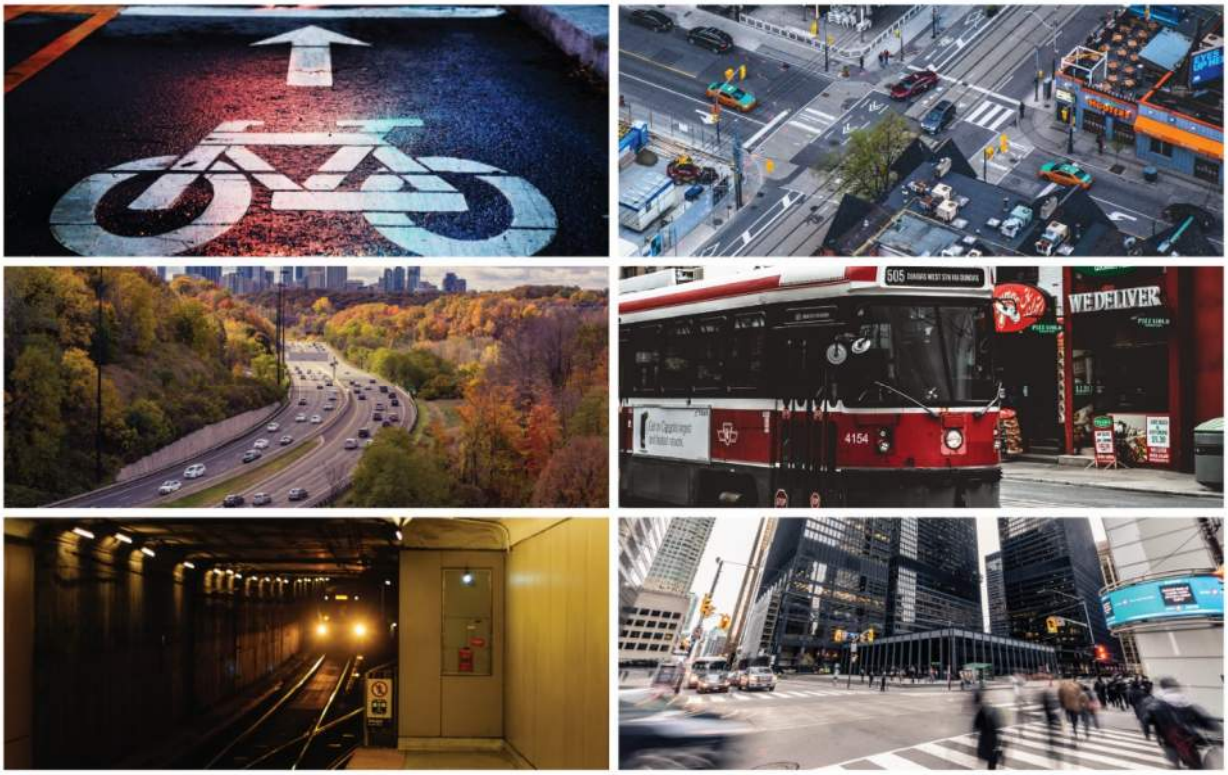
221 STERLING ROAD HOLDINGS INC.

221-227 STERLING ROAD

TRANSPORTATION IMPACT STUDY

April 30, 2021



221-227 STERLING ROAD DEVELOPMENT

TRANSPORTATION IMPACT STUDY

221 STERLING ROAD HOLDINGS INC.

PROJECT NO.: 20M-01299-00 T01
DATE: APRIL 30, 2021

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April 30, 2021

221 STERLING ROAD HOLDINGS INC.
Mr. Barry Stern
Vice President - Development
50 Confederation Parkway, Concord, ON L4K 4T8

Subject: Transportation Impact Study – 221 – 227 Sterling Road

WSP Canada Inc. (WSP) is pleased to present the findings of our Transportation Impact Study (TIS) for the proposed development located at 221 – 227 Sterling Road in the City of Toronto.

Based on the enclosed study findings, it is expected that the proposed development can be readily accommodated by the study area transportation network. The proposed auto, bicycle and loading arrangements will also adequately serve the needs of the subject development.

We thank you for the opportunity to undertake this study. Please do not hesitate to contact us if you have any questions or comments.

Sincerely,

WSP Canada Inc.

Peter Yu, P.Eng., PMP
Project Manager
Transportation
Planning and
Advisory Services

WSP ref.: 20M-01299-00 T01

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APPENDICES

1 INTRODUCTION

WSP was retained by 221 Sterling Road Holdings Inc. to prepare a Transportation Impact Study (TIS) for the 221-227 Sterling Road Development in the City of Toronto. The site location and study area are shown in **Figure 1-1**.

The proposed development features 892 residential units. The site plan is shown in **Figure 1-2.** The proposed vehicular accesses are onto the proposed extension of Ruttan Street to connect to Sterling Road. The extension of Ruttan Street will be discussed in greater detail in Sections 4 and 6.

The main objective of this study is to evaluate the traffic impacts of the redevelopment on the study area transportation network and to ensure the proposed parking and loading arrangements are adequate.

A Terms of Reference was sent to the City of Toronto transportation staff prior to commencing the TIS and is documented in **Appendix A.** Our study approach and findings are documented herein.

wsp

Figure 1-1

Site Location

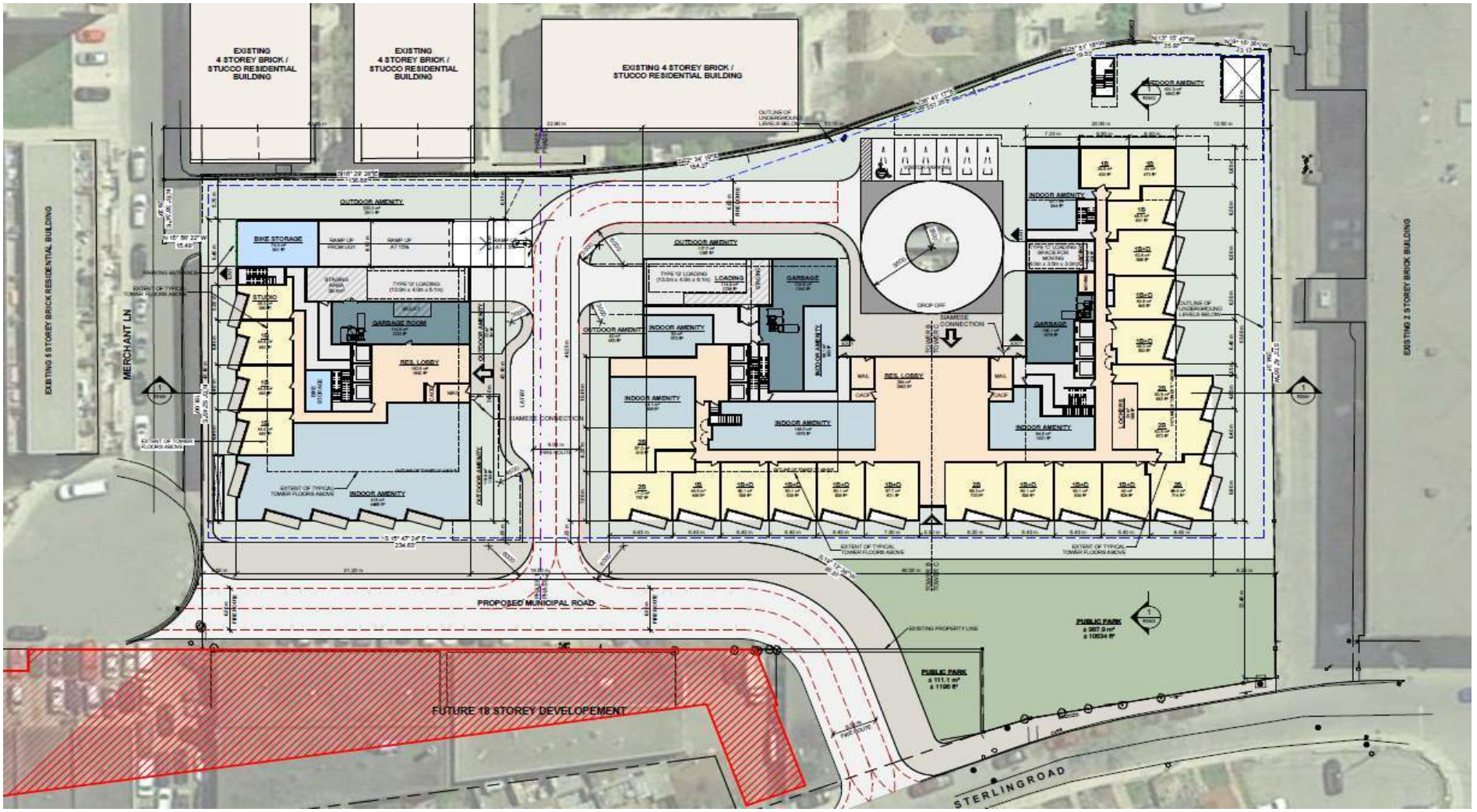


Figure 1-2

Site Plan

2 EXISTING CONDITIONS

This section of our assessment describes the existing road network and traffic conditions within the study area. Currently, Bloor Street West is undergoing construction for the Bloor Bikeway Extension project (herein referred to as the Bloor Bikeway project), reducing the cross-section from four lanes to two lanes as a result of the implementation of cycling facilities along the corridor. For the purpose of this assessment, two existing conditions scenarios were assessed.

The first scenario comprises of assessing turning movement counts collected along Bloor Street West prior to the implementation of the Bloor Bikeway Extension, which began in 2020. These traffic counts range from 2017 to 2018.

The second scenario involves assessing the study intersections along Bloor Street West after the implementation of the Bloor Bikeway project. By way of background, WSP was retained by the City of Toronto staff in 2020 to conduct the post-Bloor Bikeway project traffic assessment and forecast. Therefore, for consistency, the forecast turning movement counts developed by WSP for study intersections along Bloor Street have been adopted as the basis of this scenario. This post- Bloor Bikeway project scenario is the primary focus of the study and will be the basis of the future background and future total evaluations since the implementation of the active transportation improvement is already underway. An image of the latest configuration along Bloor Street West in the vicinity of the subject development at Bloor Street West and Ruttan Street is shown below (looking west along Bloor Street W).

2.1 BOUNDARY ROADWAYS

The following roadways make up the boundary road network that surrounds the subject site:

Bloor Street West, which is located north of the site, is an east-west arterial road with a posted speed limit of 40 km/h. Prior to the implementation of the bikeway, Bloor has a four-lane cross-section, with two lanes in each direction. On-street parking is prohibited on both sides at all times.

After the implementation of the bikeway initiative by the City, Bloor Street will have a two-lane cross-section, with one lane in each direction. In the vicinity of the site, from 7 a.m. to 6 p.m., no eastbound left turn movements are permitted at the intersections with Dundas Street West and Lansdowne Avenue. Furthermore, no eastbound right turn and westbound left movements are permitted at the intersection with Lansdowne Avenue from 7 a.m. to 6 p.m. These movement restrictions are accounted for in the assessment of the future traffic conditions.

Dundas Street West, which is located west of the site, is a north-south arterial road with a posted speed limit of 40 km/h. Dundas Street West has a four-lane cross-section, with two lanes in the south direction, and direction.

Lansdowne Avenue, which is located east of the site, is a north-south arterial road with a speed limit of 40 km/h. Lansdowne Avenue has a two-lane cross-section, with one lane in each direction.

Sterling Road / Symington Avenue, which directly borders the site to the west, is a local road that has a one-lane cross-section south of Bloor Street, as it is a one-way direction. North of Bloor Street West, Sterling Road becomes Symington Avenue, which does not align with the south leg. Symington Avenue has a two-lane cross-section, and a speed limit of 40 km/h, whereas Sterling Road has a posted speed limit of 30 km/h.

Perth Avenue, which is located east of the site, is a predominately north-south local road, with a two-lane cross-section and a speed limit of 30 km/h in the vicinity of the site.

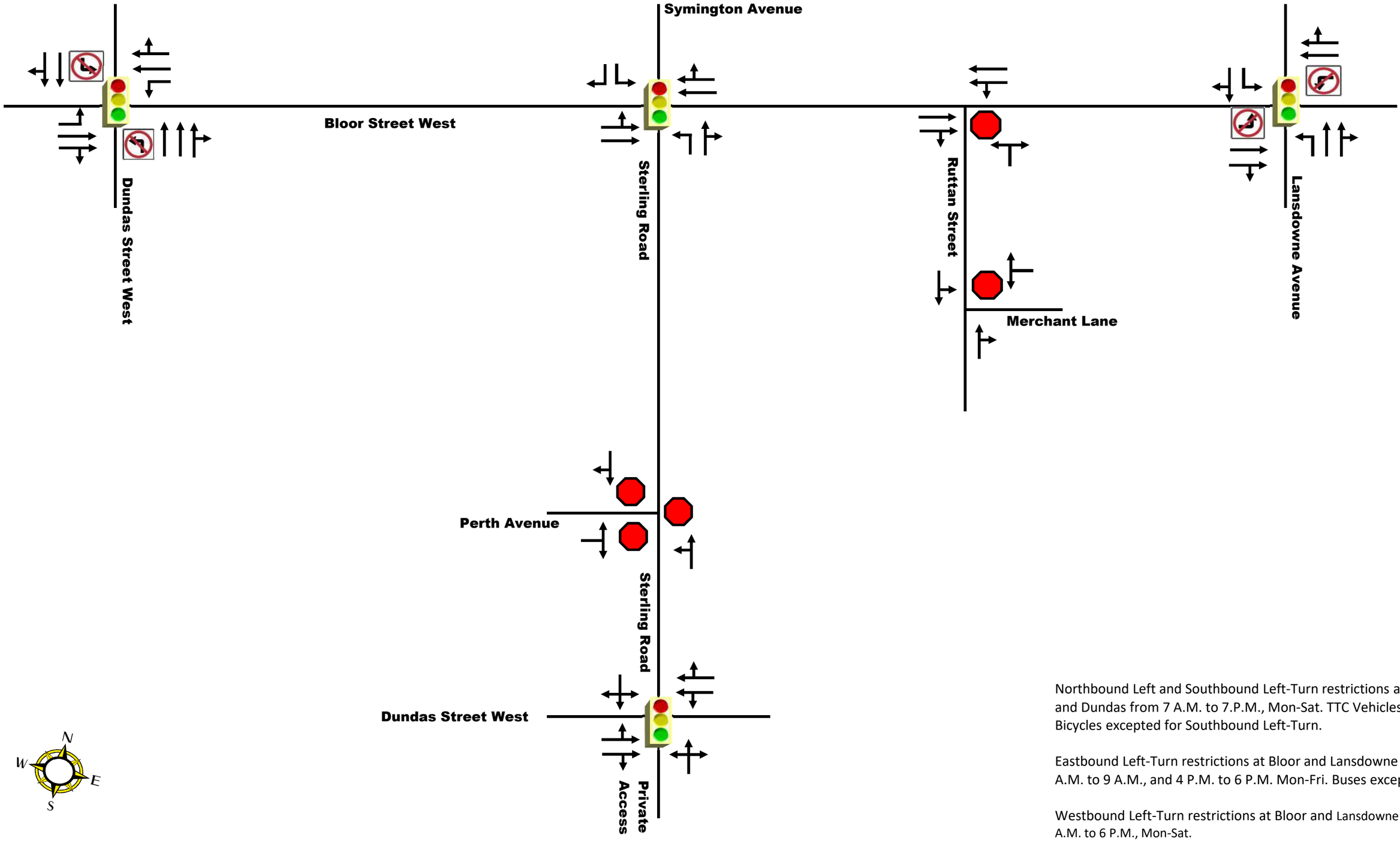
Ruttan Street, which is located west of the site, is a north-south local road with a two-lane cross-section and terminates today as a cul-de-sac near Merchant Lane. As part of the redevelopment proposal, Ruttan Street is proposed to be extended south from the cul-de-sac to connect to Sterling Road. Details of this initiative are provided in Section 4.

Merchant Lane, which is located north of the site, is an east-west private driveway that serves the residential uses north-east of the subject site.

Based on the subject site location and magnitude of redevelopment, the following study intersections have been evaluated in this TIS:

- Sterling Road / Symington Avenue at Bloor Street West (signalized);
- Dundas Street West at Bloor Street West (signalized);
- Lansdowne Avenue at Bloor Street West (signalized);
- Dundas Street West at Sterling Road (signalized);
- Ruttan Street at Bloor Street West (unsignalized);
- Ruttan Street at Merchant Lane (unsignalized); and
- Sterling Road at Perth Avenue (unsignalized).

The existing lane configurations at the study intersections prior to the implementation of the Bloor Bikeway Extension are illustrated in **Figure 2-1**. The lane configurations after the implementation of the Bloor Bikeway project are illustrated in **Figure 2-2**. The Bloor Bikeway project reduces the number of vehicular travel lanes from 4 lanes along Bloor to 2 lanes (1 lane in each direction).



Northbound Left and Southbound Left-Turn restrictions at Bloor and Dundas from 7 A.M. to 7.P.M., Mon-Sat. TTC Vehicles and Bicycles excepted for Southbound Left-Turn.

Eastbound Left-Turn restrictions at Bloor and Lansdowne from 7 A.M. to 9 A.M., and 4 P.M. to 6 P.M. Mon-Fri. Buses excepted.

Westbound Left-Turn restrictions at Bloor and Lansdowne from 7 A.M. to 6 P.M., Mon-Sat.

Legend

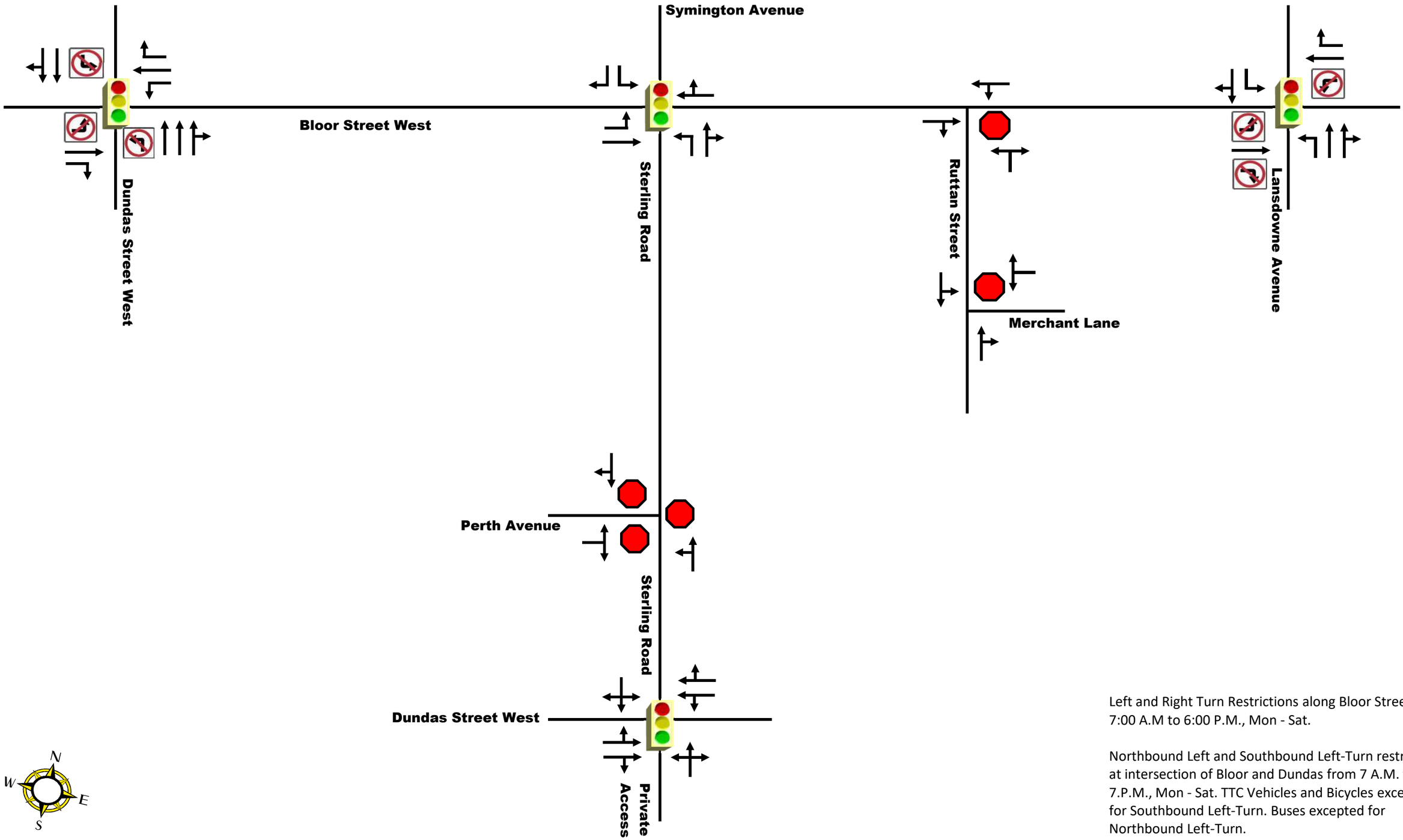
Stop Control

Signalized Intersection

Left-Turn Restrictions

Figure 2-1

Existing Lane Configurations Prior to Bloor Bikeway Extension



Left and Right Turn Restrictions along Bloor Street from 7:00 A.M to 6:00 P.M., Mon - Sat.

Northbound Left and Southbound Left-Turn restrictions at intersection of Bloor and Dundas from 7 A.M. to 7.P.M., Mon - Sat. TTC Vehicles and Bicycles excepted for Southbound Left-Turn. Buses excepted for Northbound Left-Turn.

wsp

Legend

Stop Control

Signalized Intersection

Left and Right Turn Restrictions

Figure 2-2

Existing Lane Configurations after Bloor Bikeway Extension

2.2 EXISTING TRANSIT SERVICES

The site is situated in an area that is very well-served by the following Toronto Transit Commission (TTC) routes, resulting in a transit score of 99 out of 100. In addition, the site is within close proximity (350 m) to regional transit via the Bloor GO / UP Express Station.

- The **2 Bloor-Danforth** subway route runs in a general east-west direction along Bloor Street West, Bloor Street East, and Danforth Avenue. It operates from the western area of Dundas Street West and Kipling Avenue, east to the area of Bloor Street and Yonge Street in downtown Toronto and continues east to the area of Eglinton Avenue East and Kennedy Road. Line 1 connects with Line 2 at Bloor-Yonge, St George and Spadina stations, and it connects with Line 3 at Kennedy Station. The **subject site is located within 520m and 630m of the Lansdowne and Dundas West stations, respectively, which makes the site very accessible to higher-order transit**.
- The **506 Carlton** streetcar route operates between Main Street Station on the Bloor-Danforth Subway and High Park Loop, generally in an east-west direction. It also serves the College and Queen's Park Stations on the Yonge-University-Spadina Subway. Both Main Street and Queen's Park Stations are accessible subway stations. The route is part of the 10 Minute Network, and operates 10 minutes or better, all day, every day.
- The **504 King** streetcar route operates between Dundas West Station and Broadview Station on Line 2 Bloor-Danforth, generally in an east-west direction. It also serves the St Andrew and King stations on Line 1 Yonge-University. Dundas West, St. Andrew, and Broadview stations are accessible. Two services, 504A and 504B branches operates at all times, seven days a week.
- The **505 Dundas** streetcar route operates between Dundas West Station and Broadview Station on the Bloor-Danforth Subway, generally in an east-west direction. It also serves the St. Patrick and Dundas Stations on the Yonge-University-Spadina Subway. Dundas West, Dundas and Broadview Stations are all accessible subway stations. One single service is operated, the 505 (Dundas West Station-Broadview Station) branch operates at all times, seven days a week.
- The **168 Symington** bus route operates between Dundas West Station on the Bloor-Danforth Subway and the area of Rogers Road and Weston Road, generally in a north-south direction. Dundas West Station is an accessible subway station. Bike racks are available on this route. This route operates seven days a week.

Table 2-1 summarizes the above-noted transit services, along with their posted headways throughout the service period. It should be noted that the headways shown are for each direction of travel. A map of the above transit routes is shown in **Figure 2-3**.

Table 2-1: Existing Transit Services within the Study Area

Route	Transit Service Operating Headways			
	A.M. Peak	Weekday Midday	P.M. Peak	Weekday Night
168 Symington	5 minutes	10 minutes	7 minutes	10 minutes
506 Carlton	4 minutes	6 minutes	6 minutes	8 minutes
2 Bloor-Danforth	2 minutes	3 minutes	3 minutes	4 minutes
504 King	4 minutes	4 minutes	4 minutes	4 minutes
505 Dundas	7 minutes	7 minutes	7 minutes	9 minutes

Legend

S Site Location

Figure 2-3

Existing Transit Services

2.3 TRAFFIC DATA

2.3.1 DATA PRIOR TO BLOOR BIKEWAY EXTENSION

Table 2-2 summarizes the turning movement counts (TMC) collected for this study, as well as the source and date of the counts. Traffic data was collected during the weekday a.m. and p.m. peak periods prior to the implementation of the Bloor Bikeway Extension. Details of the turning movement counts are provided in **Appendix B**.

Table 2-2: Traffic Data Information Prior to Bloor Bikeway Extension

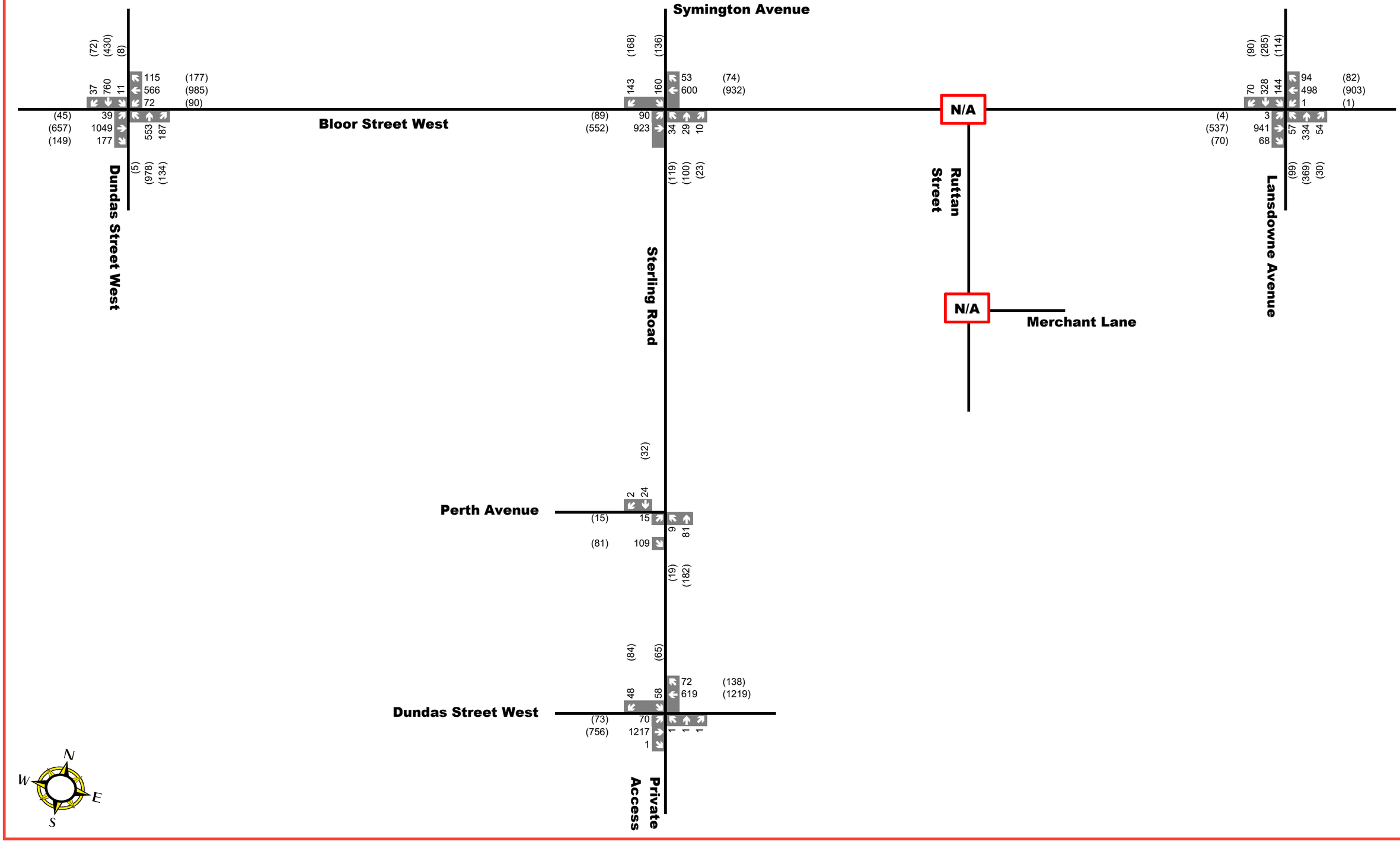
Intersections	Date of the count	Source
Sterling Road / Symington Avenue at Bloor Street West	November 9, 2017	BA Group Report, 72 Perth Avenue, 2018
Dundas Street West and Bloor Street West	November 9, 2017	BA Group Report, 1515 Bloor Street West, 2018
Lansdowne Avenue and Bloor Street West	November 9, 2017	BA Group Report, 1515 Bloor Street West, 2018
Dundas Street West and Sterling Road	November 18, 2018	City of Toronto TMC
Sterling Road and Perth Avenue	May 10, 2018	BA Group Report, 72 Perth Avenue, 2018
Merchant Lane and Ruttan Street	--	Volumes generated for existing residential units along Merchant Lane based on 1405 Bloor Street West 2020 LEA Report trip generation rates
Bloor Street West and Ruttan Street	--	Trips generated based on ITE 10th Edition Land Use Code 820-Retail

It should be noted that due to the impact of the COVID-19 pandemic, current traffic patterns would be atypical. Therefore, all of the turning movement counts are either historical or derived from first principle. Historical counts were collected from sources including background development reports and the City of Toronto.

As noted in the table above, all of the intersections along Bloor Street, with the exception of the intersection of Bloor Street West / Ruttan Street, had their TMCs conducted prior to the installation of the Bloor Bikeway Extension, which commenced during the summer of 2020. Therefore, these TMCs would not be reflective of current conditions, given the reduction in lanes along Bloor Street West impacting vehicular traffic.

The turning movement counts collected prior to the Bloor Bikeway extension were assessed separately in this study as a scenario to understand the operations relative to the current conditions with the Bloor Bikeway in place. For the purposes of this existing conditions scenario, the historical turning movement counts from 2017 and 2018 were not grown to 2021 since traffic in the downtown environment has stabilized along many arterial roads.

The existing traffic volumes counted prior to the installation of the Bloor Bikeway Extension project are presented in **Figure 2-4**.



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W
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Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-4

Existing Traffic Volumes Prior to Bloor Bikeway Extension

2.3.2 VOLUMES AFTER BLOOR BIKEWAY EXTENSION

As discussed earlier, the second existing conditions scenario involves the post Bloor Bikeway Extension Project along Bloor Street West in the vicinity of the site. WSP had assisted the City in preparing signal timing plans and projected traffic volumes for intersections along Bloor Street West impacted by the Bloor Bikeway Extension Project, which were accepted by City staff in the summer of 2020. These signal timings, volumes, and lane configurations have been applied in this study.

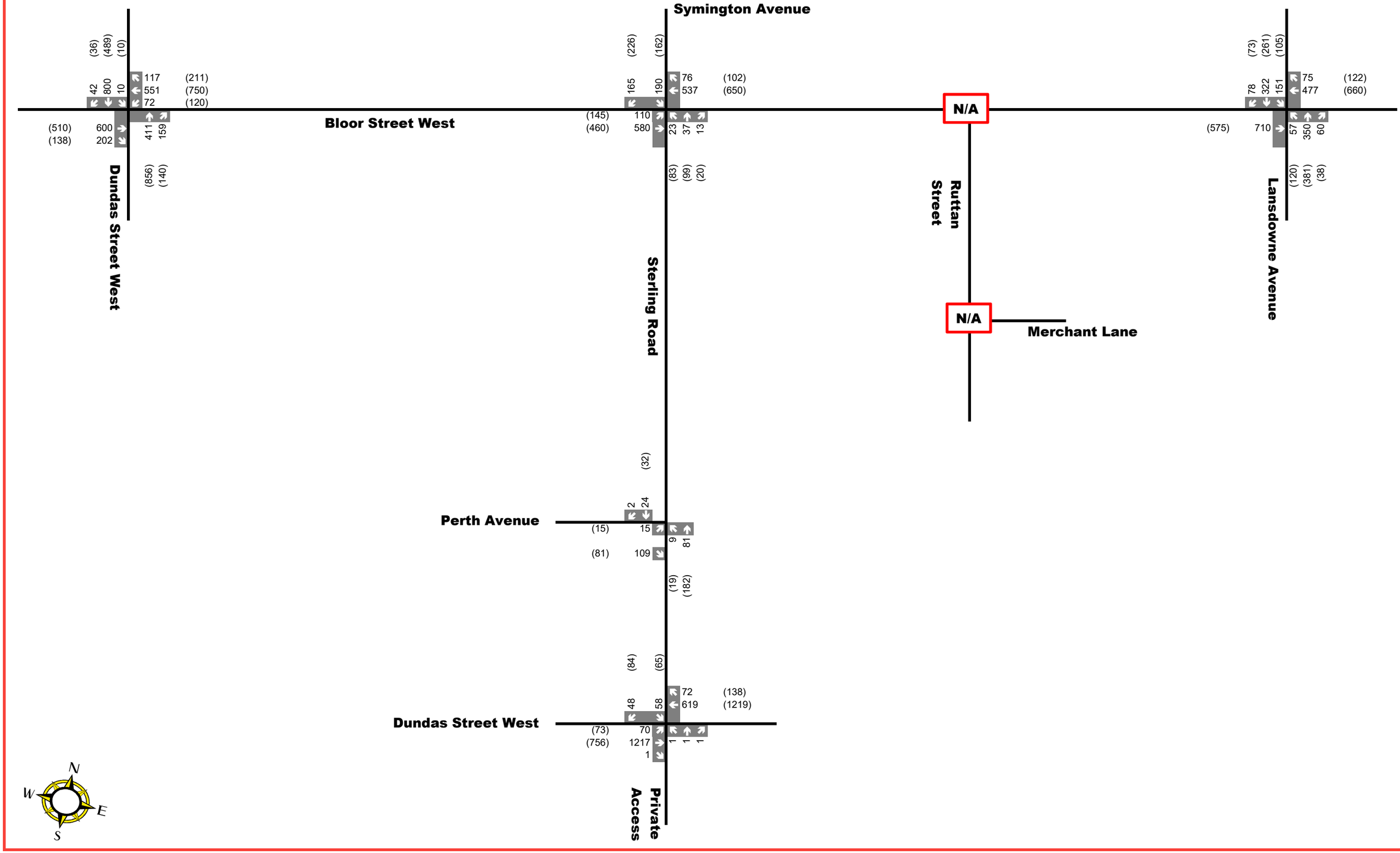
As part of the Bloor Bikeway Extension project, the City provided calibrated Synchro models along Bloor Street, which is the basis of the future background and future total conditions assessment in this study. For information and data regarding the Bloor Bikeway Extension Synchro volumes and lane configurations, please refer to **Appendix B**.

Table 2-3 summarizes the TMCs for the signalized intersections along Bloor Street West during the weekday a.m. and p.m. peak periods, after to the implementation of the Bloor Bikeway Extension.

Table 2-3: Traffic Data Information after Bloor Bikeway Extension

Intersections	Source
Sterling Road / Symington Avenue at Bloor Street West	WSP Canada Inc., Bloor Bikeway Extension Project, 2020
Dundas Street West and Bloor Street West	WSP Canada Inc., Bloor Extension Bikeway Project, 2020
Lansdowne Avenue and Bloor Street West	WSP Canada Inc., Bloor Extension Bikeway Project, 2020
Dundas Street West and Sterling Road	November 18, 2018 City of Toronto TMC
Sterling Road and Perth Avenue	May 10, 2018, BA Group Report, 72 Perth Avenue
Merchant Lane and Ruttan Street	Volumes generated for existing residential uses based on 1405 Bloor Street West 2020 LEA Report trip generation rates plus ITE 10th Edition Land Use Code 820-Retail for existing retail uses on site (discussed in Section 2.3.3)
Bloor Street West and Ruttan Street	Volumes generated for existing residential uses based on 1405 Bloor Street West 2020 LEA Report trip generation rates plus ITE 10th Edition Land Use Code 820-Retail for existing retail uses on site (discussed in Section 2.3.3); and balanced volumes along Bloor from upstream intersection of Bloor Street West/Symington Avenue

The post Bloor Bikeway Extension traffic volumes are illustrated in **Figure 2-5**.



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-5

Post-Bloor Bikeway Extension Traffic Volumes

2.3.3 TRIP GENERATION OF EXISTING SITE AND SURROUNDING USES

For the intersections of Merchant Lane / Ruttan Street, and Bloor Street West / Ruttan Street, no historical turning movement counts are available. The peak hour traffic volumes were derived at these two unsignalized intersections from first principles based on the land uses that the two intersections serve. Trip generation was conducted for the various land uses served by these two intersections.

Information on the existing retail uses currently on site were provided by the client, and ITE 10th Edition Land Use Code 820 – Retail average trip generation rates were applied to the retail Gross Floor Area (GFA).

To estimate the vehicle trips generated by the existing residential uses that rely on Ruttan Street for vehicular access, the local residential trip generation rates from the September 2020 LEA Consulting Ltd. TIS for the 1405-1490A Bloor Street West development were applied for residential trip generation in this study. This report was selected since the average residential trip generation rates were derived from proxy site surveys for residential developments in the downtown transit-rich context. These rates would adequately represent the modal split characteristics of downtown developments, which have access to various transit, pedestrian, and cycling options.

The trip generation rates applied for the existing retail uses onsite and the surrounding residential uses are presented in **Table 2-4**. Based on the detailed review of the surrounding land uses, there are 419 condo/townhouse units that rely on the intersection of Ruttan Street / Bloor Street West for vehicular access. The existing retail uses on site (61,000 sq.ft. GFA) will be displaced by the proposed development. The trip generation rates in the table below were applied to the respective land uses.

Table 2-4: Existing Site and Surrounding Residential Developments Trip Generation Rates

Use	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
	Auto Trips / Unit					
Multi-Unit Residential (Average Rate)	0.02	0.08	0.10	0.09	0.03	0.12
Retail (Average Rate)	Auto Trips / sq.ft. GFA					
	0.58	0.36	0.94	1.83	1.98	3.81

No non-auto reduction was applied to trip generation for the residential uses since the residential trip generation rates applied are already based on proxy surveys that account for modal split.

For the trip generation of the existing retail uses, the non-auto split derived from Transportation Tomorrow Survey (TTS) 2016 survey data for zones (105,106,107,114,115,116) were applied. The modal split in the study vicinity for retail uses are summarized in **Table 2-5**.

Table 2-5: Study Area Mode Split Characteristics - Retail

Primary Travel Mode	A.M. Peak Hour		P.M. Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Auto – Driver	49%	65%	21%	47%
Auto – Passenger	6%	26%	0%	8%
Transit	30%	0%	18%	24%
Walking and Cycling	15%	9%	61%	21%
Non-Auto Total	**45%**	**9%**	**79%**	**45%**

The calculation of the peak hour trips generated by the existing retail onsite and the surrounding residential uses are summarized in **Table 2-6**.

Table 2-6: Existing Residential and Retail Vehicle Trip Generation

Use	Trip Generation					
	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
Residential	8	34	42	38	13	51
Retail	20	20	40	23	67	90

Based on the results in the table above, the existing retail uses onsite is forecast to generate 40 and 90 two-way trips in the a.m. and p.m. peak hours, respectively. The neighbouring residential uses currently generate 42 and 51 two-way trips during the a.m. and p.m. peak hours, respectively.

2.3.4 TRIP DISTRIBUTION RETAIL AND RESIDENTIAL USES

The vehicle trips generated by the existing retail onsite and surrounding residential properties were distributed at the intersections of Bloor Street West / Ruttan Street and Merchant Lane / Ruttan Street. The distribution patterns were based on 2016 TTS data of the zones (105,106,107,114,115,116) for home-based and work-based trips. **Tables 2-7** and **2-8** outline the resulting trip distribution for residential and retail trips. The traffic assignment of the trips were developed based on the trip distribution information and the most logical path for vehicles to travel in order to minimize travel time and distance. The detailed TTS queries are provided in **Appendix G**.

Table 2-7: TTS Trip Distribution for the Study Area – Residential Use

Direction	A.M. Inbound	A.M. Outbound	P.M. Inbound	P.M. Outbound
Northwest	0%	0%	0%	0%
North	3%	10%	10%	4%
Northeast	0%	0%	0%	0%
East	0%	8%	7%	5%
Southeast	0%	0%	0%	0%
South	9%	41%	38%	21%
Southwest	0%	0%	0%	0%
West	88%	41%	45%	69%
Total	**100%**	**100%**	**100%**	**100%**

Table 2-8: TTS Trip Distribution for the Study Area – Retail Use

Direction	A.M. Inbound	A.M. Outbound	P.M. Inbound	P.M. Outbound
Northwest	0%	0%	0%	0%
North	21%	0%	6%	19%
Northeast	0%	0%	0%	0%
East	10%	61%	17%	12%
Southeast	0%	0%	0%	0%
South	9%	0%	0%	11%
Southwest	0%	0%	0%	0%
West	60%	39%	77%	59%
Total	**100%**	**100%**	**100%**	**100%**

Figure 2-6 illustrates the trips generated from the neighbouring residential uses that are served by Ruttan Street. **Figure 2-7** illustrates the trips generated by the existing retail uses onsite. It should be noted that the traffic volumes at the other intersections where historical volumes are available already account for the trips associated with the residential and retail uses served by Ruttan Street.

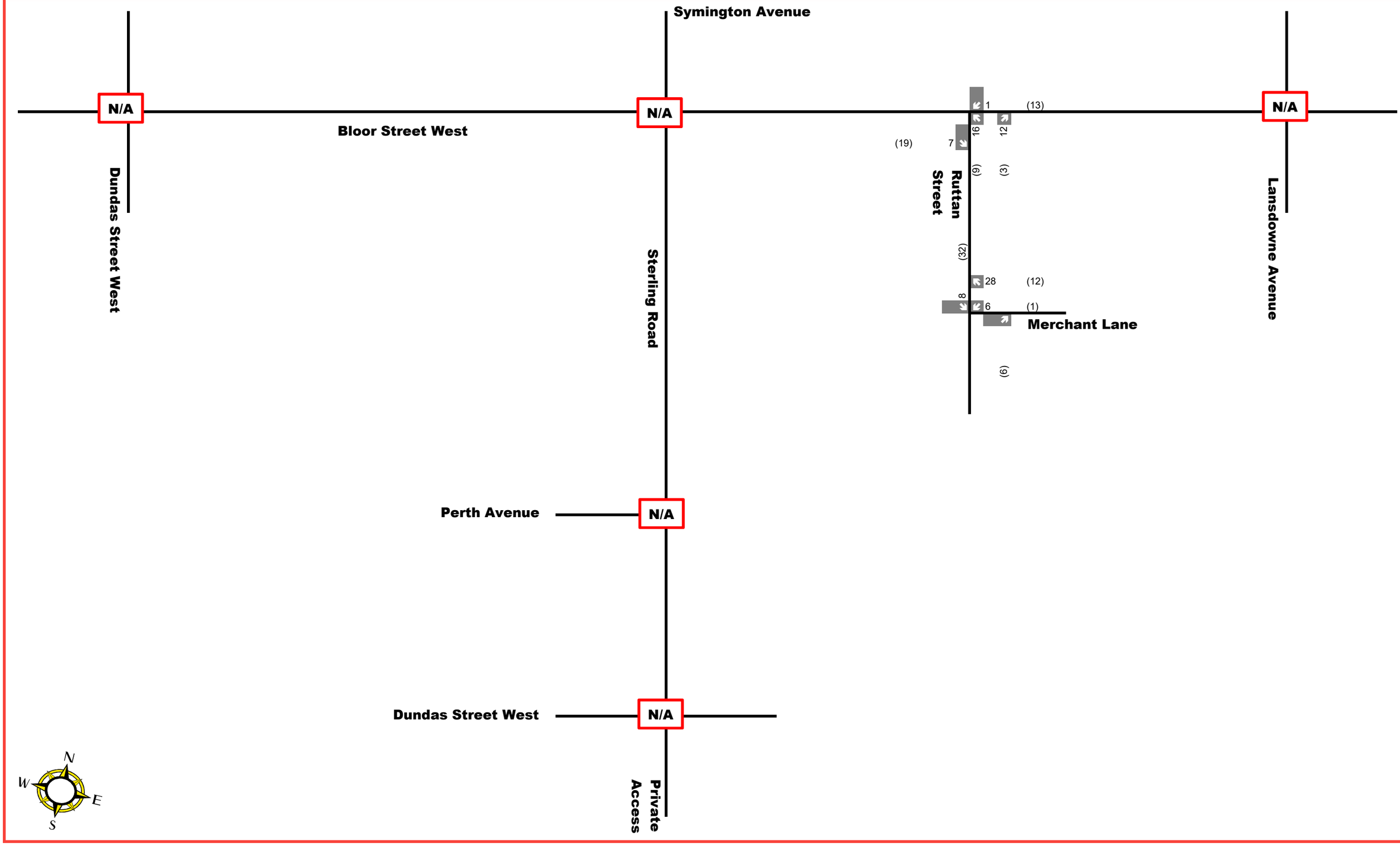
The eastbound and westbound through traffic volumes along Bloor Street West at the intersection of Bloor Street West / Ruttan Street were then balanced with the adjacent intersection of Bloor Street West / Symington Avenue.

2.3.5 EXISTING TRAFFIC VOLUMES

The existing traffic volumes prior to the Bloor Bikeway Extension were developed by superimposing the volumes in Figure 2-4 onto Figures 2-6 and 2-7. The resulting pre-Bloor Bikeway Extension weekday peak hour traffic volumes are shown in **Figure 2-8**.

The existing traffic volumes after the Bloor Bikeway Extension were developed by superimposing the volumes in Figure 2-5 onto Figures 2-6 and 2-7. The resulting post-Bloor Bikeway Extension weekday peak hour traffic volumes are shown in **Figure 2-9**.

These existing traffic volumes are the basis of the existing conditions assessment for the pre and post Bloor Bikeway Extension scenarios.



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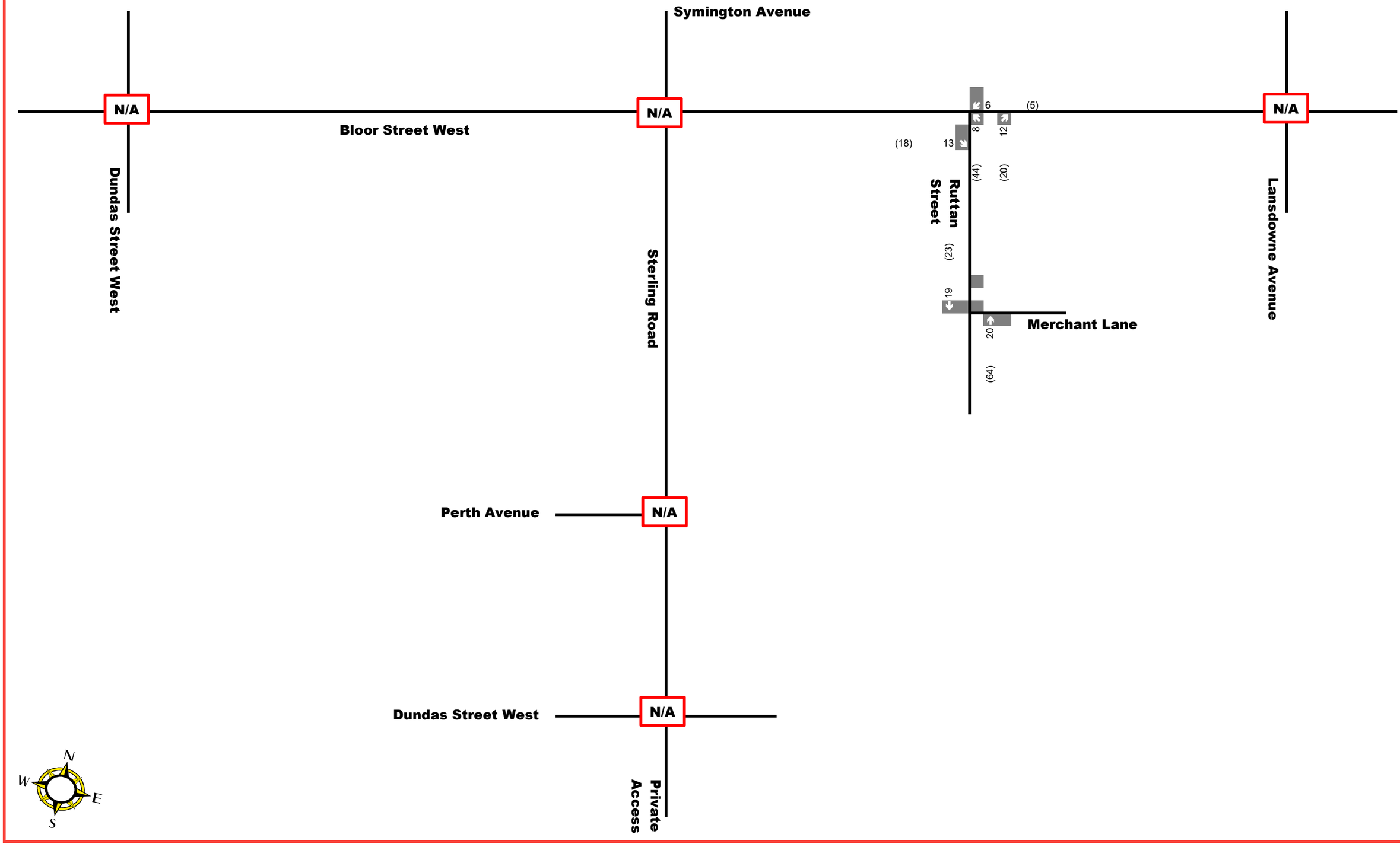
xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-6

Trips Generated from Neighbouring Residential Uses Served by Ruttan Street



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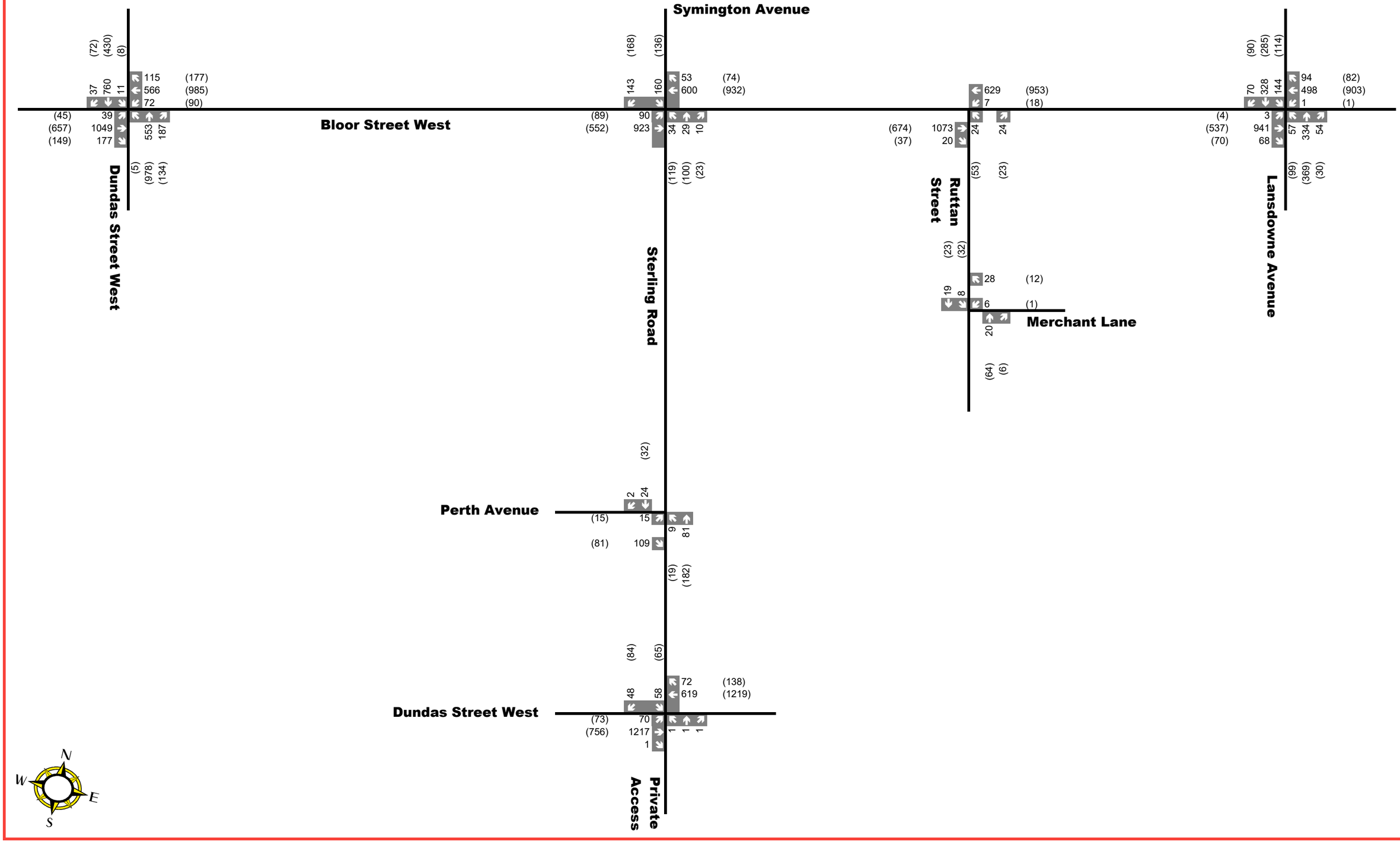
xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-7

Trips Generated by Existing Retail Uses Onsite



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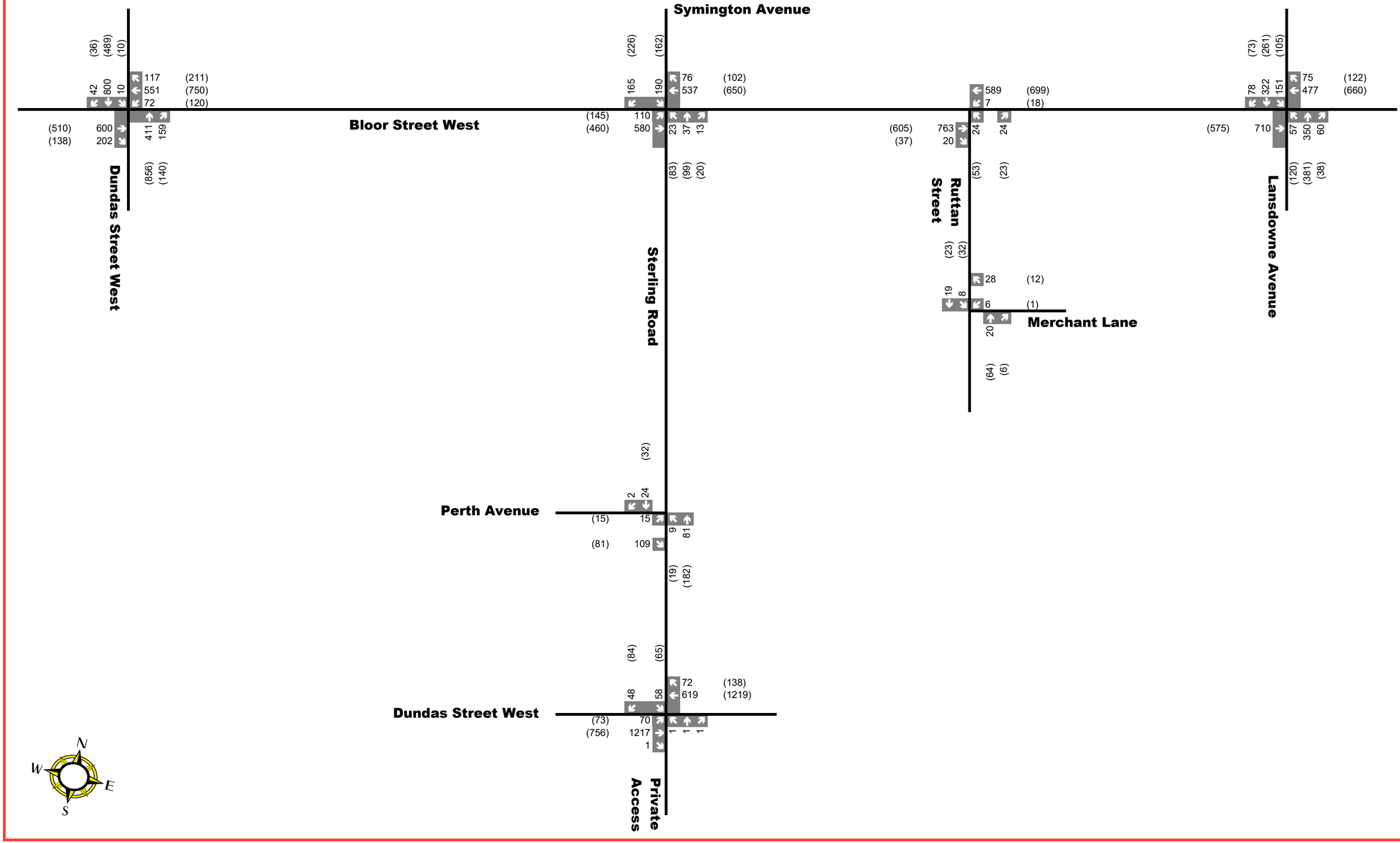
xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-8

Pre-Bloor Bikeway Extension Weekday Peak Hour Traffic Volumes



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xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 2-9

Post-Bloor Bikeway Extension Weekday Peak Hour Traffic Volumes

2.4 MODEL ASSUMPTIONS

In the pre-Bloor Bikeway scenario, the Synchro model was established based on the City of Toronto Synchro 9.0 Guidelines. The peak hour factors (PHF) for the intersections of Dundas/Bloor, Bloor/Symington, Lansdowne/Bloor, Dundas/Sterling and Sterling/Perth were calculated from the respective TMCs. Calculations for the PHF at these intersections are provided in **Appendix B**. At the intersections where the peak hour volumes had to be derived from first principles and balancing (Ruttan/Bloor and Merchant/Ruttan) the PHF applied are based on the recommendations from the City of Toronto Synchro 9.0 Guidelines (ranging from 0.90 to 0.95 depending on the movement and the period evaluated). In addition, a lost time of -1 second was applied at the signalized intersections. The pedestrian and heavy vehicle percentages have also been inputted to the Synchro model. Bus blockages have been incorporated as well.

For the Bloor Bikeway scenario, the PHF, lost time, pedestrian and bus blockage information of the signalized intersections along Bloor Street West are based on the City of Toronto's calibrated Synchro model (used for the Bloor Bikeway Extension Project). The calibration parameters applied at the other study intersections are consistent with those applied in the pre-Bloor Bikeway scenario as noted above.

2.5 EXISTING TRANSPORTATION CONDITIONS

2.5.1 AUTO

METHODOLOGY

To analyze existing traffic conditions in the study area, capacity analyses were undertaken using the Synchro 10 traffic analysis software. This software incorporates the methodology outlined in the Highway Capacity Manual (HCM), Transportation Research Board, 2000 and 2010. The signal timing plans for the study intersections were acquired from various background development studies and are provided in **Appendix B**.

An intersection capacity analysis provides an indication of traffic operations based on calculations of volume-to-capacity (v/c) and delays for individual movements at an intersection. Level of Service (LOS) denoted by letters 'A' through 'D', represent satisfactory traffic operations. LOS denoted by the letters 'E' and 'F' represent congested traffic operations. **Appendix C** provides the LOS definitions according to the HCM 2000 methodology.

EXISTING TRAFFIC CONDITIONS

Traffic operations were analyzed at the study intersections to understand the existing LOS during the weekday a.m. and p.m. peak hours for the two scenarios (before and after the Bloor Bikeway Extension volumes as shown in Figures 2-8 and 2-9). The results of the existing conditions assessment for both scenarios are summarized in **Tables 2-9** and **2-10.** Detailed Synchro worksheets for conditions before the bikeway are provided in **Appendix D-1**, and Synchro worksheets for conditions after the bikeway are provided in **Appendix D-2**.

Table 2-9: Existing Intersection Operations before Bloor Bikeway Extension

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)
Signalized Intersections				
Dundas Street West and Bloor Street West	C (24 sec)	-	C (24 sec)	-
Bloor Street West and Symington Avenue / Sterling Road	C (29 sec)	-	D (36 sec)	-
Lansdowne Avenue and Bloor Street West	C (22 sec)	-	C (24 sec)	-
Dundas Street West and Sterling Road / Private Access	A (8 sec)	-	A (10 sec)	-
Unsignalized Intersections				
Bloor Street West and Ruttan Street	C (23 sec)	NB-LR (0.22)	B (14 sec)	NB-LR (0.16)
Ruttan Street and Merchant Lane	A (9 sec)	WB-LR (0.04)	A (9 sec)	WB-LR (0.01)
Perth Avenue and Sterling Road	A (8 sec)	EB-LR (0.14)	A (9 sec)	NB-LT (0.27)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for movements with values over 0.90.

2 For stop controlled intersections, the level of service is based on the delay associated with the critical movement.

The results presented in **Table 2-9** indicate that all of the signalized study intersections operate at acceptable LOS 'D' or better under existing conditions before the implementation of the Bloor Bikeway, with no critical movements that operate near or at capacity.

With regards to the unsignalized study intersections, all of the critical movements operate at LOS 'C' or better during the a.m. and p.m. peak hours. Furthermore, all of the busiest movements operate well within capacity. The busiest unsignalized intersection of Bloor Street West and Ruttan Street serves the existing retail uses on sites (pre COVID-19) and the residential uses along Merchant Lane and Ruttan Street.

Table 2-10: Existing Intersection Operations after Bloor Bikeway Extension

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)
Signalized Intersections				
Dundas Street West and Bloor Street West	C (28 sec)	-	C (29 sec)	-
Bloor Street West and Symington Avenue / Sterling Road	C (30 sec)	-	D (40 sec)	WB-TR (0.97) NB-TR (0.92)
Lansdowne Avenue and Bloor Street West	C (31 sec)	-	D (35 sec)	SB-TR (0.92)
Dundas Street West and Sterling Road / Private Access	A (8 sec)	-	A (10 sec)	-
Unsignalized Intersections				
Bloor Street West and Ruttan Street	C (24 sec)	NB-LR (0.22)	C (24 sec)	NB-LR (0.30)
Ruttan Street and Merchant Lane	A (9 sec)	WB-LR (0.04)	A (9 sec)	WB-LR (0.01)
Perth Avenue and Sterling Road	A (8 sec)	EB-LR (0.14)	A (9 sec)	NB-LT (0.27)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for movements with values over 0.90.

2 For stop controlled intersections, the level of service is based on the delay associated with the critical movement.

The results presented in **Table 2-10** indicate that all of the signalized study intersections continue to operate at acceptable LOS 'D' or better under existing conditions after the implementation of the Bloor Bikeway extension. However, there are now some critical movements along Bloor Street at Symington Avenue/Sterling Road and Lansdowne Avenue in the p.m. peak hour. Since Bloor Street is narrowed from two to one in each in direction, the slight deterioration in intersection operations for the vehicular mode is not surprising given the shift in emphasis towards non-auto modes of transportation.

With regards to the existing unsignalized intersections, all of the intersections operate at LOS 'C' or better during the a.m. and p.m. peak hours, and there is no movement that is near or at capacity.

2.5.2 PEDESTRIANS

The following pedestrian facilities were analyzed because they are expected to be the sidewalks with the highest pedestrian volumes and will be used by pedestrian trips generated by the proposed redevelopment.

- the sidewalk along the south side of Bloor Street West; and
- the sidewalk along the east side of Sterling Road/Symington Avenue.

METHODOLOGY

The assessment of the pedestrian facilities is carried out using the HCM6 methodology. The HCM6 methodology involves the analysis of the pedestrian delays at intersections, the perceived width and flow rate of the sidewalk, as well as other factors such as distance to crossing locations and sidewalk pinch points. For example, the HCM6 has two separate methodologies for evaluating signalized and unsignalized intersections. The signalized intersections are evaluated based on both the time (delay) and space (geometric) characteristics of the intersection, while the unsignalized intersections are evaluated based on the time (delay) characteristics only.

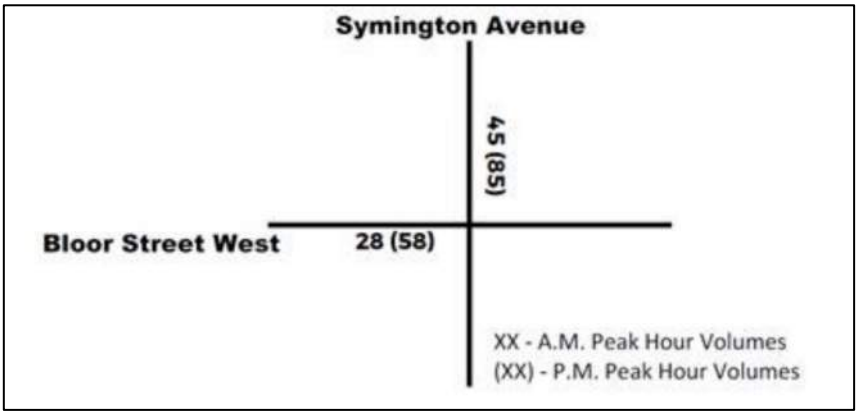
The intersection analysis findings are then combined with a pedestrian link analysis between the intersections. This measures the average flow along the pedestrian link and compares it to the perceived width, proximity to vehicles, obstructions in the path of travel and other pedestrian realm characteristics. The link analysis generates a pedestrian level of service score, which is then attributed to a letter grade from 'A' to 'F', representing the best and worst spectrum of performance, respectively.

EXISTING PEDESTRIAN LEVEL-OF-SERVICE

The existing pedestrian analysis findings for the Bloor Street West and Sterling Road/Symington Avenue pedestrian facilities in the vicinity of the site are summarized in **Table 2-11**. The existing pedestrian volumes in the vicinity of the subject site were based on the turning movement counts at the intersection of Bloor Street West and Sterling Road/Symington Avenue and shown in the image below. The definitions for the pedestrian LOS and the detailed pedestrian intersection analyses are provided in **Appendix E.**

Table 2-11: Existing Pedestrian Conditions

Segment	AM Peak Hour	PM Peak Hour
Bloor Street West	LOS C	LOS C
Sterling Road / Symington Avenue	LOS B	LOS C



Based on the LOS noted above, the pedestrian facilities along Bloor Street West and Sterling Road/Symington Avenue in proximity to the proposed development are adequately accommodating the existing pedestrian volumes.

The cycle tracks in place along Bloor Street West greatly enhances the capacity and safety of cyclist along the arterial road. Given how recent this cycling initiative was evaluated and implemented by the City, further assessment of the cycling infrastructure in this report is not warranted.

2.5.3 TRANSIT

Existing ridership volumes for the representative transit routes in the study area were purchased from TTC, and provided in **Appendix B**. The most recent typical (pre-COVID-19) average passenger volumes at the stops in the vicinity of the redevelopment were obtained, and transit utilization rates were calculated based on the standard bus, streetcar and subway capacity. The existing transit ridership at the study stops are presented in **Table 2-12**, along with the resulting utilization.

Table 2-12: Existing Transit Ridership Utilization

Route	Capacity Per Transit Unit/hour	Direction	Weekday A.M. Peak Period		Weekday P.M. Peak Period	
			Average Hourly Ridership per transit route	Utilization	Average Hourly Ridership per transit route	Utilization
168 Symington	51	NB	11	21%	38	74%
	51	SB	41	80%	22	43%
506 Carlton	74	EB	12	16%	5	7%
	74	WB	3	4%	10	13%
2 Bloor-Danforth	1000	EB	430	43%	600	60%
	1000	WB	430	43%	600	60%

As shown in **Table 2-12**, all of the transit routes evaluated operate within the available capacity during the weekday a.m. and p.m. peak periods under existing conditions. It should be noted that for the 2 Bloor-Danforth line, the average ridership calculated in the respective peak hours was assumed for both directions on the route.

3 FUTURE BACKGROUND CONDITIONS

3.1 HORIZON YEAR

A horizon year of 2026 was assessed for the proposed development in this study. It is assumed that the development will be completed in one phase and by this horizon year.

3.2 BACKGROUND GENERAL TRAFFIC VOLUMES

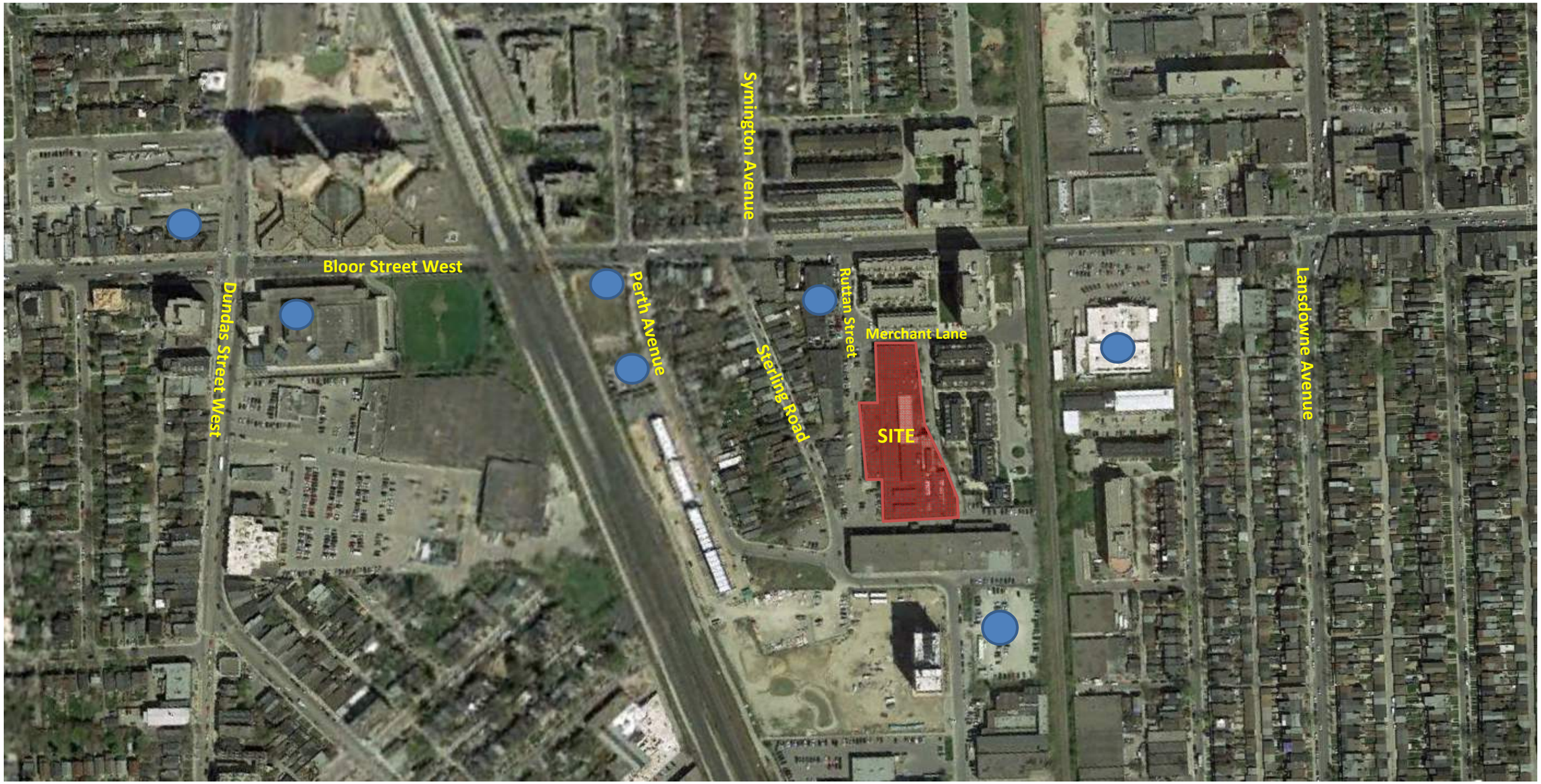
Consistent with other TIS' in the area, no general growth rate was applied along the boundary road network. This takes into consideration the fact that the implementation of the Bloor Bikeway will have a significant impact on the traffic flow along Bloor Street West and shift the emphasis to active transportation and transit instead. Given the lane reduction along the Bloor Street West corridor, it is anticipated that general traffic volumes along the Bloor Street West corridor will stabilize as observed in other parts of the downtown area. Instead of general growth, increase in the future background volume in the study area are being accounted for through the inclusion of the site traffic generated by the background developments as noted in the following section.

3.3 BACKGROUND DEVELOPMENTS

Based on our review of the City's development application website, seven background developments have been included as part of this TIS. Details of these background developments are summarized in **Table 3-1**. **Figure 3-1** illustrates the location of these background developments relative to the subject site, and **Figure 3-2** illustrates the traffic volumes generated by these background developments, which were extracted from their respective TIS'. Including all seven background development is conservative since they are at different stages of City review.

Table 3-1: Background Development Information

Development	Statistics	Traffic Volume Source
1405-1409 Bloor Street West	326 residential units, 237 m^2 retail	BA Group, April 2018
1439 Bloor Street West	169 condominium units	GHD, August 2018
1540 Bloor Street West	327 residential units, 8,685 ft^2 retail	LEA Group, December 2019
72 Perth Avenue	105 residential units, 484 m^2 commercial	BA Group, May 2018
2280 Bloor Street West	2600 residential units, 65,000 m^2 office, 20,000 m^2 retail	BA Group, April 2018
181 Sterling Road	243 residential units, 1,079 m^2 retail	BA Group, 2017
1319 Bloor Street West	634 residential units, 769 m^2 retail	BA Group, December 2020

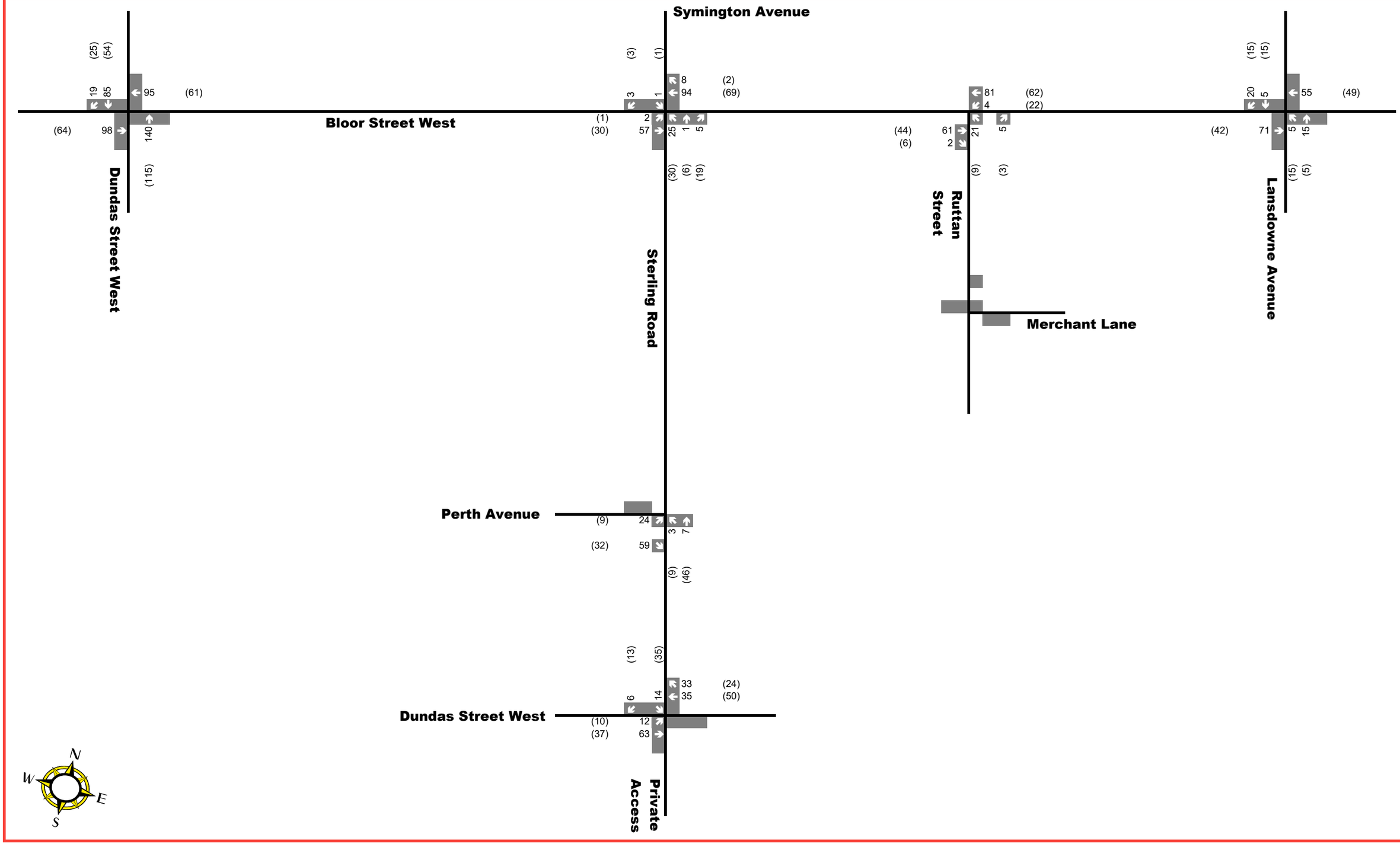


Legend

Background Development Location

Figure 3-1

Background Developments Map



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 3-2

Background Development Traffic Volumes

3.4 BACKGROUND ROAD NETWORK

For the future assessments in this study, only the Bloor Bikeway extension scenario has been evaluated since the infrastructure is now in place. Figure 2-2 illustrates the lane configurations of the boundary road network after the implementation of the bikeway, which will be the basis of the future background evaluation.

3.5 FUTURE BACKGROUND OPERATIONS

3.5.1 AUTO

The projected future background traffic volumes were developed by superimposing the background development volumes in **Figure 3-2** onto the post-Bloor Bikeway Extension existing traffic volumes in **Figure 2-9**. The resulting 2026 future background volumes are shown in **Figure 3-3**. The future background intersection operations are outlined in **Table 3-2** and the Synchro worksheets are in **Appendix F**. Signalized intersections had their splits optimized where necessary, but cycle lengths remain the same from existing conditions.

Table 3-2: 2026 Future Background Intersection Operations

Intersections	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)
Signalized Intersections				
Dundas Street West and Bloor Street West	D (37 sec)	EB-T (0.97) SB-LTR (0.97)	C (33 sec)	-
Bloor Street West and Symington Avenue / Sterling Road	D (38 sec)	WB-TR (0.95)	E (55 sec)	WB-TR (1.09) NB-TR (1.01)
Lansdowne Avenue and Bloor Street West	C (34 sec)	EB-T (0.90)	D (41 sec)	WB-T (0.98) SB-TR (0.94)
Dundas Street West and Sterling Road / Private Access	A (10 sec)	--	B (13 sec)	--
Unsignalized Intersections				
Bloor Street West and Ruttan Street	D (32 sec)	NB-LR (0.39)	D (34 sec)	NB-LR (0.43)
Ruttan Street and Merchant Lane	A (9 sec)	WB-LR (0.04)	A (9 sec)	WB-LR (0.01)
Perth Avenue and Sterling Road	A (8 sec)	EB-LR (0.23)	A (10 sec)	NB-LT (0.36)

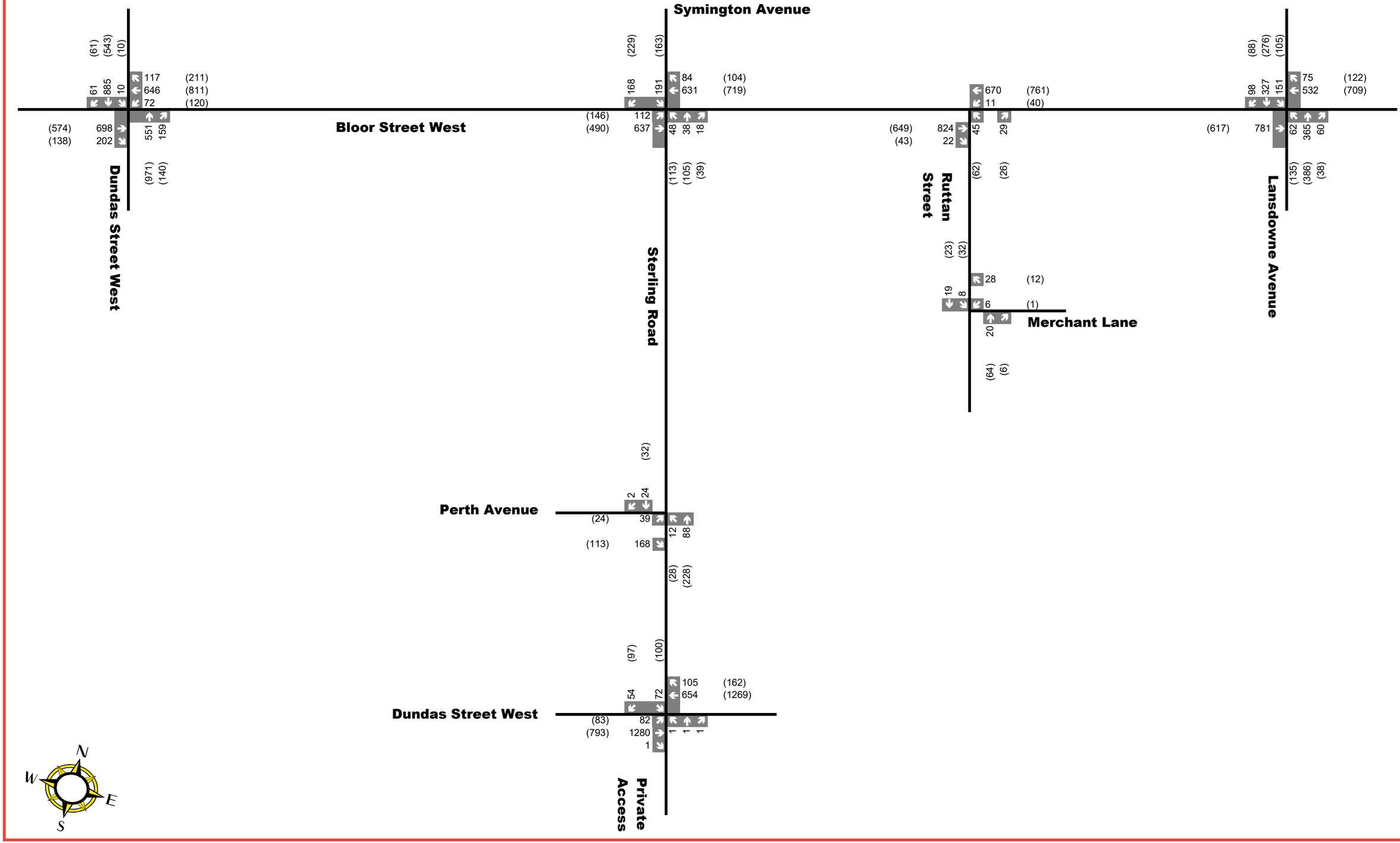
1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for movements with values over 0.90.

2 For stop controlled intersections, the level of service is based on the delay associated with the critical movement.

The results in **Table 3-2** indicate that under future background conditions, most of the study intersections operate at acceptable LOS 'D' or better with the critical movements operating within capacity. However, the addition of traffic associated with 7 background development results in the intersection of Bloor Street / Symington Avenue / Sterling Road operating at LOS 'E' with two critical movements over capacity during the p.m. peak hour. Both of these movements were already critical under existing conditions and the additional through traffic along Bloor Street West related to the developments result in the busier operations.

All of the unsignalized intersections continue to operate at acceptable LOS 'D' or better with all movements operating within capacity.

The purpose of presenting the future background conditions is to compare the incremental increase in delay and v/c ratio when the site-generated traffic are added as part of the future total conditions.



Legend

xx A.M. Peak Hour Traffic Volumes

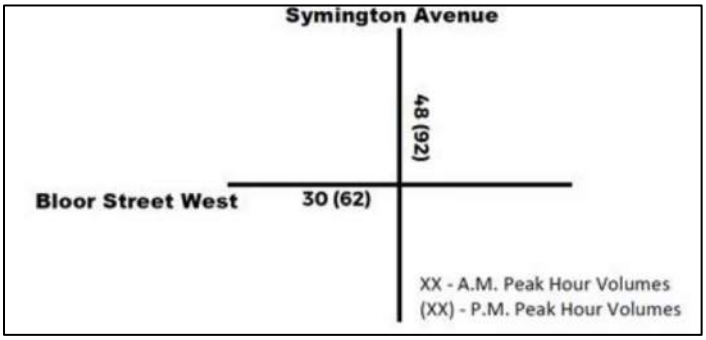
(xx) P.M. Peak Hour Traffic Volumes

Figure 3-3

2026 Future Background Volumes

3.5.2 PEDESTRIAN ASSESSMENT

The pedestrian volumes in the vicinity of the subject site have been assumed to grow by 1.5% per year over the next 5 years to the 2026 horizon. The future background pedestrian volumes are shown below.



The pedestrian LOS for the pedestrian facilities along Symington Avenue/Sterling Road and Bloor Street West were updated based on the projected volumes, and the results are summarized in **Table 3-3**. Detailed results and analysis of the pedestrian LOS are provided in **Appendix E**.

Table 3-3: Future Background Pedestrian Conditions

Segment	AM Peak Hour	PM Peak Hour
Bloor Street West	LOS C	LOS C
Symington Avenue / Sterling Road	LOS C	LOS C

As shown above, the general growth in pedestrian volumes results in a change in the pedestrian LOS during the a.m. peak hour along Symington Avenue/Sterling Road from LOS B under existing conditions to LOS C. However, this LOS along with other segments are still projected to adequately serve the pedestrian needs in the vicinity of the study area.

3.5.3 TRANSIT ASSESSMENT

The transit ridership under future background condition have been estimated using an annual ridership growth rate of 1.5% (no information was provided by TTC upon request). Based on the assumed growth rate, the resulting utilization rates of the bus routes within the study area by the 2026 horizon year are shown in **Table 3-4**.

Table 3-4: Future Background Transit Conditions

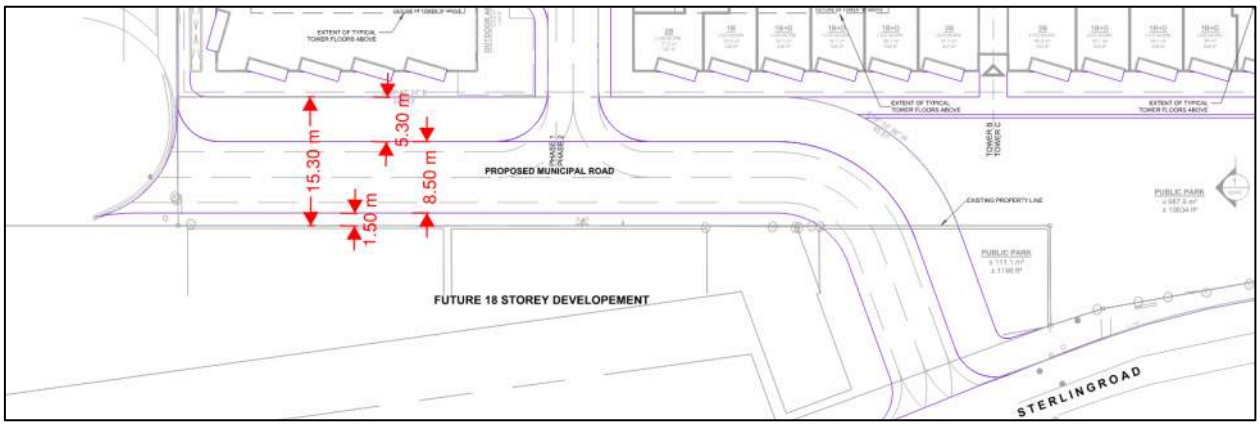
Route	Capacity Per Transit Unit/hour	Direction	Weekday A.M. Peak Period		Weekday P.M. Peak Period	
			Average Hourly Ridership per transit route	Utilization	Average Hourly Ridership per transit route	Utilization
168 Symington	51	NB	12	23%	41	79%
	51	SB	44	86%	24	46%
506 Carlton	74	EB	13	18%	5	7%
	74	WB	4	5%	10	14%
2 Bloor-Danforth	1000	EB	463	46%	646	65%
	1000	WB	463	46%	646	65%

As shown in **Table 3-4**, all the transit routes evaluated continue to operate within the available capacity during both the weekday a.m. and p.m. peak hours under future background conditions.

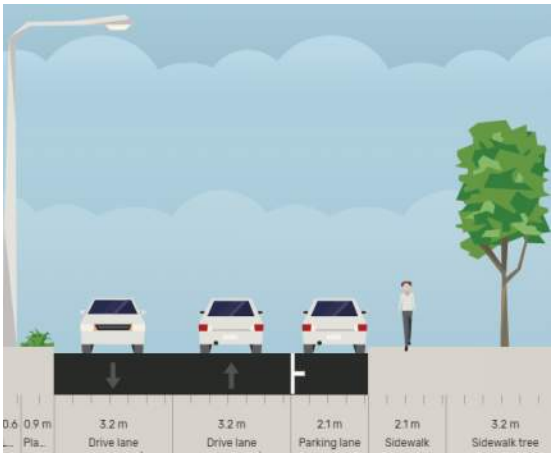
4 SITE-GENERATED VOLUMES

4.1 SITE ACCESS & RUTTAN STREET EXTENSION

The vehicular driveway for the site connects to the proposed extension of Ruttan Street as shown on the site plan in **Figure 1-2**. This proposed extension of Ruttan Street will connect Bloor Street West to Sterling Road thereby precluding the need for the existing cul-de-sac. Therefore, the site-generated traffic from the proposed development will have access to the intersection of Bloor/Ruttan and the signalized intersections of Sterling/Symington/Bloor to the north, and Dundas/Sterling to the south. The enhanced connectivity resulting from the proposed Ruttan Street extension also applies to the existing residential uses that currently only have access to the intersection of Bloor/Ruttan. Ruttan Street is a public road and the layout of the street extension is shown below and gives consideration to:



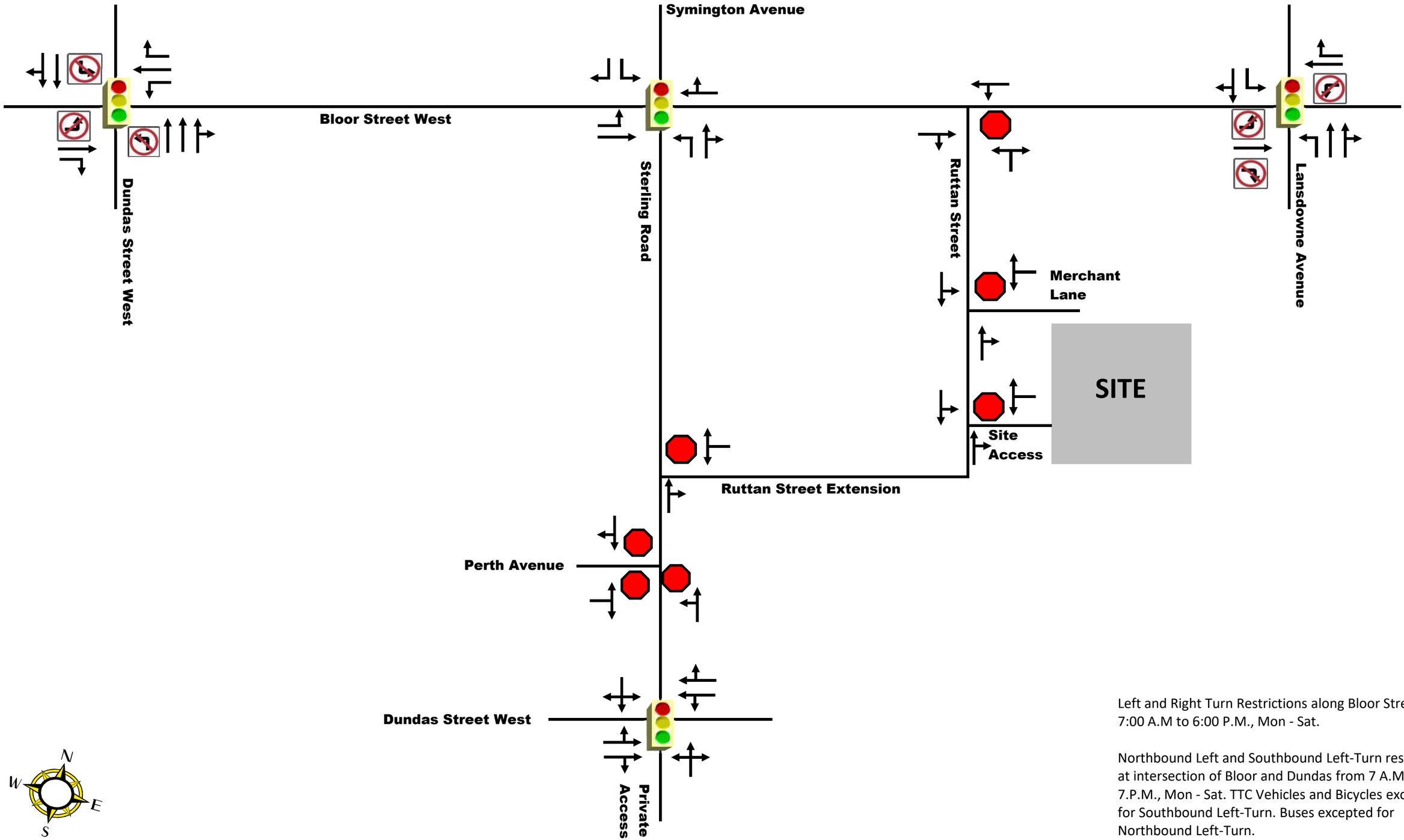
- The centreline of the Ruttan Street extension is based on the centreline of the existing segment to the north. On street parking is currently allowed on the east side of the street and streetlight poles are along the west side of the street.
- We have consulted the Development Infrastructure Policy & Standards (DIPS) so that the desired 5.3m boulevard is provided on the east side of the Rutan Street extension, which will be sufficient for the sidewalk and utilities. In addition, the pavement width of 8.5m is also consistent with DIPS and allows for one vehicular lane in each direction as well as on street parking on the east side. On the west side of the Ruttan Street extension, 1.5m is allocated for either a boulevard or eventually integrated with the development proposal at 1405-1409A Bloor Street West & 229-231A Sterling Road. A potential cross-section of the 15.3m right-of-way (ROW) Ruttan Street extension is shown below (left) relative to the existing section of Ruttan Street (facing north).



- It is important to note that the westerly limit of the proposed Ruttan street extension already straddles the westerly property line limit of the subject development at 221-227 Sterling Road. Therefore, to maintain the centreline alignment of Ruttan Street, any additional ROW that the City requires to fulfill the boulevard needs along the west side of the street would need to be allocated from the development at 1405-1409A Bloor Street West & 229-231A Sterling Road.

Following this submission and with consideration of feedbacks from the City, a functional design (10%) design will be prepared for the Ruttan Street extension.

The new intersection formed by the proposed extension of Ruttan Street and the site driveway will be evaluated in this study and are shown in the future total lane configurations illustrated in **Figure 4-1**.



Left and Right Turn Restrictions along Bloor Street from 7:00 A.M to 6:00 P.M., Mon - Sat.

Northbound Left and Southbound Left-Turn restrictions at intersection of Bloor and Dundas from 7 A.M. to 7.P.M., Mon - Sat. TTC Vehicles and Bicycles excepted for Southbound Left-Turn. Buses excepted for Northbound Left-Turn.

Legend

Stop Control

Signalized Intersection

Left and Right Turn Restrictions

Figure 4-1

Future Buildout Lane Configurations

4.2 TRIP GENERATION

4.2.1 AUTO TRIP GENERATION

The proposed development features a total of 892 residential units. The auto trip generation of the development is based on the area-specific trip generation rates applied in the September 2020 TIS for 1405-1409A Bloor Street West. As noted earlier in Section 2.3.3, these rates represent the downtown area modal split and was also applied for the trip generation of residential uses surrounding the proposed development. The average auto trip generation rates are presented in **Table 4-1**.

Table 4-1: Site Trip Generation Rates

Use	Average Auto Trips/Unit					
	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
Multi-Unit Residential	0.02	0.08	0.10	0.09	0.03	0.12

The calculation of the peak hour auto trips generated by the development is summarized in **Table 4-2**.

Table 4-2: Site-Generated Vehicle Trips

Use	Trip Generation					
	A.M. Peak Hour			P.M. Peak Hour		
	In	Out	Total	In	Out	Total
Residential	18	71	89	80	27	107

The development is forecasted to generate a total of 89 and 107 auto trips during the weekday a.m. and p.m. peak hours, respectively. With consideration of the displacement of the retail uses on the site today pre-COVID-19 (40 and 90 trips during the weekday a.m. and p.m. peak hours, respectively), the **net site-generated traffic for the development is 49 and 17 trips during the weekday a.m. and p.m. peak hours, respectively.** In comparison and for context, the City's TIS guideline has a threshold of 100 auto trips per hour in terms of determining when a TIS required. This indicates that the net impact of the redevelopment on the boundary road network is expected to be relatively minor.

4.2.2 TRANSIT AND PEDESTRIAN TRIP GENERATION

The transit and pedestrian trip generation of the proposed development were back calculated based on the auto trip generations in Table 4-2 and the proportion of auto mode use in the study area. **Table 4-3** summarizes the modal split characteristics for residential uses in the study area based on the TTS data for zones (105,106,107,114,115 and 116).

Table 4-3: Study Area Mode Split Characteristics - Residential

Primary Travel Mode	A.M. Peak Hour		P.M. Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Auto – Driver	48%	26%	27%	35%
Auto – Passenger	0%	3%	5%	13%
Transit	19%	50%	49%	35%
Walking & Cycling	33%	21%	19%	17%
Non-Auto Total	**52%**	**71%**	**68%**	**52%**

For clarification of the calculation, during the weekday a.m. peak hour, the 71 outbound auto trips tabulated in Table 4-2 represents 26% of the total outbound trips in the site area as per the TTS findings. Thus, there would be a total of 273 outbound trips during the a.m. peak hour. Based on the transit and active transportation mode splits presented in **Table 4-3**, 137 of the 273 outbound trips are forecast to be via transit (50%) and 57 trips via walking/cycling (21%) during the weekday a.m. peak hour.

The resulting transit and pedestrian trip generations for the redevelopment are summarized below in **Table 4-4**.

Table 4-4: Non-Auto Trip Generation

Primary Travel Mode	Modal Split Percentage			
	A.M. Peak Hour		P.M. Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Site Generation Auto Trips	18	71	80	27
Site Generated Total Trips*	38	273	296	77
Transit Person Trips	7	137	145	27
Pedestrian Person Trips	13	57	56	13

*Back calculated from the site auto trip generation in Table 4-2 and auto modal split in Table 4-3.

4.3 TRIP DISTRIBUTION AND ASSIGNMENT

4.3.1 AUTO

TTS trip distribution data of the study area's (zones 105,106,107,114,115,116) home-based trips were reviewed to determine site traffic distribution patterns for the proposed development. Table 4-5 outlines the resulting trip distribution for the site-generated traffic. The TTS queries are provided in **Appendix G**.

Table 4-5: TTS Trip Distribution for the Study Area -Residential

Direction	A.M. Inbound	A.M. Outbound	P.M. Inbound	P.M. Outbound
Northwest	0%	0%	0%	0%
North	3%	10%	10%	4%
Northeast	0%	0%	0%	0%
East	0%	8%	7%	5%
Southeast	0%	0%	0%	0%
South	9%	41%	38%	21%
Southwest	0%	0%	0%	0%
West	88%	41%	45%	69%
Total	**100%**	**100%**	**100%**	**100%**

The site-generated auto traffic was assigned based on the trip distribution information in **Table 4-5**, the future lane configuration shown in Figure 4-1 and the most logical path for vehicles to travel in order to minimize travel time and distance. For example a southbound outbound trip can either make a northbound right turn onto Bloor Street West or turn westbound left onto Sterling Road from the extension of Ruttan Street and connect over to Dundas Street.

Figure 4-2 illustrates the resulting traffic assignment of the site-generated trips to the boundary road network.

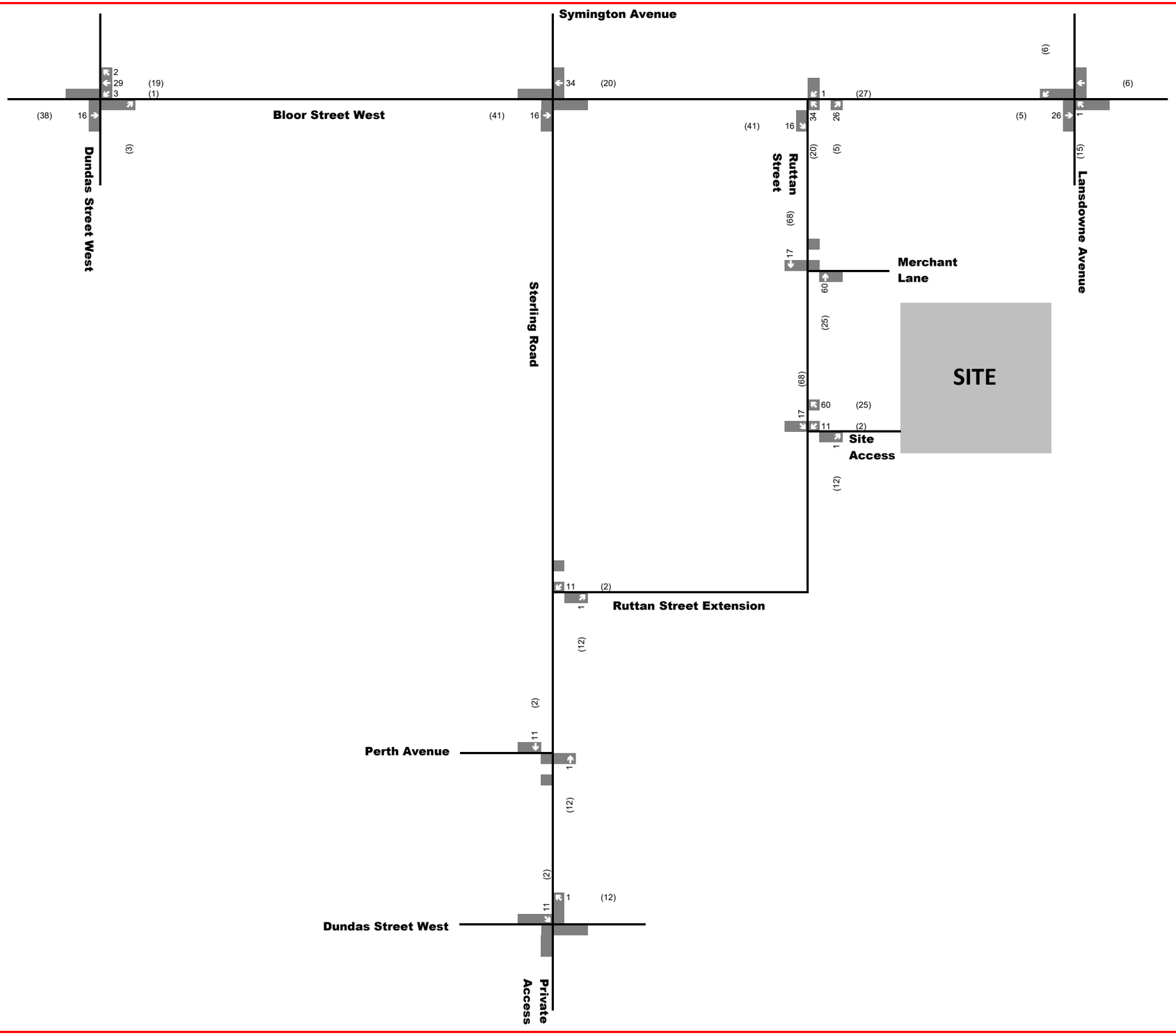
Since the proposed residential development will displace the existing retail uses on site, the traffic generated by the existing retail uses need to be removed to arrive at the net site-generated traffic volumes. Accordingly, **Figure 4-3** illustrates the existing retail site traffic volumes that are to be removed from the boundary road network (based on the trip generation presented in Section 2.3.3), and **Figure 4-4** illustrates the net site-generated traffic derived by combining the residential trips being added and the retail trips being removed.

4.3.2 PEDESTRIANS

For the purpose of the pedestrian evaluation, it is assumed that the majority of the site-generated pedestrians would walk along the east side of Symington Avenue/Sterling Road and along the south side of Bloor Street West since this is the closest signalized intersection to the development. The site-generated transit volumes were also assumed to walk along the east side of Symington Avenue/Sterling Road and along the south side of Bloor Street West to access the closest bus stops and Dundas West subway station. Both the site-generated pedestrian and transit trips have been considered in the pedestrian analysis for the future total conditions.

4.3.3 TRANSIT

Transit trips were distributed by direction using the Transportation Tomorrow Survey (TTS) results. For the purpose of this assessment, the majority of transit trips (90%) have been assigned to the Bloor-Danforth subway line in the east-west direction since it is the highest order of transit in the City. The remaining 10% were allocated evenly between the streetcar and bus routes.



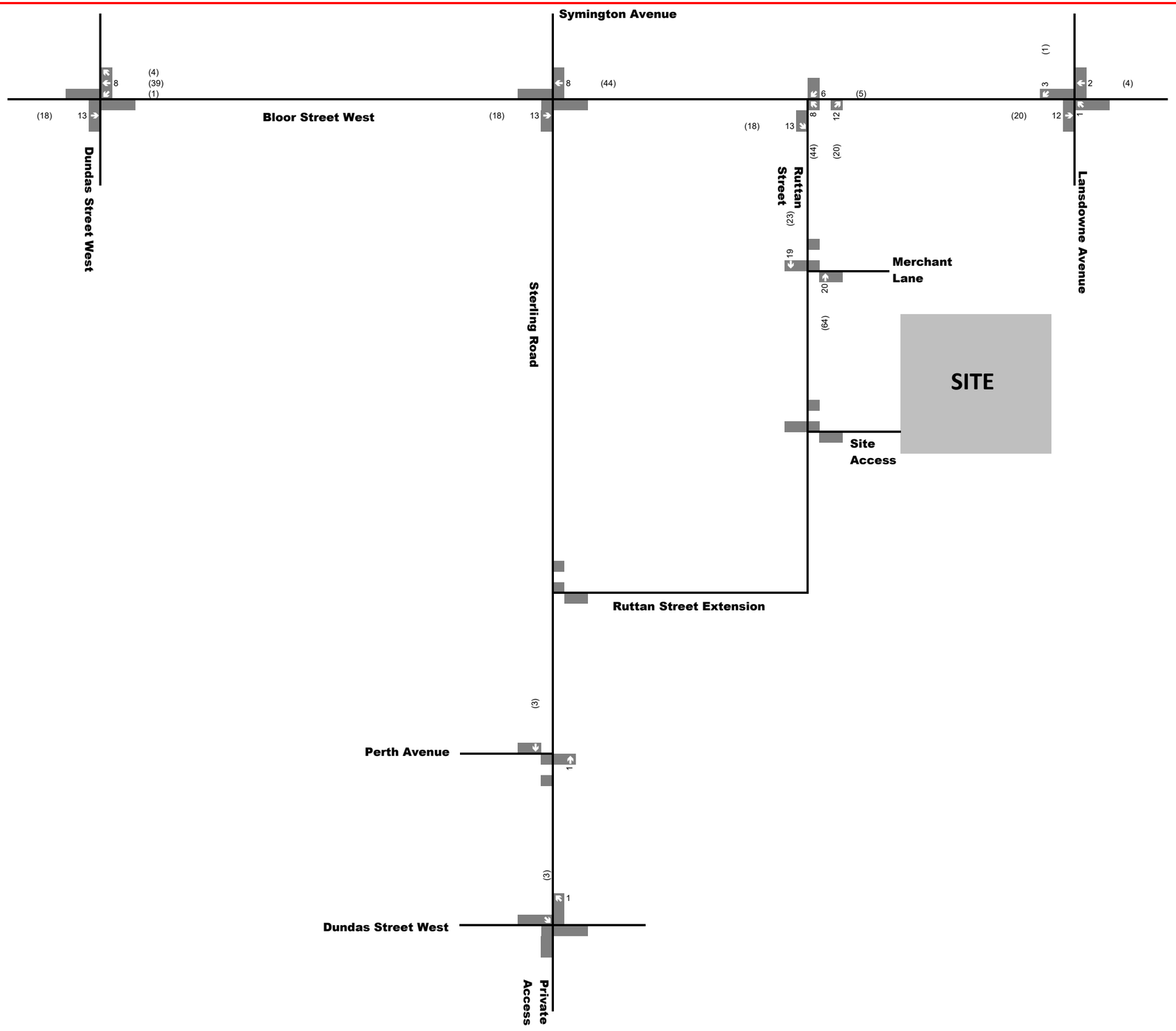
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-2

Site Generated Traffic Volumes



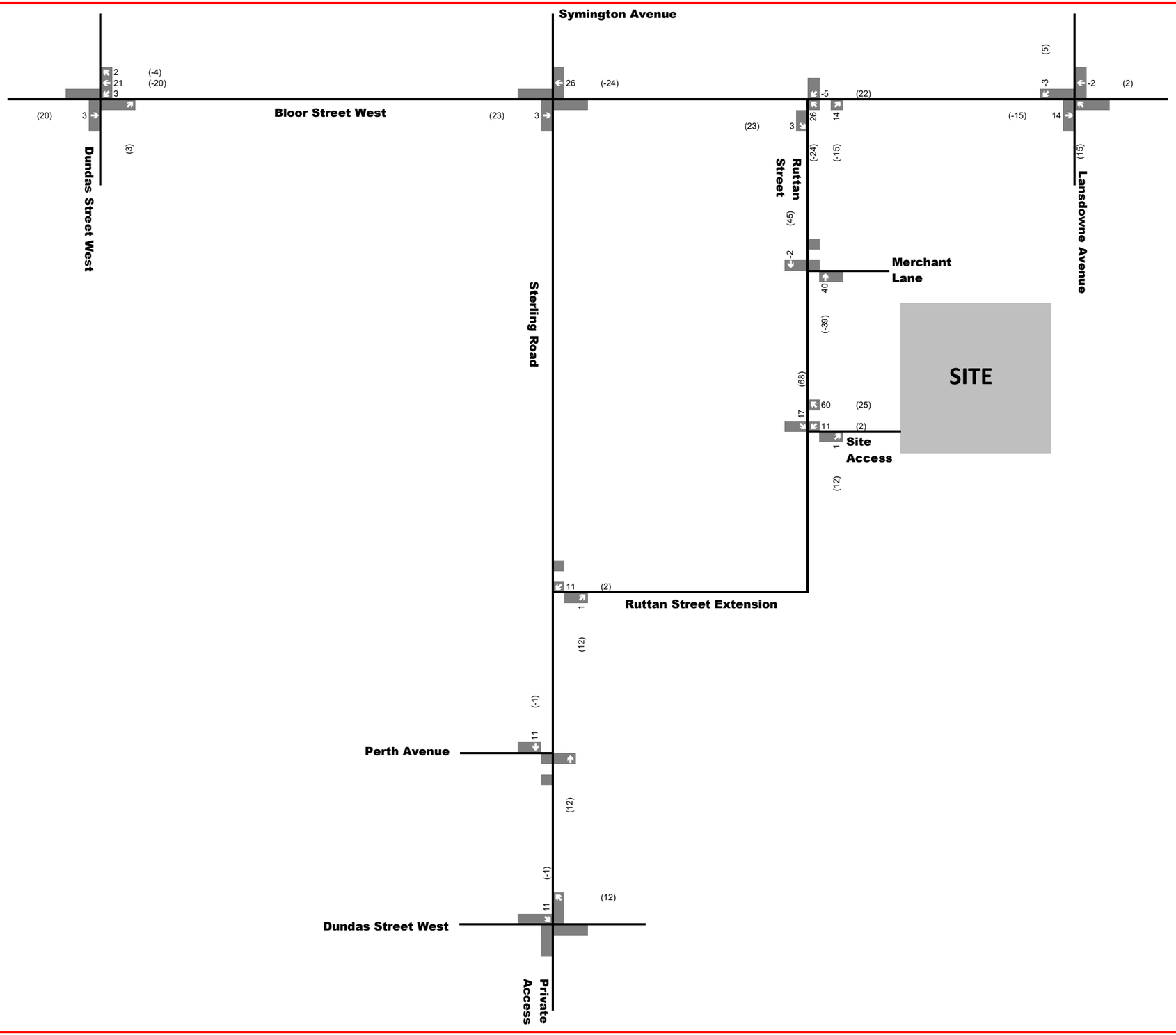
Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-3

Existing Site Generated Traffic Volumes Removal



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4-4

Net Site Generated Traffic

5 FUTURE TOTAL CONDITIONS

5.1 AUTO

The 2026 future total traffic volumes were developed by superimposing the following volumes:

- 2026 future background volumes as shown in **Figure 3-3**; and
- Net site-generated traffic volumes as shown in **Figure 4-4**.

The resulting future total traffic volumes are shown in **Figure 5-1.** Based on these volumes, the future total intersection operations have been evaluated and documented in **Table 5-1.** Detailed Synchro worksheets are available in **Appendix H.**

Table 5-1: 2026 Future Total Intersection Operations

Intersection	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)	LOS (Delay in Seconds)	Critical Movement (Volume/Capacity Ratio)
Signalized Intersections				
Dundas Street West and Bloor Street West	D (37 sec)	EB-T (0.97) SB-LTR (0.97)	C (33 sec)	-
Bloor Street West and Symington Avenue / Sterling Road	D (41 sec)	WB-TR (0.98)	D (51 sec)	WB-TR (1.06) NB-TR (1.01)
Lansdowne Avenue and Bloor Street West	C (35 sec)	EB-T (0.92)	D (42 sec)	WB-T (0.98) SB-TR (0.96)
Dundas Street West and Sterling Road / Private Access	B (10 sec)	-	B (13 sec)	-
Unsignalized Intersections				
Bloor Street West and Ruttan Street	E (44 sec)	NB-LR (0.59)	D (31 sec)	NB-LR (0.27)
Ruttan Street and Merchant Lane	A (9 sec)	WB-LR (0.04)	A (9 sec)	WB-LR (0.01)
Perth Avenue and Sterling Road	A (8 sec)	EB-LR (0.23)	A (10 sec)	NB-LT (0.38)
Site Access at Ruttan Street	A (9 sec)	WB-LR (0.07)	A (9 sec)	WB-LR (0.03)
Sterling Road at Ruttan Street Access	A (9 sec)	WB-LR (0.02)	B (10 sec)	WB-LR (0.00)

1 For signalized intersections, the level of service is based on the overall delay of the intersection. Critical v/c ratios are only listed for movements with values over 0.90.

2 For stop controlled intersections, the LOS is based on the delay associated with the critical movement.

The results in **Table 5-1** indicate that the future total conditions are similar to the future background conditions. All of the study intersections, with the exception of Bloor Street West / Ruttan Street during the a.m. peak hour, continue to operate at acceptable LOS 'D' or better. The change in average intersection delay (0 to 3 seconds) and critical movement v/c ratios (0 to 0.03) at the signalized intersections are minimal. In fact, the displacement of the retail trips generated by the existing uses on site result in improved operations at the signalized and unsignalized intersections of Bloor Street West and Symington Avenue/Sterling Road and Bloor Street West/ and Ruttan Street, respectively.

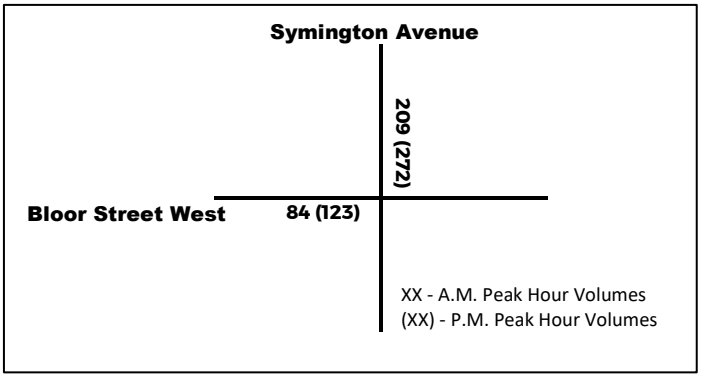
The unsignalized intersection of Bloor Street West/ Ruttan Street operates with LOS 'E' during the a.m. peak hour. However, the critical northbound movements still operates well within capacity at a v/c of 0.59 and for an unsignalized intersection in a downtown context, these levels of intersection operations are common. It is also worth noting that the evaluation at this unsignalized intersection is conservative since it does not consider the rerouting of the traffic generated by the adjacent development and existing residential uses that formerly only had vehicular access via Bloor Street West and Ruttan Street. Once the proposed Ruttan Street extension is in place, the traffic associated with these uses will have additional routing options via the signalized intersections of Bloor Street West and Sterling Road and Sterling Road and Dundas Street West. Therefore, motorists will be able to self-regulate between the enhanced road network.

The proposed minor-street stop controlled driveway onto the Ruttan Street extension is forecast to operate very well, which is to be expected given the opposing through volumes along Ruttan Street will be relatively low.

Overall, the findings indicate that the proposed development net site-generated auto traffic can be accommodated by the boundary road network.

5.2 ACTIVE TRANSPORTATION ASSESSMENT

The pedestrian and transit volumes generated by the subject site were added to the future background pedestrian volumes traveling along the south side of Bloor Street West and the east side of Symington Avenue/Sterling Road. The future total pedestrian volumes are shown below.



The proposed development contributes a minor increase in the total pedestrian volumes along both streets. The resulting pedestrian LOS based on the future total pedestrian volumes are shown in **Table 5-2** below.

Table 5-2: Future Total Pedestrian Conditions

Segment	AM Peak Hour	PM Peak Hour
Bloor Street West	LOS C	LOS C
Symington Avenue / Sterling Road	LOS C	LOS C

As shown in **Table 5-2**, the addition of the site-generated pedestrian volumes does not result in a change to the LOS of the pedestrian facilities relative to the future background conditions. The pedestrian facilities along the section of Bloor Street West and Symington Avenue/Sterling Road will continue to function at an adequate LOS. From a cyclist perspective, the proximity of the proposed development to the Bloor Bikeway extension (as shown below with the red star) offers a significant incentive for residents and visitors to cycle to and from the development. The proposed bicycle parking provision relative to the City's requirements are noted in Section 7.

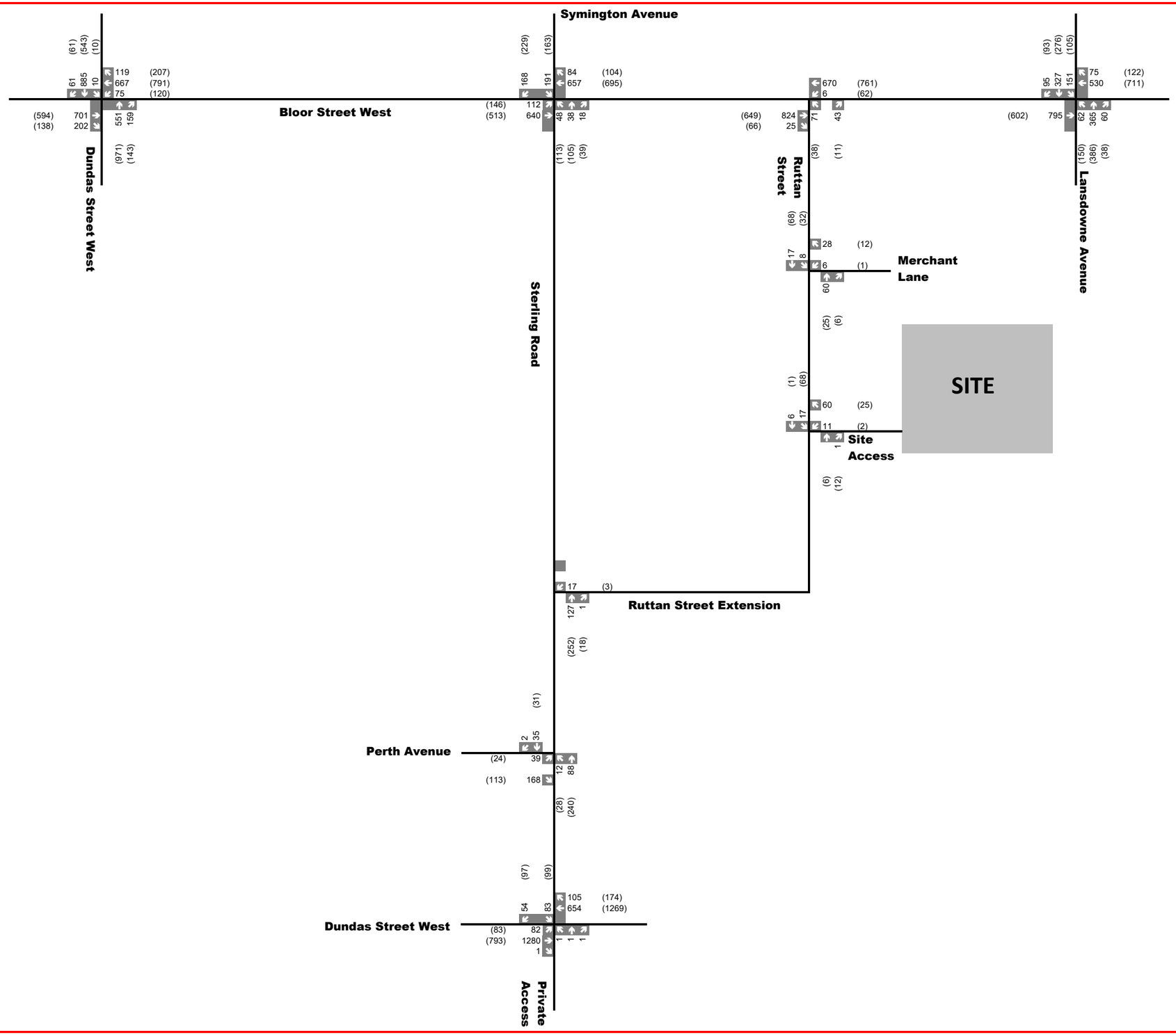
5.3 TRANSIT ASSESSMENT

The future total transit trips were projected by aggregating the future background transit trips with the site-generated transit trips. **Table 5-3** outlines the projected utilization rates for the various bus routes under future total conditions.

Table 5-3: Future Total Transit Conditions

Route	Capacity Per Transit Unit/hour	Direction	Weekday A.M. Peak Period		Weekday P.M. Peak Period	
			Average Hourly Ridership per transit route	Utilization	Average Hourly Ridership per transit route	Utilization
168 Symington	51	NB	12	24%	41	80%
	51	SB	44	86%	24	48%
506 Carlton	74	EB	14	18%	6	8%
	74	WB	4	5%	11	15%
2 Bloor-Danforth	1000	EB	466	47%	651	65%
	1000	WB	464	46%	649	65%

The results presented in **Table 5-3** indicate that all the transit routes will continue to operate within capacity with the additional transit trips generated by the proposed development.



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 5-1

2026 Future Total Traffic Volumes

6 SITE PLAN REVIEW

6.1 CITY LOADING REQUIREMENT

The loading requirements of the proposed development have been established based on the City of Toronto harmonized By-law 569-2013 as summarized in **Table 6-1**.

Table 6-1: Loading Requirement at the Proposed Site (Zoning By-Law 569-2013)

Land Use	Magnitude	Number of Loading Space Required			
		Type G	Type A	Type B	Type C
Residential	892 units	1	-	-	1

As presented in Table 6-1, one Type 'G', one Type 'C', loading space are required. As shown on the site plan, two Type 'G' and one Type 'C' loading bays are proposed on the ground floor to serve the proposed development. The dimensions of the loading bays satisfy the By-law 569-2013 requirements for both Type 'G' and 'C'. To facilitate public garbage pick-up, the structural design of the Type 'G' loading bays will comply with the City of Toronto Solid Waste Guideline, which requires the loading space and staging area to be built with reinforced concrete and have a vertical clearance of 6.1m. The proposed loading arrangement will more than adequately serve the needs of the development.

6.2 PUBLIC ROAD DESIGN

As noted earlier in Section 4.1, Ruttan Street is proposed to be extended south from the current cul-de-sac terminus to connect to Sterling Road as shown in the site plan. Based on the correspondence with City staff as provided in Appendix A, staff advised that a minimum 16.5m right-of-way (ROW) is required for the Ruttan Street extension as a public road. The project team proposes to convey 15.3m of the subject site for the ROW of the Ruttan Street extension. The 15.3m ROW and alignment has been designed based on the following factors:

- An 8.5m pavement width that is generally consistent with the 9m pavement width at the typical existing segment of Ruttan Street and is consistent with the City of Toronto Development Infrastructure Policy & Standards (DIPS);
- The centreline of the vehicular travel portion of 8.5m has been designed with consideration of the centreline of the existing section of Ruttan Street to minimize road offset;
- The 5.3m wide boulevard on the east side of the street extension is consistent with the City of Toronto DIPS to accommodate various utilities, landscaping and a 2.1m sidewalk; and
- The subject development has made fair provisions for a potential development along the west side of Ruttan Street (1405-1409A Bloor Street West & 229-231A Sterling Road) by providing a 1.5m wide section of boulevard ROW. It is important to note that the westerly limit of the 15.3m ROW public road as shown coincides with the subject site's (221-227 Sterling Road) westerly property line. It is anticipated that if a development is approved along the west side of Ruttan Street that the development would need to also contribute towards the balance of the overall ROW required by the City (minimum 16.5m ROW as per discussion with City staff). The project team will work with the City and the development team of the adjacent site to refine the public street ROW moving forward. At that point, a functional design will be prepared.

6.3 AT-GRADE AND UNDERGROUND CIRCULATION

The site layout has been reviewed from a transportation perspective through AutoTURN vehicle swept path analysis for a fire truck, garbage truck, delivery truck and passenger vehicles.

Fire Truck Manoeuvres

A City of Toronto custom Fire Truck was used to test the movement of emergency vehicles serving the building (being with 15m of the building entrance) from along both the extension of Ruttan Street and the internal driveway. As per Ontario Regulation 332/12: Building Code Section 3.2.5.5. Location of Access Routes, fire trucks need to get to a distance of less than 15 m from the principal entrances of the buildings. At the terminus of the internal driveway, a fire truck can make a 3-point turn to leave the site. The maneuvers work well as illustrated in **Figures 6-1** and **6-2** with no maneuvering issues.

Garbage Truck Manoeuvres

The maneuvers of a custom City of Toronto front-loading garbage truck as defined by the City's Solid Waste Guideline was tested entering the loading bay in a forward direction, and exiting the two proposed loading bays by reversing out while operating within the minimum inside (9.5 m) and outside (14 m) radius as specified in the City's Guideline. The garbage truck maneuvers work well as illustrated in **Figures 6-3** and **6-4** with no manoeuvring issues.

On-site building staff will be available to assist as a flag person if desired. In addition, a flashing warning beacon system will be installed along the parking ramp adjacent to the loading bay to caution motorists exiting the garage to proceed with caution if there are any loading ongoing activities in the loading bay. Convex mirrors and signage will also be installed as appropriate to raise multi-modal awareness near the loading area.

Loading Truck Manoeuvres

A TAC medium single unit truck was tested reversing into the Type G loading bays and leaving the loading bays in a forward motion. The maneuvers work well as illustrated in **Figures 6-5** and **Figure 6-6**.

A TAC LSU truck was tested accessing and egressing the Type C loading bay as shown in **Figures 6-7** and **6-8**. The manoeuvre works adequately.

Passenger Vehicle Circulation

A P-TAC standard passenger vehicle was tested entering and exiting the site and circulating through the ramp to the underground parking levels. The maneuvers work well as illustrated in **Figure 6-9**. The ramp has been designed such that adequate transition slope area is provided at the top and bottom of the ramp. Convex mirrors will also be proposed at the turning area and at the top/bottom of the ramp to assist with motorist awareness.

Underground Parking Levels

The circulation of a P-TAC vehicle template in the parking levels were tested and the maneuvers work well as shown in **Figures 6-10** and **6-11**. All of the spaces adjacent to physical structures have been reviewed to ensure there are appropriate buffers (0.3m). Convex mirrors are proposed at the corners of the driveways in all of the parking levels of the parking lot. All of the parking spaces meet the City of Toronto By-law 569-2013 requirements for regular and accessible parking spaces.

All of the drive aisles are 6m wide and the ramp to the underground parking has a maximum slope within the City allowance of 15% and an adequate transition slope at the top and bottom of the ramp of 7.5%.

EXISTING 5 STOREY BRICK RESIDENTIAL BUILDING

EXISTING 4 STOREY BRICK / STUCCO RESIDENTIAL BUILDING

EXISTING 4 STOREY BRICK / STUCCO RESIDENTIAL BUILDING

EXISTING 4 STOREY BRICK / STUCCO RESIDENTIAL BUILDING

EXISTING 2 STOREY BRICK BUILDING

MERCHANT LN

RUTTAN STREET

PROPOSED MUNICIPAL ROAD

STERLING ROAD

FUTURE 18 STOREY DEVELOPEMENT

PHASE 1
PHASE 2

DOG RUN

PET OFF LEASH
80m²

EXHUAST SHAFT

OUTLINE OF UNDERGROUND LEVELS BELOW

VISITOR PARKING

ROLLED CURB

4 SHORT TERM BICYCLE PARKING SPACES

BIKE STORAGE 80 BICYCLE PARKING SPACES

RAMP UP FROM UG1

RAMP UP AT 15%

RAMP UP AT 7.5%

PARKING ENTRANCE

STAGING AREA 39.1m²

TYPE 'G' LOADING (13.0m x 4.0m x 6.1m)

GARBAGE ROOM

MOVING

6 SHORT TERM BICYCLE PARKING SPACES

5 SHORT TERM BICYCLE PARKING SPACES

CANOPY ABOVE

10.6

SIAMESE CONNECTION

EXTENT OF TOWER FLOORS ABOVE

INTAKE SHAFT

INDOOR AMENITY

OUTLINE OF TOWER "A" ABOVE

EXTENT OF TYPICAL TOWER FLOORS ABOVE

OUTDOOR AMENITY

FIRE ROUTE

TOWER B
TOWER C

OUTDOOR AMENITY

INDOOR AMENITY

BICYCLE STORAGE

24 BICYCLE PARKING SPACES

TYPE 'G' LOADING SPACE FOR MOVING (6.0m x 3.5m x 3.0m)

8 SHORT TERM BICYCLE PARKING SPACES

DROP OFF

8.0

SIAMESE CONNECTION

GARBAGE

MOVING

MAIL

PARCEL STORAGE

LOBBY

INDOOR AMENITY

MGMT OFFICE

LOCKERS

OUTLINE OF TOWER "C" ABOVE

OUTLINE OF UNDERGROUND LEVELS BELOW

TYPE 'G' LOADING (13.0m x 4.0m x 6.1m)

LOADING

STAGING

GARBAGE

BICYCLE STORAGE

PET SPA

64 BICYCLE PARKING SPACES

CACF

MAIL

CANOPY ABOVE

INDOOR AMENITY

OUTLINE OF TOWER "B" ABOVE

EXTENT OF TYPICAL TOWER FLOORS ABOVE

EXTENT OF TYPICAL TOWER FLOORS ABOVE

EXISTING PROPERTY LINE

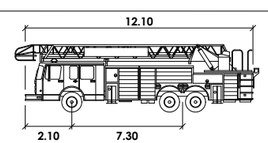
PUBLIC PARK
± 987.9 m²
± 10634 ft²

PUBLIC PARK
± 111.1 m²
± 1196 ft²

Toronto Fire Truck
Imported

Scale: 1:500

Figure 6-1
Fire Truck Turning Movement Test - Inbound
221 Sterling Road



Toronto Fire Truck

	meters
Width	: 2.75
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 32.5

wsp

wsp - Sterling G Level.dwg_1

Modified: 4/16/2021 11:51 AM By: nima.farid Plot Date: 2021/04/16

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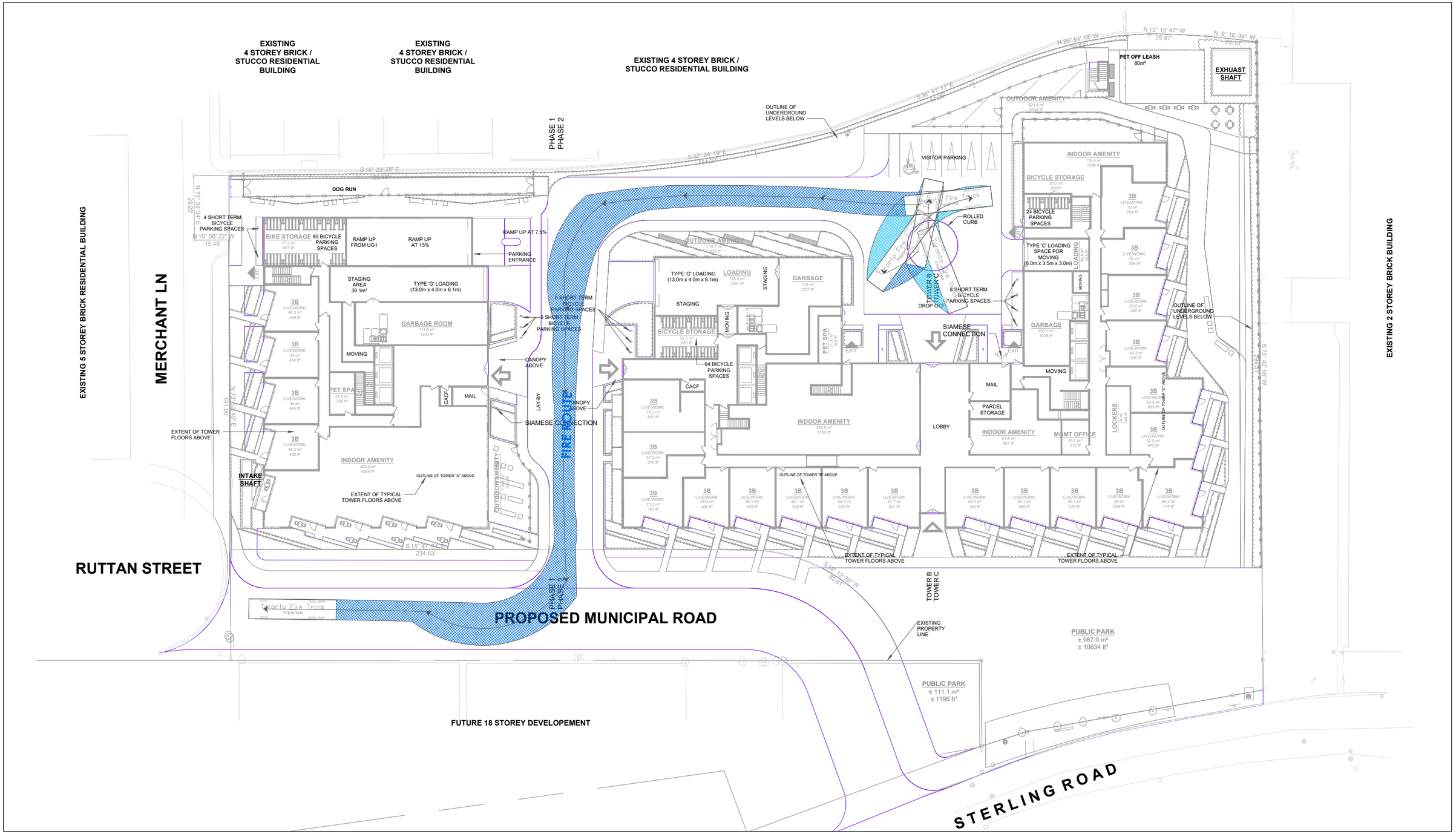

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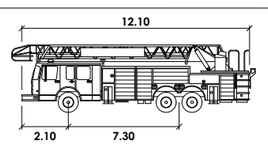
Figure 6-2
Fire Truck Turning Movement Test - Outbound
221 Sterling Road



Toronto Fire Truck

	meters
Width	: 2.75
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 32.5

wsp

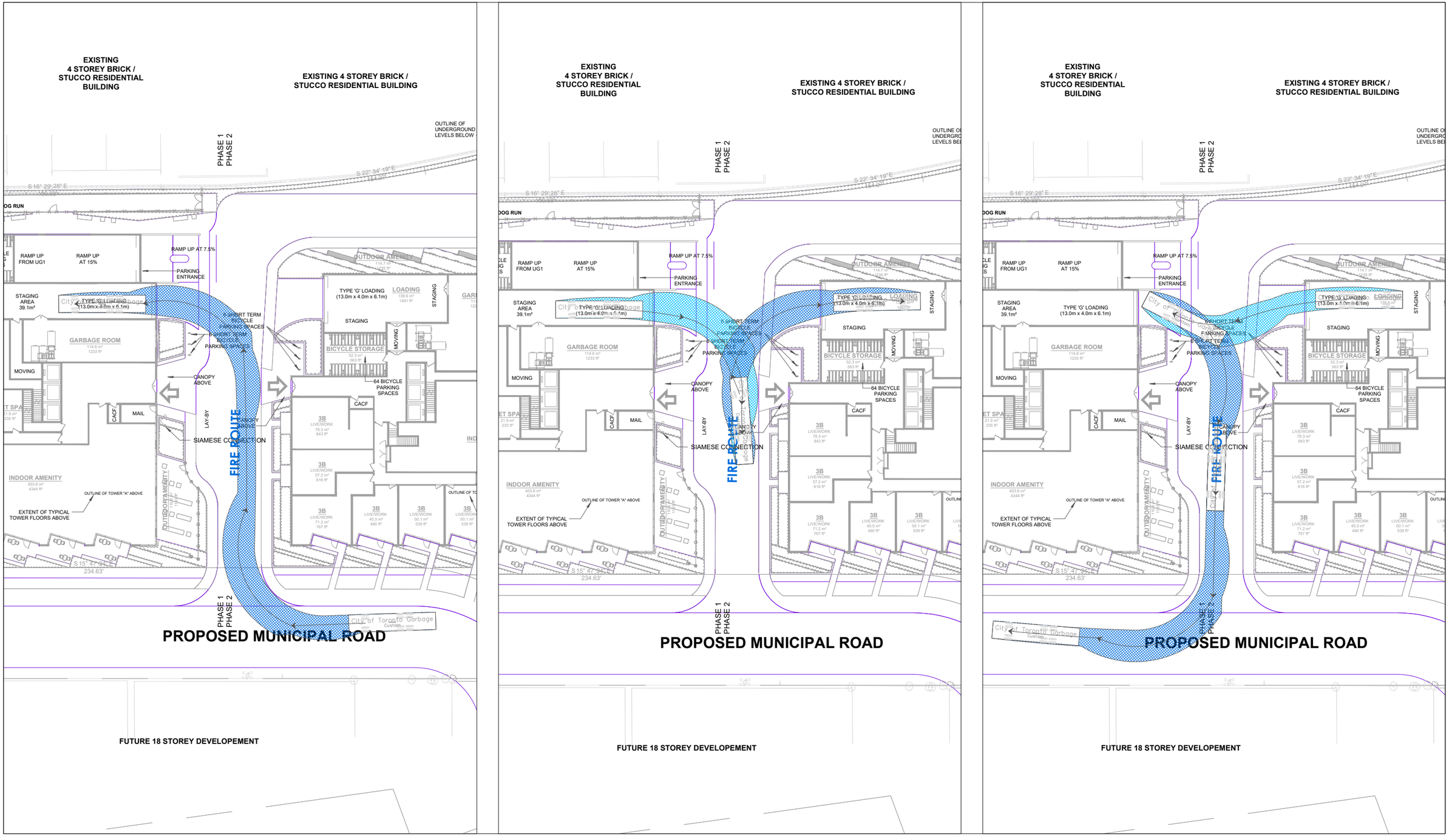


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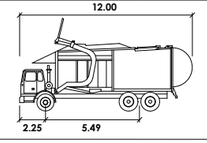
Figure 6-3
Garbage Truck Turning Movement Test - Inbound - Serving Building to the Left First
221 Sterling Road



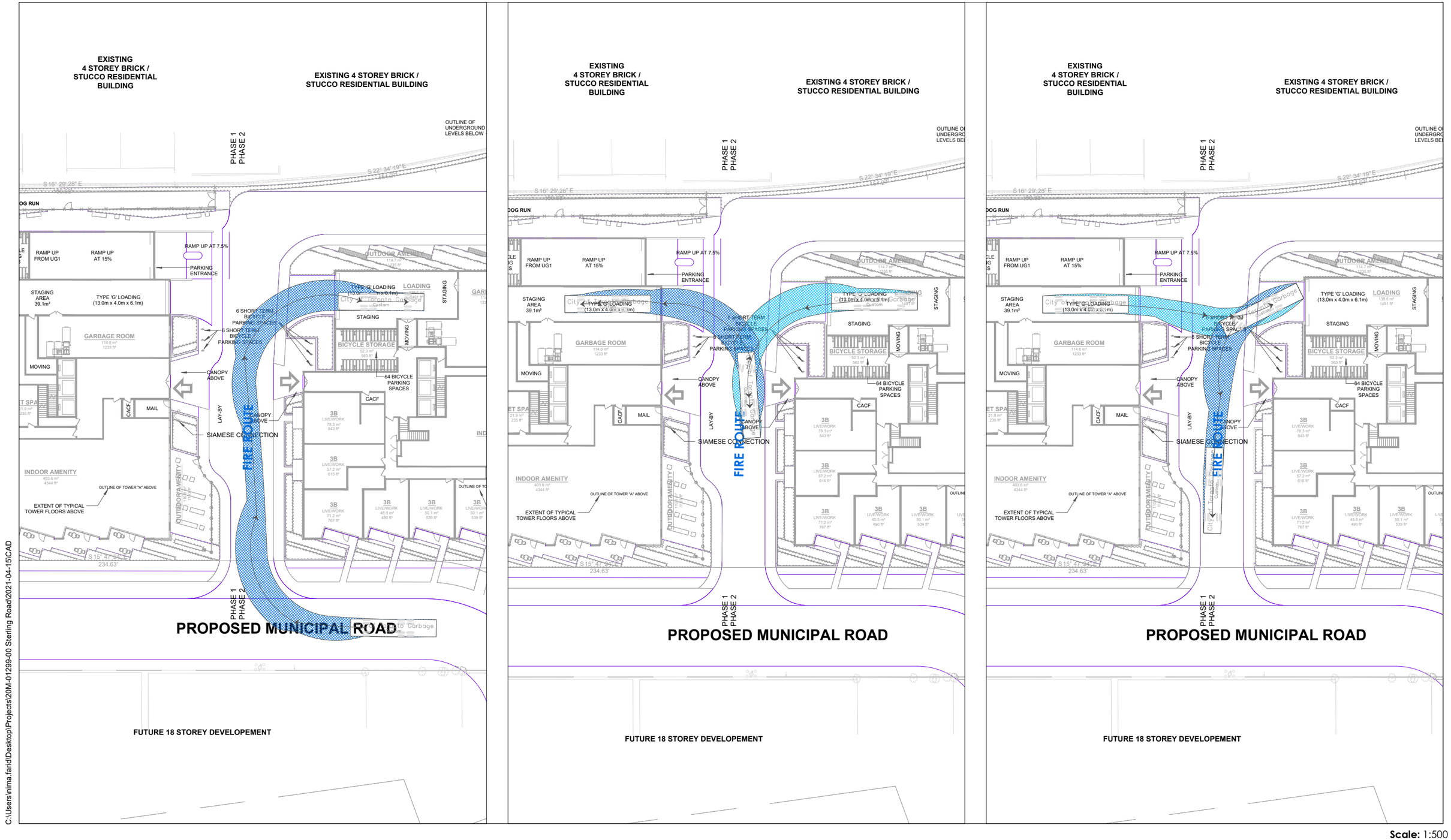
City of Toronto Garbage

	meters
Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 24.1

wsp

wsp - Sterling G Level.dwg_3

Modified: 4/16/2021 11:51 AM By: nima.farid Plot Date: 2021/04/16



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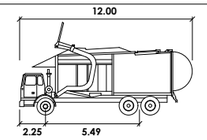
Scale: 1:500

Figure 6-4
Garbage Truck Turning Movement Test - Inbound - Serving Building to the Right First
221 Sterling Road



City of Toronto Garbage

	meters
Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 24.1

wsp

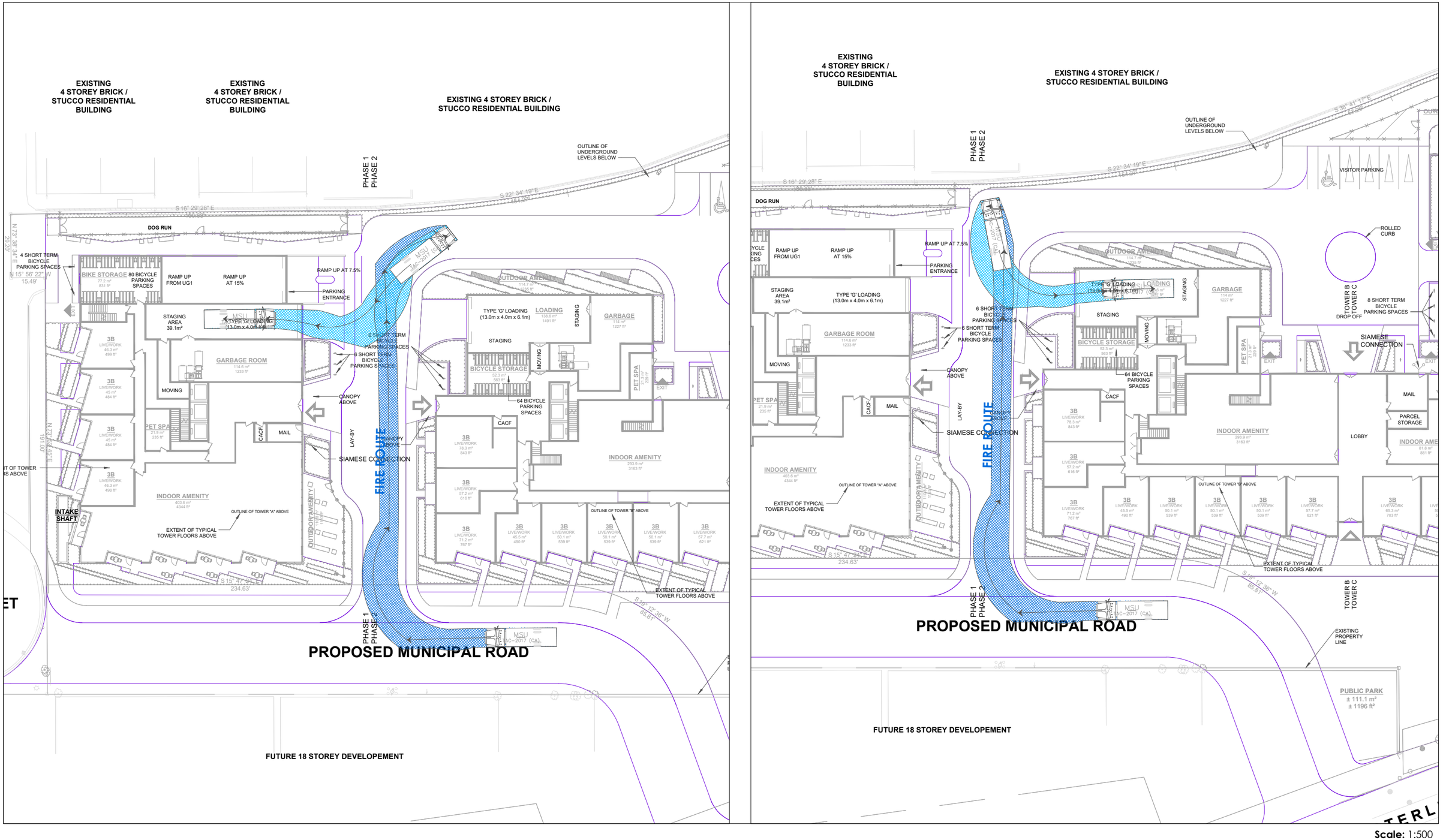


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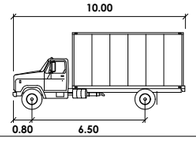
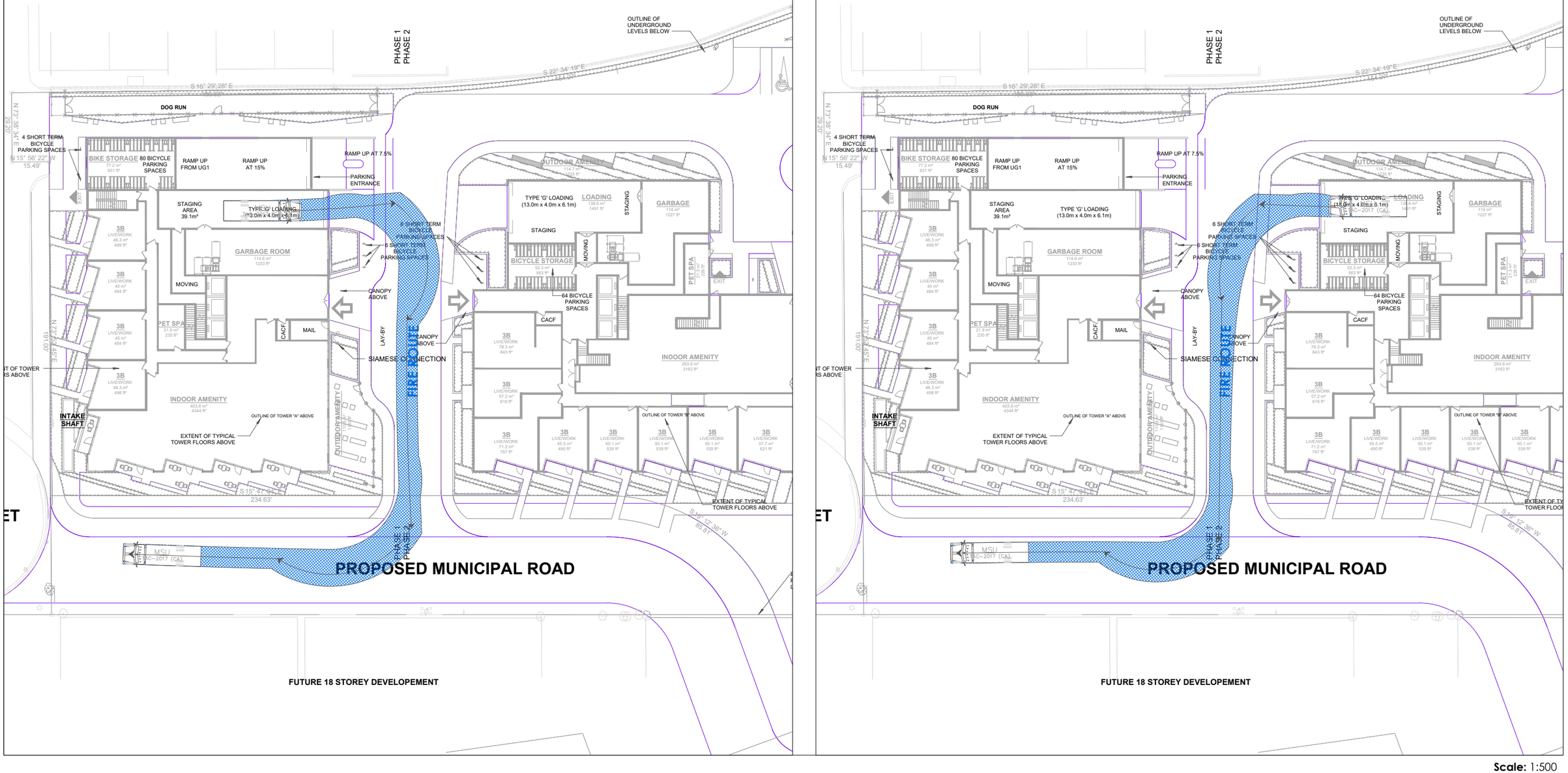
Figure 6-5
Loading Truck Turning Movement Test - Inbound - Type G Loading Bay
221 Sterling Road



MSU

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

wsp



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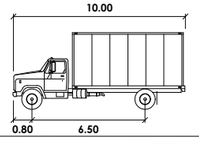
Scale: 1:500

Figure 6-6
Loading Truck Turning Movement Test - Outbound - Type G Loading Bay
221 Sterling Road



MSU

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

wsp

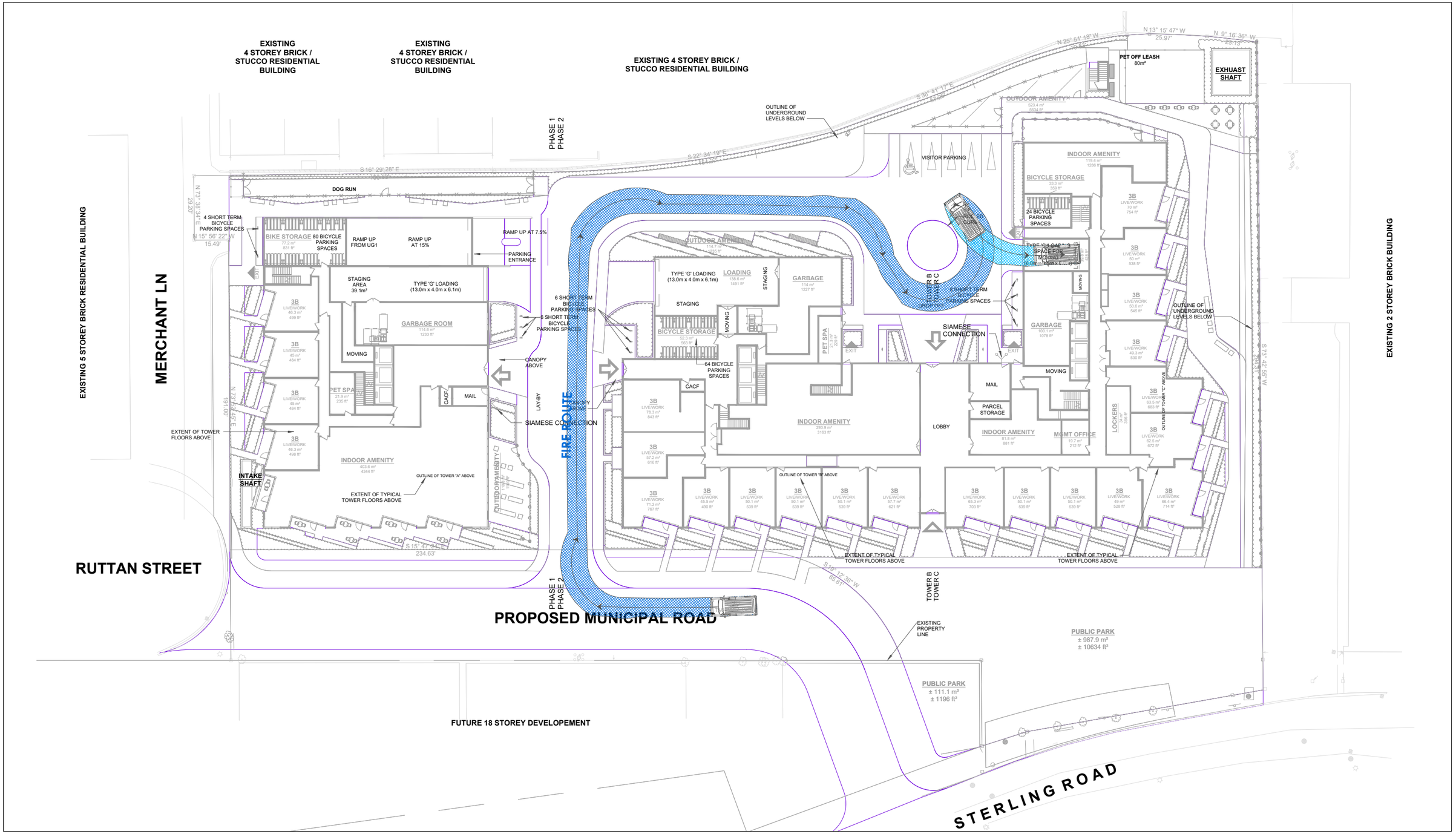


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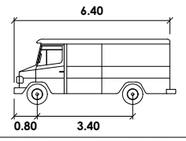
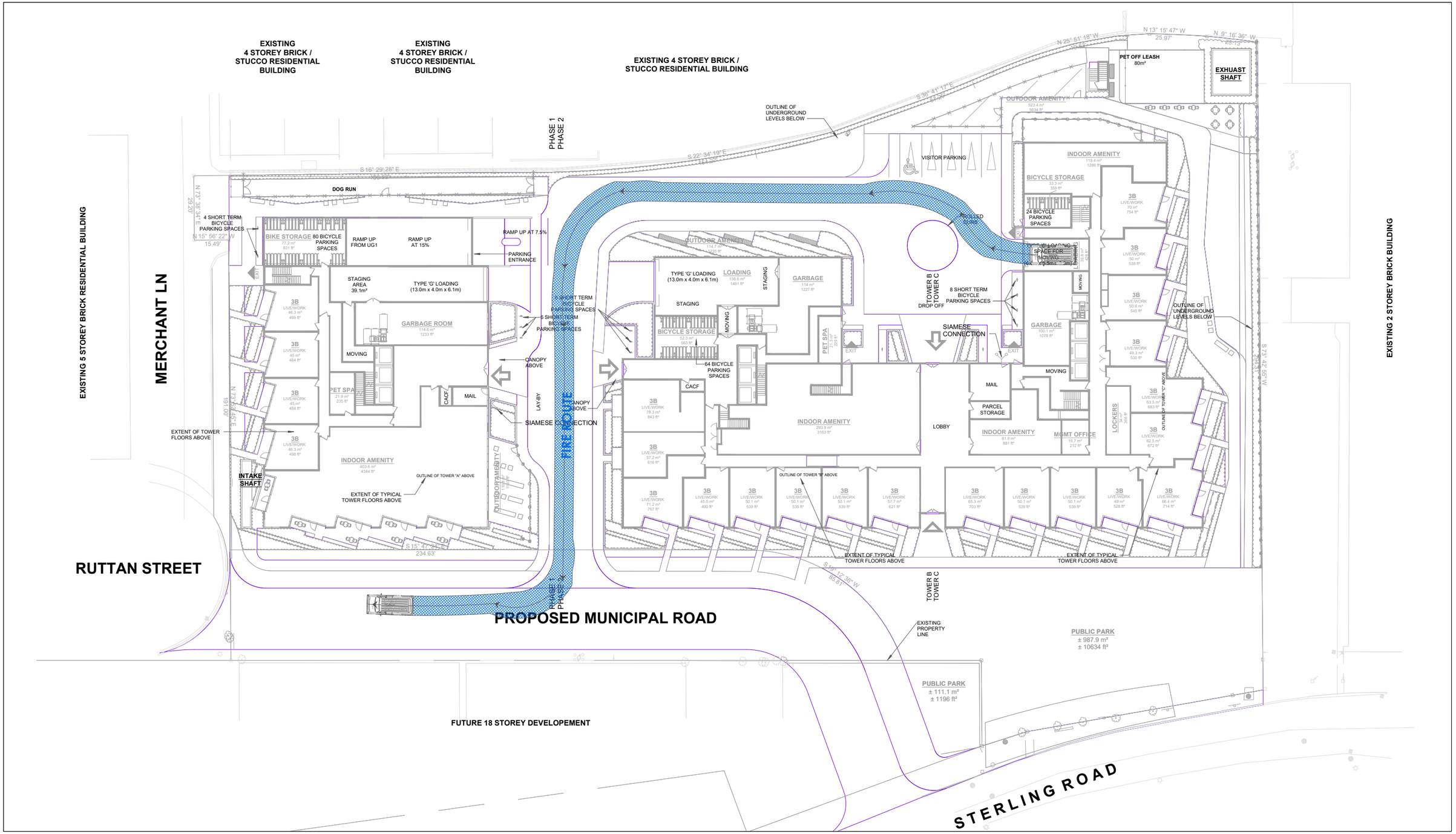
Figure 6-7
Loading Truck Turning Movement Test - Inbound - Type C Loading Bay
221 Sterling Road



LSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.3

wsp



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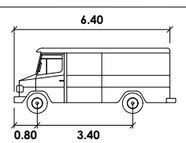
Scale: 1:500

Figure 6-8
Loading Truck Turning Movement Test - Outbound - Type C Loading Bay
221 Sterling Road



LSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.3

wsp

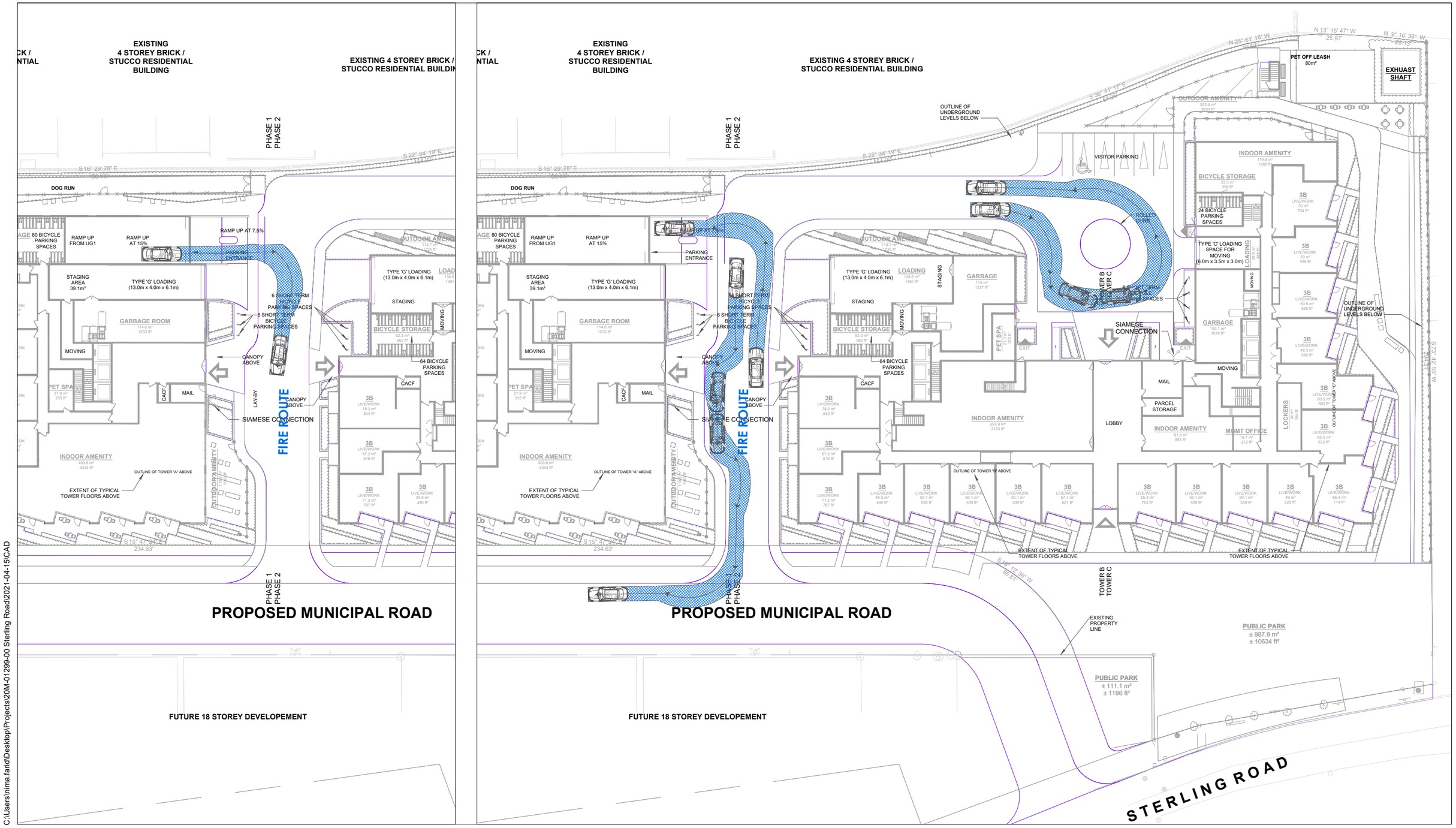


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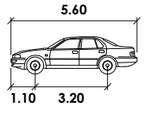
Figure 6-9
Passenger Vehicle Site Circulation Test - Ground Level
221 Sterling Road



P

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

wsp

Shift the gate back

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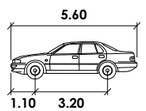
Scale: 1:500

Figure 6-10
P1 Level Site Circulation Test



P

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

wsp

INBOUND

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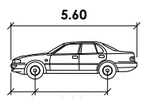
Scale: 1:500

Figure 6-11
Passenger Vehicle Site Circulation Test - P2 Level
221 Sterling Road



P

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

wsp

wsp - Sterling P2 Level.dwg_11

Modified: 4/16/2021 12:20 PM By: nima.farid Plot Date: 2021/04/16

7 PARKING ASSESSMENT

7.1 MOTOR VEHICLE PARKING

Currently, based on the City of Toronto's Zoning By-law #569-2013 R (d1.5) (x58) Chapter 10 as noted below:

(58) Exception R 58

The lands, or a portion thereof as noted below, are subject to the following Site Specific Provisions, Prevailing By-laws and Prevailing Sections:

Site Specific Provisions:

(A) The lands must comply with exception 900.2.10(7).

Prevailing By-laws and Prevailing Sections:

(A) Section 12(2) 187 of former City of Toronto By-law 438-86;
(B) Section 12(2) 335 of former City of Toronto By-law 438-86; and
(C) On 2 Merchant Lane, former City of Toronto by-law 695-92.
(D) City of Toronto By-law 297-2003. [By-law: OMB PL130592]

Notwithstanding the current zoning on the site, the harmonized By-law 569-2013 has been considered as the baseline for the subject site. Given the site's walking distance proximity to two TTC subway stations and various streetcar and bus routes as well as the recently built cycling infrastructure along Bloor Street, Policy Area 1 minimum rates as shown in **Table 7-1** are appropriate for consideration. For context, the site has a transit score of 99 out of 100 and a bike score of 92 out of 100.

Table 7-1: By-Law #569-2013 Parking Rates for (*Policy Area 1*)

Use	Parking rate
Studio	0.30 Space per Unit
1-Bedroom Unit	0.50 Space per Unit
2-Bedroom Unit	0.80 Space per Unit
3-Bedroom Unit	1.0 Space per Unit
Visitor	0.10 Space per Unit

Based on the By-law parking rates noted in Table 7-1, the resulting requirement for the proposed development is detailed in **Table 7-2.** The statistics include the rental replacement and live-work units.

Table 7-2: Parking Required for 221 - 227 Sterling Road

Building	Unit Type	Parking Rate	Units / GFA	Spaces
Proposed	Bachelor	0.3 Spaces per Unit	67	20
	One-Bedroom	0.5 Spaces per Unit	591	295
	Two-Bedroom	0.8 Spaces per Unit	136	108
	Three-Bedroom	1.0 Spaces per Unit	98	98
	Total Residential	-	892	521
	Visitor	0.10	892	89
	Total for Proposed Building			**610**

As shown above, a minimum of 610 parking spaces are required based on the application of PA-1 By-law rates to the development. In comparison, **a total of 417 spaces are proposed for the development** (5 at-grade and 412 underground over 2 levels). 87 spaces will be allocated as visitor parking while the remaining 330 spaces are allocated for residential use (**average rate of 0.37 spaces/unit**). Notwithstanding the City's By-law requirement, **there are several justification factors in addition to the TDM measures being proposed.**

7.2 ONGOING AND APPROVED REDUCED RESIDENTIAL VEHICULAR PARKING

While the parking needs of each development varies site by site, reduced vehicular parking provision (relative to the City By-law 569-2013) is common in urban environments with convenient transit and active transportation access. The proposed development is located within walking distance to Dundas West-Bloor Mobility Hub including the following services:

- 2 subway stations (Dundas West and Lansdowne) to access Line 2;
- Regional Kitchener GO and UP Express services at the Bloor Station;
- 3 streetcar routes that connect to various parts of the downtown core; and
- 1 regular bus route along Symington.

In addition, the site is steps from the recently completed Bloor Bikeway extension that provides protected cycle tracks and enhanced pedestrian realms for pedestrian. Based on the development's context, the past approvals and current development proposals in the City for reduced vehicular parking are summarized in **Table 7-3**. The average residential parking supply rate and transit/bike scores are presented relative to the proposed development.

Table 7-3: Developments with Reduced Residential Parking in Similar Context

Development Address (magnitude)	Approval Process	Residential Parking Supply	Transit and Bike Scores
571 to 597 Bloor Street West, 783 to 782 Bathurst Street, 26 to 38 Lennox Street, 581 to 603 and 588 o 612 Markham Street – former Honest Ed's and Mirvish Village development (806 units)	OPA & Rezoning Approved (Apr 28, 2017)	248 spaces Resident ratio: 0.31 spaces/unit	98 transit score 100 bike score
158 Sterling Road (243 units)	Under review	84 spaces Resident ratio: 0.35 spaces/unit	98 transit score 100 bike score
1660 Bloor Street West (133 units)	Under review	40 spaces Resident ratio: 0.30 spaces/unit	95 transit score 86 bike score
155 Dundas Street East & 200 Jarvis Street (384 units)	Approved – Site Specific By-law 161-2012	72 spaces Resident ratio: 0.19 spaces/unit	100 transit score 75 bike score
1405 Bloor Street West (326 units)	Under review	101 spaces Resident ratio: 0.31 spaces/unit	99 transit score 92 bike score
Average Residential Supply Rate		**0.29 spaces/unit**	**98 transit score 91 bike score**
Proposed Development		***0.37 spaces/unit***	***99 transit score 92 bike score***

Based on the information presented above, the proposed development's residential vehicular parking supply rate of **0.37 spaces/unit is 28% higher than the average supply rate of other development sites that have similar transit and active transportation access. Overall, the residential supply is being reduced in areas with excellent non-auto mobility options to encourage more sustainable transportation.**

7.3 PROXY SURVEYS

Given the current COVID-19 context and the associated travel restrictions and social distancing policies, proxy surveys are not feasible. As an alternative suggested by City staff in recent projects, representative proxy surveys of other condominiums with similar transit and active transportation context can be considered. Accordingly, various proxy results are presented in **Table 7-4** to investigate the appropriateness of the proposed residential parking rate of 0.37 spaces/unit for the subject development. Many of the selected sites have walking distance access to subway stations and streetcar routes.

Table 7-4: Proxy Surveys at Condominiums with Similar Context

Development (magnitude)	Transit & Bike Scores	Peak Residential Parking Rate Surveyed	Date of Surveys
51 Trolley Crescent (352 units)	100 transit score 57 bike score	0.22 spaces/unit[1]	Saturday January 18, 2014
350 King Street W (465 units)	100 transit score 97 bike score	0.11 spaces/unit[1]	Tuesday & Saturday January 14/18, 2014
21 & 25 Carlton St (732 units)	100 transit score 83 bike score	0.30 spaces/unit[1]	Tuesday & Saturday January 14/18, 2014
8 Mercer Street (412 units)	100 transit score 90 bike score	0.17 spaces/unit[2]	Wednesday & Friday February 10/12, 2016
Average	100 transit score 82 bike score	**0.20 spaces/unit**	
Proposed Development	99 transit score 92 bike score	**0.37 spaces/unit**	

1 Referenced from 2978 Dundas Street West TIS, January 2018

2 Referenced from 60, 64 Queen Street East and 131, 133, 135 Church Street TIS, January 2018

As shown in Table 7-4, **the proposed residential supply rate of 0.37 spaces/unit is higher than the average and the maximum surveyed residential demands from four different sites**. The comparison also indicates that the 4 proxy condominium sites have similar transit and bike scores as the subject site.

7.4 MARKETING DATA

WSP has worked with various developers in the downtown context with similar transit and bike scores to collect marketing data for vehicular parking demand. Marketing data is a strong indicator for demand in vehicular parking purchase when the sale of the space is unbundled from the unit (as is the case with the proposed development). Some relevant marketing data are presented in **Table 7-5.**

Table 7-5: Marketing Sales Data for Other Downtown Approved Developments

Address	Transit & Bike Scores	Unit Type	Parking Demand Rate (Based on sales)	Units	Blended Residential Rate
215-219 Church Street	100 transit score 84 bike score	Bachelor	0.01 space per unit	103	0.20 spaces/unit
		One-Bedroom	0.10 space per unit	259	
		Two-Bedroom	0.33 space per unit	196	
		3-Bedroom	0.63 space per unit	46	
171 East Liberty Street	92 transit score 86 bike score	Bachelor	0 space per unit	3	0.33 spaces/unit
		One-Bedroom	0.068 space per unit	183	
		Two-Bedroom	0.754 space per unit	61	
		3-Bedroom	1.037 space per unit	32	
8 Mercer Street	100 transit score 90 bike score	Bachelor	N/A	68	0.30[1] spaces/unit
		One-Bedroom	N/A	222	
		Two-Bedroom	N/A	112	
		3-Bedroom	N/A	10	
Average	96 transit score 85 bike score	**0.28 spaces/unit**			
Proposed Development	99 transit score 92 bike score	**Proposed residential supply: 0.37 spaces/unit**			

1 Referenced from 88 North Mixed-use Development TIS , December 18, 2015

The results show that the **proposed residential supply of 0.37 spaces/unit is higher than the average of the marketing demand observed at the three approved sites**. The comparison of the parking demand is appropriate given the fact that the transit and bike scores are similar between the two sites and the proposed developments are all condominiums.

7.5 CITY PARKING MINIMUM POLICY REVIEW UNDERWAY

The City has recently acknowledged in publications and public notices such as PH20.4 – proposed review of parking requirements for new development (Agenda Item History - 2021.PH20.4 (toronto.ca), that:

- *This report responds to a request from Planning and Housing Committee for information related to parking requirements for new developments. The City establishes its parking requirements for new development in zoning by-laws. A review of these requirements is timely. The last review of these standards concluded in 2013.*
- *The demand for parking is shifting as a result of societal changes and other factors. Decreases in automobile ownership and increases in the popularity of automobile alternatives have influenced parking demand in many new developments.* ***Ongoing significant investments in transit infrastructure are intended to provide travel choices to more people and reduce demand for automobile-based travel. Removing minimum automobile parking requirements from and increasing the use of maximum automobile parking requirements in zoning by-laws*** *would also reduce the risk of a future oversupply of automobile parking.*

7.6 AUTO PARKING SUMMARY

Based on the comprehensive review of the proposed/approved residential parking rates, proxy survey results and marketing data of other condominium developments with similar transit and active transportation context, it can be concluded that the proposed residential supply rate of 0.37 spaces/unit is adequate. Additional parking provided beyond this rate would either be underutilized or be a catalyst to encourage people to drive. The Travel Demand Management (TDM) measures proposed in Section 8 will also help encourage residents and visitors to adopt a non-auto mode of transportation. The proposed visitor parking rate of 0.10 spaces/unit meets the City's By-law requirement and will help ensure visitor parking needs are accommodated internal to the site. Therefore the overall parking rate of 0.47 spaces/unit for the development is appropriate given the site's transit and active transportation context.

7.7 BICYCLE PARKING

7.7.1 BICYCLE PARKING REQUIREMENTS

The bicycle parking requirements for the proposed development based on the harmonized By-law 569-2013 and the Toronto Green Standard requirements have been calculated. The proposed development is located in Bicycle Zone 1. **Table 7-1** summarizes the bicycle parking requirements for the site.

Table 7-1: Bicycle Parking Standards according to Zoning by-law 569-2013 (Bicycle Zone 1)

Land Use	Bicycle Parking Rates		Units	Bicycle Parking Requirements		Total Required Bicycle Parking
	Short-Term (visitor)	Long-Term (Residents)		Short-Term (visitor)	Long-Term	
Residential	0.1 spaces/Unit	0.9 spaces/Unit	892	90 spaces	803 spaces	893 spaces

7.7.2 BICYCLE PARKING SUPPLY

A total of 952 bicycle parking spaces, including 106 short-term and 846 long-term spaces, are provided as part of the development. This supply more than satisfies the City's bicycle parking requirements for the proposed development. **The extra 59 bicycle parking spaces proposed will help support the site to be less reliant on the auto mode and encourage active transportation** given the site's proximity to the recently implemented Bloor cycle track.

8 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a general concept that includes various strategies that increase transportation system efficiency by managing the demand for travel. TDM treats mobility as a means to an end, rather than an end in itself, and emphasizes the movement of people and goods rather than motor vehicles. Generally speaking, TDM initiatives discourage single-occupant vehicle travel and encourage more efficient modes such as walking, cycling, ridesharing, public transit and teleworking, particularly under congested conditions. In the context of an urban environment, TDM elements are an essential part of any progressive transportation and traffic plan for a proposed development.

The objective of the proposed TDM strategy is to inform, encourage and facilitate the utilization of the non-automobile travel opportunities within the study area. In order to achieve this, it is recommended that the marketing strategy for the proposed residential development highlight key characteristics based on the below items via knowledgeable sales staff and visually attractive information packages so as maximize the success of these TDM strategies and minimize the need for automobile use. The following TDM strategies are recommended to be considered as part of the proposed development.

8.1.1 TRANSIT AND PRESTO CARDS

Preloaded PRESTO cards (i.e. $25 per card) could be provided to the residents as part of the move in welcome package as an incentive to use public transit. This initiative provides residents the opportunity to try the excellent transit services in proximity of the site and to adopt a transit-dependent life-style. Additional incentives could be provided to units that choose not to purchase a parking space.

8.1.2 UNBUNDLING OF PARKING

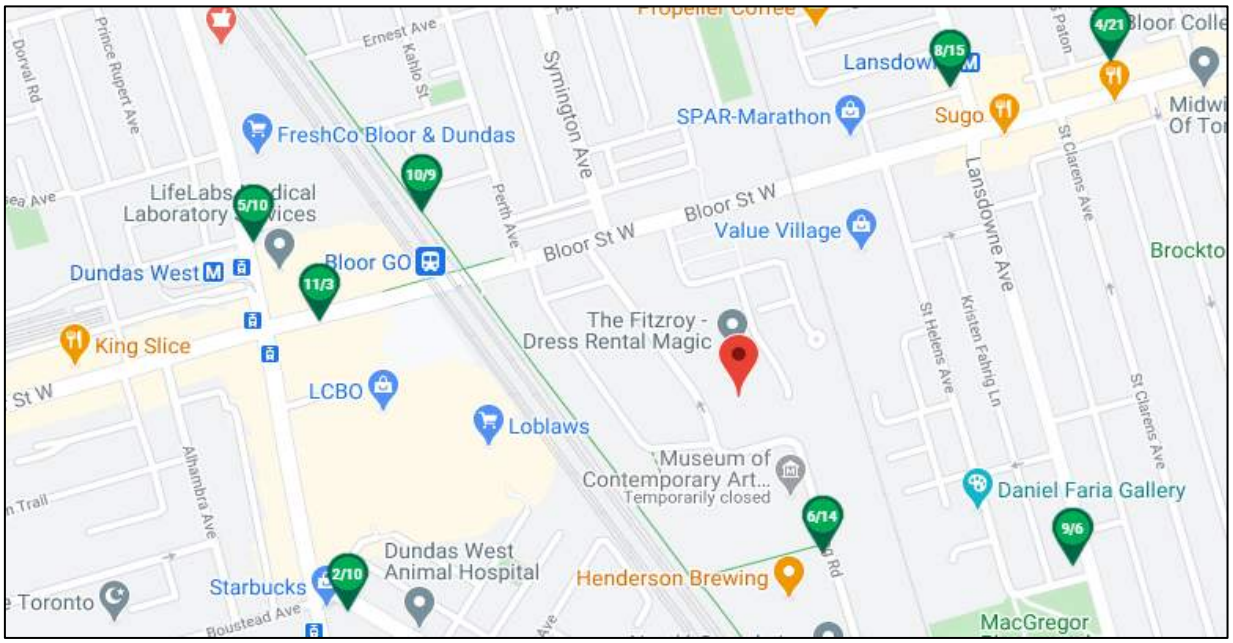
Parking spaces are expensive and add to the cost of rental or unit purchases. The parking spaces can be unbundled from the unit purchase so that residents are motivated and have the option to save cost by taking transit or using active transportation. The unbundling of parking from a unit sale has been a well documented TDM measure in urban context. At the other development sites noted in Section 7 where marketing data was available, it was observed that the unbundled approach resulted in lower auto parking purchases than the approved minimum parking requirements.

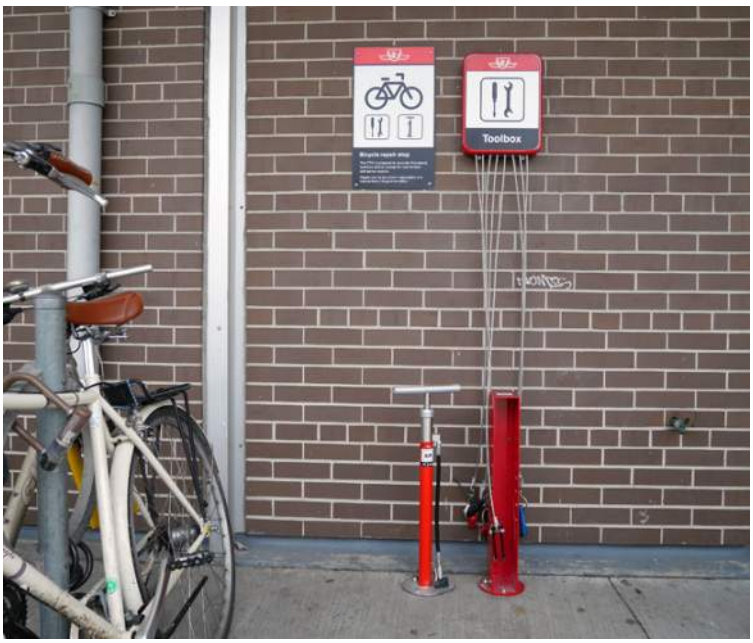
8.1.3 ON-SITE MOBILITY ALTERNATIVES INFORMATION AND INCENTIVES

Information regarding transit availability (i.e., schedule and stop locations) and available cycling facilities and connections will be available on-site in a convenient and logical location (i.e., elevator or lobby screen), and/or be included as part of the welcome package to residents of the development to inform them of the alternatives available to them. In addition, the site is within walking and cycling distance to a wide array of retail, service shop, recreational and community uses along Bloor Street West and Dundas Street West. For example, there is a Freshco, Loblaws, LCBO and secondary school within a 500 m radius of the subject site. The proximity of these utilitarian uses to the site allows residents to walk to these uses instead of driving the short distance and having to look for a parking space.

8.1.4 ENCOURAGING THE USE OF ACTIVE TRANSPORTATION

Residents will have access to ample of bicycle parking internally (59 spaces beyond the City's minimum) as well as have easy access to one of the many City of Toronto Bikeshare stations as shown below with the green circles. Information about available City cycling facilities and infrastructure should be distributed to residents and displayed at prominent locations to maximize the utilization of these facilities and minimize the use of automobiles. As noted earlier, there are sidewalks on both sides of the study road network and the site is in close proximity to the recently installed cycle track along Bloor Street West. This ensures that residents and visitors have a suitable walking and cycling environment for both utilitarian and recreational uses. Providing an on-site bicycle repair station similar to those present at subway station entrances can also be a way to encourage cycling as a day to day mode of transportation.





9 CONCLUSIONS

This TIS has assessed the ability of the road network to accommodate the proposed residential redevelopment at 221–227 Sterling Road which is comprised of 892 units.

When considering the displacement of the existing retail uses on site, the subject development is forecasted to generate a net total of 49 and 17 auto trips during the a.m. and p.m. peak hours, respectively. The analysis indicates that the traffic impacts of the development proposal on the boundary road network are minimal and the auto trip generation can be readily accommodated by the study road network. The pedestrian and transit assessments also indicate no issues for non-auto modes.

The proposed loading supply features two Type "G" and one Type "C" loading spaces more than satisfy the By-law requirements.

As part of the development, the existing dead-end of Ruttan Street is proposed to be extended further south to connect to Sterling Road. The extension will form a public road frontage for the proposed development to front onto (including the site driveway) and enhance the connectivity for the community that currently rely on the intersection Bloor and Ruttan for vehicular access. 15.3m of private property from the subject site is proposed towards the public road right-of-way (ROW). City staff have advised that the minimum overall ROW for the extension of Ruttan Street should be 16.5m. Any further ROW required by the City would need to be contributed by future development along the west side of Ruttan Street.

From an auto parking perspective, the development proposes an overall rate of 0.47 spaces/unit (0.37 for residents and 0.10 for visitors). The residential parking supply rate of 0.37 spaces/unit is adequate based on the evaluation of marketing data, proxy surveys and approved or proposed rates from other condominium developments with similar transit and active transportation access. A robust package of TDM measures are recommended to further encourage residents and visitors to adopt a non-auto and sustainable mode of transportation.

The proposed bicycle parking supply of 952 spaces exceeds the City's requirements by 59 spaces and is an excellent means of encouraging cycling in tandem with the site proximity to the recently implemented Bloor Street cycle track.

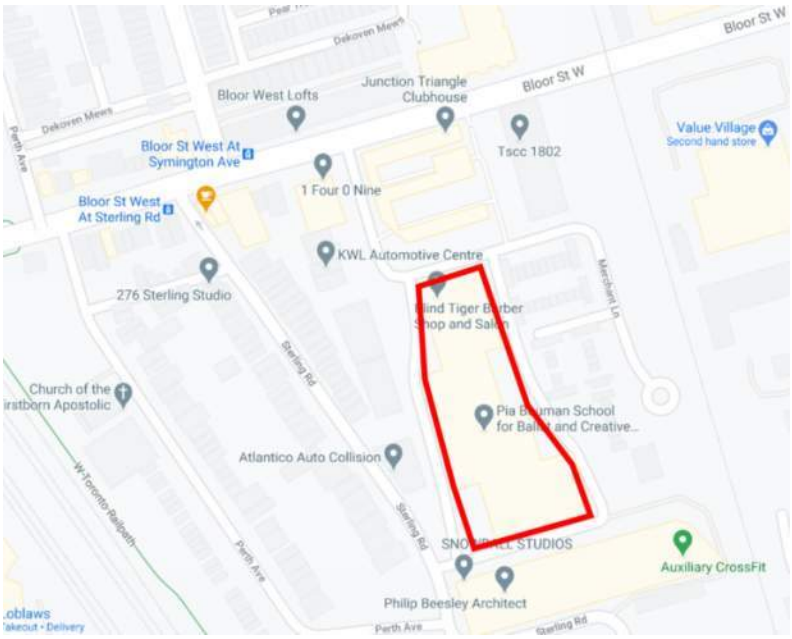
APPENDIX

A Terms of Reference

To:	City of Toronto	Date:	September 30, 2020
From:	Peter Yu, WSP Canada Ltd.		
Subject:	Terms of Reference – TIS 221 - 225 Sterling Road		

WSP is undertaking a Transportation Impact Study (TIS) for the proposed mixed-use development application located at 221 – 225 Sterling Road in the City of Toronto. The preliminary concept of the development is comprised of three condo towers (approximately 733 residential units), and ground floor retail space as shown below.

Approximate Location of Development



Given the surrounding road network, one vehicular access will be provided onto the extension of Ruttan Street (extending from the current cul-de-sac south to connect to Sterling Road). The TIS will evaluate the multi-modal impact of the proposed development as well as the feasibility of the access arrangement.

The proposed scope of the TIS is outlined below for the City's confirmation:

1. Traffic Data Collection

Based on the type and location of the development, we have identified the following study intersections:

- Bloor Street West and Lansdowne Avenue (signalized);
- Bloor Street West and Ruttan Street (unsignalized);
- Bloor Street West and Symington Avenue (signalized);
- Bloor Street West and Sterling Road (signalized);
- Bloor Street West and Dundas Street West (signalized);
- Dundas Street West and Sterling Road (signalized);

- Ruttan Street and Merchant Lane (unsignalized);
- Sterling Road and Perth Avenue (unsignalized); and
- Sterling Road and Existing 221-225 Sterling Road site access (future Ruttan Street extension) (unsignalized intersection).

Due to the current COVID-19 pandemic conditions, new traffic data collection cannot be collected because volumes are not typical. As a result, WSP will purchase the available TMCs from the City and other sources for the typical weekday a.m. and p.m. peak hours at the study intersections. We will also purchase traffic signal timing plans from the City for the signalized intersections noted above, as well as transit ridership data from the TTC for bus and subway routes.

2. Existing Traffic Analysis

We will analyze the existing conditions using the Synchro 10.0 Traffic Software, which is the software implementation of the Highway Capacity Manual 2010, the recognized standard for traffic operations analysis in North America. The existing conditions will be modelled based on the existing transportation network and the peak hour traffic volumes. The City of Toronto Synchro Guidelines will be referenced for this project.

3. Future Background Traffic Analysis

a. Based on the anticipated completion of the development, a **five-year horizon period of 2025** will be evaluated for future conditions. We will review the City's historical AADT records to determine if general growth are applicable along the boundary roadways.

b. Confirm with the City any **future road/intersection improvements** within the study area, which are anticipated to be in place within the 5-year horizon and incorporate future lane configurations, if applicable.

c. We will review the City's development application webpage to determine the applicable background developments to include within the study area.

d. Estimate the traffic increases related to these other developments (if not available through site specific traffic impact studies) and assign this traffic to the boundary roadways in the vicinity of the subject site.

e. Develop the future background traffic forecast for the 5-year horizon, on the basis of the existing traffic volumes, applicable traffic growth rate, and anticipated future traffic related to other developments in the vicinity of the site.

f. Analyze the future background traffic operations on the basis of 5-year background traffic forecasts. This includes identifying whether improvements to the study area road network are required as a result of other background developments and general background traffic growth in the area.

4. Trip Generation and Assignment

a. Develop the weekday a.m. and p.m. peak hour site traffic from the development using the methodology outlined in the Institute of Transportation Engineers (ITE) Trip Generation

Manual, 10th Edition. If available from the background review, the study will use established trip generation rate to reflect site-specific characteristics.

b. Transportation Tomorrow Survey (TTS) information will be consulted to determine the applicable non-auto modal adjustments to be applied. Given the proximity of the site to higher order transit facilities, a substantial non-auto modal split is anticipated.

c. The site-generated traffic volume will be assigned to the study road network based on the existing traffic patterns, the future road network (i.e., Ruttan extension), as well as the TTS distribution information. The traffic volumes generated by the existing land uses on the site will also be removed from the study road network since these buildings will be displaced after the development is complete.

5. Future Total Traffic Analysis

a. The 2025 future total traffic volumes at the site driveway and boundary intersections will be developed by superimposing the weekday a.m. and p.m. peak hour site-generated traffic volumes onto the future background traffic forecasts.

b. Perform a detailed capacity analysis to determine the 2025 future total traffic operations for the study intersection and the proposed site driveway. Based on the findings, quantitative results and commentary on traffic operations within the study area will be provided. The focus of the assessment will be on the traffic operation impact associated with the proposed development.

c. Identify any road and/or traffic operation improvements that may be required based on the future total traffic operations. Sensitivity scenarios will be evaluated if necessary to understand the implication of different improvements.

6. Multi-Modal Analysis

A multi-modal analysis of pedestrian and transit modes will be conducted given the proximity of the development site to a wide range of transit services. As a result, a comprehensive review of the needs and impacts on these alternative travel modes will be undertaken. The methodology of the multi-modal analysis will be a hybrid of the City of Ottawa's MMLOS Guidelines developed in 2015 & 2017, as well as the City's best practices.

7. Parking Review

a. Review the proposed automobile parking supply for the proposed development relative to the pertinent Zoning By-law and comment on the appropriateness of the arrangement based on the site context and proposed TDM measures.

b. Review the proposed bicycle parking supply of the development relative to the City of Toronto Zoning By-law 569-2013 Chapter 230 Bicycle Parking Space Regulations and Toronto Green Standards. This includes breakdown between visitor versus long-term spaces, and the location of the parking provision.

8. Loading Assessment

Evaluate the loading requirements of the proposed development with consideration of the City of the applicable By-law. This includes the dimensions of the loading bays, garbage room setup and design specifications.

Please provide your input on the above noted terms of reference at your earliest convenience.

Yours Sincerely,

Peter Yu, P. Eng., PMP
Project Manager
Transportation Planning and Advisory Services

APPENDIX

B Traffic Data

LOCATION:	**Dundas St W & Bloor St W**
MODE/COMMENT:	**FXT - 2-Wire Polara APS, RLC, TSP*, LBO Signs & LPI**
TCS:	**327**
PREPARED BY / DATE:	**Alvin Luk / WSP / August 11, 2020**
CHECKED BY / DATE:	**Ihtesham Ahmad / September 17, 2020**
IMPLEMENTATION DATE:	

ATO (District) / WARD:	**1 (Toronto-East York/Scarborough) / 4**
COMPUTER SYSTEM:	**TransSuite**
CONTROLLER/CABINET TYPE:	**PEEK ATC - 1000 / TS2 T1**
CONFLICT FLASH:	**Red & Red**
DESIGN WALK SPEED:	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
CHANNEL/DROP:	**4005/43**
CONTROLLER FIRMWARE:	**3.018.1.2976**

NEMA Phase		OFF	AM	PM	NIGHT	WKND	Phase Mode	Remarks
		All Other Times	06:30-09:30 M-F	15:15-18:30 M-F	22:00-06:00 Daily	10:00-19:00 Sat & Sun	(Fixed/Demanded/Callable)	
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	Split Table	Split 1	Split 2	Split 3	Split 4	Split 5		
1 NOT USED	WLK							Pedestrian Minimums: NSWK = 7 sec NSFD = 17 sec; EWWK = 7 sec EWFD = 18 sec
	FDW							Left-Turn Passage Time = 2 sec
	MIN							APS on during FULL WALK periods when activated by pushbuttons and no arrows are displayed.
	MAX1							Extended Push Activation = 3 sec
	AMB							See back for TSP instructions.
	ALR							
	SPLIT							
Dundas St W 2	WLK DLY	5					Fixed. POZ activated by Request Loop. (Max extension of 14 sec in Green/Walk & 16 sec in Green/Don't Walk)	**TSP NS enabled on November 18, 2016**
	WLK	7						Scripts 5 and 6 are used for driving LBO signs to prohibit Northbound and Southbound LTs. Load switch 16 is used to drive LBO signs.
	FDW	17						NS Leading Pedestrian Interval - NSWK comes up 5 seconds before NS vehicle green
	MIN	19						2 far-side (primary and secondary) LED black-out signs (LBO) for the EBL prohibition
	MAX1	25						
	AMB	3.0						
	ALR	3.0						
	SPLIT		36	36	38	37	36	Split shown includes 5 sec of NS LPI
3	WLK						Fully protected. Callable and extendable by stop bar Wavetronix.	
	FDW							
	MIN	6						
	MAX1	7						
	AMB	3						
	ALR	2						
	SPLIT		12	12	12	12	12	
Bloor St W 4	WLK	7					Fixed.	
	FDW	18						
	MIN	25						
	MAX1	25						
	AMB	3.0						
	ALR	3.3						
	SPLIT		32	42	40	36	32	
5 NOT USED	WLK							
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
Dundas St W 6	WLK DLY	5					Fixed. POZ activated by Request Loop. (Max extension of 14 sec in Green/Walk & 16 sec in Green/Don't Walk)	
	WLK	7						
	FDW	17						
	MIN	19						
	MAX1	25						
	AMB	3.0						
	ALR	3.0						
	SPLIT		36	36	38	37	36	Split shown includes 5 sec of NS LPI
7 NOT USED	WLK							
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
Bloor St W 8	WLK	7					Fixed.	
	FDW	18						
	MIN	25						
	MAX1	37						
	AMB	3.0						
	ALR	3.3						
	SPLIT		44	54	52	48	44	
	CL		80	90	90	85	80	
	OF		8	34	77	64	8	

NOTES: NBLT movement prohibited during 7:00 A.M - 7:00 P.M, Mon - Sat

LOC:	Dundas St W & Bloor St W
MODE:	FXT - 2-Wire Polara APS, RLC, TSP*, LBO Signs & LPI
TCS:	327 ***PREPARATION DATE (TIMING CARD):*** August 11, 2020

OFFSET CORRECTION PARAMETERS

2.3.4 O.C. Extend / Reduce *(Max. time added & subtracted in sec)* From page 1

		Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 7	Ø 8	[Cycle]	[Slop]	**2.3.5 O.C. Thres.**
OFF												Pattern 1
Split 1	Ext.	--	19	--	19	--	19	--	19	80	2	**5** s [6 %]
	Rdc.	--	--	1	1	--	--	--	2			
AM												Pattern 2
Split 2	Ext.	--	17	--	17	--	17	--	17	90	11	**22** s [24 %]
	Rdc.	--	--	1	10	--	--	--	11			
PM												Pattern 3
Split 3	Ext.	--	17	--	17	--	17	--	17	90	11	**22** s [24 %]
	Rdc.	--	2	1	8	--	2	--	9			
NIGHT												Pattern 3
Split 4	Ext.	--	16	--	17	--	16	--	17	85	7	**20** s [24 %]
	Rdc.	--	1	1	5	--	1	--	6			
WKND												Pattern 3
Split 5	Ext.	--	19	--	19	--	19	--	19	80	2	**5** s [6 %]
	Rdc.	--	--	1	1	--	--	--	2			

OC correction parameters are proposed by TTC.

Phase 2/6 must not be reduced to minimums due to firmware 3.18.1.2976 issue with LPI and TSP.

For Patterns 1, 4 & 5, OC Thres set to 3x OC Rdc. Phase 4/8 OC Rdc also reducing fractions of a second. These measures are used due to limited slop.

T.S.P. PARAMETERS

PREPARED: AL

	TSP RUN # 1** NB Thru	**TSP RUN # 2** NB Thru	**TSP RUN # 5**** SB Thru	**TSP RUN # 6** SB Thru
2.8.2 Transit Run Parameters				
ATC Green Extend Mode (Equivalent TTC Algorithm)	Mode 0 B-2	Mode 2* A*	Mode 0 B-2	Mode 2* A*
2.8.3 Transit Action Plan 1 (Used for all Patterns)				
Run Enable (X = Yes)	X	X	X	X
Run Config = **1** / Recovery = 2 (O.C. with delay)				
2.8.4 Transit Run Configuration 1				
Delay / Extend / Fail	-- / -- / 235	-- / -- / 235	-- / -- / 235	-- / -- / 235
CALLS (and Extends)	**Ø 2/6**	**Ø 2/6**	**Ø 2/6**	**Ø 2/6**
Skips	--	--	--	--
Reduces (Truncates)	--	--	--	--

2.8.6 TSP Split Tables: 1, 2, 3, 4 & 5	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 7	Ø 8
GRN EXT (SDW Extension)	--	+16	--	--	--	+16	--	--
GRN RDC (Reduction)	--	--	--	--	--	--	--	--
WLK EXT (Walk Extension)	--	+14	--	--	--	+14	--	--

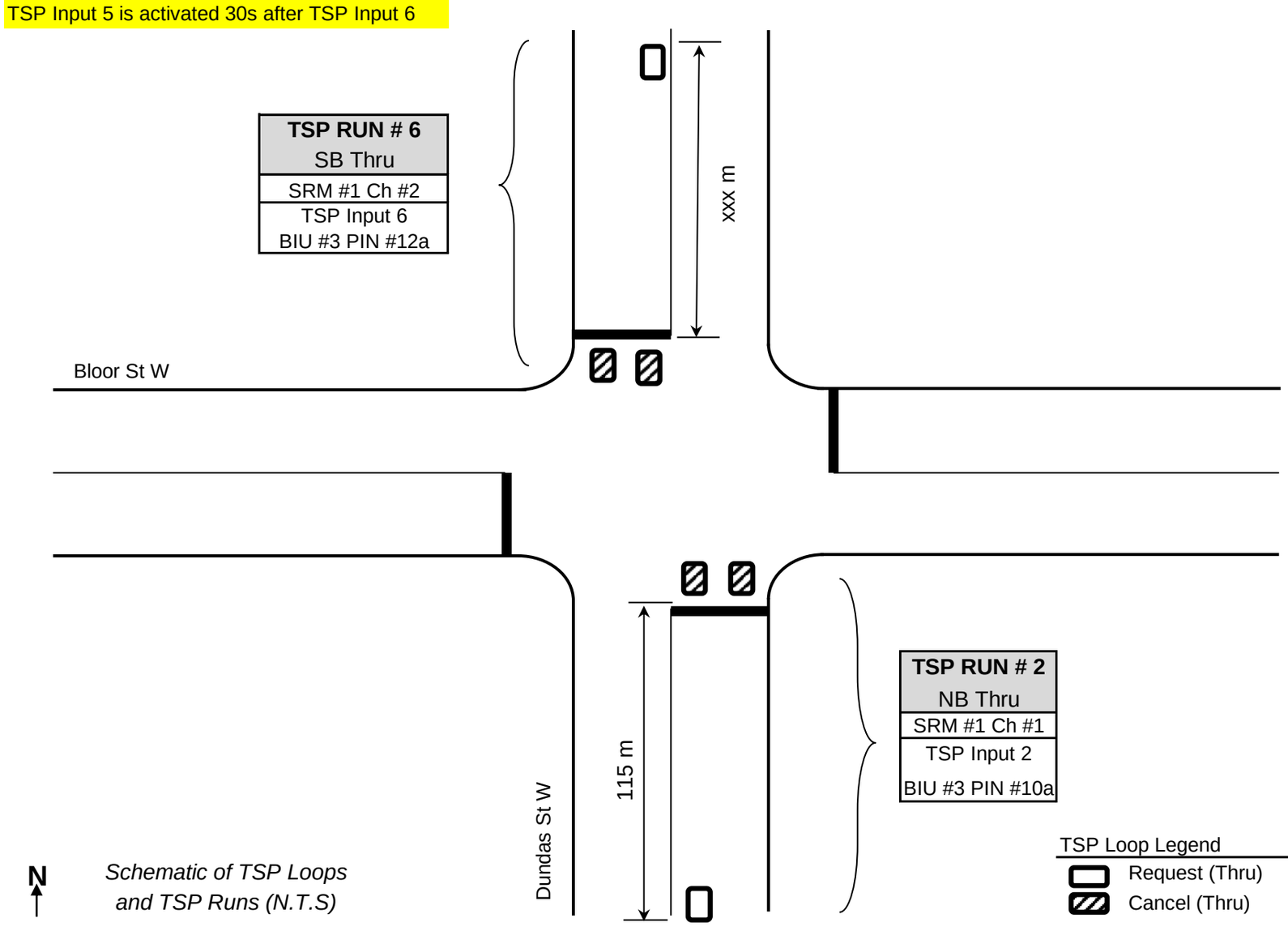
2.1.9.2 Advanced I/O Scripts

Input Script #3: "TCS327AlgorithmC"

TCS612 TSP Input filter C emulated Alg C using Alg A and Alg B-2 due to firmware issue

TSP Input 1 is activated 30s after TSP Input 2

TSP Input 5 is activated 30s after TSP Input 6



Schematic of TSP Loops and TSP Runs (N.T.S)

Notes:

**Due to a firmware issue, Alg C is emulated using Alg A and Alg B-2

Previous scripts #3 and #4 used for emulating TSP Algorithm C are replaced with simplified Script #3 TCS327AlgorithmC

ATC Mode	0	2	3	4
TTC Algor'm	**B-2**	**A**	**C**	**D**
Extensions	SDW	Walk	W/SDW	W/SDW

TSP SUMMARY

Maximum Green Extensions:

EWG: 14 s Green/Walk & 16 s Green/Don't Walk

LOCATION:	**Bloor St W & Lansdowne Ave**	**ATO (District) / WARD:**	**1 (Toronto-East York/Scarborough) / 9**
MODE/COMMENT:	**FXT with 2-wire Polara APS & LBO Signs**	*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**326**	*CONTROLLER/CABINET TYPE:*	**Econolite ASC/3 - 2100 / TS2 T1**
PREPARED BY/DATE:	**WSP / August 11, 2020**	*CONFLICT FLASH:*	**Red & Red**
CHECKED BY/DATE:	**Alvin Luk / Ihtesham Ahmad / August 26, 2020**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**September 30, 2020**	*CHANNEL/DROP:*	**4005/4**
		CONTROLLER FIRMWARE:	**2.47.10**

N

NEMA Phase		OFF All Other Times	AM 06:45-09:30 M-F	PM 15:15-18:30 M-F	NIGHT 22:00-06:00 Daily	WKND 10:00-19:00 Sat & Sun	Phase Mode (Fixed/Demanded/Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	System Plan	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5		
1 NOT USED	WLK							Pedestrian Minimums: EWWK = 7 sec EWFD = 19 sec NSWK = 7 sec NSFD = 15 sec
	FDW							
	MIN							Left Turn Passage Time = 2 sec
	MAX1							APS on during FULL WALK periods for NSWK & EWWK when activated by push button and only when no arrows are displayed.
	AMB							
	ALR							Extended Pushbutton Activation = 3 sec
2 Bloor St W	WLK 7						Fixed	NBLA signal head has been installed and programmed in the controller on July 20, 2017. The NBLA phase was activated on August 24, 2017.
	FDW 19							
	MIN 26							2 near-side and far-side LED black-out signs (LBO) for the EBR prohibitions.
	MAX1 44							
	AMB 3							2 far-side (primary and secondary) LED black-out signs (LBO) for the WBL prohibitions.
	ALR 3.6							
	SPLIT	51	59	54	46	51		2 far-side (primary and secondary) LED black-out signs (LBO) for the EBL prohibitions.
3	WLK						Callable/Extendable by Wavetronix Overhead Detector Calibrated for 9m setback	
	FDW							
	MIN 6							
	MAX1 7							
	AMB 3							
	ALR 1							
	SPLIT	11	13	12		11		
4 Lansdowne Ave	WLK 7						Fixed	
	FDW 15							
	MIN 22							
	MAX1 22							
	AMB 4							
	ALR 2							
	SPLIT	28	28	34	29	28		
5 NOT USED	WLK							
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
6 Bloor St W	WLK 7						Fixed	
	FDW 19							
	MIN 26							
	MAX1 44							
	AMB 3							
	ALR 3.6							
	SPLIT	51	59	54	46	51		
7	WLK						Callable/Extendable by Wavetronix Overhead Detector Calibrated for 9m setback	
	FDW							
	MIN 6							
	MAX1 6							
	AMB 3							
	ALR 1							
	SPLIT			11				
8 Lansdowne Ave	WLK 7						Fixed	
	FDW 15							
	MIN 22							
	MAX1 33							
	AMB 4							
	ALR 2							
	SPLIT	39	41	35	29	39		
	CL	90	100	100	75	90		
	OF	43	38	20	52	45		

NOTES:
WBL movement restricted between 7:00 A.M - 6:00 P.M, Mon - Sat
EBL movement restricted between 7:00 A.M - 6:00 P.M, Mon - Sat
EBR movement restricted between 7:00 A.M - 6:00 P.M, Mon - Sat

LOCATION:	**Bloor St W & Symington Ave/Sterling Rd**					**ATO (District) / WARD:**	**1 (Toronto-East York/Scarborough) / 9**
MODE/COMMENT:	**SAP with PR**					*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**1062**					*CONTROLLER/CABINET TYPE:*	**Econolite ASC/3-2100 / TS2T1**
PREPARED BY/DATE:	**WSP / August 11, 2020**					*CONFLICT FLASH:*	**Red & Red**
CHECKED BY/DATE:	**Tony Zhao / Ihtesham Ahmad / August 26, 2020**					*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**September 25, 2020**					*CHANNEL/DROP:*	**4005/5**
						CONTROLLER FIRMWARE:	**2.47.10**

N

		OFF	AM	PM	NIGHT	WKND	Phase Mode	Remarks
		All Other Times	**06:30-09:30 M-F**	**15:15-18:30 M-F**	**22:00-06:00 Daily**	**10:00-19:00 Sat & Sun**	**(Fixed/Demanded/Callable)**	
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	System Plan	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5		
1 NOT USED	WLK							Pedestrian Minimums: EWWK = 7 sec, EWFD = 14 sec NSWK = 7 sec, EWFD = 12 sec
	FDW							
	MIN							SB phase is callable by vehicle or pedestrian actuation with the NSWK & NSFD displayed on both East & West leg pedestrian crossings. NB phase is callable by vehicle actuation only. If a NB vehicle call is received, the minimum is 7 seconds. If ongoing NB vehicle demand exists on the Wavetronix detector, the NBG is capable of providing vehicle extensions up to the maximum. The unused time is given to EWG.
	MAX1							
	AMB							
	ALR							
	SPLIT							
2 Bloor St W	WLK	7					Fixed	SB and NB phases are callable and skippable. If SB and NB detectors are both active at the end of the EW phase, the SB phase is served first followed by the NB phase. If only the SB detector is active at the end of the EW phase, only the SB phase is served (and any late NB demand will only be served the following cycle). SB and NB phases are only permitted once per cycle.
	FDW	14						
	MIN	21						
	MAX1	40						
	AMB	3						
	ALR	3						
	RED MAX	4.7						
	SPLIT		46	55	55	40	46	
3 Symington Ave	WLK	7					Callable by Wavetronix and/or push button.	Floating force off is used, if phase 3 is skipped, then unused time is given to the EWG.
	WLK MAX	8						
	FDW	12						Decision point for side street demand is at the end of the EWFD.
	MIN	19						
	MAX1	20						Side Street Passage Time = 3 sec
	AMB	4						
	ALR	3						Signal serves 8 seconds of NSWK (WLK MAX value) during coordinated patterns.
	SPLIT		29	29	29	29	29	
4 Sterling Rd	WLK						Callable and extendable by Wavetronix NBRA active concurrently with NBG	ALR for phases 2 and 6 is 4 seconds. Due to the controller design, a value greater than 3 will cause the coordinated phase to rest in green and don't walk. To work around this issue, a red max value of 4.7 seconds is used. Through logic statements, phases 2 and 6 ALR (3 sec) are forced to extend by 2 seconds. These extra seconds will be taken from the next phase following phase 2 and 6. In this case, phase 3 will only time 27 seconds instead of the programmed 29 seconds.
	FDW							
	MIN	7						
	MAX1	8						
	AMB	4						
	ALR	3						
	SPLIT		15	16	16	16	15	
5	WLK						Fixed SBRA on concurrently with EBLA.	
	FDW							
	MIN	6						
	MAX1	7						
	AMB	3						
	ALR	1						
	SPLIT		11	11	11	11	11	
6 Bloor St W	WLK	7					Fixed	
	FDW	14						
	MIN	21						
	MAX1	29						
	AMB	3						
	ALR	3						
	RED MAX	4.7						
	SPLIT		35	44	44	29	35	
7 NOT USED	WLK	7						
	WLK MAX	8						
	FDW	12						
	MIN	19						
	MAX1	20						
	AMB	4						
	ALR	3						
	SPLIT		29	29	29	29	29	
8 NOT USED	WLK							
	FDW							
	MIN	7						
	MAX1	8						
	AMB	4						
	ALR	3						
	SPLIT		15	16	16	16	15	
	CL		90	100	100	85	90	
	OF		8	89	64	1	1	

Notes: Sterling Rd is one way north. By-Law signs - No NB right turn on red. No SB right turn on red except with green arrow.

LOCATION:	**Bloor St W & Lansdowne Ave**	*DISTRICT:*	**Toronto & East York**
MODE/COMMENT:	**FXT with 2-wire Polara APS**	*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**326**	*CONTROLLER/CABINET TYPE:*	**Econolite ASC/3 - 2100 / TS2 T1**
PREPARED/CHECKED BY:	**SQ/HL**	*CONFLICT FLASH:*	**Red & Red**
PREPARATION DATE:	**April 26, 2017**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**August 24, 2017**	*CHANNEL/DROP:*	**4005/4**
		CONTROLLER FIRMWARE:	**2.47.10**

N

NEMA Phase		OFF	AM	MIDDAY	PM	NIGHT	SATURDAY	Grdnr Clsr	Phase Mode	Remarks
		All Other Times	06:45-09:30 M-F	09:30-15:15 M-F	15:15-18:30 M-F	22:00-06:00 Daily	06:45-18:30	Times to be determined	(Fixed/Demanded/Callable)	
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Pattern 7		
	System Plan	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7		
1 NOT USED	WLK									Pedestrian Minimums: EWWK = 7 sec EWFD = 19 sec NSWK = 7 sec NSFD = 15 sec Left Turn Passage Time = 2 sec APS on during NSWK & EWWK periods when activated by push button and only when no arrows are displayed. Extended Pushbutton Activation = 3 sec
	FDW									
	MIN									
	MAX1									
	AMB									
	ALR									
	SPLIT									
2 Bloor St W	WLK	7							Fixed	NBLA signal head has been installed and programmed in the controller on July 20, 2017. The NBLA phase was activated on August 24, 2017.
	FDW	19								
	MIN	26								
	MAX1	44								
	AMB	3								
	ALR	3								
	SPLIT		50	50	50	50	46	50	61	
3	WLK								Callable/Extendable by Wavetronix Overhead Detector Calibrated for 9m setback 06:45 - 18:30, M-F & SAT	
	FDW									
	MIN	6								
	MAX1	6								
	AMB	3								
	ALR	1								
	SPLIT		11	11	11		11			
4 Lansdowne Ave	WLK	7							Fixed	
	FDW	15								
	MIN	22								
	MAX1	24								
	AMB	4								
	ALR	2								
	SPLIT		30	29	29	29	29	29	29	
5 NOT USED	WLK									
	FDW									
	MIN									
	MAX1									
	AMB									
	ALR									
	SPLIT									
6 Bloor St W	WLK	7							Fixed	
	FDW	19								
	MIN	26								
	MAX1	44								
	AMB	3								
	ALR	3								
	SPLIT		50	50	50	50	46	50	61	
7	WLK								Callable/Extendable by Wavetronix Overhead Detector Calibrated for 9m setback 15:15 - 18:30, M-F	
	FDW									
	MIN	6								
	MAX1	6								
	AMB	3								
	ALR	1								
	SPLIT					11				
8 Lansdowne Ave	WLK	7							Fixed	
	FDW	15								
	MIN	22								
	MAX1	24								
	AMB	4								
	ALR	2								
	SPLIT		30	40	40	29	29	40	29	
	CL		80	90	90	90	75	90	90	
	OF		37	53	1	52	72	1	63	

NOTES: The NBLA was activated on August 24, 2017 , and the phase is only callable from 15:15 - 18:30 during Monday to Friday.

LOCATION:	**Bloor St W & Symington Ave/Sterling Rd**	*DISTRICT:*	**Toronto and East York**
MODE/COMMENT:	**SAP with PR**	*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**1062**	*CONTROLLER/CABINET TYPE:*	**Econolite ASC/3-2100 / TS2T1**
PREPARED/CHECKED BY:	**AD / DS**	*CONFLICT FLASH:*	**Red & Red**
PREPARATION DATE:	**September 29, 2017**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**January 11, 2018**	*CHANNEL/DROP:*	**4005/5**
		CONTROLLER FIRMWARE:	**2.47.10**

N

		OFF	AM	PM	NIGHT	Grdnr Clsr	Phase Mode	Remarks
		All Other Times	06:30-09:30 M-F	15:15-18:30 M-F	22:00-06:00 Daily	Times to be determined	(Fixed/Demanded/Callable)	
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	System Plan	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5		
1 NOT USED	WLK							Pedestrian Minimums: EWWK = 7 sec, EWFD = 14 sec NSWK = 7 sec, EWFD = 12 sec
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
Bloor St W 2	WLK 7							SB phase is callable by vehicle or pedestrian actuation with the NSWK & NSFD displayed on both East & West leg pedestrian crossings. NB phase is callable by vehicle actuation only. If a NB vehicle call is received, the minimum is 7 seconds. If ongoing NB vehicle demand exists on the Wavetronix detector, the NBG is capable of providing vehicle extensions up to the maximum. The unused time is given to EWG.
	FDW 14							
	MIN 21							
	MAX1 40						Fixed	
	AMB 3							
	ALR 3							
	RED MAX 5							
	SPLIT	46	55	53	41	56		SB and NB phases are callable and skippable. If SB and NB detectors are both active at the end of the EW phase, the SB phase is served first followed by the NB phase. If only the SB detector is active at the end of the EW phase, only the SB phase is served (and any late NB demand will only be served the following cycle). SB and NB phases are only permitted once per cycle.
Symington Ave 3	WLK 7							
	WLK MAX 8							
	FDW 12							Floating force off is used, if phase 3 is skipped, then unused time is given to the EWG.
	MIN 19							
	MAX1 20						Callable by Wavetronix and/or push button.	Decision point for side street demand is at the end of the EWFD.
	AMB 4							
	ALR 3							Side Street Passage Time = 3 sec
	SPLIT	29	29	29	29	29		Signal serves 8 seconds of NSWK (WLK MAX value) during coordinated patterns.
Sterling Rd 4	WLK							
	FDW							ALR for phases 2 and 6 is 4 seconds. Due to the controller design, a value greater than 3 will cause the coordinated phase to rest in green and don't walk. To work around this issue, a red max value of 5 seconds is used. Through logic statements, phases 2 and 6 ALR (3 sec) are forced to extend by 2 seconds. These extra seconds will be taken from the next phase following phase 2 and 6. In this case, phase 3 will only time 27 seconds instead of the programmed 29 seconds.
	MIN 7							
	MAX1 8							
	AMB 4						Callable and extendable by Wavetronix NBRA active concurrently with NBG	
	ALR 3							
	SPLIT	15	16	18	15	15		
5	WLK							
	FDW							
	MIN 6							
	MAX1 7						Fixed SBRA on concurrently with EBLA.	
	AMB 3							
	ALR 1							
	SPLIT	11	11	11	11	11		
Bloor St W 6	WLK 7							
	FDW 14							
	MIN 21							
	MAX1 29						Fixed	
	AMB 3							
	ALR 3							
	RED MAX 5							
	SPLIT	35	44	42	30	45		
7 NOT USED	WLK 7							
	WLK MAX 8							
	FDW 12							
	MIN 19							
	MAX1 20							
	AMB 4							
	ALR 3							
	SPLIT	29	29	29	29	29		
8 NOT USED	WLK							
	FDW							
	MIN 7							
	MAX1 8							
	AMB 4							
	ALR 3							
	SPLIT	15	16	18	15	15		
	CL	90	100	100	85	100		
	OF	9	19	86	33	24		
	VP	14	14	14	14	14		

Notes: Sterling Rd is one way north. By-Law signs - No NB right turn on red. No SB right turn on red except with green arrow.

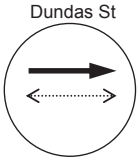
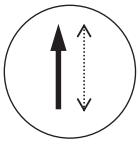
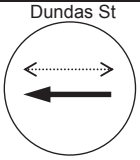
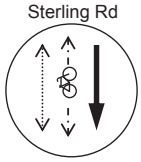
LOCATION:	**Dundas St W & Bloor St W**	*DISTRICT:*	**Toronto & East York**
MODE/COMMENT:	**FXT - 2-Wire Polara APS, RLC & TSP***	*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**327**	*CONTROLLER/CABINET TYPE:*	**PEEK ATC - 1000 / TS2 T1**
PREPARED/CHECKED BY:	***IBI* / PV**	*CONFLICT FLASH:*	**Red & Red**
PREPARATION DATE:	**March 13, 2017**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**March 15, 2017**	*CHANNEL/DROP:*	**4005/43**
		CONTROLLER FIRMWARE:	**3.018.1.2976**

NEMA Phase		OFF	AM	PM	NIGHT	Grdnr Clsr	Phase Mode	Remarks
		All Other Times	06:30-09:30 M-F	15:15-18:30 M-F	22:00-06:00 Daily	Times to be determined	(Fixed/Demanded/Callable)	
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	Split Table	Split 1	Split 2	Split 3	Split 4	Split 5		
1 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT							Pedestrian Minimums: NSWK = 7 sec NSFD = 18 sec EWWK = 7 sec EWFD = 19 sec Left-Turn Passage Time = 2 sec APS on during WALK periods when no arrows are displayed. Extended Push Activation = 3 sec See back for TSP instructions.
2 Dundas St W	WLK 7 FDW 18 MIN 25 MAX1 40 AMB 3 ALR 3 SPLIT	46	44	40	42	50	Fixed. POZ activated by Request Loop. (Max extension of 14 sec in Green/Walk & 16 sec in Green/Don't Walk)	**TSP NS enabled on November 18, 2016**
3	WLK FDW MIN 6 MAX1 6 AMB 3 ALR 1 SPLIT			12			Callable by 9m setback loop,	
4 Bloor St W	WLK 7 FDW 19 MIN 26 MAX1 28 AMB 3 ALR 3 SPLIT	34	46	38	33	60	Fixed.	
5 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT							
6 Dundas St W	WLK 7 FDW 18 MIN 25 MAX1 40 AMB 3 ALR 3 SPLIT	46	44	40	42	50	Fixed. POZ activated by Request Loop. (Max extension of 14 sec in Green/Walk & 16 sec in Green/Don't Walk)	
7 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT							
8 Bloor St W	WLK 7 FDW 19 MIN 26 MAX1 28 AMB 3 ALR 3 SPLIT	34	46	50	33	60	Fixed.	
	CL OF	80 8	90 34	90 77	75 31	110 6		

NOTES:

LOCATION:	**Dundas St & Sterling Rd/Private Access**	*DISTRICT:*	**Toronto & East York**
MODE/COMMENT:	**SA2-VMG with WRM, 2-Wire Polara APS & TSP**	*COMPUTER SYSTEM:*	**TransSuite**
TCS:	**2366**	*CONTROLLER/CABINET TYPE:*	**Peek ATC-1000 / TS2T1**
PREPARED/CHECKED BY:	***IBI* / PV**	*CONFLICT FLASH:*	**Red & Red**
PREPARATION DATE:	**December 14, 2016**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing at 1.2 m/s)**
IMPLEMENTATION DATE:	**December 16, 2016**	*CHANNEL/DROP:*	**4005/39**
		CONTROLLER FIRMWARE:	**3.18.1.2976**

N

NEMA Phase		OFF	AM	PM	NIGHT	WKND	Phase Mode	Remarks
		All Other Times	06:30-09:30 M-F	15:00-19:00 M-F	23:00-06:30 Daily	10:00-19:00 Sat	(Fixed/Demanded/Callable)	
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	Split Table	Split 1	Split 2	Split 3	Split 4	Split 5		
1 NOT USED	WLK							Pedestrian Minimums: EWWK = 7 sec, EWFD = 18 sec NSWK = 7 sec, NSFD = 16 sec
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
2 Dundas St 	WLK 7						Fixed POZ activated by Request Loop (Max extension of 14 sec in Green/Walk & 16 sec in Green/Solid Don't Walk)	NS phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum NSG is 7 seconds. If ongoing vehicle demand exists in the detection zone, the NSG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian and/or bicycle call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian and/or bicycle call is received. Extension time is based on vehicle demand. Unused extension time is given to the EWG.
	FDW 18							
	MIN 25							
	MAX1 46							
	AMB 3							
	ALR 3							
	SPLIT	51	61	61	51	61		
3 NOT USED	WLK							Side Street Passage Time = 3 sec
	FDW							The signal constantly cycles through main street FDW to improve response to main street APS, side street vehicle and pedestrian demand.
	MIN							
	MAX1							EWFD reverts to EWWK if there is no side street vehicle demand at the end of the NSFD.
	AMB							
	ALR							APS on during 7 sec of NSWK & 7 sec of EWWK when activated by push button.
	SPLIT							
4 Private Access 	WLK 7						Callable by overhead detection, push button and/or bicycle SB loop. Extendable by Traficam. (Truncations allowable to pedestrian minimum)	Extended Push Activation = 3 sec
	FDW 16							See back for TSP instructions.
	MIN 7							**TSP disabled - TSP activation pending new firmware testing & field validation**
	MAX1 23							The Walk and FDW are served with the presence of SB bicycle loop request.
	AMB 3							
	ALR 2							
	SPLIT	29	29	29	29	29		
5 NOT USED	WLK							
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
6 Dundas St 	WLK 7						Fixed POZ activated by Request Loop (Max extension of 14 sec in Green/Walk & 16 sec in Green/Solid Don't Walk)	
	FDW 18							
	MIN 25							
	MAX1 46							
	AMB 3							
	ALR 3							
	SPLIT	51	61	61	51	61		
7 NOT USED	WLK							
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
8 Sterling Rd 	WLK 7						Callable by overhead detection, push button and/or bicycle SB loop. Extendable by Traficam. (Truncations allowable to pedestrian minimum)	
	FDW 16							
	MIN 7							
	MAX1 23							
	AMB 3							
	ALR 2							
	SPLIT	29	29	29	29	29		
	CL	80	90	90	80	90		
	OF	67	68	76	2	36		

Notes: Picked up under TransSuite system control on Jan 13, 2014 at approximately 10:28.

BA Group
45 St. Clair Avenue West, Suite 300
Toronto ON, CANADA, M4V 1K9

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast (4.6 °C)

Start Time	N Approach DUNDAS ST W						E Approach BLOOR ST W						S Approach DUNDAS ST W						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	11	171	4	0	129	186	40	170	18	0	79	228	47	134	0	0	47	181	44	288	7	0	89	339	934
08:15:00	6	203	2	0	167	211	24	138	20	0	151	182	37	149	0	0	75	186	41	260	11	0	146	312	891
08:30:00	8	195	2	0	197	205	22	137	17	0	159	176	62	155	0	0	112	217	48	256	8	0	203	312	910
08:45:00	12	191	3	0	123	206	29	121	17	0	95	167	41	115	0	0	77	156	44	245	13	0	145	302	831
Grand Total	37	760	11	0	616	808	115	566	72	0	484	753	187	553	0	0	311	740	177	1049	39	0	583	1265	**3566**
Approach%	4.6%	94.1%	1.4%	0%		-	15.3%	75.2%	9.6%	0%		-	25.3%	74.7%	0%	0%		-	14%	82.9%	3.1%	0%		-	-
Totals %	1%	21.3%	0.3%	0%		22.7%	3.2%	15.9%	2%	0%		21.1%	5.2%	15.5%	0%	0%		20.8%	5%	29.4%	1.1%	0%		35.5%	-
PHF	0.77	0.94	0.69	0		0.96	0.72	0.83	0.9	0		0.83	0.75	0.89	0	0		0.85	0.92	0.91	0.75	0		0.93	-
Heavy	1	46	10	0		57	17	26	6	0		49	10	49	0	0		59	8	40	1	0		49	-
Heavy %	2.7%	6.1%	90.9%	0%		7.1%	14.8%	4.6%	8.3%	0%		6.5%	5.3%	8.9%	0%	0%		8%	4.5%	3.8%	2.6%	0%		3.9%	-
Lights	36	714	1	0		751	98	540	66	0		704	177	504	0	0		681	169	1009	38	0		1216	-
Lights %	97.3%	93.9%	9.1%	0%		92.9%	85.2%	95.4%	91.7%	0%		93.5%	94.7%	91.1%	0%	0%		92%	95.5%	96.2%	97.4%	0%		96.1%	-
Single-Unit Trucks	0	19	0	0		19	2	16	4	0		22	4	18	0	0		22	6	37	0	0		43	-
Single-Unit Trucks %	0%	2.5%	0%	0%		2.4%	1.7%	2.8%	5.6%	0%		2.9%	2.1%	3.3%	0%	0%		3%	3.4%	3.5%	0%	0%		3.4%	-
Buses	0	23	10	0		33	15	9	0	0		24	6	30	0	0		36	1	3	1	0		5	-
Buses %	0%	3%	90.9%	0%		4.1%	13%	1.6%	0%	0%		3.2%	3.2%	5.4%	0%	0%		4.9%	0.6%	0.3%	2.6%	0%		0.4%	-
Articulated Trucks	1	4	0	0		5	0	1	2	0		3	0	1	0	0		1	1	0	0	0		1	-
Articulated Trucks %	2.7%	0.5%	0%	0%		0.6%	0%	0.2%	2.8%	0%		0.4%	0%	0.2%	0%	0%		0.1%	0.6%	0%	0%	0%		0.1%	-
Pedestrians	-	-	-	-	612	-	-	-	-	-	482	-	-	-	-	-	306	-	-	-	-	-	576	-	-
Pedestrians%	-	-	-	-	30.7%		-	-	-	-	24.2%		-	-	-	-	15.3%		-	-	-	-	28.9%		-
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	5	-	-	-	-	-	7	-	-
Bicycles on Crosswalk%	-	-	-	-	0.2%		-	-	-	-	0.1%		-	-	-	-	0.3%		-	-	-	-	0.4%		-
Bicycles on Road	1	25	3	0	0	-	2	7	1	0	0	-	5	15	0	0	0	-	5	21	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

BA Group
45 St. Clair Avenue West, Suite 300
Toronto ON, CANADA, M4V 1K9

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast (7.7 °C)

Start Time	N Approach DUNDAS ST W						E Approach BLOOR ST W						S Approach DUNDAS ST W						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:00:00	20	105	2	0	130	127	48	239	22	0	95	309	31	232	0	0	39	263	40	160	12	0	92	212	911
16:15:00	19	101	2	0	108	122	34	258	19	0	80	311	34	243	4	0	57	281	28	168	10	0	77	206	920
16:30:00	20	105	2	0	124	127	48	232	25	0	102	305	33	264	0	0	52	297	47	167	10	0	104	224	953
16:45:00	13	119	2	0	107	134	47	256	24	0	110	327	36	239	1	0	58	276	34	162	13	0	123	209	946
Grand Total	72	430	8	0	469	510	177	985	90	0	387	1252	134	978	5	0	206	1117	149	657	45	0	396	851	**3730**
Approach%	14.1%	84.3%	1.6%	0%		-	14.1%	78.7%	7.2%	0%		-	12%	87.6%	0.4%	0%		-	17.5%	77.2%	5.3%	0%		-	-
Totals %	1.9%	11.5%	0.2%	0%		13.7%	4.7%	26.4%	2.4%	0%		33.6%	3.6%	26.2%	0.1%	0%		29.9%	4%	17.6%	1.2%	0%		22.8%	-
PHF	0.9	0.9	1	0		0.95	0.92	0.95	0.9	0		0.96	0.93	0.93	0.31	0		0.94	0.79	0.98	0.87	0		0.95	-
Heavy	4	20	8	0		32	14	29	2	0		45	3	56	0	0		59	3	11	2	0		16	-
Heavy %	5.6%	4.7%	100%	0%		6.3%	7.9%	2.9%	2.2%	0%		3.6%	2.2%	5.7%	0%	0%		5.3%	2%	1.7%	4.4%	0%		1.9%	-
Lights	68	410	0	0		478	163	956	88	0		1207	131	922	5	0		1058	146	646	43	0		835	-
Lights %	94.4%	95.3%	0%	0%		93.7%	92.1%	97.1%	97.8%	0%		96.4%	97.8%	94.3%	100%	0%		94.7%	98%	98.3%	95.6%	0%		98.1%	-
Single-Unit Trucks	2	4	0	0		6	2	23	1	0		26	3	18	0	0		21	2	7	1	0		10	-
Single-Unit Trucks %	2.8%	0.9%	0%	0%		1.2%	1.1%	2.3%	1.1%	0%		2.1%	2.2%	1.8%	0%	0%		1.9%	1.3%	1.1%	2.2%	0%		1.2%	-
Buses	2	16	8	0		26	11	5	1	0		17	0	29	0	0		29	0	4	1	0		5	-
Buses %	2.8%	3.7%	100%	0%		5.1%	6.2%	0.5%	1.1%	0%		1.4%	0%	3%	0%	0%		2.6%	0%	0.6%	2.2%	0%		0.6%	-
Articulated Trucks	0	0	0	0		0	1	1	0	0		2	0	9	0	0		9	1	0	0	0		1	-
Articulated Trucks %	0%	0%	0%	0%		0%	0.6%	0.1%	0%	0%		0.2%	0%	0.9%	0%	0%		0.8%	0.7%	0%	0%	0%		0.1%	-
Pedestrians	-	-	-	-	466	-	-	-	-	-	376	-	-	-	-	-	196	-	-	-	-	-	388	-	-
Pedestrians%	-	-	-	-	32%		-	-	-	-	25.8%		-	-	-	-	13.4%		-	-	-	-	26.6%		-
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	11	-	-	-	-	-	10	-	-	-	-	-	8	-	-
Bicycles on Crosswalk%	-	-	-	-	0.2%		-	-	-	-	0.8%		-	-	-	-	0.7%		-	-	-	-	0.5%		-
Bicycles on Road	0	17	0	0	0	-	1	2	0	0	0	-	1	6	0	0	0	-	3	4	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Spectrum

Turning Movement Count
Location Name: BLOOR ST W & KEELE ST / PARKSIDE DR
Date: Sat, Nov 11, 2017 Deployment Lead: Theo Daglis

BA Group
45 St. Clair Avenue West, Suite 300
Toronto ON, CANADA, M4V 1K9

Peak Hour: 12:00 PM - 01:00 PM Weather: Overcast (1.4 °C)

Start Time	N Approach KEELE ST						E Approach BLOOR ST W						S Approach PARKSIDE DR						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
12:00:00	29	147	31	0	46	207	29	106	71	0	32	206	71	119	48	0	13	238	67	136	32	0	4	235	886
12:15:00	15	154	34	0	49	203	29	120	63	0	30	212	56	132	46	0	18	234	58	136	30	0	15	224	873
12:30:00	14	129	27	0	44	170	26	113	71	0	29	210	56	121	49	0	19	226	51	110	27	0	6	188	794
12:45:00	19	133	26	0	44	178	19	102	81	0	32	202	68	115	44	0	15	227	43	123	22	0	11	188	795
Grand Total	77	563	118	0	183	758	103	441	286	0	123	830	251	487	187	0	65	925	219	505	111	0	36	835	**3348**
Approach%	10.2%	74.3%	15.6%	0%		-	12.4%	53.1%	34.5%	0%		-	27.1%	52.6%	20.2%	0%		-	26.2%	60.5%	13.3%	0%		-	-
Totals %	2.3%	16.8%	3.5%	0%		22.6%	3.1%	13.2%	8.5%	0%		24.8%	7.5%	14.5%	5.6%	0%		27.6%	6.5%	15.1%	3.3%	0%		24.9%	-
PHF	0.66	0.91	0.87	0		0.92	0.89	0.92	0.88	0		0.98	0.88	0.92	0.95	0		0.97	0.82	0.93	0.87	0		0.89	-
Heavy	0	4	0	0		4	0	2	5	0		7	3	7	3	0		13	0	3	1	0		4	-
Heavy %	0%	0.7%	0%	0%		0.5%	0%	0.5%	1.7%	0%		0.8%	1.2%	1.4%	1.6%	0%		1.4%	0%	0.6%	0.9%	0%		0.5%	-
Lights	77	559	118	0		754	103	439	281	0		823	248	480	184	0		912	219	502	110	0		831	-
Lights %	100%	99.3%	100%	0%		99.5%	100%	99.5%	98.3%	0%		99.2%	98.8%	98.6%	98.4%	0%		98.6%	100%	99.4%	99.1%	0%		99.5%	-
Single-Unit Trucks	0	0	0	0		0	0	2	3	0		5	1	5	3	0		9	0	2	1	0		3	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.5%	1%	0%		0.6%	0.4%	1%	1.6%	0%		1%	0%	0.4%	0.9%	0%		0.4%	-
Buses	0	3	0	0		3	0	0	2	0		2	2	2	0	0		4	0	0	0	0		0	-
Buses %	0%	0.5%	0%	0%		0.4%	0%	0%	0.7%	0%		0.2%	0.8%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	-
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	-
Articulated Trucks %	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.1%	-
Pedestrians	-	-	-	-	183	-	-	-	-	-	123	-	-	-	-	-	64	-	-	-	-	-	36	-	-
Pedestrians%	-	-	-	-	45%		-	-	-	-	30.2%		-	-	-	-	15.7%		-	-	-	-	8.8%		-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0.2%		-	-	-	-	0%		-
Bicycles on Road	0	0	0	0	0	-	0	8	0	0	0	-	0	0	0	0	0	-	1	8	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Spectrum

Turning Movement Count
Location Name: BLOOR ST W & LANSDOWNE AVE
Date: Thu, Nov 09, 2017 Deployment Lead: Theo Daglis

BA Group
45 St. Clair Avenue West, Suite 300
Toronto ON, CANADA, M4V 1K9

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast (4.6 °C)

Start Time	N Approach LANSDOWNE AVE						E Approach BLOOR ST W						S Approach LANSDOWNE AVE						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	18	80	38	0	56	136	24	136	1	0	47	161	10	95	18	0	36	123	17	258	1	0	37	276	696
08:15:00	19	76	33	0	49	128	27	123	0	0	52	150	15	80	11	0	40	106	18	233	1	0	34	252	636
08:30:00	18	96	36	0	78	150	26	128	0	0	60	154	14	75	12	0	46	101	18	225	0	0	43	243	648
08:45:00	15	76	37	0	64	128	17	111	0	0	74	128	15	84	16	0	38	115	15	225	1	0	40	241	612
Grand Total	70	328	144	0	247	542	94	498	1	0	233	593	54	334	57	0	160	445	68	941	3	0	154	1012	**2592**
Approach%	12.9%	60.5%	26.6%	0%		-	15.9%	84%	0.2%	0%		-	12.1%	75.1%	12.8%	0%		-	6.7%	93%	0.3%	0%		-	-
Totals %	2.7%	12.7%	5.6%	0%		20.9%	3.6%	19.2%	0%	0%		22.9%	2.1%	12.9%	2.2%	0%		17.2%	2.6%	36.3%	0.1%	0%		39%	-
PHF	0.92	0.85	0.95	0		0.9	0.87	0.92	0.25	0		0.92	0.9	0.88	0.79	0		0.9	0.94	0.91	0.75	0		0.92	-
Heavy	3	24	3	0		30	2	28	0	0		30	1	33	9	0		43	3	33	1	0		37	-
Heavy %	4.3%	7.3%	2.1%	0%		5.5%	2.1%	5.6%	0%	0%		5.1%	1.9%	9.9%	15.8%	0%		9.7%	4.4%	3.5%	33.3%	0%		3.7%	-
Lights	67	304	141	0		512	92	470	1	0		563	53	301	48	0		402	65	908	2	0		975	-
Lights %	95.7%	92.7%	97.9%	0%		94.5%	97.9%	94.4%	100%	0%		94.9%	98.1%	90.1%	84.2%	0%		90.3%	95.6%	96.5%	66.7%	0%		96.3%	-
Single-Unit Trucks	1	7	2	0		10	1	20	0	0		21	0	8	3	0		11	2	27	0	0		29	-
Single-Unit Trucks %	1.4%	2.1%	1.4%	0%		1.8%	1.1%	4%	0%	0%		3.5%	0%	2.4%	5.3%	0%		2.5%	2.9%	2.9%	0%	0%		2.9%	-
Buses	2	17	1	0		20	0	5	0	0		5	1	24	6	0		31	1	6	1	0		8	-
Buses %	2.9%	5.2%	0.7%	0%		3.7%	0%	1%	0%	0%		0.8%	1.9%	7.2%	10.5%	0%		7%	1.5%	0.6%	33.3%	0%		0.8%	-
Articulated Trucks	0	0	0	0		0	1	3	0	0		4	0	1	0	0		1	0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%	0%		0%	1.1%	0.6%	0%	0%		0.7%	0%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	246	-	-	-	-	-	232	-	-	-	-	-	157	-	-	-	-	-	153	-	-
Pedestrians%	-	-	-	-	31%		-	-	-	-	29.2%		-	-	-	-	19.8%		-	-	-	-	19.3%		-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	0.1%		-	-	-	-	0.1%		-	-	-	-	0.4%		-	-	-	-	0.1%		-
Bicycles on Road	0	14	5	0	0	-	2	14	0	0	0	-	3	6	0	0	0	-	2	52	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Spectrum

Turning Movement Count
Location Name: BLOOR ST W & LANSDOWNE AVE
Date: Thu, Nov 09, 2017 Deployment Lead: Theo Daglis

BA Group
45 St. Clair Avenue West, Suite 300
Toronto ON, CANADA, M4V 1K9

Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast (7.7 °C)

Start Time	N Approach LANSDOWNE AVE						E Approach BLOOR ST W						S Approach LANSDOWNE AVE						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:15:00	29	75	28	0	67	132	19	243	1	0	100	263	10	88	23	0	93	121	16	141	0	0	65	157	673
16:30:00	22	76	38	0	63	136	18	226	0	0	76	244	13	88	26	0	69	127	21	130	2	0	71	153	660
16:45:00	18	64	14	0	80	96	27	202	0	0	76	229	6	109	24	0	57	139	18	146	2	0	61	166	630
17:00:00	21	70	34	0	93	125	18	232	0	0	94	250	1	84	26	0	82	111	15	120	0	0	68	135	621
Grand Total	90	285	114	0	303	489	82	903	1	0	346	986	30	369	99	0	301	498	70	537	4	0	265	611	**2584**
Approach%	18.4%	58.3%	23.3%	0%		-	8.3%	91.6%	0.1%	0%		-	6%	74.1%	19.9%	0%		-	11.5%	87.9%	0.7%	0%		-	-
Totals %	3.5%	11%	4.4%	0%		18.9%	3.2%	34.9%	0%	0%		38.2%	1.2%	14.3%	3.8%	0%		19.3%	2.7%	20.8%	0.2%	0%		23.6%	-
PHF	0.78	0.94	0.75	0		0.9	0.76	0.93	0.25	0		0.94	0.58	0.85	0.95	0		0.9	0.83	0.92	0.5	0		0.92	-
Heavy	5	10	3	0		18	2	20	0	0		22	1	15	5	0		21	1	3	0	0		4	-
Heavy %	5.6%	3.5%	2.6%	0%		3.7%	2.4%	2.2%	0%	0%		2.2%	3.3%	4.1%	5.1%	0%		4.2%	1.4%	0.6%	0%	0%		0.7%	-
Lights	85	275	111	0		471	80	883	1	0		964	29	354	94	0		477	69	534	4	0		607	-
Lights %	94.4%	96.5%	97.4%	0%		96.3%	97.6%	97.8%	100%	0%		97.8%	96.7%	95.9%	94.9%	0%		95.8%	98.6%	99.4%	100%	0%		99.3%	-
Single-Unit Trucks	4	2	2	0		8	1	12	0	0		13	0	5	5	0		10	1	1	0	0		2	-
Single-Unit Trucks %	4.4%	0.7%	1.8%	0%		1.6%	1.2%	1.3%	0%	0%		1.3%	0%	1.4%	5.1%	0%		2%	1.4%	0.2%	0%	0%		0.3%	-
Buses	0	8	0	0		8	1	7	0	0		8	1	9	0	0		10	0	2	0	0		2	-
Buses %	0%	2.8%	0%	0%		1.6%	1.2%	0.8%	0%	0%		0.8%	3.3%	2.4%	0%	0%		2%	0%	0.4%	0%	0%		0.3%	-
Articulated Trucks	1	0	1	0		2	0	1	0	0		1	0	1	0	0		1	0	0	0	0		0	-
Articulated Trucks %	1.1%	0%	0.9%	0%		0.4%	0%	0.1%	0%	0%		0.1%	0%	0.3%	0%	0%		0.2%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	297	-	-	-	-	-	341	-	-	-	-	-	298	-	-	-	-	-	264	-	-
Pedestrians%	-	-	-	-	24.4%		-	-	-	-	28.1%		-	-	-	-	24.5%		-	-	-	-	21.7%		-
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	5	-	-	-	-	-	3	-	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	-	0.5%		-	-	-	-	0.4%		-	-	-	-	0.2%		-	-	-	-	0.1%		-
Bicycles on Road	0	6	4	0	0	-	0	20	0	0	0	-	1	5	0	0	0	-	1	25	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Spectrum

Turning Movement Count
Location Name: BLOOR ST W & LANSDOWNE AVE
Date: Sat, Nov 11, 2017 Deployment Lead: Theo Daglis

BA Group
45 St. Clair Avenue West, Suite 300
Toronto ON, CANADA, M4V 1K9

Peak Hour: 12:00 PM - 01:00 PM Weather: Overcast (1.4 °C)

Start Time	N Approach LANSDOWNE AVE						E Approach BLOOR ST W						S Approach LANSDOWNE AVE						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
12:00:00	34	80	25	0	59	139	21	130	2	0	57	153	9	91	16	0	69	116	22	144	16	0	38	182	590
12:15:00	34	74	42	0	62	150	29	107	3	0	70	139	14	87	21	0	96	122	16	148	14	0	67	178	589
12:30:00	20	63	29	0	59	112	22	110	2	0	55	134	14	88	22	0	83	124	21	136	24	0	59	181	551
12:45:00	23	78	21	0	85	122	24	144	0	0	52	168	20	84	17	0	73	121	16	120	21	0	58	157	568
Grand Total	111	295	117	0	265	523	96	491	7	0	234	594	57	350	76	0	321	483	75	548	75	0	222	698	**2298**
Approach%	21.2%	56.4%	22.4%	0%		-	16.2%	82.7%	1.2%	0%		-	11.8%	72.5%	15.7%	0%		-	10.7%	78.5%	10.7%	0%		-	-
Totals %	4.8%	12.8%	5.1%	0%		22.8%	4.2%	21.4%	0.3%	0%		25.8%	2.5%	15.2%	3.3%	0%		21%	3.3%	23.8%	3.3%	0%		30.4%	-
PHF	0.82	0.92	0.7	0		0.87	0.83	0.85	0.58	0		0.88	0.71	0.96	0.86	0		0.97	0.85	0.93	0.78	0		0.96	-
Heavy	4	9	0	0		13	2	9	1	0		12	1	8	1	0		10	0	5	2	0		7	-
Heavy %	3.6%	3.1%	0%	0%		2.5%	2.1%	1.8%	14.3%	0%		2%	1.8%	2.3%	1.3%	0%		2.1%	0%	0.9%	2.7%	0%		1%	-
Lights	107	286	117	0		510	94	482	6	0		582	56	342	75	0		473	75	543	73	0		691	-
Lights %	96.4%	96.9%	100%	0%		97.5%	97.9%	98.2%	85.7%	0%		98%	98.2%	97.7%	98.7%	0%		97.9%	100%	99.1%	97.3%	0%		99%	-
Single-Unit Trucks	4	3	0	0		7	2	7	1	0		10	1	1	1	0		3	0	5	1	0		6	-
Single-Unit Trucks %	3.6%	1%	0%	0%		1.3%	2.1%	1.4%	14.3%	0%		1.7%	1.8%	0.3%	1.3%	0%		0.6%	0%	0.9%	1.3%	0%		0.9%	-
Buses	0	6	0	0		6	0	2	0	0		2	0	7	0	0		7	0	0	1	0		1	-
Buses %	0%	2%	0%	0%		1.1%	0%	0.4%	0%	0%		0.3%	0%	2%	0%	0%		1.4%	0%	0%	1.3%	0%		0.1%	-
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	261	-	-	-	-	-	234	-	-	-	-	-	320	-	-	-	-	-	220	-	-
Pedestrians%	-	-	-	-	25%		-	-	-	-	22.5%		-	-	-	-	30.7%		-	-	-	-	21.1%		-
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	-	-
Bicycles on Crosswalk%	-	-	-	-	0.4%		-	-	-	-	0%		-	-	-	-	0.1%		-	-	-	-	0.2%		-
Bicycles on Road	0	2	0	0	0	-	1	7	0	0	0	-	0	2	0	0	0	-	0	3	0	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather: Overcast (4.6 °C)

Start Time	N Approach PERTH AVE						E Approach BLOOR ST W						S Approach PERTH AVE						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	31	0	5	0	29	36	7	200	7	0	1	214	2	0	0	0	6	2	16	267	26	0	0	309	561
08:15:00	35	2	1	0	43	38	2	164	4	0	1	170	0	0	1	0	12	1	24	246	30	0	1	300	509
08:30:00	30	2	0	0	33	32	5	169	9	0	2	183	0	0	0	0	27	0	34	247	35	0	0	316	531
08:45:00	23	7	4	0	29	34	7	156	12	0	1	175	1	0	1	0	20	2	21	241	35	0	0	297	508
Grand Total	119	11	10	0	134	140	21	689	32	0	5	742	3	0	2	0	65	5	95	1001	127	0	1	1222	**2109**
Approach%	85%	7.9%	7.1%	0%		-	2.8%	92.9%	4.3%	0%		-	60%	0%	40%	0%		-	7.8%	81.9%	10.4%	0%		-	**-**
Totals %	5.6%	0.5%	0.5%	0%		6.6%	1%	32.7%	1.5%	0%		35.2%	0.1%	0%	0.1%	0%		0.2%	4.5%	47.5%	6%	0%		57.9%	**-**
PHF	0.85	0.39	0.5	0		0.92	0.75	0.86	0.67	0		0.87	0.38	0	0.5	0		0.63	0.7	0.94	0.9	0		0.97	**-**
Heavy	6	0	1	0		7	2	54	0	0		56	0	0	0	0		0	3	48	7	0		58	**-**
Heavy %	5%	0%	10%	0%		5%	9.5%	7.8%	0%	0%		7.5%	0%	0%	0%	0%		0%	3.2%	4.8%	5.5%	0%		4.7%	**-**
Lights	113	11	9	0		133	19	635	32	0		686	3	0	2	0		5	92	953	119	0		1164	**-**
Lights %	95%	100%	90%	0%		95%	90.5%	92.2%	100%	0%		92.5%	100%	0%	100%	0%		100%	96.8%	95.2%	93.7%	0%		95.3%	**-**
Single-Unit Trucks	2	0	0	0		2	1	24	0	0		25	0	0	0	0		0	3	32	2	0		37	**-**
Single-Unit Trucks %	1.7%	0%	0%	0%		1.4%	4.8%	3.5%	0%	0%		3.4%	0%	0%	0%	0%		0%	3.2%	3.2%	1.6%	0%		3%	**-**
Buses	4	0	1	0		5	1	27	0	0		28	0	0	0	0		0	0	16	5	0		21	**-**
Buses %	3.4%	0%	10%	0%		3.6%	4.8%	3.9%	0%	0%		3.8%	0%	0%	0%	0%		0%	0%	1.6%	3.9%	0%		1.7%	**-**
Articulated Trucks	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	130	-	-	-	-	-	5	-	-	-	-	-	56	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	63.1%		-	-	-	-	2.4%		-	-	-	-	27.2%		-	-	-	-	0.5%		**-**
Bicycles on Crosswalk	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	9	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	1.9%		-	-	-	-	0%		-	-	-	-	4.4%		-	-	-	-	0%		**-**
Bicycles on Road	1	0	0	0	0	-	2	10	0	0	0	-	0	1	0	0	0	-	4	25	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 04:45 PM - 05:45 PM Weather: Overcast (7.7 °C)

Start Time	N Approach PERTH AVE						E Approach BLOOR ST W						S Approach PERTH AVE						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:45:00	35	3	0	0	43	38	9	286	7	0	0	302	1	0	2	0	29	3	10	147	39	0	0	196	539
17:00:00	35	4	0	0	50	39	10	268	7	0	2	285	4	0	0	0	30	4	8	153	55	0	0	216	544
17:15:00	37	2	0	0	60	39	7	244	6	0	0	257	5	0	3	0	23	8	7	174	51	0	0	232	536
17:30:00	36	4	2	0	54	42	14	279	10	0	1	303	1	2	4	0	27	7	10	169	46	0	0	225	577
Grand Total	143	13	2	0	207	158	40	1077	30	0	3	1147	11	2	9	0	109	22	35	643	191	0	0	869	**2196**
Approach%	90.5%	8.2%	1.3%	0%		-	3.5%	93.9%	2.6%	0%		-	50%	9.1%	40.9%	0%		-	4%	74%	22%	0%		-	**-**
Totals %	6.5%	0.6%	0.1%	0%		7.2%	1.8%	49%	1.4%	0%		52.2%	0.5%	0.1%	0.4%	0%		1%	1.6%	29.3%	8.7%	0%		39.6%	**-**
PHF	0.97	0.81	0.25	0		0.94	0.71	0.94	0.75	0		0.95	0.55	0.25	0.56	0		0.69	0.88	0.92	0.87	0		0.94	**-**
Heavy	0	0	0	0		0	0	31	0	0		31	1	0	0	0		1	1	11	0	0		12	**-**
Heavy %	0%	0%	0%	0%		0%	0%	2.9%	0%	0%		2.7%	9.1%	0%	0%	0%		4.5%	2.9%	1.7%	0%	0%		1.4%	**-**
Lights	143	13	2	0		158	40	1046	30	0		1116	10	2	9	0		21	34	632	191	0		857	**-**
Lights %	100%	100%	100%	0%		100%	100%	97.1%	100%	0%		97.3%	90.9%	100%	100%	0%		95.5%	97.1%	98.3%	100%	0%		98.6%	**-**
Single-Unit Trucks	0	0	0	0		0	0	16	0	0		16	0	0	0	0		0	1	4	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	1.5%	0%	0%		1.4%	0%	0%	0%	0%		0%	2.9%	0.6%	0%	0%		0.6%	**-**
Buses	0	0	0	0		0	0	13	0	0		13	1	0	0	0		1	0	7	0	0		7	**-**
Buses %	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		1.1%	9.1%	0%	0%	0%		4.5%	0%	1.1%	0%	0%		0.8%	**-**
Articulated Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	201	-	-	-	-	-	2	-	-	-	-	-	104	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	63%		-	-	-	-	0.6%		-	-	-	-	32.6%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	1	-	-	-	-	-	5	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	1.9%		-	-	-	-	0.3%		-	-	-	-	1.6%		-	-	-	-	0%		**-**
Bicycles on Road	0	1	0	0	0	-	0	19	0	0	0	-	0	0	0	0	0	-	1	15	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 07:30 AM - 08:30 AM Weather: Overcast (4.6 °C)

Start Time	N Approach SYMINGTON AVE						E Approach BLOOR ST W						SE Approach SOUTHEAST CROSSWALK		S Approach TERLING RD						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
07:30:00	38	0	29	0	15	67	10	145	0	0	7	155	6	0	2	3	12	0	12	17	0	258	17	0	0	275	514
07:45:00	37	0	34	0	16	71	13	155	0	0	16	168	13	0	1	8	9	0	11	18	0	207	21	0	0	228	485
08:00:00	36	0	50	0	17	86	15	170	0	0	11	185	21	0	3	9	6	0	6	18	0	241	22	0	0	263	552
08:15:00	32	0	47	0	15	79	15	130	0	0	10	145	30	0	4	9	7	0	15	20	0	217	30	0	0	247	491
Grand Total	143	0	160	0	63	303	53	600	0	0	44	653	70	0	10	29	34	0	44	73	0	923	90	0	0	1013	**2042**
Approach%	47.2%	0%	52.8%	0%		-	8.1%	91.9%	0%	0%		-		-	13.7%	39.7%	46.6%	0%		-	0%	91.1%	8.9%	0%		-	-
Totals %	7%	0%	7.8%	0%		14.8%	2.6%	29.4%	0%	0%		32%		0%	0.5%	1.4%	1.7%	0%		3.6%	0%	45.2%	4.4%	0%		49.6%	-
PHF	0.94	0	0.8	0		0.88	0.88	0.88	0	0		0.88		0	0.63	0.81	0.71	0		0.91	0	0.89	0.75	0		0.92	-
Heavy	17	0	5	0		22	3	32	0	0		35		0	1	4	4	0		9	0	29	15	0		44	-
Heavy %	11.9%	0%	3.1%	0%		7.3%	5.7%	5.3%	0%	0%		5.4%		0%	10%	13.8%	11.8%	0%		12.3%	0%	3.1%	16.7%	0%		4.3%	-
Lights	126	0	155	0		281	50	568	0	0		618		0	9	25	30	0		64	0	894	75	0		969	-
Lights %	88.1%	0%	96.9%	0%		92.7%	94.3%	94.7%	0%	0%		94.6%		0%	90%	86.2%	88.2%	0%		87.7%	0%	96.9%	83.3%	0%		95.7%	-
Single-Unit Trucks	4	0	1	0		5	2	19	0	0		21		0	1	4	2	0		7	0	22	3	0		25	-
Single-Unit Trucks %	2.8%	0%	0.6%	0%		1.7%	3.8%	3.2%	0%	0%		3.2%		0%	10%	13.8%	5.9%	0%		9.6%	0%	2.4%	3.3%	0%		2.5%	-
Buses	13	0	4	0		17	1	11	0	0		12		0	0	0	2	0		2	0	7	12	0		19	-
Buses %	9.1%	0%	2.5%	0%		5.6%	1.9%	1.8%	0%	0%		1.8%		0%	0%	0%	5.9%	0%		2.7%	0%	0.8%	13.3%	0%		1.9%	-
Articulated Trucks	0	0	0	0		0	0	2	0	0		2		0	0	0	0	0		0	0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	-	60	-	-	-	-	-	43	-	70	-	-	-	-	-	41	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	-	27.1%		-	-	-	-	19.5%		31.7%		-	-	-	-	18.6%		-	-	-	-	0%		-
Bicycles on Crosswalk	-	-	-	-	3	-	-	-	-	-	1	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	-	1.4%		-	-	-	-	0.5%		0%		-	-	-	-	1.4%		-	-	-	-	0%		-
Bicycles on Road	1	0	2	0	0	-	0	9	0	0	0	-	0	-	1	0	0	0	0	-	0	16	2	0	0	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		0%		-	-	-	-	0%		-	-	-	-	0%		-

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast (7.7 °C)

Start Time	N Approach SYMINGTON AVE						E Approach BLOOR ST W						SE Approach SOUTHEAST CROSSWALK		S Approach TERLING RD						W Approach BLOOR ST W						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:00:00	54	0	23	0	23	77	18	216	0	0	9	234	17	0	7	30	37	0	12	74	0	141	20	0	0	161	546
16:15:00	45	0	32	0	23	77	20	236	0	0	11	256	14	0	5	24	30	0	21	59	0	143	26	0	0	169	561
16:30:00	34	0	38	0	24	72	18	245	0	0	12	263	8	0	5	28	28	0	17	61	0	133	21	0	1	154	550
16:45:00	35	0	43	0	40	78	18	235	0	0	25	253	20	0	6	18	24	0	26	48	0	135	22	0	0	157	536
Grand Total	168	0	136	0	110	304	74	932	0	0	57	1006	59	0	23	100	119	0	76	242	0	552	89	0	1	641	**2193**
Approach%	55.3%	0%	44.7%	0%		-	7.4%	92.6%	0%	0%		-		-	9.5%	41.3%	49.2%	0%		-	0%	86.1%	13.9%	0%		-	**-**
Totals %	7.7%	0%	6.2%	0%		13.9%	3.4%	42.5%	0%	0%		45.9%		0%	1%	4.6%	5.4%	0%		11%	0%	25.2%	4.1%	0%		29.2%	**-**
PHF	0.78	0	0.79	0		0.97	0.93	0.95	0	0		0.96		0	0.82	0.83	0.8	0		0.82	0	0.97	0.86	0		0.95	**-**
Heavy	12	0	1	0		13	4	23	0	0		27		0	1	3	3	0		7	0	9	8	0		17	**-**
Heavy %	7.1%	0%	0.7%	0%		4.3%	5.4%	2.5%	0%	0%		2.7%		0%	4.3%	3%	2.5%	0%		2.9%	0%	1.6%	9%	0%		2.7%	**-**
Lights	156	0	135	0		291	70	909	0	0		979		0	22	97	116	0		235	0	543	81	0		624	**-**
Lights %	92.9%	0%	99.3%	0%		95.7%	94.6%	97.5%	0%	0%		97.3%		0%	95.7%	97%	97.5%	0%		97.1%	0%	98.4%	91%	0%		97.3%	**-**
Single-Unit Trucks	2	0	0	0		2	2	16	0	0		18		0	0	3	2	0		5	0	7	0	0		7	**-**
Single-Unit Trucks %	1.2%	0%	0%	0%		0.7%	2.7%	1.7%	0%	0%		1.8%		0%	0%	3%	1.7%	0%		2.1%	0%	1.3%	0%	0%		1.1%	**-**
Buses	10	0	1	0		11	1	6	0	0		7		0	0	0	1	0		1	0	1	8	0		9	**-**
Buses %	6%	0%	0.7%	0%		3.6%	1.4%	0.6%	0%	0%		0.7%		0%	0%	0%	0.8%	0%		0.4%	0%	0.2%	9%	0%		1.4%	**-**
Articulated Trucks	0	0	0	0		0	1	1	0	0		2		0	1	0	0	0		1	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	1.4%	0.1%	0%	0%		0.2%		0%	4.3%	0%	0%	0%		0.4%	0%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	104	-	-	-	-	-	53	-	59	-	-	-	-	-	72	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	34.3%		-	-	-	-	17.5%		19.5%		-	-	-	-	23.8%		-	-	-	-	0.3%		**-**
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	4	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	2%		-	-	-	-	1.3%		0%		-	-	-	-	1.3%		-	-	-	-	0%		**-**
Bicycles on Road	3	0	2	0	0	-	1	11	0	0	0	-	0	-	0	1	0	0	0	-	0	11	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:15 AM - 09:15 AM Weather: Overcast (15.8 °C)

Start Time	N Approach STERLING AVE					S Approach STERLING AVE					W Approach PERTH AVE					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
08:15:00	0	6	0	1	6	24	1	0	3	25	31	1	0	6	32	63
08:30:00	1	4	0	0	5	19	3	0	2	22	31	5	0	3	36	63
08:45:00	1	8	0	2	9	15	2	0	0	17	24	6	0	1	30	56
09:00:00	0	6	0	1	6	23	3	0	4	26	23	3	0	3	26	58
Grand Total	2	24	0	4	26	81	9	0	9	90	109	15	0	13	124	**240**
Approach%	7.7%	92.3%	0%		-	90%	10%	0%		-	87.9%	12.1%	0%		-	-
Totals %	0.8%	10%	0%		10.8%	33.8%	3.8%	0%		37.5%	45.4%	6.3%	0%		51.7%	-
PHF	0.5	0.75	0		0.72	0.84	0.75	0		0.87	0.88	0.63	0		0.86	-
Heavy	1	0	0		1	4	0	0		4	3	1	0		4	-
Heavy %	50%	0%	0%		3.8%	4.9%	0%	0%		4.4%	2.8%	6.7%	0%		3.2%	-
Lights	1	24	0		25	77	9	0		86	106	14	0		120	-
Lights %	50%	100%	0%		96.2%	95.1%	100%	0%		95.6%	97.2%	93.3%	0%		96.8%	-
Single-Unit Trucks	1	0	0		1	2	0	0		2	3	1	0		4	-
Single-Unit Trucks %	50%	0%	0%		3.8%	2.5%	0%	0%		2.2%	2.8%	6.7%	0%		3.2%	-
Buses	0	0	0		0	2	0	0		2	0	0	0		0	-
Buses %	0%	0%	0%		0%	2.5%	0%	0%		2.2%	0%	0%	0%		0%	-
Articulated Trucks	0	0	0		0	0	0	0		0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	4	-	-	-	-	9	-	-	-	-	13	-	-
Pedestrians%	-	-	-	15.4%		-	-	-	34.6%		-	-	-	50%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-
Bicycles on Road	0	11	0	0	-	11	0	0	0	-	4	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 04:30 PM - 05:30 PM Weather: Mostly Cloudy (19.7 °C)

Start Time	N Approach STERLING AVE					S Approach STERLING AVE					W Approach PERTH AVE					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
16:30:00	0	6	0	0	6	42	6	0	1	48	21	6	0	2	27	81
16:45:00	0	6	0	0	6	42	2	0	2	44	13	3	0	2	16	66
17:00:00	0	11	0	3	11	47	3	0	3	50	22	3	0	4	25	86
17:15:00	0	9	0	2	9	51	8	0	7	59	25	3	0	1	28	96
Grand Total	0	32	0	5	32	182	19	0	13	201	81	15	0	9	96	**329**
Approach%	0%	100%	0%		-	90.5%	9.5%	0%		-	84.4%	15.6%	0%		-	-
Totals %	0%	9.7%	0%		9.7%	55.3%	5.8%	0%		61.1%	24.6%	4.6%	0%		29.2%	-
PHF	0	0.73	0		0.73	0.89	0.59	0		0.85	0.81	0.63	0		0.86	-
Heavy	0	0	0		0	1	1	0		2	2	0	0		2	-
Heavy %	0%	0%	0%		0%	0.5%	5.3%	0%		1%	2.5%	0%	0%		2.1%	-
Lights	0	32	0		32	181	18	0		199	79	15	0		94	-
Lights %	0%	100%	0%		100%	99.5%	94.7%	0%		99%	97.5%	100%	0%		97.9%	-
Single-Unit Trucks	0	0	0		0	1	1	0		2	2	0	0		2	-
Single-Unit Trucks %	0%	0%	0%		0%	0.5%	5.3%	0%		1%	2.5%	0%	0%		2.1%	-
Buses	0	0	0		0	0	0	0		0	0	0	0		0	-
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Articulated Trucks	0	0	0		0	0	0	0		0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	5	-	-	-	-	13	-	-	-	-	8	-	-
Pedestrians%	-	-	-	18.5%		-	-	-	48.1%		-	-	-	29.6%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	3.7%		-
Bicycles on Road	0	4	0	0	-	16	1	0	0	-	1	1	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

City of Toronto - Traffic Safety Unit

Turning Movement Count Summary Report

DUNDAS ST W AT STERLING RD (PX 2366)

Survey Date: 2018-Nov-28 (Wednesday)

Survey Type: Routine Hours

Time Period	Vehicle Type	NORTHBOUND Exits	Left	Thru	Right	Total	EASTBOUND Exits	Left	Thru	Right	Total	SOUTHBOUND Exits	Left	Thru	Right	Total	WESTBOUND Exits	Left	Thru	Right	Total		Peds	Bike	Other
08:00-09:00	CAR	138	0	1	0	1	1,217	68	1,161	1	1,230	1	56	0	45	101	605	0	560	69	629	N	50	5	0
	TRK	5	1	0	1	2	32	2	29	0	31	0	2	0	3	5	28	0	24	3	27	S	27	0	0
AM PEAK	BUS	0	0	0	0	0	27	0	27	0	27	0	0	0	0	0	35	0	35	0	35	E	15	21	0
																						W	38	87	0
	TOTAL:	**143**	**1**	**1**	**1**	**3**	**1,276**	**70**	**1,217**	**1**	**1,288**	**1**	**58**	**0**	**48**	**106**	**668**	**0**	**619**	**72**	**691**				
16:30-17:30	CAR	205	0	0	0	0	797	70	735	0	805	0	62	0	83	145	1,267	0	1,184	135	1,319	N	34	4	0
	TRK	6	0	0	0	0	6	3	3	0	6	0	3	0	1	4	15	0	14	3	17	S	50	1	0
PM PEAK	BUS	0	0	0	0	0	18	0	18	0	18	0	0	0	0	0	21	0	21	0	21	E	19	42	0
																						W	34	24	0
	TOTAL:	**211**	**0**	**0**	**0**	**0**	**821**	**73**	**756**	**0**	**829**	**0**	**65**	**0**	**84**	**149**	**1,303**	**0**	**1,219**	**138**	**1,357**				
OFF HR AVG	CAR	134	0	0	1	1	624	46	574	0	620	1	49	0	39	88	631	1	592	88	681	N	37	4	0
	TRK	5	1	0	1	2	23	3	20	1	24	2	2	0	2	4	26	1	23	2	26	S	34	0	0
	BUS	0	0	0	0	0	23	0	23	0	23	0	0	0	0	0	23	0	23	0	23	E	10	14	0
																						W	24	21	0
	TOTAL:	**139**	**1**	**0**	**2**	**3**	**670**	**49**	**617**	**1**	**667**	**3**	**51**	**0**	**41**	**92**	**680**	**2**	**638**	**90**	**730**				
07:30-09:30	CAR	287	0	1	0	1	2,283	140	2,178	2	2,320	2	105	0	78	183	1,131	0	1,053	146	1,199	N	92	10	0
	TRK	12	1	0	1	2	59	5	54	0	59	0	4	0	5	9	42	0	36	7	43	S	48	0	0
2 HR AM	BUS	0	0	0	0	0	47	0	47	0	47	0	0	0	0	0	59	0	59	0	59	E	27	42	0
																						W	53	138	0
	TOTAL:	**299**	**1**	**1**	**1**	**3**	**2,389**	**145**	**2,279**	**2**	**2,426**	**2**	**109**	**0**	**83**	**192**	**1,232**	**0**	**1,148**	**153**	**1,301**				
16:00-18:00	CAR	373	0	0	0	0	1,620	121	1,479	2	1,602	2	141	0	163	304	2,505	0	2,342	252	2,594	N	76	5	0
	TRK	10	0	0	0	0	10	5	7	0	12	0	3	0	2	5	30	0	28	5	33	S	97	2	0
2 HR PM	BUS	0	0	0	0	0	43	0	43	0	43	0	0	0	0	0	47	0	47	0	47	E	34	87	0
																						W	52	45	0
	TOTAL:	**383**	**0**	**0**	**0**	**0**	**1,673**	**126**	**1,529**	**2**	**1,657**	**2**	**144**	**0**	**165**	**309**	**2,582**	**0**	**2,417**	**257**	**2,674**				
07:30-18:00	CAR	1,193	0	1	3	4	6,396	444	5,953	5	6,402	7	440	0	398	838	6,162	2	5,764	748	6,514	N	316	29	0
	TRK	42	4	0	4	8	160	22	142	2	166	6	14	1	16	31	177	3	157	20	180	S	281	3	0
8 HR SUM	BUS	0	0	0	0	0	180	0	180	0	180	0	0	0	0	0	198	0	198	0	198	E	101	186	0
																						W	201	268	0
	TOTAL:	**1,235**	**4**	**1**	**7**	**12**	**6,736**	**466**	**6,275**	**7**	**6,748**	**13**	**454**	**1**	**414**	**869**	**6,537**	**5**	**6,119**	**768**	**6,892**				

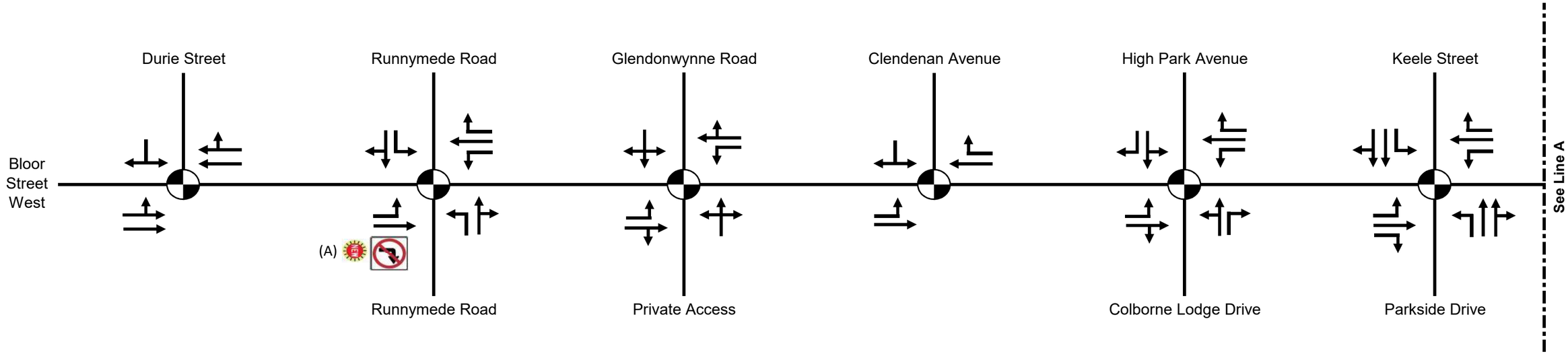
Total 8 Hour Vehicle Volume: 14,521

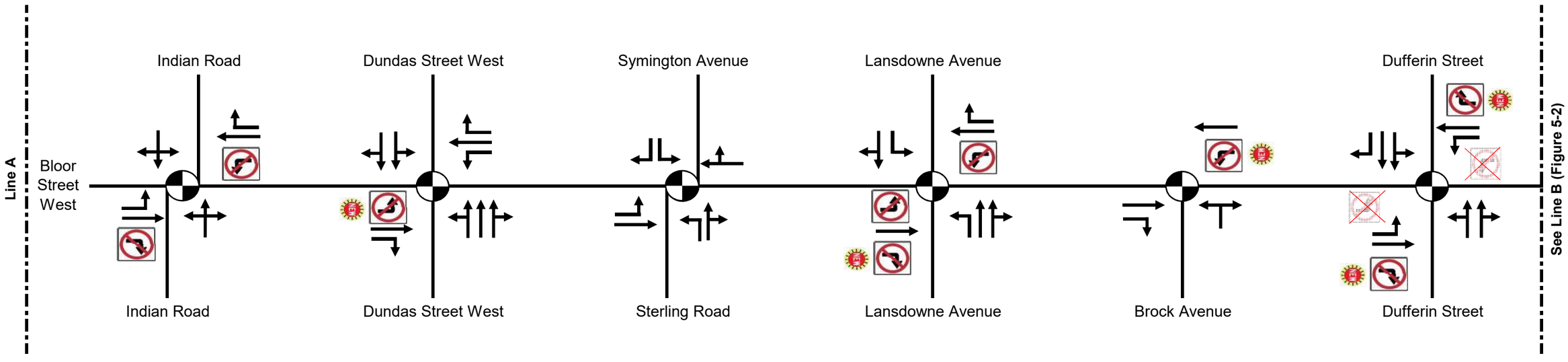
Total 8 Hour Bicycle Volume: 486

Total 8 Hour Intersection Volume: 15,007

Comment:

Printed On: 08 Oct, 2020 2:58:11PM





Note: (A) Eastbound right-turn restriction is only from 7:00 A.M. - 9:00 A.M., Mon-Sat.

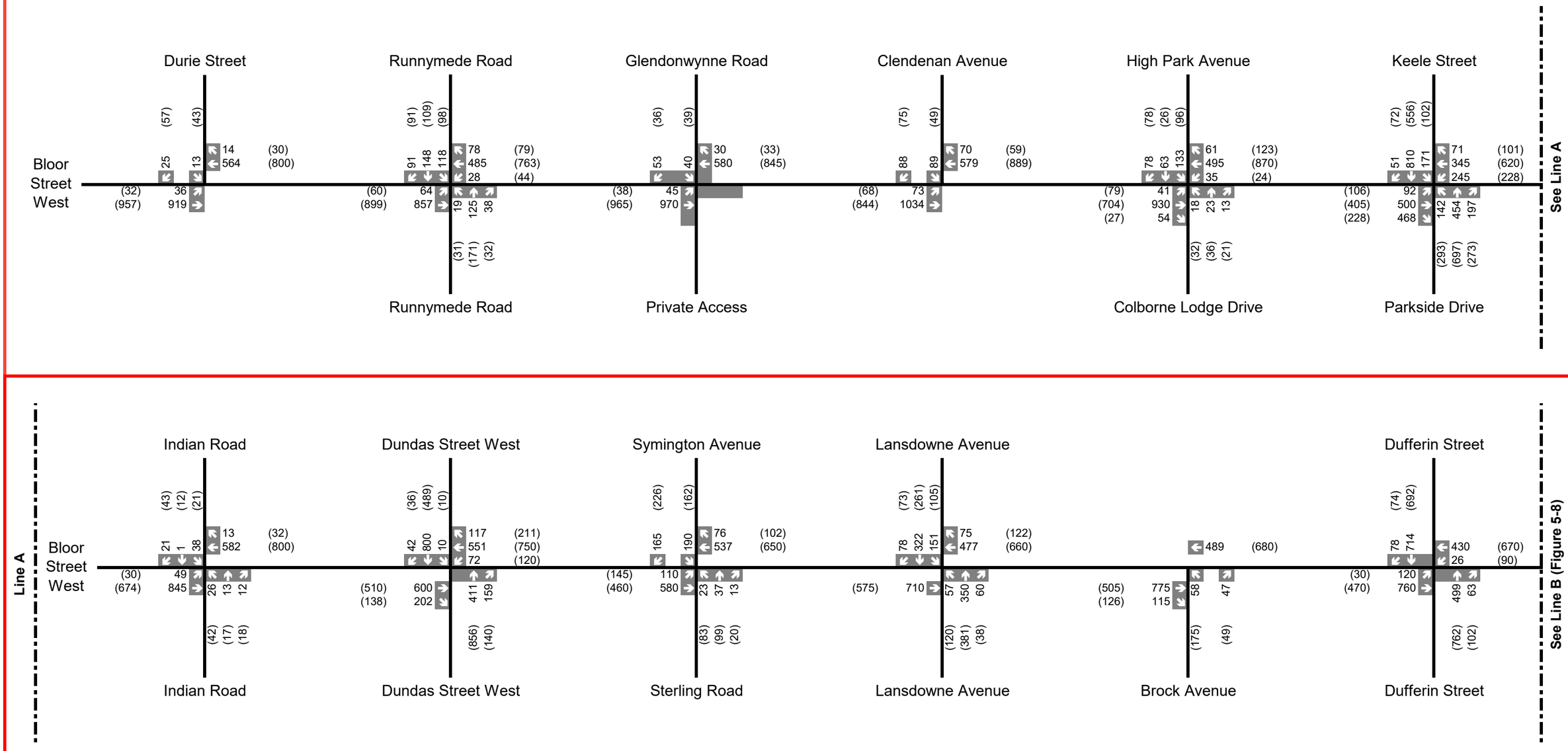
Legend

Signalized Intersection

Turn Restrictions along Bloor Street
7:00 A.M - 6:00 P.M,, Mon - Sat

New Turn Restriction

Figure 5-1
Modified Lane Configurations (1 of 2)



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 5-7
Modified Peak Hour Volumes (1 of 2)

RIDING COUNT - 2. PASSENGER ACTIVITY BY STOP REPORT

Report: TRIPS_DM - 002
Version: 002

ROUTE: 168 SYMINGTON
ROUTING CODE(S): _0,
COUNT: 3246 ON 2019-OCT-14:**M-F** (FROM 07:50 TO 16:50)
STOP CARD: 12 COUNT COVERAGE/METHOD: **FULL(6X)/APC**
STOPS: 1 TO 299
COMMENTS:

TORONTO TRANSIT COMMISSION

NB CONTROL POINT: 1 DUNDAS WEST STATION

NORTHBOUND PERIOD 1: 07:50

ROUTE STOP	LOCATION	START	ONS	OFFS	ACCUM.	VEHICLES	AVG. LOAD
1	DUNDAS WEST STATION	0	116	0	116	11	10.5
4	SYMINGTON AT BLOOR ST W	0	15	11	120	11	10.9
5	SYMINGTON AT PATON	0	6	2	124	11	11.3
6	SYMINGTON AT WALLACE	0	7	2	129	11	11.7
7	SYMINGTON AT ANTLER	0	5	19	115	11	10.5
8	SYMINGTON AT DUPONT	0	9	18	106	11	9.6
9	SYMINGTON AT ADRIAN	0	0	16	90	11	8.2
10	DAVENPORT AT SYMINGTON	0	9	14	85	11	7.7
11	DAVENPORT AT LAUGHTON	0	8	10	83	11	7.5
12	DAVENPORT AT OSLER	0	7	18	72	11	6.5
13	DAVENPORT AT OLD WESTON RD	0	0	0	72	11	6.5
14	OLD WESTON RD AT ST CLAIR AVE W	0	14	25	61	11	5.5
15	OLD WESTON RD AT ROCKWELL	0	5	0	66	11	6.0
16	OLD WESTON RD AT TURNBERRY	0	9	15	60	11	5.5
17	OLD WESTON RD AT KANE	0	0	4	56	11	5.1
18	OLD WESTON RD AT ROGERS RD	0	5	4	57	11	5.2
19	ROGERS RD AT SCOTT	0	0	1	56	11	5.1
20	ROGERS RD AT KEELE ST	0	1	14	43	11	3.9
21	ROGERS RD AT BICKNELL	0	2	5	40	11	3.6
22	LOOP (AVON) AT WESTON RD	0	0	40	0	11	0.0
TOTALS FOR PERIOD 1: 07:50		0	218	218	1551	220	7.1

RIDING COUNT - 2. PASSENGER ACTIVITY BY STOP REPORT

Report: TRIPS_DM - 002
Version: 002

ROUTE: 168 SYMINGTON
ROUTING CODE(S): _0,
COUNT: 3246 ON 2019-OCT-14:**M-F** (FROM 07:50 TO 16:50)
STOP CARD: 12 COUNT COVERAGE/METHOD: **FULL(6X)/APC**
STOPS: 1 TO 299
COMMENTS:

TORONTO TRANSIT COMMISSION

NB CONTROL POINT: 1 DUNDAS WEST STATION

NORTHBOUND PERIOD 2: 15:51

ROUTE STOP	LOCATION	START	ONS	OFFS	ACCUM.	VEHICLES	AVG. LOAD
1	DUNDAS WEST STATION	0	346	0	346	9	38.4
4	SYMINGTON AT BLOOR ST W	0	10	18	338	9	37.6
5	SYMINGTON AT PATON	0	1	13	326	9	36.2
6	SYMINGTON AT WALLACE	0	3	20	309	9	34.3
7	SYMINGTON AT ANTLER	0	2	25	286	9	31.8
8	SYMINGTON AT DUPONT	0	11	34	263	9	29.2
9	SYMINGTON AT ADRIAN	0	0	20	243	9	27.0
10	DAVENPORT AT SYMINGTON	0	7	30	220	9	24.4
11	DAVENPORT AT LAUGHTON	0	7	43	184	9	20.4
12	DAVENPORT AT OSLER	0	3	26	161	9	17.9
13	DAVENPORT AT OLD WESTON RD	0	1	6	156	9	17.3
14	OLD WESTON RD AT ST CLAIR AVE W	0	23	25	154	9	17.1
15	OLD WESTON RD AT ROCKWELL	0	0	12	142	9	15.8
16	OLD WESTON RD AT TURNBERRY	0	2	24	120	9	13.3
17	OLD WESTON RD AT KANE	0	0	20	100	9	11.1
18	OLD WESTON RD AT ROGERS RD	0	3	24	79	9	8.8
19	ROGERS RD AT SCOTT	0	0	14	65	9	7.2
20	ROGERS RD AT KEELE ST	0	1	29	37	9	4.1
21	ROGERS RD AT BICKNELL	0	0	11	26	9	2.9
22	LOOP (AVON) AT WESTON RD	0	0	26	0	9	0.0
TOTALS FOR PERIOD 2: 15:51		0	420	420	3555	180	19.8

RIDING COUNT - 2. PASSENGER ACTIVITY BY STOP REPORT

Report: TRIPS_DM - 002
Version: 002

ROUTE: 168 SYMINGTON
ROUTING CODE(S): _0,
COUNT: 3246 ON 2019-OCT-14:**M-F** (FROM 07:53 TO 18:18)
STOP CARD: 12 COUNT COVERAGE/METHOD: **FULL(6X)/APC**
STOPS: 1 TO 299
COMMENTS:

TORONTO TRANSIT COMMISSION

SB CONTROL POINT: 22 DUNDAS WEST STATION

SOUTHBOUND PERIOD 1: 07:53

ROUTE STOP	LOCATION	START	ONS	OFFS	ACCUM.	VEHICLES	AVG. LOAD
1	LOOP (AVON) AT WESTON RD	0	43	0	43	11	3.9
2	ROGERS RD AT BICKNELL	0	9	1	51	11	4.6
3	ROGERS RD AT KEELE ST	0	55	8	98	11	8.9
4	ROGERS RD AT SCOTT	0	11	0	109	11	9.9
5	OLD WESTON RD AT ROGERS RD	0	44	5	148	11	13.5
6	OLD WESTON RD AT LAVENDER	0	41	2	187	11	17.0
7	OLD WESTON RD AT TURNBERRY	0	45	4	228	11	20.7
8	OLD WESTON RD AT ROCKWELL	0	21	1	248	11	22.5
9	OLD WESTON RD AT ST CLAIR AVE W	0	21	56	213	11	19.4
10	DAVENPORT AT OLD WESTON RD	0	10	0	223	11	20.3
11	DAVENPORT AT OSLER	0	40	3	260	11	23.6
12	DAVENPORT AT LAUGHTON	0	56	4	312	11	28.4
13	DAVENPORT AT SYMINGTON	0	36	2	346	11	31.5
14	SYMINGTON AT KINGSLEY	0	25	1	370	11	33.6
15	SYMINGTON AT DUPONT	0	29	10	389	11	35.4
16	SYMINGTON AT ANTLER	0	35	9	415	11	37.7
17	SYMINGTON AT WALLACE	0	23	4	434	11	39.5
18	SYMINGTON AT ERNEST	0	14	0	448	11	40.7
19	SYMINGTON AT BLOOR ST W	0	17	17	448	11	40.7
20	BLOOR ST W AT DUNDAS ST W	0	4	39	413	11	37.5
22	DUNDAS WEST STATION	0	0	413	0	11	0.0
TOTALS FOR PERIOD 1: 07:53		0	579	579	5383	231	23.3

RIDING COUNT - 2. PASSENGER ACTIVITY BY STOP REPORT

Report: TRIPS_DM - 002
Version: 002

ROUTE: 168 SYMINGTON
ROUTING CODE(S): _0,
COUNT: 3246 ON 2019-OCT-14:**M-F** (FROM 07:53 TO 18:18)
STOP CARD: 12 COUNT COVERAGE/METHOD: **FULL(6X)/APC**
STOPS: 1 TO 299
COMMENTS:

TORONTO TRANSIT COMMISSION

SB CONTROL POINT: 22 DUNDAS WEST STATION

SOUTHBOUND PERIOD 2: 17:19

ROUTE STOP	LOCATION	START	ONS	OFFS	ACCUM.	VEHICLES	AVG. LOAD
1	LOOP (AVON) AT WESTON RD	0	41	0	41	9	4.6
2	ROGERS RD AT BICKNELL	0	0	1	40	9	4.4
3	ROGERS RD AT KEELE ST	0	51	8	83	9	9.2
4	ROGERS RD AT SCOTT	0	6	0	89	9	9.9
5	OLD WESTON RD AT ROGERS RD	0	11	4	96	9	10.7
6	OLD WESTON RD AT LAVENDER	0	6	2	100	9	11.1
7	OLD WESTON RD AT TURNBERRY	0	11	7	104	9	11.6
8	OLD WESTON RD AT ROCKWELL	0	2	7	99	9	11.0
9	OLD WESTON RD AT ST CLAIR AVE W	0	36	21	114	9	12.7
10	DAVENPORT AT OLD WESTON RD	0	6	1	119	9	13.2
11	DAVENPORT AT OSLER	0	10	9	120	9	13.3
12	DAVENPORT AT LAUGHTON	0	25	11	134	9	14.9
13	DAVENPORT AT SYMINGTON	0	25	7	152	9	16.9
14	SYMINGTON AT KINGSLEY	0	17	1	168	9	18.7
15	SYMINGTON AT DUPONT	0	27	11	184	9	20.4
16	SYMINGTON AT ANTLER	0	13	5	192	9	21.3
17	SYMINGTON AT WALLACE	0	9	5	196	9	21.8
18	SYMINGTON AT ERNEST	0	4	1	199	9	22.1
19	SYMINGTON AT BLOOR ST W	0	11	13	197	9	21.9
20	BLOOR ST W AT DUNDAS ST W	0	2	18	181	9	20.1
22	DUNDAS WEST STATION	0	0	181	0	9	0.0
TOTALS FOR PERIOD 2: 17:19		0	313	313	2608	189	13.8

RIDING COUNT - 2. PASSENGER ACTIVITY BY STOP REPORT

Report: TRIPS_DM - 002
Version: 002

ROUTE: 506 CARLTON
ROUTING CODE(S): _0,
COUNT: 3260 ON 2018-MAY-14:**M-F** (FROM 08:20 TO 18:01)
STOP CARD: 23 COUNT COVERAGE/METHOD: **PART(GE95)/APC**
STOPS: 1 TO 299
COMMENTS: Final coverage 99.2%
For SSP use only.

TORONTO TRANSIT COMMISSION

EB CONTROL POINT: 28 COLLEGE AT YONGE ST

EASTBOUND PERIOD 1: 08:20

ROUTE STOP	LOCATION	START	ONS	OFFS	ACCUM.	VEHICLES	AVG. LOAD
1	HIGH PARK STATION	0	59	0	59	17	3.5
3	PARKSIDE DR AT INDIAN VALLEY	0	0	0	59	17	3.5
4	HOWARD PK AT PARKSIDE	0	23	3	79	17	4.6
5	HOWARD PK AT INDIAN RD	0	32	0	111	17	6.5
6	HOWARD PK AT RONCESVALLES	0	59	10	160	17	9.4
7	HOWARD PK AT DUNDAS ST W	0	13	0	173	17	10.2
8	DUNDAS ST W AT SORAUREN	0	38	3	208	17	12.2
9	DUNDAS ST W AT STERLING RD	0	0	1	207	17	12.2
10	COLLEGE AT LANSDOWNE	0	72	15	264	17	15.5
11	COLLEGE AT BROCK	0	59	7	316	17	18.6
12	COLLEGE AT DUFFERIN ST	0	116	9	423	17	24.9
13	COLLEGE AT RUSHOLME	0	51	1	473	17	27.8
14	COLLEGE AT DOVERCOURT	0	77	17	533	17	31.4
15	COLLEGE AT OSSINGTON AVE	0	94	21	606	17	35.6
16	COLLEGE AT CRAWFORD	0	72	23	655	17	38.5
17	COLLEGE AT GRACE	0	68	32	691	17	40.6
18	COLLEGE AT EUCLID	0	52	41	702	17	41.3
19	COLLEGE AT BATHURST ST	0	79	87	694	17	40.8
20	COLLEGE AT BORDEN	0	34	15	713	17	41.9
21	COLLEGE AT AUGUSTA	0	33	34	712	17	41.9
22	COLLEGE AT SPADINA AVE	0	63	76	699	17	41.1
23	COLLEGE AT BEVERLY	0	20	31	688	17	40.5
24	COLLEGE AT MCCAUL	0	14	36	666	17	39.2
25	COLLEGE AT UNIVERSITY AVE	0	76	257	485	17	28.5
26	COLLEGE AT ELIZABETH	0	4	42	447	17	26.3
27	COLLEGE AT BAY ST	0	12	88	371	17	21.8
28	COLLEGE AT YONGE ST	0	124	165	330	17	19.4
29	CARLTON AT CHURCH	0	15	39	306	17	18.0
30	CARLTON AT JARVIS ST	0	14	38	282	17	16.6
31	CARLTON AT SHERBOURNE	0	18	57	243	17	14.3
32	SHERBOURNE ST AT GERRARD	0	4	25	222	17	13.1
33	DUNDAS ST E AT ONTARIO	0	9	21	210	17	12.4
34	DUNDAS ST E AT PARLIAMENT	0	14	20	204	17	12.0
35	DUNDAS ST E AT SACKVILLE	0	8	12	200	17	11.8
36	DUNDAS ST E AT SUMACH	0	24	21	203	17	11.9
37	GERRARD AT BLACKBURN	0	30	16	217	17	12.8
38	GERRARD AT BROADVIEW	0	43	34	226	17	13.3
39	GERRARD AT DEGRASSI	0	9	8	227	17	13.4
40	GERRARD AT LOGAN	0	11	12	226	17	13.3
41	GERRARD AT CARLAW	0	12	34	204	17	12.0
42	GERRARD AT PAPE	0	10	40	174	17	10.2
43	GERRARD AT MARJORY	0	2	9	167	17	9.8
44	GERRARD AT JONES	0	13	36	144	17	8.5
45	GERRARD AT LESLIE	0	1	2	143	17	8.4
46	GERRARD AT ALTON	0	0	2	141	17	8.3

RIDING COUNT - 2. PASSENGER ACTIVITY BY STOP REPORT

Report: TRIPS_DM - 002
Version: 002

ROUTE: 506 CARLTON
ROUTING CODE(S): _0,
COUNT: 3260 ON 2018-MAY-14:**M-F** (FROM 08:20 TO 18:01)
STOP CARD: 23 COUNT COVERAGE/METHOD: **PART(GE95)/APC**
STOPS: 1 TO 299
COMMENTS: Final coverage 99.2%
For SSP use only.

TORONTO TRANSIT COMMISSION

EB CONTROL POINT: 28 COLLEGE AT YONGE ST

EASTBOUND PERIOD 2: 17:02

ROUTE STOP	LOCATION	START	ONS	OFFS	ACCUM.	VEHICLES	AVG. LOAD
1	HIGH PARK STATION	0	34	0	34	16	2.1
3	PARKSIDE DR AT INDIAN VALLEY	0	0	1	33	16	2.1
4	HOWARD PK AT PARKSIDE	0	11	1	43	16	2.7
5	HOWARD PK AT INDIAN RD	0	3	0	46	16	2.9
6	HOWARD PK AT RONCESVALLES	0	24	1	69	16	4.3
7	HOWARD PK AT DUNDAS ST W	0	2	0	71	16	4.4
8	DUNDAS ST W AT SORAUREN	0	8	2	77	16	4.8
9	DUNDAS ST W AT STERLING RD	0	6	1	82	16	5.1
10	COLLEGE AT LANSDOWNE	0	28	3	107	16	6.7
11	COLLEGE AT BROCK	0	12	2	117	16	7.3
12	COLLEGE AT DUFFERIN ST	0	73	10	180	16	11.3
13	COLLEGE AT RUSHOLME	0	7	1	186	16	11.6
14	COLLEGE AT DOVERCOURT	0	26	12	200	16	12.5
15	COLLEGE AT OSSINGTON AVE	0	41	17	224	16	14.0
16	COLLEGE AT CRAWFORD	0	30	17	237	16	14.8
17	COLLEGE AT GRACE	0	30	20	247	16	15.4
18	COLLEGE AT EUCLID	0	45	17	275	16	17.2
19	COLLEGE AT BATHURST ST	0	78	27	326	16	20.4
20	COLLEGE AT BORDEN	0	27	11	342	16	21.4
21	COLLEGE AT AUGUSTA	0	67	23	386	16	24.1
22	COLLEGE AT SPADINA AVE	0	113	41	458	16	28.6
23	COLLEGE AT BEVERLY	0	65	17	506	16	31.6
24	COLLEGE AT MCCAUL	0	34	12	528	16	33.0
25	COLLEGE AT UNIVERSITY AVE	0	127	126	529	16	33.1
26	COLLEGE AT ELIZABETH	0	37	12	554	16	34.6
27	COLLEGE AT BAY ST	0	62	47	569	16	35.6
28	COLLEGE AT YONGE ST	0	253	195	627	16	39.2
29	CARLTON AT CHURCH	0	49	43	633	16	39.6
30	CARLTON AT JARVIS ST	0	20	41	612	16	38.3
31	CARLTON AT SHERBOURNE	0	32	102	542	16	33.9
32	SHERBOURNE ST AT GERRARD	0	13	31	524	16	32.8
33	DUNDAS ST E AT ONTARIO	0	21	42	503	16	31.4
34	DUNDAS ST E AT PARLIAMENT	0	35	31	507	16	31.7
35	DUNDAS ST E AT SACKVILLE	0	16	26	497	16	31.1
36	DUNDAS ST E AT SUMACH	0	22	46	473	16	29.6
37	GERRARD AT BLACKBURN	0	25	32	466	16	29.1
38	GERRARD AT BROADVIEW	0	133	58	541	16	33.8
39	GERRARD AT DEGRASSI	0	26	13	554	16	34.6
40	GERRARD AT LOGAN	0	18	29	543	16	33.9
41	GERRARD AT CARLAW	0	37	51	529	16	33.1
42	GERRARD AT PAPE	0	37	85	481	16	30.1
43	GERRARD AT MARJORY	0	28	33	476	16	29.8
44	GERRARD AT JONES	0	20	44	452	16	28.3
45	GERRARD AT LESLIE	0	9	22	439	16	27.4
46	GERRARD AT ALTON	0	1	18	422	16	26.4

RIDING COUNT - 2. PASSENGER ACTIVITY BY STOP REPORT

Report: TRIPS_DM - 002
Version: 002

ROUTE: 506 CARLTON
ROUTING CODE(S): _0,
COUNT: 3260 ON 2018-MAY-14:**M-F** (FROM 08:07 TO 17:46)
STOP CARD: 23 COUNT COVERAGE/METHOD: **PART(GE95)/APC**
STOPS: 1 TO 299
COMMENTS: Final coverage 99.2%
For SSP use only.

TORONTO TRANSIT COMMISSION

WB CONTROL POINT: 43 CARLTON AT YONGE ST

WESTBOUND PERIOD 1: 08:07

ROUTE STOP	LOCATION	START	ONS	OFFS	ACCUM.	VEHICLES	AVG. LOAD
47	COLLEGE AT MCCAUL	0	7	38	479	16	29.9
48	COLLEGE AT ST. GEORGE	0	9	75	413	16	25.8
49	COLLEGE AT SPADINA AVE	0	22	112	323	16	20.2
50	COLLEGE AT MAJOR	0	14	50	287	16	17.9
51	COLLEGE AT BORDEN	0	9	26	270	16	16.9
52	COLLEGE AT BATHURST ST	0	35	87	218	16	13.6
53	COLLEGE AT EUCLID	0	19	41	196	16	12.3
54	COLLEGE AT GRACE	0	17	24	189	16	11.8
55	COLLEGE AT CRAWFORD	0	10	50	149	16	9.3
56	COLLEGE AT OSSINGTON AVE	0	14	37	126	16	7.9
57	COLLEGE AT DOVERCOURT	0	8	18	116	16	7.3
58	COLLEGE AT HAVELOCK	0	0	0	116	16	7.3
59	COLLEGE AT DUFFERIN ST	0	9	48	77	16	4.8
60	COLLEGE AT BROCK	0	6	7	76	16	4.8
61	COLLEGE AT LANSDOWNE	0	4	21	59	16	3.7
62	DUNDAS ST W AT STERLING RD	0	0	7	52	16	3.3
63	DUNDAS ST W AT SORAUREN	0	2	3	51	16	3.2
64	HOWARD PARK AT DUNDAS ST W	0	0	4	47	16	2.9
65	HOWARD PK AT RONCESVALLES	0	1	19	29	16	1.8
66	HOWARD PK AT INDIAN RD	0	0	0	29	16	1.8
67	HOWARD PK AT PARKSIDE	0	1	2	28	16	1.8
68	PARKSIDE DR AT INDIAN VALLEY	0	0	0	28	16	1.8
70	HIGH PARK STATION	0	0	28	0	16	0.0
TOTALS FOR PERIOD 1: 08:07		0	1869	1869	20067	1088	18.4

RIDING COUNT - 2. PASSENGER ACTIVITY BY STOP REPORT

Report: TRIPS_DM - 002
Version: 002

ROUTE: 506 CARLTON
ROUTING CODE(S): _0,
COUNT: 3260 ON 2018-MAY-14:**M-F** (FROM 08:07 TO 17:46)
STOP CARD: 23 COUNT COVERAGE/METHOD: **PART(GE95)/APC**
STOPS: 1 TO 299
COMMENTS: Final coverage 99.2%
For SSP use only.

TORONTO TRANSIT COMMISSION

WB CONTROL POINT: 43 CARLTON AT YONGE ST

WESTBOUND PERIOD 2: 16:47

ROUTE STOP	LOCATION	START	ONS	OFFS	ACCUM.	VEHICLES	AVG. LOAD
47	COLLEGE AT MCCAUL	0	23	24	586	16	36.6
48	COLLEGE AT ST. GEORGE	0	26	25	587	16	36.7
49	COLLEGE AT SPADINA AVE	0	74	97	564	16	35.3
50	COLLEGE AT MAJOR	0	32	50	546	16	34.1
51	COLLEGE AT BORDEN	0	15	27	534	16	33.4
52	COLLEGE AT BATHURST ST	0	43	69	508	16	31.8
53	COLLEGE AT EUCLID	0	18	55	471	16	29.4
54	COLLEGE AT GRACE	0	27	66	432	16	27.0
55	COLLEGE AT CRAWFORD	0	13	50	395	16	24.7
56	COLLEGE AT OSSINGTON AVE	0	14	60	349	16	21.8
57	COLLEGE AT DOVERCOURT	0	16	51	314	16	19.6
58	COLLEGE AT HAVELOCK	0	1	22	293	16	18.3
59	COLLEGE AT DUFFERIN ST	0	12	89	216	16	13.5
60	COLLEGE AT BROCK	0	6	27	195	16	12.2
61	COLLEGE AT LANSDOWNE	0	10	48	157	16	9.8
62	DUNDAS ST W AT STERLING RD	0	2	4	155	16	9.7
63	DUNDAS ST W AT SORAUREN	0	0	19	136	16	8.5
64	HOWARD PARK AT DUNDAS ST W	0	0	11	125	16	7.8
65	HOWARD PK AT RONCESVALLES	0	0	34	91	16	5.7
66	HOWARD PK AT INDIAN RD	0	2	13	80	16	5.0
67	HOWARD PK AT PARKSIDE	0	2	13	69	16	4.3
68	PARKSIDE DR AT INDIAN VALLEY	0	0	1	68	16	4.3
70	HIGH PARK STATION	0	0	68	0	16	0.0
TOTALS FOR PERIOD 2: 16:47		0	1596	1596	16114	1088	14.8

LANSDOWNE STATION

SUBWAY STATION PLATFORM USAGE COUNT

2019

								MAXIMUM HOUR	
	TIME	TO	SUBTOTAL	FROM	SUBTOTAL	COMBINED	SUBTOTAL	TO	FROM
AM RUSH	06:00 - 06:14	75		50		125			
	06:15 - 06:29	105		37		142			
	06:30 - 06:44	120		45		165			
	06:45 - 06:59	122		47		169			
	07:00 - 07:14	155		55		210			
	07:15 - 07:29	190		59		249			
	07:30 - 07:44	181		125		306			
	07:45 - 07:59	217		199		416			
	08:00 - 08:14	334		114		448			
	08:15 - 08:29	314		118		432			556
	08:30 - 08:44	323		99		422		1,188	
	08:45 - 08:59	213	2,349	125	1,073	338	3,422		
MIDDAY	09:00 - 09:14	176		115		291			
	09:15 - 09:29	141		119		260			
	09:30 - 09:44	132		93		225			
	09:45 - 09:59	130		112		242			
	10:00 - 10:29	150		102		252			
	10:30 - 10:59	143		109		252			
	11:00 - 11:29	119		116		235			
	11:30 - 11:59	155		142		297			
	12:00 - 12:29	120		207		327			
	12:30 - 12:59	149		189		338			
	13:00 - 13:29	105		166		271			
	13:30 - 13:59	114		236		350			
	14:00 - 14:29	202		216		418			452
	14:30 - 14:59	386	2,222	219	2,141	605	4,363	588	
PM RUSH	15:00 - 15:14	159		175		334			
	15:15 - 15:29	177		144		321			
	15:30 - 15:44	181		140		321			
	15:45 - 15:59	193		154		347			
	16:00 - 16:14	175		178		353			
	16:15 - 16:29	187		228		415			
	16:30 - 16:44	256		248		504			
	16:45 - 16:59	220		224		444			
	17:00 - 17:14	200		297		497			
	17:15 - 17:29	215		392		607		891	
	17:30 - 17:44	193		394		587			
	17:45 - 17:59	208		430		638			
	18:00 - 18:14	165		406		571			1,622
	18:15 - 18:29	125		342		467			
	18:30 - 18:44	109		287		396			
	18:45 - 18:59	89	2,852	371	4,410	460	7,262		
EVENING EARLY	19:00 - 19:29	166		426		592			
	19:30 - 19:59	136		365		501		302	791
	20:00 - 20:29	117		286		403			
	20:30 - 20:59	117		272		389			
	21:00 - 21:29	89		262		351			
	21:30 - 21:59	87	712	145	1,756	232	2,468		
EVENING LATE	22:00 - 22:29	55		154		209			
	22:30 - 22:59	56		85		141		111	239
	23:00 - 23:29	44		69		113			
	23:30 - 23:59	28		55		83			
	24:00 - 24:29	24		33		57			
	24:30 - 24:59	18		29		47			
	25:00 - 25:29	8	233	19	444	27	677		
	TOTALS		8,368		9,824		18,192		

Peak Hour Factor Based on Intersection Totals

	AM	PM
Bloor and Symington	514	546
	485	561
	552	550
	491	536
	2042	2193
	0.92	**0.98**
Bloor and Dundas	934	911
	891	920
	910	953
	831	946
	3566	3730
	0.95	**0.98**
Bloor and Lansdowne	696	673
	636	660
	648	630
	612	621
	2592	2584
	0.93	**0.96**
Sterling and Perth	63	81
	63	66
	56	86
	58	96
	240	329
	0.95	**0.86**
Dundas and Sterling	520	603
	520	592
	517	563
	531	577
	2088	2335
	0.98	**0.97**

APPENDIX

C LOS Definitions

LEVEL OF SERVICE DEFINITIONS AT SIGNALIZED INTERSECTIONS[1]

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. The criteria are given in the table below. Delay may be measured in the field or estimated using software such as Highway Capacity Software. Delay is a complex measure and is dependent upon a number of variables, including quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

Level of Service	Features	Control Delay per vehicle (sec)
A	LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favourable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	≤ 10
B	LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10 and ≤ 20
C	LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	> 20 and ≤ 35
D	LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavourable progression, long cycle lengths, of high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35 and ≤ 55
E	LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.	> 55 and ≤ 80
F	LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	> 80

(1) Highway Capacity Manual 2000

LEVEL OF SERVICE DEFINITIONS AT UNSIGNALIZED INTERSECTIONS[1]

The level of service criteria for unsignalized intersections are given in the table below. As used here, total delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position. The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation.

Level of Service	Features	Average Total Delay (sec/veh)
A	Little or no traffic delay occurs. Approaches appear open, turning movements are easily made, and drivers have freedom of operation.	≤ 10
B	Short traffic delays occur. Many drivers begin to feel somewhat restricted in terms of freedom of operation.	> 10 and ≤ 15
C	Average traffic delays occur. Operations are generally stable, but drivers emerging from the minor street may experience difficulty in completing their movement. This may occasionally impact on the stability of flow on the major street.	> 15 and ≤ 25
D	Long traffic delays occur. Motorists emerging from the minor street experience significant restriction and frustration. Drivers on the major street will experience congestion and delay as drivers emerging from the minor street interfere with the major through movements.	> 25 and ≤ 35
E	Very long traffic delays occur. Operations approach the capacity of the intersection.	> 35 and ≤ 50
F	Saturation occurs, with vehicle demand exceeding the available capacity. Very long traffic delays occur.	> 50

(1) Highway Capacity Manual 2000.

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APPENDIX

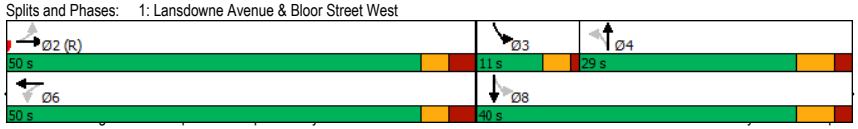
D-1 Existing Traffic Conditions before Bikeway Extension

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	941	68	1	498	94	57	334	54	144	328	70
Future Volume (vph)	3	941	68	1	498	94	57	334	54	144	328	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	10.0		15.0	40.0		0.0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (m)	2.5			2.5			25.0			10.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.98			0.96		0.90	0.96		0.87	0.97	
Frt		0.990			0.976			0.979			0.974	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	3328	0	0	3164	0	1452	3079	0	1636	1644	0
Flt Permitted		0.954			0.954		0.488			0.373		
Satd. Flow (perm)	0	3174	0	0	3019	0	671	3079	0	556	1644	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								20			14	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		374.8			112.0			258.8			36.6	
Travel Time (s)		33.7			10.1			23.3			3.3	
Confl. Peds. (#/hr)	246		157	157		246	153		232	232		153
Confl. Bikes (#/hr)			2			2			3			5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	34%	4%	5%	0%	6%	3%	16%	10%	2%	3%	8%	5%
Adj. Flow (vph)	3	1012	73	1	535	101	61	359	58	155	353	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1088	0	0	637	0	61	417	0	155	428	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	1.01	1.01	1.01	1.01	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	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		3	8	
Switch Phase												
Minimum Initial (s)	26.0	26.0		26.0	26.0		22.0	22.0		6.0	22.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		10.0	28.0	
Total Split (s)	50.0	50.0		50.0	50.0		29.0	29.0		11.0	40.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		32.2%	32.2%		12.2%	44.4%	
Maximum Green (s)	44.0	44.0		44.0	44.0		23.0	23.0		7.0	34.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		4.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		2.0	2.0		1.0	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		3.0	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		15.0	15.0			15.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)		45.0			45.0		24.0	24.0		37.0	35.0	
Actuated g/C Ratio		0.50			0.50		0.27	0.27		0.41	0.39	
v/c Ratio		0.69			0.42		0.34	0.50		0.48	0.66	
Control Delay		19.9			15.4		33.2	29.0		22.7	27.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		19.9			15.4		33.2	29.0		22.7	27.8	
LOS		B			B		C	C		C	C	
Approach Delay		19.9			15.4			29.5			26.5	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 53 (59%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 21.9		Intersection LOS: C	
Intersection Capacity Utilization 84.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Lansdowne Avenue & Bloor Street West



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1073	20	7	629	24	24
Future Volume (vph)	1073	20	7	629	24	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.999	0.976	
Satd. Flow (prot)	3489	0	0	3496	1581	0
Flt Permitted				0.999	0.976	
Satd. Flow (perm)	3489	0	0	3496	1581	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	69.7			374.8	79.4	
Travel Time (s)	6.3			33.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	1192	22	8	699	27	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1214	0	0	707	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
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	1.09	1.09
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1073	20	7	629	24	24
Future Volume (Veh/h)	1073	20	7	629	24	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	1192	22	8	699	27	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	70			375		
pX, platoon unblocked			0.77		0.77	0.77
vC, conflicting volume			1214		1568	607
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			692		1150	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		82	97
cM capacity (veh/h)			696		147	839

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	795	419	241	466	54
Volume Left	0	0	8	0	27
Volume Right	0	22	0	0	27
cSH	1700	1700	696	1700	249
Volume to Capacity	0.47	0.25	0.01	0.27	0.22
Queue Length 95th (m)	0.0	0.0	0.3	0.0	6.1
Control Delay (s)	0.0	0.0	0.5	0.0	23.4
Lane LOS			A		C
Approach Delay (s)	0.0		0.2		23.4
Approach LOS					C

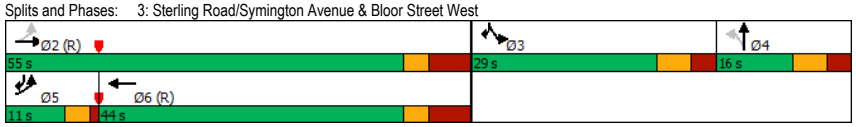
Intersection Summary				
Average Delay		0.7		
Intersection Capacity Utilization		40.3%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	923	0	0	600	53	34	29	10	160	0	143
Future Volume (vph)	90	923	0	0	600	53	34	29	10	160	0	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.96		0.88		
Frt					0.988			0.962				0.850
Flt Protected		0.996					0.950			0.950		
Satd. Flow (prot)	0	3381	0	0	3282	0	1504	1455	0	1620	0	1281
Flt Permitted		0.676					0.950			0.950		
Satd. Flow (perm)	0	2287	0	0	3282	0	1504	1455	0	1418	0	1281
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					10							
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		98.8			69.7			91.9			175.2	
Travel Time (s)		8.9			6.3			11.0			15.8	
Confl. Peds. (#/hr)	63		44	44		63			44	44		
Confl. Bikes (#/hr)			2						1			3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	17%	4%	2%	2%	6%	6%	12%	14%	10%	4%	0%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	12
Adj. Flow (vph)	98	1003	0	0	652	58	37	32	11	174	0	155
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1101	0	0	710	0	37	43	0	174	0	155
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	1.01	1.01	1.01	1.01	1.01	1.01	1.09	1.09	1.09	1.09	1.09	1.16
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2			2		1	2		1		1
Detector Template	Left	Thru			Thru		Left	Thru		Left		Right
Leading Detector (m)	6.1	30.5			30.5		6.1	30.5		6.1		6.1
Trailing Detector (m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Position(m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Size(m)	6.1	1.8			1.8		6.1	1.8		6.1		6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		28.7			28.7			28.7				
Detector 2 Size(m)		1.8			1.8			1.8				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA			NA		Perm	NA		Prot		pt+ov
Protected Phases	5	2			6			4		3		3 5
Permitted Phases	2						4					
Detector Phase	5	2			6		4	4		3		3 5
Switch Phase												
Minimum Initial (s)	6.0	21.0			21.0		7.0	7.0		20.0		
Minimum Split (s)	10.0	29.0			29.0		14.0	14.0		27.0		
Total Split (s)	11.0	55.0			44.0		16.0	16.0		29.0		
Total Split (%)	11.0%	55.0%			44.0%		16.0%	16.0%		29.0%		
Maximum Green (s)	7.0	47.0			36.0		9.0	9.0		22.0		
Yellow Time (s)	3.0	3.0			3.0		4.0	4.0		4.0		
All-Red Time (s)	1.0	5.0			5.0		3.0	3.0		3.0		
Lost Time Adjust (s)		-1.0			-1.0		-1.0	-1.0		-1.0		
Total Lost Time (s)		7.0			7.0		6.0	6.0		6.0		
Lead/Lag	Lead				Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0		
Recall Mode	Max	C-Max			C-Max		None	None		None		
Walk Time (s)		7.0			7.0		0.0	0.0		7.0		
Flash Dont Walk (s)		14.0			14.0		0.0	0.0		8.0		
Pedestrian Calls (#/hr)		0			0		0	0		0		
Act Effct Green (s)		53.2			37.0		9.2	9.2		21.4		32.8
Actuated g/C Ratio		0.53			0.37		0.09	0.09		0.21		0.33
v/c Ratio		0.84			0.58		0.27	0.32		0.50		0.37
Control Delay		28.0			27.3		47.0	48.8		40.3		20.0
Queue Delay		0.0			0.0		0.0	0.0		0.0		0.0
Total Delay		28.0			27.3		47.0	48.8		40.3		20.0
LOS		C			C		D	D		D		C
Approach Delay		28.0			27.3			48.0			30.7	
Approach LOS		C			C			D			C	

Intersection Summary		
Area Type:	Other	
Cycle Length: 100		
Actuated Cycle Length: 100		
Offset: 19 (19%), Referenced to phase 2:EBTL and 6:WBT, Start of Green		
Natural Cycle: 90		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.84		
Intersection Signal Delay: 28.9		Intersection LOS: C
Intersection Capacity Utilization 77.3%		ICU Level of Service D
Analysis Period (min) 15		

Splits and Phases: 3: Sterling Road/Symington Avenue & Bloor Street West

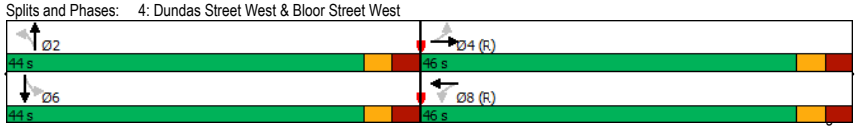


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	1049	177	72	566	115	0	553	187	11	760	37
Future Volume (vph)	39	1049	177	72	566	115	0	553	187	11	760	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.5	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Storage Length (m)	30.0		0.0	20.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	50.0			55.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.91	0.91	0.91	0.95	0.95	0.95
Ped Bike Factor	0.88	0.96		0.97	0.94			0.91			0.98	
Frt		0.978			0.975			0.962			0.993	
Flt Protected	0.950			0.950							0.999	
Satd. Flow (prot)	1636	3202	0	1546	3057	0	0	4154	0	0	3223	0
Flt Permitted	0.325			0.115							0.939	
Satd. Flow (perm)	495	3202	0	182	3057	0	0	4154	0	0	3025	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7			5			4	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		75.1			318.0			159.9			139.1	
Travel Time (s)		6.8			28.6			14.4			12.5	
Confl. Peds. (#/hr)	616		311	311		616	583		484	484		583
Confl. Bikes (#/hr)			5			3			8			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 (%)	3%	4%	5%	9%	5%	15%	2%	9%	6%	91%	7%	3%
Bus Blockages (#/hr)	0	0	0	0	0	9	0	0	0	0	0	0
Adj. Flow (vph)	41	1104	186	76	596	121	0	582	197	12	800	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	1290	0	76	717	0	0	779	0	0	851	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	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	26.0	26.0		26.0	26.0		25.0	25.0		25.0	25.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		31.0	31.0		31.0	31.0	
Total Split (s)	46.0	46.0		46.0	46.0		44.0	44.0		44.0	44.0	
Total Split (%)	51.1%	51.1%		51.1%	51.1%		48.9%	48.9%		48.9%	48.9%	
Maximum Green (s)	40.0	40.0		40.0	40.0		38.0	38.0		38.0	38.0	
Yellow Time (s)	3.0	3.0		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		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		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	46.3	46.3		46.3	46.3			33.7			33.7	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.37			0.37	
v/c Ratio	0.16	0.78		0.82	0.45			0.50			0.75	
Control Delay	15.7	23.3		81.7	15.8			22.2			28.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	15.7	23.3		81.7	15.8			22.2			28.6	
LOS	B	C		F	B			C			C	
Approach Delay		23.1			22.1			22.2			28.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 78 (87%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 23.9		Intersection LOS: C	
Intersection Capacity Utilization 98.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Dundas Street West & Bloor Street West

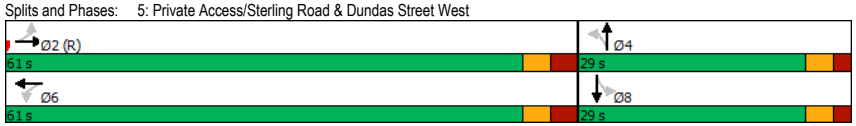


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1217	1	0	619	72	1	1	1	58	0	48
Future Volume (vph)	70	1217	1	0	619	72	1	1	1	58	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			0.97	
Frt					0.984			0.955			0.939	
Flt Protected		0.997						0.984			0.973	
Satd. Flow (prot)	0	3393	0	0	3173	0	0	1049	0	0	1588	0
Flt Permitted		0.862						0.924			0.828	
Satd. Flow (perm)	0	2929	0	0	3173	0	0	973	0	0	1338	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					26			1				
Link Speed (k/h)		40			40			30			30	
Link Distance (m)		123.6			101.7			33.0			87.8	
Travel Time (s)		11.1			9.2			4.0			10.5	
Confl. Peds. (#/hr)	50		27	27		50	38		15	15		38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	5%	0%	2%	10%	5%	100%	0%	100%	4%	2%	7%
Adj. Flow (vph)	71	1242	1	0	632	73	1	1	1	59	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1314	0	0	705	0	0	3	0	0	108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	61.0	61.0		61.0	61.0		29.0	29.0		29.0	29.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%		32.2%	32.2%		32.2%	32.2%	
Maximum Green (s)	55.0	55.0		55.0	55.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		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			4.0			4.0	
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-Max	C-Max		Max	Max		None	None		None	None	
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		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		71.1			71.1			13.3			13.3	
Actuated g/C Ratio		0.79			0.79			0.15			0.15	
v/c Ratio		0.57			0.28			0.02			0.55	
Control Delay		6.5			3.9			27.0			45.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.5			3.9			27.0			45.0	
LOS		A			A			C			D	
Approach Delay		6.5			3.9			27.0			45.0	
Approach LOS		A			A			C			D	

Intersection Summary		
Area Type:	Other	
Cycle Length: 90		
Actuated Cycle Length: 90		
Offset: 76 (84%), Referenced to phase 2:EBTL, Start of Green		
Natural Cycle: 60		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.57		
Intersection Signal Delay: 7.6	Intersection LOS: A	
Intersection Capacity Utilization 85.3%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 5: Private Access/Sterling Road & Dundas Street West



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	28	20	0	8	19
Future Volume (vph)	6	28	20	0	8	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.890					
Flt Protected	0.991					0.985
Satd. Flow (prot)	1625	0	1842	0	0	1814
Flt Permitted	0.991					0.985
Satd. Flow (perm)	1625	0	1842	0	0	1814
Link Speed (k/h)	30		30			30
Link Distance (m)	40.4		89.3			79.4
Travel Time (s)	4.8		10.7			9.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	31	22	0	9	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	22	0	0	30
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	28	20	0	8	19
Future Volume (Veh/h)	6	28	20	0	8	19
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	7	31	22	0	9	21
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	61	22			22	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	61	22			22	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	97			99	
cM capacity (veh/h)	940	1055			1593	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	22	30
Volume Left	7	0	9
Volume Right	31	0	0
cSH	1032	1700	1593
Volume to Capacity	0.04	0.01	0.01
Queue Length 95th (m)	0.9	0.0	0.1
Control Delay (s)	8.6	0.0	2.2
Lane LOS	A		A
Approach Delay (s)	8.6	0.0	2.2
Approach LOS	A		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	109	9	81	24	2
Future Volume (vph)	15	109	9	81	24	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.881				0.990	
Flt Protected	0.994			0.995		
Satd. Flow (prot)	1590	0	0	1789	1794	0
Flt Permitted	0.994			0.995		
Satd. Flow (perm)	1590	0	0	1789	1794	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	70.2			16.3	54.8	
Travel Time (s)	8.4			2.0	6.6	
Confl. Peds. (#/hr)	4	90	13			13
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	3%	0%	5%	0%	50%
Adj. Flow (vph)	16	115	9	85	25	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	131	0	0	94	27	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
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	15	109	9	81	24	2
Future Volume (vph)	15	109	9	81	24	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	115	9	85	25	2

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	131	94	27
Volume Left (vph)	16	9	0
Volume Right (vph)	115	0	2
Hadj (s)	-0.44	0.10	0.02
Departure Headway (s)	3.7	4.3	4.3
Degree Utilization, x	0.14	0.11	0.03
Capacity (veh/h)	934	807	809
Control Delay (s)	7.3	7.8	7.4
Approach Delay (s)	7.3	7.8	7.4
Approach LOS	A	A	A

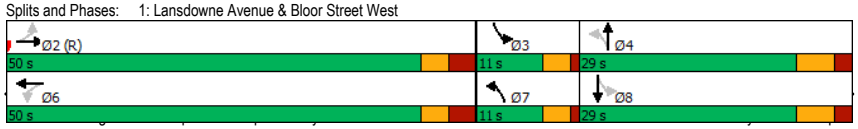
Intersection Summary			
Delay	7.5		
Level of Service	A		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	537	70	1	903	82	99	369	30	114	285	90
Future Volume (vph)	4	537	70	1	903	82	99	369	30	114	285	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.5	3.5	3.0	3.5	3.5
Storage Length (m)	0.0		0.0	0.0		0.0	10.0		15.0	40.0		0.0
Storage Lanes	0		0	0		0	1		1	1		0
Taper Length (m)	2.5			2.5			25.0			10.0		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		0.94			0.97		0.88	0.98		0.84	0.92	
Frt		0.983			0.988			0.989			0.964	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	3266	0	0	3337	0	1620	3310	0	1604	1595	0
Flt Permitted		0.949			0.955		0.288			0.406		
Satd. Flow (perm)	0	3099	0	0	3186	0	430	3310	0	573	1595	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								9			17	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		374.8			112.0			258.8			36.6	
Travel Time (s)		33.7			10.1			23.3			3.3	
Confl. Peds. (#/hr)	297		298	298		297	264		341	341		264
Confl. Bikes (#/hr)			1						1			4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	1%	2%	0%	3%	3%	4%	3%	17%	5%	6%	2%
Adj. Flow (vph)	4	559	73	1	941	85	103	384	31	119	297	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	636	0	0	1027	0	103	415	0	119	391	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	1.01	1.01	1.01	1.01	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	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		7	4		3	8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	26.0	26.0		26.0	26.0		6.0	22.0		6.0	22.0	
Minimum Split (s)	32.0	32.0		32.0	32.0		10.0	28.0		10.0	28.0	
Total Split (s)	50.0	50.0		50.0	50.0		11.0	29.0		11.0	29.0	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		12.2%	32.2%		12.2%	32.2%	
Maximum Green (s)	44.0	44.0		44.0	44.0		7.0	23.0		7.0	23.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		1.0	2.0		1.0	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		3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max		None	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	19.0	19.0		19.0	19.0			15.0			15.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		45.0			45.0		33.9	24.1		34.6	26.2	
Actuated g/C Ratio		0.50			0.50		0.38	0.27		0.38	0.29	
v/c Ratio		0.41			0.64		0.39	0.46		0.38	0.82	
Control Delay		15.2			19.0		21.3	29.0		20.8	46.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		15.2			19.0		21.3	29.0		20.8	46.0	
LOS		B			B		C	C		C	D	
Approach Delay		15.2			19.0			27.5			40.1	
Approach LOS		B			B			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 52 (58%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 23.7		Intersection LOS: C	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Lansdowne Avenue & Bloor Street West



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	674	37	18	953	53	23
Future Volume (vph)	674	37	18	953	53	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.992				0.959	
Flt Protected				0.999	0.966	
Satd. Flow (prot)	3472	0	0	3496	1611	0
Flt Permitted				0.999	0.966	
Satd. Flow (perm)	3472	0	0	3496	1611	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	69.7			374.8	79.4	
Travel Time (s)	6.3			33.7	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	709	39	19	1003	56	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	748	0	0	1022	80	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
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	1.09	1.09
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	674	37	18	953	53	23
Future Volume (Veh/h)	674	37	18	953	53	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	709	39	19	1003	56	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	70			375		
pX, platoon unblocked			0.89		0.93	0.89
vC, conflicting volume			748		1268	374
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			468		601	48
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	97
cM capacity (veh/h)			969		393	899

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1
Volume Total	473	275	353	669	80
Volume Left	0	0	19	0	56
Volume Right	0	39	0	0	24
cSH	1700	1700	969	1700	473
Volume to Capacity	0.28	0.16	0.02	0.39	0.17
Queue Length 95th (m)	0.0	0.0	0.5	0.0	4.6
Control Delay (s)	0.0	0.0	0.7	0.0	14.1
Lane LOS			A		B
Approach Delay (s)	0.0		0.2		14.1
Approach LOS					B

Intersection Summary				
Average Delay		0.7		
Intersection Capacity Utilization		50.2%	ICU Level of Service	A
Analysis Period (min)		15		

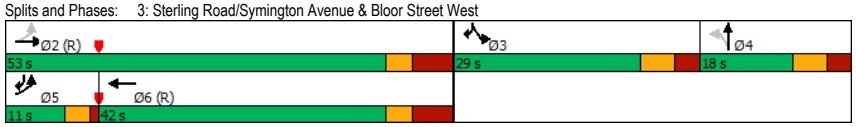
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	552	0	0	932	74	119	100	23	136	0	168
Future Volume (vph)	89	552	0	0	932	74	119	100	23	136	0	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.98		0.85	0.97		0.86		
Frt					0.989			0.972				0.850
Flt Protected		0.993					0.950			0.950		
Satd. Flow (prot)	0	3443	0	0	3350	0	1636	1621	0	1668	0	1329
Flt Permitted		0.531					0.950			0.950		
Satd. Flow (perm)	0	1841	0	0	3350	0	1394	1621	0	1428	0	1329
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					9							
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		98.8			69.7			91.9			175.2	
Travel Time (s)		8.9			6.3			11.0			15.8	
Confl. Peds. (#/hr)	110		76	76		110	59		57	57		59
Confl. Bikes (#/hr)						1						5
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	9%	2%	0%	0%	3%	6%	3%	3%	5%	1%	0%	8%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	12
Adj. Flow (vph)	91	563	0	0	951	76	121	102	23	139	0	171
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	654	0	0	1027	0	121	125	0	139	0	171
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	1.01	1.01	1.01	1.01	1.01	1.01	1.09	1.09	1.09	1.09	1.09	1.16
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2			2		1	2		1		1
Detector Template	Left	Thru			Thru		Left	Thru		Left		Right
Leading Detector (m)	6.1	30.5			30.5		6.1	30.5		6.1		6.1
Trailing Detector (m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Position(m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Size(m)	6.1	1.8			1.8		6.1	1.8		6.1		6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		28.7			28.7			28.7				
Detector 2 Size(m)		1.8			1.8			1.8				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA			NA		Perm	NA		Prot		pt+ov
Protected Phases	5	2			6			4		3		3 5
Permitted Phases	2						4					
Detector Phase	5	2			6		4	4		3		3 5
Switch Phase												
Minimum Initial (s)	6.0	21.0			21.0		7.0	7.0		19.0		
Minimum Split (s)	10.0	29.0			29.0		14.0	14.0		27.0		
Total Split (s)	11.0	53.0			42.0		18.0	18.0		29.0		
Total Split (%)	11.0%	53.0%			42.0%		18.0%	18.0%		29.0%		
Maximum Green (s)	7.0	45.0			34.0		11.0	11.0		22.0		
Yellow Time (s)	3.0	3.0			3.0		4.0	4.0		4.0		
All-Red Time (s)	1.0	5.0			5.0		3.0	3.0		3.0		
Lost Time Adjust (s)		-1.0			-1.0		-1.0	-1.0		-1.0		
Total Lost Time (s)		7.0			7.0		6.0	6.0		6.0		
Lead/Lag	Lead				Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes				Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0		
Recall Mode	Max	C-Max			C-Max		None	None		None		
Walk Time (s)		7.0			7.0		0.0	0.0		7.0		
Flash Dont Walk (s)		14.0			14.0		0.0	0.0		8.0		
Pedestrian Calls (#/hr)		0			0		0	0		0		
Act Effct Green (s)		47.4			35.0		13.3	13.3		20.3		26.7
Actuated g/C Ratio		0.47			0.35		0.13	0.13		0.20		0.27
v/c Ratio		0.68			0.87		0.65	0.58		0.41		0.48
Control Delay		23.9			39.8		58.5	51.9		38.8		23.4
Queue Delay		0.0			0.0		0.0	0.0		0.0		0.0
Total Delay		23.9			39.8		58.5	51.9		38.8		23.4
LOS		C			D		E	D		D		C
Approach Delay		23.9			39.8			55.1			30.3	
Approach LOS		C			D			E			C	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 86 (86%), 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: 35.5 Intersection LOS: D
Intersection Capacity Utilization 86.4% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Sterling Road/Symington Avenue & Bloor Street West

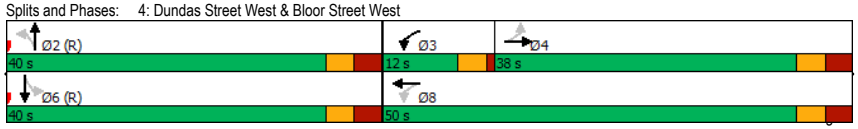


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	657	149	90	985	177	5	978	134	8	430	72
Future Volume (vph)	45	657	149	90	985	177	5	978	134	8	430	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (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)	30.0		0.0	20.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	50.0			55.0			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	0.91	0.91	0.91	0.95	0.95	0.95
Ped Bike Factor	0.94	0.96		0.95	0.95			0.96			0.95	
Frt		0.972			0.977			0.982			0.979	
Flt Protected	0.950			0.950							0.999	
Satd. Flow (prot)	1604	3256	0	1636	3185	0	0	4581	0	0	3123	0
Flt Permitted	0.167			0.187				0.938			0.932	
Satd. Flow (perm)	266	3256	0	307	3185	0	0	4294	0	0	2911	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		34			2			32			5	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		75.1			318.0			159.9			139.1	
Travel Time (s)		6.8			28.6			14.4			12.5	
Confl. Peds. (#/hr)	469		206	206		469	396		387	387		396
Confl. Bikes (#/hr)			3			1			1			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	2%	3%	3%	3%	8%	0%	6%	3%	100%	5%	6%
Bus Blockages (#/hr)	0	0	0	0	0	9	0	0	0	0	0	0
Adj. Flow (vph)	46	670	152	92	1005	181	5	998	137	8	439	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	822	0	92	1186	0	0	1140	0	0	520	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	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	26.0	26.0		6.0	26.0		25.0	25.0		25.0	25.0	
Minimum Split (s)	32.0	32.0		10.0	32.0		31.0	31.0		31.0	31.0	
Total Split (s)	38.0	38.0		12.0	50.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.2%	42.2%		13.3%	55.6%		44.4%	44.4%		44.4%	44.4%	
Maximum Green (s)	32.0	32.0		8.0	44.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		1.0	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		3.0	5.0			5.0			5.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	19.0	19.0			19.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0			0		0	0		0	0	
Act Effct Green (s)	32.6	32.6		44.1	42.1			37.9			37.9	
Actuated g/C Ratio	0.36	0.36		0.49	0.47			0.42			0.42	
v/c Ratio	0.48	0.68		0.33	0.80			0.62			0.42	
Control Delay	42.2	26.8		14.9	24.6			22.3			20.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	42.2	26.8		14.9	24.6			22.3			20.2	
LOS	D	C		B	C			C			C	
Approach Delay		27.7			23.9			22.3			20.2	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 77 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 95.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Dundas Street West & Bloor Street West

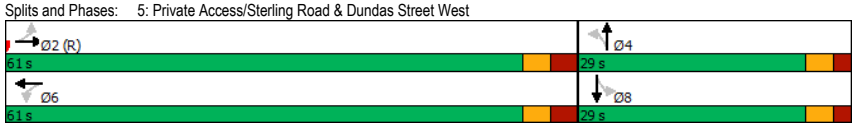


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	756	0	0	1219	138	0	0	0	65	0	84
Future Volume (vph)	73	756	0	0	1219	138	0	0	0	65	0	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99						0.96	
Frt					0.985						0.924	
Flt Protected		0.996									0.979	
Satd. Flow (prot)	0	3446	0	0	3386	0	0	1842	0	0	1598	0
Flt Permitted		0.698									0.864	
Satd. Flow (perm)	0	2414	0	0	3386	0	0	1842	0	0	1396	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					25							
Link Speed (k/h)		40			40			30			30	
Link Distance (m)		123.6			101.7			33.0			87.8	
Travel Time (s)		11.1			9.2			4.0			10.5	
Confl. Peds. (#/hr)	34		50	50		34	34		19	19		34
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	2%	2%	3%	3%	2%	2%	2%	5%	2%	2%
Adj. Flow (vph)	75	779	0	0	1257	142	0	0	0	67	0	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	854	0	0	1399	0	0	0	0	0	154	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA					Perm	NA	
Protected Phases		2			6			4			8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	61.0	61.0		61.0	61.0		29.0	29.0		29.0	29.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%		32.2%	32.2%		32.2%	32.2%	
Maximum Green (s)	55.0	55.0		55.0	55.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		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			4.0			4.0	
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-Max	C-Max		Max	Max		None	None		None	None	
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		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		65.0			65.0						16.0	
Actuated g/C Ratio		0.72			0.72						0.18	
v/c Ratio		0.49			0.57						0.62	
Control Delay		7.2			7.6						44.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		7.2			7.6						44.4	
LOS		A			A						D	
Approach Delay		7.2			7.6						44.4	
Approach LOS		A			A						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 90.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: Private Access/Sterling Road & Dundas Street West



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	12	64	6	32	23
Future Volume (vph)	1	12	64	6	32	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.875		0.989			
Flt Protected	0.996					0.972
Satd. Flow (prot)	1605	0	1822	0	0	1790
Flt Permitted	0.996					0.972
Satd. Flow (perm)	1605	0	1822	0	0	1790
Link Speed (k/h)	30		30			30
Link Distance (m)	41.6		87.0			79.4
Travel Time (s)	5.0		10.4			9.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	13	67	6	34	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	73	0	0	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	12	64	6	32	23
Future Volume (Veh/h)	1	12	64	6	32	23
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	13	67	6	34	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	162	70			73	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	70			73	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			98	
cM capacity (veh/h)	810	993			1527	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	73	58
Volume Left	1	0	34
Volume Right	13	6	0
cSH	977	1700	1527
Volume to Capacity	0.01	0.04	0.02
Queue Length 95th (m)	0.3	0.0	0.5
Control Delay (s)	8.7	0.0	4.4
Lane LOS	A		A
Approach Delay (s)	8.7	0.0	4.4
Approach LOS	A		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	81	19	182	32	0
Future Volume (vph)	15	81	19	182	32	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.886					
Flt Protected	0.992			0.995		
Satd. Flow (prot)	1610	0	0	1842	1879	0
Flt Permitted	0.992			0.995		
Satd. Flow (perm)	1610	0	0	1842	1879	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	70.2			16.3	54.8	
Travel Time (s)	8.4			2.0	6.6	
Confl. Peds. (#/hr)	5	13	9			9
Confl. Bikes (#/hr)		2				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	6%	1%	0%	2%
Adj. Flow (vph)	17	94	22	212	37	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	0	234	37	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
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	15	81	19	182	32	0
Future Volume (vph)	15	81	19	182	32	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	17	94	22	212	37	0

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	111	234	37
Volume Left (vph)	17	22	0
Volume Right (vph)	94	0	0
Hadj (s)	-0.43	0.04	0.00
Departure Headway (s)	4.1	4.2	4.4
Degree Utilization, x	0.13	0.27	0.05
Capacity (veh/h)	832	827	778
Control Delay (s)	7.7	8.8	7.6
Approach Delay (s)	7.7	8.8	7.6
Approach LOS	A	A	A

Intersection Summary			
Delay	8.4		
Level of Service	A		
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

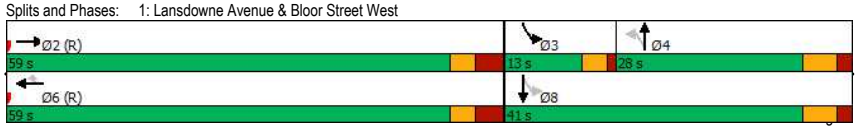
D-2 Existing Traffic Conditions after Bikeway Extension

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	710	0	0	477	75	57	350	60	151	322	78
Future Volume (vph)	0	710	0	0	477	75	57	350	60	151	322	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		14.1	14.4		15.3	36.3		0.0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (m)	2.5			2.5			25.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						0.69	0.83	0.91		0.78	0.91	
Frt						0.850		0.974			0.962	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	1658	0	0	1602	1343	1458	2680	0	1501	1416	0
Flt Permitted							0.455			0.304		
Satd. Flow (perm)	0	1658	0	0	1602	931	576	2680	0	377	1416	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								23			19	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		374.8			112.0			258.8			36.6	
Travel Time (s)		33.7			10.1			23.3			3.3	
Confl. Peds. (#/hr)	261		188	188		261	149		271	271		149
Confl. Bikes (#/hr)			2			2			3			5
Peak Hour Factor	0.50	1.00	0.76	0.90	0.95	0.69	0.75	0.93	0.75	0.80	0.99	0.70
Heavy Vehicles (%)	0%	2%	3%	0%	2%	1%	4%	6%	5%	1%	5%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	13	0	0	0
Adj. Flow (vph)	0	710	0	0	502	109	76	376	80	189	325	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	710	0	0	502	109	76	456	0	189	436	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	1.25	1.16	1.25	1.25	1.21	1.25	1.25	1.16	1.25	1.25	1.16	1.25
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2			2	1	1	2		1	2	
Detector Template		Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5			30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8			1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		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	
Detector 1 Delay (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases						6	4			8		
Detector Phase		2			6	6	4	4		3	8	
Switch Phase												
Minimum Initial (s)		26.0			26.0	26.0	22.0	22.0		6.0	22.0	
Minimum Split (s)		34.0			34.0	34.0	28.0	28.0		10.0	28.0	
Total Split (s)		59.0			59.0	59.0	28.0	28.0		13.0	41.0	
Total Split (%)		59.0%			59.0%	59.0%	28.0%	28.0%		13.0%	41.0%	
Maximum Green (s)		52.4			52.4	52.4	22.0	22.0		9.0	35.0	
Yellow Time (s)		3.0			3.0	3.0	4.0	4.0		3.0	4.0	
All-Red Time (s)		3.6			3.6	3.6	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		5.6			5.6	5.6	5.0	5.0		3.0	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		2.0	3.0	
Recall Mode		C-Max			C-Max	C-Max	Max	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0	15.0	15.0			15.0	
Pedestrian Calls (#/hr)		40			40	40	40	40			40	
Act Effct Green (s)		53.4			53.4	53.4	23.0	23.0		38.0	36.0	
Actuated g/C Ratio		0.53			0.53	0.53	0.23	0.23		0.38	0.36	
v/c Ratio		0.80			0.59	0.22	0.58	0.72		0.74	0.84	
Control Delay		21.8			19.3	13.8	53.5	41.0		42.0	44.1	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		21.8			19.3	13.8	53.5	41.0		42.0	44.1	
LOS		C			B	B	D	D		D	D	
Approach Delay		21.8			18.3			42.8			43.4	
Approach LOS		C			B			D			D	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 38 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 30.9		Intersection LOS: C	
Intersection Capacity Utilization 98.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 1: Lansdowne Avenue & Bloor Street West



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	763	20	7	589	24	24
Future Volume (vph)	763	20	7	589	24	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.932	
Flt Protected				0.999	0.976	
Satd. Flow (prot)	1837	0	0	1840	1581	0
Flt Permitted				0.999	0.976	
Satd. Flow (perm)	1837	0	0	1840	1581	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	69.7			374.8	79.4	
Travel Time (s)	6.3			33.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	848	22	8	654	27	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	870	0	0	662	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
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	1.09	1.09
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	763	20	7	589	24	24
Future Volume (Veh/h)	763	20	7	589	24	24
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	848	22	8	654	27	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	70			375		
pX, platoon unblocked			0.75		0.83	0.75
vC, conflicting volume			870		1529	859
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			655		1102	640
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		86	92
cM capacity (veh/h)			695		191	354

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	870	662	54
Volume Left	0	8	27
Volume Right	22	0	27
cSH	1700	695	248
Volume to Capacity	0.51	0.01	0.22
Queue Length 95th (m)	0.0	0.3	6.1
Control Delay (s)	0.0	0.3	23.5
Lane LOS		A	C
Approach Delay (s)	0.0	0.3	23.5
Approach LOS			C

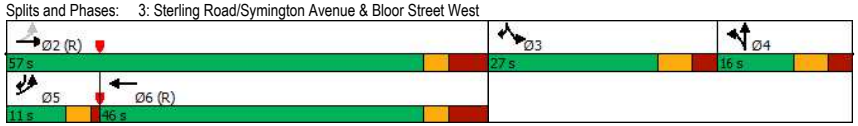
Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	580	0	0	537	76	23	37	13	190	0	165
Future Volume (vph)	110	580	0	0	537	76	23	37	13	190	0	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.3	3.0	3.0	4.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	27.5		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (m)	7.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.96		0.62	0.93		0.90		0.79
Frt					0.981			0.956				0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1531	1605	0	0	1864	0	1685	1632	0	1652	0	1333
Flt Permitted	0.124						0.950			0.950		
Satd. Flow (perm)	200	1605	0	0	1864	0	1053	1632	0	1483	0	1052
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					10							
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		98.8			69.7			91.9			175.2	
Travel Time (s)		8.9			6.3			11.0			15.8	
Confl. Peds. (#/hr)	86		28	28		86	75		45	45		75
Confl. Bikes (#/hr)			50			50			2			7
Peak Hour Factor	0.72	1.00	0.90	0.90	0.93	0.79	0.72	0.77	0.65	0.81	0.90	0.84
Heavy Vehicles (%)	14%	3%	0%	0%	3%	1%	0%	3%	0%	2%	0%	9%
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	0	0	3	9
Parking (#/hr)		0										
Adj. Flow (vph)	153	580	0	0	577	96	32	48	20	235	0	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	580	0	0	673	0	32	68	0	235	0	196
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)		3.3			3.3			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.19	1.09	1.09	0.92	1.09	1.09	1.01	1.09	1.09	1.01	1.14
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2			2		1	2		1		1
Detector Template	Left	Thru			Thru		Left	Thru		Left		Right
Leading Detector (m)	6.1	30.5			30.5		6.1	30.5		6.1		6.1
Trailing Detector (m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Position(m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Size(m)	6.1	1.8			1.8		6.1	1.8		6.1		6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		28.7			28.7			28.7				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Split	NA		Prot		pt+ov
Protected Phases	5	2			6		4	4		3		3 5
Permitted Phases	2											3
Detector Phase	5	2			6		4	4		3		3 5
Switch Phase												
Minimum Initial (s)	6.0	21.0			21.0		7.0	7.0		19.0		
Minimum Split (s)	10.0	29.0			29.0		16.0	16.0		27.0		
Total Split (s)	11.0	57.0			46.0		16.0	16.0		27.0		
Total Split (%)	11.0%	57.0%			46.0%		16.0%	16.0%		27.0%		
Maximum Green (s)	7.0	49.3			38.3		9.0	9.0		20.0		
Yellow Time (s)	3.0	3.0			3.0		4.0	4.0		4.0		
All-Red Time (s)	1.0	4.7			4.7		3.0	3.0		3.0		
Lost Time Adjust (s)	-1.0	-3.0			-1.0		-1.0	-1.0		-1.0		
Total Lost Time (s)	3.0	4.7			6.7		6.0	6.0		6.0		
Lead/Lag	Lead				Lag		Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0		
Recall Mode	Max	C-Max			C-Max		None	None		None		
Walk Time (s)		7.0			7.0					8.0		
Flash Dont Walk (s)		14.0			14.0					12.0		
Pedestrian Calls (#/hr)		28			36					36		
Act Effct Green (s)	57.8	56.1			43.1		9.4	9.4		20.6		26.8
Actuated g/C Ratio	0.58	0.56			0.43		0.09	0.09		0.21		0.27
v/c Ratio	0.69	0.64			0.83		0.20	0.44		0.69		0.55
Control Delay	30.2	20.7			30.2		44.8	52.3		48.5		27.2
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Delay	30.2	20.7			30.2		44.8	52.3		48.5		27.2
LOS	C	C			C		D	D		D		C
Approach Delay		22.7			30.2			49.9			38.8	
Approach LOS		C			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 89 (89%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 30.3		Intersection LOS: C	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Sterling Road/Symington Avenue & Bloor Street West



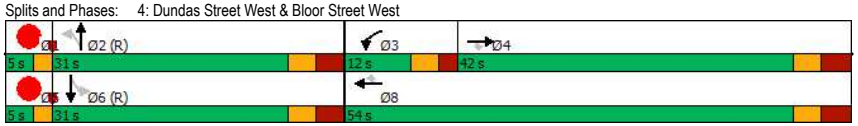
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	600	202	72	551	117	0	411	159	10	800	42
Future Volume (vph)	0	600	202	72	551	117	0	411	159	10	800	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.4	3.0	3.0	3.3	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		17.5	26.4		31.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	0		0	0		0
Taper Length (m)	50.0			7.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.95	0.95	0.95
Ped Bike Factor			0.74	0.90		0.60		0.82			0.96	
Frt			0.850			0.850		0.955			0.991	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	1623	1436	1589	1712	1358	0	3775	0	0	3224	0
Flt Permitted				0.950							0.940	
Satd. Flow (perm)	0	1623	1062	1426	1712	820	0	3775	0	0	3022	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			101		120			8	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		75.1			318.0			159.9			139.1	
Travel Time (s)		6.8			28.6			14.4			12.5	
Confl. Peds. (#/hr)	670		219	219		670	453		442	442		453
Confl. Bikes (#/hr)			50			50			9			11
Peak Hour Factor	0.64	1.00	0.83	0.98	0.96	0.89	0.90	0.98	0.90	0.69	0.98	0.75
Heavy Vehicles (%)	4%	3%	5%	6%	3%	11%	0%	7%	3%	100%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	0
Parking (#/hr)		0										
Adj. Flow (vph)	0	600	243	73	574	131	0	419	177	14	816	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	600	243	73	574	131	0	596	0	0	886	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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.09	1.18	1.09	1.09	1.10	1.09	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2	1	1	2	1	1	2		1	2	
Detector Template		Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5	6.1	6.1	30.5	6.1	2.0	30.5		2.0	30.5	
Trailing Detector (m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	

Lane Group	Ø1	Ø5
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
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)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
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)		
Detector 2 Position(m)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA	Perm	Prot	NA	Perm		NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases			4			8	2			6		
Detector Phase		4	4	3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)		25.0	25.0	6.0	25.0	25.0	19.0	19.0		19.0	19.0	
Minimum Split (s)		31.3	31.3	11.0	31.3	31.3	25.0	25.0		25.0	25.0	
Total Split (s)		42.0	42.0	12.0	54.0	54.0	31.0	31.0		31.0	31.0	
Total Split (%)		46.7%	46.7%	13.3%	60.0%	60.0%	34.4%	34.4%		34.4%	34.4%	
Maximum Green (s)		35.7	35.7	7.0	47.7	47.7	25.0	25.0		25.0	25.0	
Yellow Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)		3.3	3.3	2.0	3.3	3.3	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	
Total Lost Time (s)		5.3	5.3	4.0	5.3	5.3		5.0			5.0	
Lead/Lag		Lag	Lag	Lead			Lag	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		Max	Max	None	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0	7.0	2.0	2.0		2.0	2.0	
Flash Dont Walk (s)		18.0	18.0		18.0	18.0	17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		40	40		40	40	40	40		40	40	
Act Effct Green (s)		39.1	39.1	7.8	48.7	48.7		28.0			31.0	
Actuated g/C Ratio		0.43	0.43	0.09	0.54	0.54		0.31			0.34	
v/c Ratio		0.85	0.46	0.53	0.62	0.27		0.47			0.85	
Control Delay		38.0	12.8	53.9	18.0	5.0		21.6			36.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay		38.0	12.8	53.9	18.0	5.0		21.6			36.3	
LOS		D	B	D	B	A		C			D	
Approach Delay		30.7			19.2			21.6			36.3	
Approach LOS		C			B			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 34 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 27.7		Intersection LOS: C	
Intersection Capacity Utilization 79.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Dundas Street West & Bloor Street West



Lane Group	Ø1	Ø5
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	5
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	6%	6%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	3.0	
Flash Dont Walk (s)	0.0	
Pedestrian Calls (#/hr)	40	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

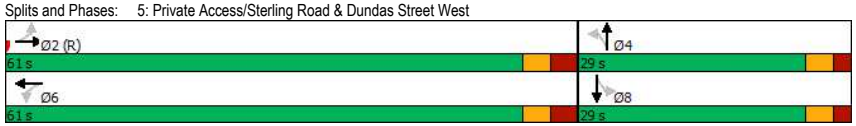
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	1217	1	0	619	72	1	1	1	58	0	48
Future Volume (vph)	70	1217	1	0	619	72	1	1	1	58	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			0.97	
Frt					0.984			0.955			0.939	
Flt Protected		0.997						0.984			0.973	
Satd. Flow (prot)	0	3393	0	0	3173	0	0	1049	0	0	1588	0
Flt Permitted		0.862						0.924			0.828	
Satd. Flow (perm)	0	2929	0	0	3173	0	0	974	0	0	1338	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					26			1				
Link Speed (k/h)		40			40			30			30	
Link Distance (m)		123.6			101.7			33.0			87.8	
Travel Time (s)		11.1			9.2			4.0			10.5	
Confl. Peds. (#/hr)	50		27	27		50	38		15	15		38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	5%	0%	2%	10%	5%	100%	0%	100%	4%	2%	7%
Adj. Flow (vph)	71	1242	1	0	632	73	1	1	1	59	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1314	0	0	705	0	0	3	0	0	108	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	61.0	61.0		61.0	61.0		29.0	29.0		29.0	29.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%		32.2%	32.2%		32.2%	32.2%	
Maximum Green (s)	55.0	55.0		55.0	55.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		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			4.0			4.0	
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-Max	C-Max		Max	Max		None	None		None	None	
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		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		71.1			71.1			13.3			13.3	
Actuated g/C Ratio		0.79			0.79			0.15			0.15	
v/c Ratio		0.57			0.28			0.02			0.55	
Control Delay		6.5			3.9			27.0			45.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		6.5			3.9			27.0			45.0	
LOS		A			A			C			D	
Approach Delay		6.5			3.9			27.0			45.0	
Approach LOS		A			A			C			D	

Intersection Summary		
Area Type:	Other	
Cycle Length: 90		
Actuated Cycle Length: 90		
Offset: 76 (84%), Referenced to phase 2:EBTL, Start of Green		
Natural Cycle: 60		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.57		
Intersection Signal Delay: 7.6	Intersection LOS: A	
Intersection Capacity Utilization 85.3%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 5: Private Access/Sterling Road & Dundas Street West



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	28	20	0	8	19
Future Volume (vph)	6	28	20	0	8	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.890					
Flt Protected	0.991					0.985
Satd. Flow (prot)	1625	0	1842	0	0	1814
Flt Permitted	0.991					0.985
Satd. Flow (perm)	1625	0	1842	0	0	1814
Link Speed (k/h)	30		30			30
Link Distance (m)	40.4		89.3			79.4
Travel Time (s)	4.8		10.7			9.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	31	22	0	9	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	22	0	0	30
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	28	20	0	8	19
Future Volume (Veh/h)	6	28	20	0	8	19
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	7	31	22	0	9	21
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	61	22			22	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	61	22			22	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	97			99	
cM capacity (veh/h)	940	1055			1593	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	22	30
Volume Left	7	0	9
Volume Right	31	0	0
cSH	1032	1700	1593
Volume to Capacity	0.04	0.01	0.01
Queue Length 95th (m)	0.9	0.0	0.1
Control Delay (s)	8.6	0.0	2.2
Lane LOS	A		A
Approach Delay (s)	8.6	0.0	2.2
Approach LOS	A		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	109	9	81	24	2
Future Volume (vph)	15	109	9	81	24	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.881				0.990	
Flt Protected	0.994			0.995		
Satd. Flow (prot)	1590	0	0	1789	1794	0
Flt Permitted	0.994			0.995		
Satd. Flow (perm)	1590	0	0	1789	1794	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	70.2			16.3	54.8	
Travel Time (s)	8.4			2.0	6.6	
Confl. Peds. (#/hr)	4	90	13			13
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	3%	0%	5%	0%	50%
Adj. Flow (vph)	16	115	9	85	25	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	131	0	0	94	27	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
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	15	109	9	81	24	2
Future Volume (vph)	15	109	9	81	24	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	16	115	9	85	25	2

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	131	94	27
Volume Left (vph)	16	9	0
Volume Right (vph)	115	0	2
Hadj (s)	-0.44	0.10	0.02
Departure Headway (s)	3.7	4.3	4.3
Degree Utilization, x	0.14	0.11	0.03
Capacity (veh/h)	934	807	809
Control Delay (s)	7.3	7.8	7.4
Approach Delay (s)	7.3	7.8	7.4
Approach LOS	A	A	A

Intersection Summary			
Delay	7.5		
Level of Service	A		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

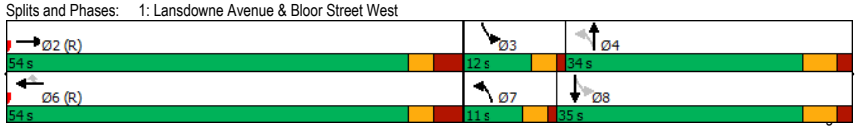
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	575	0	0	660	122	120	381	38	105	261	73
Future Volume (vph)	0	575	0	0	660	122	120	381	38	105	261	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		14.1	14.4		15.3	36.3		0.0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						0.68	0.79	0.94		0.76	0.86	
Frt						0.850		0.984			0.962	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	1674	0	0	1602	1343	1501	2882	0	1516	1361	0
Flt Permitted							0.284			0.361		
Satd. Flow (perm)	0	1674	0	0	1602	911	353	2882	0	441	1361	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								13			18	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		374.8			112.0			258.8			36.6	
Travel Time (s)		33.7			10.1			23.3			3.3	
Confl. Peds. (#/hr)	329		292	292		329	280		352	352		280
Confl. Bikes (#/hr)			1						1			4
Peak Hour Factor	0.63	1.00	0.63	0.50	1.00	0.87	0.88	0.88	0.73	0.94	0.90	0.73
Heavy Vehicles (%)	0%	1%	4%	0%	2%	1%	1%	3%	3%	0%	4%	0%
Bus Blockages (#/hr)	0	0	1	0	0	0	0	0	9	0	0	0
Adj. Flow (vph)	0	575	0	0	660	140	136	433	52	112	290	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	575	0	0	660	140	136	485	0	112	390	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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.25	1.16	1.25	1.25	1.21	1.25	1.25	1.16	1.25	1.25	1.16	1.25
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2			2	1	1	2		1	2	
Detector Template		Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5			30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8			1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		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	
Detector 1 Delay (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	

Lanes, Volumes, Timings
1: Lansdowne Avenue & Bloor Street West
<Existing w/ Bikeway Volumes> PM Peak
02/16/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		7	4		3	8	
Permitted Phases						6	4			8		
Detector Phase		2			6	6	7	4		3	8	
Switch Phase												
Minimum Initial (s)		26.0			26.0	26.0	6.0	22.0		6.0	22.0	
Minimum Split (s)		34.0			34.0	34.0	10.0	28.0		10.0	28.0	
Total Split (s)		54.0			54.0	54.0	11.0	34.0		12.0	35.0	
Total Split (%)		54.0%			54.0%	54.0%	11.0%	34.0%		12.0%	35.0%	
Maximum Green (s)		47.4			47.4	47.4	7.0	28.0		8.0	29.0	
Yellow Time (s)		3.0			3.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)		3.6			3.6	3.6	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0			0.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.6			6.6	5.6	3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0	3.0	2.0	3.0		2.0	3.0	
Recall Mode		C-Max			C-Max	C-Max	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0		15.0			15.0	
Pedestrian Calls (#/hr)		40			40	40		40			40	
Act Effct Green (s)		47.4			47.4	48.4	39.3	29.5		40.7	30.1	
Actuated g/C Ratio		0.47			0.47	0.48	0.39	0.30		0.41	0.30	
v/c Ratio		0.73			0.87	0.32	0.59	0.56		0.41	0.92	
Control Delay		23.4			37.8	18.3	30.1	32.2		22.6	62.3	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		23.4			37.8	18.3	30.1	32.2		22.6	62.3	
LOS		C			D	B	C	C		C	E	
Approach Delay		23.4			34.4			31.7			53.4	
Approach LOS		C			C			C			D	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 20 (20%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 35.0		Intersection LOS: D	
Intersection Capacity Utilization 81.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Lansdowne Avenue & Bloor Street West



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	605	37	18	699	53	23
Future Volume (vph)	605	37	18	699	53	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.959	
Flt Protected				0.999	0.966	
Satd. Flow (prot)	1827	0	0	1840	1611	0
Flt Permitted				0.999	0.966	
Satd. Flow (perm)	1827	0	0	1840	1611	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	69.7			374.8	79.4	
Travel Time (s)	6.3			33.7	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	637	39	19	736	56	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	676	0	0	755	80	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.09	1.09
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 62.3%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	605	37	18	699	53	23
Future Volume (Veh/h)	605	37	18	699	53	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	637	39	19	736	56	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	70			375		
pX, platoon unblocked			0.83		0.80	0.83
vC, conflicting volume			676		1430	656
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			512		944	489
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		75	95
cM capacity (veh/h)			878		227	483

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	676	755	80
Volume Left	0	19	56
Volume Right	39	0	24
cSH	1700	878	270
Volume to Capacity	0.40	0.02	0.30
Queue Length 95th (m)	0.0	0.5	9.1
Control Delay (s)	0.0	0.6	23.9
Lane LOS		A	C
Approach Delay (s)	0.0	0.6	23.9
Approach LOS			C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	62.3%	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)	145	460	0	0	650	102	83	99	20	162	0	226
Future Volume (vph)	145	460	0	0	650	102	83	99	20	162	0	226
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.3	3.0	3.0	4.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	27.5		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.95			0.91		0.83		0.82
Frt					0.982			0.968				0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1646	1818	0	0	1843	0	1685	1651	0	1668	0	1403
Flt Permitted	0.094						0.950			0.950		
Satd. Flow (perm)	163	1818	0	0	1843	0	1685	1651	0	1381	0	1144
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					10							
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		98.8			69.7			91.9			175.2	
Travel Time (s)		8.9			6.3			11.0			15.8	
Confl. Peds. (#/hr)	155		58	58		155			85	85		65
Confl. Bikes (#/hr)						1						5
Peak Hour Factor	1.00	1.00	1.00	0.90	1.00	1.00	0.83	0.83	0.63	0.79	0.95	0.84
Heavy Vehicles (%)	6%	1%	0%	0%	2%	2%	0%	0%	0%	1%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	1	1	0	0	0	0	2	8
Adj. Flow (vph)	145	460	0	0	650	102	100	119	32	205	0	269
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	460	0	0	752	0	100	151	0	205	0	269
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)		3.3			3.3			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.09	1.09	0.92	1.09	1.09	1.01	1.09	1.09	1.01	1.14
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2			2		1	2		1		1
Detector Template	Left	Thru			Thru		Left	Thru		Left		Right
Leading Detector (m)	6.1	30.5			30.5		6.1	30.5		6.1		6.1
Trailing Detector (m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Position(m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Size(m)	6.1	1.8			1.8		6.1	1.8		6.1		6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		28.7			28.7			28.7				
Detector 2 Size(m)		1.8			1.8			1.8				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Split	NA		Prot		pt+ov
Protected Phases	5	2			6		4	4		3		3 5
Permitted Phases	2											3
Detector Phase	5	2			6		4	4		3		3 5
Switch Phase												
Minimum Initial (s)	6.0	21.0			21.0		7.0	7.0		19.0		
Minimum Split (s)	10.0	29.0			29.0		16.0	16.0		27.0		
Total Split (s)	11.0	57.0			46.0		16.0	16.0		27.0		
Total Split (%)	11.0%	57.0%			46.0%		16.0%	16.0%		27.0%		
Maximum Green (s)	7.0	49.3			38.3		9.0	9.0		20.0		
Yellow Time (s)	3.0	3.0			3.0		4.0	4.0		4.0		
All-Red Time (s)	1.0	4.7			4.7		3.0	3.0		3.0		
Lost Time Adjust (s)	-1.0	-1.5			-3.0		-1.0	-1.0		-1.0		
Total Lost Time (s)	3.0	6.2			4.7		6.0	6.0		6.0		
Lead/Lag	Lead				Lag		Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0		
Recall Mode	Max	C-Max			C-Max		None	None		None		
Walk Time (s)		7.0			7.0					8.0		
Flash Dont Walk (s)		14.0			14.0					12.0		
Pedestrian Calls (#/hr)		36			36					36		
Act Effct Green (s)	54.4	51.2			41.7		10.0	10.0		20.6		25.6
Actuated g/C Ratio	0.54	0.51			0.42		0.10	0.10		0.21		0.26
v/c Ratio	0.70	0.49			0.97		0.60	0.92		0.60		0.75
Control Delay	34.8	18.3			39.6		58.6	97.1		44.0		37.1
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Delay	34.8	18.3			39.6		58.6	97.1		44.0		37.1
LOS	C	B			D		E	F		D		D
Approach Delay		22.3			39.6			81.8			40.1	
Approach LOS		C			D			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 64 (64%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 39.8		Intersection LOS: D	
Intersection Capacity Utilization 79.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Sterling Road/Symington Avenue & Bloor Street West

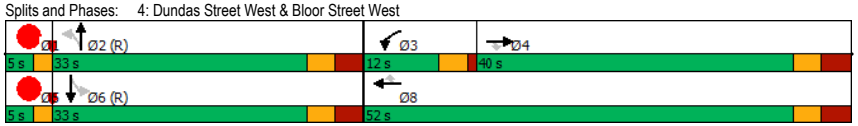
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	510	138	120	750	211	0	856	140	10	489	36
Future Volume (vph)	0	510	138	120	750	211	0	856	140	10	489	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.4	3.0	3.0	3.3	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		17.5	26.4		31.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	0		0	0		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.95	0.95	0.95
Ped Bike Factor			0.77	0.89		0.64		0.92			0.95	
Frt			0.850			0.850		0.980			0.987	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	1655	1492	1685	1743	1422	0	4507	0	0	3136	0
Flt Permitted				0.950							0.914	
Satd. Flow (perm)	0	1655	1155	1505	1743	916	0	4507	0	0	2863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			109		33			11	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		75.1			318.0			159.9			139.1	
Travel Time (s)		6.8			28.6			14.4			12.5	
Confl. Peds. (#/hr)	534		209	209		534	429		517	517		429
Confl. Bikes (#/hr)			3			1			1			
Peak Hour Factor	0.79	1.00	0.80	0.88	1.00	0.88	0.25	0.91	0.97	0.70	0.91	0.69
Heavy Vehicles (%)	0%	1%	1%	0%	2%	6%	0%	3%	1%	100%	5%	0%
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	0	0	0	0
Parking (#/hr)		0										
Adj. Flow (vph)	0	510	173	136	750	240	0	941	144	14	537	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	510	173	136	750	240	0	1085	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			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.09	1.18	1.09	1.09	1.09	1.09	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2	1	1	2	1	1	2		1	2	
Detector Template		Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5	6.1	6.1	30.5	6.1	2.0	30.5		2.0	30.5	
Trailing Detector (m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8	6.1	6.1	1.8	6.1	2.0	1.8		2.0	1.8	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	

Lane Group	Ø1	Ø5
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
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)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
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)		
Detector 2 Position(m)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA	Perm	Prot	NA	Perm		NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases			4			8	2			6		
Detector Phase		4	4	3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)		26.0	26.0	7.0	26.0	26.0	25.0	25.0		25.0	25.0	
Minimum Split (s)		32.3	32.3	11.0	32.3	32.3	31.0	31.0		31.0	31.0	
Total Split (s)		40.0	40.0	12.0	52.0	52.0	33.0	33.0		33.0	33.0	
Total Split (%)		44.4%	44.4%	13.3%	57.8%	57.8%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)		33.7	33.7	8.0	45.7	45.7	27.0	27.0		27.0	27.0	
Yellow Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)		3.3	3.3	1.0	3.3	3.3	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	
Total Lost Time (s)		5.3	5.3	3.0	5.3	5.3		5.0			5.0	
Lead/Lag		Lag	Lag	Lead			Lag	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		Max	Max	None	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		19.0	19.0		19.0	19.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		40	40		40	40	40	40		40	40	
Act Effct Green (s)		34.7	34.7	9.0	46.7	46.7		30.0			33.0	
Actuated g/C Ratio		0.39	0.39	0.10	0.52	0.52		0.33			0.37	
v/c Ratio		0.80	0.34	0.81	0.83	0.46		0.71			0.57	
Control Delay		35.9	9.9	74.8	28.2	10.3		28.9			25.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay		35.9	9.9	74.8	28.2	10.3		28.9			25.0	
LOS		D	A	E	C	B		C			C	
Approach Delay		29.3			30.0			28.9			25.0	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 77 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 28.7		Intersection LOS: C	
Intersection Capacity Utilization 70.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Dundas Street West & Bloor Street West



Lane Group	Ø1	Ø5
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	5
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	6%	6%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	3.0	
Flash Dont Walk (s)	0.0	
Pedestrian Calls (#/hr)	40	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

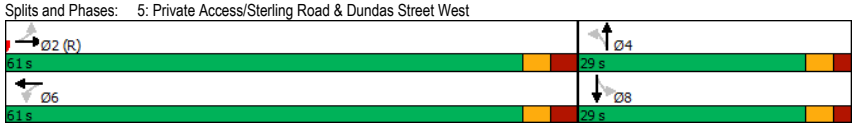
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	756	0	0	1219	138	0	0	0	65	0	84
Future Volume (vph)	73	756	0	0	1219	138	0	0	0	65	0	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99						0.96	
Frt					0.985						0.924	
Flt Protected		0.996									0.979	
Satd. Flow (prot)	0	3446	0	0	3386	0	0	1842	0	0	1598	0
Flt Permitted		0.698									0.864	
Satd. Flow (perm)	0	2414	0	0	3386	0	0	1842	0	0	1396	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					25							
Link Speed (k/h)		40			40			30			30	
Link Distance (m)		123.6			101.7			33.0			87.8	
Travel Time (s)		11.1			9.2			4.0			10.5	
Confl. Peds. (#/hr)	34		50	50		34	34		19	19		34
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	2%	2%	3%	3%	2%	2%	2%	5%	2%	2%
Adj. Flow (vph)	75	779	0	0	1257	142	0	0	0	67	0	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	854	0	0	1399	0	0	0	0	0	154	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA					Perm	NA	
Protected Phases		2			6			4			8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	61.0	61.0		61.0	61.0		29.0	29.0		29.0	29.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%		32.2%	32.2%		32.2%	32.2%	
Maximum Green (s)	55.0	55.0		55.0	55.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		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			4.0			4.0	
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-Max	C-Max		Max	Max		None	None		None	None	
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		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		65.0			65.0						16.0	
Actuated g/C Ratio		0.72			0.72						0.18	
v/c Ratio		0.49			0.57						0.62	
Control Delay		7.2			7.6						44.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		7.2			7.6						44.4	
LOS		A			A						D	
Approach Delay		7.2			7.6						44.4	
Approach LOS		A			A						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 90.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: Private Access/Sterling Road & Dundas Street West



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	12	64	6	32	23
Future Volume (vph)	1	12	64	6	32	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.875		0.989			
Flt Protected	0.996					0.972
Satd. Flow (prot)	1605	0	1822	0	0	1790
Flt Permitted	0.996					0.972
Satd. Flow (perm)	1605	0	1822	0	0	1790
Link Speed (k/h)	30		30			30
Link Distance (m)	41.6		87.0			79.4
Travel Time (s)	5.0		10.4			9.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	13	67	6	34	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	73	0	0	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
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	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	12	64	6	32	23
Future Volume (Veh/h)	1	12	64	6	32	23
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	13	67	6	34	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	162	70			73	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	70			73	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			98	
cM capacity (veh/h)	810	993			1527	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	73	58
Volume Left	1	0	34
Volume Right	13	6	0
cSH	977	1700	1527
Volume to Capacity	0.01	0.04	0.02
Queue Length 95th (m)	0.3	0.0	0.5
Control Delay (s)	8.7	0.0	4.4
Lane LOS	A		A
Approach Delay (s)	8.7	0.0	4.4
Approach LOS	A		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	15	81	19	182	32	0
Future Volume (vph)	15	81	19	182	32	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.886					
Flt Protected	0.992			0.995		
Satd. Flow (prot)	1610	0	0	1842	1879	0
Flt Permitted	0.992			0.995		
Satd. Flow (perm)	1610	0	0	1842	1879	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	70.2			16.3	54.8	
Travel Time (s)	8.4			2.0	6.6	
Confl. Peds. (#/hr)	5	13	9			9
Confl. Bikes (#/hr)		2				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	6%	1%	0%	2%
Adj. Flow (vph)	17	94	22	212	37	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	0	0	234	37	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)	4.8			4.8	4.8	
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	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	15	81	19	182	32	0
Future Volume (vph)	15	81	19	182	32	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	17	94	22	212	37	0

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	111	234	37
Volume Left (vph)	17	22	0
Volume Right (vph)	94	0	0
Hadj (s)	-0.43	0.04	0.00
Departure Headway (s)	4.1	4.2	4.4
Degree Utilization, x	0.13	0.27	0.05
Capacity (veh/h)	832	827	778
Control Delay (s)	7.7	8.8	7.6
Approach Delay (s)	7.7	8.8	7.6
Approach LOS	A	A	A

Intersection Summary			
Delay	8.4		
Level of Service	A		
Intersection Capacity Utilization	33.2%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

E Pedestrian LOS

Pedestrian LOS Analysis - AM Existing

Segment Name:	Symington Avenue

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	6.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	8	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 23 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 23 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.1	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	45	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	6.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	2288.0	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross and uncontrolled, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed and/or controlled, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.19	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	500	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	2.43	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.38	motorized vehicle volume adjustment factor	-
F_S	0.33	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2.00	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	102.00	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	816	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	76	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	190	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro, otherwise if permitted: equal to # of permitted movements.
$S_{85,mj}$	25.0	85th percentile vehicle speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized, try to assess the delay from Synchro HCM measures, otherwise, look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guidance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.0	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.57	cross-section adjustment factor	-
F_v	0.25	motorized vehicle volume adjustment factor	-
F_S	0.25	motorized vehicle speed adjustment factor	-
W_v	12.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0.00	proportion of on-street parking occupied (decimal)	-
W_{oi}	12.50	width of outside through lane (ft)	-
W_{os}*	0.00	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0.00	width of paved outside shoulder (ft)	-
W_{bl}	0.00	width of bicycle lane (ft)	-
W_{pk}	0.00	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1.00	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	8.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	8.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	8.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.60	sidewalk width coefficient	-
v_m	223	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2.00	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	25.00	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**B**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	109.15	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	290.00	diversion distance (ft)	Doubles the distance to nearest crossing to account for full deviation route.
D_{dc}	145.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path. Mainly the latter
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	1.98	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	2.43	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	2.67	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	1.98	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	2.43	pedestrian LOS score for intersection	Determined in Step 5.
L	500	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**B**

Pedestrian LOS Analysis - PM Existing

Segment Name:	Symington Avenue

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	6.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	8	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.2	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	85	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	6.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.2	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	1211.2	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.2	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.19	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	500	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	2.67	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.38	motorized vehicle volume adjustment factor	-
F_S	0.57	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2.00	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	174.25	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	1394	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	102	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	162	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	25	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.1	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.57	cross-section adjustment factor	-
F_v	0.39	motorized vehicle volume adjustment factor	-
F_S	0.25	motorized vehicle speed adjustment factor	-
W_v	12.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0	proportion of on-street parking occupied (decimal)	-
W_{oi}	12.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	8.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	8.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	8.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.60	sidewalk width coefficient	-
v_m	346	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	25	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**B**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	109.16	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	290.00	diversion distance (ft)	-
D_{dc}	145.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.12	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	2.67	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	2.81	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.12	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	2.67	pedestrian LOS score for intersection	Determined in Step 5.
L	500	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - Future Background AM

Segment Name:	Symington Avenue

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	6.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	8	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.1	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	48	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	6.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	2123.8	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.19	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	500	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	2.75	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.39	motorized vehicle volume adjustment factor	-
F_S	0.63	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	195.00	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	1560	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	84	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	191	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	25	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.0	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.57	cross-section adjustment factor	-
F_v	0.27	motorized vehicle volume adjustment factor	-
F_S	0.25	motorized vehicle speed adjustment factor	-
W_v	12.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0.00	proportion of on-street parking occupied (decimal)	-
W_{oi}	12.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	8.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	8.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	8.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.60	sidewalk width coefficient	-
v_m	234	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	25	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**B**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	109.15	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	290.00	diversion distance (ft)	-
D_{dc}	145.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.00	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	2.75	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	2.75	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.00	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	2.75	pedestrian LOS score for intersection	Determined in Step 5.
L	500	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - Future Background PM

Segment Name:	Symington Avenue

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	6.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	8	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.2	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	92	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	6.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.2	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	1124.3	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.2	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.19	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	500	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	3.09	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.38	motorized vehicle volume adjustment factor	-
F_S	0.98	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	189.38	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	1515	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	104	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	163	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	40	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.13	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.57	cross-section adjustment factor	-
F_v	0.40	motorized vehicle volume adjustment factor	-
F_S	0.25	motorized vehicle speed adjustment factor	-
W_v	12.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0	proportion of on-street parking occupied (decimal)	-
W_{oi}	12.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	8.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	8.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	8.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.60	sidewalk width coefficient	-
v_m	355	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	25	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	**B**
B	>1.50-2.50	
C	>2.50-3.50	
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	109.16	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	290.00	diversion distance (ft)	-
D_{dc}	145.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.13	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	3.09	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	2.92	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.13	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	3.09	pedestrian LOS score for intersection	Determined in Step 5.
L	500	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - Total Future AM

Segment Name:	Symington Avenue

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	6.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	8	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.5	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	209	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	6.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.5	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	492.6	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.5	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.19	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	500	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	3.15	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.39	motorized vehicle volume adjustment factor	-
F_S	1.03	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	198.75	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	1590	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	84	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	191	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	40	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.0	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.57	cross-section adjustment factor	-
F_v	0.27	motorized vehicle volume adjustment factor	-
F_S	0.25	motorized vehicle speed adjustment factor	-
W_v	12.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0.00	proportion of on-street parking occupied (decimal)	-
W_{oi}	12.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	8.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	8.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	8.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.60	sidewalk width coefficient	-
v_m	234	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	25	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**B**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	109.17	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	290.00	diversion distance (ft)	-
D_{dc}	145.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.00	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	3.15	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	2.85	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.00	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	3.15	pedestrian LOS score for intersection	Determined in Step 5.
L	500	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - Total Future PM

Segment Name:	Symington Avenue

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	6.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	8	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.7	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	272	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	6.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.7	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	377.9	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.7	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.19	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	500	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	3.09	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.38	motorized vehicle volume adjustment factor	-
F_S	0.98	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2.00	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	189.25	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	1514	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	104	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	163	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	40	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.1	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.57	cross-section adjustment factor	-
F_v	0.40	motorized vehicle volume adjustment factor	-
F_S	0.25	motorized vehicle speed adjustment factor	-
W_v	12.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0	proportion of on-street parking occupied (decimal)	-
W_{oi}	12.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	8.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	8.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	8.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.60	sidewalk width coefficient	-
v_m	355	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	25	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**B**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	109.18	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	290.00	diversion distance (ft)	-
D_{dc}	145.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.13	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	3.09	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	2.92	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.13	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	3.09	pedestrian LOS score for intersection	Determined in Step 5.
L	500	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - AM Existing

Segment Name:	Bloor Street West

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	10.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	12	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 23 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 23 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.0	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	28	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	10.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.0	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	5940.0	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.0	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross and uncontrolled, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed and/or controlled, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.27	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	550	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	1.92	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.17	motorized vehicle volume adjustment factor	-
F_S	0.03	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2.00	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	1	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	9.13	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	73	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	0	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	0	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro, otherwise if permitted: equal to # of permitted movements.
$S_{85,mj}$	25.0	85th percentile vehicle speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized, try to assess the delay from Synchro HCM measures, otherwise, look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guidance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	3.0	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.51	cross-section adjustment factor	-
F_v	0.89	motorized vehicle volume adjustment factor	-
F_S	0.55	motorized vehicle speed adjustment factor	-
W_v	9.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0.00	proportion of on-street parking occupied (decimal)	-
W_{oi}	9.50	width of outside through lane (ft)	-
W_{os}*	0.00	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0.00	width of paved outside shoulder (ft)	-
W_{bl}	0.00	width of bicycle lane (ft)	-
W_{pk}	0.00	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1.00	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	12.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	12.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	10.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.00	sidewalk width coefficient	-
v_m	783.00	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2.00	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	37.00	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**C**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	156.88	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	500.00	diversion distance (ft)	Doubles the distance to nearest crossing to account for full deviation route.
D_{dc}	250.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path. Mainly the latter
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.97	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.92	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	3.32	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.97	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.92	pedestrian LOS score for intersection	Determined in Step 5.
L	550	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - PM Existing

Segment Name:	Bloor Street West

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	10.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	12	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.1	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	58	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	10.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	2867.6	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.27	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	550	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	1.93	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.13	motorized vehicle volume adjustment factor	-
F_S	0.08	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2.00	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	1	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	25.25	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	202	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	0	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	0	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	25	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.8	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.51	cross-section adjustment factor	-
F_v	0.73	motorized vehicle volume adjustment factor	-
F_S	0.55	motorized vehicle speed adjustment factor	-
W_v	9.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0	proportion of on-street parking occupied (decimal)	-
W_{oi}	9.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	12.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	12.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	10.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.00	sidewalk width coefficient	-
v_m	642	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	37	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**C**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	156.88	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	500.00	diversion distance (ft)	-
D_{dc}	250.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.81	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.93	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	3.20	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.81	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.93	pedestrian LOS score for intersection	Determined in Step 5.
L	550	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - Future Background AM

Segment Name:	Bloor Street West

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	10.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	12	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.0	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	30	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	10.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.0	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	5513.9	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.0	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.27	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	550	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	1.77	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.00	motorized vehicle volume adjustment factor	-
F_S	0.04	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	13.00	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	104	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	0	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	0	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	25	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	3.0	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.51	cross-section adjustment factor	-
F_v	0.96	motorized vehicle volume adjustment factor	-
F_S	0.55	motorized vehicle speed adjustment factor	-
W_v	9.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0.00	proportion of on-street parking occupied (decimal)	-
W_{oi}	9.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	12.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	12.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	10.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.00	sidewalk width coefficient	-
v_m	846	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	37	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**C**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	156.88	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	500.00	diversion distance (ft)	-
D_{dc}	250.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	3.04	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.77	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	3.36	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	3.04	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.77	pedestrian LOS score for intersection	Determined in Step 5.
L	550	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - Future Background PM

Segment Name:	Bloor Street West

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	10.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	12	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.1	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	62	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	10.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	2661.8	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.27	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	550	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	1.89	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.00	motorized vehicle volume adjustment factor	-
F_S	0.17	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	32.13	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	257	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	0	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	0	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	40	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.87	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.51	cross-section adjustment factor	-
F_v	0.79	motorized vehicle volume adjustment factor	-
F_S	0.55	motorized vehicle speed adjustment factor	-
W_v	9.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0	proportion of on-street parking occupied (decimal)	-
W_{oi}	9.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	12.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	12.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	10.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.00	sidewalk width coefficient	-
v_m	692	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	37	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**C**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	156.88	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	500.00	diversion distance (ft)	-
D_{dc}	250.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.87	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.89	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	3.24	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.87	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.89	pedestrian LOS score for intersection	Determined in Step 5.
L	550	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - Total Future AM

Segment Name:	Bloor Street West

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	10.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	12	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.1	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	84	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	10.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	1987.9	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.1	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.27	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	550	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	1.79	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.00	motorized vehicle volume adjustment factor	-
F_S	0.07	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	13.00	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	104	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	0	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	0	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	40	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	3.0	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.51	cross-section adjustment factor	-
F_v	0.97	motorized vehicle volume adjustment factor	-
F_S	0.55	motorized vehicle speed adjustment factor	-
W_v	9.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0.00	proportion of on-street parking occupied (decimal)	-
W_{oi}	9.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	12.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	12.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	10.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.00	sidewalk width coefficient	-
v_m	849	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	37	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**C**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	156.88	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	500.00	diversion distance (ft)	-
D_{dc}	250.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	3.05	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.79	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	3.36	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	3.05	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.79	pedestrian LOS score for intersection	Determined in Step 5.
L	550	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

Pedestrian LOS Analysis - Total Future PM

Segment Name:	Bloor Street West

User defined value

Step 1: Free-Flow Walking Speed			
Variable	Value	HCM Description	Commentary
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	-
% Elderly	19%	-	This is used to trigger the walking speed change recommended in the HCM

Step 2: Average Pedestrian Space			
Part A: Effective Sidewalk Width			
Variable	Value	HCM Description	Commentary
W_E	10.5	effective sidewalk width (ft)	The calculation from this part used in the remainder of Step 2.
W_T	12	total walkway width (ft)	This is measured from the point of the sidewalk furthest from the road to the road, **including** any buffer space. If you have evidence that suggests the width extends past the sidewalk edge (or in the case of no sidewalk) include that width.
$W_{O,i}$	0	adjusted fixed-object effective width on inside (curb side) of sidewalk (ft)	This captures the fact that people tend to give way to trees, benches, etc. Note that it is dependent on the shy distance, so if the width of the object is less than the shy distance (or if it is fully contained within the buffer) it may have no impact on the effective sidewalk width.
$W_{O,o}$	0	adjusted fixed-object effective width on outside of sidewalk (ft)	Similar to above, but for objects on the side further from the road.
$W_{s,i}$	1.5	shy distance on inside (curb side) of sidewalk (ft)	The natural space that pedestrians give to the edge of a sidewalk, note that when a buffer greater than or equal to 1.5 ft is included the whole width of the sidewalk will be included in the effective sidewalk width (less any other width reductions).
$W_{s,o}$	0	shy distance on the outside of sidewalk (ft)	The natural space that pedestrians give to objects immediately adjacent to the sidewalk. If there is empty space greater than 3 ft beyond the edge of the sidewalk (that has not been included in the total walkway width) this value should be 0, as pedestrians will use the entire sidewalk.
W_{Buf}	0	buffer width between roadway and sidewalk (ft)	Measured from the curb to the edge of the sidewalk, again this is **included** in the total walkway width if it exists.
p_{window}	0	proportion of sidewalk length adjacent to a window display (decimal)	Measure or estimate this if required.
$p_{building}$	0	proportion of sidewalk length adjacent to a building face (decimal)	Measure or estimate this if required.
p_{fence}	0	proportion of sidewalk length adjacent to a fence or low wall (decimal)	Measure or estimate this if required.
$w_{O,i}$	0	effective width of fixed objects on inside (curb side) of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.
$w_{O,o}$	0	effective width of fixed objects on outside of sidewalk (ft)	Used to calculate the fixed-object widths above. Theses values are contained in Chapter 24 of the HCM.

Part B: Pedestrian Flow Rate per Unit Width			
Variable	Value	HCM Description	Commentary
v_p	0.2	pedestrian flow per unit width (p/ft/min)	The calculation from this part used in the remainder of Step 2.
v_{ped}	123	pedestrian flow rate in the subject sidewalk (walking in both directions) (p/h)	This can be approximated from the crossing volumes at the adjacent intersections, in the case of very high pedestrian volumes a count should be conducted.
W_E	10.5	effective sidewalk width (ft)	Calculated from Step 2 Part B.

Part C: Average Walking Speed			
Variable	Value	HCM Description	Commentary
S_p	4.4	pedestrian walking speed (ft/s)	Value must be at least half of the average free-flow walking speed. The calculation from this part used in the remainder of Step 2.
v_p	0.2	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.
S_{pf}	4.4	average free-flow pedestrian walking speed (ft/s)	Determined in Step 1.

Part D: Pedestrian Space			
Variable	Value	HCM Description	Commentary
A_p	1355.1	pedestrian space (ft^2/p)	One key component in calculating overall LOS
S_p	4.4	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
v_p	0.2	pedestrian flow per unit width (p/ft/min)	Determined in Step 2 Part B.

Step 3: Pedestrian Delay at Intersection			
Variable	Value	HCM Description	Commentary
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.

d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	It is currently assumed that there is a signalized intersection with equivalent walk time for both perpendicular and parallel crossings. This value is calculated as part of Step 5.
d_{pw}	No Value	Crossing delay incurred by pedestrians waiting for a gap crossing an uncontrolled location (s)	Note, this parameter should **only have a value** if it is legal to cross, or there are significant observations of occurrence, look to HCM6 Chapter 20 for guidance. If illegal and/or no crossings are observed, **type "no value"**.

Step 4: Pedestrian Travel Speed			
Variable	Value	HCM Description	Commentary
$S_{Tp,seg}$	3.27	travel speed of through pedestrians for the segment (ft/s)	A travel speed of 4.0 ft/s or more is considered desirable and a speed of 2.0 ft/s or less is considered undesirable.
L	550	segment length (ft)	This length includes the boundary intersection width associated with the crossing delay.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.245	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 5: Pedestrian LOS Score for Intersection			
Variable	Value	HCM Description	Commentary
$I_{p,int}$	1.89	pedestrian LOS score for intersection	This value will be set to **0** if crossing an intersection where pedestrians have the right-of-way (as they will experience minimal delay). Note that this is only for 1 crosswalk, and the variables will have to be changed for other crosswalks. One key component in calculating overall LOS
F_w	0.97	cross-section adjustment factor	-
F_v	0.00	motorized vehicle volume adjustment factor	-
F_S	0.17	motorized vehicle speed adjustment factor	-
F_{delay}	0.15	pedestrian delay adjustment factor	-
N_d	2	number of traffic lanes crossed when traversing crosswalk D (lanes)	-
$N_{rtci,d}$	0	number of right-turn channelizing islands along Crosswalk D (0, 1, or 2)	-
$n_{15,mj}$	32.13	count of vehicles traveling on the major street during a 15-min period (veh/ln)	The term "major street" is used when crossing the "minor street" and vice versa.
$\sum v_i$	257	sum of demand flow rate for movements crossing crosswalk *i* (veh/h)	This value is from **all** movements crossing the crosswalk, including those which would never physically share the space with them. For example, if assessing the south crossswalk this would consist of the NBR, NBT, NBL, EBR, WBL, and SBT.
m_d	-	set of all motorized vehicle movements	This variable is used to express the movements listed in the demand flow rate, and does not have a numerical value. It is provided for reference.
v_{rtor}	0	RTOR flow rate crossing crosswalk (v/h)	Estimate this value from Synchro to establish the number of vehicles. Consider the saturation flow rate of RTOR vs. the number of right-turners, using the saturation flow rate if the number of right turners is higher than it, and the actual turns if lower to be conservative.
$v_{lt,perm}$	0	permitted left turn flow rate crossing crosswalk (v/h)	If permitted-protected left, estimate this value from Synchro.
$S_{85,mj}$	40	85th percentile speed at a midsegment location on the major street (mi/h)	-
$d_{p,d}$	43.25	pedestrian delay (s/p)	If the intersection is two-way stop controlled (where pedestrians do not have to wait for a gap the value is 0. If signalized try to assess the delay from Synchro HCM measures, otherwise look to HCM6 Chapter 19 for guidance.
C	100	Cycle length (s)	-
$g_{Wakl,mi}$	7	walk time (s)	Effective walk time is based on the type of signal control. For most cases allow for walk time + 4.0. For more guiance consult Chapter 19 of the HCM.If the walk time is not the same for multiple legs this value will need to be changed for each crosswalk.

Step 6: Pedestrian LOS Score for Link			
Variable	Value	HCM Description	Commentary
$I_{p,link}$	2.9	pedestrian LOS score for link	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_w	-4.51	cross-section adjustment factor	-
F_v	0.81	motorized vehicle volume adjustment factor	-
F_S	0.55	motorized vehicle speed adjustment factor	-
W_v	9.50	effective total width of outside through lane, bicycle lane, and shoulder as a function of traffic volume (ft)	This value is conditional on the flow and sidewalk width
W_l	0.00	total width of shoulder, bicycle lane, and parking lane (ft)	This value is conditional on the parking and non-travel lane width
p_{pk}	0	proportion of on-street parking occupied (decimal)	-
W_{oi}	9.5	width of outside through lane (ft)	-
W_{os}*	0	adjusted width of paved outside shoulder (ft)	If there is a curb, subtract 1.5 from W_{os}

W_{os}	0	width of paved outside shoulder (ft)	-
W_{bl}	0	width of bicycle lane (ft)	-
W_{pk}	0	width of striped parking lane (ft)	-
W_{buff}	0.00	buffer width between roadway and available sidewalk (ft)	Determined in Step 2 Part A.
f_b	1	buffer area coefficient	If there is a continous barrier at least 3 ft high located between the sidewalk and the otuside edge of the roadway use 5.37, otherwise use 1.00
W_A	12.00	available sidewalk width (ft)	This value may be different than the effective width, as it does not consider object widths or shy distance.
W_T	12.00	total walkway width (ft)	Determined in Step 2 Part A.
W_{aA}	10.00	adjusted available sidewalk width (ft)	-
f_{sw}	3.00	sidewalk width coefficient	-
v_m	715	midsegment demand flow rate (direction nearest to subject sidewalk) (veh/h)	-
N_{th}	2	number of through lanes on the segment in the subject direction of travel (lanes)	-
S_R	37	motorized vehicle running speed (mi/h)	**Note: Unless explicitly required, it is recommended that the speed limit is used for this value, as computing this parameter requires significant data regarding the segment, which is summarized in HCM6 chapter 19**. A speed survey could also be conducted to assess the speed of vehicles adjacent to pedestrian travel.

Step 7: Pedestrian LOS for Link		
LOS	Link Based LOS Score	
A	≤1.50	
B	>1.50-2.50	
C	>2.50-3.50	**C**
D	>3.50-4.50	
E	>4.50-5.50	
F	>5.50	

Step 8: Roadway Crossing Difficulty Factor			
Variable	Value	HCM Description	Commentary
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS. Must be between 0.8 and 1.2
d_{px}	60.00	crossing delay (s/p)	**Note: The crossing delay should not be 0 unless the intersection that is being crossed is stop-controlled on the leg attempting to be crossed**
d_{pd}	156.88	pedestrian diversion delay (s/p)	Determined in Step 6.
d_{pw}	No Value	pedestrian waiting delay (s/p)	Determined in Step 3.
D_d	500.00	diversion distance (ft)	-
D_{dc}	250.00	distance to nearest signal-controlled crossing (ft)	Define this distance as either 1/3 of the distance between two crossings, or the distance that would be required to deviate from an established pedestrian path.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pc}	43.25	Crossing delay of boundary intersection perpendicular to the segment centerline (s)	Determined in Step 3.
$I_{p,link}$	2.89	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.89	pedestrian LOS score for intersection	Determined in Step 5.

Step 9: Pedestrian LOS Score for Segment			
Variable	Value	HCM Description	Commentary
$I_{p,seg}$	3.26	pedestrian LOS score for segment	One key component in calculating overall LOS (along with corner and crosswalk geometrics)
F_{cd}	1.2	roadway crossing difficulty factor	One key component in calculating overall LOS
$I_{p,link}$	2.89	pedestrian LOS score for link	Determined in Step 6.
$I_{p,int}$	1.89	pedestrian LOS score for intersection	Determined in Step 5.
L	550	segment length (ft)	Determined in Step 4.
S_p	4.40	pedestrian walking speed (ft/s)	Determined in Step 2 Part C.
d_{pp}	43.25	Crossing delay of boundary intersection parallel to the segment centerline (s)	Determined in Step 3.

Step 7: Pedestrian LOS for Segment	
LOS	**C**

APPENDIX

F Future Background Traffic Conditions

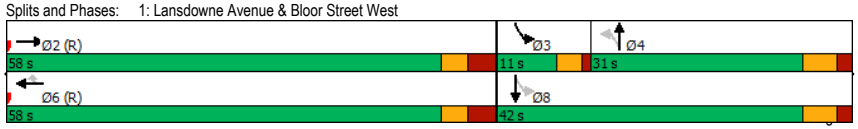
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	781	0	0	532	75	62	365	60	151	327	98
Future Volume (vph)	0	781	0	0	532	75	62	365	60	151	327	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		14.1	14.4		15.3	36.3		0.0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (m)	2.5			2.5			25.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						0.69	0.85	0.91		0.79	0.89	
Frt						0.850		0.975			0.955	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	1658	0	0	1602	1343	1458	2692	0	1501	1383	0
Flt Permitted							0.375			0.318		
Satd. Flow (perm)	0	1658	0	0	1602	931	488	2692	0	397	1383	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								23			24	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		374.8			112.0			258.8			36.6	
Travel Time (s)		33.7			10.1			23.3			3.3	
Confl. Peds. (#/hr)	261		188	188		261	149		271	271		149
Confl. Bikes (#/hr)			2			2			3			5
Peak Hour Factor	0.50	1.00	0.76	0.90	0.95	0.69	0.75	0.93	0.75	0.80	0.99	0.70
Heavy Vehicles (%)	0%	2%	3%	0%	2%	1%	4%	6%	5%	1%	5%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	13	0	0	0
Adj. Flow (vph)	0	781	0	0	560	109	83	392	80	189	330	140
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	781	0	0	560	109	83	472	0	189	470	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	1.25	1.16	1.25	1.25	1.21	1.25	1.25	1.16	1.25	1.25	1.16	1.25
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2			2	1	1	2		1	2	
Detector Template		Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5			30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8			1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		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	
Detector 1 Delay (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	

Lanes, Volumes, Timings
1: Lansdowne Avenue & Bloor Street West
<Future Background> AM Peak
02/16/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases						6	4			8		
Detector Phase		2			6	6	4	4		3	8	
Switch Phase												
Minimum Initial (s)		26.0			26.0	26.0	22.0	22.0		6.0	22.0	
Minimum Split (s)		34.0			34.0	34.0	28.0	28.0		10.0	28.0	
Total Split (s)		58.0			58.0	58.0	31.0	31.0		11.0	42.0	
Total Split (%)		58.0%			58.0%	58.0%	31.0%	31.0%		11.0%	42.0%	
Maximum Green (s)		51.4			51.4	51.4	25.0	25.0		7.0	36.0	
Yellow Time (s)		3.0			3.0	3.0	4.0	4.0		3.0	4.0	
All-Red Time (s)		3.6			3.6	3.6	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		5.6			5.6	5.6	5.0	5.0		3.0	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		2.0	3.0	
Recall Mode		C-Max			C-Max	C-Max	Max	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0	15.0	15.0			15.0	
Pedestrian Calls (#/hr)		40			40	40	40	40			40	
Act Effct Green (s)		52.4			52.4	52.4	26.0	26.0		39.0	37.0	
Actuated g/C Ratio		0.52			0.52	0.52	0.26	0.26		0.39	0.37	
v/c Ratio		0.90			0.67	0.22	0.66	0.66		0.78	0.89	
Control Delay		29.3			22.3	14.4	60.0	36.5		46.1	49.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		29.3			22.3	14.4	60.0	36.5		46.1	49.8	
LOS		C			C	B	E	D		D	D	
Approach Delay		29.3			21.0			40.0			48.7	
Approach LOS		C			C			D			D	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 38 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 34.3		Intersection LOS: C	
Intersection Capacity Utilization 104.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Lansdowne Avenue & Bloor Street West



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	824	22	11	670	45	29
Future Volume (vph)	824	22	11	670	45	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997				0.947	
Flt Protected				0.999	0.970	
Satd. Flow (prot)	1837	0	0	1840	1597	0
Flt Permitted				0.999	0.970	
Satd. Flow (perm)	1837	0	0	1840	1597	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	69.7			374.8	79.4	
Travel Time (s)	6.3			33.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	916	24	12	744	50	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	940	0	0	756	82	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
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	1.09	1.09
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	824	22	11	670	45	29
Future Volume (Veh/h)	824	22	11	670	45	29
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	916	24	12	744	50	32
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	70			375		
pX, platoon unblocked			0.70		0.81	0.70
vC, conflicting volume			940		1696	928
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			701		1140	684
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		72	90
cM capacity (veh/h)			628		176	314

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	940	756	82
Volume Left	0	12	50
Volume Right	24	0	32
cSH	1700	628	213
Volume to Capacity	0.55	0.02	0.39
Queue Length 95th (m)	0.0	0.4	12.9
Control Delay (s)	0.0	0.5	32.1
Lane LOS		A	D
Approach Delay (s)	0.0	0.5	32.1
Approach LOS			D

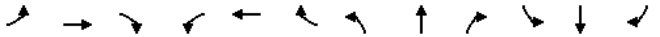
Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	637	0	0	631	84	48	38	18	191	0	168
Future Volume (vph)	112	637	0	0	631	84	48	38	18	191	0	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.3	3.0	3.0	4.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	27.5		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (m)	7.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.97		0.62	0.91		0.90		0.79
Frt					0.982			0.945				0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1531	1605	0	0	1870	0	1685	1586	0	1652	0	1333
Flt Permitted	0.088						0.950			0.950		
Satd. Flow (perm)	142	1605	0	0	1870	0	1053	1586	0	1485	0	1051
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					9							
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		98.8			69.7			91.9			175.2	
Travel Time (s)		8.9			6.3			11.0			15.8	
Confl. Peds. (#/hr)	86		28	28		86	75		45	45		75
Confl. Bikes (#/hr)			50			50			2			7
Peak Hour Factor	0.72	1.00	0.90	0.90	0.93	0.79	0.72	0.77	0.65	0.81	0.90	0.84
Heavy Vehicles (%)	14%	3%	0%	0%	3%	1%	0%	3%	0%	2%	0%	9%
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	0	0	3	9
Parking (#/hr)		0										
Adj. Flow (vph)	156	637	0	0	678	106	67	49	28	236	0	200
Shared Lane Traffic (%)												
Lane Group Flow (vph)	156	637	0	0	784	0	67	77	0	236	0	200
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)		3.3			3.3			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.19	1.09	1.09	0.92	1.09	1.09	1.01	1.09	1.09	1.01	1.14
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2			2		1	2		1		1
Detector Template	Left	Thru			Thru		Left	Thru		Left		Right
Leading Detector (m)	6.1	30.5			30.5		6.1	30.5		6.1		6.1
Trailing Detector (m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Position(m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Size(m)	6.1	1.8			1.8		6.1	1.8		6.1		6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		28.7			28.7			28.7				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Split	NA		Prot		pt+ov
Protected Phases	5	2			6		4	4		3		3 5
Permitted Phases	2											3
Detector Phase	5	2			6		4	4		3		3 5
Switch Phase												
Minimum Initial (s)	6.0	21.0			21.0		7.0	7.0		19.0		
Minimum Split (s)	10.0	29.0			29.0		16.0	16.0		27.0		
Total Split (s)	10.0	57.0			47.0		16.0	16.0		27.0		
Total Split (%)	10.0%	57.0%			47.0%		16.0%	16.0%		27.0%		
Maximum Green (s)	6.0	49.3			39.3		9.0	9.0		20.0		
Yellow Time (s)	3.0	3.0			3.0		4.0	4.0		4.0		
All-Red Time (s)	1.0	4.7			4.7		3.0	3.0		3.0		
Lost Time Adjust (s)	-1.0	-3.0			-1.0		-1.0	-1.0		-1.0		
Total Lost Time (s)	3.0	4.7			6.7		6.0	6.0		6.0		
Lead/Lag	Lead				Lag		Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0		
Recall Mode	Max	C-Max			C-Max		None	None		None		
Walk Time (s)		7.0			7.0					8.0		
Flash Dont Walk (s)		14.0			14.0					12.0		
Pedestrian Calls (#/hr)		28			36					36		
Act Effct Green (s)	57.7	56.0			44.0		9.5	9.5		20.6		25.8
Actuated g/C Ratio	0.58	0.56			0.44		0.10	0.10		0.21		0.26
v/c Ratio	0.87	0.71			0.95		0.42	0.51		0.69		0.58
Control Delay	61.4	23.0			41.4		51.0	55.5		48.7		30.4
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Delay	61.4	23.0			41.4		51.0	55.5		48.7		30.4
LOS	E	C			D		D	E		D		C
Approach Delay		30.6			41.4			53.4			40.3	
Approach LOS		C			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 89 (89%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 38.0		Intersection LOS: D	
Intersection Capacity Utilization 77.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Sterling Road/Symington Avenue & Bloor Street West



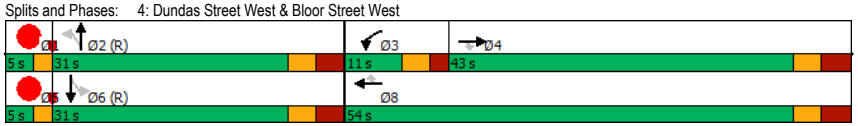
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	698	202	72	646	117	0	551	159	10	885	61
Future Volume (vph)	0	698	202	72	646	117	0	551	159	10	885	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.4	3.0	3.0	3.3	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		17.5	26.4		31.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	0		0	0		0
Taper Length (m)	50.0			7.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.95	0.95	0.95
Ped Bike Factor			0.74	0.91		0.60		0.85			0.95	
Frt			0.850			0.850		0.964			0.988	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	1623	1436	1589	1712	1358	0	3969	0	0	3184	0
Flt Permitted				0.950							0.938	
Satd. Flow (perm)	0	1623	1063	1447	1712	820	0	3969	0	0	2982	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			86		89			10	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		75.1			318.0			159.9			139.1	
Travel Time (s)		6.8			28.6			14.4			12.5	
Confl. Peds. (#/hr)	670		219	219		670	453		442	442		453
Confl. Bikes (#/hr)			50			50			9			11
Peak Hour Factor	0.64	1.00	0.83	0.98	0.96	0.89	0.90	0.98	0.90	0.69	0.98	0.75
Heavy Vehicles (%)	4%	3%	5%	6%	3%	11%	0%	7%	3%	100%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	0
Parking (#/hr)		0										
Adj. Flow (vph)	0	698	243	73	673	131	0	562	177	14	903	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	698	243	73	673	131	0	739	0	0	998	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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.09	1.18	1.09	1.09	1.10	1.09	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2	1	1	2	1	1	2		1	2	
Detector Template		Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5	6.1	6.1	30.5	6.1	2.0	30.5		2.0	30.5	
Trailing Detector (m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	

Lane Group	Ø1	Ø5
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
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)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
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)		
Detector 2 Position(m)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA	Perm	Prot	NA	Perm		NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases			4			8	2			6		
Detector Phase		4	4	3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)		25.0	25.0	6.0	25.0	25.0	19.0	19.0		19.0	19.0	
Minimum Split (s)		31.3	31.3	11.0	31.3	31.3	25.0	25.0		25.0	25.0	
Total Split (s)		43.0	43.0	11.0	54.0	54.0	31.0	31.0		31.0	31.0	
Total Split (%)		47.8%	47.8%	12.2%	60.0%	60.0%	34.4%	34.4%		34.4%	34.4%	
Maximum Green (s)		36.7	36.7	6.0	47.7	47.7	25.0	25.0		25.0	25.0	
Yellow Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)		3.3	3.3	2.0	3.3	3.3	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	
Total Lost Time (s)		5.3	5.3	4.0	5.3	5.3		5.0			5.0	
Lead/Lag		Lag	Lag	Lead			Lag	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		Max	Max	None	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0	7.0	2.0	2.0		2.0	2.0	
Flash Dont Walk (s)		18.0	18.0		18.0	18.0	17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		40	40		40	40	40	40		40	40	
Act Effct Green (s)		39.9	39.9	7.0	48.7	48.7		28.0			31.0	
Actuated g/C Ratio		0.44	0.44	0.08	0.54	0.54		0.31			0.34	
v/c Ratio		0.97	0.45	0.59	0.73	0.27		0.57			0.97	
Control Delay		54.7	12.3	61.0	21.4	6.0		25.1			50.9	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay		54.7	12.3	61.0	21.4	6.0		25.1			50.9	
LOS		D	B	E	C	A		C			D	
Approach Delay		43.8			22.4			25.1			50.9	
Approach LOS		D			C			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 34 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 36.6		Intersection LOS: D	
Intersection Capacity Utilization 87.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Dundas Street West & Bloor Street West



Lane Group	Ø1	Ø5
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	5
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	6%	6%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	3.0	
Flash Dont Walk (s)	0.0	
Pedestrian Calls (#/hr)	40	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

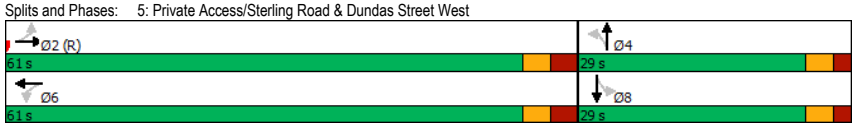
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1280	1	0	654	105	1	1	1	72	0	54
Future Volume (vph)	82	1280	1	0	654	105	1	1	1	72	0	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			0.97	
Frt					0.979			0.955			0.942	
Flt Protected		0.997						0.984			0.972	
Satd. Flow (prot)	0	3394	0	0	3149	0	0	1049	0	0	1595	0
Flt Permitted		0.834						0.933			0.822	
Satd. Flow (perm)	0	2834	0	0	3149	0	0	984	0	0	1335	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					38			1				
Link Speed (k/h)		40			40			30			30	
Link Distance (m)		123.6			101.7			33.0			87.8	
Travel Time (s)		11.1			9.2			4.0			10.5	
Confl. Peds. (#/hr)	50		27	27		50	38		15	15		38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	5%	0%	2%	10%	5%	100%	0%	100%	4%	2%	7%
Adj. Flow (vph)	84	1306	1	0	667	107	1	1	1	73	0	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1391	0	0	774	0	0	3	0	0	128	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	61.0	61.0		61.0	61.0		29.0	29.0		29.0	29.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%		32.2%	32.2%		32.2%	32.2%	
Maximum Green (s)	55.0	55.0		55.0	55.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		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			4.0			4.0	
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-Max	C-Max		Max	Max		None	None		None	None	
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		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		66.3			66.3			14.7			14.7	
Actuated g/C Ratio		0.74			0.74			0.16			0.16	
v/c Ratio		0.67			0.33			0.02			0.59	
Control Delay		8.9			4.8			25.7			45.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.9			4.8			25.7			45.0	
LOS		A			A			C			D	
Approach Delay		8.9			4.8			25.7			45.0	
Approach LOS		A			A			C			D	

Intersection Summary		
Area Type:	Other	
Cycle Length: 90		
Actuated Cycle Length: 90		
Offset: 76 (84%), Referenced to phase 2:EBTL, Start of Green		
Natural Cycle: 70		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.67		
Intersection Signal Delay: 9.6	Intersection LOS: A	
Intersection Capacity Utilization 89.1%	ICU Level of Service E	
Analysis Period (min) 15		

Splits and Phases: 5: Private Access/Sterling Road & Dundas Street West



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	28	20	0	8	19
Future Volume (vph)	6	28	20	0	8	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.890					
Flt Protected	0.991					0.985
Satd. Flow (prot)	1625	0	1842	0	0	1814
Flt Permitted	0.991					0.985
Satd. Flow (perm)	1625	0	1842	0	0	1814
Link Speed (k/h)	30		30			30
Link Distance (m)	40.4		89.3			79.4
Travel Time (s)	4.8		10.7			9.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	31	22	0	9	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	22	0	0	30
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	28	20	0	8	19
Future Volume (Veh/h)	6	28	20	0	8	19
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	7	31	22	0	9	21
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	61	22			22	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	61	22			22	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	97			99	
cM capacity (veh/h)	940	1055			1593	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	22	30
Volume Left	7	0	9
Volume Right	31	0	0
cSH	1032	1700	1593
Volume to Capacity	0.04	0.01	0.01
Queue Length 95th (m)	0.9	0.0	0.1
Control Delay (s)	8.6	0.0	2.2
Lane LOS	A		A
Approach Delay (s)	8.6	0.0	2.2
Approach LOS	A		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	168	12	88	24	2
Future Volume (vph)	39	168	12	88	24	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.890				0.990	
Flt Protected	0.991			0.994		
Satd. Flow (prot)	1597	0	0	1789	1794	0
Flt Permitted	0.991			0.994		
Satd. Flow (perm)	1597	0	0	1789	1794	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	70.2			16.3	54.8	
Travel Time (s)	8.4			2.0	6.6	
Confl. Peds. (#/hr)	4	90	13			13
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	3%	0%	5%	0%	50%
Adj. Flow (vph)	41	177	13	93	25	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	218	0	0	106	27	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
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	39	168	12	88	24	2
Future Volume (vph)	39	168	12	88	24	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	41	177	13	93	25	2

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	218	106	27
Volume Left (vph)	41	13	0
Volume Right (vph)	177	0	2
Hadj (s)	-0.39	0.10	0.02
Departure Headway (s)	3.8	4.5	4.5
Degree Utilization, x	0.23	0.13	0.03
Capacity (veh/h)	912	762	747
Control Delay (s)	8.0	8.2	7.6
Approach Delay (s)	8.0	8.2	7.6
Approach LOS	A	A	A

Intersection Summary			
Delay	8.0		
Level of Service	A		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		

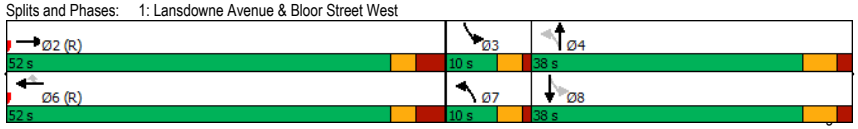
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	617	0	0	709	122	135	386	38	105	276	88
Future Volume (vph)	0	617	0	0	709	122	135	386	38	105	276	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		14.1	14.4		15.3	36.3		0.0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (m)	2.5			2.5			25.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						0.68	0.81	0.94		0.76	0.85	
Frt						0.850		0.984			0.958	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	1674	0	0	1602	1343	1501	2884	0	1516	1335	0
Flt Permitted							0.266			0.383		
Satd. Flow (perm)	0	1674	0	0	1602	911	342	2884	0	463	1335	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								14			21	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		374.8			112.0			258.8			36.6	
Travel Time (s)		33.7			10.1			23.3			3.3	
Confl. Peds. (#/hr)	329		292	292		329	280		352	352		280
Confl. Bikes (#/hr)			1						1			4
Peak Hour Factor	0.63	1.00	0.63	0.50	1.00	0.87	0.88	0.88	0.73	0.94	0.90	0.73
Heavy Vehicles (%)	0%	1%	4%	0%	2%	1%	1%	3%	3%	0%	4%	0%
Bus Blockages (#/hr)	0	0	1	0	0	0	0	0	9	0	0	0
Adj. Flow (vph)	0	617	0	0	709	140	153	439	52	112	307	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	617	0	0	709	140	153	491	0	112	428	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	1.25	1.16	1.25	1.25	1.21	1.25	1.25	1.16	1.25	1.25	1.16	1.25
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2			2	1	1	2		1	2	
Detector Template		Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5			30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8			1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		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	
Detector 1 Delay (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	

Lanes, Volumes, Timings
1: Lansdowne Avenue & Bloor Street West
<Future Background> PM Peak
02/16/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		7	4		3	8	
Permitted Phases						6	4			8		
Detector Phase		2			6	6	7	4		3	8	
Switch Phase												
Minimum Initial (s)		26.0			26.0	26.0	6.0	22.0		6.0	22.0	
Minimum Split (s)		34.0			34.0	34.0	10.0	28.0		10.0	28.0	
Total Split (s)		52.0			52.0	52.0	10.0	38.0		10.0	38.0	
Total Split (%)		52.0%			52.0%	52.0%	10.0%	38.0%		10.0%	38.0%	
Maximum Green (s)		45.4			45.4	45.4	6.0	32.0		6.0	32.0	
Yellow Time (s)		3.0			3.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)		3.6			3.6	3.6	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0			0.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.6			6.6	5.6	3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0	3.0	2.0	3.0		2.0	3.0	
Recall Mode		C-Max			C-Max	C-Max	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0		15.0			15.0	
Pedestrian Calls (#/hr)		40			40	40		40			40	
Act Effct Green (s)		45.4			45.4	46.4	42.0	33.0		42.0	33.0	
Actuated g/C Ratio		0.45			0.45	0.46	0.42	0.33		0.42	0.33	
v/c Ratio		0.81			0.98	0.33	0.68	0.51		0.42	0.94	
Control Delay		29.2			56.1	19.8	35.3	28.5		21.6	62.7	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		29.2			56.1	19.8	35.3	28.5		21.6	62.7	
LOS		C			E	B	D	C		C	E	
Approach Delay		29.2			50.1			30.1			54.2	
Approach LOS		C			D			C			D	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 20 (20%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 41.2		Intersection LOS: D	
Intersection Capacity Utilization 86.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Lansdowne Avenue & Bloor Street West



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	649	43	40	761	62	26
Future Volume (vph)	649	43	40	761	62	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992				0.960	
Flt Protected				0.998	0.966	
Satd. Flow (prot)	1827	0	0	1838	1612	0
Flt Permitted				0.998	0.966	
Satd. Flow (perm)	1827	0	0	1838	1612	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	69.7			374.8	79.4	
Travel Time (s)	6.3			33.7	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	683	45	42	801	65	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	728	0	0	843	92	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
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	1.09	1.09
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 84.4%		ICU Level of Service E	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	649	43	40	761	62	26
Future Volume (Veh/h)	649	43	40	761	62	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	683	45	42	801	65	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	70			375		
pX, platoon unblocked			0.81		0.75	0.81
vC, conflicting volume			728		1590	706
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			549		1057	521
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		63	94
cM capacity (veh/h)			829		178	451

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	728	843	92
Volume Left	0	42	65
Volume Right	45	0	27
cSH	1700	829	216
Volume to Capacity	0.43	0.05	0.43
Queue Length 95th (m)	0.0	1.2	15.0
Control Delay (s)	0.0	1.3	33.5
Lane LOS		A	D
Approach Delay (s)	0.0	1.3	33.5
Approach LOS			D

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	490	0	0	719	104	113	105	39	163	0	229
Future Volume (vph)	146	490	0	0	719	104	113	105	39	163	0	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.3	3.0	3.0	4.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	27.5		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.95			0.88		0.84		0.82
Frt					0.983			0.951				0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1646	1818	0	0	1851	0	1685	1572	0	1668	0	1403
Flt Permitted	0.096						0.950			0.950		
Satd. Flow (perm)	166	1818	0	0	1851	0	1685	1572	0	1395	0	1144
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					9							
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		98.8			69.7			91.9			175.2	
Travel Time (s)		8.9			6.3			11.0			15.8	
Confl. Peds. (#/hr)	155		58	58		155			85	85		65
Confl. Bikes (#/hr)						1						5
Peak Hour Factor	1.00	1.00	1.00	0.90	1.00	1.00	0.83	0.83	0.63	0.79	0.95	0.84
Heavy Vehicles (%)	6%	1%	0%	0%	2%	2%	0%	0%	0%	1%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	1	1	0	0	0	0	2	8
Adj. Flow (vph)	146	490	0	0	719	104	136	127	62	206	0	273
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	490	0	0	823	0	136	189	0	206	0	273
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)		3.3			3.3			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	1.04	1.04	1.09	1.09	0.92	1.09	1.09	1.01	1.09	1.09	1.01	1.14
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2			2		1	2		1		1
Detector Template	Left	Thru			Thru		Left	Thru		Left		Right
Leading Detector (m)	6.1	30.5			30.5		6.1	30.5		6.1		6.1
Trailing Detector (m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Position(m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Size(m)	6.1	1.8			1.8		6.1	1.8		6.1		6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		28.7			28.7			28.7				
Detector 2 Size(m)		1.8			1.8			1.8				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Split	NA		Prot		pt+ov
Protected Phases	5	2			6		4	4		3		3 5
Permitted Phases	2											3
Detector Phase	5	2			6		4	4		3		3 5
Switch Phase												
Minimum Initial (s)	6.0	21.0			21.0		7.0	7.0		19.0		
Minimum Split (s)	10.0	29.0			29.0		16.0	16.0		27.0		
Total Split (s)	10.0	55.0			45.0		18.0	18.0		27.0		
Total Split (%)	10.0%	55.0%			45.0%		18.0%	18.0%		27.0%		
Maximum Green (s)	6.0	47.3			37.3		11.0	11.0		20.0		
Yellow Time (s)	3.0	3.0			3.0		4.0	4.0		4.0		
All-Red Time (s)	1.0	4.7			4.7		3.0	3.0		3.0		
Lost Time Adjust (s)	-1.0	-1.5			-3.0		-1.0	-1.0		-1.0		
Total Lost Time (s)	3.0	6.2			4.7		6.0	6.0		6.0		
Lead/Lag	Lead				Lag		Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0		
Recall Mode	Max	C-Max			C-Max		None	None		None		
Walk Time (s)		7.0			7.0					8.0		
Flash Dont Walk (s)		14.0			14.0					12.0		
Pedestrian Calls (#/hr)		36			36					36		
Act Effct Green (s)	52.4	49.2			40.7		12.0	12.0		20.6		24.6
Actuated g/C Ratio	0.52	0.49			0.41		0.12	0.12		0.21		0.25
v/c Ratio	0.77	0.55			1.09		0.67	1.01		0.60		0.79
Control Delay	43.2	20.7			71.2		59.8	112.8		44.1		43.5
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Delay	43.2	20.7			71.2		59.8	112.8		44.1		43.5
LOS	D	C			E		E	F		D		D
Approach Delay		25.8			71.2			90.6			43.8	
Approach LOS		C			E			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 64 (64%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 55.4		Intersection LOS: E	
Intersection Capacity Utilization 91.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Sterling Road/Symington Avenue & Bloor Street West

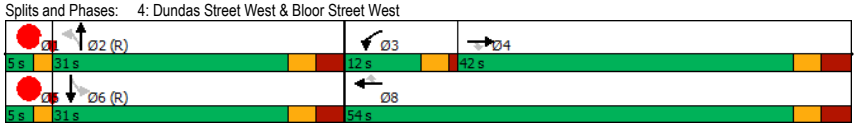
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	574	138	120	811	211	0	971	140	10	543	61
Future Volume (vph)	0	574	138	120	811	211	0	971	140	10	543	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.4	3.0	3.0	3.3	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		17.5	26.4		31.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	0		0	0		0
Taper Length (m)	50.0			55.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.95	0.95	0.95
Ped Bike Factor			0.77	0.90		0.64		0.93			0.93	
Frt			0.850			0.850		0.982			0.981	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	1655	1492	1685	1743	1422	0	4555	0	0	3059	0
Flt Permitted				0.950							0.850	
Satd. Flow (perm)	0	1655	1156	1520	1743	916	0	4555	0	0	2599	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			117		27			18	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		75.1			318.0			159.9			139.1	
Travel Time (s)		6.8			28.6			14.4			12.5	
Confl. Peds. (#/hr)	534		209	209		534	429		517	517		429
Confl. Bikes (#/hr)			3			1			1			
Peak Hour Factor	0.79	1.00	0.80	0.88	1.00	0.88	0.25	0.91	0.97	0.70	0.91	0.69
Heavy Vehicles (%)	0%	1%	1%	0%	2%	6%	0%	3%	1%	100%	5%	0%
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	0	0	0	0
Parking (#/hr)		0										
Adj. Flow (vph)	0	574	173	136	811	240	0	1067	144	14	597	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	574	173	136	811	240	0	1211	0	0	699	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	1.18	1.09	1.09	1.09	1.09	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2	1	1	2	1	1	2		1	2	
Detector Template		Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5	6.1	6.1	30.5	6.1	2.0	30.5		2.0	30.5	
Trailing Detector (m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	

Lane Group	Ø1	Ø5
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
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)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
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)		
Detector 2 Position(m)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA	Perm	Prot	NA	Perm		NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases			4			8	2			6		
Detector Phase		4	4	3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)		26.0	26.0	7.0	26.0	26.0	25.0	25.0		25.0	25.0	
Minimum Split (s)		32.3	32.3	11.0	32.3	32.3	31.0	31.0		31.0	31.0	
Total Split (s)		42.0	42.0	12.0	54.0	54.0	31.0	31.0		31.0	31.0	
Total Split (%)		46.7%	46.7%	13.3%	60.0%	60.0%	34.4%	34.4%		34.4%	34.4%	
Maximum Green (s)		35.7	35.7	8.0	47.7	47.7	25.0	25.0		25.0	25.0	
Yellow Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)		3.3	3.3	1.0	3.3	3.3	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	
Total Lost Time (s)		5.3	5.3	3.0	5.3	5.3		5.0			5.0	
Lead/Lag		Lag	Lag	Lead			Lag	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		Max	Max	None	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		19.0	19.0		19.0	19.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		40	40		40	40	40	40		40	40	
Act Effct Green (s)		36.7	36.7	9.0	48.7	48.7		28.0			31.0	
Actuated g/C Ratio		0.41	0.41	0.10	0.54	0.54		0.31			0.34	
v/c Ratio		0.85	0.32	0.81	0.86	0.44		0.84			0.77	
Control Delay		38.4	9.1	74.8	29.2	8.9		35.6			32.5	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay		38.4	9.1	74.8	29.2	8.9		35.6			32.5	
LOS		D	A	E	C	A		D			C	
Approach Delay		31.6			30.3			35.6			32.5	
Approach LOS		C			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 77 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 32.6		Intersection LOS: C	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Dundas Street West & Bloor Street West



Lane Group	Ø1	Ø5
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	5
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	6%	6%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	3.0	
Flash Dont Walk (s)	0.0	
Pedestrian Calls (#/hr)	40	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

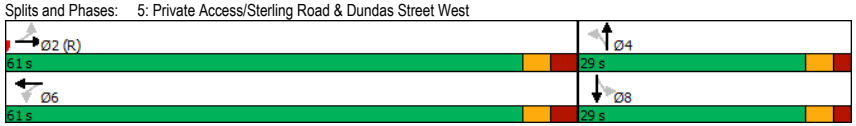
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	793	0	0	1269	162	0	0	0	100	0	97
Future Volume (vph)	83	793	0	0	1269	162	0	0	0	100	0	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99						0.96	
Frt					0.983						0.933	
Flt Protected		0.995									0.975	
Satd. Flow (prot)	0	3442	0	0	3376	0	0	1842	0	0	1609	0
Flt Permitted		0.641									0.840	
Satd. Flow (perm)	0	2217	0	0	3376	0	0	1842	0	0	1371	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					29							
Link Speed (k/h)		40			40			30			30	
Link Distance (m)		123.6			101.7			33.0			87.8	
Travel Time (s)		11.1			9.2			4.0			10.5	
Confl. Peds. (#/hr)	34		50	50		34	34		19	19		34
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	2%	2%	3%	3%	2%	2%	2%	5%	2%	2%
Adj. Flow (vph)	86	818	0	0	1308	167	0	0	0	103	0	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	904	0	0	1475	0	0	0	0	0	203	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA					Perm	NA	
Protected Phases		2			6			4			8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	61.0	61.0		61.0	61.0		29.0	29.0		29.0	29.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%		32.2%	32.2%		32.2%	32.2%	
Maximum Green (s)	55.0	55.0		55.0	55.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		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			4.0			4.0	
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-Max	C-Max		Max	Max		None	None		None	None	
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		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		62.0			62.0						19.0	
Actuated g/C Ratio		0.69			0.69						0.21	
v/c Ratio		0.59			0.63						0.70	
Control Delay		10.3			9.9						45.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		10.3			9.9						45.4	
LOS		B			A						D	
Approach Delay		10.3			9.9						45.4	
Approach LOS		B			A						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 94.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Private Access/Sterling Road & Dundas Street West



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	12	64	6	32	23
Future Volume (vph)	1	12	64	6	32	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.875		0.989			
Flt Protected	0.996					0.972
Satd. Flow (prot)	1605	0	1822	0	0	1790
Flt Permitted	0.996					0.972
Satd. Flow (perm)	1605	0	1822	0	0	1790
Link Speed (k/h)	30		30			30
Link Distance (m)	41.6		87.0			79.4
Travel Time (s)	5.0		10.4			9.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	13	67	6	34	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	73	0	0	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	12	64	6	32	23
Future Volume (Veh/h)	1	12	64	6	32	23
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	13	67	6	34	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	162	70			73	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	162	70			73	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			98	
cM capacity (veh/h)	810	993			1527	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	73	58
Volume Left	1	0	34
Volume Right	13	6	0
cSH	977	1700	1527
Volume to Capacity	0.01	0.04	0.02
Queue Length 95th (m)	0.3	0.0	0.5
Control Delay (s)	8.7	0.0	4.4
Lane LOS	A		A
Approach Delay (s)	8.7	0.0	4.4
Approach LOS	A		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	19.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	113	28	228	32	0
Future Volume (vph)	24	113	28	228	32	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.889					
Flt Protected	0.991			0.994		
Satd. Flow (prot)	1615	0	0	1839	1879	0
Flt Permitted	0.991			0.994		
Satd. Flow (perm)	1615	0	0	1839	1879	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	70.2			16.3	54.8	
Travel Time (s)	8.4			2.0	6.6	
Confl. Peds. (#/hr)	5	13	9			9
Confl. Bikes (#/hr)		2				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	6%	1%	0%	2%
Adj. Flow (vph)	28	131	33	265	37	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	0	0	298	37	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
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	24	113	28	228	32	0
Future Volume (vph)	24	113	28	228	32	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	28	131	33	265	37	0

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	159	298	37
Volume Left (vph)	28	33	0
Volume Right (vph)	131	0	0
Hadj (s)	-0.42	0.05	0.00
Departure Headway (s)	4.3	4.4	4.6
Degree Utilization, x	0.19	0.36	0.05
Capacity (veh/h)	783	801	735
Control Delay (s)	8.2	9.8	7.8
Approach Delay (s)	8.2	9.8	7.8
Approach LOS	A	A	A

Intersection Summary			
Delay	9.1		
Level of Service	A		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

G TTS

TTS Trip Distribution Summary

In order to inform the trip assignment stage of the analysis, informaton about the general trip distribution is required to inform the analysis. The distribution represents the proportion of trips to and away from the site in any given direction. The following pages summarizes the general trip distribution results, which were calculated using Transportation Tomorrow Survey (TTS) 2016 trip origin and destination data. Trips were grouped under cardinal directions based on the relative angle between trip origin and destination, and appropriate adjustments were made to the calculation to conform to local geography and street grid.

The "TTS Directional Distribution Summary" on the next page presents a summary of the calculations described above, along with notes on any details specific to the analysis in this report. The table shows the total number of trips to and from the subject site categorized into general directions (North, Northeast, East etc.) and the percentage share of trips in each general direction in all directions.

The pages after show graphical illustrations of the categorizations for all Traffic Analysis Zones (TAZ) in the TTS survey area. Note that the latest survey zones were last updated in 2006.

These results are used as reference information for the trip assignment. They do not directly determine the trip assignment on the study network. The final trip assignments are completed based on a combination of local context, engineering experience, and engineering judgement, with the trip distribution information presented here to illustrate general travel behaviour.

TTS Directional Distribution Summary: 221 Sterling Road - Retail

Notes:

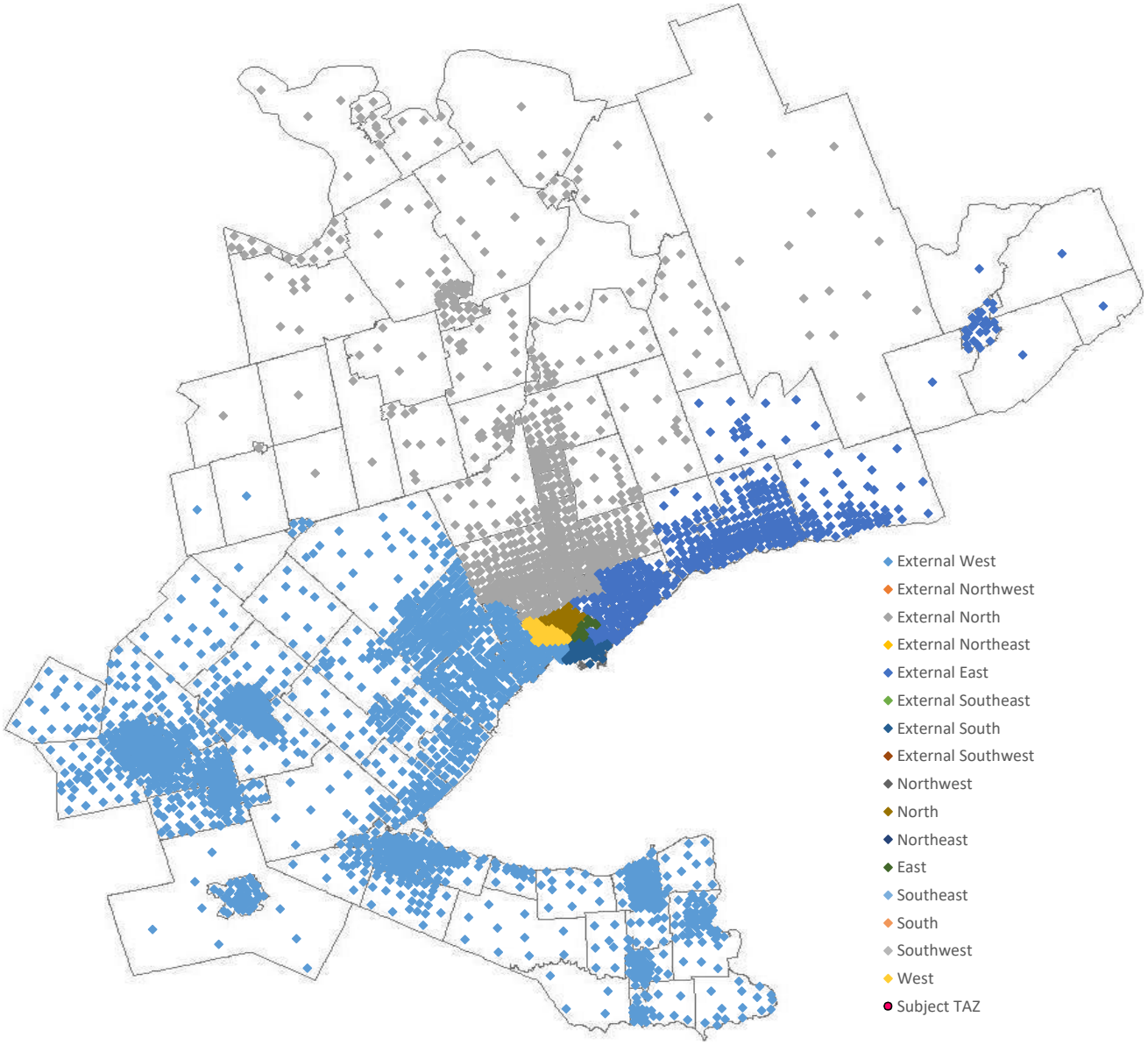
1. Directions determined based on centroid coordinates of destination/origin planning districts.

2. 'Internal' refers to local trips made within the home planning district(s), while 'External' refers to trips made to areas outside of the home planning district(s).

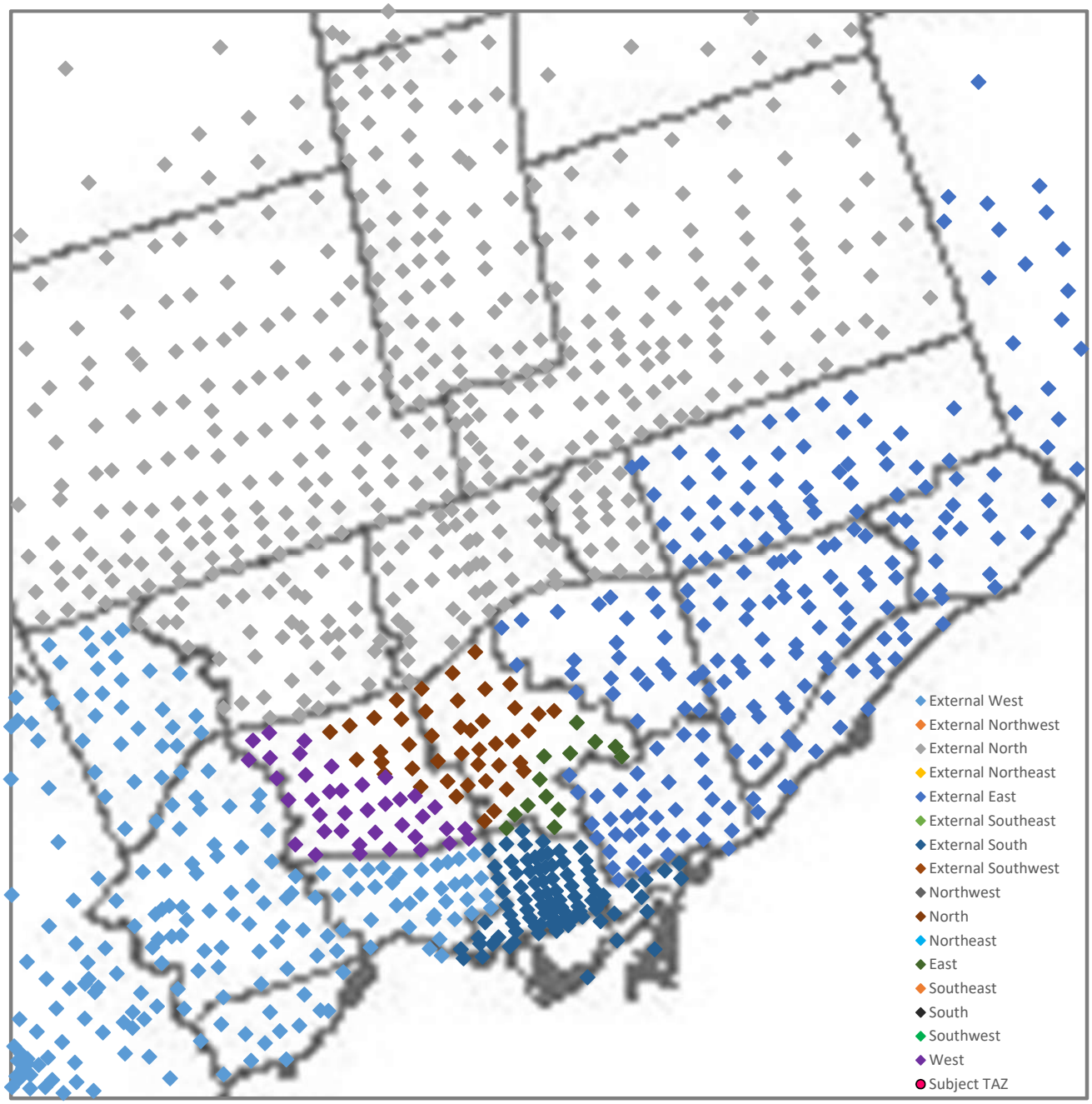
3. 'I' refers to local trips made within the subject TAZ that do not have a cardinal direction assigned to them. These trips are excluded from the analysis.

			Internal										External								
	Time Period	Direction	I	NW	N	NE	E	SE	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total
Trips	A.M.	Inbound	0	0	341	0	34	0	0	0	881	1256	0	917	0	543	0	534	0	2669	4663
		Outbound	0	0	0	0	31	0	0	0	25	56	0	0	0	40	0	0	0	21	61
	P.M.	Inbound	0	0	0	0	27	0	0	0	0	27	0	15	0	18	0	0	0	200	233
		Outbound	0	0	255	0	34	0	0	0	676	965	0	738	0	585	0	581	0	2478	4382
Percentage	A.M.	Inbound	0%	0%	6%	0%	1%	0%	0%	0%	15%	21%	0%	15%	0%	9%	0%	9%	0%	45%	79%
		Outbound	0%	0%	0%	0%	26%	0%	0%	0%	21%	48%	0%	0%	0%	34%	0%	0%	0%	18%	52%
	P.M.	Inbound	0%	0%	0%	0%	10%	0%	0%	0%	0%	10%	0%	6%	0%	7%	0%	0%	0%	77%	90%
		Outbound	0%	0%	5%	0%	1%	0%	0%	0%	13%	18%	0%	14%	0%	11%	0%	11%	0%	46%	82%

TAZ Directional Categorisation Visualisation (Complete TTS Survey Area)



TAZ Directional Categorisation Visualisation (City of Toronto)



TTS Trip Distribution Summary

In order to inform the trip assignment stage of the analysis, informaton about the general trip distribution is required to inform the analysis. The distribution represents the proportion of trips to and away from the site in any given direction. The following pages summarizes the general trip distribution results, which were calculated using Transportation Tomorrow Survey (TTS) 2016 trip origin and destination data. Trips were grouped under cardinal directions based on the relative angle between trip origin and destination, and appropriate adjustments were made to the calculation to conform to local geography and street grid.

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The pages after show graphical illustrations of the categorizations for all Traffic Analysis Zones (TAZ) in the TTS survey area. Note that the latest survey zones were last updated in 2006.

These results are used as reference information for the trip assignment. They do not directly determine the trip assignment on the study network. The final trip assignments are completed based on a combination of local context, engineering experience, and engineering judgement, with the trip distribution information presented here to illustrate general travel behaviour.

TTS Directional Distribution Summary: 221 Sterling Road - Residential

Notes:

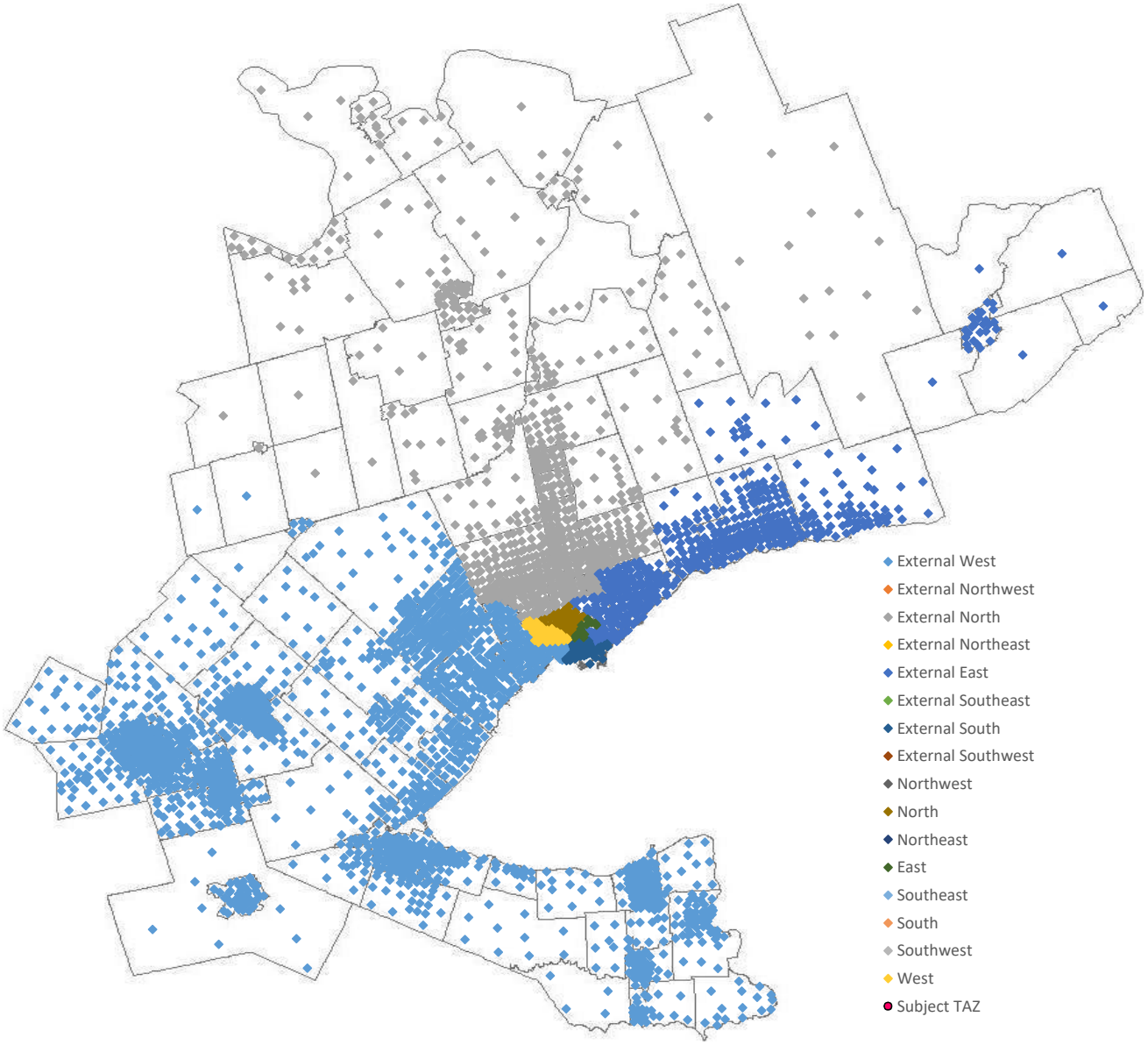
1. Directions determined based on centroid coordinates of destination/origin planning districts.

2. 'Internal' refers to local trips made within the home planning district(s), while 'External' refers to trips made to areas outside of the home planning district(s).

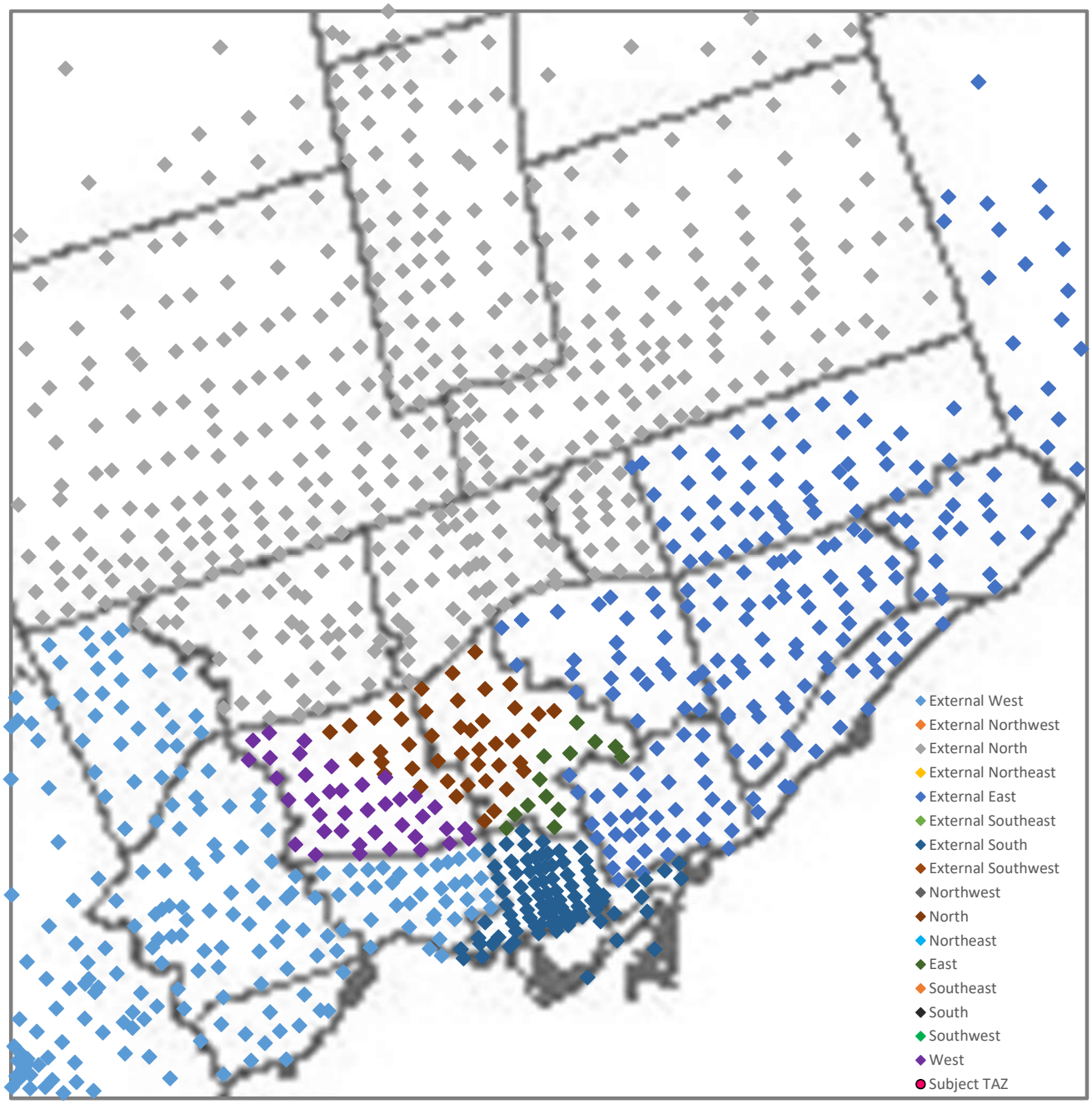
3. 'I' refers to local trips made within the subject TAZ that do not have a cardinal direction assigned to them. These trips are excluded from the analysis.

			Internal										External								
	Time Period	Direction	I	NW	N	NE	E	SE	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total
Trips	A.M.	Inbound	0	0	34	0	0	0	0	0	29	63	0	0	0	0	0	86	0	829	915
		Outbound	0	0	640	0	304	0	0	0	622	1566	0	1041	0	1072	0	6854	0	6135	15102
	P.M.	Inbound	0	0	600	0	246	0	0	0	514	1360	0	911	0	778	0	5714	0	6103	13506
		Outbound	0	0	72	0	104	0	0	0	115	291	0	48	0	64	0	654	0	2017	2783
Percentage	A.M.	Inbound	0%	0%	3%	0%	0%	0%	0%	0%	3%	6%	0%	0%	0%	0%	0%	9%	0%	85%	94%
		Outbound	0%	0%	4%	0%	2%	0%	0%	0%	4%	9%	0%	6%	0%	6%	0%	41%	0%	37%	91%
	P.M.	Inbound	0%	0%	4%	0%	2%	0%	0%	0%	3%	9%	0%	6%	0%	5%	0%	38%	0%	41%	91%
		Outbound	0%	0%	2%	0%	3%	0%	0%	0%	4%	9%	0%	2%	0%	2%	0%	21%	0%	66%	91%

TAZ Directional Categorisation Visualisation (Complete TTS Survey Area)



TAZ Directional Categorisation Visualisation (City of Toronto)



AM Inbound - Residential

Fri Jan 08 2021 12:53:00 GMT-0500 (Eastern Standard Time) - Run Time: 3037ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig

Column: 2006 GTA zone of destination - gta06_dest

Table: Primary travel mode of trip - mode_prime

Auto	462	**47%**
Pass		**0%**
Transit	188	**19%**
Cycle	30	**3%**
Walk	298	**30%**
	978	

Filters:

2006 GTA z 106 107 114 115 116

and

Start time of trip - start_time In 630-930

and

Trip purpose of destination - purp_dest In h

Trip 2016

Table: Transit excluding GO rail

	105	106	107	115	116
56	0	0	0	51	0
59	0	16	0	0	0
110	0	0	7	0	0
125	0	0	0	0	20
173	0	0	34	0	0
317	42	0	0	0	0
371	0	0	18	0	0

Trip 2016

Table: Cycle

	105	106	114
113	0	0	17
118	5	0	0
125	0	8	0

AM Outbound - Residential
Fri Jan 08 2021 12:51:25 GMT-0500 (Eastern Standard Time) - Run Time: 3336ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig
Table: Primary travel mode of trip - mode_prime

Auto	4317	**26%**
Auto Passe	418	**3%**
Transit	8370	**50%**
Cycle	1836	**11%**
Walk	1727	**10%**
	16668	

Filters:
2006 GTA z 106 107 114 115 116
and
Start time of trip - start_time In 630-930
and
Trip purpose of origin - purp_orig In h

Trip 2016
Table: Transit excluding GO rail

	105	106	107	114	115	116
4	63	0	0	0	0	0
5	0	0	0	0	0	26
19	0	0	0	5	0	0
20	0	0	0	12	0	0
21	5	12	0	0	28	0
23	0	0	0	0	0	19
25	107	0	0	0	0	0
29	70	0	0	0	0	0
33	0	0	0	0	0	18
35	11	0	0	37	0	9
36	44	23	0	0	0	0
37	0	0	44	0	0	0
38	193	0	5	0	73	42
39	0	0	0	21	0	0
40	5	0	0	0	0	0
41	0	5	5	0	0	0
43	87	0	29	12	0	64
44	0	0	0	0	34	0
45	0	0	77	31	0	23
46	5	0	0	0	0	0
47	0	10	0	0	0	0
49	88	0	26	24	0	47
50	68	0	20	7	0	0
51	23	13	0	0	5	22
52	212	20	9	0	50	0
53	0	0	0	32	42	26
54	20	8	31	0	0	21
55	122	29	19	0	20	11
56	24	6	0	0	0	22
57	306	58	5	9	0	32
58	0	0	0	0	0	26
59	0	0	123	0	0	0
60	5	5	0	0	0	0
62	74	0	38	0	0	0
64	0	0	0	0	0	17
65	74	5	0	37	0	60
66	17	10	0	24	0	38
67	5	41	48	33	39	0
68	9	13	0	0	40	0
69	0	11	133	0	0	8

PM Inbound - Residential

Fri Jan 08 2021 12:52:41 GMT-0500 (Eastern Standard Time) - Run Time: 2935ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest
Table: Primary travel mode of trip - mode_prime

Auto	4027	**27%**
Auto Passe	700	**5%**
Transit	7308	**49%**
Cycle	1241	**8%**
Walk	1674	**11%**
	14950	

Filters:
2006 GTA z 106 107 114 115 116
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of destination - purp_dest In h

Trip 2016
Table: Transit excluding GO rail

	105	106	107	114	115	116
5	0	0	0	0	0	26
19	0	0	0	5	0	0
21	0	12	0	4	0	0
23	0	0	0	0	0	19
25	225	0	0	0	0	8
29	70	0	0	0	0	0
33	0	0	0	0	0	18
35	11	0	0	37	0	0
36	44	62	62	0	0	8
37	0	0	44	0	0	0
38	296	0	5	0	45	0
39	0	0	0	47	0	0
41	0	5	0	0	0	0
43	87	0	29	12	0	64
45	0	0	0	31	26	0
47	0	0	0	0	26	0
49	162	0	31	0	0	28
50	36	0	20	6	0	0
51	64	5	0	0	19	22
52	186	20	5	0	50	20
53	0	0	0	0	42	26
54	0	0	0	0	0	21
55	270	19	19	0	20	0
56	24	6	0	0	0	22
57	184	58	5	9	0	32
58	0	0	0	0	0	26
59	0	0	123	0	0	0
60	5	5	0	0	0	0
64	0	0	0	0	0	17
65	74	0	0	37	8	24
66	12	10	0	24	0	38
67	5	36	19	46	39	0
68	0	5	0	33	0	0
69	0	7	5	7	0	29
70	0	5	0	0	0	21
71	0	24	0	0	19	6
76	0	0	0	4	0	0
78	0	7	0	31	0	0
88	16	0	0	0	0	0
89	0	0	0	82	0	149
90	0	0	0	0	0	9
92	0	39	0	0	0	0
93	5	0	0	0	65	0
94	0	5	0	0	0	0

PM Outbound - Residential
Fri Jan 08 2021 12:51:53 GMT-0500 (Eastern Standard Time) - Run Time: 3197ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig
Table: Primary travel mode of trip - mode_prime

Auto	1059	**34%**
Auto Passe	412	**13%**
Transit	1080	**35%**
Cycle	186	**6%**
Walk	337	**11%**
	3074	

Filters:
2006 GTA z 106 107 114 115 116
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of origin - purp_orig In h

Trip 2016
Table: Transit excluding GO rail

	105	106	107	114	115	116
20	0	0	0	12	0	0
37	74	5	0	0	0	0
38	27	0	0	0	0	0
42	0	0	0	4	0	0
45	0	0	0	66	0	23
48	40	0	0	0	0	0
50	63	0	18	0	0	0
56	0	0	0	0	51	0
59	26	0	0	0	0	0
65	0	0	0	34	0	0
70	0	0	0	0	0	23
72	0	0	0	0	0	7
77	0	8	0	0	0	0
86	0	0	0	0	0	26
94	59	0	0	0	0	0
96	122	0	0	0	0	0
105	57	0	0	0	0	0
118	0	0	0	116	0	0
120	74	0	0	0	10	0
186	27	0	0	0	0	0
203	5	0	0	0	0	0
209	0	0	0	0	6	0
277	0	0	0	0	0	15
306	0	0	59	0	0	0
312	5	0	0	0	0	0
464	0	9	0	0	0	0
3816	9	0	0	0	0	0

Trip 2016
Table: Cycle

	105	107	114
74	0	9	0
93	0	5	0
95	5	0	0
97	5	0	0
98	41	0	0
101	0	0	46
109	5	0	0
113	15	0	0
125	0	0	6
251	0	34	0
270	8	0	0
273	0	7	0

AM Inbound - Retail

Fri Jan 08 2021 12:05:21 GMT-0500 (Eastern Standard Time) - Run Time: 3118ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest
Table: Primary travel mode of trip - mode_prime

Auto	2906	49%
Auto Passe	344	6%
Transit	1761	30%
Cycle	423	7%
Walk	485	8%
	5919	

Filters:
(2006 GTA 106 107 114 115 116
and
Start time of trip - start_time In 630-930
and
Trip purpose of destination - purp_dest In w)

Trip 2016
Table: Transit excluding GO rail

	105	106	107	114	115	116
15	0	0	10	0	0	0
18	0	0	0	0	0	31
34	0	18	0	0	0	0
46	0	0	18	0	0	0
60	21	0	0	0	0	0
66	17	0	0	0	0	0
72	0	0	0	31	0	0
90	4	0	4	0	0	0
95	0	0	0	0	49	0
105	51	0	0	5	0	0
106	22	0	0	0	0	0
110	0	0	0	0	37	0
119	0	0	27	26	0	0
124	14	0	68	19	0	0
125	0	0	0	9	0	0
127	0	0	0	6	0	0
130	0	0	0	0	14	0
134	0	0	12	0	0	0
137	0	0	0	0	19	0
140	0	0	7	0	0	0
147	0	0	12	0	0	0
151	0	0	30	0	0	0
163	0	0	0	0	0	22
164	13	0	0	0	0	0
166	136	0	0	19	0	0
172	25	0	0	0	0	0
188	0	0	0	0	33	0
210	0	25	0	0	0	0
211	33	17	0	0	0	0
212	21	0	0	0	0	0

AM Outbound - Retail
Fri Nov 13 2020 16:33:40 GMT-0500 (Eastern Standard Time) - Run Time: 2836ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig
Table: Primary travel mode of trip - mode_prime

Filters:
(2006 GTA 107 114 115 116
and
Start time of trip - start_time In 630-930
and
Trip purpose of origin - purp_orig In w)

Trip 2016
Table: Cycle

	115
147	10

Auto	76	65%
Auto Passe	31	26%
Transit		0%
Cycle	10	9%
Walk		0%
	117	

Trip 2016
Table: Auto driver

	106	107	114	115
125	0	0	0	15
170	0	0	15	0
537	0	40	0	0
3812	6	0	0	0

Trip 2016
Table: Paid rideshare

	115
222	31

PM Inbound - Retail

Fri Jan 08 2021 12:04:50 GMT-0500 (Eastern Standard Time) - Run Time: 2897ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest
Table: Primary travel mode of trip - mode_prime

Auto	55	21%
Auto Passenger		0%
Transit	46	18%
Cycle	159	61%
Walk		0%
	260	

Filters:
(2006 GTA 106 107 114 115 116
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of destination - purp_dest In w)

Trip 2016
Table: Transit excluding GO rail

	107	114
99	0	19
222	27	0

Trip 2016
Table: Auto driver

	105	106	107
101	0	22	0
239	0	0	18
2072	15	0	0

Trip 2016
Table: Walk

	114	116
99	19	0
106	0	7
109	17	0
114	116	0

PM Outbound - Retail
Fri Jan 08 2021 12:03:42 GMT-0500 (Eastern Standard Time) - Run Time: 3375ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig
Table: Primary travel mode of trip - mode_prime

Auto	2528	**47%**
Auto Passe	427	**8%**
Transit	1283	**24%**
Cycle	380	**7%**
Walk	729	**14%**
	5347	

Filters:
(2006 GTA 106 107 114 115 116
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of origin - purp_orig In w)

Trip 2016
Table: Transit excluding GO rail

	105	106	107	114	115	116
15	0	0	10	0	0	0
18	0	0	0	0	0	31
22	0	0	0	0	0	13
34	0	18	0	0	0	0
46	0	0	18	0	0	0
60	21	0	0	0	0	0
72	0	0	0	31	0	0
79	0	0	0	18	0	0
90	0	0	4	0	0	0
93	33	0	0	0	0	0
102	13	0	0	0	0	14
106	22	0	0	0	0	0
119	0	0	27	26	0	0
120	0	0	23	0	0	0
124	0	0	0	19	0	0
126	0	0	0	0	10	0
127	0	0	0	6	0	0
130	0	0	0	0	14	0
134	0	0	12	0	0	0
140	0	0	7	0	0	0
151	0	0	30	0	0	0
154	0	0	0	0	32	0
163	0	0	0	0	0	22
172	17	0	0	0	0	0
173	0	0	0	0	0	11
183	0	20	0	0	0	0
188	0	0	0	0	33	0
211	0	17	0	0	0	0
212	21	0	0	0	0	0
214	0	38	0	0	0	0
219	0	0	5	0	0	0
220	0	0	0	0	0	29
249	26	0	0	0	0	0
250	0	0	0	83	0	0
251	0	0	15	0	0	0
257	0	0	0	0	0	6
258	0	12	0	0	0	0

APPENDIX

H Future Total Traffic Conditions

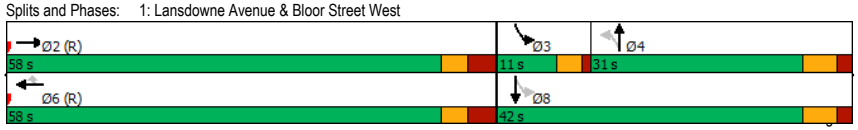
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	795	0	0	530	75	62	365	60	151	327	95
Future Volume (vph)	0	795	0	0	530	75	62	365	60	151	327	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		14.1	14.4		15.3	36.3		0.0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (m)	2.5			2.5			25.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						0.69	0.85	0.91		0.79	0.90	
Frt						0.850		0.975			0.956	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	1658	0	0	1602	1343	1458	2692	0	1501	1388	0
Flt Permitted							0.381			0.318		
Satd. Flow (perm)	0	1658	0	0	1602	931	495	2692	0	397	1388	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								23			24	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		374.8			112.0			258.8			36.6	
Travel Time (s)		33.7			10.1			23.3			3.3	
Confl. Peds. (#/hr)	261		188	188		261	149		271	271		149
Confl. Bikes (#/hr)			2			2			3			5
Peak Hour Factor	0.50	1.00	0.76	0.90	0.95	0.69	0.75	0.93	0.75	0.80	0.99	0.70
Heavy Vehicles (%)	0%	2%	3%	0%	2%	1%	4%	6%	5%	1%	5%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	13	0	0	0
Adj. Flow (vph)	0	795	0	0	558	109	83	392	80	189	330	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	795	0	0	558	109	83	472	0	189	466	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	1.25	1.16	1.25	1.25	1.21	1.25	1.25	1.16	1.25	1.25	1.16	1.25
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2			2	1	1	2		1	2	
Detector Template		Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5			30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8			1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		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	
Detector 1 Delay (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	

Lanes, Volumes, Timings
1: Lansdowne Avenue & Bloor Street West
<Future Total> AM Peak
04/16/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		2			6			4		3	8	
Permitted Phases						6	4			8		
Detector Phase		2			6	6	4	4		3	8	
Switch Phase												
Minimum Initial (s)		26.0			26.0	26.0	22.0	22.0		6.0	22.0	
Minimum Split (s)		34.0			34.0	34.0	28.0	28.0		10.0	28.0	
Total Split (s)		58.0			58.0	58.0	31.0	31.0		11.0	42.0	
Total Split (%)		58.0%			58.0%	58.0%	31.0%	31.0%		11.0%	42.0%	
Maximum Green (s)		51.4			51.4	51.4	25.0	25.0		7.0	36.0	
Yellow Time (s)		3.0			3.0	3.0	4.0	4.0		3.0	4.0	
All-Red Time (s)		3.6			3.6	3.6	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)		-1.0			-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		5.6			5.6	5.6	5.0	5.0		3.0	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0		2.0	3.0	
Recall Mode		C-Max			C-Max	C-Max	Max	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0	15.0	15.0			15.0	
Pedestrian Calls (#/hr)		40			40	40	40	40			40	
Act Effct Green (s)		52.4			52.4	52.4	26.0	26.0		39.0	37.0	
Actuated g/C Ratio		0.52			0.52	0.52	0.26	0.26		0.39	0.37	
v/c Ratio		0.92			0.67	0.22	0.65	0.66		0.78	0.88	
Control Delay		31.4			22.2	14.4	58.7	36.5		46.1	48.2	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		31.4			22.2	14.4	58.7	36.5		46.1	48.2	
LOS		C			C	B	E	D		D	D	
Approach Delay		31.4			21.0			39.8			47.6	
Approach LOS		C			C			D			D	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 38 (38%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 34.5		Intersection LOS: C	
Intersection Capacity Utilization 105.0%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 1: Lansdowne Avenue & Bloor Street West



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	824	25	6	670	71	43
Future Volume (vph)	824	25	6	670	71	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.996				0.949	
Flt Protected					0.970	
Satd. Flow (prot)	1835	0	0	1842	1600	0
Flt Permitted					0.970	
Satd. Flow (perm)	1835	0	0	1842	1600	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	69.7			374.8	79.4	
Travel Time (s)	6.3			33.7	9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	916	28	7	744	79	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	944	0	0	751	127	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
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	1.09	1.09
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.1%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	824	25	6	670	71	43
Future Volume (Veh/h)	824	25	6	670	71	43
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	916	28	7	744	79	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	70			375		
pX, platoon unblocked			0.70		0.81	0.70
vC, conflicting volume			944		1688	930
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			704		1132	684
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		56	85
cM capacity (veh/h)			624		179	313

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	944	751	127
Volume Left	0	7	79
Volume Right	28	0	48
cSH	1700	624	214
Volume to Capacity	0.56	0.01	0.59
Queue Length 95th (m)	0.0	0.3	25.5
Control Delay (s)	0.0	0.3	43.9
Lane LOS		A	E
Approach Delay (s)	0.0	0.3	43.9
Approach LOS			E

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	640	0	0	657	84	48	38	18	191	0	168
Future Volume (vph)	112	640	0	0	657	84	48	38	18	191	0	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.3	3.0	3.0	4.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	27.5		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (m)	7.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.97		0.62	0.91		0.90		0.79
Frt					0.982			0.945				0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1531	1605	0	0	1872	0	1685	1586	0	1652	0	1333
Flt Permitted	0.088						0.950			0.950		
Satd. Flow (perm)	142	1605	0	0	1872	0	1053	1586	0	1485	0	1051
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					9							
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		98.8			69.7			91.9			175.2	
Travel Time (s)		8.9			6.3			11.0			15.8	
Confl. Peds. (#/hr)	86		28	28		86	75		45	45		75
Confl. Bikes (#/hr)			50			50			2			7
Peak Hour Factor	0.72	1.00	0.90	0.90	0.93	0.79	0.72	0.77	0.65	0.81	0.90	0.84
Heavy Vehicles (%)	14%	3%	0%	0%	3%	1%	0%	3%	0%	2%	0%	9%
Bus Blockages (#/hr)	0	0	0	0	0	1	0	0	0	0	3	9
Parking (#/hr)		0										
Adj. Flow (vph)	156	640	0	0	706	106	67	49	28	236	0	200
Shared Lane Traffic (%)												
Lane Group Flow (vph)	156	640	0	0	812	0	67	77	0	236	0	200
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)		3.3			3.3			3.0			3.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.04	1.19	1.09	1.09	0.92	1.09	1.09	1.01	1.09	1.09	1.01	1.14
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2			2		1	2		1		1
Detector Template	Left	Thru			Thru		Left	Thru		Left		Right
Leading Detector (m)	6.1	30.5			30.5		6.1	30.5		6.1		6.1
Trailing Detector (m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Position(m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Size(m)	6.1	1.8			1.8		6.1	1.8		6.1		6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		28.7			28.7			28.7				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8				
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Split	NA		Prot		pt+ov
Protected Phases	5	2			6		4	4		3		3 5
Permitted Phases	2											3
Detector Phase	5	2			6		4	4		3		3 5
Switch Phase												
Minimum Initial (s)	6.0	21.0			21.0		7.0	7.0		19.0		
Minimum Split (s)	10.0	29.0			29.0		16.0	16.0		27.0		
Total Split (s)	10.0	57.0			47.0		16.0	16.0		27.0		
Total Split (%)	10.0%	57.0%			47.0%		16.0%	16.0%		27.0%		
Maximum Green (s)	6.0	49.3			39.3		9.0	9.0		20.0		
Yellow Time (s)	3.0	3.0			3.0		4.0	4.0		4.0		
All-Red Time (s)	1.0	4.7			4.7		3.0	3.0		3.0		
Lost Time Adjust (s)	-1.0	-3.0			-1.0		-1.0	-1.0		-1.0		
Total Lost Time (s)	3.0	4.7			6.7		6.0	6.0		6.0		
Lead/Lag	Lead				Lag		Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0		
Recall Mode	Max	C-Max			C-Max		None	None		None		
Walk Time (s)		7.0			7.0					8.0		
Flash Dont Walk (s)		14.0			14.0					12.0		
Pedestrian Calls (#/hr)		28			36					36		
Act Effct Green (s)	57.7	56.0			44.0		9.5	9.5		20.6		25.8
Actuated g/C Ratio	0.58	0.56			0.44		0.10	0.10		0.21		0.26
v/c Ratio	0.87	0.71			0.98		0.42	0.51		0.69		0.58
Control Delay	61.4	23.1			48.5		51.0	55.5		48.7		30.4
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Delay	61.4	23.1			48.5		51.0	55.5		48.7		30.4
LOS	E	C			D		D	E		D		C
Approach Delay		30.6			48.5			53.4			40.3	
Approach LOS		C			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 89 (89%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 40.7		Intersection LOS: D	
Intersection Capacity Utilization 78.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Sterling Road/Symington Avenue & Bloor Street West

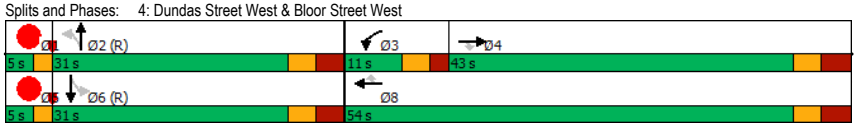
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	701	202	75	667	119	0	551	159	10	885	61
Future Volume (vph)	0	701	202	75	667	119	0	551	159	10	885	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.4	3.0	3.0	3.3	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		17.5	26.4		31.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	0		0	0		0
Taper Length (m)	50.0			7.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.95	0.95	0.95
Ped Bike Factor			0.74	0.91		0.60		0.85			0.95	
Frt			0.850			0.850		0.964			0.988	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	1623	1436	1589	1712	1358	0	3969	0	0	3184	0
Flt Permitted				0.950							0.938	
Satd. Flow (perm)	0	1623	1063	1447	1712	820	0	3969	0	0	2982	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			85		89			10	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		75.1			318.0			159.9			139.1	
Travel Time (s)		6.8			28.6			14.4			12.5	
Confl. Peds. (#/hr)	670		219	219		670	453		442	442		453
Confl. Bikes (#/hr)			50			50			9			11
Peak Hour Factor	0.64	1.00	0.83	0.98	0.96	0.89	0.90	0.98	0.90	0.69	0.98	0.75
Heavy Vehicles (%)	4%	3%	5%	6%	3%	11%	0%	7%	3%	100%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	10	0	0	0	0	0	0	0
Parking (#/hr)		0										
Adj. Flow (vph)	0	701	243	77	695	134	0	562	177	14	903	81
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	701	243	77	695	134	0	739	0	0	998	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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.09	1.18	1.09	1.09	1.10	1.09	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2	1	1	2	1	1	2		1	2	
Detector Template		Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5	6.1	6.1	30.5	6.1	2.0	30.5		2.0	30.5	
Trailing Detector (m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	

Lane Group	Ø1	Ø5
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
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)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
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)		
Detector 2 Position(m)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA	Perm	Prot	NA	Perm		NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases			4			8	2			6		
Detector Phase		4	4	3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)		25.0	25.0	6.0	25.0	25.0	19.0	19.0		19.0	19.0	
Minimum Split (s)		31.3	31.3	11.0	31.3	31.3	25.0	25.0		25.0	25.0	
Total Split (s)		43.0	43.0	11.0	54.0	54.0	31.0	31.0		31.0	31.0	
Total Split (%)		47.8%	47.8%	12.2%	60.0%	60.0%	34.4%	34.4%		34.4%	34.4%	
Maximum Green (s)		36.7	36.7	6.0	47.7	47.7	25.0	25.0		25.0	25.0	
Yellow Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)		3.3	3.3	2.0	3.3	3.3	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	
Total Lost Time (s)		5.3	5.3	4.0	5.3	5.3		5.0			5.0	
Lead/Lag		Lag	Lag	Lead			Lag	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		Max	Max	None	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0	7.0	2.0	2.0		2.0	2.0	
Flash Dont Walk (s)		18.0	18.0		18.0	18.0	17.0	17.0		17.0	17.0	
Pedestrian Calls (#/hr)		40	40		40	40	40	40		40	40	
Act Effct Green (s)		39.9	39.9	7.0	48.7	48.7		28.0			31.0	
Actuated g/C Ratio		0.44	0.44	0.08	0.54	0.54		0.31			0.34	
v/c Ratio		0.97	0.45	0.63	0.75	0.28		0.57			0.97	
Control Delay		55.7	12.3	63.7	22.4	6.2		25.1			50.9	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay		55.7	12.3	63.7	22.4	6.2		25.1			50.9	
LOS		E	B	E	C	A		C			D	
Approach Delay		44.5			23.5			25.1			50.9	
Approach LOS		D			C			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 34 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 37.0		Intersection LOS: D	
Intersection Capacity Utilization 87.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Dundas Street West & Bloor Street West



Lane Group	Ø1	Ø5
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	5
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	6%	6%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	3.0	
Flash Dont Walk (s)	0.0	
Pedestrian Calls (#/hr)	40	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

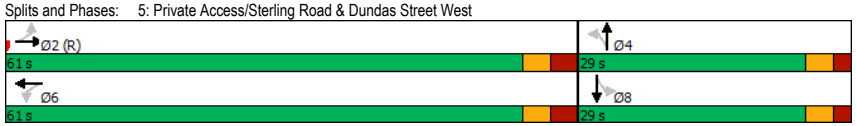
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	1280	1	0	654	105	1	1	1	83	0	54
Future Volume (vph)	82	1280	1	0	654	105	1	1	1	83	0	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99			0.98			0.97	
Frt					0.979			0.955			0.947	
Flt Protected		0.997						0.984			0.971	
Satd. Flow (prot)	0	3394	0	0	3149	0	0	1049	0	0	1607	0
Flt Permitted		0.834						0.934			0.813	
Satd. Flow (perm)	0	2834	0	0	3149	0	0	985	0	0	1331	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					38			1				
Link Speed (k/h)		40			40			30			30	
Link Distance (m)		123.6			101.7			33.0			87.8	
Travel Time (s)		11.1			9.2			4.0			10.5	
Confl. Peds. (#/hr)	50		27	27		50	38		15	15		38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	5%	0%	2%	10%	5%	100%	0%	100%	4%	2%	7%
Adj. Flow (vph)	84	1306	1	0	667	107	1	1	1	85	0	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1391	0	0	774	0	0	3	0	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	61.0	61.0		61.0	61.0		29.0	29.0		29.0	29.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%		32.2%	32.2%		32.2%	32.2%	
Maximum Green (s)	55.0	55.0		55.0	55.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		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			4.0			4.0	
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-Max	C-Max		Max	Max		None	None		None	None	
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		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		65.4			65.4			15.6			15.6	
Actuated g/C Ratio		0.73			0.73			0.17			0.17	
v/c Ratio		0.68			0.34			0.02			0.61	
Control Delay		9.6			5.2			24.7			44.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.6			5.2			24.7			44.9	
LOS		A			A			C			D	
Approach Delay		9.6			5.2			24.7			44.9	
Approach LOS		A			A			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 76 (84%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 10.3		Intersection LOS: B	
Intersection Capacity Utilization 89.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 5: Private Access/Sterling Road & Dundas Street West



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	28	60	0	8	17
Future Volume (vph)	6	28	60	0	8	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.890					
Flt Protected	0.991					0.984
Satd. Flow (prot)	1625	0	1842	0	0	1813
Flt Permitted	0.991					0.984
Satd. Flow (perm)	1625	0	1842	0	0	1813
Link Speed (k/h)	30		30			30
Link Distance (m)	20.2		89.3			79.4
Travel Time (s)	2.4		10.7			9.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	7	31	67	0	9	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	67	0	0	28
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 18.0%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	28	60	0	8	17
Future Volume (Veh/h)	6	28	60	0	8	17
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	7	31	67	0	9	19
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	104	67			67	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	104	67			67	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	97			99	
cM capacity (veh/h)	889	997			1535	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	38	67	28
Volume Left	7	0	9
Volume Right	31	0	0
cSH	975	1700	1535
Volume to Capacity	0.04	0.04	0.01
Queue Length 95th (m)	0.9	0.0	0.1
Control Delay (s)	8.8	0.0	2.4
Lane LOS	A		A
Approach Delay (s)	8.8	0.0	2.4
Approach LOS	A		

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	18.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	168	12	88	35	2
Future Volume (vph)	39	168	12	88	35	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.890				0.993	
Flt Protected	0.991			0.994		
Satd. Flow (prot)	1597	0	0	1789	1819	0
Flt Permitted	0.991			0.994		
Satd. Flow (perm)	1597	0	0	1789	1819	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	70.2			16.3	35.7	
Travel Time (s)	8.4			2.0	4.3	
Confl. Peds. (#/hr)	4	90	13			13
Confl. Bikes (#/hr)		4				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	7%	3%	0%	5%	0%	50%
Adj. Flow (vph)	41	177	13	93	37	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	218	0	0	106	39	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
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	39	168	12	88	35	2
Future Volume (vph)	39	168	12	88	35	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	41	177	13	93	37	2

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	218	106	39
Volume Left (vph)	41	13	0
Volume Right (vph)	177	0	2
Hadj (s)	-0.39	0.10	0.01
Departure Headway (s)	3.9	4.5	4.5
Degree Utilization, x	0.23	0.13	0.05
Capacity (veh/h)	902	759	748
Control Delay (s)	8.0	8.2	7.7
Approach Delay (s)	8.0	8.2	7.7
Approach LOS	A	A	A

Intersection Summary			
Delay	8.0		
Level of Service	A		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	11	60	0	1	17	6
Future Volume (vph)	11	60	0	1	17	6
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	0.886		0.865			
Flt Protected	0.992					0.965
Satd. Flow (prot)	1655	0	1629	0	0	1818
Flt Permitted	0.992					0.965
Satd. Flow (perm)	1655	0	1629	0	0	1818
Link Speed (k/h)	30		30			30
Link Distance (m)	28.8		60.7			89.3
Travel Time (s)	3.5		7.3			10.7
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	12	67	0	1	19	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	1	0	0	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		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	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	60	0	1	17	6
Future Volume (Veh/h)	11	60	0	1	17	6
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	12	67	0	1	19	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	46	0			1	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	46	0			1	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	94			99	
cM capacity (veh/h)	953	1084			1622	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	79	1	26
Volume Left	12	0	19
Volume Right	67	1	0
cSH	1062	1700	1622
Volume to Capacity	0.07	0.00	0.01
Queue Length 95th (m)	1.8	0.0	0.3
Control Delay (s)	8.7	0.0	5.3
Lane LOS	A		A
Approach Delay (s)	8.7	0.0	5.3
Approach LOS	A		

Intersection Summary			
Average Delay	7.8		
Intersection Capacity Utilization	18.9%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	0	127	1	0	0
Future Volume (vph)	17	0	127	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.999			
Flt Protected	0.950					
Satd. Flow (prot)	1750	0	1840	0	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1750	0	1840	0	0	0
Link Speed (k/h)	30		30			30
Link Distance (m)	22.2		35.7			19.2
Travel Time (s)	2.7		4.3			2.3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	0	141	1	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	142	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	0	127	1	0	0
Future Volume (Veh/h)	17	0	127	1	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	19	0	141	1	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	142	142			142	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	142	142			142	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	851	906			1441	

Direction, Lane #	WB 1	NB 1
Volume Total	19	142
Volume Left	19	0
Volume Right	0	1
cSH	851	1700
Volume to Capacity	0.02	0.08
Queue Length 95th (m)	0.5	0.0
Control Delay (s)	9.3	0.0
Lane LOS	A	
Approach Delay (s)	9.3	0.0
Approach LOS	A	

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

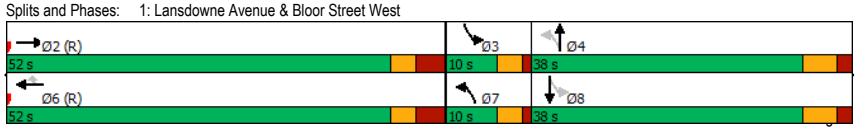
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	602	0	0	711	122	150	386	38	105	276	93
Future Volume (vph)	0	602	0	0	711	122	150	386	38	105	276	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.5	3.0	3.0	3.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		0.0	0.0		14.1	14.4		15.3	36.3		0.0
Storage Lanes	0		0	0		1	1		1	1		0
Taper Length (m)	2.5			2.5			25.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						0.68	0.82	0.94		0.76	0.84	
Frt						0.850		0.984			0.956	
Flt Protected							0.950			0.950		
Satd. Flow (prot)	0	1674	0	0	1602	1343	1501	2884	0	1516	1324	0
Flt Permitted							0.258			0.383		
Satd. Flow (perm)	0	1674	0	0	1602	911	334	2884	0	463	1324	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								14			22	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		374.8			112.0			258.8			36.6	
Travel Time (s)		33.7			10.1			23.3			3.3	
Confl. Peds. (#/hr)	329		292	292		329	280		352	352		280
Confl. Bikes (#/hr)			1						1			4
Peak Hour Factor	0.63	1.00	0.63	0.50	1.00	0.87	0.88	0.88	0.73	0.94	0.90	0.73
Heavy Vehicles (%)	0%	1%	4%	0%	2%	1%	1%	3%	3%	0%	4%	0%
Bus Blockages (#/hr)	0	0	1	0	0	0	0	0	9	0	0	0
Adj. Flow (vph)	0	602	0	0	711	140	170	439	52	112	307	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	602	0	0	711	140	170	491	0	112	434	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	1.25	1.16	1.25	1.25	1.21	1.25	1.25	1.16	1.25	1.25	1.16	1.25
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2			2	1	1	2		1	2	
Detector Template		Thru			Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5			30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8			1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		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	
Detector 1 Delay (s)		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	

Lanes, Volumes, Timings
1: Lansdowne Avenue & Bloor Street West
<Future Total> PM Peak
04/16/2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA			NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		7	4		3	8	
Permitted Phases						6	4			8		
Detector Phase		2			6	6	7	4		3	8	
Switch Phase												
Minimum Initial (s)		26.0			26.0	26.0	6.0	22.0		6.0	22.0	
Minimum Split (s)		34.0			34.0	34.0	10.0	28.0		10.0	28.0	
Total Split (s)		52.0			52.0	52.0	10.0	38.0		10.0	38.0	
Total Split (%)		52.0%			52.0%	52.0%	10.0%	38.0%		10.0%	38.0%	
Maximum Green (s)		45.4			45.4	45.4	6.0	32.0		6.0	32.0	
Yellow Time (s)		3.0			3.0	3.0	3.0	4.0		3.0	4.0	
All-Red Time (s)		3.6			3.6	3.6	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)		0.0			0.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		6.6			6.6	5.6	3.0	5.0		3.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0	3.0	2.0	3.0		2.0	3.0	
Recall Mode		C-Max			C-Max	C-Max	None	Max		None	Max	
Walk Time (s)		7.0			7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		19.0			19.0	19.0		15.0			15.0	
Pedestrian Calls (#/hr)		40			40	40		40			40	
Act Effct Green (s)		45.4			45.4	46.4	42.0	33.0		42.0	33.0	
Actuated g/C Ratio		0.45			0.45	0.46	0.42	0.33		0.42	0.33	
v/c Ratio		0.79			0.98	0.33	0.77	0.51		0.42	0.96	
Control Delay		27.8			56.7	19.8	43.5	28.5		21.6	66.8	
Queue Delay		0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		27.8			56.7	19.8	43.5	28.5		21.6	66.8	
LOS		C			E	B	D	C		C	E	
Approach Delay		27.8			50.6			32.3			57.6	
Approach LOS		C			D			C			E	

Intersection Summary			
Area Type:	CBD		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 20 (20%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 42.3		Intersection LOS: D	
Intersection Capacity Utilization 88.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 1: Lansdowne Avenue & Bloor Street West



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	649	66	62	761	38	11
Future Volume (vph)	649	66	62	761	38	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988				0.969	
Flt Protected				0.996	0.963	
Satd. Flow (prot)	1820	0	0	1835	1622	0
Flt Permitted				0.996	0.963	
Satd. Flow (perm)	1820	0	0	1835	1622	0
Link Speed (k/h)	40			40	30	
Link Distance (m)	69.7			374.8	79.4	
Travel Time (s)	6.3			33.7	9.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	683	69	65	801	40	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	752	0	0	866	52	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.0	
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	1.09	1.09
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	95.0%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	649	66	62	761	38	11
Future Volume (Veh/h)	649	66	62	761	38	11
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	683	69	65	801	40	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	70			375		
pX, platoon unblocked			0.80		0.76	0.80
vC, conflicting volume			752		1648	718
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			564		1098	521
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		76	97
cM capacity (veh/h)			805		164	444

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	752	866	52
Volume Left	0	65	40
Volume Right	69	0	12
cSH	1700	805	192
Volume to Capacity	0.44	0.08	0.27
Queue Length 95th (m)	0.0	2.0	8.0
Control Delay (s)	0.0	2.1	30.6
Lane LOS		A	D
Approach Delay (s)	0.0	2.1	30.6
Approach LOS			D

Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	95.0%	ICU Level of Service	F	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	513	0	0	695	104	113	105	39	163	0	229
Future Volume (vph)	146	513	0	0	695	104	113	105	39	163	0	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.3	3.3	3.0	3.0	4.2	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	27.5		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.95			0.88		0.84		0.82
Frt					0.982			0.951				0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1646	1818	0	0	1847	0	1685	1572	0	1668	0	1403
Flt Permitted	0.096						0.950			0.950		
Satd. Flow (perm)	166	1818	0	0	1847	0	1685	1572	0	1395	0	1144
Right Turn on Red			Yes			Yes			No			No
Satd. Flow (RTOR)					9							
Link Speed (k/h)		40			40			30			40	
Link Distance (m)		98.8			69.7			91.9			175.2	
Travel Time (s)		8.9			6.3			11.0			15.8	
Confl. Peds. (#/hr)	155		58	58		155			85	85		65
Confl. Bikes (#/hr)						1						5
Peak Hour Factor	1.00	1.00	1.00	0.90	1.00	1.00	0.83	0.83	0.63	0.79	0.95	0.84
Heavy Vehicles (%)	6%	1%	0%	0%	2%	2%	0%	0%	0%	1%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	1	1	0	0	0	0	2	8
Adj. Flow (vph)	146	513	0	0	695	104	136	127	62	206	0	273
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	513	0	0	799	0	136	189	0	206	0	273
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)		3.3			3.3			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	1.04	1.04	1.09	1.09	0.92	1.09	1.09	1.01	1.09	1.09	1.01	1.14
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2			2		1	2		1		1
Detector Template	Left	Thru			Thru		Left	Thru		Left		Right
Leading Detector (m)	6.1	30.5			30.5		6.1	30.5		6.1		6.1
Trailing Detector (m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Position(m)	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Detector 1 Size(m)	6.1	1.8			1.8		6.1	1.8		6.1		6.1
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)		28.7			28.7			28.7				
Detector 2 Size(m)		1.8			1.8			1.8				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	pm+pt	NA			NA		Split	NA		Prot		pt+ov
Protected Phases	5	2			6		4	4		3		3 5
Permitted Phases	2											3
Detector Phase	5	2			6		4	4		3		3 5
Switch Phase												
Minimum Initial (s)	6.0	21.0			21.0		7.0	7.0		19.0		
Minimum Split (s)	10.0	29.0			29.0		16.0	16.0		27.0		
Total Split (s)	10.0	55.0			45.0		18.0	18.0		27.0		
Total Split (%)	10.0%	55.0%			45.0%		18.0%	18.0%		27.0%		
Maximum Green (s)	6.0	47.3			37.3		11.0	11.0		20.0		
Yellow Time (s)	3.0	3.0			3.0		4.0	4.0		4.0		
All-Red Time (s)	1.0	4.7			4.7		3.0	3.0		3.0		
Lost Time Adjust (s)	-1.0	-1.5			-3.0		-1.0	-1.0		-1.0		
Total Lost Time (s)	3.0	6.2			4.7		6.0	6.0		6.0		
Lead/Lag	Lead				Lag		Lag	Lag		Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0		
Recall Mode	Max	C-Max			C-Max		None	None		None		
Walk Time (s)		7.0			7.0					8.0		
Flash Dont Walk (s)		14.0			14.0					12.0		
Pedestrian Calls (#/hr)		36			36					36		
Act Effct Green (s)	52.4	49.2			40.7		12.0	12.0		20.6		24.6
Actuated g/C Ratio	0.52	0.49			0.41		0.12	0.12		0.21		0.25
v/c Ratio	0.77	0.57			1.06		0.67	1.01		0.60		0.79
Control Delay	43.2	21.3			59.4		59.8	112.8		44.1		43.5
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0		0.0
Total Delay	43.2	21.3			59.4		59.8	112.8		44.1		43.5
LOS	D	C			E		E	F		D		D
Approach Delay		26.1			59.4			90.6			43.8	
Approach LOS		C			E			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 64 (64%), Referenced to phase 2:EBTL and 6:WBT, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 50.9		Intersection LOS: D	
Intersection Capacity Utilization 89.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Sterling Road/Symington Avenue & Bloor Street West

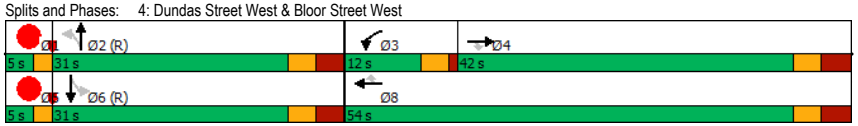
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	594	138	120	791	207	0	971	143	10	543	61
Future Volume (vph)	0	594	138	120	791	207	0	971	143	10	543	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.0	3.4	3.0	3.0	3.3	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Storage Length (m)	0.0		17.5	26.4		31.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	0		0	0		0
Taper Length (m)	50.0			55.0			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.95	0.95	0.95
Ped Bike Factor			0.77	0.90		0.64		0.93			0.93	
Frt			0.850			0.850		0.982			0.981	
Flt Protected				0.950							0.999	
Satd. Flow (prot)	0	1655	1492	1685	1743	1422	0	4549	0	0	3059	0
Flt Permitted				0.950							0.849	
Satd. Flow (perm)	0	1655	1156	1524	1743	916	0	4549	0	0	2595	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			117		28			18	
Link Speed (k/h)		40			40			40			40	
Link Distance (m)		75.1			318.0			159.9			139.1	
Travel Time (s)		6.8			28.6			14.4			12.5	
Confl. Peds. (#/hr)	534		209	209		534	429		517	517		429
Confl. Bikes (#/hr)			3			1			1			
Peak Hour Factor	0.79	1.00	0.80	0.88	1.00	0.88	0.25	0.91	0.97	0.70	0.91	0.69
Heavy Vehicles (%)	0%	1%	1%	0%	2%	6%	0%	3%	1%	100%	5%	0%
Bus Blockages (#/hr)	0	0	0	0	8	0	0	0	0	0	0	0
Parking (#/hr)		0										
Adj. Flow (vph)	0	594	173	136	791	235	0	1067	147	14	597	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	594	173	136	791	235	0	1214	0	0	699	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	1.18	1.09	1.09	1.09	1.09	1.09	1.01	1.09	1.09	1.01	1.09
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors		2	1	1	2	1	1	2		1	2	
Detector Template		Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)		30.5	6.1	6.1	30.5	6.1	2.0	30.5		2.0	30.5	
Trailing Detector (m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)		1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	

Lane Group	Ø1	Ø5
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Width (m)		
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)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Parking (#/hr)		
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)		
Detector 2 Position(m)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA	Perm	Prot	NA	Perm		NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases			4			8	2			6		
Detector Phase		4	4	3	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)		26.0	26.0	7.0	26.0	26.0	25.0	25.0		25.0	25.0	
Minimum Split (s)		32.3	32.3	11.0	32.3	32.3	31.0	31.0		31.0	31.0	
Total Split (s)		42.0	42.0	12.0	54.0	54.0	31.0	31.0		31.0	31.0	
Total Split (%)		46.7%	46.7%	13.3%	60.0%	60.0%	34.4%	34.4%		34.4%	34.4%	
Maximum Green (s)		35.7	35.7	8.0	47.7	47.7	25.0	25.0		25.0	25.0	
Yellow Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)		3.3	3.3	1.0	3.3	3.3	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	
Total Lost Time (s)		5.3	5.3	3.0	5.3	5.3		5.0			5.0	
Lead/Lag		Lag	Lag	Lead			Lag	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		Max	Max	None	Max	Max	C-Max	C-Max		C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		19.0	19.0		19.0	19.0	18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)		40	40		40	40	40	40		40	40	
Act Effct Green (s)		36.7	36.7	9.0	48.7	48.7		28.0			31.0	
Actuated g/C Ratio		0.41	0.41	0.10	0.54	0.54		0.31			0.34	
v/c Ratio		0.88	0.32	0.81	0.84	0.43		0.85			0.77	
Control Delay		41.5	9.1	74.8	27.5	8.7		35.7			32.6	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay		41.5	9.1	74.8	27.5	8.7		35.7			32.6	
LOS		D	A	E	C	A		D			C	
Approach Delay		34.2			29.2			35.7			32.6	
Approach LOS		C			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 77 (86%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 32.9		Intersection LOS: C	
Intersection Capacity Utilization 75.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Dundas Street West & Bloor Street West



Lane Group	Ø1	Ø5
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	1	5
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	3.0	3.0
Minimum Split (s)	5.0	5.0
Total Split (s)	5.0	5.0
Total Split (%)	6%	6%
Maximum Green (s)	3.0	3.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	Lead
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)	3.0	
Flash Dont Walk (s)	0.0	
Pedestrian Calls (#/hr)	40	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

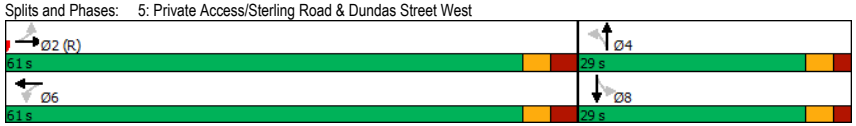
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	793	0	0	1269	174	0	0	0	99	0	97
Future Volume (vph)	83	793	0	0	1269	174	0	0	0	99	0	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99						0.96	
Frt					0.982						0.933	
Flt Protected		0.995									0.975	
Satd. Flow (prot)	0	3442	0	0	3371	0	0	1842	0	0	1609	0
Flt Permitted		0.639									0.840	
Satd. Flow (perm)	0	2210	0	0	3371	0	0	1842	0	0	1371	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					31							
Link Speed (k/h)		40			40			30			30	
Link Distance (m)		123.6			101.7			33.0			87.8	
Travel Time (s)		11.1			9.2			4.0			10.5	
Confl. Peds. (#/hr)	34		50	50		34	34		19	19		34
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	5%	3%	2%	2%	3%	3%	2%	2%	2%	5%	2%	2%
Adj. Flow (vph)	86	818	0	0	1308	179	0	0	0	102	0	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	904	0	0	1487	0	0	0	0	0	202	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA			NA					Perm	NA	
Protected Phases		2			6			4			8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	25.0	25.0		25.0	25.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.0	31.0		31.0	31.0		28.0	28.0		28.0	28.0	
Total Split (s)	61.0	61.0		61.0	61.0		29.0	29.0		29.0	29.0	
Total Split (%)	67.8%	67.8%		67.8%	67.8%		32.2%	32.2%		32.2%	32.2%	
Maximum Green (s)	55.0	55.0		55.0	55.0		24.0	24.0		24.0	24.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	3.0	3.0		3.0	3.0		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			4.0			4.0	
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-Max	C-Max		Max	Max		None	None		None	None	
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		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		62.0			62.0						19.0	
Actuated g/C Ratio		0.69			0.69						0.21	
v/c Ratio		0.59			0.64						0.70	
Control Delay		10.3			10.0						45.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		10.3			10.0						45.3	
LOS		B			A						D	
Approach Delay		10.3			10.0						45.3	
Approach LOS		B			A						D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 95.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 5: Private Access/Sterling Road & Dundas Street West



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	12	25	6	32	68
Future Volume (vph)	1	12	25	6	32	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.875		0.975			
Flt Protected	0.996					0.984
Satd. Flow (prot)	1605	0	1796	0	0	1813
Flt Permitted	0.996					0.984
Satd. Flow (perm)	1605	0	1796	0	0	1813
Link Speed (k/h)	30		30			30
Link Distance (m)	20.8		87.0			79.4
Travel Time (s)	2.5		10.4			9.5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1	13	26	6	34	72
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	32	0	0	106
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	22.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	12	25	6	32	68
Future Volume (Veh/h)	1	12	25	6	32	68
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	13	26	6	34	72
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	169	29			32	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	169	29			32	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	99			98	
cM capacity (veh/h)	804	1046			1580	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	32	106
Volume Left	1	0	34
Volume Right	13	6	0
cSH	1024	1700	1580
Volume to Capacity	0.01	0.02	0.02
Queue Length 95th (m)	0.3	0.0	0.5
Control Delay (s)	8.6	0.0	2.5
Lane LOS	A		A
Approach Delay (s)	8.6	0.0	2.5
Approach LOS	A		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	22.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	113	28	240	31	0
Future Volume (vph)	24	113	28	240	31	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.889					
Flt Protected	0.991			0.995		
Satd. Flow (prot)	1615	0	0	1841	1879	0
Flt Permitted	0.991			0.995		
Satd. Flow (perm)	1615	0	0	1841	1879	0
Link Speed (k/h)	30			30	30	
Link Distance (m)	70.2			16.3	27.0	
Travel Time (s)	8.4			2.0	3.2	
Confl. Peds. (#/hr)	5	13	9			9
Confl. Bikes (#/hr)		2				
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	0%	3%	6%	1%	0%	2%
Adj. Flow (vph)	28	131	33	279	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	0	0	312	36	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
Sign Control	Stop			Stop	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	24	113	28	240	31	0
Future Volume (vph)	24	113	28	240	31	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	28	131	33	279	36	0

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	159	312	36
Volume Left (vph)	28	33	0
Volume Right (vph)	131	0	0
Hadj (s)	-0.42	0.05	0.00
Departure Headway (s)	4.3	4.4	4.6
Degree Utilization, x	0.19	0.38	0.05
Capacity (veh/h)	777	801	732
Control Delay (s)	8.3	10.0	7.8
Approach Delay (s)	8.3	10.0	7.8
Approach LOS	A	A	A

Intersection Summary			
Delay	9.3		
Level of Service	A		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	3	0	252	18	0	0
Future Volume (vph)	3	0	252	18	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.5	3.5	3.5	3.5	3.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991			
Flt Protected	0.950					
Satd. Flow (prot)	1750	0	1825	0	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1750	0	1825	0	0	0
Link Speed (k/h)	48		48			30
Link Distance (m)	25.9		27.0			26.3
Travel Time (s)	1.9		2.0			3.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	3	0	265	19	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	0	284	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	0	252	18	0	0
Future Volume (Veh/h)	3	0	252	18	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	3	0	265	19	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	274	274			284	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	274	274			284	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	715	764			1278	

Direction, Lane #	WB 1	NB 1
Volume Total	3	284
Volume Left	3	0
Volume Right	0	19
cSH	715	1700
Volume to Capacity	0.00	0.17
Queue Length 95th (m)	0.1	0.0
Control Delay (s)	10.1	0.0
Lane LOS	B	
Approach Delay (s)	10.1	0.0
Approach LOS	B	

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	26	6	13	71	1
Future Volume (vph)	2	26	6	13	71	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.874		0.905			
Flt Protected	0.997					0.953
Satd. Flow (prot)	1641	0	1705	0	0	1795
Flt Permitted	0.997					0.953
Satd. Flow (perm)	1641	0	1705	0	0	1795
Link Speed (k/h)	30		30			30
Link Distance (m)	27.3		70.6			87.0
Travel Time (s)	3.3		8.5			10.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	2	27	6	14	75	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	0	20	0	0	76
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		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	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	26	6	13	71	1
Future Volume (Veh/h)	2	26	6	13	71	1
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	27	6	14	75	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	164	13			20	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	164	13			20	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	97			95	
cM capacity (veh/h)	788	1067			1596	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	29	20	76
Volume Left	2	0	75
Volume Right	27	14	0
cSH	1042	1700	1596
Volume to Capacity	0.03	0.01	0.05
Queue Length 95th (m)	0.7	0.0	1.1
Control Delay (s)	8.6	0.0	7.3
Lane LOS	A		A
Approach Delay (s)	8.6	0.0	7.3
Approach LOS	A		

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	20.7%	ICU Level of Service	A
Analysis Period (min)	15		