1566
Flt Permitted	0.677			0.649				0.888			0.822	
Satd. Flow (perm)	959	1773	0	1135	1739	0	0	1349	0	0	1369	1412
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					7			41				49
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		145.2			97.8			84.3			101.8	
Travel Time (s)		10.5			7.0			6.1			7.3	
Confl. Peds. (#/hr)	67		35	35		67	32		76	76		32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	6%	0%	0%	5%	11%	0%	2%	0%	1%	0%	2%
Adj. Flow (vph)	31	172	0	17	116	9	1	0	1	80	60	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	172	0	17	125	0	0	2	0	0	140	49
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)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	17.0	7.5		17.0	7.5		7.5	7.5		7.5	7.5	7.5
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		-0.2	-1.5		-0.2	-1.5	-1.5
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	53.8%	53.8%		53.8%	53.8%		46.3%	46.3%		46.3%	46.3%	46.3%
Maximum Green (s)	37.0	37.0		37.0	37.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	55.6	55.6		55.6	55.6			14.4			14.4	14.4
Actuated g/C Ratio	0.70	0.70		0.70	0.70			0.18			0.18	0.18
v/c Ratio	0.05	0.14		0.02	0.10			0.01			0.57	0.17
Control Delay	4.8	4.7		5.2	4.9			0.0			38.1	9.1
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	4.8	4.7		5.2	4.9			0.0			38.1	9.1
LOS	A	A		A	A			A			D	A
Approach Delay		4.7			4.9						30.6	
Approach LOS		A			A						C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7040: Queens Quay & Freelance Street





Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	31	172	17	125	2	140	49
v/c Ratio	0.05	0.14	0.02	0.10	0.01	0.57	0.17
Control Delay	4.8	4.7	5.2	4.9	0.0	38.1	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.8	4.7	5.2	4.9	0.0	38.1	9.1
Queue Length 50th (m)	0.7	10.6	0.7	4.9	0.0	19.6	0.0
Queue Length 95th (m)	5.5	19.5	3.0	12.7	0.0	33.7	7.6
Internal Link Dist (m)		121.2		73.8	60.3	77.8	
Turn Bay Length (m)	30.0		30.0				30.0
Base Capacity (vph)	666	1231	788	1210	564	547	594
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.14	0.02	0.10	0.00	0.26	0.08

Intersection Summary

APPENDIX D

Scenario 3 Paramics Outputs

SCENARIO 3 AM

			legs						Turning Movement Counts																						
			N	E	S	W			1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3	Gardiner off-ramp		Gardiner on-ramp								
		Index	Intersectio	1	2	3	4	5	6 SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR							
Bay	Lakeshore WB	1	697	704	703	472	705		#N/A	170.7	295.7	202.1	171.5	1049.4	420.6	#N/A	63.6	#N/A	#N/A	#N/A											
Bay	Harbour St	2	11	472	694	1243	911		36.5	174.9	124.5	73.7	18.2	59.2	175.1	57.7	5.7	235.5	1123.5	53.3											
Bay	Queens Quay E	3	12	1243	243	886	724		37.9	140.2	54.2	12.7	12	123.6	167.1	36.3	190.8	61.6	141	28.8											
Harbour St	Zone 218	4	694	0	16	931	11		#N/A	#N/A	#N/A	#N/A	28.5	72.2	#N/A	115.7	79	#N/A	971.4	233.8											
Yonge	Lakeshore WB	5	702	348	8010	565	703		#N/A	79.3	421.6	158.3	102.4	918.5	744	#N/A	83.3	#N/A	#N/A	#N/A											
Yonge	Lakeshore EB	6	565	702	1100	1265	722		#N/A	180.8	#N/A	#N/A	#N/A	#N/A	294.7	244.2	#N/A	532.6	392.7	36.6											
Yonge	Harbour	7	16	1265	1253	1244	694		123.4	30.9	56	131.9	17.3	38.6	53.1	49.6	6.1	354.7	678.3	42											
Yonge	Queens Quay E	8	7030	1244	242	0	130		44.2	#N/A	43.3	34.2	#N/A	106.2	#N/A	#N/A	#N/A	77.1	131.3	#N/A											
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	136.6	#N/A	#N/A	617.3	3.5											
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83		0.1	0.9	2.1	#N/A	#N/A	#N/A	61.1	50.1	84.8	#N/A	#N/A	#N/A											
Freeland Street	Harbour	11	696	1247	1254	1269	1253		44.9	11.2	71.1	47.4	17.7	90.3	9.7	71.8	26.9	139.9	585.6	97.1											
Freeland Street	Zone 248	12	1269	696	0	7040	1266		#N/A	56.9	67.3	#N/A	#N/A	#N/A	46.9	#N/A	11.4	#N/A	#N/A	#N/A											
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242		74.1	1.3	32.7	15.8	#N/A	68.5	28.5	60.2	49.8	16.5	148.3	#N/A											
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040		35	#N/A	3.9	18.2	#N/A	90.5	#N/A	#N/A	#N/A	40.2	231.1	#N/A											
Cooper Street	Harbour St	15	1256	946	1258	1270	1255		11.2	7.5	14.1	7.9	2.8	129	11.5	32	12.7	31.8	608.3	31.9											
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100		193	28.8	#N/A	#N/A	#N/A	#N/A	24.8	25.7	#N/A	221.7	489.9	4.4											
Cooper Street	Lakeshore WB	17	361	916	80	343	8010		#N/A	33.4	9.5	87.5	192.9	449.1	245.4	#N/A	1.2	#N/A	#N/A	#N/A											
New Street	Lakeshore EB	18	1259	0	1115	1271	343		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	112.4	#N/A	#N/A	651.5	28.3											
New Street	Zones 122&251	19	1271	1259	1268	1257	949		6.3	8.3	13.6	#N/A	#N/A	#N/A	55.2	19.7	35.2	#N/A	#N/A	#N/A											
New Street	Harbour St	20	1257	1271	684	1116	1258		31.5	9.6	34.4	17.1	3.8	81.8	14.8	45.8	23	78.3	480.6	73.3											
New Street	Zones 250&121	21	1116	1257	1117	1231	1267		12.2	58.4	16.1	#N/A	#N/A	#N/A	38	14.1	31	#N/A	#N/A	#N/A											
New Street	Queens Quay E	22	1231	1116	1510	0	1232		99.9	#N/A	28.1	34.1	#N/A	80.6	#N/A	#N/A	#N/A	51.7	203.7	#N/A											
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231		321	#N/A	31.4	393.4	#N/A	91.4	#N/A	#N/A	#N/A	90.9	209	#N/A											
Lower Jarvis	Harbour	24	1114	1115	0	1510	684		#N/A	132.6	39.1	#N/A	#N/A	#N/A	414.8	#N/A	63.6	337.3	#N/A	203.3											
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259		71.1	127.1	#N/A	#N/A	#N/A	#N/A	459	300.5	#N/A	328.3	366.7	46											
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349	#N/A	200.6	78.4	12.8	#N/A	603.4	517.9	#N/A	51.6	#N/A	#N/A	#N/A					593.8	212.5					
Jarvis	Front	27	660	1037	383	661	654	655	52	691.8	130.5	51.7	204.8	788.1	398.8	65.1	55	314.5	231.3	44.1											
Church	Front	28	653	904	194	974	563	654	905	49	127.7	375.9	62.6	89	825.5	349.4	83.1	13.2	213	467.3	3.8										
Yonge	Front	29	3	666	561	423	559		11.3	335.3	264.6	#N/A	#N/A	#N/A	965.5	242.7	255.8	139.9	449.3	75.2											
Zone 247	Queens Quay E	30	724	692	12	0	239		#N/A	#N/A	#N/A	25.5	#N/A	331	#N/A	#N/A	#N/A	18.9	161.1	#N/A											
Harbour St	Zone 217	31	911	918	11	0	448		27.8	#N/A	3	143.9	#N/A	44.5	#N/A	#N/A	#N/A	258.9	1396.1	#N/A											
Lakeshore	Zone 217	32	705	0	697	918	446		#N/A	#N/A	#N/A	#N/A	#N/A	1408.2	#N/A	#N/A	70.3	#N/A	#N/A	#N/A											
Zone 217	Zone 217	33	918	705	920	911	0		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	402.1	#N/A	#N/A	#N/A	#N/A											
York	Queens Quay E	34	324	689	239	13	725		83.4	264.8	63.8	191.9	47.5	192.5	150.2	39.9	18	105.7	58.9	#N/A											
York	Harbour	35	448	446	911	689	10		144.1	310.2	#N/A	47.2	#N/A	#N/A	338.9	102.8	#N/A	637.8	1425.4	101.9											
York	Lakeshore WB	36	446	451	705	448	73	707	#N/A	291.1	22.2	159.5	166.9	526.6	808.7	#N/A	36.1	#N/A	#N/A	#N/A					603.7	177.6	325.3				
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691		#N/A	#N/A	#N/A	#N/A	#N/A	274.6	#N/A	#N/A	#N/A	#N/A	165.4	#N/A											
Lower Simcoe	Queens Quay E	38	691	681	726	14	728		16.1	44.3	25.5	8.8	68.2	198.6	173.4	74.9	6.4	47.9	74.5	#N/A											
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685	105.1	37.4	#N/A	#N/A	#N/A	#N/A	172	53.4	#N/A	203.4	826.6	#N/A	1213.2	48.8									
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706		#N/A	143.4	112.3	111.8	#N/A	473	347.4	#N/A	27.3	#N/A	#N/A	#N/A											
Esplanade	Yonge	41	332	423	564	348	0		65.9	340.5	#N/A	28.2	169.2	#N/A	1433.4	49.5	#N/A	#N/A	#N/A	#N/A											
Esplanade	Church	42	974	653	1182	916	564		13.1	107.5	97.8	223.7	61.7	98.8	196.4	173.7	6.7	37.2	65.5	15.4											
Gardiner	York On-Ramp	43	683		680		682		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1265	#N/A											
Gardiner	Gardiner	44	680		9018		679		#N/A	#N/A	#N/A	#N/A	#N/A	3661.5	#N/A	#N/A	#N/A	#N/A	3217.9	#N/A											
Gardiner	Yonge Off-Ramp	45	9018		722		680		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	997.6	#N/A											
Cooper Street	Lake Shore EB	46	343	361	1259	946	1100		193	28.8	#N/A	#N/A	#N/A	#N/A	24.8	25.7	#N/A	221.7	489.9	4.4											
Cooper Street	Lake Shore WB	47	361	916	80	343	8010		#N/A	33.4	9.5	87.5	192.9	449.1	245.4	#N/A	1.2	#N/A	#N/A	#N/A											

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 3 AM

		Index	Intersectio	legs 1	2	3	4	5	6	Turning Movement Delay 1->2 SBL	1->3 SBT	1->4 SBR	2 ->1 WBR	2->3 WBL	2->4 WBT	3->1 NBT	3->2 NBR	3->4 NBL	4->1 EBL	4->2 EBT	4->3 EBR	Gardiner off-ramp EBT	EBR	Gardiner on-ramp WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	27.5085	26.3691	1.8924	1.51851	3.99178	31.5299	#N/A	33.5356	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911			52.3081	35.8366	42.8548	13.4229	21.7454	28.9342	35.4671	23.159	77.9384	8.62873	12.6858	10.7066					
Bay	Queens Quay E	3	12	1243	243	886	724			36.4907	24.8624	10.6503	0.338425	9.50333	4.88807	46.011	37.5987	46.81	11.2843	9.19781	3.19242					
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	20.3544	5.66255	#N/A	37.4779	46.861	#N/A	5.78814	4.24638					
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	26.0459	12.0792	33.8356	34.6028	35.771	3.94633	#N/A	7.0122	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1265	722			#N/A	3.33289	#N/A	#N/A	#N/A	#N/A	32.5367	21.6016	#N/A	159.37	58.0355	52.1798					
Yonge	Harbour	7	16	1265	1253	1244	694			23.3903	28.199	5.22741	0.599994	35.7141	24.5721	17.3182	7.14995	20.8914	18.69	12.8893	8.23078					
Yonge	Queens Quay E	8	7030	1244	242	0	130			26.8174	#N/A	1.09955	0.029655	#N/A	6.61733	#N/A	#N/A	#N/A	7.57017	6.22701	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	19.0178	#N/A	#N/A	5.59981	8.06266					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			0	16.4392	0	#N/A	#N/A	#N/A	2.78041	0.763018	2.52929	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1269	1253			30.5085	34.6149	14.4347	1.5549	9.50185	1.39038	34.7733	16.5276	19.8877	4.16115	3.92876	6.84787					
Freeland Street	Zone 248	12	1269	696	0	7040	1266			#N/A	6.76236	4.73999	#N/A	#N/A	#N/A	7.49341	#N/A	6.70741	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			36.6081	69.9662	19.5613	14.9512	#N/A	14.7048	26.1892	31.7676	28.8866	28.4099	15.7709	#N/A					
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			15.2724	#N/A	0.442972	0	#N/A	0	#N/A	#N/A	#N/A	17.8626	19.2156	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			16.9977	13.4238	7.29229	14.097	16.7963	11.1968	13.5108	11.8655	14.0086	31.1824	34.2243	32.6201					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			47.4779	17.9036	#N/A	#N/A	#N/A	#N/A	48.3816	47.2584	#N/A	37.3346	67.0175	64.4823					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	123.655	126.188	17.674	95.3186	17.358	1.89619	#N/A	49.1708	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	35.3782	#N/A	#N/A	78.4642	47.7218					
New Street	Zones 122&251	19	1271	1259	1268	1257	949			30.7216	21.368	9.81417	#N/A	#N/A	#N/A	3.53273	1.01523	0.898354	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1271	684	1116	1258			69.6178	67.9171	59.5997	0.82961	9.41841	0.533979	64.9865	83.5416	44.2477	12.2421	17.3324	15.094					
New Street	Zones 250&212	21	1116	1257	1117	1231	1267			0.153449	0.738593	0.09273	#N/A	#N/A	#N/A	29.3213	16.6306	20.3184	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232			3.78563	#N/A	1.75862	40.223	#N/A	29.6795	#N/A	#N/A	#N/A	15.3201	5.9965	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			80.8489	#N/A	3.20863	23.3629	#N/A	32.5928	#N/A	#N/A	#N/A	27.1914	11.2933	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	40.3353	13.5437	#N/A	#N/A	#N/A	44.0931	#N/A	30.4442	40.182	#N/A	59.6492					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			49.5494	51.3213	#N/A	#N/A	#N/A	#N/A	52.6394	44.5744	#N/A	215.535	59.6604	29.78					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	54.7016	58.8466	49.1108	#N/A	108.789	3.07938	#N/A	4.63688	#N/A	#N/A	#N/A			126.183	4.27803	
Jarvis	Front	27	660	1037	383	661	654	655		43.1666	27.9559	25.462	11.4611	38.576	16.4767	17.1284	9.48733	51.9353	52.6518	16.8643	25.7791					
Church	Front	28	653	904	194	974	563	654	905	34.033	18.2163	6.92632	20.7683	18.8227	18.3035	46.5101	4.22838	57.9418	48.3353	18.9835	0.445448					
Yonge	Front	29	3	666	561	423	559			65.133	13.8557	8.29819	#N/A	#N/A	#N/A	5.27962	3.13232	13.863	20.9182	18.75	13.7708					
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	0.588313	#N/A	1.89244	#N/A	#N/A	#N/A	1.82564	0	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448			20.5508	#N/A	6.0067	0.288162	#N/A	2.11593	#N/A	#N/A	#N/A	2.8177	4.04341	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	1.92863	#N/A	#N/A	5.88263	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725			24.6193	27.642	2.33481	2.27958	45.7462	36.3576	45.0886	40.8202	45.1375	56.5963	36.6701	#N/A					
York	Harbour	35	448	446	911	689	10			45.6922	53.2263	#N/A	52.1925	#N/A	#N/A	44.2033	32.3241	#N/A	24.6092	13.5073	16.3125					
York	Lakeshore WB	36	446	451	705	448	73	707		#N/A	35.658	30.1455	79.0225	46.5532	61.8377	10.4598	#N/A	23.5066	#N/A	#N/A	#N/A			85.5684	25.717	24.5276
Queens Quay E	Harbourfront Cei	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	0.080279	#N/A	#N/A	#N/A	#N/A	1.76633	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			62.1577	38.8364	10.8329	18.0354	65.7506	24.2452	46.4399	44.0475	45.8712	61.0122	20.9295	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		25.9196	3.52661	#N/A	#N/A	#N/A	#N/A	39.9654	41.3517	#N/A	54.4043	8.60092	#N/A	6.44442	5.19698			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	33.8944	14.4424	8.83398	#N/A	6.77642	9.85471	#N/A	13.5077	#N/A	#N/A	#N/A					
Esplanade	Yonge	41	332	423	564	348	0			4.39007	3.34286	#N/A	17.1469	27.1838	#N/A	9.93043	12.5124	#N/A	#N/A	#N/A	#N/A					
Esplanade	Church	42	974	653	1182	916	564			22.9502	13.6154	13.0274	25.013	13.554	14.5151	16.2417	17.7835	17.8659	20.1068	8.7237	12.733					

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 3 AM

		Index	Intersection	legs 1	2	3	4	5	6	Turning Movement LOS 1->2 SBL	1->3 SBT	1->4 SBR	2 ->1 WBR	2->3 WBL	2->4 WBT	3->1 NBT	3->2 NBR	3->4 NBL	4->1 EBL	4->2 EBT	4->3 EBR	Gardiner off-ramp EBT	EBR	Gardiner on-ramp (Jarvis) WBT	NBL
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	C	C	A	A	A	C	#N/A	C	#N/A	#N/A	#N/A				
Bay	Harbour St	2	11	472	694	1243	911			D	D	D	B	C	C	D	C	E	A	B	B				
Bay	Queens Quay E	3	12	1243	243	886	724			D	C	B	A	A	A	D	D	D	B	A	A				
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	C	A	#N/A	D	D	#N/A	A	A				
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	C	B	C	C	D	A	#N/A	A	#N/A	#N/A	#N/A				
Yonge	Lakeshore EB	6	565	702	1100	1265	722			#N/A	A	#N/A	#N/A	#N/A	#N/A	C	C	#N/A	F	E	D				
Yonge	Harbour	7	16	1265	1253	1244	694			C	C	A	A	D	C	B	A	C	B	B	A				
Yonge	Queens Quay E	8	7030	1244	242	0	130			C	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	B	#N/A	#N/A	A	A				
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			A	B	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A				
Freeland Street	Harbour	11	696	1247	1254	1269	1253			C	C	B	A	A	A	C	B	B	A	A	A				
Freeland Street	Zone 248	12	1269	696	0	7040	1266			#N/A	A	A	#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A				
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			D	E	B	B	#N/A	B	C	C	C	C	B	#N/A				
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			B	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	B	B	#N/A				
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			B	B	A	B	B	B	B	B	B	C	C	C				
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			D	B	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	D	E	E				
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	F	F	B	F	B	A	#N/A	D	#N/A	#N/A	#N/A				
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	D	#N/A	#N/A	E	D				
New Street	Zones 122&251	19	1271	1259	1268	1257	949			C	C	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A				
New Street	Harbour St	20	1257	1271	684	1116	1258			E	E	E	A	A	A	E	F	D	B	B	B				
New Street	Zones 250&212	21	1116	1257	1117	1231	1267			A	A	A	#N/A	#N/A	#N/A	C	B	C	#N/A	#N/A	#N/A				
New Street	Queens Quay E	22	1231	1116	1510	0	1232			A	#N/A	A	D	#N/A	C	#N/A	#N/A	#N/A	B	A	#N/A				
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			F	#N/A	A	C	#N/A	C	#N/A	#N/A	#N/A	C	B	#N/A				
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	D	B	#N/A	#N/A	#N/A	D	#N/A	C	D	#N/A	E				
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			D	D	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	F	E	C				
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	D	E	D	#N/A	F	A	#N/A	A	#N/A	#N/A	#N/A			F	A
Jarvis	Front	27	660	1037	383	661	654	655		D	C	C	B	D	B	B	A	D	D	B	C				
Church	Front	28	653	904	194	974	563	654	905	C	B	A	C	B	B	D	A	E	D	B	A				
Yonge	Front	29	3	666	561	423	559			E	B	A	#N/A	#N/A	#N/A	A	A	B	C	B	B				
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Harbour St	Zone 217	31	911	918	11	0	448			C	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	A	#N/A	#N/A	#N/A				
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A				
York	Queens Quay E	34	324	689	239	13	725			C	C	A	A	D	D	D	D	D	E	D	#N/A				
York	Harbour	35	448	446	911	689	10			D	D	#N/A	D	#N/A	#N/A	D	C	#N/A	C	B	B				
York	Lakeshore WB	36	446	451	705	448	707			#N/A	D	C	E	D	E	B	#N/A	C	#N/A	#N/A	#N/A				
Queens Quay E	Harbourfront Cei	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	A	#N/A				
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			E	D	B	B	E	C	D	D	D	E	C	#N/A				
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		C	A	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	D	A	#N/A	A	A		
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	C	B	A	#N/A	A	A	#N/A	B	#N/A	#N/A	#N/A				
Esplanade	Yonge	41	332	423	564	348	0			A	A	#N/A	B	C	#N/A	A	B	#N/A	#N/A	#N/A	#N/A	#N/A			
Esplanade	Church	42	974	653	1182	916	564			C	B	B	C	B	B	B	B	B	C	A	B				

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 3 AM

Average Intersection Delay and LOS		Delay	LOS
Bay	Lake Shore WB	14	B
Bay	Harbour St	19	B
Bay	Queens Quay E	26	C
Harbour St	Zone 218	10	B
Yonge	Lake Shore WB	21	C
Yonge	Lake Shore EB	74	E
Yonge	Harbour	14	B
Yonge	Queens Quay E	8	A
Freeland Street	Lake Shore EB	8	A
Freeland Street	Zone 219/249	2	A
Freeland Street	Harbour	7	A
Freeland Street	Zone 248	6	A
Freeland Street	Queens Quay E	23	C
Cooper Street	Queens Quay E	14	B
Cooper Street	Harbour St	28	C
Cooper Street	Lake Shore EB	54	D
Cooper Street	Lake Shore WB	33	C
New Street	Lake Shore EB	71	E
New Street	Zones 122&251	5	A
New Street	Harbour St	24	C
New Street	Zones 250&212	12	B
New Street	Queens Quay E	12	B
Lower Jarvis	Queens Quay E	38	D
Lower Jarvis	Harbour	43	D
Lower Jarvis	Lake Shore EB	83	F
Lower Jarvis	Lake Shore WB	70	E
Jarvis	Front	26	C
Church	Front	23	C
Yonge	Front	11	B
Zone 247	Queens Quay E	1	A
Harbour St	Zone 217	4	A
Lake Shore	Zone 217	2	A
Zone 217	Zone 217	0	A
York	Queens Quay E	30	C
York	Harbour	26	C
York	Lake Shore WB	44	D
Queens Quay E	Harbourfront Centre	1	A
Lower Simcoe	Queens Quay E	39	D
Lower Simcoe	Lake Shore EB	14	B
Lower Simcoe	Lake Shore WB	12	B
Esplanade	Yonge	9	A
Esplanade	Church	9	A

SCENARIO 3 AM

		Index	legs Intersectio	1	2	3	4	5	6	95th percentile queue length (m) SB 1	2	3	4	WB 1	2	3	4	5	NB 1	2	3	4	EB 1	2	3	4	5
Bay	Lakeshore WB	1	697	704	703	472	705			34.4	30.5	41.9	#N/A	27.7	22.2	17	19.4	#N/A	44.7	46.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Bay	Harbour St	2	11	472	694	1243	911			64.2	26.3	#N/A	#N/A	33.1	9	#N/A	#N/A	#N/A	41.3	4	#N/A	#N/A	66.2	59.4	30.4	#N/A	#N/A
Bay	Queens Quay E	3	12	1243	243	886	724			41.6	20	#N/A	#N/A	0	23.9	1.3	#N/A	#N/A	42.3	#N/A	#N/A	#N/A	33.2	22.1	#N/A	#N/A	#N/A
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	31.5	#N/A	#N/A	#N/A	#N/A	51.3	#N/A	#N/A	#N/A	56	48.9	#N/A	#N/A	#N/A
Yonge	Lakeshore WB	5	702	348	8010	565	703			46.7	18.2	#N/A	#N/A	110.1	54.2	52.3	#N/A	#N/A	5.4	14.3	10.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Yonge	Lakeshore EB	6	565	702	1100	1265	722			2.7	1.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	50.7	33.7	21.6	#N/A	103.7	40.7	190	53.7	#N/A
Yonge	Harbour	7	16	1265	1253	1244	694			25.4	36.9	#N/A	#N/A	4.1	27.6	#N/A	#N/A	#N/A	20.5	#N/A	#N/A	#N/A	49.4	62.1	#N/A	#N/A	#N/A
Yonge	Queens Quay E	8	7030	1244	242	0	130			6.1	28.7	#N/A	#N/A	1.9	19.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	30.6	17.2	#N/A	#N/A	#N/A
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	51.3	#N/A	#N/A	#N/A	63.2	37	27.8	#N/A	#N/A
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	10.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Harbour	11	696	1247	1254	1269	1253			45.1	#N/A	#N/A	#N/A	14.5	#N/A	#N/A	#N/A	#N/A	30.6	13.6	#N/A	#N/A	35.9	34.9	#N/A	#N/A	#N/A
Freeland Street	Zone 248	12	1269	696	0	7040	1266			18.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	16.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Queens Quay E	13	7040	1269	1500	686	242			13.9	31.8	#N/A	#N/A	26.1	0	#N/A	#N/A	#N/A	53.2	16.3	#N/A	#N/A	28.3	6.8	#N/A	#N/A	#N/A
Cooper Street	Queens Quay E	14	1500	1270	1232	0	7040			0	18.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	122.3	#N/A	#N/A	#N/A	#N/A
Cooper Street	Harbour St	15	1256	946	1258	1270	1255			5.4	12.2	#N/A	#N/A	22.5	#N/A	#N/A	#N/A	#N/A	20.2	#N/A	#N/A	#N/A	53.3	53.9	#N/A	#N/A	#N/A
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			0.6	44.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	20.4	6.8	#N/A	#N/A	104.3	73.5	65	58.3	#N/A
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			36.5	19.2	#N/A	#N/A	22.5	18.5	21.3	174.7	#N/A	0.6	8.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Lakeshore EB	18	1259	0	1115	1271	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	42.6	#N/A	#N/A	#N/A	84.6	72.3	75.1	#N/A	#N/A
New Street	Zones 122&251	19	1271	1259	1268	1257	949			7.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Harbour St	20	1257	1271	684	1116	1258			41.4	#N/A	#N/A	#N/A	8.1	#N/A	#N/A	#N/A	#N/A	48	#N/A	#N/A	#N/A	47.3	46.4	#N/A	#N/A	#N/A
New Street	Zones 250&212	21	1116	1257	1117	1231	1267			4.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	18.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Queens Quay E	22	1231	1116	1510	0	1232			15.6	#N/A	#N/A	#N/A	83.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	24.5	#N/A	#N/A	#N/A	#N/A
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			37.1	86.9	#N/A	#N/A	42.1	31.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	43.9	40.7	#N/A	#N/A	#N/A
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			27	39.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	67.9	39.4	#N/A	#N/A	54.5	58.3	#N/A	#N/A	#N/A
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			14.3	31.3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	89.9	74.1	#N/A	#N/A	33.1	37.5	87.2	110.6	45.5
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		22.6	23.7	#N/A	#N/A	21.8	267.9	140.9	174.7	#N/A	6.8	25.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Jarvis	Front	27	660	1037	383	661	654	655		57.1	57.4	#N/A	#N/A	31.1	31.7	23.7	#N/A	#N/A	43.6	41.5	#N/A	#N/A	35	20.2	43.6	#N/A	#N/A
Church	Front	28	653	904	194	974	563	654	905	42	17.7	#N/A	#N/A	15.2	29.1	29.1	15.1	#N/A	16.1	111.8	#N/A	#N/A	0	36.2	34	45.7	#N/A
Yonge	Front	29	3	666	561	423	559			39.6	28	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	35.1	35.4	37.4	#N/A	44.8	32.4	29.2	#N/A	#N/A
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	#N/A	0.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	11.5	#N/A	#N/A	#N/A	#N/A
Harbour St	Zone 217	31	911	918	11	0	448			16.5	#N/A	#N/A	#N/A	0.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	42.1	45.5	46.1	#N/A	#N/A
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	40	48.6	8.2	5.9	#N/A	7.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	4.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
York	Queens Quay E	34	324	689	239	13	725			10.4	44.4	21.8	#N/A	26.6	44.9	22.2	#N/A	#N/A	36	21.6	#N/A	#N/A	31.5	30.2	#N/A	#N/A	#N/A
York	Harbour	35	448	446	911	689	10			53.7	78.2	#N/A	#N/A	23.8	#N/A	#N/A	#N/A	#N/A	50.1	46	#N/A	#N/A	65.4	40.8	73.5	90.5	#N/A
York	Lakeshore WB	36	446	451	705	448	73	707		85.5	50.1	#N/A	#N/A	135.4	105.3	62.9	51.1	74.1	70.8	43.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Queens Quay E	Harbourfront Cei	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	6.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	3.5	#N/A	#N/A	#N/A
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			22.3	13	#N/A	#N/A	51.1	29	#N/A	#N/A	#N/A	69.9	2	#N/A	#N/A	27.8	22.2	#N/A	#N/A	#N/A
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		0	22.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	60	22.2	#N/A	#N/A	26.4	74.6	50.2	#N/A	#N/A
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			47.6	30.7	#N/A	#N/A	16.1	6.9	9.6	#N/A	#N/A	28.2	3.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Esplanade	Yonge	41	332	423	564	348	0			24.1	16.7	15.5	#N/A	45.1	#N/A	#N/A	#N/A	#N/A	50.4	45.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Esplanade	Church	42	974	653	1182	916	564			43.7	#N/A	#N/A	#N/A	60.4	#N/A	#N/A	#N/A	#N/A	39.3	38.4	#N/A	#N/A	29.7	#N/A	#N/A	#N/A	#N/A

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 3 PM

			legs						Turning Movement Counts																				
			N	E	S	W			1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3	Gardiner off-ramp		Gardiner on-ramp						
		Index	Intersectio	1	2	3	4	5	6 SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR				
Bay	Lakeshore WB	1	697	704	703	472	705		#N/A	90.2	305.1	126.8	137.3	712.1	398.6	#N/A	69.1	#N/A	#N/A	#N/A									
Bay	Harbour St	2	11	472	694	1243	911		26.7	90.9	107.5	71.8	20.7	47.6	257.8	47.1	4.6	143.5	1017	99.2									
Bay	Queens Quay E	3	12	1243	243	886	724		57.2	89.4	63.5	27.7	14.8	173.4	231.2	55.2	141.5	52.3	106.6	54.7									
Harbour St	Zone 218	4	694	0	16	931	11		#N/A	#N/A	#N/A	#N/A	37.9	92.8	#N/A	52.3	48.1	#N/A	986.3	96.2									
Yonge	Lakeshore WB	5	702	348	8010	565	703		#N/A	349.5	614.1	41.7	47.1	313.7	792	#N/A	51.5	#N/A	#N/A	#N/A									
Yonge	Lakeshore EB	6	565	702	1100	1270	722		260.2	134.6	#N/A	#N/A	#N/A	#N/A	279.8	152.7	#N/A	568.6	896.7	109.2									
Yonge	Harbour	7	16	1270	1253	1244	694		157.2	44.2	40.7	108.4	28.2	82.4	69.9	42.6	7.6	264.9	706.7	63.1									
Yonge	Queens Quay E	8	7030	1244	242	0	130		72.8	#N/A	62.7	23.5	#N/A	153.2	#N/A	#N/A	#N/A	100.1	117.1	#N/A									
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	85.9	#N/A	#N/A	1234	62.9									
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83		26.6	10.2	26	#N/A	#N/A	#N/A	37.5	30.8	58.8	#N/A	#N/A	#N/A									
Freeland Street	Harbour	11	696	1247	1254	1268	1253		38.6	13.1	86.1	16.5	26.6	110	6.9	54.3	27.8	104.4	612.4	184.7									
Freeland Street	Zone 248	12	1268	696	0	7040	1265		#N/A	146.1	78	#N/A	#N/A	#N/A	34.4	#N/A	2.2	#N/A	#N/A	#N/A									
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242		80.7	60.9	52.4	9.3	13.4	123.9	0.4	1.1	0.7	27.3	162.2	#N/A									
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040		46	#N/A	16.1	23.1	#N/A	130.7	#N/A	#N/A	#N/A	33.8	208.9	#N/A									
Cooper Street	Harbour St	15	1256	946	1258	1500	1255		15.2	13.4	27	10	6.4	109.3	13.7	26.1	16.9	57.1	595.7	42.7									
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100		96.3	49.7	#N/A	#N/A	#N/A	#N/A	41.9	39.6	#N/A	139.9	1143	6.5									
Cooper Street	Lakeshore WB	17	361	916	80	343	8010		#N/A	116.2	7.5	10.2	30.9	207.6	179.2	#N/A	2.5	#N/A	#N/A	#N/A									
New Street	Lakeshore EB	18	1259	0	1115	1269	343		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	178.9	#N/A	#N/A	1216.5	52.9									
New Street	Zones 122&251	19	1269	1259	1267	1257	949		9.5	13.6	29.3	#N/A	#N/A	#N/A	138.7	22.1	23.4	#N/A	#N/A	#N/A									
New Street	Harbour St	20	1257	1269	684	1116	1258		22.4	7.8	50.9	18	4.3	35.2	38.8	29.3	39.9	128.4	397.4	106.8									
New Street	Zones 250&121	21	1116	1257	1117	1231	1266		15.9	71.7	31.1	#N/A	#N/A	#N/A	62.4	11.7	25.9	#N/A	#N/A	#N/A									
New Street	Queens Quay E	22	1231	1116	1510	0	1232		95.1	#N/A	37.9	54.3	#N/A	116.2	#N/A	#N/A	#N/A	45.9	207	#N/A									
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231		230.4	#N/A	30.7	309.5	#N/A	141.3	#N/A	#N/A	#N/A	64.2	235.6	#N/A									
Lower Jarvis	Harbour	24	1114	1115	0	1510	684		#N/A	98.7	36	#N/A	#N/A	#N/A	342.5	#N/A	22.1	300.9	#N/A	146.1									
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259		204	70.9	#N/A	#N/A	#N/A	#N/A	406.9	252.4	#N/A	382.1	942.2	63.9									
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349	#N/A	277	111.2	41.5	#N/A	116.5	513.5	#N/A	25.8	#N/A	#N/A	#N/A			880.7	246.3					
Jarvis	Front	27	660	1037	383	661	654	655	97.9	566.7	54.6	27.2	139	573.1	437.6	92.7	72.9	338.8	229.4	37.9									
Church	Front	28	653	904	194	974	563	654	905	53.3	254.6	316.9	47.3	125	521.6	271.1	58.9	6.5	196.5	509.1	8.5								
Yonge	Front	29	3	666	561	423	559		19.6	708.8	330.2	#N/A	#N/A	#N/A	364.6	348.3	86	162.8	404.3	142.3									
Zone 247	Queens Quay E	30	724	692	12	0	239		#N/A	#N/A	#N/A	59	#N/A	318.7	#N/A	#N/A	#N/A	82.4	183	#N/A									
Harbour St	Zone 217	31	911	918	11	0	448		119.4	#N/A	41.2	16.2	#N/A	143.4	#N/A	#N/A	#N/A	45.6	1150	#N/A									
Lakeshore	Zone 217	32	705	0	697	918	446		#N/A	#N/A	#N/A	#N/A	#N/A	1074.4	#N/A	#N/A	399.7	#N/A	#N/A	#N/A									
Zone 217	Zone 217	33	918	705	920	911	0		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	61.8	#N/A	#N/A	#N/A	#N/A									
York	Queens Quay E	34	324	689	239	13	725		161.6	370.8	58.8	190.3	31.3	163.1	202	45.8	34.2	69.4	58.9	#N/A									
York	Harbour	35	448	446	911	689	10		265.8	315.2	#N/A	181.4	#N/A	#N/A	355.7	102.7	#N/A	512.2	830.2	278.8									
York	Lakeshore WB	36	446	451	705	448	73	707	#N/A	435.3	20.4	85.5	149.1	268.7	697.1	#N/A	71.1	#N/A	#N/A	#N/A			947.2	274.4	319.7				
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691		#N/A	#N/A	#N/A	#N/A	#N/A	256	#N/A	#N/A	#N/A	#N/A	129.9	#N/A									
Lower Simcoe	Queens Quay E	38	691	681	726	14	728		37.8	66.1	37.8	24.2	29.2	200.3	99.9	44.1	4.6	27	47.8	#N/A									
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685	186.4	53.9	#N/A	#N/A	#N/A	#N/A	117.5	32.5	#N/A	31.5	312.2	#N/A	1097.4	89.1							
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706		#N/A	242.1	251	111.9	#N/A	248.7	125.8	#N/A	23.2	#N/A	#N/A	#N/A									
Esplanade	Yonge	41	332	423	564	348	0		50.4	795.7	#N/A	27.7	171.5	#N/A	784.7	101.5	#N/A	#N/A	#N/A	#N/A									
Esplanade	Church	42	974	653	1182	916	564		17.5	239.4	126.7	118.4	35.6	67.1	164.7	85.7	10.9	64.5	64.2	18.2									
Gardiner	York On-Ramp	43	683		680		682		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1051	#N/A									
Gardiner	Gardiner	44	680		9018		679		#N/A	#N/A	#N/A	#N/A	#N/A	2097.2	#N/A	#N/A	#N/A	#N/A	2940.2	#N/A									
Gardiner	Yonge Off-Ramp	45	9018		722		680		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	1595.3	#N/A									
Cooper Street	Lake Shore EB	46	343	361	1259	946	1100		96.3	49.7	#N/A	#N/A	#N/A	#N/A	41.9	39.6	#N/A	139.9	1143	6.5									
Cooper Street	Lake Shore WB	47	361	916	80	343	8010		#N/A	116.2	7.5	10.2	30.9	207.6	179.2	#N/A	2.5	#N/A	#N/A	#N/A									

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

DRAFT - FOR REVIEW

SCENARIO 3 PM

			legs						Turning Movement Delay																
			N	E	S	W			1->2	1->3	1->4	2 ->1	2->3	2->4	3->1	3->2	3->4	4->1	4->2	4->3	Gardiner off-ramp		Gardiner on-ramp (Jarvis)		
		Index	Intersectio	1	2	3	4	5	6 SBL	SBT	SBR	WBR	WBL	WBT	NBT	NBR	NBL	EBL	EBT	EBR	EBT	EBR	WBT	NBL	SBR
Bay	Lakeshore WB	1	697	704	703	472	705		#N/A	35.0837	225.424	6.66123	10.3218	10.9165	46.1393	#N/A	153.656	#N/A	#N/A	#N/A					
Bay	Harbour St	2	11	472	694	1243	911		252.234	42.9367	32.779	24.3125	68.6881	62.6609	45.5963	37.841	81.2368	5.76094	6.14725	5.28614					
Bay	Queens Quay E	3	12	1243	243	886	724		65.1383	24.0984	8.57176	8.84226	9.46605	5.42402	45.0641	40.9126	44.1376	23.2014	7.45851	3.4266					
Harbour St	Zone 218	4	694	0	16	931	11		#N/A	#N/A	#N/A	#N/A	14.6857	5.94502	#N/A	49.3989	79.698	#N/A	4.73301	2.6806					
Yonge	Lakeshore WB	5	702	348	8010	565	703		#N/A	26.433	10.435	34.8153	46.5743	40.6554	6.67123	#N/A	26.8959	#N/A	#N/A	#N/A					
Yonge	Lakeshore EB	6	565	702	1100	1270	722		22.807	12.1574	#N/A	#N/A	#N/A	#N/A	33.6203	27.0061	#N/A	64.016	47.7864	45.0567					
Yonge	Harbour	7	16	1270	1253	1244	694		24.885	19.234	2.8968	0.218158	29.0174	17.7511	19.394	10.1625	29.9872	16.1163	13.7583	8.19263					
Yonge	Queens Quay E	8	7030	1244	242	0	130		25.6512	#N/A	0.927803	0.011196	#N/A	7.45143	#N/A	#N/A	#N/A	12.1345	5.83482	#N/A					
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	42.5127	#N/A	#N/A	8.57654	9.27069					
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83		0	0	0	#N/A	#N/A	#N/A	13.2636	2.20422	4.68644	#N/A	#N/A	#N/A					
Freeland Street	Harbour	11	696	1247	1254	1268	1253		7.91173	9.76782	2.20964	0.414816	6.36723	0.061461	12.7114	6.49651	13.408	4.502	1.08543	0.810706					
Freeland Street	Zone 248	12	1268	696	0	7040	1265		#N/A	0.521379	0.078548	#N/A	#N/A	#N/A	2.83254	#N/A	2.20119	#N/A	#N/A	#N/A					
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242		19.1492	17.5468	18.2188	8.16421	25.4397	12.8525	3.03168	13.495	17.695	23.275	8.88804	#N/A					
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040		5.41297	#N/A	3.31723	0.258539	#N/A	0	#N/A	#N/A	#N/A	4.97558	2.63162	#N/A					
Cooper Street	Harbour St	15	1256	946	1258	1500	1255		10.6242	9.41696	8.38786	8.27352	10.5805	8.43293	14.3484	10.946	13.6556	22.0761	17.5248	21.9891					
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100		7.40461	4.53129	#N/A	#N/A	#N/A	#N/A	43.7048	42.5114	#N/A	39.4901	58.786	58.1713					
Cooper Street	Lakeshore WB	17	361	916	80	343	8010		#N/A	42.5616	41.1986	28.7556	12.6476	36.6328	2.49122	#N/A	8.83239	#N/A	#N/A	#N/A					
New Street	Lakeshore EB	18	1259	0	1115	1269	343		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	39.7926	#N/A	#N/A	15.9313	18.094					
New Street	Zones 122&251	19	1269	1259	1267	1257	949		6.92223	6.47331	8.21831	#N/A	#N/A	#N/A	19.9065	11.4214	11.8799	#N/A	#N/A	#N/A					
New Street	Harbour St	20	1257	1269	684	1116	1258		24.8697	11.1012	7.90546	4.70357	9.1432	0.918539	33.278	17.2341	21.8823	7.01356	6.32867	3.08182					
New Street	Zones 250&212	21	1116	1257	1117	1231	1266		0	0.291128	0	#N/A	#N/A	#N/A	3.60748	1.99319	1.69327	#N/A	#N/A	#N/A					
New Street	Queens Quay E	22	1231	1116	1510	0	1232		4.29256	#N/A	2.0715	5.48065	#N/A	5.68786	#N/A	#N/A	#N/A	3.66503	0.985743	#N/A					
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231		68.4336	#N/A	1.21556	29.5403	#N/A	22.8677	#N/A	#N/A	#N/A	30.9411	8.1108	#N/A					
Lower Jarvis	Harbour	24	1114	1115	0	1510	684		#N/A	19.4965	6.25018	#N/A	#N/A	#N/A	106.086	#N/A	65.6349	50.8745	#N/A	42.5003					
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259		28.702	30.4126	#N/A	#N/A	#N/A	#N/A	93.4689	75.2022	#N/A	108.387	28.8604	15.533					
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349	#N/A	39.792	45.9299	88.0057	#N/A	61.7079	5.86963	#N/A	3.87209	#N/A	#N/A	#N/A			132.288	4.9844	
Jarvis	Front	27	660	1037	383	661	654	655	118.89	49.3994	43.6217	10.5373	36.606	17.7246	28.8427	19.1786	196.635	56.4497	16.7748	18.9009					
Church	Front	28	653	904	194	974	563	654	905 150.83	24.8319	15.9463	27.5255	18.0076	21.0913	34.914	3.95411	63.3042	47.2245	49.1564	5.16518					
Yonge	Front	29	3	666	561	423	559		26.4622	16.1081	11.3836	#N/A	#N/A	#N/A	4.28686	8.66874	24.567	17.2797	24.4197	18.4773					
Zone 247	Queens Quay E	30	724	692	12	0	239		#N/A	#N/A	#N/A	0.548199	#N/A	1.6431	#N/A	#N/A	#N/A	2.66135	0.169423	#N/A					
Harbour St	Zone 217	31	911	918	11	0	448		22.1524	#N/A	16.559	1.97721	#N/A	5.98087	#N/A	#N/A	#N/A	1.4304	2.61075	#N/A					
Lakeshore	Zone 217	32	705	0	697	918	446		#N/A	#N/A	#N/A	#N/A	#N/A	79.7934	#N/A	#N/A	26.4493	#N/A	#N/A	#N/A					
Zone 217	Zone 217	33	918	705	920	911	0		#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	0	#N/A	#N/A	#N/A	#N/A					
York	Queens Quay E	34	324	689	239	13	725		18.0261	16.2696	0.230052	4.83011	48.4659	37.7044	48.9209	50.1979	48.9574	50.3653	33.5418	#N/A					
York	Harbour	35	448	446	911	689	10		49.194	48.6541	#N/A	65.5277	#N/A	#N/A	46.9669	34.3869	#N/A	16.4141	8.08637	16.1944					
York	Lakeshore WB	36	446	451	705	448	73	707	#N/A	56.4687	44.8864	103.878	63.6448	76.2813	18.8448	#N/A	37.3582	#N/A	#N/A	#N/A			125.234	25.7477	36.6346
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691		#N/A	#N/A	#N/A	#N/A	#N/A	1.03218	#N/A	#N/A	#N/A	#N/A	2.85048	#N/A					
Lower Simcoe	Queens Quay E	38	691	681	726	14	728		69.7026	43.5746	16.1701	37.6018	72.1786	36.3338	38.5517	35.9308	71.0613	68.8404	21.3706	#N/A					
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685	54.4952	8.48011	#N/A	#N/A	#N/A	#N/A	34.4157	37.8984	#N/A	30.4252	0.501896	#N/A	4.09417	3.90224			
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706		#N/A	45.6054	23.2278	7.4215	#N/A	10.9947	6.1827	#N/A	12.0297	#N/A	#N/A	#N/A					
Esplanade	Yonge	41	332	423	564	348	0		35.4073	8.1061	#N/A	20.2465	26.6973	#N/A	14.3675	14.1556	#N/A	#N/A	#N/A	#N/A					
Esplanade	Church	42	974	653	1182	916	564		18.7967	11.6645	14.655	20.4448	10.7227	14.7578	17.7187	19.3392	25.4318	21.7529	16.6768	29.998					

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

5/17/2017

SCENARIO 3 PM

			legs						Turning Movement LOS																
			N	E	S	W																		Gardiner off-ramp		Gardiner on-ramp (Jarvis)	
		Index	Intersection	1	2	3	4	5	6	1->2 SBL	1->3 SBT	1->4 SBR	2 ->1 WBR	2->3 WBL	2->4 WBT	3->1 NBT	3->2 NBR	3->4 NBL	4->1 EBL	4->2 EBT	4->3 EBR	EBT	EBR	WBT	NBL
Bay	Lakeshore WB	1	697	704	703	472	705			#N/A	D	F	A	B	B	D	#N/A	F	#N/A	#N/A	#N/A				
Bay	Harbour St	2	11	472	694	1243	911			F	D	C	C	E	E	D	D	F	A	A	A				
Bay	Queens Quay E	3	12	1243	243	886	724			E	C	A	A	A	A	D	D	D	C	A	A				
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	B	A	#N/A	D	E	#N/A	A	A				
Yonge	Lakeshore WB	5	702	348	8010	565	703			#N/A	C	B	C	D	D	A	#N/A	C	#N/A	#N/A	#N/A				
Yonge	Lakeshore EB	6	565	702	1100	1270	722			C	B	#N/A	#N/A	#N/A	#N/A	C	C	#N/A	E	D	D				
Yonge	Harbour	7	16	1270	1253	1244	694			C	B	A	A	C	B	B	B	C	B	B	A				
Yonge	Queens Quay E	8	7030	1244	242	0	130			C	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	B	A	#N/A				
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	D	#N/A	#N/A	A	A				
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			A	A	A	#N/A	#N/A	#N/A	B	A	A	#N/A	#N/A	#N/A				
Freeland Street	Harbour	11	696	1247	1254	1268	1253			A	A	A	A	A	A	B	A	B	A	A	A				
Freeland Street	Zone 248	12	1268	696	0	7040	1265			#N/A	A	A	#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A				
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242			B	B	B	A	C	B	A	B	B	C	A	#N/A				
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040			A	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Cooper Street	Harbour St	15	1256	946	1258	1500	1255			B	A	A	A	B	A	B	B	B	C	B	C				
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			A	A	#N/A	#N/A	#N/A	#N/A	D	D	#N/A	D	E	E				
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			#N/A	D	D	C	B	D	A	#N/A	A	#N/A	#N/A	#N/A				
New Street	Lakeshore EB	18	1259	0	1115	1269	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	D	#N/A	#N/A	B	B				
New Street	Zones 122&251	19	1269	1259	1267	1257	949			A	A	A	#N/A	#N/A	#N/A	B	B	B	#N/A	#N/A	#N/A				
New Street	Harbour St	20	1257	1269	684	1116	1258			C	B	A	A	A	A	C	B	C	A	A	A				
New Street	Zones 250&212	21	1116	1257	1117	1231	1266			A	A	A	#N/A	#N/A	#N/A	A	A	A	#N/A	#N/A	#N/A				
New Street	Queens Quay E	22	1231	1116	1510	0	1232			A	#N/A	A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			E	#N/A	A	C	#N/A	C	#N/A	#N/A	#N/A	C	A	#N/A				
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			#N/A	B	A	#N/A	#N/A	#N/A	F	#N/A	E	D	#N/A	D				
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			C	C	#N/A	#N/A	#N/A	#N/A	F	E	#N/A	F	C	B				
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		#N/A	D	D	F	#N/A	E	A	#N/A	A	#N/A	#N/A	#N/A			F	A
Jarvis	Front	27	660	1037	383	661	654	655		F	D	D	B	D	B	C	B	F	E	B	B				
Church	Front	28	653	904	194	974	563	654	905	F	C	B	C	B	C	C	A	E	D	D	A				
Yonge	Front	29	3	666	561	423	559			C	B	B	#N/A	#N/A	#N/A	A	A	C	B	C	B				
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Harbour St	Zone 217	31	911	918	11	0	448			C	#N/A	B	A	#N/A	A	#N/A	#N/A	#N/A	A	A	#N/A				
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	#N/A	E	#N/A	#N/A	C	#N/A	#N/A	#N/A				
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A				
York	Queens Quay E	34	324	689	239	13	725			B	B	A	A	D	D	D	D	D	D	C	#N/A				
York	Harbour	35	448	446	911	689	10			D	D	#N/A	E	#N/A	#N/A	D	C	#N/A	B	A	B				
York	Lakeshore WB	36	446	451	705	448	707			#N/A	E	D	F	E	E	B	#N/A	D	#N/A	#N/A	#N/A				
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	#N/A	A	#N/A	#N/A	#N/A	#N/A	A	#N/A				
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			E	D	B	D	E	D	D	D	E	E	C	#N/A				
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		D	A	#N/A	#N/A	#N/A	#N/A	C	D	#N/A	C	A	#N/A	A	A		
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			#N/A	D	C	A	#N/A	B	A	#N/A	B	#N/A	#N/A	#N/A				
Esplanade	Yonge	41	332	423	564	348	0			D	A	#N/A	C	C	#N/A	B	B	#N/A	#N/A	#N/A	#N/A				
Esplanade	Church	42	974	653	1182	916	564			B	B	B	C	B	B	B	B	C	C	B	C				

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

SCENARIO 3 PM

Average Intersection Delay and LOS		Delay	LOS
Bay	Lake Shore WB	60	E
Bay	Harbour St	22	C
Bay	Queens Quay E	27	C
Harbour St	Zone 218	9	A
Yonge	Lake Shore WB	18	B
Yonge	Lake Shore EB	44	D
Yonge	Harbour	15	B
Yonge	Queens Quay E	9	A
Freeland Street	Lake Shore EB	11	B
Freeland Street	Zone 219/249	4	A
Freeland Street	Harbour	2	A
Freeland Street	Zone 248	1	A
Freeland Street	Queens Quay E	14	B
Cooper Street	Queens Quay E	2	A
Cooper Street	Harbour St	16	B
Cooper Street	Lake Shore EB	51	D
Cooper Street	Lake Shore WB	25	C
New Street	Lake Shore EB	19	B
New Street	Zones 122&251	16	B
New Street	Harbour St	9	A
New Street	Zones 250&212	1	A
New Street	Queens Quay E	3	A
Lower Jarvis	Queens Quay E	32	C
Lower Jarvis	Harbour	65	E
Lower Jarvis	Lake Shore EB	58	E
Lower Jarvis	Lake Shore WB	67	E
Jarvis	Front	41	D
Church	Front	33	C
Yonge	Front	15	B
Zone 247	Queens Quay E	1	A
Harbour St	Zone 217	5	A
Lake Shore	Zone 217	65	E
Zone 217	Zone 217	0	A
York	Queens Quay E	27	C
York	Harbour	28	C
York	Lake Shore WB	67	E
Queens Quay E	Harbourfront Centre	2	A
Lower Simcoe	Queens Quay E	41	D
Lower Simcoe	Lake Shore EB	11	B
Lower Simcoe	Lake Shore WB	21	C
Esplanade	Yonge	9	A
Esplanade	Church	9	A

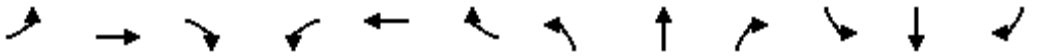
SCENARIO 3 PM

				legs						95th percentile queue length (m)															
										SB				WB					NB				EB				
		Index	Intersectio	1	2	3	4	5	6	1	2	3	4	1	2	3	4	5	1	2	3	4	1	2	3	4	5
Bay	Lakeshore WB	1	697	704	703	472	705			114.7	109.3	34.5	#N/A	38.9	31.2	19.7	39	#N/A	48.1	47.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Bay	Harbour St	2	11	472	694	1243	911			55.5	32.6	#N/A	#N/A	46.5	11.7	#N/A	#N/A	#N/A	41.7	3.4	#N/A	#N/A	44.7	41.9	16.8	#N/A	#N/A
Bay	Queens Quay E	3	12	1243	243	886	724			37.3	31.1	#N/A	#N/A	8.8	25.9	2.3	#N/A	#N/A	42.2	#N/A	#N/A	#N/A	22.1	15.6	#N/A	#N/A	#N/A
Harbour St	Zone 218	4	694	0	16	931	11			#N/A	#N/A	#N/A	#N/A	24.4	#N/A	#N/A	#N/A	#N/A	40.8	#N/A	#N/A	#N/A	43.6	39.1	#N/A	#N/A	#N/A
Yonge	Lakeshore WB	5	702	348	8010	565	703			47.7	45.5	#N/A	#N/A	69.1	29	30.5	#N/A	#N/A	25.8	36.1	13.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Yonge	Lakeshore EB	6	565	702	1100	1270	722			11.1	43.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	47.5	38.3	21	#N/A	134	48.3	122.3	49.2	#N/A
Yonge	Harbour	7	16	1270	1253	1244	694			11.3	40	#N/A	#N/A	16.4	28.7	#N/A	#N/A	#N/A	26.7	#N/A	#N/A	#N/A	40	52.7	#N/A	#N/A	#N/A
Yonge	Queens Quay E	8	7030	1244	242	0	130			3.8	25.9	#N/A	#N/A	0	36.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	18	28.6	#N/A	#N/A	#N/A
Freeland Street	Lakeshore EB	9	1100	0	343	1247	565			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	51.5	#N/A	#N/A	#N/A	64.3	37.2	22.4	#N/A	#N/A
Freeland Street	Zone 219/249	10	1247	1100	1248	696	83			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	10.4	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Harbour	11	696	1247	1254	1268	1253			26.1	#N/A	#N/A	#N/A	17.4	#N/A	#N/A	#N/A	#N/A	10.2	8.9	#N/A	#N/A	9.4	13.3	#N/A	#N/A	#N/A
Freeland Street	Zone 248	12	1268	696	0	7040	1265			9.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	2.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Freeland Street	Queens Quay E	13	7040	1268	1500	686	242			16.9	27.6	#N/A	#N/A	32.7	9.7	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	21.9	13.3	#N/A	#N/A	#N/A
Cooper Street	Queens Quay E	14	1500	1256	1232	0	7040			0	6.9	#N/A	#N/A	3.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	24.8	#N/A	#N/A	#N/A	#N/A
Cooper Street	Harbour St	15	1256	946	1258	1500	1255			14.6	10.3	#N/A	#N/A	17.1	#N/A	#N/A	#N/A	#N/A	18	#N/A	#N/A	#N/A	40.2	41.2	#N/A	#N/A	#N/A
Cooper Street	Lakeshore EB	16	343	361	1259	946	1100			0.8	17.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	27.1	11.7	#N/A	#N/A	127.4	95.3	81.7	40	#N/A
Cooper Street	Lakeshore WB	17	361	916	80	343	8010			27.6	20	#N/A	#N/A	21	14.2	9.7	10.6	#N/A	0.7	3	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Lakeshore EB	18	1259	0	1115	1269	343			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	51.3	#N/A	#N/A	#N/A	62.4	45.8	40	#N/A	#N/A
New Street	Zones 122&251	19	1269	1259	1267	1257	949			8.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	44.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Harbour St	20	1257	1269	684	1116	1258			15.8	#N/A	#N/A	#N/A	10.2	#N/A	#N/A	#N/A	#N/A	37.1	#N/A	#N/A	#N/A	18.5	37.1	#N/A	#N/A	#N/A
New Street	Zones 250&212	21	1116	1257	1117	1231	1266			3.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	3.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
New Street	Queens Quay E	22	1231	1116	1510	0	1232			13.3	#N/A	#N/A	#N/A	21.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	11.1	#N/A	#N/A	#N/A	#N/A
Lower Jarvis	Queens Quay E	23	1510	1114	1251	0	1231			13.7	74	#N/A	#N/A	35.2	33	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	37.4	18.1	#N/A	#N/A	#N/A
Lower Jarvis	Harbour	24	1114	1115	0	1510	684			12.7	22.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	75.2	45.1	#N/A	#N/A	40.5	54.7	#N/A	#N/A	#N/A
Lower Jarvis	Lakeshore EB	25	1115	1110	334	1114	1259			5.7	23.1	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	90.1	82.9	#N/A	#N/A	30.4	32.3	81.9	90.8	48.5
Lower Jarvis	Lakeshore WB	26	1110	78	1009	1115	80	349		22.2	23.4	#N/A	#N/A	30.1	269.4	35.3	28.2	#N/A	9.3	15.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Jarvis	Front	27	660	1037	383	661	654	655		60.2	55.9	#N/A	#N/A	29.7	30.1	16.3	#N/A	#N/A	56.6	56.8	#N/A	#N/A	35.4	19.8	45.1	#N/A	#N/A
Church	Front	28	653	904	194	974	563	654	905	56.1	43.6	#N/A	#N/A	14.1	29	28.6	15.2	#N/A	4.8	87.4	#N/A	#N/A	2.3	41	40.2	39.4	#N/A
Yonge	Front	29	3	666	561	423	559			46.8	41.6	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	40.4	18.5	20.8	#N/A	61.8	39.9	31	#N/A	#N/A
Zone 247	Queens Quay E	30	724	692	12	0	239			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	14.6	#N/A	#N/A	#N/A	#N/A
Harbour St	Zone 217	31	911	918	11	0	448			36.1	#N/A	#N/A	#N/A	26	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	7.6	7	5.3	#N/A	#N/A
Lakeshore	Zone 217	32	705	0	697	918	446			#N/A	#N/A	#N/A	#N/A	144.8	123.4	21.5	31.1	#N/A	47.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Zone 217	Zone 217	33	918	705	920	911	0			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
York	Queens Quay E	34	324	689	239	13	725			11.3	24.1	21.3	#N/A	27.2	40	15.5	#N/A	#N/A	43.7	25.2	#N/A	#N/A	19.2	24.9	#N/A	#N/A	#N/A
York	Harbour	35	448	446	911	689	10			58.5	85.9	#N/A	#N/A	107.4	#N/A	#N/A	#N/A	#N/A	43.5	42	#N/A	#N/A	67	20.2	29.2	79.6	#N/A
York	Lakeshore WB	36	446	451	705	448	73	707		85.6	65.8	#N/A	#N/A	132.2	120.4	59.5	40.8	57.4	82.5	52.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Queens Quay E	Harbourfront Centre	37	726	0	725	1238	691			#N/A	#N/A	#N/A	#N/A	8.8	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Lower Simcoe	Queens Quay E	38	691	681	726	14	728			28.2	18.2	#N/A	#N/A	59	16.3	#N/A	#N/A	#N/A	35.2	3.6	#N/A	#N/A	18.3	18.7	#N/A	#N/A	#N/A
Lower Simcoe	Lakeshore EB	39	681	73	10	691	540	685		3	40.9	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	35.3	19.7	#N/A	#N/A	5.1	8.2	20.7	#N/A	#N/A
Lower Simcoe	Lakeshore WB	40	73	573	446	681	706			66	41.8	#N/A	#N/A	14.1	9.6	11.4	#N/A	#N/A	2.9	9.5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Esplanade	Yonge	41	332	423	564	348	0			40.9	28.9	24.9	#N/A	66	#N/A	#N/A	#N/A	#N/A	87.9	61.2	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Esplanade	Church	42	974	653	1182	916	564			68	#N/A	#N/A	#N/A	47.7	#N/A	#N/A	#N/A	#N/A	46.1	33.7	#N/A	#N/A	63.9	#N/A	#N/A	#N/A	#N/A

Movement does not exist
Barred/One-Way
Turning Movements Into Zones

APPENDIX E

Scenario 3 Synchro Outputs

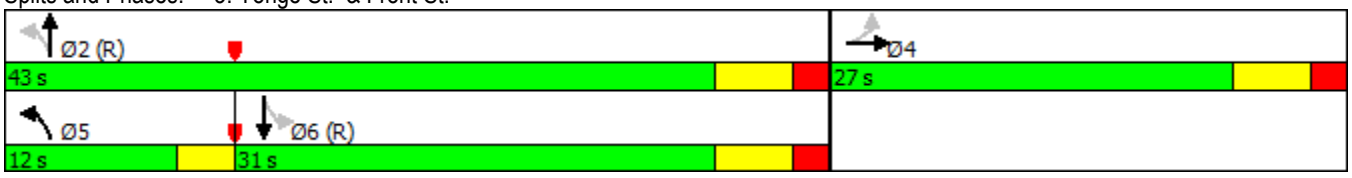


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	449	75	0	0	0	256	966	243	11	335	265
Future Volume (vph)	140	449	75	0	0	0	256	966	243	11	335	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	50.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.979						0.970			0.935	
Flt Protected	0.950						0.950				0.999	
Satd. Flow (prot)	1750	3426	0	0	0	0	1750	3395	0	0	3269	0
Flt Permitted	0.950						0.302				0.918	
Satd. Flow (perm)	1750	3426	0	0	0	0	556	3395	0	0	3004	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28						70			279	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		206.2			315.8			98.7			118.7	
Travel Time (s)		14.8			22.7			7.1			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	473	79	0	0	0	269	1017	256	12	353	279
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	552	0	0	0	0	269	1273	0	0	644	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1					1	1		1	1	
Detector Template	Left	Thru					Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5					17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5					12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5					12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0					5.0	9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA					pm+pt	NA		Perm	NA	
Protected Phases		4					5	2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4					5	2		6	6	
Switch Phase												
Minimum Initial (s)	21.0	21.0					9.0	25.0		25.0	25.0	
Minimum Split (s)	27.0	27.0					12.0	31.0		31.0	31.0	
Total Split (s)	27.0	27.0					12.0	43.0		31.0	31.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	38.6%	38.6%					17.1%	61.4%		44.3%	44.3%	
Maximum Green (s)	21.0	21.0					9.0	37.0		25.0	25.0	
Yellow Time (s)	4.0	4.0					3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0					-1.0	-1.0			-1.0	
Total Lost Time (s)	5.0	5.0					2.0	5.0			5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					None	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0						12.0		12.0	12.0	
Flash Dont Walk (s)	11.0	11.0						13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)	22.0	22.0					41.0	38.0			26.0	
Actuated g/C Ratio	0.31	0.31					0.59	0.54			0.37	
v/c Ratio	0.27	0.50					0.54	0.68			0.50	
Control Delay	19.6	20.4					11.4	7.8			21.5	
Queue Delay	0.0	0.0					0.0	0.3			0.0	
Total Delay	19.6	20.4					11.4	8.1			21.5	
LOS	B	C					B	A			C	
Approach Delay		20.3						8.7			21.5	
Approach LOS		C						A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 66 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 85.3%		ICU Level of Service E	
Analysis Period (min) 15			

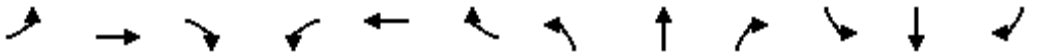
Splits and Phases: 3: Yonge St. & Front St.



Lane Group	EBL	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	147	552	269	1273	644
v/c Ratio	0.27	0.50	0.54	0.68	0.50
Control Delay	19.6	20.4	11.4	7.8	21.5
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay	19.6	20.4	11.4	8.1	21.5
Queue Length 50th (m)	14.3	28.9	6.8	16.4	27.0
Queue Length 95th (m)	27.3	42.6	m23.2	37.1	39.1
Internal Link Dist (m)		182.2		74.7	94.7
Turn Bay Length (m)	35.0		50.0		
Base Capacity (vph)	550	1095	496	1875	1291
Starvation Cap Reductn	0	0	0	168	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.50	0.54	0.75	0.50

Intersection Summary

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

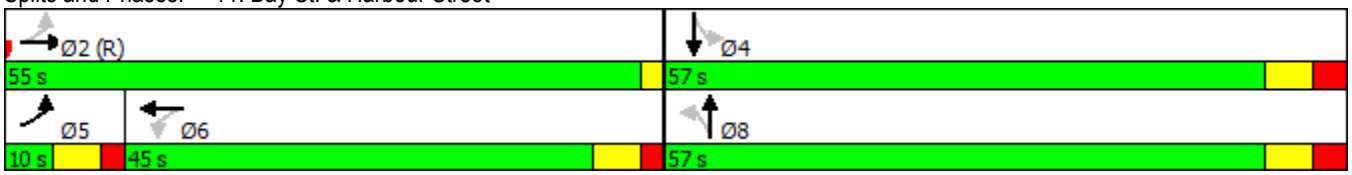


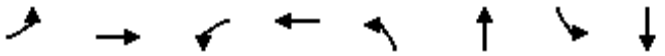
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	236	1124	53	18	59	74	6	175	58	37	175	125
Future Volume (vph)	236	1124	53	18	59	74	6	175	58	37	175	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	30.0		30.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	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	0.99		0.48	0.93		0.81	0.62	
Frt		0.993			0.917			0.963			0.937	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3449	0	1652	1672	0	1652	1646	0	1652	1077	0
Flt Permitted	0.615			0.216			0.421			0.517		
Satd. Flow (perm)	1128	3449	0	367	1672	0	354	1646	0	726	1077	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			63			20			42	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		290.5			113.2			126.3			48.5	
Travel Time (s)		20.9			8.2			9.1			3.5	
Confl. Peds. (#/hr)	3		125	125		3	1078		203	203		1078
Peak Hour 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
Adj. Flow (vph)	236	1124	53	18	59	74	6	175	58	37	175	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	236	1177	0	18	133	0	6	233	0	37	300	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)		3.5			3.5			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.09	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	37.0		4.0	4.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	10.0	53.0		22.0	22.0		31.0	31.0		31.0	31.0	
Total Split (s)	10.0	55.0		45.0	45.0		57.0	57.0		57.0	57.0	
Total Split (%)	8.9%	49.1%		40.2%	40.2%		50.9%	50.9%		50.9%	50.9%	
Maximum Green (s)	4.0	53.0		39.0	39.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	2.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	0.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	1.0		5.0	5.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	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	C-Max		None	None		None	None		None	None	
Walk Time (s)		37.0		5.0	5.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)		9.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	66.2	70.2		50.4	50.4		34.8	34.8		34.8	34.8	
Actuated g/C Ratio	0.59	0.63		0.45	0.45		0.31	0.31		0.31	0.31	
v/c Ratio	0.32	0.54		0.11	0.17		0.06	0.44		0.16	0.83	
Control Delay	12.5	12.9		25.7	13.0		16.0	18.3		21.9	42.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.2	
Total Delay	12.5	12.9		25.7	13.0		16.0	18.3		21.9	42.3	
LOS	B	B		C	B		B	B		C	D	
Approach Delay		12.9			14.5			18.2			40.1	
Approach LOS		B			B			B			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 17.9		Intersection LOS: B	
Intersection Capacity Utilization 84.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 11: Bay St. & Harbour Street





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	236	1177	18	133	6	233	37	300
v/c Ratio	0.32	0.54	0.11	0.17	0.06	0.44	0.16	0.83
Control Delay	12.5	12.9	25.7	13.0	16.0	18.3	21.9	42.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	12.5	12.9	25.7	13.0	16.0	18.3	21.9	42.3
Queue Length 50th (m)	23.2	64.5	2.3	8.9	0.5	16.7	5.6	59.4
Queue Length 95th (m)	m35.8	80.8	8.4	23.8	m0.9	m20.0	m9.9	85.3
Internal Link Dist (m)		266.5		89.2		102.3		24.5
Turn Bay Length (m)			30.0		30.0		30.0	
Base Capacity (vph)	727	2163	165	786	161	760	330	513
Starvation Cap Reductn	0	0	0	0	0	0	0	20
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.54	0.11	0.17	0.04	0.31	0.11	0.61

Intersection Summary

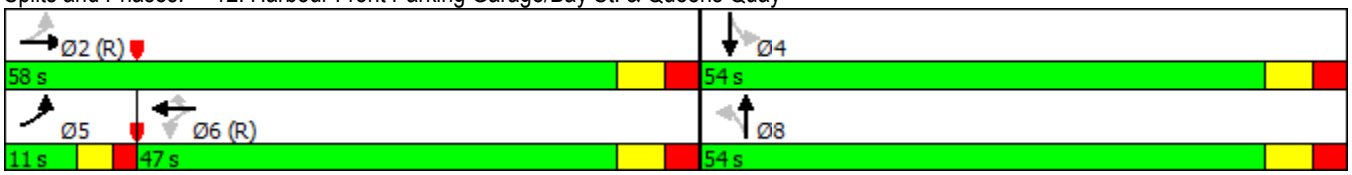
m Volume for 95th percentile queue is metered by upstream signal.

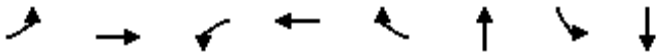
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	141	29	12	124	13	191	167	36	38	140	54
Future Volume (vph)	62	141	29	12	124	13	191	167	36	38	140	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	15.0			15.0			15.0			15.0		
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	0.76	0.97		0.85		0.68		0.91		0.83	0.95	
Frt		0.974				0.850		0.988			0.958	
Flt Protected	0.950			0.950				0.976		0.950		
Satd. Flow (prot)	1652	1732	0	1652	1842	1478	0	1714	0	1652	1683	0
Flt Permitted	0.626			0.650				0.705		0.515		
Satd. Flow (perm)	826	1732	0	963	1842	1001	0	1168	0	745	1683	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				88		6			22	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		294.0			189.2			54.2			126.3	
Travel Time (s)		21.2			13.6			3.9			9.1	
Confl. Peds. (#/hr)	149		90	90		149	136		191	191		136
Peak Hour 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
Adj. Flow (vph)	62	141	29	12	124	13	191	167	36	38	140	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	170	0	12	124	13	0	394	0	38	194	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)		3.5			3.5			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	38.0		27.0	27.0	27.0	29.0	29.0		29.0	29.0	
Minimum Split (s)	11.0	45.0		34.0	34.0	34.0	36.0	36.0		36.0	36.0	
Total Split (s)	11.0	58.0		47.0	47.0	47.0	54.0	54.0		54.0	54.0	
Total Split (%)	9.8%	51.8%		42.0%	42.0%	42.0%	48.2%	48.2%		48.2%	48.2%	
Maximum Green (s)	6.0	51.0		40.0	40.0	40.0	47.0	47.0		47.0	47.0	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	4.0	6.0		6.0	6.0	6.0		6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	Min	Min		Min	Min	
Walk Time (s)		15.0		15.0	15.0	15.0	14.0	14.0		14.0	14.0	
Flash Dont Walk (s)		12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	60.3	58.3		49.4	49.4	49.4		41.7		41.7	41.7	
Actuated g/C Ratio	0.54	0.52		0.44	0.44	0.44		0.37		0.37	0.37	
v/c Ratio	0.12	0.19		0.03	0.15	0.03		0.90		0.14	0.30	
Control Delay	15.2	15.4		22.8	22.5	0.1		56.3		15.2	14.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	15.2	15.4		22.8	22.5	0.1		56.3		15.2	14.2	
LOS	B	B		C	C	A		E		B	B	
Approach Delay		15.4			20.6			56.3			14.3	
Approach LOS		B			C			E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 31.9		Intersection LOS: C	
Intersection Capacity Utilization 114.9%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 12: Harbour Front Parking Garage/Bay St. & Queens Quay





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	62	170	12	124	13	394	38	194
v/c Ratio	0.12	0.19	0.03	0.15	0.03	0.90	0.14	0.30
Control Delay	15.2	15.4	22.8	22.5	0.1	56.3	15.2	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	15.4	22.8	22.5	0.1	56.3	15.2	14.2
Queue Length 50th (m)	6.5	18.3	1.6	17.3	0.0	76.8	3.0	12.7
Queue Length 95th (m)	14.5	33.5	5.7	31.7	0.0	#122.1	m7.1	29.2
Internal Link Dist (m)		270.0		165.2		30.2		102.3
Turn Bay Length (m)	30.0		30.0		30.0		30.0	
Base Capacity (vph)	497	907	424	811	490	504	319	733
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.19	0.03	0.15	0.03	0.78	0.12	0.26

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)	355	678	42	17	39	132	6	53	50	123	31	56
Future Volume (vph)	355	678	42	17	39	132	6	53	50	123	31	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		1.00			1.00	0.98		0.82			0.72	
Frt		0.994				0.850		0.938			0.960	
Flt Protected		0.984			0.985			0.997			0.972	
Satd. Flow (prot)	0	3411	0	0	1814	1566	0	1452	0	0	2777	0
Flt Permitted		0.824			0.737			0.984			0.733	
Satd. Flow (perm)	0	2853	0	0	1354	1541	0	1401	0	0	1774	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				123		38			46	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		86.1			151.2			128.1			141.9	
Travel Time (s)		6.2			10.9			9.2			10.2	
Confl. Peds. (#/hr)	2		39	39		2	228		243	243		228
Peak Hour 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
Adj. Flow (vph)	355	678	42	17	39	132	6	53	50	123	31	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1075	0	0	56	132	0	109	0	0	210	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			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	24.0	24.0		24.0	24.0	24.0	24.0	24.0		24.0	24.0	
Total Split (s)	75.0	75.0		75.0	75.0	75.0	45.0	45.0		45.0	45.0	
Total Split (%)	62.5%	62.5%		62.5%	62.5%	62.5%	37.5%	37.5%		37.5%	37.5%	
Maximum Green (s)	69.0	69.0		69.0	69.0	69.0	39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max	C-Max	Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		70.0			70.0	70.0		40.0			40.0	
Actuated g/C Ratio		0.58			0.58	0.58		0.33			0.33	
v/c Ratio		0.65			0.07	0.14		0.22			0.34	
Control Delay		18.9			11.2	2.6		20.0			28.5	
Queue Delay		0.2			0.0	0.0		0.0			0.0	
Total Delay		19.1			11.2	2.7		20.0			28.5	
LOS		B			B	A		B			C	
Approach Delay		19.1			5.2			20.0			28.5	
Approach LOS		B			A			B			C	

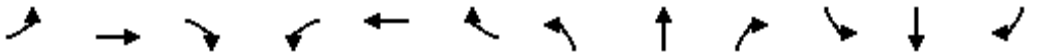
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 73.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 16: Yonge St. & Harbour Street

Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1075	56	132	109	210
v/c Ratio	0.65	0.07	0.14	0.22	0.34
Control Delay	18.9	11.2	2.6	20.0	28.5
Queue Delay	0.2	0.0	0.0	0.0	0.0
Total Delay	19.1	11.2	2.7	20.0	28.5
Queue Length 50th (m)	83.8	5.4	0.8	11.7	17.0
Queue Length 95th (m)	105.5	11.2	8.8	25.5	m28.4
Internal Link Dist (m)	62.1	127.2		104.1	117.9
Turn Bay Length (m)			30.0		
Base Capacity (vph)	1666	789	950	492	622
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	125	0	135	3	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.07	0.16	0.22	0.34

Intersection Summary

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



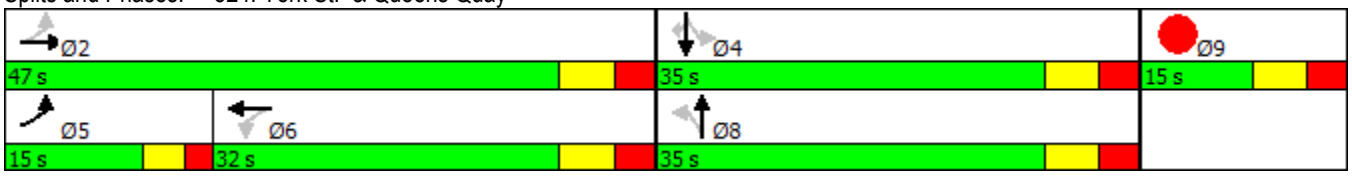
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	59	0	48	193	192	18	150	40	83	265	64
Future Volume (vph)	106	59	0	48	193	192	18	150	40	83	265	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	0		0	0		0	0		0	1		1
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.933			0.974				0.850
Flt Protected		0.969			0.994			0.996		0.950		
Satd. Flow (prot)	0	3391	0	0	3246	0	0	1787	0	1750	1842	1566
Flt Permitted		0.605			0.898			0.957		0.561		
Satd. Flow (perm)	0	2117	0	0	2932	0	0	1717	0	1033	1842	1566
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					192			13				180
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		219.8			294.0			33.7			130.9	
Travel Time (s)		15.8			21.2			2.4			9.4	
Peak Hour 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
Adj. Flow (vph)	106	59	0	48	193	192	18	150	40	83	265	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	165	0	0	433	0	0	208	0	83	265	64
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	7.5
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	25.0		25.0	25.0		28.0	28.0		28.0	28.0	28.0
Minimum Split (s)	11.0	32.0		32.0	32.0		35.0	35.0		35.0	35.0	35.0
Total Split (s)	15.0	47.0		32.0	32.0		35.0	35.0		35.0	35.0	35.0

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (m)	
Storage Lanes	
Taper Length (m)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	8.0
Minimum Split (s)	15.0
Total Split (s)	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	15.5%	48.5%		33.0%	33.0%		36.1%	36.1%		36.1%	36.1%	36.1%
Maximum Green (s)	10.0	40.0		25.0	25.0		28.0	28.0		28.0	28.0	28.0
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)		6.0			6.0			6.0		6.0	6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max		Max	Max		None	None		None	None	None
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)		41.0			41.0			29.0		29.0	29.0	29.0
Actuated g/C Ratio		0.42			0.42			0.30		0.30	0.30	0.30
v/c Ratio		0.18			0.32			0.40		0.27	0.48	0.11
Control Delay		18.3			10.7			28.1		28.9	31.4	0.4
Queue Delay		0.0			0.0			0.0		0.0	0.0	0.0
Total Delay		18.3			10.7			28.1		28.9	31.4	0.4
LOS		B			B			C		C	C	A
Approach Delay		18.3			10.7			28.1			26.1	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 97			
Actuated Cycle Length: 97			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 19.9		Intersection LOS: B	
Intersection Capacity Utilization 86.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 324: York St. & Queens Quay



Lane Group	Ø9
Total Split (%)	15%
Maximum Green (s)	8.0
Yellow Time (s)	4.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBT	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	165	433	208	83	265	64
v/c Ratio	0.18	0.32	0.40	0.27	0.48	0.11
Control Delay	18.3	10.7	28.1	28.9	31.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	10.7	28.1	28.9	31.4	0.4
Queue Length 50th (m)	9.9	14.6	28.9	11.8	40.5	0.0
Queue Length 95th (m)	16.8	25.1	48.9	24.2	63.7	0.0
Internal Link Dist (m)	195.8	270.0	9.7		106.9	
Turn Bay Length (m)				20.0		
Base Capacity (vph)	894	1350	522	308	550	594
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.32	0.40	0.27	0.48	0.11

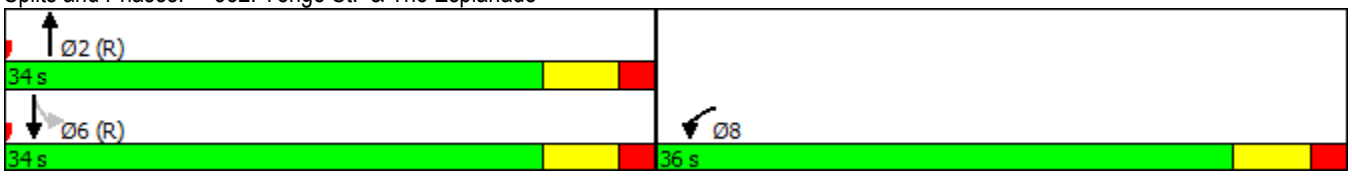
Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	176	23	1446	53	65	357
Future Volume (vph)	176	23	1446	53	65	357
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.984		0.995			
Flt Protected	0.958					0.992
Satd. Flow (prot)	1736	0	3482	0	0	3472
Flt Permitted	0.958					0.648
Satd. Flow (perm)	1736	0	3482	0	0	2268
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	7		6			
Link Speed (k/h)	50		50			50
Link Distance (m)	304.1		122.9			98.7
Travel Time (s)	21.9		8.8			7.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	185	24	1522	56	68	376
Shared Lane Traffic (%)						
Lane Group Flow (vph)	209	0	1578	0	0	444
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		1		1	1
Detector Template	Left		Thru		Left	Thru
Leading Detector (m)	17.0		7.5		17.0	7.5
Trailing Detector (m)	12.0		-1.5		12.0	-1.5
Detector 1 Position(m)	12.0		-1.5		12.0	-1.5
Detector 1 Size(m)	5.0		9.0		5.0	9.0
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	29.0		30.0		30.0	30.0
Total Split (s)	36.0		34.0		34.0	34.0
Total Split (%)	51.4%		48.6%		48.6%	48.6%
Maximum Green (s)	30.0		28.0		28.0	28.0
Yellow Time (s)	4.0		4.0		4.0	4.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0			-1.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	12.0		13.0		13.0	13.0
Flash Dont Walk (s)	10.0		10.0		10.0	10.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	13.9		46.1			46.1
Actuated g/C Ratio	0.20		0.66			0.66
v/c Ratio	0.60		0.69			0.30
Control Delay	32.9		10.3			5.0
Queue Delay	0.0		0.0			0.0
Total Delay	32.9		10.3			5.0
LOS	C		B			A
Approach Delay	32.9		10.3			5.0
Approach LOS	C		B			A

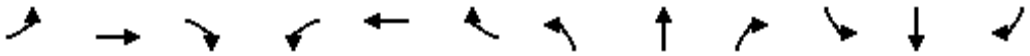
Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 77.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 332: Yonge St. & The Esplanade



Lane Group	WBL	NBT	SBT
Lane Group Flow (vph)	209	1578	444
v/c Ratio	0.60	0.69	0.30
Control Delay	32.9	10.3	5.0
Queue Delay	0.0	0.0	0.0
Total Delay	32.9	10.3	5.0
Queue Length 50th (m)	24.1	57.2	9.3
Queue Length 95th (m)	44.1	101.8	14.2
Internal Link Dist (m)	280.1	98.9	74.7
Turn Bay Length (m)			
Base Capacity (vph)	772	2294	1493
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.27	0.69	0.30

Intersection Summary

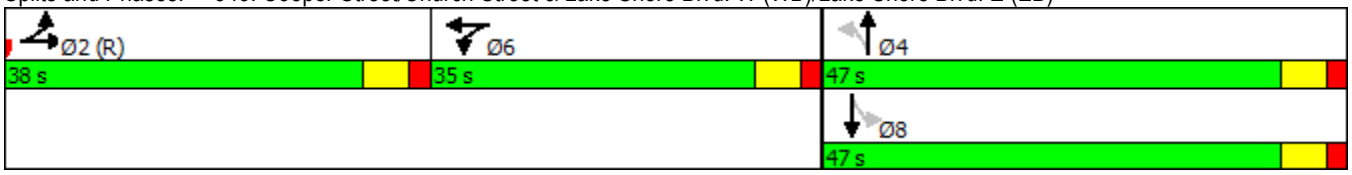


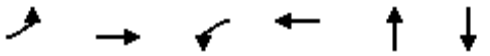
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	490	4	193	449	88	1	25	26	193	29	10
Future Volume (vph)	222	490	4	193	449	88	1	25	26	193	29	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	60.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	45.0			35.0			15.0			15.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.999			0.975			0.925			0.994	
Flt Protected	0.950			0.950				0.999			0.960	
Satd. Flow (prot)	1652	5024	0	1652	4903	0	0	3234	0	0	3340	0
Flt Permitted	0.950			0.950				0.949			0.734	
Satd. Flow (perm)	1652	5024	0	1652	4903	0	0	3072	0	0	2554	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			32			26			4	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		93.7			109.3			46.7			235.2	
Travel Time (s)		6.7			7.9			3.4			16.9	
Peak Hour 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
Adj. Flow (vph)	222	490	4	193	449	88	1	25	26	193	29	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	222	494	0	193	537	0	0	52	0	0	232	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)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		6	6			4			8	
Permitted Phases							4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum 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 (s)	38.0	38.0		35.0	35.0		47.0	47.0		47.0	47.0	
Total Split (%)	31.7%	31.7%		29.2%	29.2%		39.2%	39.2%		39.2%	39.2%	
Maximum Green (s)	32.0	32.0		29.0	29.0		41.0	41.0		41.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
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	C-Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		30.0	30.0		30.0	30.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	66.9	66.9		20.7	20.7			17.4			17.4	
Actuated g/C Ratio	0.56	0.56		0.17	0.17			0.14			0.14	
v/c Ratio	0.24	0.18		0.68	0.62			0.11			0.98dl	
Control Delay	16.4	14.5		58.0	45.7			25.5			54.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	16.4	14.5		58.0	45.7			25.5			54.3	
LOS	B	B		E	D			C			D	
Approach Delay		15.1			48.9			25.5			54.3	
Approach LOS		B			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 34.9		Intersection LOS: C	
Intersection Capacity Utilization 52.8%		ICU Level of Service A	
Analysis Period (min) 15			
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			

Splits and Phases: 343: Cooper Street/Church Street & Lake Shore Blvd. W (WB)/Lake Shore Blvd. E (EB)





Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	222	494	193	537	52	232
v/c Ratio	0.24	0.18	0.68	0.62	0.11	0.98dl
Control Delay	16.4	14.5	58.0	45.7	25.5	54.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	14.5	58.0	45.7	25.5	54.3
Queue Length 50th (m)	25.5	19.8	43.1	40.8	2.8	26.8
Queue Length 95th (m)	50.2	33.0	62.6	48.9	8.2	38.2
Internal Link Dist (m)		69.7		85.3	22.7	211.2
Turn Bay Length (m)	60.0		50.0			
Base Capacity (vph)	920	2800	413	1249	1092	896
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.18	0.47	0.43	0.05	0.26

Intersection Summary

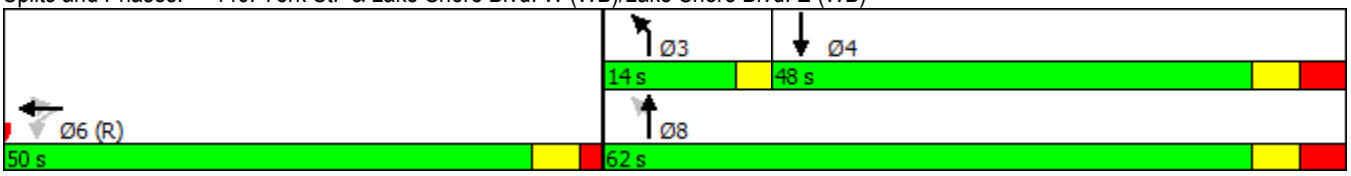
dl Defacto Left Lane. Recode with 1 though lane as a left lane.

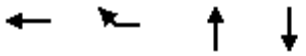
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	167	527	160	36	809	291	22
Future Volume (vph)	167	527	160	36	809	291	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.88	0.95	0.95	0.95	0.95
Frt			0.850			0.989	
Flt Protected		0.988			0.998		
Satd. Flow (prot)	0	4968	2756	0	3493	3461	0
Flt Permitted		0.988			0.926		
Satd. Flow (perm)	0	4968	2756	0	3241	3461	0
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (k/h)		50			50	50	
Link Distance (m)		93.2			63.0	159.0	
Travel Time (s)		6.7			4.5	11.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	167	527	160	36	809	291	22
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	694	160	0	845	313	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Left	Right
Median Width(m)		0.0			0.0	3.5	
Link Offset(m)		0.0			0.0	0.0	
Crosswalk Width(m)		1.6			1.6	1.6	
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24			14
Number of Detectors	1	1	1	1	1	1	
Detector Template	Left	Thru	Right	Left	Thru	Thru	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA	Perm	pm+pt	NA	NA	
Protected Phases		6		3	8	4	
Permitted Phases	6		6	8			
Detector Phase	6	6	6	3	8	4	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	11.0	10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	14.0	38.0	38.0	
Total Split (s)	50.0	50.0	50.0	14.0	62.0	48.0	
Total Split (%)	44.6%	44.6%	44.6%	12.5%	55.4%	42.9%	
Maximum Green (s)	44.0	44.0	44.0	11.0	54.0	40.0	
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
All-Red Time (s)	2.0	2.0	2.0	0.0	4.0	4.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0	5.0		7.0	7.0	
Lead/Lag				Lead		Lag	
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	Max	Max	Max	
Walk Time (s)	4.0	4.0	4.0		10.0	10.0	
Flash Dont Walk (s)	15.0	15.0	15.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	
Act Effct Green (s)		45.0	45.0		55.0	41.0	
Actuated g/C Ratio		0.40	0.40		0.49	0.37	
v/c Ratio		0.35	0.14		0.53	0.25	
Control Delay		13.1	12.5		16.3	16.8	
Queue Delay		0.0	0.0		5.8	0.0	
Total Delay		13.1	12.5		22.1	16.8	
LOS		B	B		C	B	
Approach Delay		13.0			22.1	16.8	
Approach LOS		B			C	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 26 (23%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

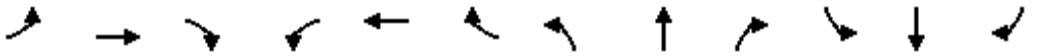
Splits and Phases: 446: York St. & Lake Shore Blvd. W (WB)/Lake Shore Blvd. E (WB)





Lane Group	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	694	160	845	313
v/c Ratio	0.35	0.14	0.53	0.25
Control Delay	13.1	12.5	16.3	16.8
Queue Delay	0.0	0.0	5.8	0.0
Total Delay	13.1	12.5	22.1	16.8
Queue Length 50th (m)	17.1	6.0	45.3	14.2
Queue Length 95th (m)	20.9	9.4	59.8	22.1
Internal Link Dist (m)	69.2		39.0	135.0
Turn Bay Length (m)				
Base Capacity (vph)	1996	1107	1607	1266
Starvation Cap Reductn	0	0	694	0
Spillback Cap Reductn	134	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.37	0.14	0.93	0.25

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	638	1425	102	0	0	47	0	339	103	144	310	0
Future Volume (vph)	638	1425	102	0	0	47	0	339	103	144	310	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Frt		0.990				0.865		0.965				
Flt Protected	0.950										0.984	
Satd. Flow (prot)	1750	4979	0	0	0	1593	0	3377	0	0	3444	0
Flt Permitted	0.950										0.589	
Satd. Flow (perm)	1750	4979	0	0	0	1593	0	3377	0	0	2061	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				356		31				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.3			290.5			130.9			63.0	
Travel Time (s)		12.3			20.9			9.4			4.5	
Peak Hour 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
Adj. Flow (vph)	638	1425	102	0	0	47	0	339	103	144	310	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	638	1527	0	0	0	47	0	442	0	0	454	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1				1		1		1	1	
Detector Template	Left	Thru				Right		Thru		Left	Thru	
Leading Detector (m)	17.0	7.5				7.5		7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5				-1.5		-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5				-1.5		-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0				9.0		9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA				Perm		NA		pm+pt	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2					6				4		
Detector Phase	2	2				6		8		7	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0				4.0		12.0		7.0	12.0	
Minimum Split (s)	44.0	44.0				22.0		28.0		11.0	28.0	
Total Split (s)	73.0	73.0				22.0		28.0		11.0	39.0	
Total Split (%)	65.2%	65.2%				19.6%		25.0%		9.8%	34.8%	
Maximum Green (s)	67.0	67.0				16.0		20.0		7.0	31.0	
Yellow Time (s)	4.0	4.0				4.0		4.0		2.0	4.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0				2.0		4.0		2.0	4.0	
Lost Time Adjust (s)	-1.0	-1.0				-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0				5.0		7.0			7.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0				3.0		3.0		3.0	3.0	
Recall Mode	C-Max	C-Max				None		Max		Max	Max	
Walk Time (s)	24.0	24.0				5.0		8.0			8.0	
Flash Dont Walk (s)	14.0	14.0				11.0		12.0			12.0	
Pedestrian Calls (#/hr)	0	0				0		0			0	
Act Effct Green (s)	68.0	68.0				68.0		21.0			32.0	
Actuated g/C Ratio	0.61	0.61				0.61		0.19			0.29	
v/c Ratio	0.60	0.50				0.04		0.67			0.71	
Control Delay	15.4	12.2				0.1		45.0			37.8	
Queue Delay	0.5	0.0				0.0		0.1			55.0	
Total Delay	15.9	12.2				0.1		45.0			92.8	
LOS	B	B				A		D			F	
Approach Delay		13.3			0.1			45.0			92.8	
Approach LOS		B			A			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 76.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 448: York St. & Harbour Street

Lane Group	EBL	EBT	WBR	NBT	SBT
Lane Group Flow (vph)	638	1527	47	442	454
v/c Ratio	0.60	0.50	0.04	0.67	0.71
Control Delay	15.4	12.2	0.1	45.0	37.8
Queue Delay	0.5	0.0	0.0	0.1	55.0
Total Delay	15.9	12.2	0.1	45.0	92.8
Queue Length 50th (m)	64.5	53.1	0.0	44.4	32.5
Queue Length 95th (m)	98.7	70.2	m0.0	61.5	49.2
Internal Link Dist (m)		146.3		106.9	39.0
Turn Bay Length (m)					
Base Capacity (vph)	1062	3030	1107	658	638
Starvation Cap Reductn	0	0	0	0	250
Spillback Cap Reductn	137	0	168	5	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	0.50	0.05	0.68	1.17

Intersection Summary

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

Lane Group	EBL	EBT	EBR	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	467	4	89	826	63	13	349	83	49	128	376
Future Volume (vph)	213	467	4	89	826	63	13	349	83	49	128	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0	0.0		0.0		0.0	0.0		0.0
Storage Lanes	1		1	1	3		0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	*0.91	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850		*0.982			0.972			0.898	
Flt Protected	0.950			0.950				0.999			0.996	
Satd. Flow (prot)	1750	3500	1566	1750	*4800	0	0	3398	0	0	3130	0
Flt Permitted	0.950			0.950				0.927			0.831	
Satd. Flow (perm)	1750	3500	1566	1750	*4800	0	0	3154	0	0	2612	0
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			140		140			38				
Link Speed (k/h)		50						50			50	
Link Distance (m)		315.8						149.7			153.5	
Travel Time (s)		22.7						10.8			11.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	224	492	4	94	869	66	14	367	87	52	135	396
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	492	4	94	935	0	0	468	0	0	583	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5						0.0			0.0	
Link Offset(m)		0.0						0.0			0.0	
Crosswalk Width(m)		1.6						1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24	50	14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	1		1	1	
Detector Template	Left	Thru	Right	Left	Right		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0		5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Split	NA	Perm	Prot	Perm		Perm	NA		Perm	NA	
Protected Phases	4	4		8				2			6	
Permitted Phases			4		8		2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	17.0	17.0		17.0	17.0		17.0	17.0	
Minimum Split (s)	24.0	24.0	24.0	23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	24.0	24.0	24.0	23.0	23.0		23.0	23.0		23.0	23.0	

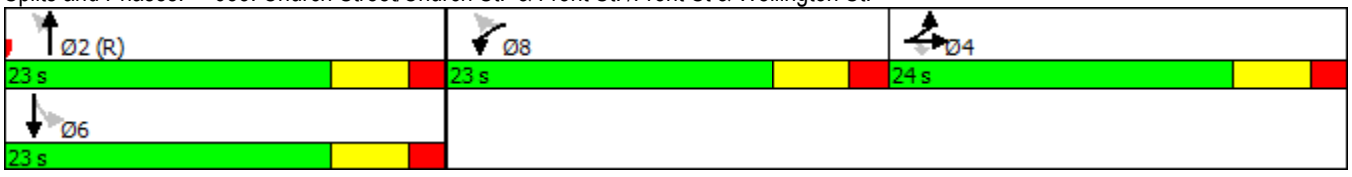
Lane Group	EBL	EBT	EBR	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	34.3%	34.3%	34.3%	32.9%	32.9%		32.9%	32.9%		32.9%	32.9%	
Maximum Green (s)	18.0	18.0	18.0	17.0	17.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	Max	Max		C-Max	C-Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	10.0	10.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	19.0	19.0	19.0	18.0	18.0			18.0			18.0	
Actuated g/C Ratio	0.27	0.27	0.27	0.26	0.26			0.26			0.26	
v/c Ratio	0.47	0.52	0.01	0.21	0.70			0.56			0.97dr	
Control Delay	17.4	16.1	0.0	10.2	10.5			20.2			33.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	17.4	16.1	0.0	10.2	10.5			20.2			33.9	
LOS	B	B	A	B	B			C			C	
Approach Delay		16.4						20.2			33.9	
Approach LOS		B						C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 65 (93%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 18.5		Intersection LOS: B	
Intersection Capacity Utilization 83.7%		ICU Level of Service E	
Analysis Period (min) 15			

* User Entered Value

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 653: Church Street/Church St. & Front St. /Front St & Wellington St.



Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	224	492	4	94	935	468	583
v/c Ratio	0.47	0.52	0.01	0.21	0.70	0.56	0.97dr
Control Delay	17.4	16.1	0.0	10.2	10.5	20.2	33.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	16.1	0.0	10.2	10.5	20.2	33.9
Queue Length 50th (m)	14.9	17.2	0.0	3.4	7.6	23.5	39.7
Queue Length 95th (m)	m28.7	29.2	m0.0	m5.6	10.6	39.3	#66.5
Internal Link Dist (m)		291.8				125.7	129.5
Turn Bay Length (m)	20.0			25.0			
Base Capacity (vph)	475	950	527	450	1338	839	671
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.52	0.01	0.21	0.70	0.56	0.87

Intersection Summary

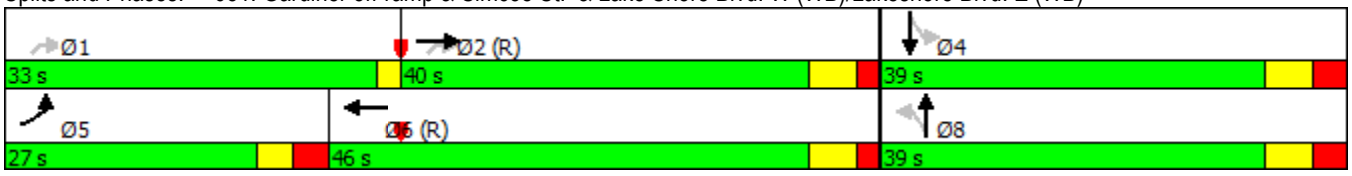
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBT	NER	Ø1
Lane Configurations										
Traffic Volume (vph)	203	827	0	0	172	53	105	37	0	
Future Volume (vph)	203	827	0	0	172	53	105	37	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	0.0			0.0		0.0	0.0		0.0	
Storage Lanes	1			1		0	1		2	
Taper Length (m)	15.0			15.0			15.0			
Lane Util. Factor	1.00	0.95	0.91	1.00	1.00	1.00	1.00	1.00	0.88	
Frt					0.965					
Flt Protected	0.950						0.950			
Satd. Flow (prot)	1750	3500	5029	1842	1778	0	1750	1842	3242	
Flt Permitted	0.950						0.400			
Satd. Flow (perm)	1750	3500	5029	1842	1778	0	737	1842	3242	
Right Turn on Red						Yes				
Satd. Flow (RTOR)					14					
Link Speed (k/h)		50	50		50			50		
Link Distance (m)		242.1	36.5		121.1			219.5		
Travel Time (s)		17.4	2.6		8.7			15.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	203	827	0	0	172	53	105	37	0	
Shared Lane Traffic (%)										
Lane Group Flow (vph)	203	827	0	0	225	0	105	37	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Left	Left	Right	Left	Left	Right	
Median Width(m)		3.5	0.0		7.0			7.0		
Link Offset(m)		0.0	0.0		0.0			0.0		
Crosswalk Width(m)		1.6	1.6		1.6			1.6		
Two way Left Turn Lane										
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24			24		14	24		14	
Number of Detectors	1	1	1	1	1		1	1	1	
Detector Template	Left	Thru	Thru	Left	Thru		Left	Thru	Right	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5		17.0	7.5	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0		5.0	9.0	9.0	
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	Prot	NA		Perm	NA		Perm	NA	Perm	
Protected Phases	5	2	6		8			4		1
Permitted Phases				8			4		1 2	
Detector Phase	5	2	6	8	8		4	4	1 2	
Switch Phase										
Minimum Initial (s)	7.0	8.0	8.0	14.0	14.0		14.0	14.0		8.0
Minimum Split (s)	13.0	26.0	26.0	39.0	39.0		39.0	39.0		10.0
Total Split (s)	27.0	40.0	46.0	39.0	39.0		39.0	39.0		33.0

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBT	NER	Ø1
Total Split (%)	24.1%	35.7%	41.1%	34.8%	34.8%		34.8%	34.8%		29%
Maximum Green (s)	21.0	34.0	40.0	32.0	32.0		32.0	32.0		31.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	3.0	2.0	2.0	3.0	3.0		3.0	3.0		0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0		6.0	6.0		
Lead/Lag	Lead	Lag	Lag							Lead
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	C-Max	C-Max	None	None		None	None		Max
Walk Time (s)		8.0	8.0	8.0	8.0		8.0	8.0		
Flash Dont Walk (s)		12.0	12.0	24.0	24.0		24.0	24.0		
Pedestrian Calls (#/hr)		0	0	0	0		0	0		
Act Effct Green (s)	18.4	35.0			20.2		20.2	20.2		
Actuated g/C Ratio	0.16	0.31			0.18		0.18	0.18		
v/c Ratio	0.71	0.76			0.68		0.79	0.11		
Control Delay	63.3	31.8			50.0		75.9	32.2		
Queue Delay	0.0	0.0			0.0		0.0	0.0		
Total Delay	63.3	31.8			50.0		75.9	32.2		
LOS	E	C			D		E	C		
Approach Delay		38.0			50.0			64.5		
Approach LOS		D			D			E		

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 31 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 42.6		Intersection LOS: D	
Intersection Capacity Utilization 61.0%		ICU Level of Service B	
Analysis Period (min) 15			

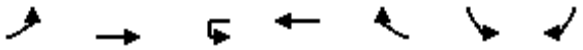
Splits and Phases: 681: Gardiner off-ramp & Simcoe St. & Lake Shore Blvd. W (WB)/Lakeshore Blvd. E (WB)



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	203	827	225	105	37
v/c Ratio	0.71	0.76	0.68	0.79	0.11
Control Delay	63.3	31.8	50.0	75.9	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	31.8	50.0	75.9	32.2
Queue Length 50th (m)	38.9	101.0	43.8	23.6	6.1
Queue Length 95th (m)	m40.6	m116.8	64.5	#43.0	12.9
Internal Link Dist (m)		218.1	97.1		195.5
Turn Bay Length (m)					
Base Capacity (vph)	352	1093	533	217	542
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	0.58	0.76	0.42	0.48	0.07

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.

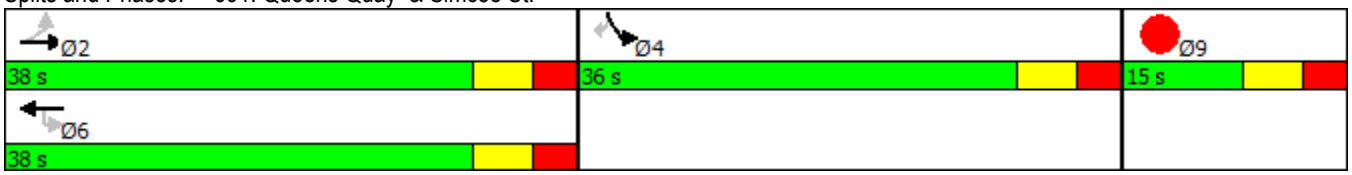


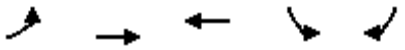
Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR	Ø9
Lane Configurations								
Traffic Volume (vph)	48	75	0	199	9	16	26	
Future Volume (vph)	48	75	0	199	9	16	26	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	55.0		50.0		0.0	0.0	0.0	
Storage Lanes	1		1		0	1	1	
Taper Length (m)	15.0		15.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	1.00	1.00	
Frt				0.994			0.850	
Flt Protected	0.950					0.950		
Satd. Flow (prot)	1750	3500	1842	3479	0	1750	1566	
Flt Permitted	0.621					0.950		
Satd. Flow (perm)	1144	3500	1842	3479	0	1750	1566	
Right Turn on Red					Yes		Yes	
Satd. Flow (RTOR)				6			26	
Link Speed (k/h)		50		50		50		
Link Distance (m)		323.9		219.8		121.1		
Travel Time (s)		23.3		15.8		8.7		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	48	75	0	199	9	16	26	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	48	75	0	208	0	16	26	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right	
Median Width(m)		3.5		3.5		3.5		
Link Offset(m)		0.0		0.0		0.0		
Crosswalk Width(m)		1.6		1.6		1.6		
Two way Left Turn Lane								
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14		14	24	14	
Number of Detectors	1	1	1	1		1	1	
Detector Template	Left	Thru	Left	Thru		Left	Right	
Leading Detector (m)	17.0	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA	Perm	NA		Prot	Perm	
Protected Phases		2		6		4		9
Permitted Phases	2		6				4	
Detector Phase	2	2	6	6		4	4	
Switch Phase								
Minimum Initial (s)	31.0	31.0	31.0	31.0		29.0	29.0	8.0
Minimum Split (s)	38.0	38.0	38.0	38.0		36.0	36.0	15.0
Total Split (s)	38.0	38.0	38.0	38.0		36.0	36.0	15.0

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR	Ø9
Total Split (%)	42.7%	42.7%	42.7%	42.7%		40.4%	40.4%	17%
Maximum Green (s)	31.0	31.0	31.0	31.0		29.0	29.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max		None	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0		0	0	
Act Effct Green (s)	34.1	34.1		34.1		32.0	32.0	
Actuated g/C Ratio	0.46	0.46		0.46		0.43	0.43	
v/c Ratio	0.09	0.05		0.13		0.02	0.04	
Control Delay	18.8	17.4		16.4		20.0	8.5	
Queue Delay	0.0	0.0		0.0		0.0	0.0	
Total Delay	18.8	17.4		16.4		20.0	8.5	
LOS	B	B		B		B	A	
Approach Delay		18.0		16.4		12.9		
Approach LOS		B		B		B		

Intersection Summary			
Area Type:	Other		
Cycle Length: 89			
Actuated Cycle Length: 74.6			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.13			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			

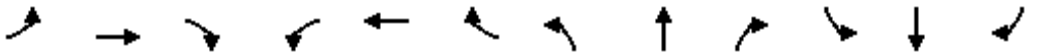
Splits and Phases: 691: Queens Quay & Simcoe St.





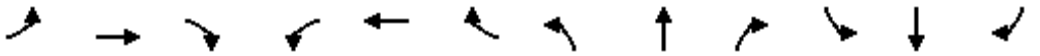
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	48	75	208	16	26
v/c Ratio	0.09	0.05	0.13	0.02	0.04
Control Delay	18.8	17.4	16.4	20.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	17.4	16.4	20.0	8.5
Queue Length 50th (m)	5.4	4.3	12.1	1.8	0.0
Queue Length 95th (m)	12.9	8.8	19.7	6.0	5.2
Internal Link Dist (m)		299.9	195.8	97.1	
Turn Bay Length (m)	55.0				
Base Capacity (vph)	523	1600	1593	749	686
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	0.09	0.05	0.13	0.02	0.04

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	586	97	18	90	47	27	10	72	45	11	71
Future Volume (vph)	140	586	97	18	90	47	27	10	72	45	11	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.959				0.850		0.925	
Flt Protected		0.992			0.994			0.965			0.983	
Satd. Flow (prot)	0	3409	0	0	1756	0	0	1778	1566	0	1675	0
Flt Permitted		0.992			0.994			0.965			0.983	
Satd. Flow (perm)	0	3409	0	0	1756	0	0	1778	1566	0	1675	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		151.2			143.9			101.8			172.0	
Travel Time (s)		10.9			10.4			7.3			12.4	
Peak Hour 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
Adj. Flow (vph)	140	586	97	18	90	47	27	10	72	45	11	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	823	0	0	155	0	0	37	72	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)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			



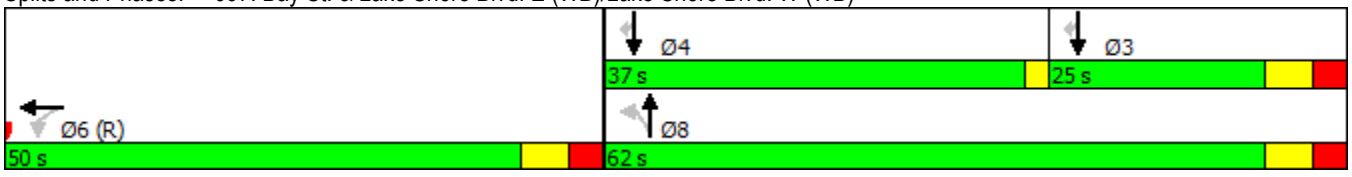
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	172	1049	202	64	421	0	0	171	296
Future Volume (vph)	0	0	0	172	1049	202	64	421	0	0	171	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	0.0		50.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	1.00	0.88
Ped Bike Factor					0.94			0.95				0.64
Frt					0.979							0.850
Flt Protected					0.994			0.993				
Satd. Flow (prot)	0	0	0	0	5895	0	0	3475	0	0	1842	2756
Flt Permitted					0.994			0.881				
Satd. Flow (perm)	0	0	0	0	5775	0	0	2935	0	0	1842	1769
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					44							
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		153.1			169.6			64.6			325.1	
Travel Time (s)		11.0			12.2			4.7			23.4	
Confl. Peds. (#/hr)	171		54	54		171	942		193	193		942
Peak Hour 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
Adj. Flow (vph)	0	0	0	172	1049	202	64	421	0	0	171	296
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1423	0	0	485	0	0	171	296
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			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1	1		1	1			1	1
Detector Template				Left	Thru		Left	Thru			Thru	Right
Leading Detector (m)				17.0	7.5		17.0	7.5			7.5	7.5
Trailing Detector (m)				12.0	-1.5		12.0	-1.5			-1.5	-1.5
Detector 1 Position(m)				12.0	-1.5		12.0	-1.5			-1.5	-1.5
Detector 1 Size(m)				5.0	9.0		5.0	9.0			9.0	9.0
Detector 1 Type				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
Detector 1 Queue (s)				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
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					6			8			4 3	
Permitted Phases				6			8					4 3
Detector Phase				6	6		8	8			4 3	4 3
Switch Phase												
Minimum Initial (s)				18.0	18.0		14.0	14.0				

Lane Group	Ø3	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	7.0	14.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)				25.0	25.0		56.0	56.0				
Total Split (s)				50.0	50.0		62.0	62.0				
Total Split (%)				44.6%	44.6%		55.4%	55.4%				
Maximum Green (s)				43.0	43.0		55.0	55.0				
Yellow Time (s)				4.0	4.0		4.0	4.0				
All-Red Time (s)				3.0	3.0		3.0	3.0				
Lost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0				
Recall Mode				C-Max	C-Max		Max	Max				
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				11.0	11.0		10.0	10.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)					44.0			56.0			61.0	61.0
Actuated g/C Ratio					0.39			0.50			0.54	0.54
v/c Ratio					0.62			0.33			0.17	0.31
Control Delay					27.8			17.6			13.4	15.0
Queue Delay					0.0			0.5			0.0	0.0
Total Delay					27.8			18.0			13.4	15.0
LOS					C			B			B	B
Approach Delay					27.8			18.0			14.4	
Approach LOS					C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 23.2		Intersection LOS: C	
Intersection Capacity Utilization 72.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 697: Bay St. & Lake Shore Blvd. E (WB)/Lake Shore Blvd. W (WB)

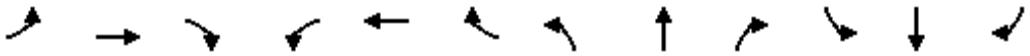


Lane Group	Ø3	Ø4
Minimum Split (s)	25.0	31.0
Total Split (s)	25.0	37.0
Total Split (%)	22%	33%
Maximum Green (s)	18.0	35.0
Yellow Time (s)	4.0	2.0
All-Red Time (s)	3.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)	7.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	1423	485	171	296
v/c Ratio	0.62	0.33	0.17	0.31
Control Delay	27.8	17.6	13.4	15.0
Queue Delay	0.0	0.5	0.0	0.0
Total Delay	27.8	18.0	13.4	15.0
Queue Length 50th (m)	69.4	23.9	17.9	19.2
Queue Length 95th (m)	81.4	59.8	29.3	28.8
Internal Link Dist (m)	145.6	40.6	301.1	
Turn Bay Length (m)				50.0
Base Capacity (vph)	2295	1467	1003	963
Starvation Cap Reductn	0	551	0	0
Spillback Cap Reductn	0	0	76	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.62	0.53	0.18	0.31

Intersection Summary

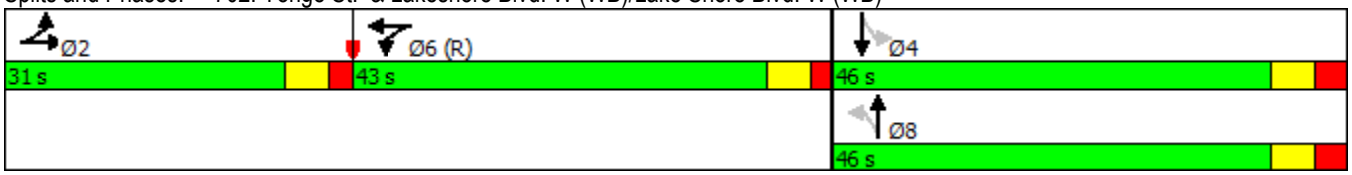


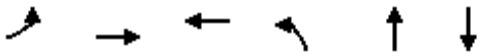
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	533	393	37	102	919	158	83	744	244	0	181	422
Future Volume (vph)	533	393	37	102	919	158	83	744	244	0	181	422
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	40.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.86	0.86	0.91	0.91	0.91	0.91	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.95	0.97			0.96		0.88	0.92			0.76	
Frt		0.992			0.980			0.963			0.895	
Flt Protected	0.950	0.981			0.996		0.950					
Satd. Flow (prot)	1420	4558	0	0	4734	0	1652	3115	0	0	2372	0
Flt Permitted	0.950	0.981			0.996		0.304					
Satd. Flow (perm)	1349	4470	0	0	4693	0	463	3115	0	0	2372	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		6						40			422	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		37.6			39.2			141.9			81.5	
Travel Time (s)		2.7			2.8			10.2			5.9	
Confl. Peds. (#/hr)	179		185	185		179	495		296	296		495
Peak Hour 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
Adj. Flow (vph)	533	393	37	102	919	158	83	744	244	0	181	422
Shared Lane Traffic (%)	50%											
Lane Group Flow (vph)	266	697	0	0	1179	0	83	988	0	0	603	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)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	Split	NA		Split	NA		Perm	NA			NA	
Protected Phases	2	2		6	6			8			4	
Permitted Phases							8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		42.0	42.0		42.0	42.0	
Total Split (s)	31.0	31.0		43.0	43.0		46.0	46.0		46.0	46.0	
Total Split (%)	25.8%	25.8%		35.8%	35.8%		38.3%	38.3%		38.3%	38.3%	
Maximum Green (s)	25.0	25.0		37.0	37.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0			-1.0		-1.0	-1.0			-1.0	
Total Lost Time (s)	5.0	5.0			5.0		6.0	6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		C-Min	C-Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	25.2	25.2			39.1		39.7	39.7			39.7	
Actuated g/C Ratio	0.21	0.21			0.33		0.33	0.33			0.33	
v/c Ratio	0.90	0.73			0.76		0.54	0.93			0.56	
Control Delay	77.8	48.6			40.7		44.3	49.5			11.4	
Queue Delay	0.0	0.0			0.0		0.0	10.9			0.0	
Total Delay	77.8	48.6			40.7		44.3	60.4			11.4	
LOS	E	D			D		D	E			B	
Approach Delay		56.7			40.7			59.2			11.4	
Approach LOS		E			D			E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 45.3		Intersection LOS: D	
Intersection Capacity Utilization 123.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 702: Yonge St. & Lakeshore Blvd. W (WB)/Lake Shore Blvd. W (WB)

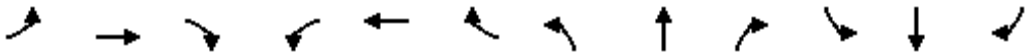




Lane Group	EBL	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	266	697	1179	83	988	603
v/c Ratio	0.90	0.73	0.76	0.54	0.93	0.56
Control Delay	77.8	48.6	40.7	44.3	49.5	11.4
Queue Delay	0.0	0.0	0.0	0.0	10.9	0.0
Total Delay	77.8	48.6	40.7	44.3	60.4	11.4
Queue Length 50th (m)	70.6	58.7	92.4	16.1	116.0	16.1
Queue Length 95th (m)	#124.3	73.8	109.8	m32.5	#156.2	34.2
Internal Link Dist (m)		13.6	15.2		117.9	57.5
Turn Bay Length (m)				40.0		
Base Capacity (vph)	310	1000	1566	155	1075	1078
Starvation Cap Reductn	0	0	0	0	88	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.70	0.75	0.54	1.00	0.56

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.

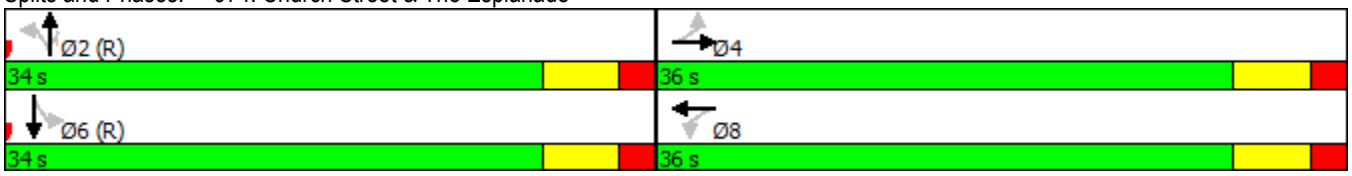


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	70	13	65	102	225	5	185	169	10	106	92
Future Volume (vph)	33	70	13	65	102	225	5	185	169	10	106	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Frt		0.985			0.922				0.850		0.940	
Flt Protected		0.986			0.992			0.999			0.998	
Satd. Flow (prot)	0	1789	0	0	1685	0	0	1840	1566	0	1728	0
Flt Permitted		0.782			0.922			0.994			0.986	
Satd. Flow (perm)	0	1419	0	0	1566	0	0	1831	1566	0	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			125				178		69	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		304.1			104.3			235.2			149.7	
Travel Time (s)		21.9			7.5			16.9			10.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	35	74	14	68	107	237	5	195	178	11	112	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	123	0	0	412	0	0	200	178	0	220	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5	7.5	17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0	9.0	5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	29.0	29.0		29.0	29.0		30.0	30.0	30.0	30.0	30.0	
Total Split (s)	36.0	36.0		36.0	36.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)	51.4%	51.4%		51.4%	51.4%		48.6%	48.6%	48.6%	48.6%	48.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		28.0	28.0	28.0	28.0	28.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	C-Max	C-Max	
Walk Time (s)	12.0	12.0		12.0	12.0		13.0	13.0	13.0	13.0	13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		20.3			20.3			39.7	39.7		39.7	
Actuated g/C Ratio		0.29			0.29			0.57	0.57		0.57	
v/c Ratio		0.29			0.76			0.19	0.18		0.22	
Control Delay		14.0			24.1			9.7	2.6		9.8	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		14.0			24.1			9.7	2.6		9.8	
LOS		B			C			A	A		A	
Approach Delay		14.0			24.1			6.4			9.8	
Approach LOS		B			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 54.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 974: Church Street & The Esplanade



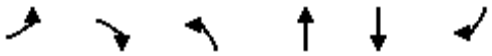
Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	123	412	200	178	220
v/c Ratio	0.29	0.76	0.19	0.18	0.22
Control Delay	14.0	24.1	9.7	2.6	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	24.1	9.7	2.6	9.8
Queue Length 50th (m)	13.4	33.8	11.6	0.0	0.0
Queue Length 95th (m)	m20.7	52.0	28.0	9.4	m14.7
Internal Link Dist (m)	280.1	80.3	211.2		125.7
Turn Bay Length (m)					
Base Capacity (vph)	635	763	1038	965	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	0.19	0.54	0.19	0.18	0.22

Intersection Summary

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	617	4	0	0	0	137
Future Volume (vph)	617	4	0	0	0	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt	0.999					0.865
Flt Protected						
Satd. Flow (prot)	5024	0	0	5029	0	1593
Flt Permitted						
Satd. Flow (perm)	5024	0	0	5029	0	1593
Link Speed (k/h)	50			50	50	
Link Distance (m)	84.9			53.4	172.0	
Travel Time (s)	6.1			3.8	12.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	617	4	0	0	0	137
Shared Lane Traffic (%)						
Lane Group Flow (vph)	621	0	0	0	0	137
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.2%		ICU Level of Service A	
Analysis Period (min) 15			

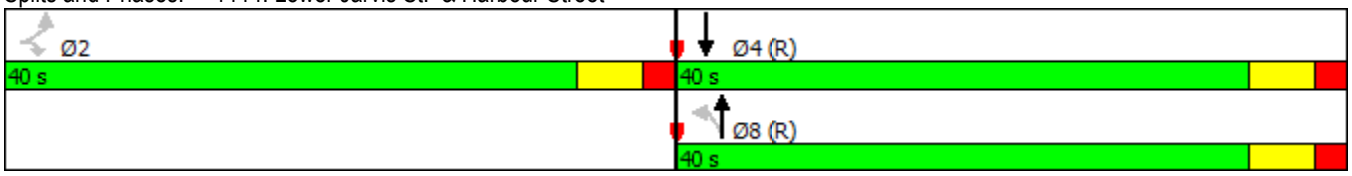


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	337	203	64	415	133	39
Future Volume (vph)	337	203	64	415	133	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850			0.966	
Flt Protected	0.950			0.993		
Satd. Flow (prot)	1750	1566	0	3475	3381	0
Flt Permitted	0.950			0.885		
Satd. Flow (perm)	1750	1566	0	3097	3381	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		203			39	
Link Speed (k/h)	50			50	50	
Link Distance (m)	109.2			96.2	131.1	
Travel Time (s)	7.9			6.9	9.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	337	203	64	415	133	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	337	203	0	479	172	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	7.5	7.5	17.0	7.5	7.5	
Trailing Detector (m)	-0.2	-1.5	12.0	-1.5	-1.5	
Detector 1 Position(m)	-0.2	-1.5	12.0	-1.5	-1.5	
Detector 1 Size(m)	7.7	9.0	5.0	9.0	9.0	
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				8	4	
Permitted Phases	2	2	8			
Detector Phase	2	2	8	8	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	24.0	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	35.0	35.0		35.0	35.0	
Actuated g/C Ratio	0.44	0.44		0.44	0.44	
v/c Ratio	0.44	0.25		0.35	0.11	
Control Delay	18.0	3.1		20.2	9.0	
Queue Delay	1.0	0.0		0.1	0.0	
Total Delay	19.0	3.1		20.4	9.0	
LOS	B	A		C	A	
Approach Delay	13.0			20.4	9.0	
Approach LOS	B			C	A	

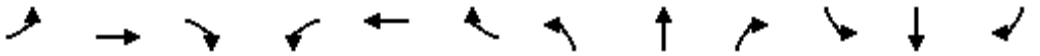
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 40 (50%), Referenced to phase 4:SBT and 8:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1114: Lower Jarvis St. & Harbour Street



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	337	203	479	172
v/c Ratio	0.44	0.25	0.35	0.11
Control Delay	18.0	3.1	20.2	9.0
Queue Delay	1.0	0.0	0.1	0.0
Total Delay	19.0	3.1	20.4	9.0
Queue Length 50th (m)	34.4	0.0	27.4	2.4
Queue Length 95th (m)	55.5	10.8	46.1	14.4
Internal Link Dist (m)	85.2		72.2	107.1
Turn Bay Length (m)				
Base Capacity (vph)	765	799	1354	1501
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	219	5	229	94
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.62	0.26	0.43	0.12

Intersection Summary

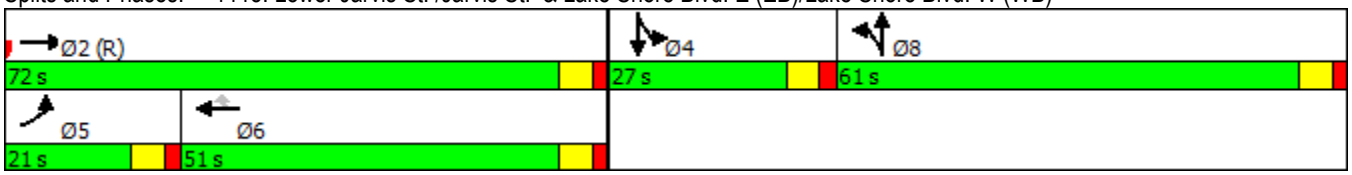


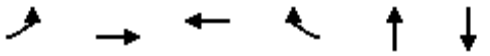
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	328	367	46	0	603	13	264	518	301	71	127	78
Future Volume (vph)	328	367	46	0	603	13	264	518	301	71	127	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	2		0	0		1	0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99				0.98		0.96			0.99	
Frt		0.983				0.850		0.958			0.958	
Flt Protected	0.950							0.988			0.987	
Satd. Flow (prot)	3204	4902	0	0	5029	1478	0	3196	0	0	3290	0
Flt Permitted	0.950							0.988			0.987	
Satd. Flow (perm)	3204	4902	0	0	5029	1447	0	3196	0	0	3290	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17				102		39			30	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		90.3			232.9			131.1			52.0	
Travel Time (s)		6.5			16.8			9.4			3.7	
Confl. Peds. (#/hr)			28	28		4			51			4
Peak Hour 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
Adj. Flow (vph)	328	367	46	0	603	13	264	518	301	71	127	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	328	413	0	0	603	13	0	1083	0	0	276	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)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1			1	1	1	1		1	1	
Detector Template	Left	Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	7.5	7.5			7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	-0.2	-1.5			-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	-0.2	-1.5			-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	7.7	9.0			9.0	9.0	5.0	9.0		5.0	9.0	
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	Prot	NA			NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases						6						
Detector Phase	5	2			6	6	8	8		4	4	
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0			7.0	7.0	6.0	6.0		7.0	7.0	
Minimum Split (s)	13.0	29.0			29.0	29.0	27.0	27.0		27.0	27.0	
Total Split (s)	21.0	72.0			51.0	51.0	61.0	61.0		27.0	27.0	
Total Split (%)	13.1%	45.0%			31.9%	31.9%	38.1%	38.1%		16.9%	16.9%	
Maximum Green (s)	15.0	66.0			45.0	45.0	55.0	55.0		21.0	21.0	
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lead/Lag	Lead				Lag	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	Min	C-Min			Min	Min	Min	Min		Min	Min	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		14.0			14.0	14.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	23.5	66.0			37.5	37.5		60.6			18.4	
Actuated g/C Ratio	0.15	0.41			0.23	0.23		0.38			0.12	
v/c Ratio	0.70	0.20			0.51	0.03		0.88			0.68	
Control Delay	72.7	30.6			56.3	0.2		52.1			69.0	
Queue Delay	0.0	0.0			0.0	0.0		47.8			0.0	
Total Delay	72.7	30.6			56.3	0.2		99.9			69.0	
LOS	E	C			E	A		F			E	
Approach Delay		49.2			55.1			99.9			69.0	
Approach LOS		D			E			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 72.8		Intersection LOS: E	
Intersection Capacity Utilization 80.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1115: Lower Jarvis St. /Jarvis St. & Lake Shore Blvd. E (EB)/Lake Shore Blvd. W (WB)

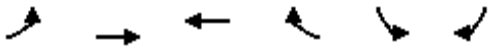




Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	328	413	603	13	1083	276
v/c Ratio	0.70	0.20	0.51	0.03	0.88	0.68
Control Delay	72.7	30.6	56.3	0.2	52.1	69.0
Queue Delay	0.0	0.0	0.0	0.0	47.8	0.0
Total Delay	72.7	30.6	56.3	0.2	99.9	69.0
Queue Length 50th (m)	51.1	29.4	62.8	0.0	158.6	40.2
Queue Length 95th (m)	#86.5	43.3	79.1	0.0	160.4	54.5
Internal Link Dist (m)		66.3	208.9		107.1	28.0
Turn Bay Length (m)	55.0					
Base Capacity (vph)	470	2157	1468	494	1247	483
Starvation Cap Reductn	0	0	0	0	291	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.19	0.41	0.03	1.13	0.57

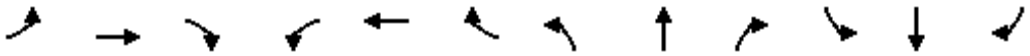
Intersection Summary

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



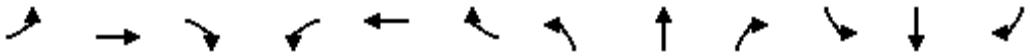
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	52	204	81	34	100	28
Future Volume (vph)	52	204	81	34	100	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.960		0.970	
Flt Protected		0.990			0.962	
Satd. Flow (prot)	0	1824	1768	0	1719	0
Flt Permitted		0.990			0.962	
Satd. Flow (perm)	0	1824	1768	0	1719	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		88.6	118.8		96.5	
Travel Time (s)		6.4	8.6		6.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	204	81	34	100	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	256	115	0	128	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.2%		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)	32	608	32	3	129	8	13	12	32	11	8	14
Future Volume (vph)	32	608	32	3	129	8	13	12	32	11	8	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.993			0.992			0.924			0.936	
Flt Protected		0.998			0.999			0.989			0.984	
Satd. Flow (prot)	0	3468	0	0	1825	0	0	1683	0	0	3223	0
Flt Permitted		0.998			0.999			0.989			0.984	
Satd. Flow (perm)	0	3468	0	0	1825	0	0	1683	0	0	3223	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		143.9			98.2			98.8			113.0	
Travel Time (s)		10.4			7.1			7.1			8.1	
Peak Hour 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
Adj. Flow (vph)	32	608	32	3	129	8	13	12	32	11	8	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	672	0	0	140	0	0	57	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)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.2%		ICU Level of Service A	
Analysis Period (min) 15			

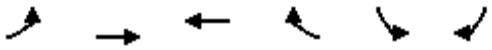


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	481	73	4	82	17	23	15	46	32	10	34
Future Volume (vph)	78	481	73	4	82	17	23	15	46	32	10	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.978			0.926			0.940	
Flt Protected		0.994			0.998			0.986			0.979	
Satd. Flow (prot)	0	3420	0	0	1798	0	0	1682	0	0	1695	0
Flt Permitted		0.994			0.998			0.986			0.979	
Satd. Flow (perm)	0	3420	0	0	1798	0	0	1682	0	0	1695	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		98.2			109.2			96.5			146.5	
Travel Time (s)		7.1			7.9			6.9			10.5	
Peak Hour 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
Adj. Flow (vph)	78	481	73	4	82	17	23	15	46	32	10	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	632	0	0	103	0	0	84	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.9%		ICU Level of Service A	
Analysis Period (min) 15			

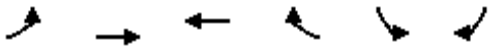
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	652	28	0	0	0	112
Future Volume (vph)	652	28	0	0	0	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt	0.994					0.865
Flt Protected						
Satd. Flow (prot)	4999	0	0	5029	0	1593
Flt Permitted						
Satd. Flow (perm)	4999	0	0	5029	0	1593
Link Speed (k/h)	50			50	50	
Link Distance (m)	109.3			90.3	146.5	
Travel Time (s)	7.9			6.5	10.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	652	28	0	0	0	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	680	0	0	0	0	112
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	6.0			6.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.8%		ICU Level of Service A	
Analysis Period (min) 15			

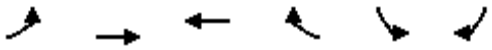


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	40	231	91	18	35	4
Future Volume (vph)	40	231	91	18	35	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.978			0.850
Flt Protected		0.993			0.950	
Satd. Flow (prot)	0	1829	1802	0	1750	1566
Flt Permitted		0.993			0.950	
Satd. Flow (perm)	0	1829	1802	0	1750	1566
Link Speed (k/h)		50	50		50	
Link Distance (m)		53.8	88.6		98.8	
Travel Time (s)		3.9	6.4		7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	231	91	18	35	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	271	109	0	35	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			



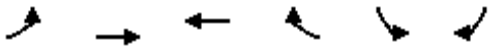
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	91	209	91	393	321	31
Future Volume (vph)	91	209	91	393	321	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	0.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.94			0.92	0.99	0.97
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1750	1842	1842	1566	1750	1566
Flt Permitted	0.665				0.950	
Satd. Flow (perm)	1156	1842	1842	1446	1738	1514
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				393		31
Link Speed (k/h)		50	50		50	
Link Distance (m)		118.8	234.3		96.2	
Travel Time (s)		8.6	16.9		6.9	
Confl. Peds. (#/hr)	101			101	3	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	91	209	91	393	321	31
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	209	91	393	321	31
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	17.0	7.5	7.5	7.5	17.0	7.5
Trailing Detector (m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Position(m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Size(m)	5.0	9.0	9.0	9.0	5.0	9.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	9.0	30.0	30.0	30.0	7.0	7.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	12.0	44.0	44.0	44.0	24.0	24.0
Total Split (s)	12.0	56.0	44.0	44.0	24.0	24.0
Total Split (%)	15.0%	70.0%	55.0%	55.0%	30.0%	30.0%
Maximum Green (s)	9.0	50.0	38.0	38.0	18.0	18.0
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	2.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max
Walk Time (s)		7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		30.0	30.0	30.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	54.0	51.0	41.4	41.4	19.0	19.0
Actuated g/C Ratio	0.68	0.64	0.52	0.52	0.24	0.24
v/c Ratio	0.11	0.18	0.10	0.42	0.77	0.08
Control Delay	4.8	6.4	11.4	2.9	48.1	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	4.8	6.4	11.4	2.9	48.4	11.0
LOS	A	A	B	A	D	B
Approach Delay		5.9	4.5		45.2	
Approach LOS		A	A		D	

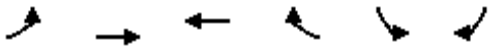
Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 17.5		Intersection LOS: B	
Intersection Capacity Utilization 57.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1510: Queens Quay & Lower Jarvis St.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	91	209	91	393	321	31
v/c Ratio	0.11	0.18	0.10	0.42	0.77	0.08
Control Delay	4.8	6.4	11.4	2.9	48.1	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay	4.8	6.4	11.4	2.9	48.4	11.0
Queue Length 50th (m)	4.1	11.5	7.1	0.0	58.4	1.2
Queue Length 95th (m)	8.3	19.7	14.4	13.1	80.5	5.1
Internal Link Dist (m)		94.8	210.3		72.2	
Turn Bay Length (m)	30.0			30.0		
Base Capacity (vph)	854	1174	952	938	415	383
Starvation Cap Reductn	0	0	0	0	6	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.18	0.10	0.42	0.78	0.08

Intersection Summary

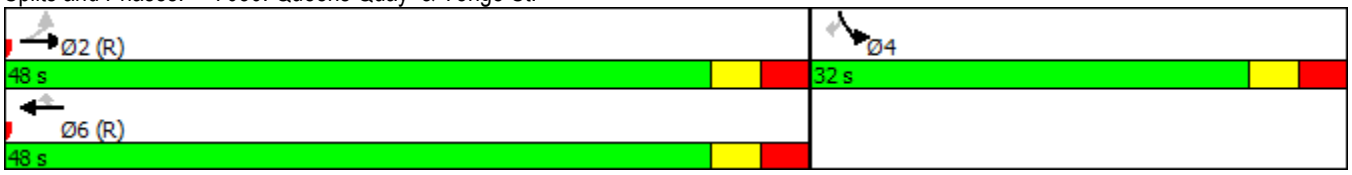


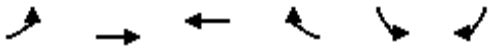
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	131	106	34	44	43
Future Volume (vph)	77	131	106	34	44	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	0.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97			0.94	0.86	0.89
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1750	1842	1842	1566	1750	1566
Flt Permitted	0.689				0.950	
Satd. Flow (perm)	1228	1842	1842	1477	1514	1389
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				34		43
Link Speed (k/h)		50	50		50	
Link Distance (m)		189.2	145.2		128.1	
Travel Time (s)		13.6	10.5		9.2	
Confl. Peds. (#/hr)	15			15	54	38
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	77	131	106	34	44	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	131	106	34	44	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	17.0	7.5	7.5	7.5	17.0	7.5
Trailing Detector (m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Position(m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Size(m)	5.0	9.0	9.0	9.0	5.0	9.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	16.0	16.0	16.0	16.0	16.0	16.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0
Total Split (s)	48.0	48.0	48.0	48.0	32.0	32.0
Total Split (%)	60.0%	60.0%	60.0%	60.0%	40.0%	40.0%
Maximum Green (s)	42.0	42.0	42.0	42.0	26.0	26.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	43.0	43.0	43.0	43.0	27.0	27.0
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.34	0.34
v/c Ratio	0.12	0.13	0.11	0.04	0.07	0.09
Control Delay	9.8	9.7	12.4	6.5	18.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	9.7	12.4	6.5	18.6	6.7
LOS	A	A	B	A	B	A
Approach Delay		9.7	11.0		12.7	
Approach LOS		A	B		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.13			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 35.0%		ICU Level of Service A	
Analysis Period (min) 15			

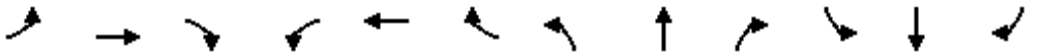
Splits and Phases: 7030: Queens Quay & Yonge St.





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	77	131	106	34	44	43
v/c Ratio	0.12	0.13	0.11	0.04	0.07	0.09
Control Delay	9.8	9.7	12.4	6.5	18.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.8	9.7	12.4	6.5	18.6	6.7
Queue Length 50th (m)	5.4	9.2	9.5	0.0	4.5	0.0
Queue Length 95th (m)	11.8	17.4	21.9	4.9	11.1	6.3
Internal Link Dist (m)		165.2	121.2		104.1	
Turn Bay Length (m)	30.0			30.0		
Base Capacity (vph)	660	990	990	809	590	497
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.13	0.11	0.04	0.07	0.09

Intersection Summary

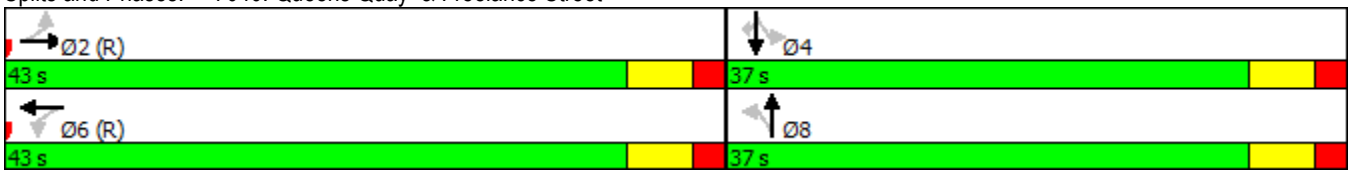


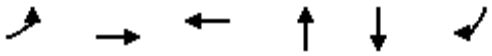
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	148	0	0	69	16	50	29	60	74	1	33
Future Volume (vph)	17	148	0	0	69	16	50	29	60	74	1	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	15.0			15.0			15.0			15.0		
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
Frt					0.972			0.942				0.850
Flt Protected	0.950							0.982			0.953	
Satd. Flow (prot)	1750	1842	0	1842	1790	0	0	1704	0	0	1755	1566
Flt Permitted	0.702							0.850			0.592	
Satd. Flow (perm)	1293	1842	0	1842	1790	0	0	1475	0	0	1090	1566
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					16			57				41
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		145.2			97.8			84.3			101.8	
Travel Time (s)		10.5			7.0			6.1			7.3	
Peak Hour 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
Adj. Flow (vph)	17	148	0	0	69	16	50	29	60	74	1	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	148	0	0	85	0	0	139	0	0	75	33
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)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	17.0	7.5		17.0	7.5		7.5	7.5		7.5	7.5	7.5
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		-0.2	-1.5		-0.2	-1.5	-1.5
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	37.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	53.8%	53.8%		53.8%	53.8%		46.3%	46.3%		46.3%	46.3%	46.3%
Maximum Green (s)	37.0	37.0		37.0	37.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	58.7	58.7			58.7			11.3			11.3	11.3
Actuated g/C Ratio	0.73	0.73			0.73			0.14			0.14	0.14
v/c Ratio	0.02	0.11			0.06			0.54			0.49	0.13
Control Delay	3.1	3.2			3.3			26.6			41.3	8.8
Queue Delay	0.0	0.0			0.0			0.0			0.0	0.0
Total Delay	3.1	3.2			3.3			26.6			41.3	8.8
LOS	A	A			A			C			D	A
Approach Delay		3.2			3.3			26.6			31.3	
Approach LOS		A			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 30.8%		ICU Level of Service A	
Analysis Period (min) 15			

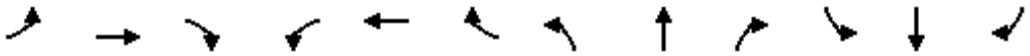
Splits and Phases: 7040: Queens Quay & Freelance Street





Lane Group	EBL	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	17	148	85	139	75	33
v/c Ratio	0.02	0.11	0.06	0.54	0.49	0.13
Control Delay	3.1	3.2	3.3	26.6	41.3	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.1	3.2	3.3	26.6	41.3	8.8
Queue Length 50th (m)	0.4	3.7	2.3	11.5	10.7	0.0
Queue Length 95th (m)	1.7	13.9	7.1	26.0	21.8	5.6
Internal Link Dist (m)		121.2	73.8	60.3	77.8	
Turn Bay Length (m)	30.0					30.0
Base Capacity (vph)	948	1350	1316	624	436	651
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.11	0.06	0.22	0.17	0.05

Intersection Summary

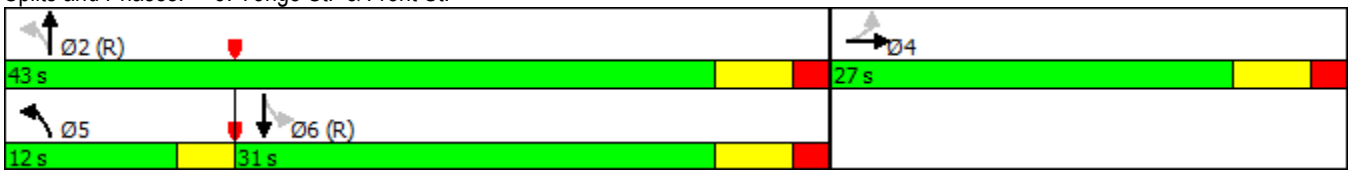


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	404	142	0	0	0	86	365	348	20	709	330
Future Volume (vph)	163	404	142	0	0	0	86	365	348	20	709	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	50.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.67	0.91					0.97	0.91			0.93	
Frt		0.961						0.927			0.953	
Flt Protected	0.950						0.950				0.999	
Satd. Flow (prot)	1750	3056	0	0	0	0	1750	2953	0	0	3119	0
Flt Permitted	0.950						0.134				0.932	
Satd. Flow (perm)	1169	3056	0	0	0	0	240	2953	0	0	2906	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		73						1			119	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		206.2			315.8			95.9			118.7	
Travel Time (s)		14.8			22.7			6.9			8.5	
Confl. Peds. (#/hr)	459		538	538		459	235		209	209		235
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	172	425	149	0	0	0	91	384	366	21	746	347
Shared Lane Traffic (%)												
Lane Group Flow (vph)	172	574	0	0	0	0	91	750	0	0	1114	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1					1	1		1	1	
Detector Template	Left	Thru					Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5					17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5					12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5					12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0					5.0	9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA					pm+pt	NA		Perm	NA	
Protected Phases		4					5	2			6	
Permitted Phases	4						2			6		
Detector Phase	4	4					5	2		6	6	
Switch Phase												
Minimum Initial (s)	21.0	21.0					9.0	25.0		25.0	25.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	27.0	27.0					12.0	31.0		31.0	31.0	
Total Split (s)	27.0	27.0					12.0	43.0		31.0	31.0	
Total Split (%)	38.6%	38.6%					17.1%	61.4%		44.3%	44.3%	
Maximum Green (s)	21.0	21.0					9.0	37.0		25.0	25.0	
Yellow Time (s)	4.0	4.0					3.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0					0.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0					-1.0	-1.0			-1.0	
Total Lost Time (s)	5.0	5.0					2.0	5.0			5.0	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0					3.0	3.0		3.0	3.0	
Recall Mode	Max	Max					None	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0						12.0		12.0	12.0	
Flash Dont Walk (s)	11.0	11.0						13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)	22.0	22.0					41.0	38.0			28.4	
Actuated g/C Ratio	0.31	0.31					0.59	0.54			0.41	
v/c Ratio	0.47	0.57					0.26	0.47			0.89	
Control Delay	24.4	19.9					10.8	6.7			35.7	
Queue Delay	0.0	0.0					0.0	0.1			0.0	
Total Delay	24.4	19.9					10.8	6.8			35.7	
LOS	C	B					B	A			D	
Approach Delay		21.0						7.2			35.7	
Approach LOS		C						A			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 66 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 22.8		Intersection LOS: C	
Intersection Capacity Utilization 89.2%		ICU Level of Service E	
Analysis Period (min) 15			

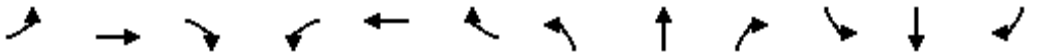
Splits and Phases: 3: Yonge St. & Front St.



Lane Group	EBL	EBT	NBL	NBT	SBT
Lane Group Flow (vph)	172	574	91	750	1114
v/c Ratio	0.47	0.57	0.26	0.47	0.89
Control Delay	24.4	19.9	10.8	6.7	35.7
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay	24.4	19.9	10.8	6.8	35.7
Queue Length 50th (m)	17.9	28.1	2.4	13.1	62.8
Queue Length 95th (m)	34.9	42.9	10.9	16.7	#102.7
Internal Link Dist (m)		182.2		71.9	94.7
Turn Bay Length (m)	35.0		50.0		
Base Capacity (vph)	367	1010	356	1603	1249
Starvation Cap Reductn	0	0	0	160	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.57	0.26	0.52	0.89

Intersection Summary

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

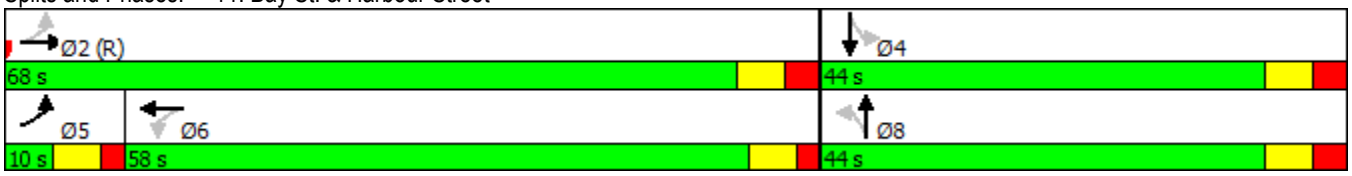


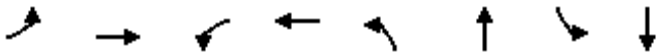
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	1017	99	21	48	72	5	258	47	27	91	108
Future Volume (vph)	144	1017	99	21	48	72	5	258	47	27	91	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	30.0		0.0	30.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.99		0.98	0.97		0.43	0.96		0.88	0.55	
Frt		0.987			0.910			0.977			0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1785	3483	0	1685	1655	0	1685	1767	0	1685	952	0
Flt Permitted	0.624			0.236			0.504			0.302		
Satd. Flow (perm)	1138	3483	0	410	1655	0	387	1767	0	471	952	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					76			9			58	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		290.5			113.2			126.3			48.5	
Travel Time (s)		20.9			8.2			9.1			3.5	
Confl. Peds. (#/hr)	20		93	93		20	907		170	170		907
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	152	1071	104	22	51	76	5	272	49	28	96	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	1175	0	22	127	0	5	321	0	28	210	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)		3.5			3.5			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.09	1.01	1.01	1.09	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	37.0		4.0	4.0		12.0	12.0		12.0	12.0	
Minimum Split (s)	10.0	53.0		22.0	22.0		31.0	31.0		31.0	31.0	
Total Split (s)	10.0	68.0		58.0	58.0		44.0	44.0		44.0	44.0	
Total Split (%)	8.9%	60.7%		51.8%	51.8%		39.3%	39.3%		39.3%	39.3%	
Maximum Green (s)	4.0	61.0		52.0	52.0		37.0	37.0		37.0	37.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	3.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	6.0		5.0	5.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	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	C-Max		None	None		None	None		None	None	
Walk Time (s)		37.0		5.0	5.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)		9.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	
Act Effct Green (s)	74.2	73.2		61.3	61.3		26.8	26.8		26.8	26.8	
Actuated g/C Ratio	0.66	0.65		0.55	0.55		0.24	0.24		0.24	0.24	
v/c Ratio	0.19	0.52		0.10	0.14		0.05	0.75		0.25	0.77	
Control Delay	8.0	10.0		26.6	16.8		29.8	48.6		39.6	48.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.3		0.0	0.0	
Total Delay	8.0	10.0		26.6	16.8		29.8	48.9		39.6	48.3	
LOS	A	B		C	B		C	D		D	D	
Approach Delay		9.8			18.3			48.6			47.3	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 21.0		Intersection LOS: C	
Intersection Capacity Utilization 70.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 11: Bay St. & Harbour Street





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	152	1175	22	127	5	321	28	210
v/c Ratio	0.19	0.52	0.10	0.14	0.05	0.75	0.25	0.77
Control Delay	8.0	10.0	26.6	16.8	29.8	48.6	39.6	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	8.0	10.0	26.6	16.8	29.8	48.9	39.6	48.3
Queue Length 50th (m)	10.8	54.2	3.1	10.1	0.9	64.3	6.0	35.9
Queue Length 95th (m)	21.1	76.3	8.9	22.4	3.5	82.6	m12.1	59.0
Internal Link Dist (m)		266.5		89.2		102.3		24.5
Turn Bay Length (m)			30.0		30.0		30.0	
Base Capacity (vph)	800	2277	224	939	131	605	159	361
Starvation Cap Reductn	0	0	0	0	0	43	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.52	0.10	0.14	0.04	0.57	0.18	0.58

Intersection Summary

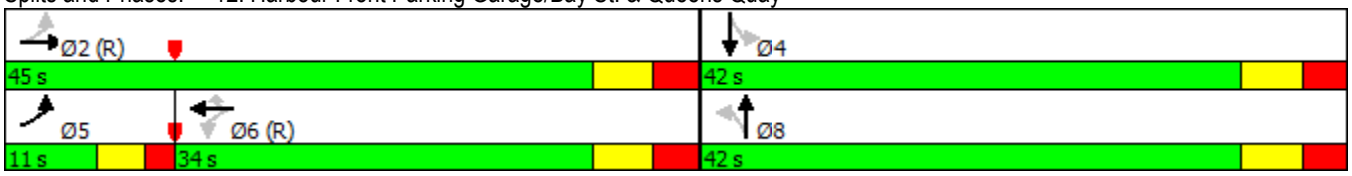
m Volume for 95th percentile queue is metered by upstream signal.

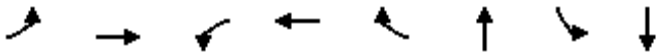
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	107	55	15	173	28	142	231	55	57	89	64
Future Volume (vph)	52	107	55	15	173	28	142	231	55	57	89	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.0	3.5	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	30.0		0.0	30.0		30.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	15.0			15.0			15.0			15.0		
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	0.76	0.90		0.79		0.65		0.91		0.88	0.92	
Frt		0.949				0.850		0.983			0.938	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1452	1324	0	1685	1634	1288	0	1749	0	1416	1523	0
Flt Permitted	0.561			0.649				0.827		0.461		
Satd. Flow (perm)	652	1324	0	908	1634	835	0	1397	0	605	1523	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38				113		10			50	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		294.0			189.2			54.2			126.3	
Travel Time (s)		21.2			13.6			3.9			9.1	
Confl. Peds. (#/hr)	210		166	166		210	210		184	184		210
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	16%	33%	0%	0%	15%	17%	0%	0%	0%	19%	0%	15%
Adj. Flow (vph)	55	113	58	16	182	29	149	243	58	60	94	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	171	0	16	182	29	0	450	0	60	161	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)		3.5			3.5			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.09	1.01	1.01	1.01	1.09	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	5	2		6	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	38.0		27.0	27.0	27.0	29.0	29.0		29.0	29.0	
Minimum Split (s)	11.0	45.0		34.0	34.0	34.0	36.0	36.0		36.0	36.0	
Total Split (s)	11.0	45.0		34.0	34.0	34.0	42.0	42.0		42.0	42.0	
Total Split (%)	12.6%	51.7%		39.1%	39.1%	39.1%	48.3%	48.3%		48.3%	48.3%	
Maximum Green (s)	6.0	38.0		27.0	27.0	27.0	35.0	35.0		35.0	35.0	
Yellow Time (s)	3.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	4.0	6.0		6.0	6.0	6.0		6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max	C-Max	Max	Max		Max	Max	
Walk Time (s)		15.0		15.0	15.0	15.0	14.0	14.0		14.0	14.0	
Flash Dont Walk (s)		12.0		12.0	12.0	12.0	15.0	15.0		15.0	15.0	
Pedestrian Calls (#/hr)		0		0	0	0	0	0		0	0	
Act Effct Green (s)	41.0	39.0		32.4	32.4	32.4		36.0		36.0	36.0	
Actuated g/C Ratio	0.47	0.45		0.37	0.37	0.37		0.41		0.41	0.41	
v/c Ratio	0.15	0.28		0.05	0.30	0.08		0.77		0.24	0.24	
Control Delay	13.8	13.1		21.0	22.6	0.4		32.3		19.9	12.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	13.8	13.1		21.0	22.6	0.4		32.3		19.9	12.4	
LOS	B	B		C	C	A		C		B	B	
Approach Delay		13.2			19.7			32.3			14.5	
Approach LOS		B			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 87			
Actuated Cycle Length: 87			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 22.4		Intersection LOS: C	
Intersection Capacity Utilization 106.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 12: Harbour Front Parking Garage/Bay St. & Queens Quay





Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	55	171	16	182	29	450	60	161
v/c Ratio	0.15	0.28	0.05	0.30	0.08	0.77	0.24	0.24
Control Delay	13.8	13.1	21.0	22.6	0.4	32.3	19.9	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	13.1	21.0	22.6	0.4	32.3	19.9	12.4
Queue Length 50th (m)	4.9	13.1	1.8	22.9	0.0	61.5	6.3	11.4
Queue Length 95th (m)	11.1	26.4	6.2	39.9	0.0	#109.6	15.4	24.1
Internal Link Dist (m)		270.0		165.2		30.2		102.3
Turn Bay Length (m)	30.0		30.0		30.0		30.0	
Base Capacity (vph)	371	614	338	608	381	583	250	659
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.28	0.05	0.30	0.08	0.77	0.24	0.24

Intersection Summary

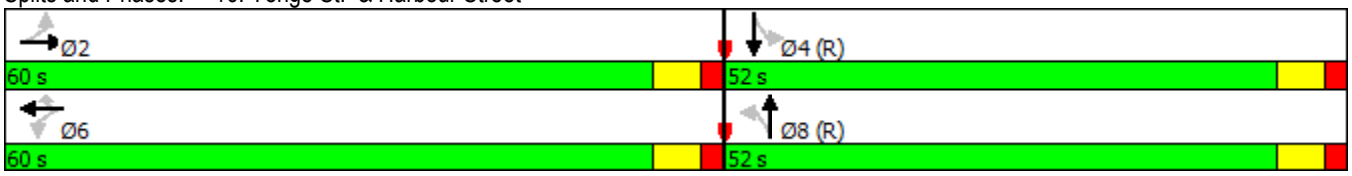
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	707	63	28	82	108	8	70	43	157	44	41
Future Volume (vph)	265	707	63	28	82	108	8	70	43	157	44	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		30.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor		0.99				0.97		0.86			0.76	
Frt		0.991				0.850		0.952			0.975	
Flt Protected		0.987			0.988			0.997			0.969	
Satd. Flow (prot)	0	3296	0	0	1856	1597	0	1501	0	0	2898	0
Flt Permitted		0.828			0.679			0.979			0.718	
Satd. Flow (perm)	0	2756	0	0	1276	1555	0	1437	0	0	1811	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				114		30			26	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		86.1			151.2			128.1			141.9	
Travel Time (s)		6.2			10.9			9.2			10.2	
Confl. Peds. (#/hr)	7		40	40		7	251		181	181		251
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	8%	4%	9%	0%	0%	0%	0%	9%	0%	0%	27%	0%
Adj. Flow (vph)	279	744	66	29	86	114	8	74	45	165	46	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1089	0	0	115	114	0	127	0	0	254	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			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1	1	1	1		1	1	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		6	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0	22.0	22.0	22.0		22.0	22.0	
Total Split (s)	60.0	60.0		60.0	60.0	60.0	52.0	52.0		52.0	52.0	
Total Split (%)	53.6%	53.6%		53.6%	53.6%	53.6%	46.4%	46.4%		46.4%	46.4%	
Maximum Green (s)	54.0	54.0		54.0	54.0	54.0	46.0	46.0		46.0	46.0	
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)		5.0			5.0	5.0		5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)		55.0			55.0	55.0		47.0			47.0	
Actuated g/C Ratio		0.49			0.49	0.49		0.42			0.42	
v/c Ratio		0.80			0.18	0.14		0.20			0.33	
Control Delay		42.6			17.0	3.3		16.6			20.9	
Queue Delay		0.0			0.0	0.0		0.0			0.0	
Total Delay		42.6			17.0	3.3		16.6			20.9	
LOS		D			B	A		B			C	
Approach Delay		42.6			10.1			16.6			20.9	
Approach LOS		D			B			B			C	

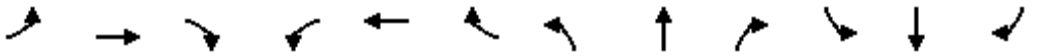
Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 33.1		Intersection LOS: C	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16: Yonge St. & Harbour Street



Lane Group	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	1089	115	114	127	254
v/c Ratio	0.80	0.18	0.14	0.20	0.33
Control Delay	42.6	17.0	3.3	16.6	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	17.0	3.3	16.6	20.9
Queue Length 50th (m)	131.0	13.6	0.0	13.0	17.2
Queue Length 95th (m)	153.2	24.6	9.0	25.6	27.4
Internal Link Dist (m)	62.1	127.2		104.1	117.9
Turn Bay Length (m)			30.0		
Base Capacity (vph)	1357	626	821	620	775
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	0.80	0.18	0.14	0.20	0.33

Intersection Summary



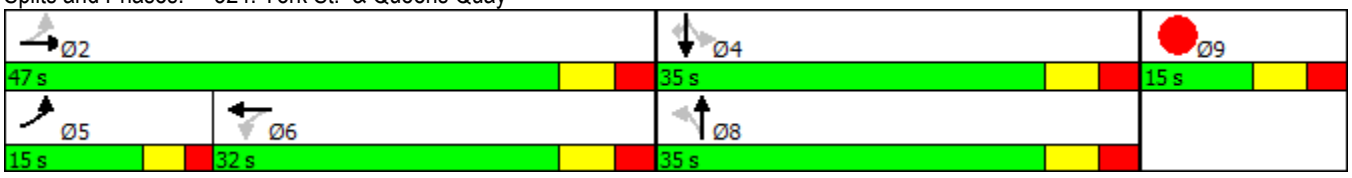
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	59	0	31	163	190	34	202	46	162	371	59
Future Volume (vph)	69	59	0	31	163	190	34	202	46	162	371	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	0		0	0		0	0		0	1		1
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.926			0.978				0.850
Flt Protected		0.974			0.996			0.994		0.950		
Satd. Flow (prot)	0	3477	0	0	3292	0	0	1827	0	1785	1879	1597
Flt Permitted		0.684			0.922			0.753		0.474		
Satd. Flow (perm)	0	2442	0	0	3048	0	0	1384	0	891	1879	1597
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					190			10				180
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		219.8			294.0			33.7			130.9	
Travel Time (s)		15.8			21.2			2.4			9.4	
Peak Hour 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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	69	59	0	31	163	190	34	202	46	162	371	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	128	0	0	384	0	0	282	0	162	371	59
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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	7.5
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	4
Switch Phase												
Minimum Initial (s)	6.0	25.0		25.0	25.0		28.0	28.0		28.0	28.0	28.0
Minimum Split (s)	11.0	32.0		32.0	32.0		35.0	35.0		35.0	35.0	35.0

Lane Group	Ø9
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (m)	
Storage Lanes	
Taper Length (m)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (k/h)	
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	9
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	8.0
Minimum Split (s)	15.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	15.0	47.0		32.0	32.0		35.0	35.0		35.0	35.0	35.0
Total Split (%)	15.5%	48.5%		33.0%	33.0%		36.1%	36.1%		36.1%	36.1%	36.1%
Maximum Green (s)	10.0	40.0		25.0	25.0		28.0	28.0		28.0	28.0	28.0
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)		-1.0			-1.0			-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)		6.0			6.0			6.0		6.0	6.0	6.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max		Max	Max		None	None		None	None	None
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)		0		0	0		0	0		0	0	0
Act Effct Green (s)		41.0			41.0			29.0		29.0	29.0	29.0
Actuated g/C Ratio		0.42			0.42			0.30		0.30	0.30	0.30
v/c Ratio		0.12			0.27			0.67		0.61	0.66	0.10
Control Delay		17.5			9.4			37.9		40.5	36.4	0.3
Queue Delay		0.0			0.0			0.0		0.0	0.5	0.0
Total Delay		17.5			9.4			37.9		40.5	36.9	0.3
LOS		B			A			D		D	D	A
Approach Delay		17.5			9.4			37.9			34.3	
Approach LOS		B			A			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 97			
Actuated Cycle Length: 97			
Natural Cycle: 95			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 26.6		Intersection LOS: C	
Intersection Capacity Utilization 104.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 324: York St. & Queens Quay



Lane Group	Ø9
Total Split (s)	15.0
Total Split (%)	15%
Maximum Green (s)	8.0
Yellow Time (s)	4.0
All-Red Time (s)	3.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBT	WBT	NBT	SBL	SBR
Lane Group Flow (vph)	128	384	282	162	371	59
v/c Ratio	0.12	0.27	0.67	0.61	0.66	0.10
Control Delay	17.5	9.4	37.9	40.5	36.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.5	0.0
Total Delay	17.5	9.4	37.9	40.5	36.9	0.3
Queue Length 50th (m)	7.5	11.4	44.6	25.9	60.5	0.0
Queue Length 95th (m)	13.2	20.7	72.9	48.3	91.1	0.0
Internal Link Dist (m)	195.8	270.0	9.7		106.9	
Turn Bay Length (m)				20.0		
Base Capacity (vph)	1032	1398	420	266	561	603
Starvation Cap Reductn	0	0	0	0	33	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.27	0.67	0.61	0.70	0.10

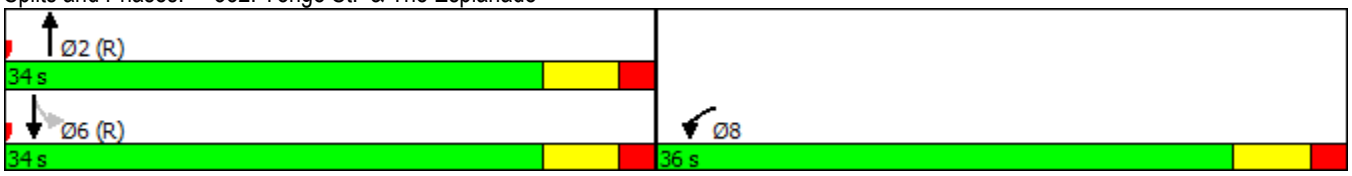
Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	148	24	832	95	48	819
Future Volume (vph)	148	24	832	95	48	819
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.981		0.985			
Flt Protected	0.959					0.997
Satd. Flow (prot)	1733	0	3447	0	0	3489
Flt Permitted	0.959					0.849
Satd. Flow (perm)	1733	0	3447	0	0	2971
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	15		21			
Link Speed (k/h)	50		50			50
Link Distance (m)	306.0		125.6			95.9
Travel Time (s)	22.0		9.0			6.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	156	25	876	100	51	862
Shared Lane Traffic (%)						
Lane Group Flow (vph)	181	0	976	0	0	913
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1		1		1	1
Detector Template	Left		Thru		Left	Thru
Leading Detector (m)	17.0		7.5		17.0	7.5
Trailing Detector (m)	12.0		-1.5		12.0	-1.5
Detector 1 Position(m)	12.0		-1.5		12.0	-1.5
Detector 1 Size(m)	5.0		9.0		5.0	9.0
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0	0.0
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Detector Phase	8		2		6	6
Switch Phase						
Minimum Initial (s)	4.0		4.0		4.0	4.0
Minimum Split (s)	22.0		22.0		22.0	22.0
Total Split (s)	36.0		34.0		34.0	34.0
Total Split (%)	51.4%		48.6%		48.6%	48.6%
Maximum Green (s)	30.0		28.0		28.0	28.0
Yellow Time (s)	4.0		4.0		4.0	4.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0			-1.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max
Walk Time (s)	5.0		5.0		5.0	5.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	12.5		47.5			47.5
Actuated g/C Ratio	0.18		0.68			0.68
v/c Ratio	0.57		0.42			0.45
Control Delay	25.7		6.1			2.9
Queue Delay	0.0		0.0			0.2
Total Delay	25.7		6.1			3.1
LOS	C		A			A
Approach Delay	25.7		6.1			3.1
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 6.5		Intersection LOS: A	
Intersection Capacity Utilization 72.2%		ICU Level of Service C	
Analysis Period (min) 15			

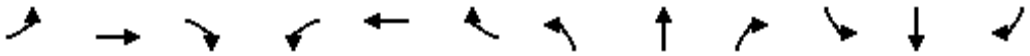
Splits and Phases: 332: Yonge St. & The Esplanade



Lane Group	WBL	NBT	SBT
Lane Group Flow (vph)	181	976	913
v/c Ratio	0.57	0.42	0.45
Control Delay	25.7	6.1	2.9
Queue Delay	0.0	0.0	0.2
Total Delay	25.7	6.1	3.1
Queue Length 50th (m)	16.1	24.1	11.7
Queue Length 95th (m)	31.9	44.1	m15.6
Internal Link Dist (m)	282.0	101.6	71.9
Turn Bay Length (m)			
Base Capacity (vph)	775	2347	2017
Starvation Cap Reductn	0	0	337
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.23	0.42	0.54

Intersection Summary

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

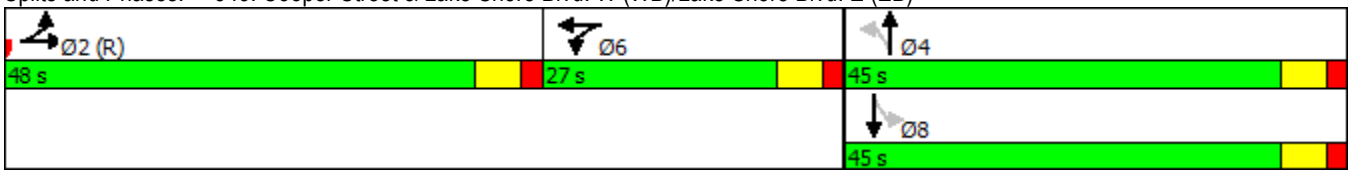


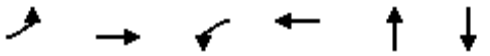
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	1143	7	31	208	10	3	42	40	96	50	8
Future Volume (vph)	140	1143	7	31	208	10	3	42	40	96	50	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	60.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	45.0			35.0			15.0			15.0		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	0.95	0.95	0.95	0.95	0.95	0.95
Frt		0.999			0.993			0.929			0.993	
Flt Protected	0.950			0.950				0.998			0.970	
Satd. Flow (prot)	1685	5124	0	1685	5093	0	0	3310	0	0	3439	0
Flt Permitted	0.950			0.950				0.943			0.756	
Satd. Flow (perm)	1685	5124	0	1685	5093	0	0	3127	0	0	2680	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			6			42			5	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		93.7			109.3			46.7			236.7	
Travel Time (s)		6.7			7.9			3.4			17.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	147	1203	7	33	219	11	3	44	42	101	53	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	1210	0	33	230	0	0	89	0	0	162	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)		3.0			3.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		6	6			4			8	
Permitted Phases							4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	27.0	27.0		27.0	27.0		43.0	43.0		43.0	43.0	
Total Split (s)	48.0	48.0		27.0	27.0		45.0	45.0		45.0	45.0	
Total Split (%)	40.0%	40.0%		22.5%	22.5%		37.5%	37.5%		37.5%	37.5%	
Maximum Green (s)	42.0	42.0		21.0	21.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
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	C-Min	C-Min		Min	Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	14.0	14.0		14.0	14.0		30.0	30.0		30.0	30.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	80.2	80.2		11.1	11.1			13.7			13.7	
Actuated g/C Ratio	0.67	0.67		0.09	0.09			0.11			0.11	
v/c Ratio	0.13	0.35		0.21	0.49			0.23			0.52	
Control Delay	8.4	9.4		53.0	53.6			27.8			54.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	8.4	9.4		53.0	53.6			27.8			54.1	
LOS	A	A		D	D			C			D	
Approach Delay		9.3			53.5			27.8			54.1	
Approach LOS		A			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 343: Cooper Street & Lake Shore Blvd. W (WB)/Lake Shore Blvd. E (EB)





Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	147	1210	33	230	89	162
v/c Ratio	0.13	0.35	0.21	0.49	0.23	0.52
Control Delay	8.4	9.4	53.0	53.6	27.8	54.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.4	9.4	53.0	53.6	27.8	54.1
Queue Length 50th (m)	11.5	41.3	7.3	18.6	5.3	18.5
Queue Length 95th (m)	22.7	58.3	17.1	26.8	12.7	28.7
Internal Link Dist (m)		69.7		85.3	22.7	212.7
Turn Bay Length (m)	60.0		50.0			
Base Capacity (vph)	1126	3426	308	938	1070	896
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.35	0.11	0.25	0.08	0.18

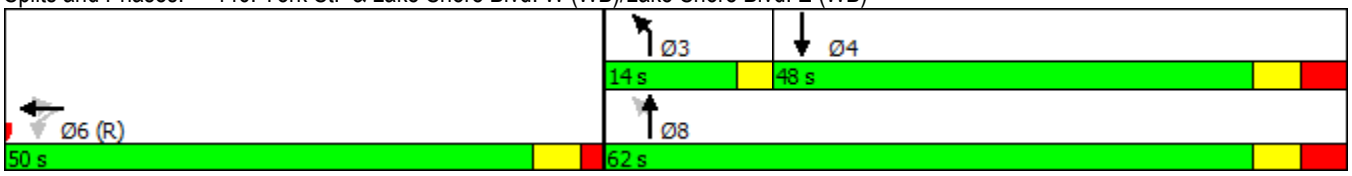
Intersection Summary

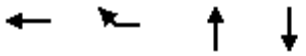
Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	149	269	86	71	697	435	20
Future Volume (vph)	149	269	86	71	697	435	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.88	0.95	0.95	0.95	0.95
Frt			0.850			0.993	
Flt Protected		0.982			0.995		
Satd. Flow (prot)	0	5037	2811	0	3552	3545	0
Flt Permitted		0.982			0.834		
Satd. Flow (perm)	0	5037	2811	0	2977	3545	0
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (k/h)		50			50	50	
Link Distance (m)		93.2			63.0	159.0	
Travel Time (s)		6.7			4.5	11.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	149	269	86	71	697	435	20
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	418	86	0	768	455	0
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Left	Right
Median Width(m)		0.0			0.0	3.5	
Link Offset(m)		0.0			0.0	0.0	
Crosswalk Width(m)		1.6			1.6	1.6	
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24			14
Number of Detectors	1	1	1	1	1	1	
Detector Template	Left	Thru	Right	Left	Thru	Thru	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA	Perm	pm+pt	NA	NA	
Protected Phases		6		3	8	4	
Permitted Phases	6		6	8			
Detector Phase	6	6	6	3	8	4	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	11.0	10.0	10.0	
Minimum Split (s)	25.0	25.0	25.0	14.0	38.0	38.0	
Total Split (s)	50.0	50.0	50.0	14.0	62.0	48.0	
Total Split (%)	44.6%	44.6%	44.6%	12.5%	55.4%	42.9%	
Maximum Green (s)	44.0	44.0	44.0	11.0	54.0	40.0	

Lane Group	WBL	WBT	WBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	0.0	4.0	4.0	
Lost Time Adjust (s)		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		5.0	5.0		7.0	7.0	
Lead/Lag				Lead		Lag	
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max	C-Max	Max	Max	Max	
Walk Time (s)	4.0	4.0	4.0		10.0	10.0	
Flash Dont Walk (s)	15.0	15.0	15.0		20.0	20.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	
Act Effct Green (s)		45.0	45.0		55.0	41.0	
Actuated g/C Ratio		0.40	0.40		0.49	0.37	
v/c Ratio		0.21	0.08		0.51	0.35	
Control Delay		15.0	14.6		16.6	18.1	
Queue Delay		0.1	0.0		2.3	0.1	
Total Delay		15.1	14.6		18.9	18.2	
LOS		B	B		B	B	
Approach Delay		15.0			18.9	18.2	
Approach LOS		B			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 26 (23%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 58.1%		ICU Level of Service B	
Analysis Period (min) 15			

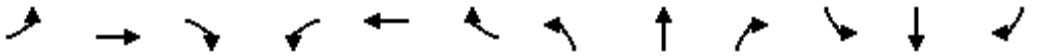
Splits and Phases: 446: York St. & Lake Shore Blvd. W (WB)/Lake Shore Blvd. E (WB)





Lane Group	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	418	86	768	455
v/c Ratio	0.21	0.08	0.51	0.35
Control Delay	15.0	14.6	16.6	18.1
Queue Delay	0.1	0.0	2.3	0.1
Total Delay	15.1	14.6	18.9	18.2
Queue Length 50th (m)	12.3	3.8	32.4	30.8
Queue Length 95th (m)	16.1	6.9	56.1	42.6
Internal Link Dist (m)	69.2		39.0	135.0
Turn Bay Length (m)				
Base Capacity (vph)	2023	1129	1497	1297
Starvation Cap Reductn	0	0	567	0
Spillback Cap Reductn	476	0	0	99
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.27	0.08	0.83	0.38

Intersection Summary

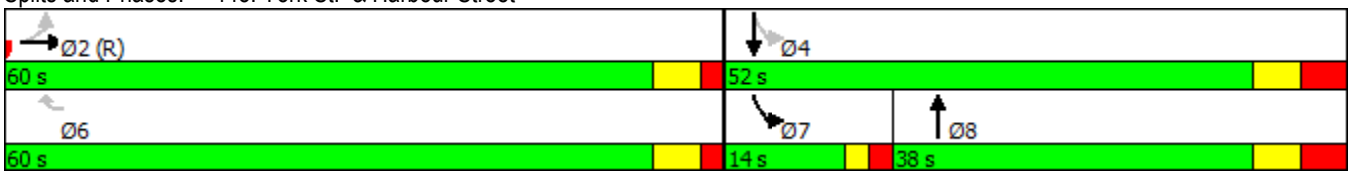


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	512	830	279	0	0	181	0	356	103	266	315	0
Future Volume (vph)	512	830	279	0	0	181	0	356	103	266	315	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Frt		0.962				0.865		0.966				
Flt Protected	0.950										0.978	
Satd. Flow (prot)	1785	4934	0	0	0	1625	0	3449	0	0	3491	0
Flt Permitted	0.950										0.587	
Satd. Flow (perm)	1785	4934	0	0	0	1625	0	3449	0	0	2096	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		106				425		33				
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		170.3			290.5			130.9			63.0	
Travel Time (s)		12.3			20.9			9.4			4.5	
Peak Hour 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
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	512	830	279	0	0	181	0	356	103	266	315	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	512	1109	0	0	0	181	0	459	0	0	581	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)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1				1		1		1	1	
Detector Template	Left	Thru				Right		Thru		Left	Thru	
Leading Detector (m)	17.0	7.5				7.5		7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5				-1.5		-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5				-1.5		-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0				9.0		9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA				Perm		NA		pm+pt	NA	
Protected Phases		2						8		7	4	
Permitted Phases	2					6				4		
Detector Phase	2	2				6		8		7	4	
Switch Phase												
Minimum Initial (s)	24.0	24.0				4.0		12.0		7.0	12.0	
Minimum Split (s)	44.0	44.0				22.0		28.0		11.0	28.0	
Total Split (s)	60.0	60.0				60.0		38.0		14.0	52.0	
Total Split (%)	53.6%	53.6%				53.6%		33.9%		12.5%	46.4%	
Maximum Green (s)	54.0	54.0				54.0		30.0		10.0	44.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)	4.0	4.0				4.0		4.0		2.0	4.0	
All-Red Time (s)	2.0	2.0				2.0		4.0		2.0	4.0	
Lost Time Adjust (s)	-1.0	-1.0				-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0				5.0		7.0			7.0	
Lead/Lag								Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0				3.0		3.0		3.0	3.0	
Recall Mode	C-Max	C-Max				None		Max		Max	Max	
Walk Time (s)	24.0	24.0				5.0		8.0			8.0	
Flash Dont Walk (s)	14.0	14.0				11.0		12.0			12.0	
Pedestrian Calls (#/hr)	0	0				0		0			0	
Act Effct Green (s)	55.0	55.0				55.0		31.0			45.0	
Actuated g/C Ratio	0.49	0.49				0.49		0.28			0.40	
v/c Ratio	0.58	0.45				0.18		0.47			0.63	
Control Delay	22.7	16.5				2.2		33.0			38.0	
Queue Delay	0.1	0.0				0.0		0.4			53.6	
Total Delay	22.8	16.5				2.2		33.4			91.6	
LOS	C	B				A		C			F	
Approach Delay		18.5			2.2			33.4			91.6	
Approach LOS		B			A			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green, Master Intersection			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 34.8		Intersection LOS: C	
Intersection Capacity Utilization 73.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 448: York St. & Harbour Street



Lane Group	EBL	EBT	WBR	NBT	SBT
Lane Group Flow (vph)	512	1109	181	459	581
v/c Ratio	0.58	0.45	0.18	0.47	0.63
Control Delay	22.7	16.5	2.2	33.0	38.0
Queue Delay	0.1	0.0	0.0	0.4	53.6
Total Delay	22.8	16.5	2.2	33.4	91.6
Queue Length 50th (m)	73.5	48.8	5.4	40.7	47.1
Queue Length 95th (m)	106.5	61.9	7.4	56.1	65.4
Internal Link Dist (m)		146.3		106.9	39.0
Turn Bay Length (m)					
Base Capacity (vph)	876	2476	1014	978	929
Starvation Cap Reductn	0	0	0	0	419
Spillback Cap Reductn	30	0	71	166	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.45	0.19	0.57	1.14

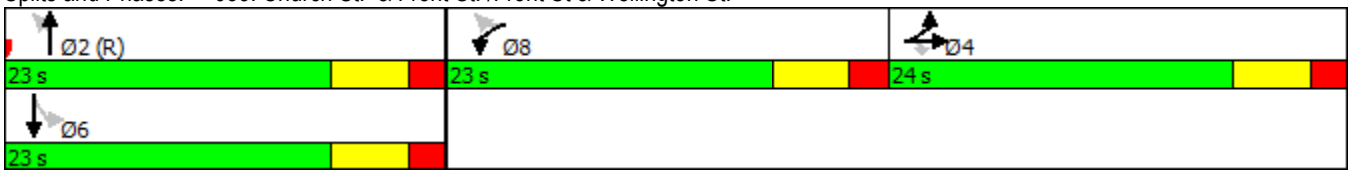
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	509	9	125	522	47	7	271	59	53	255	317
Future Volume (vph)	197	509	9	125	522	47	7	271	59	53	255	317
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0	0.0		0.0		0.0	0.0		0.0
Storage Lanes	1		1	1	3		0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	*0.91	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt			0.850		*0.982			0.974			0.924	
Flt Protected	0.950			0.950				0.999			0.996	
Satd. Flow (prot)	1785	3570	1597	1785	*4800	0	0	3474	0	0	3285	0
Flt Permitted	0.950			0.950				0.937			0.879	
Satd. Flow (perm)	1785	3570	1597	1785	*4800	0	0	3258	0	0	2899	0
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			140		140			35				
Link Speed (k/h)		50						50			50	
Link Distance (m)		315.8						148.3			153.5	
Travel Time (s)		22.7						10.7			11.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	207	536	9	132	549	49	7	285	62	56	268	334
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	536	9	132	598	0	0	354	0	0	658	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5						0.0			0.0	
Link Offset(m)		0.0						0.0			0.0	
Crosswalk Width(m)		1.6						1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24	50	14	24		14	24		14
Number of Detectors	1	1	1	1	1		1	1		1	1	
Detector Template	Left	Thru	Right	Left	Right		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0		5.0	9.0		5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Split	NA	Perm	Prot	Perm		Perm	NA		Perm	NA	
Protected Phases	4	4		8				2			6	
Permitted Phases			4		8		2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	18.0	18.0	18.0	17.0	17.0		17.0	17.0		17.0	17.0	
Minimum Split (s)	24.0	24.0	24.0	23.0	23.0		23.0	23.0		23.0	23.0	

Lane Group	EBL	EBT	EBR	WBL	WBR	WBR2	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	24.0	24.0	24.0	23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (%)	34.3%	34.3%	34.3%	32.9%	32.9%		32.9%	32.9%		32.9%	32.9%	
Maximum Green (s)	18.0	18.0	18.0	17.0	17.0		17.0	17.0		17.0	17.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0			-1.0			-1.0	
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead							
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	Max	Max		C-Max	C-Max		Max	Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	10.0	10.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effct Green (s)	19.0	19.0	19.0	18.0	18.0			18.0			18.0	
Actuated g/C Ratio	0.27	0.27	0.27	0.26	0.26			0.26			0.26	
v/c Ratio	0.43	0.55	0.02	0.29	0.45			0.41			0.88	
Control Delay	20.6	20.4	0.0	11.6	6.6			18.0			34.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	20.6	20.4	0.0	11.6	6.6			18.0			34.9	
LOS	C	C	A	B	A			B			C	
Approach Delay		20.2						18.0			34.9	
Approach LOS		C						B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 65 (93%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 78.8%		ICU Level of Service D	
Analysis Period (min) 15			
* User Entered Value			

Splits and Phases: 653: Church St. & Front St. /Front St & Wellington St.



Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	207	536	9	132	598	354	658
v/c Ratio	0.43	0.55	0.02	0.29	0.45	0.41	0.88
Control Delay	20.6	20.4	0.0	11.6	6.6	18.0	34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	20.4	0.0	11.6	6.6	18.0	34.9
Queue Length 50th (m)	17.3	24.0	0.0	4.6	2.9	19.7	44.7
Queue Length 95th (m)	m34.5	m39.4	m0.0	m11.4	5.5	24.7	#73.3
Internal Link Dist (m)		291.8				124.3	129.5
Turn Bay Length (m)	20.0			25.0			
Base Capacity (vph)	484	969	535	459	1338	863	745
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.55	0.02	0.29	0.45	0.41	0.88

Intersection Summary

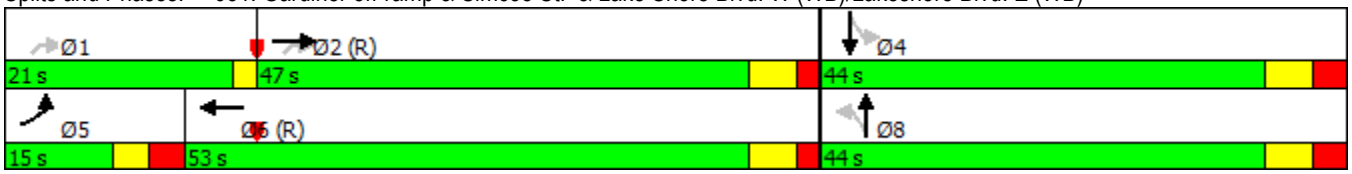
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBT	NER	Ø1
Lane Configurations										
Traffic Volume (vph)	32	312	0	0	118	33	186	54	0	
Future Volume (vph)	32	312	0	0	118	33	186	54	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	0.0			0.0		0.0	0.0		0.0	
Storage Lanes	1			1		0	1		2	
Taper Length (m)	15.0			15.0			15.0			
Lane Util. Factor	1.00	0.95	0.91	1.00	1.00	1.00	1.00	1.00	0.88	
Frt					0.967					
Flt Protected	0.950						0.950			
Satd. Flow (prot)	1785	3570	5129	1879	1817	0	1785	1879	3307	
Flt Permitted	0.950						0.601			
Satd. Flow (perm)	1785	3570	5129	1879	1817	0	1129	1879	3307	
Right Turn on Red						Yes				
Satd. Flow (RTOR)					14					
Link Speed (k/h)		50	50		50			50		
Link Distance (m)		242.1	36.5		121.1			219.5		
Travel Time (s)		17.4	2.6		8.7			15.8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	32	312	0	0	118	33	186	54	0	
Shared Lane Traffic (%)										
Lane Group Flow (vph)	32	312	0	0	151	0	186	54	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Left	Left	Left	Right	Left	Left	Right	
Median Width(m)		3.5	0.0		7.0			7.0		
Link Offset(m)		0.0	0.0		0.0			0.0		
Crosswalk Width(m)		1.6	1.6		1.6			1.6		
Two way Left Turn Lane										
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24			24		14	24		14	
Number of Detectors	1	1	1	1	1		1	1	1	
Detector Template	Left	Thru	Thru	Left	Thru		Left	Thru	Right	
Leading Detector (m)	17.0	7.5	7.5	17.0	7.5		17.0	7.5	7.5	
Trailing Detector (m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	-1.5	
Detector 1 Position(m)	12.0	-1.5	-1.5	12.0	-1.5		12.0	-1.5	-1.5	
Detector 1 Size(m)	5.0	9.0	9.0	5.0	9.0		5.0	9.0	9.0	
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	Prot	NA		Perm	NA		Perm	NA	Perm	
Protected Phases	5	2	6		8			4		1
Permitted Phases				8			4		1 2	
Detector Phase	5	2	6	8	8		4	4	1 2	
Switch Phase										
Minimum Initial (s)	7.0	8.0	8.0	14.0	14.0		14.0	14.0		8.0
Minimum Split (s)	13.0	26.0	26.0	39.0	39.0		39.0	39.0		10.0

Lane Group	EBL	EBT	WBT	NBL	NBT	NBR	SBL	SBT	NER	Ø1
Total Split (s)	15.0	47.0	53.0	44.0	44.0		44.0	44.0		21.0
Total Split (%)	13.4%	42.0%	47.3%	39.3%	39.3%		39.3%	39.3%		19%
Maximum Green (s)	9.0	41.0	47.0	37.0	37.0		37.0	37.0		19.0
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		4.0	4.0		2.0
All-Red Time (s)	3.0	2.0	2.0	3.0	3.0		3.0	3.0		0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0		6.0	6.0		
Lead/Lag	Lead	Lag	Lag							Lead
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	C-Max	C-Max	None	None		None	None		Max
Walk Time (s)		8.0	8.0	8.0	8.0		8.0	8.0		
Flash Dont Walk (s)		12.0	12.0	24.0	24.0		24.0	24.0		
Pedestrian Calls (#/hr)		0	0	0	0		0	0		
Act Effct Green (s)	8.6	42.0			23.3		23.3	23.3		
Actuated g/C Ratio	0.08	0.38			0.21		0.21	0.21		
v/c Ratio	0.24	0.23			0.39		0.79	0.14		
Control Delay	60.8	19.3			36.0		64.7	33.5		
Queue Delay	0.0	0.0			0.0		0.0	0.0		
Total Delay	60.8	19.3			36.0		64.7	33.5		
LOS	E	B			D		E	C		
Approach Delay		23.2			36.0			57.7		
Approach LOS		C			D			E		

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 31 (28%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 37.1		Intersection LOS: D	
Intersection Capacity Utilization 46.1%		ICU Level of Service A	
Analysis Period (min) 15			

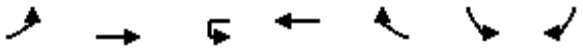
Splits and Phases: 681: Gardiner off-ramp & Simcoe St. & Lake Shore Blvd. W (WB)/Lakeshore Blvd. E (WB)



Lane Group	EBL	EBT	NBT	SBL	SBT
Lane Group Flow (vph)	32	312	151	186	54
v/c Ratio	0.24	0.23	0.39	0.79	0.14
Control Delay	60.8	19.3	36.0	64.7	33.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	60.8	19.3	36.0	64.7	33.5
Queue Length 50th (m)	6.1	28.1	26.0	40.8	9.1
Queue Length 95th (m)	m8.2	m31.0	40.2	61.5	16.7
Internal Link Dist (m)		218.1	97.1		195.5
Turn Bay Length (m)					
Base Capacity (vph)	159	1338	625	383	637
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	0.20	0.23	0.24	0.49	0.08

Intersection Summary

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

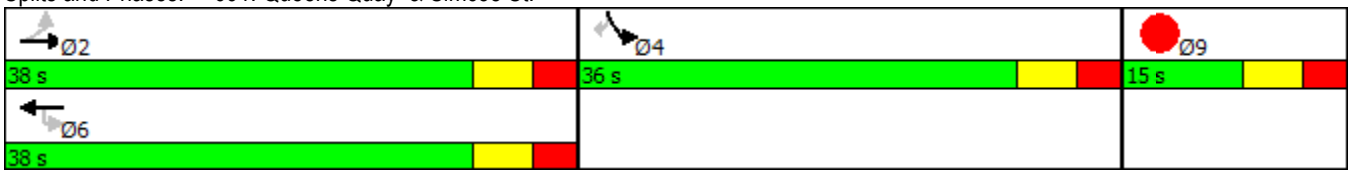


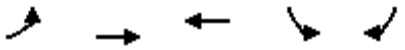
Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR	Ø9
Lane Configurations								
Traffic Volume (vph)	27	48	0	200	24	38	38	
Future Volume (vph)	27	48	0	200	24	38	38	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	55.0		50.0		0.0	0.0	0.0	
Storage Lanes	1		1		0	1	1	
Taper Length (m)	15.0		15.0			15.0		
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	1.00	1.00	
Frt				0.984			0.850	
Flt Protected	0.950					0.950		
Satd. Flow (prot)	1785	3570	1842	3513	0	1785	1597	
Flt Permitted	0.612					0.950		
Satd. Flow (perm)	1150	3570	1842	3513	0	1785	1597	
Right Turn on Red					Yes		Yes	
Satd. Flow (RTOR)				16			38	
Link Speed (k/h)		50		50		50		
Link Distance (m)		323.9		219.8		121.1		
Travel Time (s)		23.3		15.8		8.7		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	
Adj. Flow (vph)	27	48	0	200	24	38	38	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	27	48	0	224	0	38	38	
Enter Blocked Intersection	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	R NA	Left	Right	Left	Right	
Median Width(m)		3.5		3.5		3.5		
Link Offset(m)		0.0		0.0		0.0		
Crosswalk Width(m)		1.6		1.6		1.6		
Two way Left Turn Lane								
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	
Turning Speed (k/h)	24		14		14	24	14	
Number of Detectors	1	1	1	1		1	1	
Detector Template	Left	Thru	Left	Thru		Left	Right	
Leading Detector (m)	17.0	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0	5.0	9.0		5.0	9.0	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Turn Type	Perm	NA	Perm	NA		Prot	Perm	
Protected Phases		2		6		4		9
Permitted Phases	2		6				4	
Detector Phase	2	2	6	6		4	4	
Switch Phase								
Minimum Initial (s)	31.0	31.0	31.0	31.0		29.0	29.0	8.0
Minimum Split (s)	38.0	38.0	38.0	38.0		36.0	36.0	15.0

Lane Group	EBL	EBT	WBU	WBT	WBR	SBL	SBR	Ø9
Total Split (s)	38.0	38.0	38.0	38.0		36.0	36.0	15.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%		40.4%	40.4%	17%
Maximum Green (s)	31.0	31.0	31.0	31.0		29.0	29.0	8.0
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0		6.0	6.0	
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	Max	Max	Max	Max		None	None	Max
Walk Time (s)	5.0	5.0	5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0		0	0	
Act Effct Green (s)	34.1	34.1		34.1		32.0	32.0	
Actuated g/C Ratio	0.46	0.46		0.46		0.43	0.43	
v/c Ratio	0.05	0.03		0.14		0.05	0.05	
Control Delay	18.8	17.6		15.7		19.6	7.4	
Queue Delay	0.0	0.0		0.0		0.0	0.0	
Total Delay	18.8	17.6		15.7		19.6	7.4	
LOS	B	B		B		B	A	
Approach Delay		18.0		15.7		13.5		
Approach LOS		B		B		B		

Intersection Summary			
Area Type:	Other		
Cycle Length: 89			
Actuated Cycle Length: 74.6			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.14			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

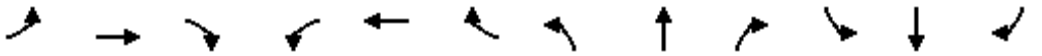
Splits and Phases: 691: Queens Quay & Simcoe St.





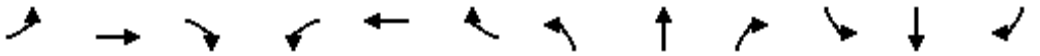
Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	27	48	224	38	38
v/c Ratio	0.05	0.03	0.14	0.05	0.05
Control Delay	18.8	17.6	15.7	19.6	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	17.6	15.7	19.6	7.4
Queue Length 50th (m)	3.0	2.7	12.5	4.4	0.0
Queue Length 95th (m)	8.4	6.3	20.4	10.9	6.3
Internal Link Dist (m)		299.9	195.8	97.1	
Turn Bay Length (m)	55.0				
Base Capacity (vph)	525	1632	1615	765	706
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	0.05	0.03	0.14	0.05	0.05

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	612	185	27	110	17	28	7	54	39	13	86
Future Volume (vph)	104	612	185	27	110	17	28	7	54	39	13	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.985				0.850		0.916	
Flt Protected		0.994			0.991			0.961			0.986	
Satd. Flow (prot)	0	3438	0	0	1834	0	0	1806	1597	0	1697	0
Flt Permitted		0.994			0.991			0.961			0.986	
Satd. Flow (perm)	0	3438	0	0	1834	0	0	1806	1597	0	1697	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		151.2			143.9			101.8			172.0	
Travel Time (s)		10.9			10.4			7.3			12.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	109	644	195	28	116	18	29	7	57	41	14	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	948	0	0	162	0	0	36	57	0	146	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.8%		ICU Level of Service A	
Analysis Period (min) 15			



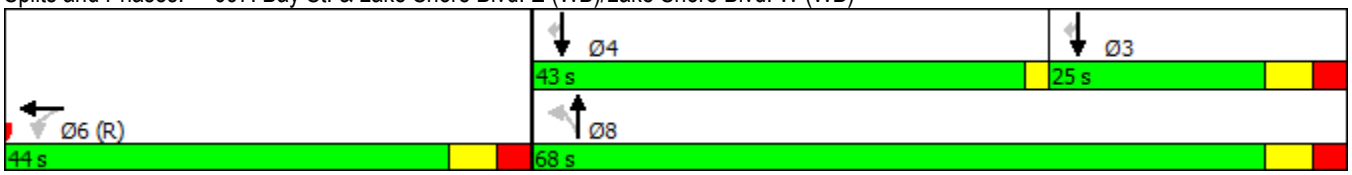
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	137	712	127	69	399	0	0	90	305
Future Volume (vph)	0	0	0	137	712	127	69	399	0	0	90	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	0.0		50.0
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	1.00	1.00	1.00	0.86	0.86	0.86	0.95	0.95	1.00	1.00	1.00	0.88
Ped Bike Factor					0.93			0.93				0.65
Frt					0.980							0.850
Flt Protected					0.993			0.993				
Satd. Flow (prot)	0	0	0	0	5570	0	0	3287	0	0	1528	2627
Flt Permitted					0.993			0.887				
Satd. Flow (perm)	0	0	0	0	5409	0	0	2741	0	0	1528	1713
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					37							
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		153.1			169.6			64.6			325.1	
Travel Time (s)		11.0			12.2			4.7			23.4	
Confl. Peds. (#/hr)	260		66	66		260	948		289	289		948
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	2%	9%	8%	7%	8%	2%	0%	23%	7%
Adj. Flow (vph)	0	0	0	144	749	134	73	420	0	0	95	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1027	0	0	493	0	0	95	321
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			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors				1	1		1	1			1	1
Detector Template				Left	Thru		Left	Thru			Thru	Right
Leading Detector (m)				17.0	7.5		17.0	7.5			7.5	7.5
Trailing Detector (m)				12.0	-1.5		12.0	-1.5			-1.5	-1.5
Detector 1 Position(m)				12.0	-1.5		12.0	-1.5			-1.5	-1.5
Detector 1 Size(m)				5.0	9.0		5.0	9.0			9.0	9.0
Detector 1 Type				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
Detector 1 Queue (s)				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
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					6			8			4 3	
Permitted Phases				6			8					4 3
Detector Phase				6	6		8	8			4 3	4 3
Switch Phase												

Lane Group	Ø3	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	3	4
Permitted Phases		
Detector Phase		
Switch Phase		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				18.0	18.0		14.0	14.0				
Minimum Split (s)				25.0	25.0		56.0	56.0				
Total Split (s)				44.0	44.0		68.0	68.0				
Total Split (%)				39.3%	39.3%		60.7%	60.7%				
Maximum Green (s)				37.0	37.0		61.0	61.0				
Yellow Time (s)				4.0	4.0		4.0	4.0				
All-Red Time (s)				3.0	3.0		3.0	3.0				
Lost Time Adjust (s)					-1.0			-1.0				
Total Lost Time (s)					6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0				
Recall Mode				C-Max	C-Max		Max	Max				
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				11.0	11.0		10.0	10.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)					38.0			62.0			67.0	67.0
Actuated g/C Ratio					0.34			0.55			0.60	0.60
v/c Ratio					0.55			0.32			0.10	0.31
Control Delay					30.3			10.2			10.0	12.2
Queue Delay					0.0			0.3			0.0	0.0
Total Delay					30.3			10.5			10.0	12.2
LOS					C			B			B	B
Approach Delay					30.3			10.5			11.7	
Approach LOS					C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 112			
Actuated Cycle Length: 112			
Offset: 10 (9%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 21.2		Intersection LOS: C	
Intersection Capacity Utilization 65.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 697: Bay St. & Lake Shore Blvd. E (WB)/Lake Shore Blvd. W (WB)

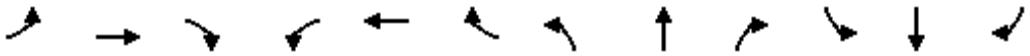


Lane Group	Ø3	Ø4
Minimum Initial (s)	7.0	14.0
Minimum Split (s)	25.0	31.0
Total Split (s)	25.0	43.0
Total Split (%)	22%	38%
Maximum Green (s)	18.0	41.0
Yellow Time (s)	4.0	2.0
All-Red Time (s)	3.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lag	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)	7.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	1027	493	95	321
v/c Ratio	0.55	0.32	0.10	0.31
Control Delay	30.3	10.2	10.0	12.2
Queue Delay	0.0	0.3	0.0	0.0
Total Delay	30.3	10.5	10.0	12.2
Queue Length 50th (m)	50.8	17.2	8.3	18.4
Queue Length 95th (m)	61.6	32.4	15.5	27.6
Internal Link Dist (m)	145.6	40.6	301.1	
Turn Bay Length (m)				50.0
Base Capacity (vph)	1859	1517	914	1024
Starvation Cap Reductn	0	479	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.47	0.10	0.31

Intersection Summary

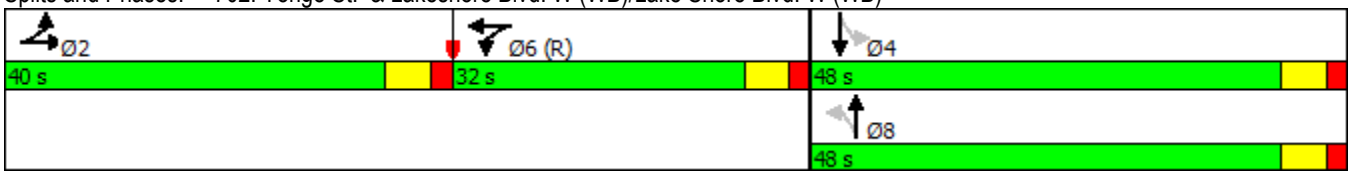


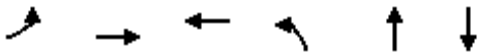
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	897	109	47	314	42	52	792	153	260	135	614
Future Volume (vph)	569	897	109	47	314	42	52	792	153	260	135	614
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	40.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.86	0.86	0.91	0.91	0.91	0.91	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99	1.00			1.00		0.97	0.98			0.87	
Frt		0.986			0.984			0.976			0.909	
Flt Protected	0.950	0.992			0.994		0.950				0.987	
Satd. Flow (prot)	1420	4538	0	0	4841	0	1652	3400	0	0	2796	0
Flt Permitted	0.950	0.992			0.994		0.161				0.523	
Satd. Flow (perm)	1406	4531	0	0	4838	0	272	3400	0	0	1474	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)		13						21			363	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		37.6			39.2			141.9			81.5	
Travel Time (s)		2.7			2.8			10.2			5.9	
Confl. Peds. (#/hr)	12		15	15		12	188		108	108		188
Peak Hour 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
Heavy Vehicles (%)	2%	5%	1%	0%	2%	17%	2%	0%	3%	2%	0%	0%
Adj. Flow (vph)	569	897	109	47	314	42	52	792	153	260	135	614
Shared Lane Traffic (%)	32%											
Lane Group Flow (vph)	387	1188	0	0	403	0	52	945	0	0	1009	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)		3.0			3.0			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5		17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	
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	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	2	2		6	6			8			4	
Permitted Phases							8			4		
Detector Phase	2	2		6	6		8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		14.0	14.0		27.0	27.0		17.0	17.0	
Minimum Split (s)	31.0	31.0		32.0	32.0		44.0	44.0		44.0	44.0	
Total Split (s)	40.0	40.0		32.0	32.0		48.0	48.0		48.0	48.0	
Total Split (%)	33.3%	33.3%		26.7%	26.7%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	34.0	34.0		26.0	26.0		42.0	42.0		42.0	42.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0			-1.0		-1.0	-1.0			-1.0	
Total Lost Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
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	Min	Min		C-Min	C-Min		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		28.0	28.0		28.0	28.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	34.8	34.8			17.0		53.2	53.2			53.2	
Actuated g/C Ratio	0.29	0.29			0.14		0.44	0.44			0.44	
v/c Ratio	0.94	0.90			0.59		0.43	0.62			1.18	
Control Delay	74.2	50.6			51.7		38.2	27.6			114.6	
Queue Delay	0.0	0.0			0.0		0.0	2.1			0.0	
Total Delay	74.2	50.6			51.7		38.2	29.7			114.6	
LOS	E	D			D		D	C			F	
Approach Delay		56.4			51.7			30.2			114.6	
Approach LOS		E			D			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 64.1		Intersection LOS: E	
Intersection Capacity Utilization 126.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 702: Yonge St. & Lakeshore Blvd. W (WB)/Lake Shore Blvd. W (WB)



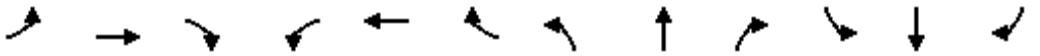


Lane Group	EBL	EBT	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	387	1188	403	52	945	1009
v/c Ratio	0.94	0.90	0.59	0.43	0.62	1.18
Control Delay	74.2	50.6	51.7	38.2	27.6	114.6
Queue Delay	0.0	0.0	0.0	0.0	2.1	0.0
Total Delay	74.2	50.6	51.7	38.2	29.7	114.6
Queue Length 50th (m)	103.2	102.8	33.2	8.2	85.6	~123.3
Queue Length 95th (m)	#171.5	#125.1	43.0	23.0	112.9	#167.3
Internal Link Dist (m)		13.6	15.2		117.9	57.5
Turn Bay Length (m)				40.0		
Base Capacity (vph)	414	1332	1089	120	1518	855
Starvation Cap Reductn	0	0	0	0	411	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.89	0.37	0.43	0.85	1.18

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

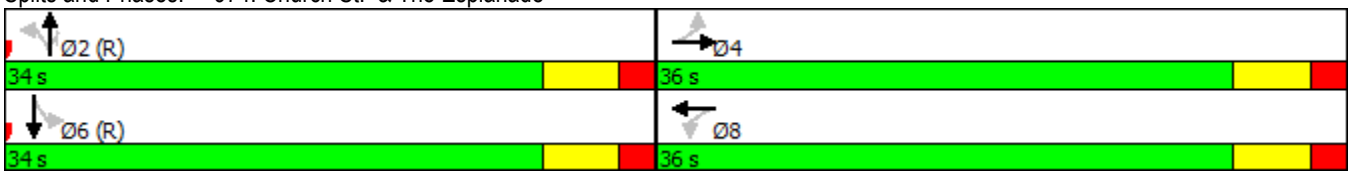


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	64	13	35	58	110	7	169	97	16	259	110
Future Volume (vph)	57	64	13	35	58	110	7	169	97	16	259	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987			0.927				0.850		0.961	
Flt Protected		0.979			0.991			0.998			0.998	
Satd. Flow (prot)	0	1780	0	0	1692	0	0	1838	1566	0	1767	0
Flt Permitted		0.660			0.923			0.986			0.987	
Satd. Flow (perm)	0	1200	0	0	1576	0	0	1816	1566	0	1747	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			109				102		35	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		306.0			154.6			236.7			148.3	
Travel Time (s)		22.0			11.1			17.0			10.7	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	67	14	37	61	116	7	178	102	17	273	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	141	0	0	214	0	0	185	102	0	406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	17.0	7.5		17.0	7.5		17.0	7.5	7.5	17.0	7.5	
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5	
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5	12.0	-1.5	
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0	9.0	5.0	9.0	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	29.0	29.0		29.0	29.0		30.0	30.0	30.0	30.0	30.0	
Total Split (s)	36.0	36.0		36.0	36.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)	51.4%	51.4%		51.4%	51.4%		48.6%	48.6%	48.6%	48.6%	48.6%	
Maximum Green (s)	30.0	30.0		30.0	30.0		28.0	28.0	28.0	28.0	28.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	C-Max	C-Max	
Walk Time (s)	12.0	12.0		12.0	12.0		13.0	13.0	13.0	13.0	13.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		12.7			12.7			47.3	47.3		47.3	
Actuated g/C Ratio		0.18			0.18			0.68	0.68		0.68	
v/c Ratio		0.62			0.57			0.15	0.09		0.34	
Control Delay		27.1			18.6			5.2	1.6		7.2	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		27.1			18.6			5.2	1.6		7.2	
LOS		C			B			A	A		A	
Approach Delay		27.1			18.6			4.0			7.2	
Approach LOS		C			B			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 11.3		Intersection LOS: B	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 974: Church St. & The Esplanade



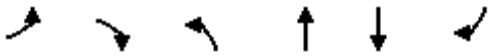
Lane Group	EBT	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	141	214	185	102	406
v/c Ratio	0.62	0.57	0.15	0.09	0.34
Control Delay	27.1	18.6	5.2	1.6	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	18.6	5.2	1.6	7.2
Queue Length 50th (m)	14.3	12.2	7.3	0.0	17.1
Queue Length 95th (m)	28.0	28.0	17.4	4.8	m22.3
Internal Link Dist (m)	282.0	130.6	212.7		124.3
Turn Bay Length (m)					
Base Capacity (vph)	537	758	1226	1090	1190
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	0.26	0.28	0.15	0.09	0.34

Intersection Summary

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

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1234	63	0	0	0	86
Future Volume (vph)	1234	63	0	0	0	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt	0.993					0.865
Flt Protected						
Satd. Flow (prot)	4991	0	0	5029	0	1609
Flt Permitted						
Satd. Flow (perm)	4991	0	0	5029	0	1609
Link Speed (k/h)	50			50	50	
Link Distance (m)	84.9			53.4	172.0	
Travel Time (s)	6.1			3.8	12.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	3%	2%	2%	0%	1%
Adj. Flow (vph)	1299	66	0	0	0	91
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1365	0	0	0	0	91
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.2%		ICU Level of Service A	
Analysis Period (min) 15			

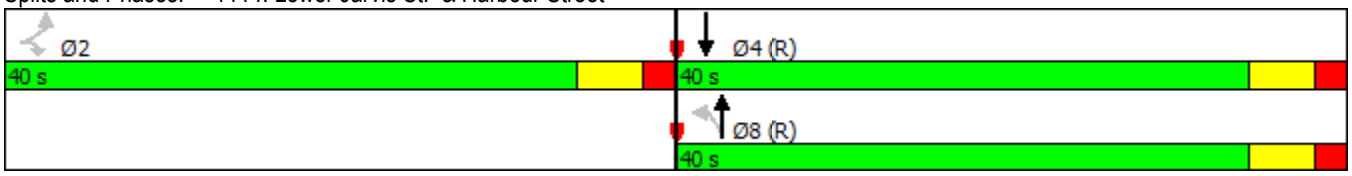


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	301	146	22	343	99	36
Future Volume (vph)	301	146	22	343	99	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850			0.960	
Flt Protected	0.950			0.997		
Satd. Flow (prot)	1785	1597	0	3559	3427	0
Flt Permitted	0.950			0.934		
Satd. Flow (perm)	1785	1597	0	3334	3427	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		154			38	
Link Speed (k/h)	50			50	50	
Link Distance (m)	109.2			96.2	131.1	
Travel Time (s)	7.9			6.9	9.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	317	154	23	361	104	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	317	154	0	384	142	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.5			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	1	1	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	7.5	7.5	17.0	7.5	7.5	
Trailing Detector (m)	-0.2	-1.5	12.0	-1.5	-1.5	
Detector 1 Position(m)	-0.2	-1.5	12.0	-1.5	-1.5	
Detector 1 Size(m)	7.7	9.0	5.0	9.0	9.0	
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				8	4	
Permitted Phases	2	2	8			
Detector Phase	2	2	8	8	4	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	
Total Split (s)	40.0	40.0	40.0	40.0	40.0	
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	
Maximum Green (s)	34.0	34.0	34.0	34.0	34.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	C-Max	C-Max	C-Max	
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	35.0	35.0		35.0	35.0	
Actuated g/C Ratio	0.44	0.44		0.44	0.44	
v/c Ratio	0.41	0.20		0.26	0.09	
Control Delay	17.4	3.2		18.7	12.6	
Queue Delay	1.0	0.0		0.0	0.0	
Total Delay	18.4	3.2		18.7	12.6	
LOS	B	A		B	B	
Approach Delay	13.4			18.7	12.6	
Approach LOS	B			B	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 40 (50%), Referenced to phase 4:SBT and 8:NBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 43.2%		ICU Level of Service A	
Analysis Period (min) 15			

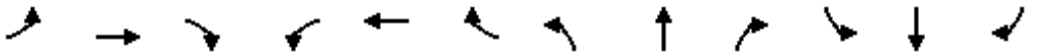
Splits and Phases: 1114: Lower Jarvis St. & Harbour Street



Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	317	154	384	142
v/c Ratio	0.41	0.20	0.26	0.09
Control Delay	17.4	3.2	18.7	12.6
Queue Delay	1.0	0.0	0.0	0.0
Total Delay	18.4	3.2	18.7	12.6
Queue Length 50th (m)	31.8	0.0	20.7	7.8
Queue Length 95th (m)	51.4	9.5	36.6	m11.0
Internal Link Dist (m)	85.2		72.2	107.1
Turn Bay Length (m)				
Base Capacity (vph)	780	785	1458	1520
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	244	0	22	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.20	0.27	0.09

Intersection Summary

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

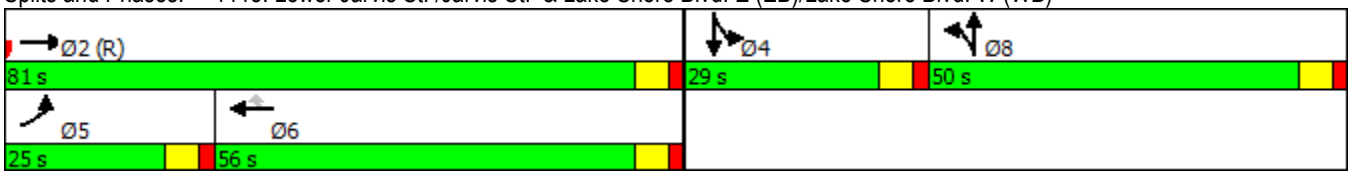


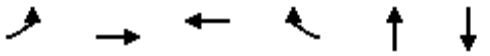
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	382	942	64	0	117	42	272	514	252	204	71	111
Future Volume (vph)	382	942	64	0	117	42	272	514	252	204	71	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	2		0	0		1	0		0	0		0
Taper Length (m)	15.0			15.0			15.0			15.0		
Lane Util. Factor	0.97	0.91	0.91	1.00	0.91	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99	0.99				0.98		0.96			0.98	
Frt		0.990				0.850		0.964			0.957	
Flt Protected	0.950							0.987			0.974	
Satd. Flow (prot)	3143	4840	0	0	3638	919	0	3158	0	0	3222	0
Flt Permitted	0.950							0.987			0.974	
Satd. Flow (perm)	3102	4840	0	0	3638	900	0	3158	0	0	3163	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9				102		27			32	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		90.3			232.9			131.1			52.0	
Travel Time (s)		6.5			16.8			9.4			3.7	
Confl. Peds. (#/hr)	4		31	31		4			64	64		
Peak Hour 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
Heavy Vehicles (%)	4%	4%	10%	0%	41%	64%	3%	5%	1%	3%	3%	4%
Adj. Flow (vph)	382	942	64	0	117	42	272	514	252	204	71	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	382	1006	0	0	117	42	0	1038	0	0	386	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)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.09	1.01	1.01	1.01	1.01	1.09	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1			1	1	1	1		1	1	
Detector Template	Left	Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	7.5	7.5			7.5	7.5	17.0	7.5		17.0	7.5	
Trailing Detector (m)	-0.2	-1.5			-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Position(m)	-0.2	-1.5			-1.5	-1.5	12.0	-1.5		12.0	-1.5	
Detector 1 Size(m)	7.7	9.0			9.0	9.0	5.0	9.0		5.0	9.0	
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	Prot	NA			NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases						6						
Detector Phase	5	2			6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Minimum Split (s)	25.0	27.0			27.0	27.0	29.0	29.0		29.0	29.0	
Total Split (s)	25.0	81.0			56.0	56.0	50.0	50.0		29.0	29.0	
Total Split (%)	15.6%	50.6%			35.0%	35.0%	31.3%	31.3%		18.1%	18.1%	
Maximum Green (s)	19.0	75.0			50.0	50.0	44.0	44.0		23.0	23.0	
Yellow Time (s)	4.0	4.0			4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0			2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-1.0	-1.0			-1.0	-1.0		-1.0			-1.0	
Total Lost Time (s)	5.0	5.0			5.0	5.0		5.0			5.0	
Lead/Lag	Lead				Lag	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	Min	C-Min			None	None	None	None		None	None	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		14.0			14.0	14.0	14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)		0			0	0	0	0		0	0	
Act Effct Green (s)	25.9	53.2			22.3	22.3		67.9			24.0	
Actuated g/C Ratio	0.16	0.33			0.14	0.14		0.42			0.15	
v/c Ratio	0.75	0.62			0.23	0.20		0.77			0.76	
Control Delay	73.2	46.4			61.5	2.1		40.2			69.4	
Queue Delay	0.0	0.0			0.0	0.0		9.9			0.0	
Total Delay	73.2	46.4			61.5	2.1		50.1			69.4	
LOS	E	D			E	A		D			E	
Approach Delay		53.7			45.8			50.1			69.4	
Approach LOS		D			D			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Offset: 0 (0%), Referenced to phase 2:EBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 54.1		Intersection LOS: D	
Intersection Capacity Utilization 75.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1115: Lower Jarvis St. /Jarvis St. & Lake Shore Blvd. E (EB)/Lake Shore Blvd. W (WB)

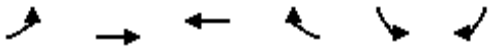




Lane Group	EBL	EBT	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	382	1006	117	42	1038	386
v/c Ratio	0.75	0.62	0.23	0.20	0.77	0.76
Control Delay	73.2	46.4	61.5	2.1	40.2	69.4
Queue Delay	0.0	0.0	0.0	0.0	9.9	0.0
Total Delay	73.2	46.4	61.5	2.1	50.1	69.4
Queue Length 50th (m)	59.5	93.0	12.0	0.0	142.8	57.8
Queue Length 95th (m)	#95.6	116.2	18.9	0.0	161.3	73.3
Internal Link Dist (m)		66.3	208.9		107.1	28.0
Turn Bay Length (m)	55.0					
Base Capacity (vph)	508	2303	1159	356	1355	542
Starvation Cap Reductn	0	0	0	0	296	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.44	0.10	0.12	0.98	0.71

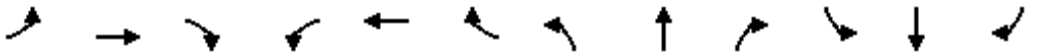
Intersection Summary

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



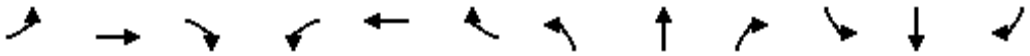
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	46	207	116	54	95	38
Future Volume (vph)	46	207	116	54	95	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			0.0	0.0	0.0
Storage Lanes	0			0	1	0
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.957		0.961	
Flt Protected		0.991			0.966	
Satd. Flow (prot)	0	1862	1798	0	1744	0
Flt Permitted		0.991			0.966	
Satd. Flow (perm)	0	1862	1798	0	1744	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		88.6	118.8		96.5	
Travel Time (s)		6.4	8.6		6.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	48	218	122	57	100	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	266	179	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.4%	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)	57	596	43	6	109	10	17	14	26	15	13	27
Future Volume (vph)	57	596	43	6	109	10	17	14	26	15	13	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.991			0.989			0.939			0.928	
Flt Protected		0.996			0.998			0.985			0.986	
Satd. Flow (prot)	0	3524	0	0	1855	0	0	1738	0	0	3266	0
Flt Permitted		0.996			0.998			0.985			0.986	
Satd. Flow (perm)	0	3524	0	0	1855	0	0	1738	0	0	3266	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		143.9			98.2			98.8			113.0	
Travel Time (s)		10.4			7.1			7.1			8.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	60	627	45	6	115	11	18	15	27	16	14	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	732	0	0	132	0	0	60	0	0	58	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.4%		ICU Level of Service A	
Analysis Period (min) 15			

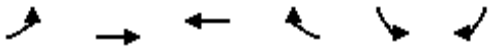


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	397	107	4	35	18	40	39	29	22	8	51
Future Volume (vph)	128	397	107	4	35	18	40	39	29	22	8	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.957			0.963			0.914	
Flt Protected		0.990			0.997			0.982			0.987	
Satd. Flow (prot)	0	3446	0	0	1793	0	0	1777	0	0	1695	0
Flt Permitted		0.990			0.997			0.982			0.987	
Satd. Flow (perm)	0	3446	0	0	1793	0	0	1777	0	0	1695	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		98.2			109.2			96.5			146.5	
Travel Time (s)		7.1			7.9			6.9			10.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	135	418	113	4	37	19	42	41	31	23	8	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	666	0	0	60	0	0	114	0	0	85	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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			

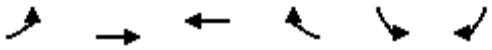
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1217	53	0	0	0	179
Future Volume (vph)	1217	53	0	0	0	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	1.00	0.91	1.00	1.00
Frt	0.994					0.865
Flt Protected						
Satd. Flow (prot)	5099	0	0	5129	0	1625
Flt Permitted						
Satd. Flow (perm)	5099	0	0	5129	0	1625
Link Speed (k/h)	50			50	50	
Link Distance (m)	109.3			90.3	146.5	
Travel Time (s)	7.9			6.5	10.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1281	56	0	0	0	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1337	0	0	0	0	188
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	6.0			6.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.4%		ICU Level of Service A	
Analysis Period (min) 15			

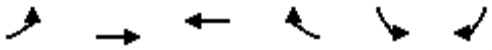


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	34	209	131	23	46	16
Future Volume (vph)	34	209	131	23	46	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.980			0.850
Flt Protected		0.993			0.950	
Satd. Flow (prot)	0	1866	1841	0	1785	1597
Flt Permitted		0.993			0.950	
Satd. Flow (perm)	0	1866	1841	0	1785	1597
Link Speed (k/h)		50	50		50	
Link Distance (m)		53.8	88.6		98.8	
Travel Time (s)		3.9	6.4		7.1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	36	220	138	24	48	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	256	162	0	48	17
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.5%		ICU Level of Service A	
Analysis Period (min) 15			



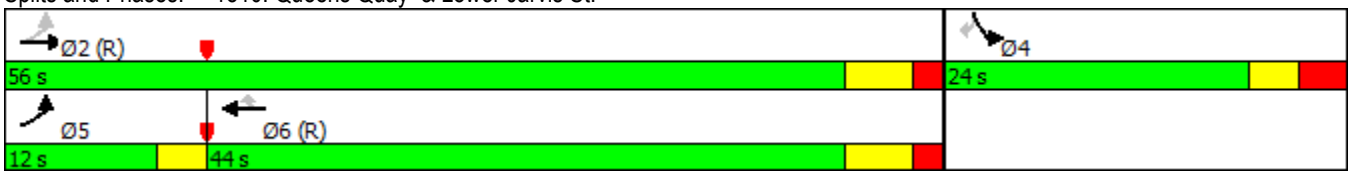
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	64	236	141	310	230	31
Future Volume (vph)	64	236	141	310	230	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	0.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97			0.95	0.96	0.95
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1352	1740	1566	1536	1785	1192
Flt Permitted	0.632				0.950	
Satd. Flow (perm)	870	1740	1566	1454	1714	1134
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				326		33
Link Speed (k/h)		50	50		50	
Link Distance (m)		118.8	234.3		96.2	
Travel Time (s)		8.6	16.9		6.9	
Confl. Peds. (#/hr)	66			66	18	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	32%	8%	20%	4%	0%	34%
Adj. Flow (vph)	67	248	148	326	242	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	248	148	326	242	33
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	17.0	7.5	7.5	7.5	17.0	7.5
Trailing Detector (m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Position(m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Size(m)	5.0	9.0	9.0	9.0	5.0	9.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						

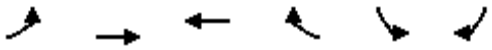


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Initial (s)	9.0	30.0	30.0	30.0	7.0	7.0
Minimum Split (s)	12.0	44.0	44.0	44.0	24.0	24.0
Total Split (s)	12.0	56.0	44.0	44.0	24.0	24.0
Total Split (%)	15.0%	70.0%	55.0%	55.0%	30.0%	30.0%
Maximum Green (s)	9.0	50.0	38.0	38.0	18.0	18.0
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	0.0	2.0	2.0	2.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	2.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max
Walk Time (s)		30.0	30.0	30.0	7.0	7.0
Flash Dont Walk (s)		8.0	8.0	8.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0
Act Effct Green (s)	54.0	51.0	41.4	41.4	19.0	19.0
Actuated g/C Ratio	0.68	0.64	0.52	0.52	0.24	0.24
v/c Ratio	0.10	0.22	0.18	0.36	0.57	0.11
Control Delay	4.9	6.8	12.1	2.7	32.0	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	4.9	6.8	12.1	2.7	32.2	8.2
LOS	A	A	B	A	C	A
Approach Delay		6.4	5.6		29.3	
Approach LOS		A	A		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			

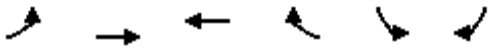
Splits and Phases: 1510: Queens Quay & Lower Jarvis St.



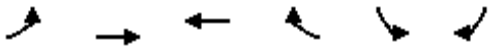


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	67	248	148	326	242	33
v/c Ratio	0.10	0.22	0.18	0.36	0.57	0.11
Control Delay	4.9	6.8	12.1	2.7	32.0	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	4.9	6.8	12.1	2.7	32.2	8.2
Queue Length 50th (m)	3.0	14.1	12.1	0.0	34.6	0.8
Queue Length 95th (m)	6.7	23.6	22.4	12.1	52.9	4.1
Internal Link Dist (m)		94.8	210.3		72.2	
Turn Bay Length (m)	30.0			30.0		
Base Capacity (vph)	647	1109	810	909	423	294
Starvation Cap Reductn	0	0	0	0	13	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.22	0.18	0.36	0.59	0.11

Intersection Summary



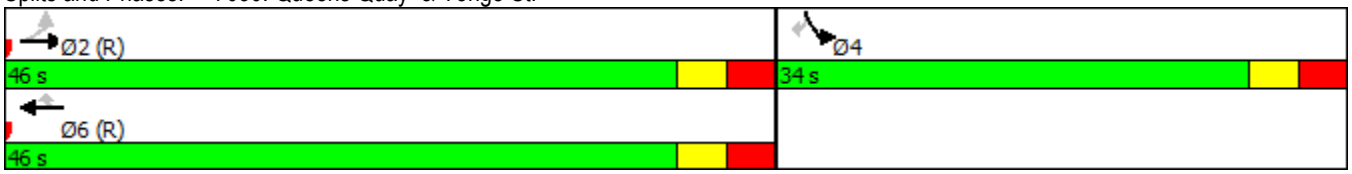
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	100	117	153	24	73	63
Future Volume (vph)	100	117	153	24	73	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0			30.0	0.0	0.0
Storage Lanes	1			1	1	1
Taper Length (m)	15.0				15.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1785	1879	1879	1597	1785	1597
Flt Permitted	0.655				0.950	
Satd. Flow (perm)	1231	1879	1879	1597	1785	1597
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				25		66
Link Speed (k/h)		50	50		50	
Link Distance (m)		189.2	145.2		128.1	
Travel Time (s)		13.6	10.5		9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	105	123	161	25	77	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	105	123	161	25	77	66
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.5	3.5		3.5	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Number of Detectors	1	1	1	1	1	1
Detector Template	Left	Thru	Thru	Right	Left	Right
Leading Detector (m)	17.0	7.5	7.5	7.5	17.0	7.5
Trailing Detector (m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Position(m)	12.0	-1.5	-1.5	-1.5	12.0	-1.5
Detector 1 Size(m)	5.0	9.0	9.0	9.0	5.0	9.0
Detector 1 Type	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
Detector 1 Queue (s)	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
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Detector Phase	2	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	16.0	16.0	16.0	16.0	16.0	16.0
Minimum Split (s)	22.0	22.0	22.0	22.0	22.0	22.0

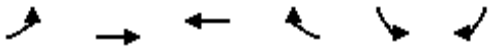


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Split (s)	46.0	46.0	46.0	46.0	34.0	34.0
Total Split (%)	57.5%	57.5%	57.5%	57.5%	42.5%	42.5%
Maximum Green (s)	40.0	40.0	40.0	40.0	28.0	28.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	41.0	41.0	41.0	41.0	29.0	29.0
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.36	0.36
v/c Ratio	0.17	0.13	0.17	0.03	0.12	0.11
Control Delay	11.3	10.6	8.9	2.8	17.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	10.6	8.9	2.8	17.7	5.3
LOS	B	B	A	A	B	A
Approach Delay		10.9	8.0		12.0	
Approach LOS		B	A		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.17			
Intersection Signal Delay: 10.2		Intersection LOS: B	
Intersection Capacity Utilization 52.5%		ICU Level of Service A	
Analysis Period (min) 15			

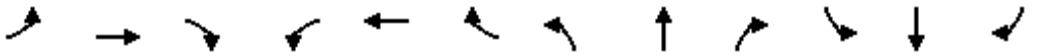
Splits and Phases: 7030: Queens Quay & Yonge St.





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	105	123	161	25	77	66
v/c Ratio	0.17	0.13	0.17	0.03	0.12	0.11
Control Delay	11.3	10.6	8.9	2.8	17.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	10.6	8.9	2.8	17.7	5.3
Queue Length 50th (m)	8.0	9.2	12.1	0.3	7.6	0.0
Queue Length 95th (m)	16.2	17.4	13.5	0.1	16.4	7.4
Internal Link Dist (m)		165.2	121.2		104.1	
Turn Bay Length (m)	30.0			30.0		
Base Capacity (vph)	630	962	962	830	647	620
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.13	0.17	0.03	0.12	0.11

Intersection Summary

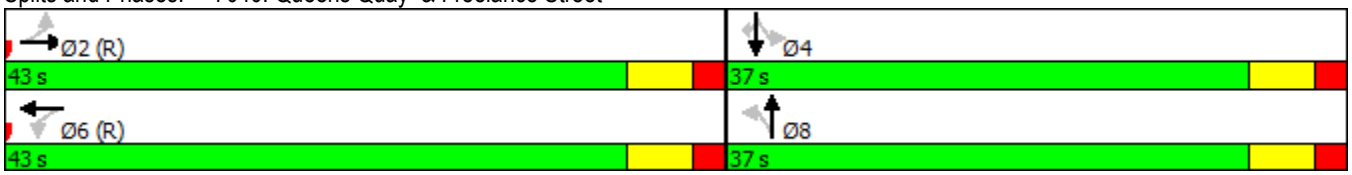


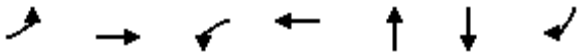
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	162	0	13	124	9	1	0	1	81	61	52
Future Volume (vph)	27	162	0	13	124	9	1	0	1	81	61	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		0.0	0.0		30.0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (m)	15.0			15.0			15.0			15.0		
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	0.86			0.93	0.99			0.87			0.89	0.90
Frt					0.990			0.932				0.850
Flt Protected	0.950			0.950				0.976			0.972	
Satd. Flow (prot)	1566	1773	0	1785	1744	0	0	1533	0	0	1816	1566
Flt Permitted	0.668			0.649				0.890			0.823	
Satd. Flow (perm)	949	1773	0	1135	1744	0	0	1352	0	0	1371	1412
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			41				55
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		145.2			97.8			84.3			101.8	
Travel Time (s)		10.5			7.0			6.1			7.3	
Confl. Peds. (#/hr)	67		35	35		67	32		76	76		32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	6%	0%	0%	5%	11%	0%	2%	0%	1%	0%	2%
Adj. Flow (vph)	28	171	0	14	131	9	1	0	1	85	64	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	171	0	14	140	0	0	2	0	0	149	55
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)		3.5			3.5			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	17.0	7.5		17.0	7.5		7.5	7.5		7.5	7.5	7.5
Trailing Detector (m)	12.0	-1.5		12.0	-1.5		-0.2	-1.5		-0.2	-1.5	-1.5
Detector 1 Position(m)	12.0	-1.5		12.0	-1.5		12.0	-1.5		12.0	-1.5	-1.5
Detector 1 Size(m)	5.0	9.0		5.0	9.0		5.0	9.0		5.0	9.0	9.0
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Detector Phase	2	2		6	6		8	8		4	4	4
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	22.0
Total Split (s)	43.0	43.0		43.0	43.0		37.0	37.0		37.0	37.0	37.0
Total Split (%)	53.8%	53.8%		53.8%	53.8%		46.3%	46.3%		46.3%	46.3%	46.3%
Maximum Green (s)	37.0	37.0		37.0	37.0		31.0	31.0		31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0			-1.0	-1.0
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	None
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	0
Act Effct Green (s)	55.0	55.0		55.0	55.0			15.0			15.0	15.0
Actuated g/C Ratio	0.69	0.69		0.69	0.69			0.19			0.19	0.19
v/c Ratio	0.04	0.14		0.02	0.12			0.01			0.58	0.18
Control Delay	5.0	5.0		5.5	5.2			0.0			38.0	8.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	5.0	5.0		5.5	5.2			0.0			38.0	8.7
LOS	A	A		A	A			A			D	A
Approach Delay		5.0			5.2						30.1	
Approach LOS		A			A						C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 49.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 7040: Queens Quay & Freelance Street





Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	28	171	14	140	2	149	55
v/c Ratio	0.04	0.14	0.02	0.12	0.01	0.58	0.18
Control Delay	5.0	5.0	5.5	5.2	0.0	38.0	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.0	5.0	5.5	5.2	0.0	38.0	8.7
Queue Length 50th (m)	1.0	10.6	0.6	5.8	0.0	20.9	0.0
Queue Length 95th (m)	5.1	19.4	2.8	14.6	0.0	35.2	8.0
Internal Link Dist (m)		121.2		73.8	60.3	77.8	
Turn Bay Length (m)	30.0		30.0				30.0
Base Capacity (vph)	652	1219	780	1201	565	548	597
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.14	0.02	0.12	0.00	0.27	0.09

Intersection Summary