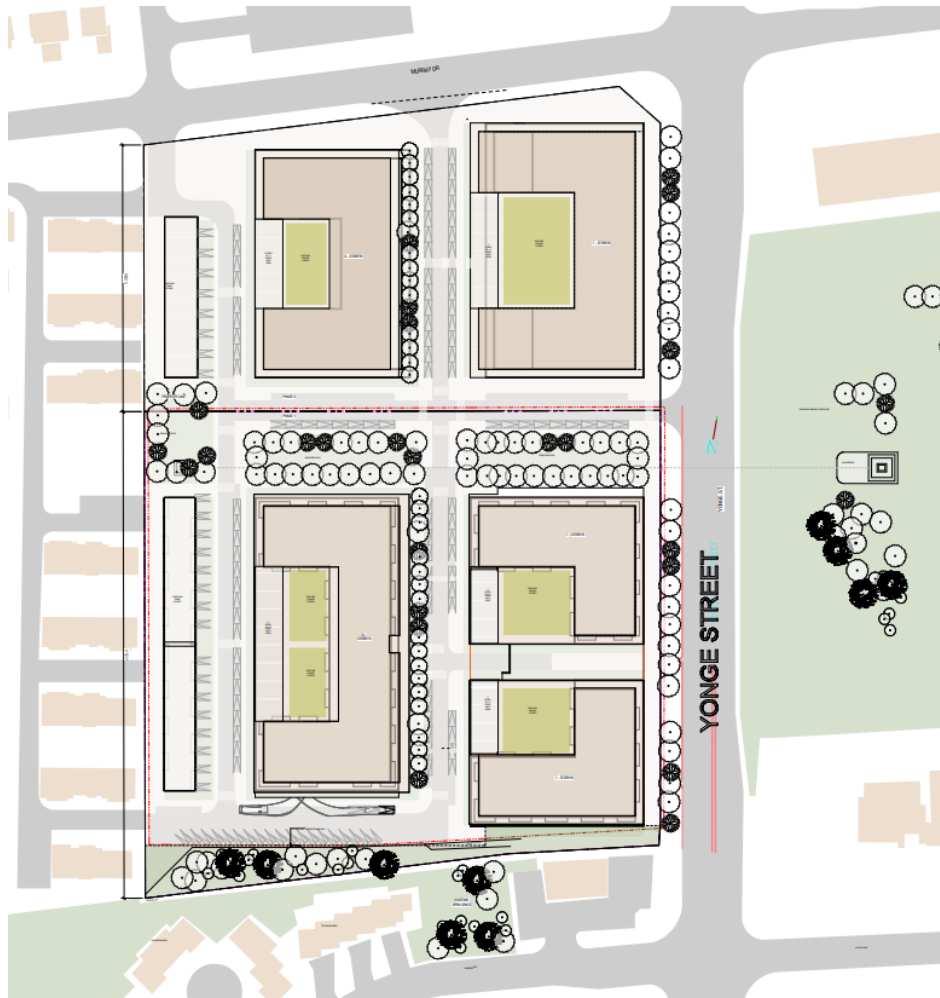


SMARTCENTRES

YONGE STREET AND MURRAY DRIVE MIXED-USE DEVELOPMENT TRANSPORTATION IMPACT STUDY

JULY 5, 2021





YONGE STREET AND MURRAY DRIVE MIXED-USE DEVELOPMENT TRANSPORTATION IMPACT STUDY

SMARTCENTRES

PROJECT NO.: 211-07103-00 T01
DATE: JULY 2021

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100 COMMERCE VALLEY DRIVE WEST
THORNHILL, ON, CANADA L3T 0A1

WSP.COM

July 05, 2021

Lily Wu
Senior Development Manager
SmartCentres
3200 Highway 7
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L4K 5Z5

Attention: Lily Wu, Senior Development Manager

Dear Ms. Wu:

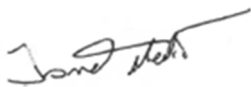
Subject: Mixed-use Development at Yonge Street and Murray Drive
Transportation Impact Study

WSP Canada Inc. is pleased to submit this Transportation Impact Study (TIS) for the proposed mixed-use development to be located at the southwest corner of the Yonge Street and Murray Drive intersection, in the Town of Aurora.

Based on the enclosed study findings, it is expected that the site traffic to be generated by the proposed development can be readily accommodated by the study area transportation network. The proposed auto and bicycle parking 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,



Ismet Medic, B.A.Sc.
Senior Project Manager, Transportation Planning
and Advisory



Kian Azari, EIT
Transportation Planner
Transportation Planning and Advisory

WSP ref.: 211-07103-00 T01

QUALITY MANAGEMENT

ISSUE/REVISION FIRST ISSUE REVISION 1 REVISION 2 REVISION 3



Remarks				
Date	2021-07-05			
Prepared by	Kian Azari			
Signature				
Checked by	Ismet Medic			
Signature				
Authorized by				
Signature				
Project number	211-07103-00 T01			
Report number				
File reference				



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1 INTRODUCTION

1.1 BACKGROUND

WSP Canada Limited was retained by SmartCentres to undertake a Transportation Impact Study (TIS) for the proposed mixed-use development located in the southwest corner of the Yonge Street and Murray Drive intersection, in the Town of Aurora. This study was completed in support of a Zoning By-law Application (ZBA) for the entire site and a Site Plan Application (SPA) for the southern portion of the proposed development (Phase 1).

The northern portion of the subject site is currently occupied by three one-storey retail buildings and a surface parking lot. The southern portion contains a vacant large retail building (a former Canadian Tire store). **Figure 1.1** illustrates the site location and context.

The objective of this study is to evaluate if there are any adverse impacts on the study area transportation network related to the proposed development and to ensure the proposed parking and loading arrangements are adequate.

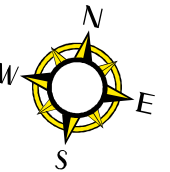
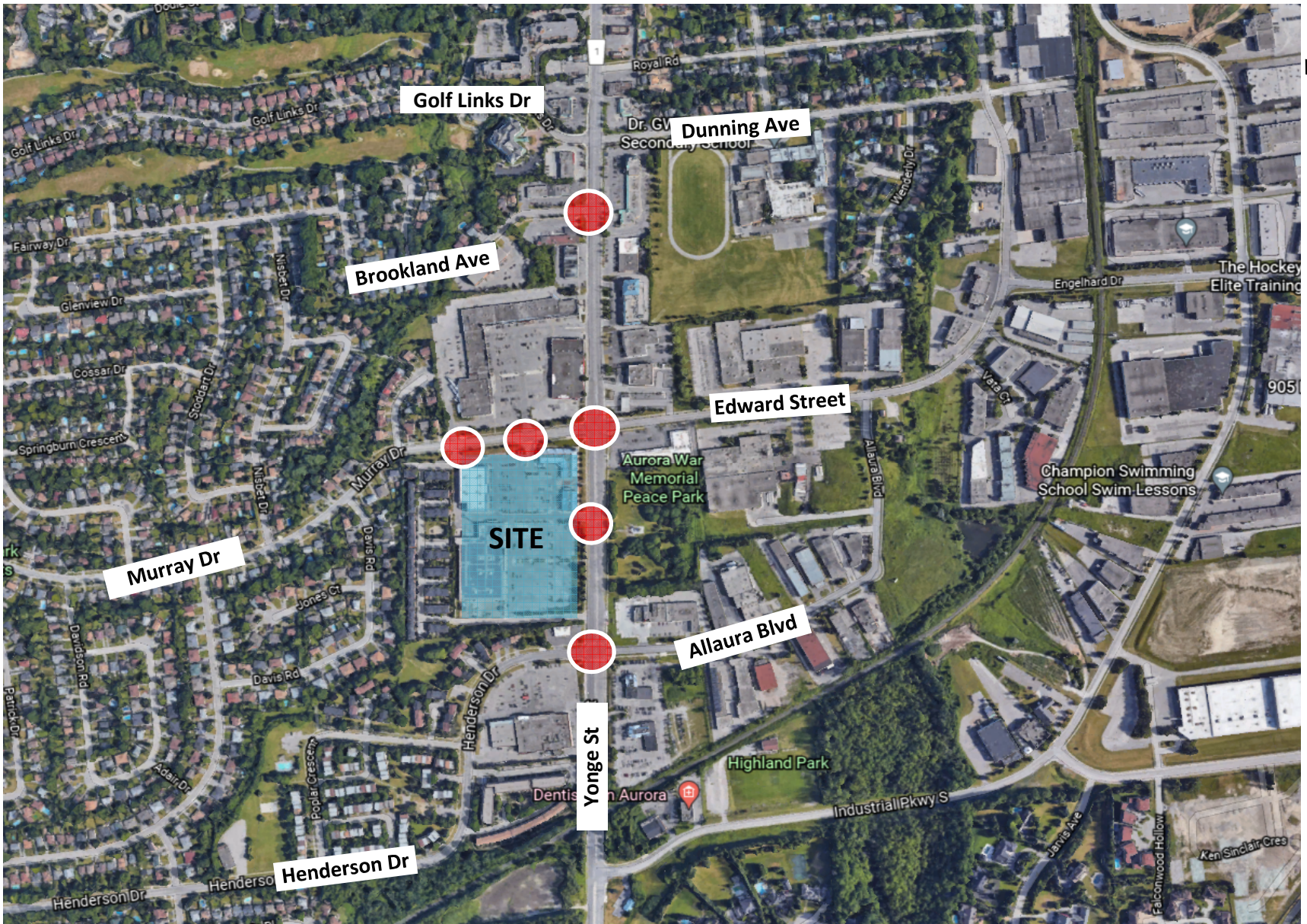
1.2 DEVELOPMENT PROPOSAL

The proposed mixed-use development consists of a total of 900 dwelling units, and 618 m² of retail space. The site plan is shown in **Figure 1.2**.

The development is proposed to be phased as follows:

- Phase 1 (southern parcel): one 6-storey and two 7-storey buildings with a combined total of 480 residential units including 16 townhome units and 618 m² GFA of retail space, as well as three 2-storey parkades.
- Phase 2 (northern parcel): one 6-storey and one 7-storey buildings with a combined total of 420 residential units with two 2-storey parkades.

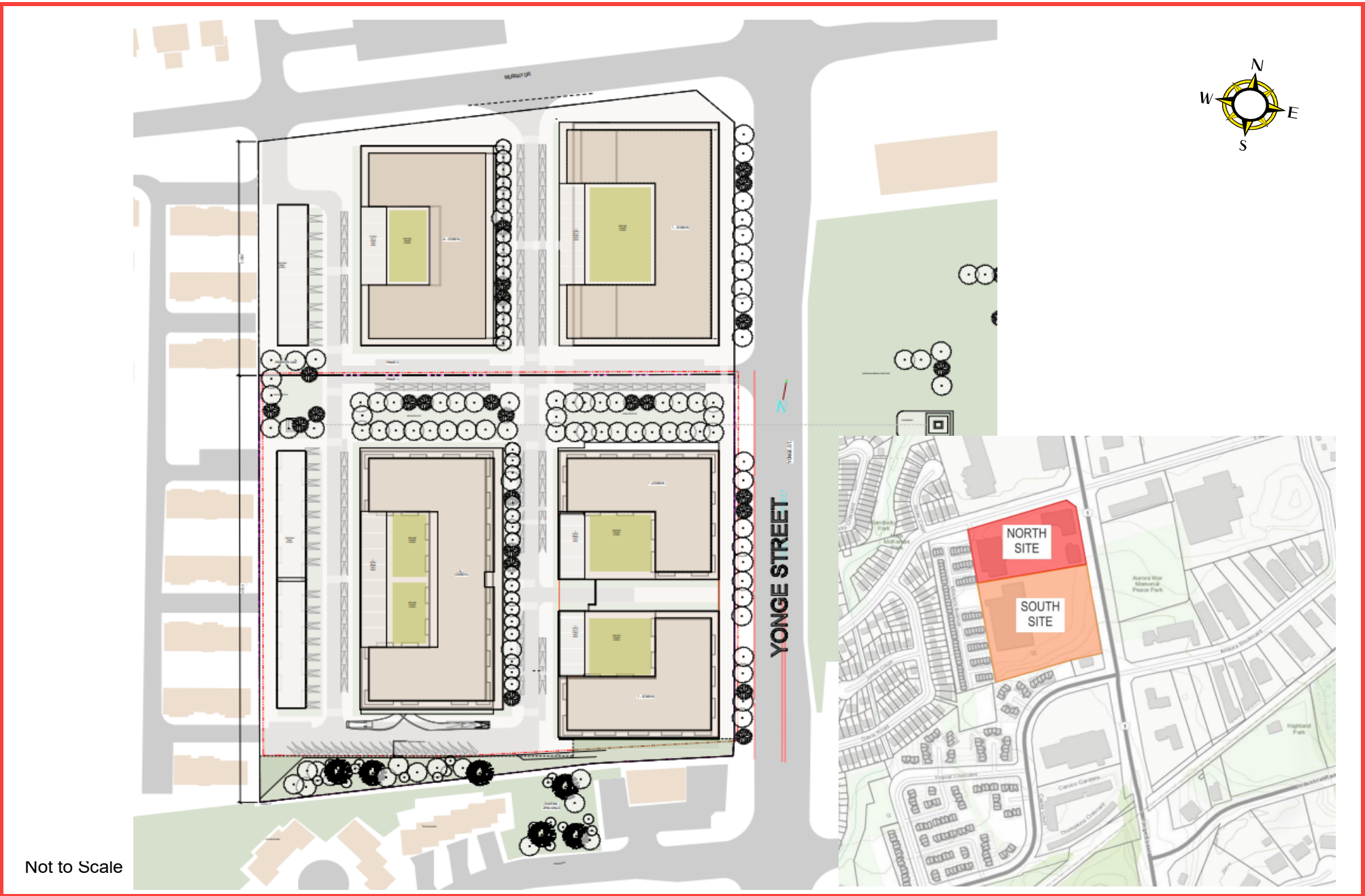
The existing site accesses on public roads will be maintained, with an exception of the existing right-in/right-out access on Yonge Street located at the south limit of the site approximately 50 metres north of the Yonge Street and Henderson Drive/Allura Boulevard intersection. This site access is located within the functional area of the Yonge Street and Henderson Drive/Allura Boulevard intersection, and its removal would benefit traffic operations along Yonge Street. It is important to note that the internal driveways would be interconnected to allow traffic to enter and exit via the existing site accesses.



Legend
 ● Study Intersection

Figure 1-1
 Site Location





Not to Scale



Figure 1-2

Proposed Site Plan

2 EXISTING TRANSPORTATION CONDITIONS

2.1 BOUNDARY ROADWAYS

The following boundary roadways were identified within the vicinity of the subject site. These roadways are under the jurisdiction of the Town of Aurora.

- **Yonge Street** (Regional Road 1) is a major north-south arterial roadway under the jurisdiction of the York Region. The section of Yonge Street within the Town of Aurora limits (from Industrial Parkway to the south to Orchard Heights Boulevard to the north) is under Town's jurisdiction. Yonge Street serves as a primary transit corridor connecting the York Region and the City of Toronto. Within the study area, Yonge Street has a four-lane cross-section consisting of two lanes per direction plus dedicated left- and /or right-turn lanes at signalized intersections. This roadway has a posted speed limit of 50 km/h. Pedestrian sidewalks are provided on both sides of the street. Yonge Street also provides access to the Aurora GO Station approximately 2 km north of the proposed development.
- **Murray Drive/ Edward Street** is a major east-west collector road under the jurisdiction of the Town of Aurora. West of Yonge Street is known as Murray Drive, while east of Yonge Street is known as Edward Street. Within the study area, this road has a two-lane cross-section with a posted speed limit of 40 km/h. Pedestrian sidewalks are provided on both sides of the street.
- **Henderson Drive** is an east-west arterial road under the jurisdiction of the Town of Aurora. Within the study area, this road has a two-lane cross-section with a posted speed limit of 50 km/h. A pedestrian sidewalk is provided on both sides of the street.
- **Allaura Boulevard** is a major east-west collector road under the jurisdiction of the Town of Aurora. This road has a two-lane cross-section with no posted speed limit, so it is assumed to be 40 km/h. A pedestrian sidewalk is provided on the south side of the street.
- **Brookland Avenue** is an east-west local road with a two-lane cross-section. This roadway has a posted speed limit of 40 km/h with a pedestrian sidewalk provided on the south side of the street.
- **Mosaics Avenue** is a north-south local road with a two-lane cross-section. This roadway has a posted speed limit of 10 km/h with no pedestrian sidewalk provided.

Based on the magnitude of the proposed development, the following study intersections were evaluated in this TIS:

- Yonge Street at Henderson Drive/Allaura Boulevard (Signalized)
- Yonge Street at Murray Drive/Edward Street (Signalized)
- Yonge Street at Brookland Avenue/Private Access (Signalized)
- Murray Drive at Mosaics Avenue (Unsignalized)
- Yonge Street at Easterly Site Access (Unsignalized)
- Murray Drive at Northerly Site Access (Unsignalized)

Figure 2.1 illustrates the existing lane configurations of all the above-noted roads along with the type of traffic control used at the intersections on these roads.

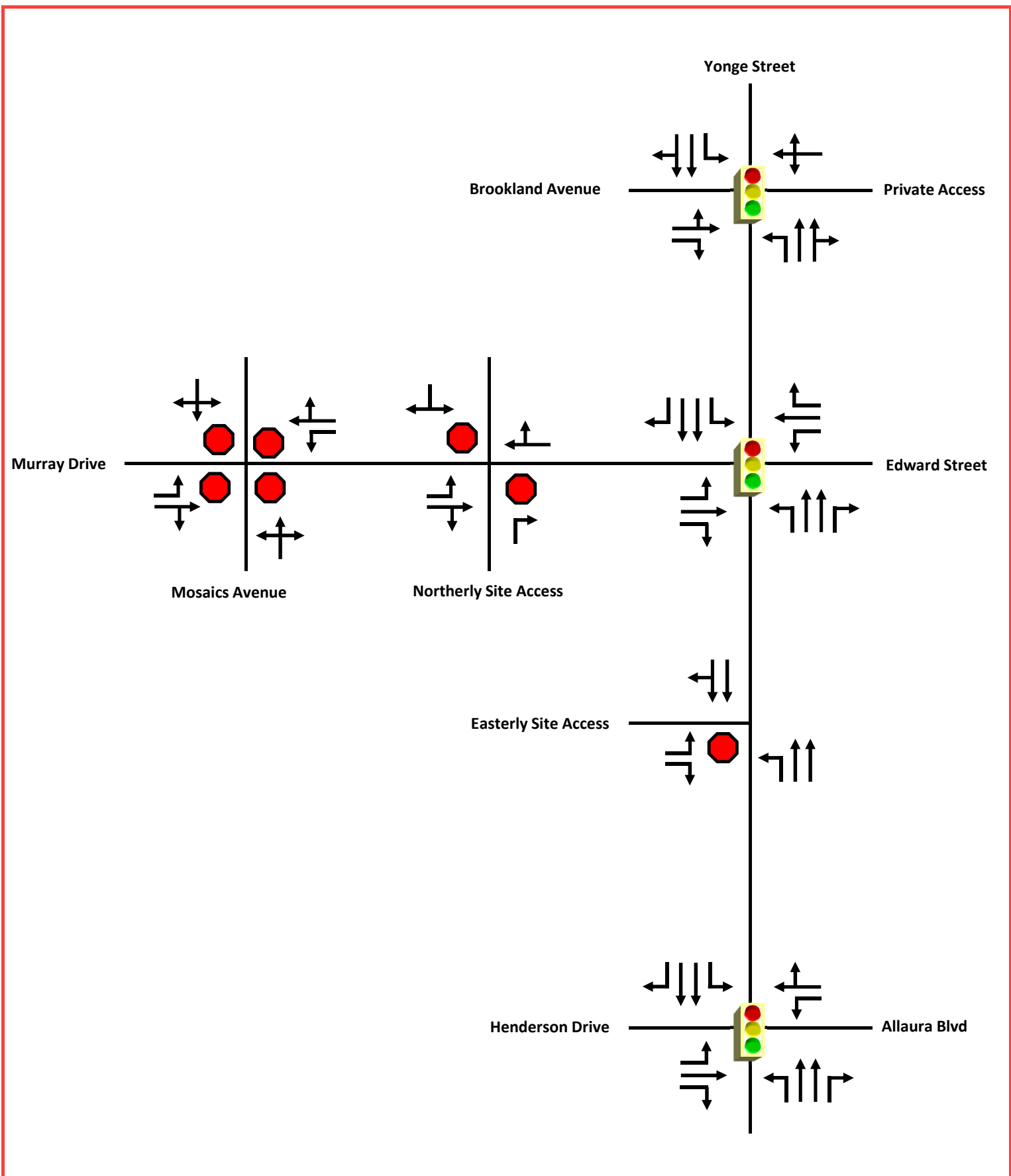


Figure 2-1
Existing Lane
Configurations

2.2 TRAFFIC DATA

Due to the current COVID-19 pandemic conditions, no existing traffic data collection was completed as part of this study. This is because traffic volumes would not represent typical traffic conditions. Instead, the historical turning movement counts (TMC's) conducted prior to the pandemic were reviewed and acquired. For the signalized intersections, TMCs were acquired from Accu-Traffic Inc. **Table 2.1** summarizes the list of TMC's provided for this study as well as the source and date of the counts. The TMCs are included in **Appendix B**.

Table 2.1: Intersection Counts Collected for this Study

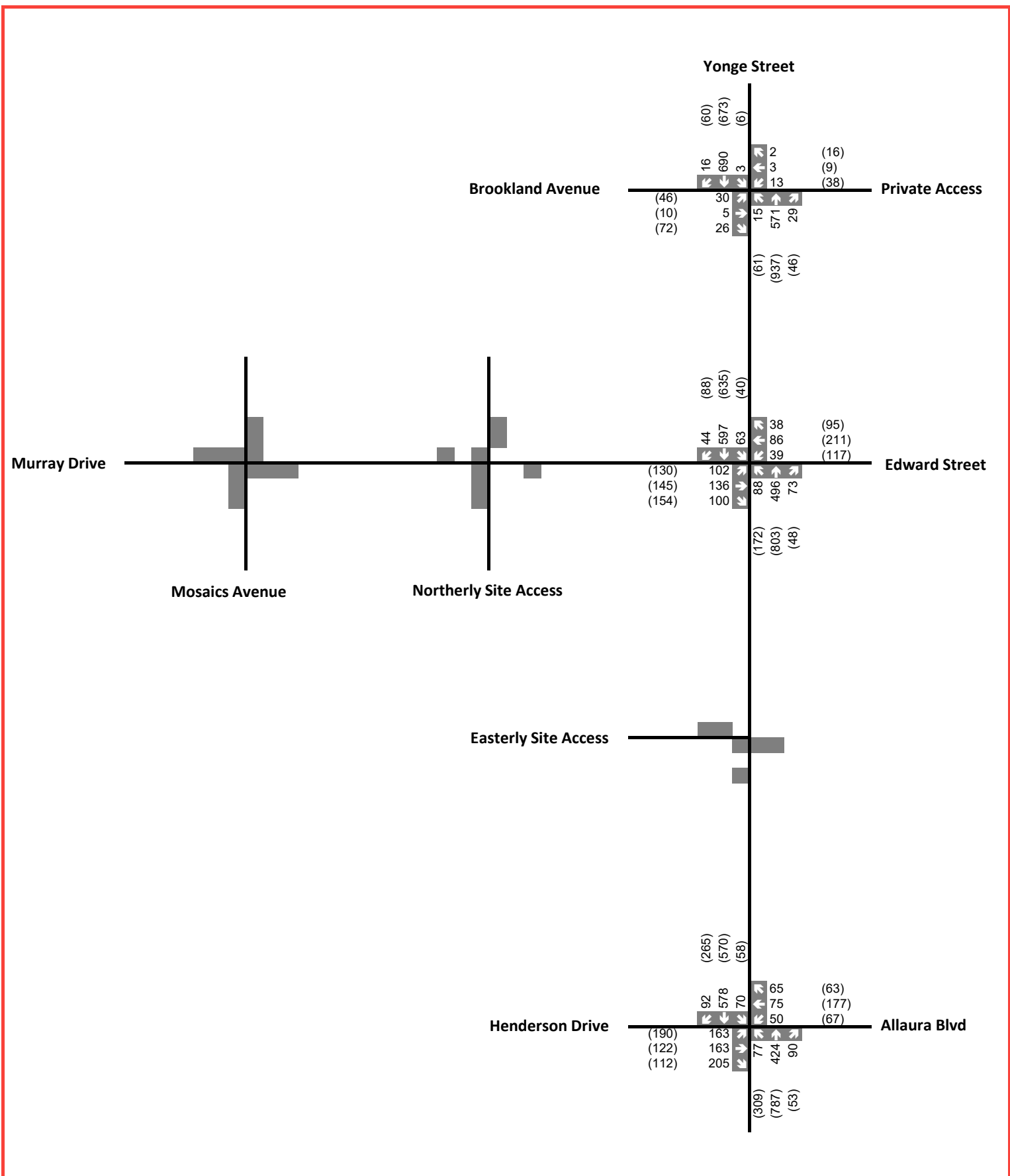
Intersections	Traffic Control Types	TMC Date	Source
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized, 4-legged intersection	June 27 th , 2018	Accu-Traffic Inc.
Yonge Street at Murray Drive/Edward Street	Signalized, 4-legged intersection	June 27 th , 2018	Accu-Traffic Inc.
Yonge Street at Brookland Avenue/Private Access	Signalized, 3-legged intersection	June 27 th , 2018	Accu-Traffic Inc.
Murray Drive at Mosaics Avenue	Unsignalized, 4-legged intersection	Not Available	From first principles (trip generation/assignment & balancing)
Yonge Street at Easterly Site Access	Unsignalized, 3-legged intersection	Not Available	From first principles (trip generation/assignment & balancing)
Murray Drive at Northerly Site Access	Unsignalized, 4-legged intersection	Not Available	From first principles (trip generation/assignment & balancing)

At the unsignalized intersections, the existing turning movements were estimated based on a first-principles approach by considering the number of residential units along Mosaics Avenue and the total GFA of retail space on north and south sides of Murray Drive. At the intersection of Yonge Street at Easterly Site Access, the north-south through volumes along Yonge Street were derived based on the upstream intersection at Yonge Street at Murray Drive/Edward Street, which is adequate since there are no significant trip generators between the two intersections. This intersection will be a key one to analyze since the majority of the site traffic is anticipated to pass through this gateway.

At the intersections of Murray Drive at Northerly Site Access and Murray Drive at Mosaics Avenue, the east-west through volumes along Murray Drive were conservatively balanced with the adjacent signalized intersection of Yonge Street at Murray Drive/Edward Street.

Based on the traffic patterns through the COVID-19 period and ongoing construction along Yonge Street within the study area, it is estimated that there has been no general traffic growth between 2018 and 2021. Therefore, the 2018 traffic volumes will be evaluated to represent the 2021 traffic volumes in this study. The 'Raw and 'Balanced' existing traffic volumes along the study roadways are illustrated in **Figure 2.2** and **Figure 2.3**.

Three of the signal timing plans at the signalized intersections were also extracted from the Town of Aurora Master Transportation Study, by HDR Group, December 2020. These signal timing plans are included in **Appendix B**.



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 2-2
Raw Existing Traffic Volumes

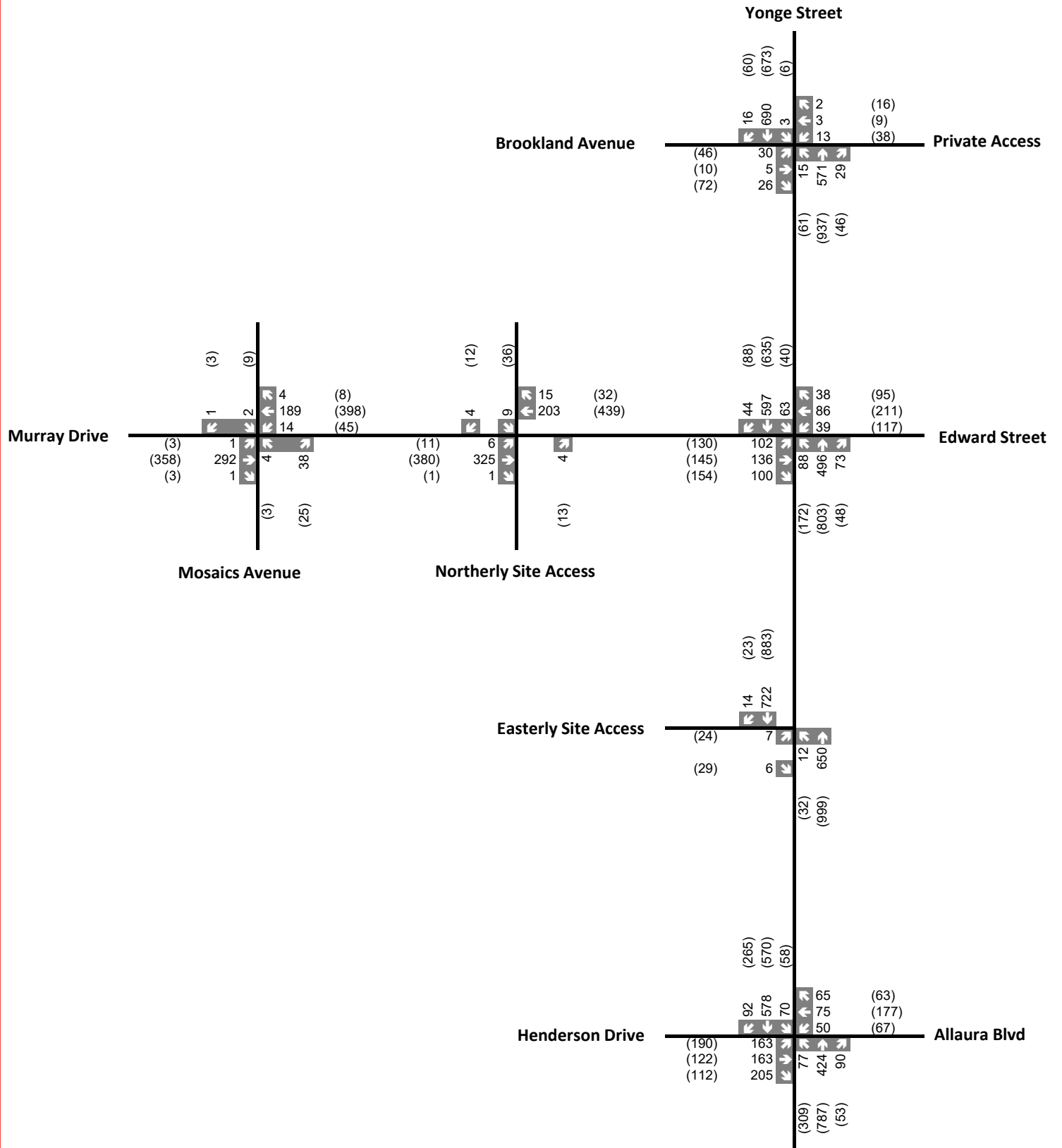


Figure 2-3
Balanced Existing
Traffic Volumes



2.3 EXISTING TRAFFIC OPERATIONS

2.3.1 AUTO TRAFFIC ANALYSIS METHODOLOGY

To analyze existing traffic conditions in the study area, capacity analyses were undertaken using the Synchro 11 traffic analysis software. This software incorporates the methodology outlined in the Highway Capacity Manual (HCM), Transportation Research Board, 2000 and 2010. 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.

The Level of Service definitions for signalized and unsignalized intersections are included in **Appendix C**.

2.3.2 INPUTS AND PARAMETERS

The key Synchro input parameters used in the analysis are listed below:

SATURATION FLOW

The Synchro model has been established based on a saturation flow of 1,900 vehicle/hour/lane (vphpl) to all movements at all intersections.

PEAK HOUR FACTORS

The peak hour factors (PHF) for the study intersections were calculated based on the 15 minute counts and applied since they better reflect the traffic peaking patterns of the intersections. The calculated overall PHF for the weekday a.m. and p.m. peak hour periods are included in **Appendix B**. Moreover, the pedestrian and heavy vehicle parameters are based on traffic counts. A PHF of 0.92 was assumed for the existing driveway intersections as per the Synchro default.

LOSS TIME ADJUSTMENT

Lost Time Adjustment default is zero.

All these parameters are carried forward from the existing conditions to the future assessment to allow for the “Apples to Apples” comparisons.

2.3.3 EXISTING PERFORMANCE ANALYSIS

Traffic operations were analyzed at the study area intersections to determine the existing Levels of Service (LOS) during the weekday a.m. and p.m. peak hours. The operations of the study area intersections were analyzed based on the existing traffic volumes illustrated in Figure 2.3. The movements with a v/c ratio higher than 0.90 or LOS 'E' or worse are shown for the signalized intersection.

Table 2.2 outlines the existing levels of service. Detailed Synchro analysis worksheets are provided in **Appendix D**.

Table 2.2: Existing Intersection Operations

Intersection	Control Type	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Overall LOS (Delay) in Seconds	Critical Movements (v/c)	Overall LOS (Delay) in Seconds	Critical Movements (v/c)
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized ¹	B (15)	-	C (21)	-
Yonge Street at Murray Drive/Edward Street	Signalized	B (13)	-	B (17)	-
Yonge Street at Brookland Avenue/Private Access	Signalized	A (4)	-	A (6)	-
Murray Drive at Mosaics Avenue	Unsignalized ²	B (10)	EB-TR (0.43)	B (14)	WB-TR (0.61)
Yonge Street at Easterly Access	Unsignalized	C (20)	EB-L (0.03)	C (21)	EB-L (0.10)
Murray Drive at Northerly Site Access	Unsignalized	B (13)	SB-TLR (0.03)	C (22)	SB-TLR (0.19)

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 two-way stop controlled intersections, the level of service is based on the delay associated with the critical movement.

The results in Table 2.2 indicate that under the existing conditions, all signalized study intersections operate at an acceptable overall LOS ‘C’ or better during both the weekday a.m. and p.m. peak hours, with all movements operating within capacity.

In addition, each movement within the unsignalized study intersections also operates with acceptable LOS ‘C’ or better during both the weekday a.m. and p.m. peak hours. At the unsignalized intersections along Murray Drive and Yonge Street, delays experienced by the minor streets indicate there are sufficient gaps in the through traffic flow to accommodate turning traffic volumes.

2.3.4 QUEUING ANALYSIS

Queues for the study intersections were also assessed using the Synchro 11 software. **Table 2.3** summarizes queuing at the identified critical movements. For further details, please refer to Appendix D.

Table 2.3: Existing Queuing at Critical Movements

Intersection	Movement	Storage Intersection Spacing (m)	95 th Percentile Queues	
			AM Peak Hour	PM Peak Hour
Yonge Street at Henderson Drive/Allaura Boulevard	NBL	80	13	59
	NBR	75	7	6
	SBL	90	17	19
	SBR	48	6	23
	WBL	35	21	24
	EBL	50	43	43
	EBR	15	16	11
Yonge Street at Murray Drive/Edward Street	NBL	42	8	18
	NBR	40	6	1
	SBL	36	8	12
	SBR	15	1	3
	WBL	40	18	39
	WBR	20	0	12
	EBL	45	31	32
	EBR	30	13	13
Yonge Street at Brookland Avenue/Private Access	NBL	15	2	9
	SBL	15	1	1
	EBR	12	6	13
Murray Drive at Mosaics Avenue	EBL	25	0	0
	WBL	30	0	0
Yonge Street at Easterly Access	NBL	30	1	1
Murray Drive at Northerly Site Access	EBL	35	1	1

The queuing assessment for the existing traffic conditions reveals that none of the 95th percentile queues exceeds the available storage lengths. The detailed Synchro queuing reports are provided in Appendix D.

2.4 PUBLIC TRANSIT

The subject site is served by York Region Transit (YRT) and GO Transit. York Region Transit operates a variety of local bus services, while GO Transit operates regional commuter trains and buses from this location.

2.4.1 REGULAR TRANSIT SERVICE

The subject site is well served by YRT. YRT provides bus service via Routes 32, 428, and 434 travelling east-west and 96, 098E, 98, and 98/99 travelling north-south within the vicinity of the site. VIVA provides bus service via VIVA blue travelling north-south within the vicinity of the site. In addition, the nearby Aurora GO Train Terminal, located approximately 2.2 km north of the proposed development, could be accessed by using local transit. A map of these routes is provided in **Figure 2.4**, and a brief description of each route is provided below:

- **YRT Route 32 (Aurora South)** operates along Henderson Drive/Allaura Boulevard and Murray Drive/Edward Street, generally in an east-west direction between Bathurst Street and Bayview Avenue. Service is available during rush hours between McClellan Way and Wellington Street West, and limited service is available down to Bloomington Road West. It operates with headways of 70 minutes on weekdays peak periods and outside of rush hour. Service is not available on Saturdays. The first stop in the vicinity of the site is on the southwest side of Yonge Street and Murray Drive/Edward Street and is approximately 60 metres in walking distance from the Northerly Site Access. The second stop is on the northeast side of Yonge Street and Murray Drive/Edward Street and is approximately 130 m in walking distance from the Northerly Site Access. There are also two stops on the north and south side of Murray Drive and Mosaics Avenue.
- **YRT Route 428 (Dr. G.W. Williams School Special via Henderson)** operates along Henderson Drive/Allaura Boulevard, generally in an east-west direction between Bathurst Street and Edward Street. As this service is a school special service, it is limited to school days. It operates once a day during the weekday midday periods, and travels in one direction. There is one stop in the vicinity of the site located on the southeast side of Yonge Street and Henderson Drive that is approximately 70 metres in walking distance from the southeast corner of the site.
- **YRT Route 434 (Cardinal Carter School Special via Wellington)** operates along Henderson Drive/Allaura Boulevard and Wellington Street West, generally in an east-west direction between Bathurst Street and Bayview Street. As this service is a school special service, it is limited to school days. It operates once during morning peak periods and once during midday periods, travelling in one direction. Route 434 shares the same stops as Route 428 in the vicinity of the site.
- **YRT Route 96 (Keele-Yonge)** operates along Yonge Street, generally in a north-south direction. Route 96 provides access to both the Newmarket Terminal and Pioneer Village Terminal. Service is available Monday to Saturday. It operates approximately every 30 minutes during the weekday midday periods and every 60 minutes during Saturday midday periods. The first stop in the vicinity of the site is on the northwest side of Yonge Street and Murray Drive/Edward Street and is approximately 100 metres in walking distance from the Northerly Site Access. The second stop is on the southeast side of Yonge Street and Murray Drive/Edward Street and is approximately 120 metres in walking distance from the Northerly Site Access.

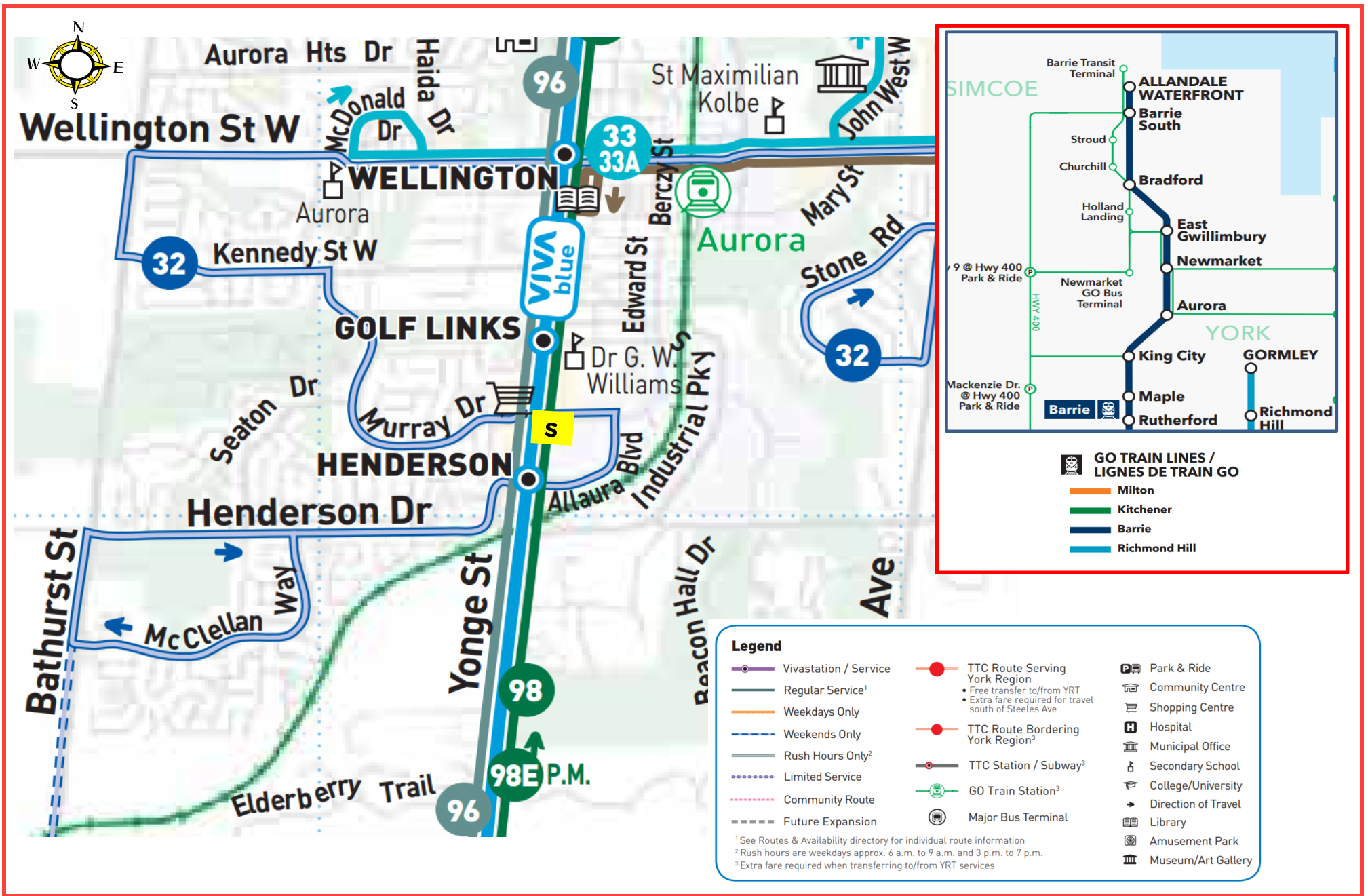
- **YRT Route 98 (Yonge)** operates along Yonge Street, in a north-south direction. Route 98 provides access to both the Newmarket Terminal and Bernard Terminal. Service is available Monday through Sunday, including holidays. This route operates approximately every 50 minutes during the weekday peak periods and every 45 minutes on weekends. Route 98 shares the same stops as Route 96 in the vicinity of the site.
- **YRT Route 98E (Yonge Limited Express)** operates along Yonge Street, in a northbound direction. Route 98E provides access to the Newmarket Terminal and service is available during weekday peak periods. It operates once a day during the peak afternoon period on weekdays. There is one stop in the vicinity of the site that is on the southeast side of Yonge Street and Murray Drive/Edward Street and is approximately 120 metres in walking distance from the Northerly Site Access.
- **YRT Route 98/99 (Yonge/Yonge Late Night)** operates along Yonge Street, in a north-south direction. Route 98/99 provides access to both the Newmarket Terminal and Bernard Terminal. Service is available Monday through Sunday, including holidays. This route operates less frequently, approximately every 35 minutes during the weekday midday periods and 45 minutes on Saturdays. Route 98/99 shares the same stops as Route 96 in the vicinity of the site.
- **Viva Blue (Finch/Richmond Hill/Newmarket)** operates along Yonge Street, in a north-south direction. As part of the YRT rapid bus system, Viva Blue provides access to the Finch GO Bus Terminal and Yonge subway line, Richmond Hill Centre, Bernard Terminal, as well as the Newmarket Terminal. As the main north-south transit route in York Region, service is provided Monday through Sunday, including holidays. It operates with headways of 20 minutes or less at most times of the day. There are two stops at the Yonge Street and Henderson Drive/Allaura Boulevard intersections, and they are located less than 150 metres in walking distance from the subject site.
- The **Barrie GO Train** operates north-south from Allandale Waterfront GO Station to Union GO Station. This route connects the residents of the Town of Aurora to downtown Toronto. The closest station on the line is Aurora GO, which is approximately 2.2 km from the subject site and is accessible by the local 32, 96, or 98 bus routes. The Barrie line offers hourly north-south train services throughout the weekdays and weekends, connecting the Town of Aurora and downtown Toronto year-round. The service frequency makes the Barrie line a popular means of travel for residents in the Town of Aurora during the workdays. This line currently offers seven southbound trains during the a.m. peak period and seven northbound trains during the p.m. peak period. Train service is complemented by bus services at other times of the day on weekdays.

Table 2.4 summarizes the above-noted transit routes, along with their approximate frequencies throughout the service period.

Table 2.4: Existing Transit Services within the Study Area

Route	Transit Service Operating Frequencies			
	A.M. Peak	Weekday Midday	P.M. Peak	Saturday Midday
YRT Route 32	70 min	70 min	70 min	-
YRT Route 96	-	30 min	-	60 min
YRT Route 98	50 min	50 min	50 min	45 min
YRT Route 98-99	-	35 min	-	45 min
Viva Blue	15 min	15 min	15 min	20 min
GO Transit	90 min	60 min	45 min	60 min

The following sections evaluate the existing performance of alternative modes of travel (transit, cycling and walking) based on the Region-preferred multimodal level of service evaluation approach that is defined in the York Region Transportation Mobility Plan Guidelines.



Legend

S Site Location

Figure 2-4

Existing Transit Services

2.4.2 TRANSIT LEVEL OF SERVICE

The analysis of the transit mode is based on current transit services, and no service changes due to COVID-19 have been assumed. The transit level of service criteria is based on the requirements of the Transportation Mobility Plan Guidelines for Development Applications from the Regional Municipality of York. **Table 2.5** summarizes the level of service criteria for the transit mode.

Table 2.5: Transit Level of Service Criteria

Level of Service	Frequency (Transit Headway)	Access to Stops ¹	Intersection Approach	
			Delay (seconds/veh)	Volume/Capacity Ratio
A	≤ 5 minutes	90% within ≤ 200 m	≤ 10	0 to 0.60
B	> 5-10 minutes	90% within ≤ 500 m and 70% within ≤ 200 m	> 10-20	0.61 to 0.70
C	> 10-15 minutes	90% within ≤ 500 m and 50% within ≤ 200 m	> 20-35	0.71 to 0.80
D	> 15-20 minutes	100% within ≤ 600 m	> 35-55	0.81 to 0.90
E	> 20-30 minutes	100 % within ≤ 800 m	> 55-80	0.91 to 1.00
F	≥ 30 minutes	100% > 800 m	> 80	> 1.00

¹ Measured along walkway length and varies per route.

It should be noted that each criterion has its own level of service. For example, a LOS “C” for the transit headway criteria does not necessarily correspond with a LOS “C” for the Access to Stop criteria.

2.4.3 PERFORMANCE ANALYSIS

The performance measures of the current transit routes are detailed in **Table 2.6**. Based on York Region’s multimodal level of service evaluation approach, the level of service was evaluated by the categories of access to transit stops, transit headways and intersection approach delays.

Table 2.6: Existing Transit Level of Service (LOS) for the Subject Site

Transit Stop Location	Direction	Access to Transit Stops	Transit Headways		Intersection Approach Transit or Curb Lanes			
			LOS		Delay		V/C	
		AM	PM	AM	PM	AM	PM	
Yonge Street & Henderson Drive/Allaura Boulevard	Northbound	C	C	C	A	A	A	A
	Southbound	C	C	C	A	A	A	A
	Eastbound	D	F	F	A	A	A	A
	Westbound	D	F	F	D	D	A	C
Yonge Street at Murray Drive/Edward Street	Northbound	A	C	C	A	A	A	A
	Southbound	A	C	C	A	A	A	A
	Eastbound	A	F	F	A	A	A	A
	Westbound	A	F	F	A	A	A	A
Yonge Street at Brookland Avenue/Private Access	Southbound	D	C	C	A	A	A	A
Mosaics Avenue and Murray Drive	Eastbound	A	F	F	B	B	A	A
	Westbound	A	F	F	A	B	A	B

The performance evaluation of the existing transit mode indicates that:

- 1 There are several transit stops located within 200 metres of the site, and others located within approximately 600 metres. The Region’s target of LOS C or better for access to transit stops is met for the immediate region surrounding the site.
- 2 The Region’s target of LOS D or better is met for all intersection approaches at all near-side stops.
- 3 Bus stops along Murray Drive have lower LOS than the Region’s target of C for transit headways due to the low operating frequency of transit routes. The subsequent longer wait times are considered LOS “F” due to the operating frequencies being over 30 minutes. However, it should be noted that transit schedules are likely to be utilized by transit riders in order to optimize their own travel. For example, consider a rider who knows it takes a 5 minute walk to reach the transit stop close to a shopping centre that operates at a 70 minute frequency. They will likely leave the residential 10 minutes prior to the scheduled departure for a minimized wait time at the transit stop. More importantly, the riderhip and transit demand is much lower on these bus routes along minor roads compared to transit services along Yonge Street. Hence, the large majority of transit users in the area experience the LOS C or better.

2.5 ACTIVE TRANSPORTATION INFRASTRUCTURE

Pedestrian sidewalks are provided on both sides along Yonge Street, Henderson Drive, Murray Drive, and portions of Edward Street. Sidewalks are also provided on one side along Allaura Boulevard, Edward Street, and Brookland Avenue. A buffer is available between most sidewalks and the study roadways. There are existing shared roadway facilities for cycling along Henderson Drive/Allaura Boulevard, and Murray Drive/Edward Street as per the York Region Cycling Map.

Figure 2.5 illustrates local active transportation infrastructure within the proximity of the study area.

2.5.1 ACTIVE MODE LEVEL OF SERVICE

The pedestrian and bicycle level of service criteria is based on the requirements of the York Region Transportation Mobility Plan Guidelines for Development Applications. Table 2.7 summarizes the level of service criteria for the active transportation mode.

Table 2.7: Pedestrian Level of Service Criteria

Level of Service	Pedestrians		Bicycles	
	Segment	Intersection	Segment	Intersection
A	≥2.0 m sidewalk with minimum 3.5 m buffer including planting and edge zone; or ≥3.0 m multi-use path	≥2.0 m sidewalk with minimum 3.5 m buffer including planting and edge zone; or ≥3.0 m multi-use path Pedestrian signal head with sufficient pedestrian clearance time Clearly delineated cross-walk	Separated cycling facilities (e.g. cycle tracks, multi-use path)	Separated cycling facilities Bicycle box or clearly delineated bicycle treatment or bicycle signal head
B	≥1.5 m sidewalk with minimum 1.0 m buffer including edge zone; or <3.0 m multi-use path	≥1.5 m sidewalk with minimum 1.0 m buffer including edge zone; or <3.0 m multi-use path Pedestrian signal head with sufficient pedestrian clearance time Clearly delineated cross-walk	≥1.8 m dedicated cycling facilities (e.g. bicycle lanes with and without buffer)	>1.8 m dedicated cycling facilities (e.g. bicycle lanes with and without buffer), Bicycle box, clearly delineated bicycle treatment or bicycle signal head
C	≥1.5 m curb-faced sidewalk (no buffer)	≥1.5 m curb-faced sidewalk (no buffer) Pedestrian signal head with sufficient pedestrian clearance time Clearly delineated cross-walk	<1.8 m dedicated cycling facilities with no buffer	<1.8 m dedicated cycling facilities with no buffer, Bicycle box, clearly delineated bicycle treatment or bicycle signal head
D	<1.5 m sidewalk	<1.5 m sidewalk Pedestrian signal head sufficient pedestrian clearance time No clearly delineated crosswalk	≤1.5 m bicycle lane with no buffer	≤1.5 m bicycle lane and no buffer Bicycle treatment
E	Paved shoulder or no sidewalk provision	Paved shoulder or no sidewalk provision No pedestrian signal head No clearly delineated cross-walk	Shared facilities (e.g. signed routes, sharrows or paved shoulder with minimum 1.2 m in constrained area)	Shared facilities (e.g. signed routes, sharrows or paved shoulder with minimum 1.2 m in constrained area) No clearly delineated bicycle treatment
F	No sidewalk provision	No sidewalk provision No pedestrian signal head Not clearly delineated cross-walk	No bicycle provision	No bicycle provision

2.5.2 PERFORMANCE ANALYSIS

Table 2.8 illustrates the corresponding Level of Services for the active transportation modes within the study area.

Table 2.8: Cycling Mode Levels of Service, Existing Conditions

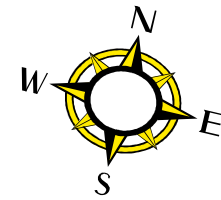
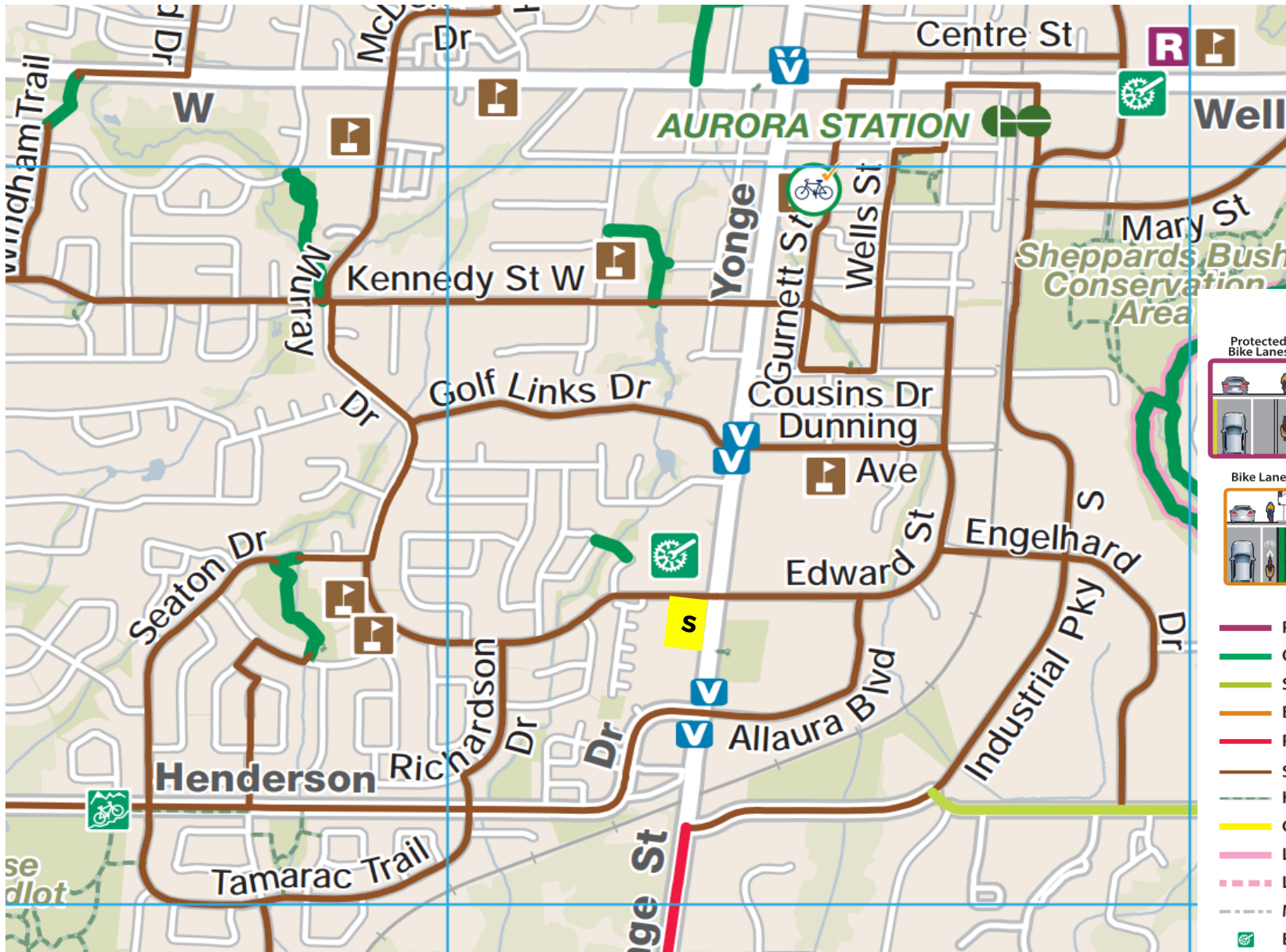
Intersection	Direction	Description	Pedestrians		Bicycles	
			Segment LOS	Intersection LOS	Segment LOS	Intersection LOS
Yonge Street at Henderson Drive/Allaura Boulevard	Northbound	Yonge Street	C	C	F	F
	Southbound	Yonge Street	C	C	F	F
	Eastbound	Henderson Drive	B	C	E	F
	Westbound	Allaura Boulevard	F	C	E	F
Yonge Street at Murray Drive/Edward Street	Northbound	Yonge Street	B	C	F	F
	Southbound	Yonge Street	B	C	F	F
	Eastbound	Murray Drive	B	C	E	E
	Westbound	Edward Street	B	C	E	E
Yonge Street at Brookland Avenue/Private Access	Northbound	Yonge Street	C	C	F	F
	Southbound	Yonge Street	C	C	F	F
	Eastbound	Brookland Avenue	C	C	F	F
	Westbound	Private Road	F	C	F	F
Yonge Street at Easterly Site Access	Northbound	Yonge Street	B	E	F	F
	Southbound	Yonge Street	B	E	F	F
	Eastbound	Easterly Site Access	C	F	N/A	
Murray Drive at Mosaics Avenue	Northbound	Mosaics Avenue	C	F	F	F
	Southbound	Plaza Access	F	C	F	F
	Eastbound	Murray Drive	B	E	E	E
	Westbound	Murray Drive	B	E	E	E
Murray Drive at Northerly Site Access	Northbound	Northerly Site Access	A	F	N/A	
	Southbound	Plaza Access	F	F	N/A	
	Eastbound	Murray Drive	B	E	E	E
	Westbound	Murray Drive	B	E	E	E

Notes: N/A – not applicable.

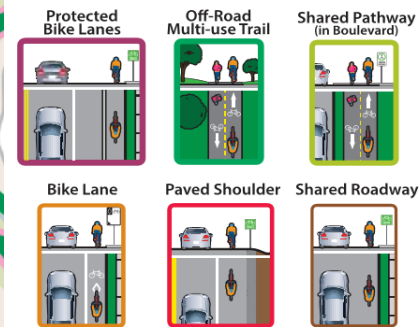
As noted in Table 2.8, the performance evaluation of the existing pedestrian facilities indicates that the study area has relatively good levels of service for pedestrian infrastructure and the Region's targets of LOS C or better are met at most locations along regional and local roads. The following considerations should be noted:














- Allaura Boulevard has no sidewalk or buffer (LOS F) on the northside east of Yonge Street.
- Brookland Avenue has no sidewalk or buffer (LOS F) on the northside west of Yonge Street.

The performance evaluation of the existing cycling mode indicates that the Region's target of LOS C or better is not met for cycling facilities, because there are minimal provisions for bicycle infrastructure. There are existing shared roadway facilities for cycling provided along Henderson Drive/Allaura Boulevard, and Murray Drive/Edward Street. However, Yonge Street does not provide any roadway facilities for cycling which subsequently limits provisions at the majority of the study intersections.



LEGEND



-  Protected Bike Lanes
-  Off-Road Multi-use Trail
-  Shared Pathway in Boulevard
-  Bike Lane
-  Paved Shoulder
-  Shared Roadway
-  Hiking Trail
-  Greenbelt Route
-  Lake to Lake Route (existing)
-  Lake to Lake Route (proposed)
-  Municipal Boundary
-  Bike Shop
-  Bike Repair Stations



Legend

-  Site Location

Figure 2-5
Existing Active

Transportation Facilities

3 FUTURE BACKGROUND TRAFFIC CONDITIONS

3.1 TIME FRAME

The subject development is proposed to be developed in two phases with full build-out occurring within ten years. Therefore, a five-year (2026) horizon representing Phase 1 (southern parcel), and a ten-year build-out horizon (2031) representing Phase 2 (northern parcel) have been evaluated for future traffic assessments. In addition, the horizon year 2036 has also been evaluated to represent the five-year post build-out horizon. As said, the following horizons have been evaluated along with the phasing density anticipated for each horizon:

- 2026: build-out of Phase 1 (southern parcel) of the development
- 2031: build-out of Phase 2 (northern parcel) of the development
- 2036: a five-year horizon after opening year of full build-out of Phases 1 & 2)

3.2 BACKGROUND CORRIDOR TRAFFIC GROWTH

To determine the general growth in traffic for the study area, we compared the link volumes of 2018 TMCs at the intersection of Yonge Street at Henderson Drive/Allaura Boulevard to the 2011 TMCs at the intersection of Yonge Street at Industrial Parkway. Based on this information, Yonge Street experienced positive +1.3% to negative -3.3% annual growth between 2011 and 2018. Nonetheless, traffic volumes along Yonge Street north of Hwy 7 are expected to grow by 1.0% to 1.5% annually based on the forecasted 2021 and 2031 link volumes from the York Region’s Travel Demand Forecasting EMME AM peak hour model, (source: 9750 Yonge Street TIS, February 2021). **Table 3.1** provides the corridor growth rates along Yonge Street, which were derived from the EMME model. To be conservative we have applied the growth rates in Table 3.1 to all through movements along Yonge Street. This is consistent with the transportation study for 9750 Yonge Street development. Detailed growth rate calculations can be found in **Appendix E**.

Table 3.1: Corridor Future Traffic Growth

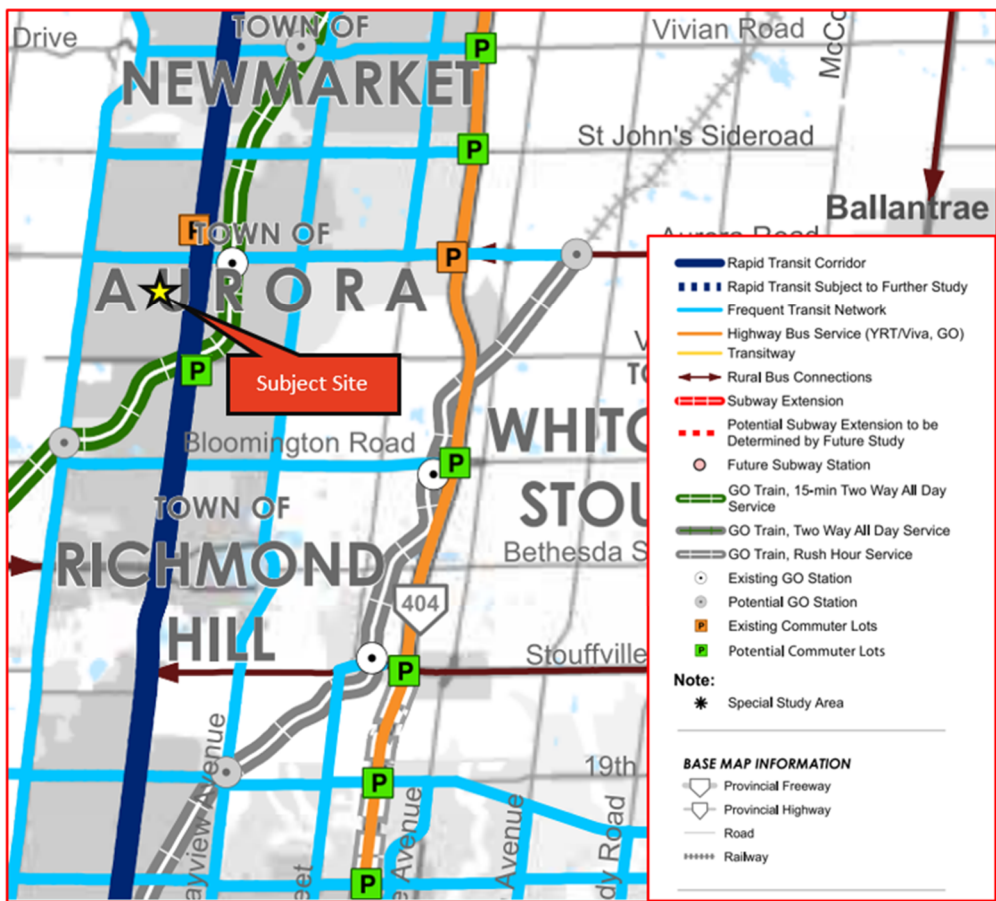
Corridor	Direction	Compound Annual Growth Rate %	
		AM Peak Hour	PM Peak Hour
Yonge Street	Northbound	1.5%	1.0%
	Southbound	1.0%	1.5%

3.3 PLANNED TRANSPORTATION NETWORK

Based on the York Region 2016 TMP, as shown in **Figure 3.1**, the following are proposed transit improvements within the study area:

- York Region plans to improve the Viva Rapid Transit (RT) Corridor along Yonge Street, bound by Gamble Road/19th Avenue to the south and Mulock Drive to the north. The recommendation is to develop a dedicated rapidway along Yonge Street by widening the RT Corridor. However, this improvement will not affect the subject site since the site being situated in downtown Aurora. Viva Transit will continue to travel along Yonge Street within downtown Aurora as a curbside service and not as a dedicated rapidway.
- Metrolinx plans on improving service along the Barrie corridor between Aurora GO and Union Station. The improvement will provide service in 15-minute increments for both northbound and southbound directions. This level of service is planned to be provided daily throughout the week, including evenings and weekends. A recent addition to the Richmond Hill corridor is the Bloomington GO station, located at Bloomington Avenue and Bathurst Street in the Town of Aurora. This GO Station is presently under construction and will likely open in 2021. The addition of this GO Station will likely increase ridership and promote travel within and outside the town.

Figure 3.1: York Region 2041 Transit Network

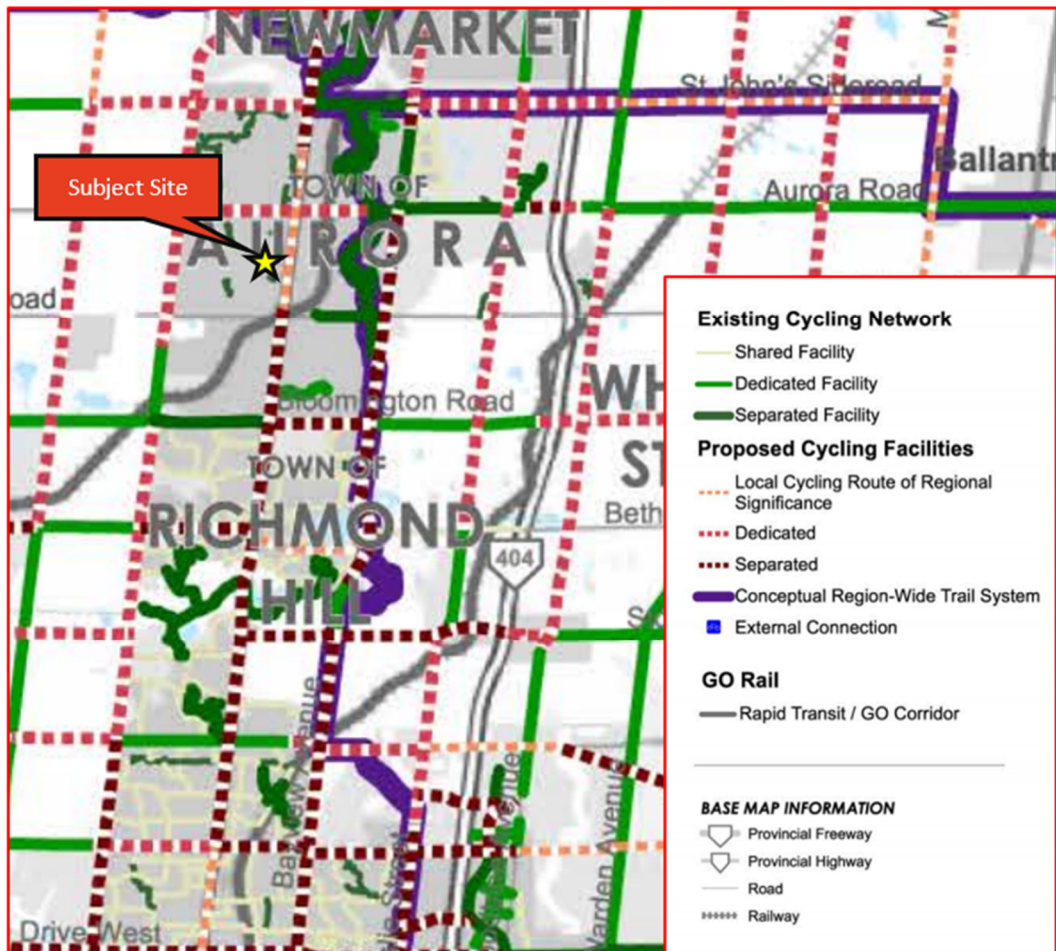


Source: York Region 2016 Transportation Master Plan (Map 7)

3.4 PLANNED ACTIVE TRANSPORTATION NETWORK

Improvements to the existing cycling network have been planned for 2041 as per the York Region Transportation Master Plan (TMP) 2016. Future proposed separated cycling facilities are displayed in **Figure 3.2**. The proposed addition of bike lanes along Yonge Street improves access to local amenities and public transit.

Figure 3.2: York Region 2041 Cycling Network



Source: York Region 2016 Transportation Master Plan (Map 10)

3.5 BACKGROUND NETWORK IMPROVEMENTS

There are no planned changes or improvements to the study area transportation network for 2026, 2031 and 2036 horizons, therefore, the future background road network is assumed to remain the same as existing conditions (Figure 2.1).

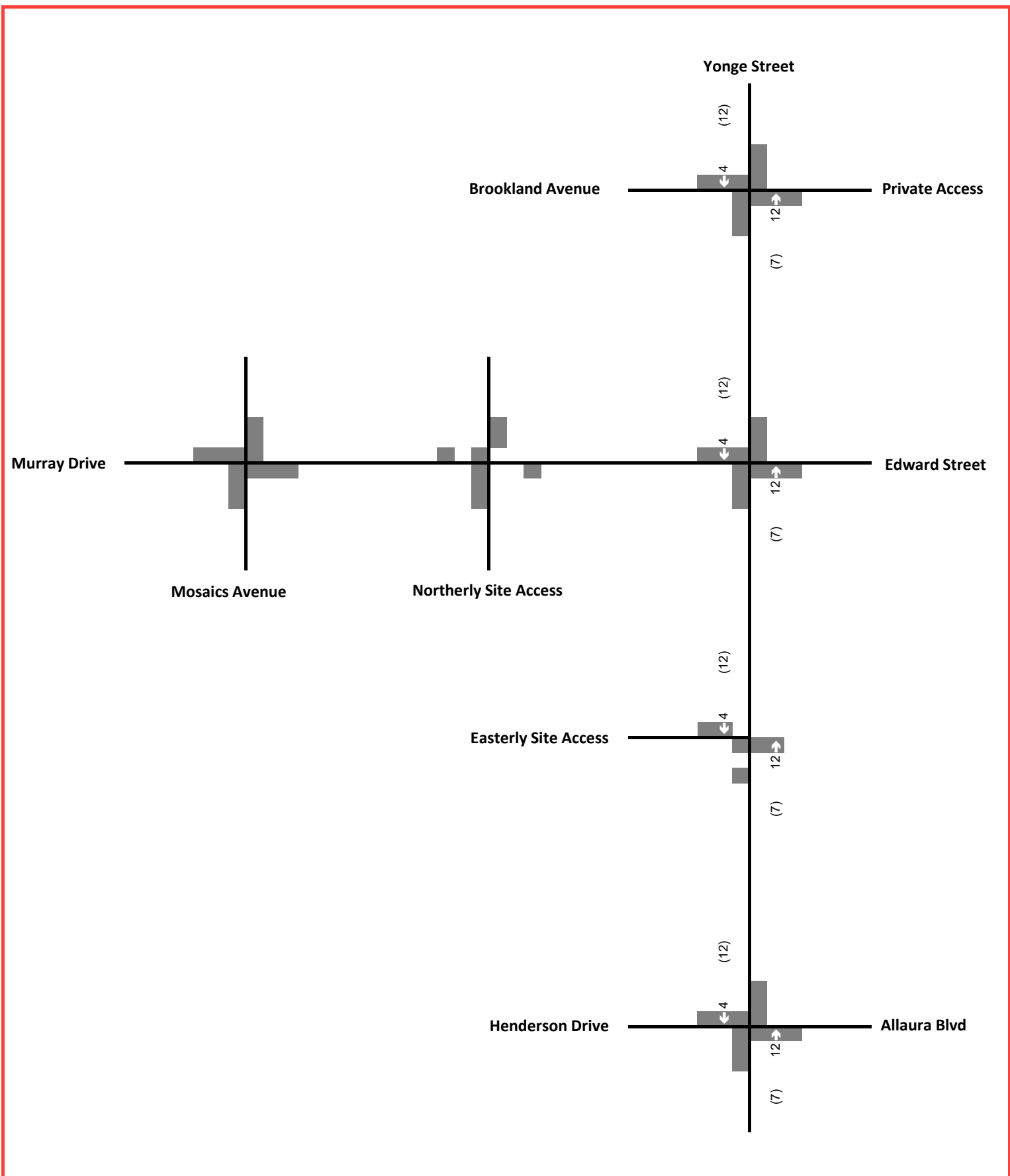
3.6 TRAFFIC INCREASES RELATED TO OTHER DEVELOPMENTS

In addition to the general future growth, two background developments were identified within the vicinity of the study area as per discussions with Town transportation staff, documented in **Appendix A. Table 3.2** provides the list of background developments along with the proposed statistics, and information source at which they are considered.

Table 3.2: Background Developments

Development	Development Characteristics	Traffic Volume Source
14288 Yonge Street – Frattaroli Lands	11 single-family detached houses	TIS completed by COLE Engineering, November 2013
14029 Yonge Street	27 single-family detached houses	TIS completed by Dormer Hill Inc., November 2016

The site-generated traffic related to the above background developments were extracted directly from their respective TIS' which are provided in **Appendix F. Figure 3.3** illustrates the traffic volumes associated with these two background developments.



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 3-3
Background Development Traffic Volumes

3.7 FUTURE BACKGROUND TRAFFIC OPERATIONS

The 2026, 2031 and 2036 future background traffic volumes were developed by superimposing the background development traffic volumes shown in Figure 3.3 and the general traffic growth onto the existing traffic volumes in Figure 2.3. The resulting 2026, 2031 and 2036 future background peak hour traffic volumes are presented in **Figure 3.4**, **Figure 3.5** and **Figure 3.6**, respectively.

3.7.1 INTERSECTION OPERATIONS

The parameters used to assess existing conditions have been applied to future conditions as well, to provide an “apples to apples” comparison. The 2026, 2031 and 2035 future background traffic conditions are summarized in **Table 3.3**. Detailed Synchro capacity sheets are included in **Appendix G**.

Table 3.3: Future Background Intersection Operations

Intersection	Control Type	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Overall LOS (Delay) in Seconds	Critical Movements (v/c)	Overall LOS (Delay) in Seconds	Critical Movements (v/c)
Horizon Year 2026					
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized ¹	B (14)	-	C (26)	-
Yonge Street at Murray Drive/Edward Street	Signalized	B (13)	-	B (17)	-
Yonge Street at Brookland Avenue/Private Access	Signalized	A (4)	-	A (6)	-
Murray Drive at Mosaics Avenue	Unsignalized ²	B (10)	EB-TR (0.43)	B (14)	WB-TR (0.61)
Yonge Street at Easterly Access	Unsignalized	C (20)	EB-L (0.03)	C (23)	EB-L (0.12)
Murray Drive at Northerly Site Access	Unsignalized	B (13)	SB-TLR (0.03)	C (22)	SB-TLR (0.19)
Horizon Year 2031					
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized	B (14)	-	C (27)	-
Yonge Street at Murray Drive/Edward Street	Signalized	B (13)	-	B (17)	-
Yonge Street at Brookland Avenue/Private Access	Signalized	A (4)	-	A (6)	-
Murray Drive at Mosaics Avenue	Unsignalized	B (10)	EB-TR (0.43)	B (14)	WB-TR (0.61)
Yonge Street at Easterly Access	Unsignalized	C (21)	EB-L (0.03)	C (24)	EB-L (0.12)

Murray Drive at Northerly Site Access	Unsignalized	B (13)	SB-TLR (0.03)	C (22)	SB-TLR (0.19)
Horizon Year 2036					
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized	B (14)	-	C (27)	-
Yonge Street at Murray Drive/Edward Street	Signalized	B (14)	-	B (17)	-
Yonge Street at Brookland Avenue/Private Access	Signalized	A (4)	-	A (6)	-
Murray Drive at Mosaics Avenue	Unsignalized	B (10)	EB-TR (0.43)	B (14)	WB-TR (0.61)
Yonge Street at Easterly Access	Unsignalized	C (22)	EB-L (0.04)	D (26)	EB-L (0.13)
Murray Drive at Northerly Site Access	Unsignalized	B (13)	SB-TLR (0.03)	C (22)	SB-TLR (0.19)

- 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 two-way stop controlled intersections, the level of service is based on the delay associated with the critical movement.

As can be seen in Table 3.3, with the application of general traffic growth along the roadways and the inclusion of the two background developments, all of the signalized intersections continue to operate at acceptable levels of service 'C' or better under 2026, 2031 and 2036 future background conditions. In addition, all of the movements at the signalized intersections forecast to operate within capacity during the weekday a.m., and p.m. peak hours.

Under the future background conditions, the unsignalized intersection of Yonge Street at Easterly Access will generally be busier than under the existing conditions, with slightly longer delays for the minor-street movements and higher v/c ratios. However, all of the movements at this intersection are expected to operate within capacity.

The future background conditions will be used as the baseline for evaluating the impact of the proposed development.

3.7.2 QUEUING ANALYSIS

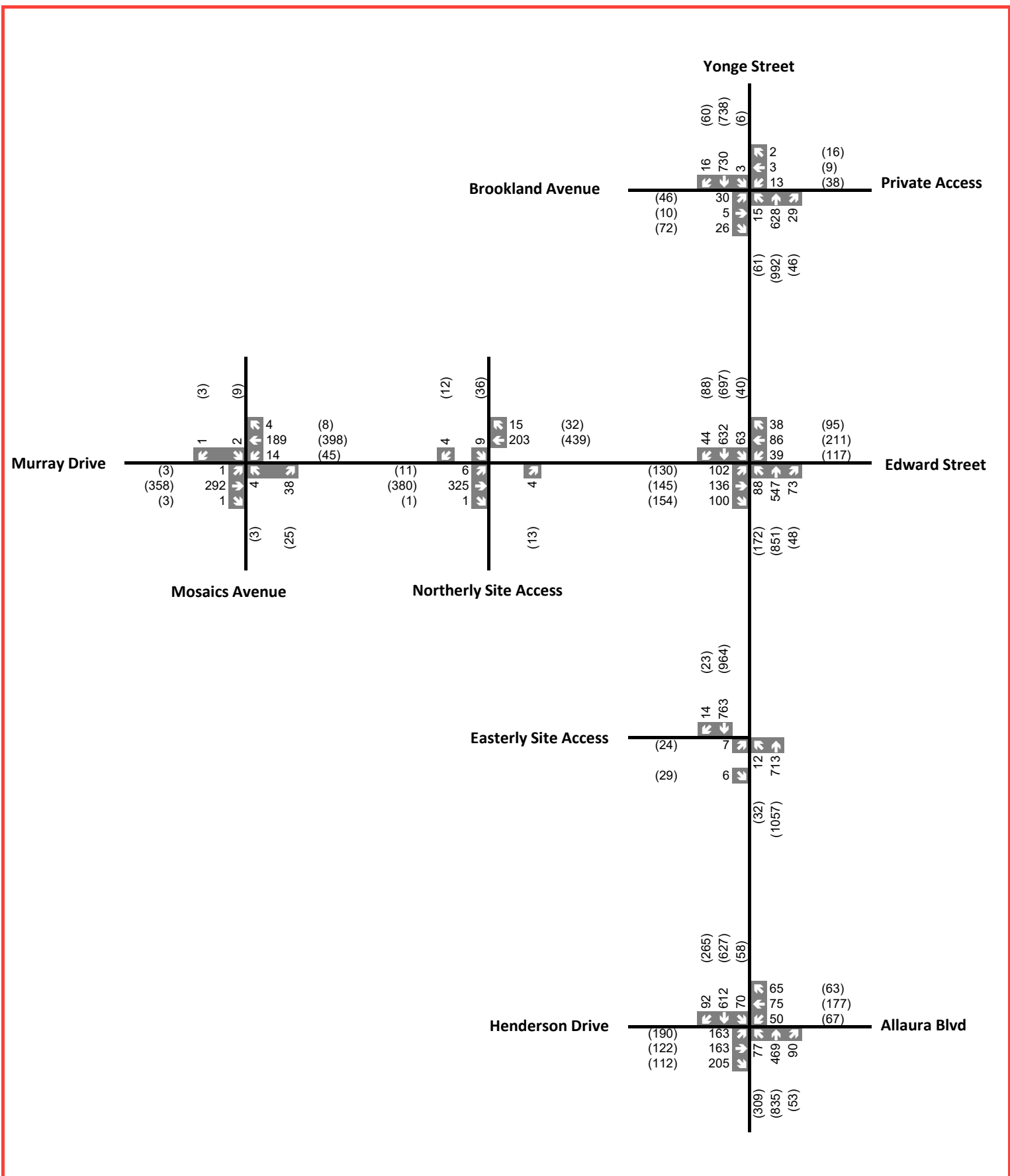
The queuing results from the Synchro model were also summarized for exclusive movements with storage lanes to determine whether the currently available storage lengths can accommodate the forecasted future background queues. A summary of the 95th percentile queues is provided in **Table 3.4**. The movements with 95th percentile queues forecasted to exceed the available storage lengths are highlighted in red and the 50th percentile queues are also listed for these movements. Queues for all movements can be found in the Synchro output sheets, which are provided in **Appendix G**.

Table 3.4: Future Background Queuing at Critical Movements

Intersection	Movement	Storage Intersection Spacing (m)	95 th Percentile Queues (50 th Percentile Queues)	
			AM Peak Hour	PM Peak Hour
Horizon Year 2026				
Yonge Street at Henderson Drive/Allaura Boulevard	NBL	80	13	55
	NBR	75	7	5
	SBL	90	16	27
	SBR	48	4	52 (25)
	WBL	35	21	24
	EBL	50	43	45
	EBR	15	16	11
Yonge Street at Murray Drive/Edward Street	NBL	42	12	15
	NBR	40	7	1
	SBL	36	8	16
	SBR	15	1	12
	WBL	40	18	39
	WBR	20	0	12
	EBL	45	30	33
	EBR	30	12	14
Yonge Street at Brookland Avenue/Private Access	NBL	15	2	11
	SBL	15	1	1
	EBR	12	6	13
Murray Drive at Mosaics Avenue	EBL	25	0	0
	WBL	30	0	0
Yonge Street at Easterly Access	NBL	30	1	1
Murray Drive at Northerly Site Access	EBL	35	1	1
Horizon Year 2031				
Yonge Street at Henderson Drive/Allaura Boulevard	NBL	80	13	55
	NBR	75	7	5
	SBL	90	16	27
	SBR	48	4	54 (25)
	WBL	35	21	24
	EBL	50	43	45
	EBR	15	16	11
Yonge Street at Murray Drive/Edward Street	NBL	42	12	14
	NBR	40	8	1
	SBL	36	8	16
	SBR	15	1	11

Intersection	Movement	Storage Intersection Spacing (m)	95 th Percentile Queues (50 th Percentile Queues)	
			AM Peak Hour	PM Peak Hour
	WBL	40	18	39
	WBR	20	0	12
	EBL	45	30	33
	EBR	30	12	14
Yonge Street at Brookland Avenue/Private Access	NBL	15	2	12
	SBL	15	1	1
	EBR	12	6	13
Murray Drive at Mosaics Avenue	EBL	25	0	0
	WBL	30	0	0
Yonge Street at Easterly Access	NBL	30	1	1
Murray Drive at Northerly Site Access	EBL	35	1	1
Horizon Year 2036				
Yonge Street at Henderson Drive/Allaura Boulevard	NBL	80	13	59
	NBR	75	7	5
	SBL	90	15	26
	SBR	48	3	56 (27)
	WBL	35	21	24
	EBL	50	43	45
	EBR	15	16	11
Yonge Street at Murray Drive/Edward Street	NBL	42	13	14
	NBR	40	9	1
	SBL	36	8	16
	SBR	15	1	10
	WBL	40	18	39
	WBR	20	0	12
	EBL	45	30	33
	EBR	30	12	14
Yonge Street at Brookland Avenue/Private Access	NBL	15	2	12
	SBL	15	1	1
	EBR	12	6	13
Murray Drive at Mosaics Avenue	EBL	25	0	0
	WBL	30	0	0
Yonge Street at Easterly Access	NBL	30	1	1
Murray Drive at Northerly Site Access	EBL	35	1	1

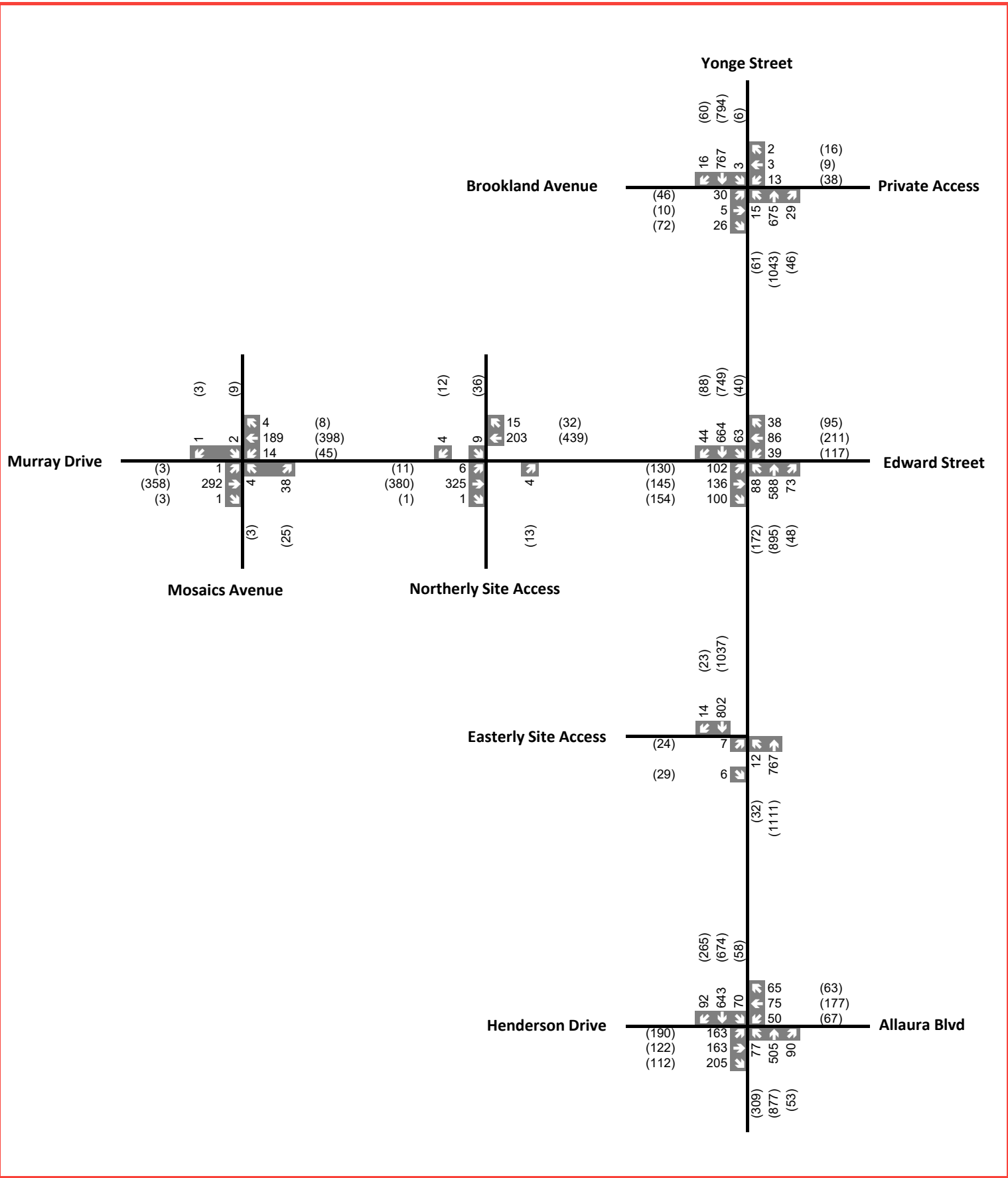
As can be seen in **Table 3.4**, under 2026, 2031 and 2036 future background conditions, the 95th percentile queues are expected not to exceed the available storage lengths at all intersections, with the exception of the queue at the southbound right-turn lane on Yonge Street at Henderson Drive/Allaura Boulevard which exceeds the storage length by a few meters during the weekday p.m. peak hour. However, the 50th percentile queues at this movement can be accommodated well within the available storage lengths.



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

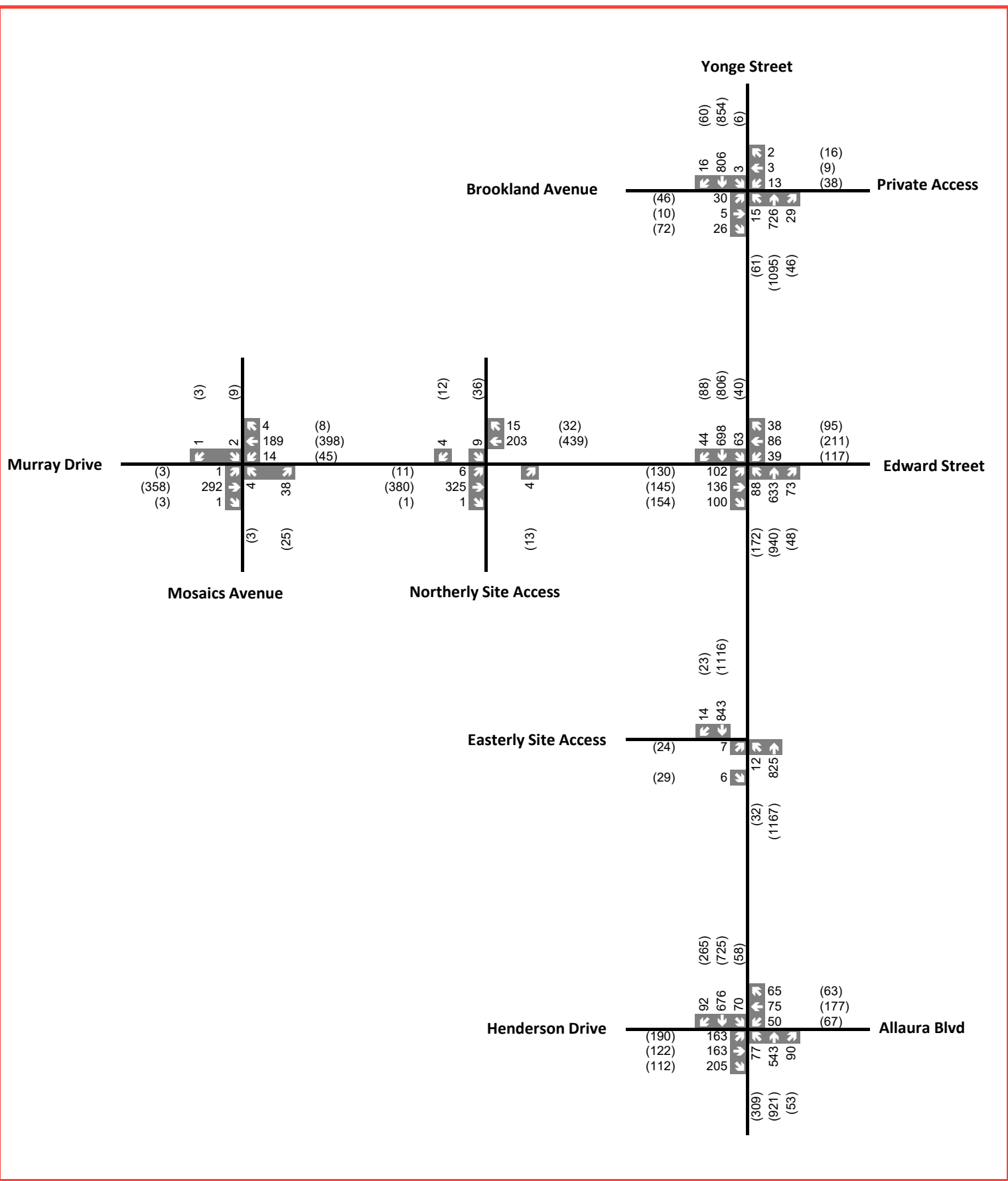
Figure 3-4
2026 Future Background Traffic Volumes



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 3-5
2031 Future Background Traffic Volumes



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 3-6
2036 Future Background Traffic Volumes

4 SITE GENERATED TRAFFIC

4.1 AREA TRAVEL CHARACTERISTICS

Modal split data info for home-based trips from the 2016 Transportation Tomorrow Survey (TTS) was reviewed to understand the proportion of trips within the study area that are non-auto modes including transit, cycling and walking during the weekday a.m. and p.m. peak periods. The TTS zones 2254 and 2561 were chosen and applied to determine transportation patterns within the study area.

The peak directional modal split percentages were derived and are presented in **Table 4.1**. For further details regarding the development of these modal splits, please refer to **Appendix H**.

Table 4.1: Mode Split Characteristics

Travel Mode	Modal Split Percentage			
	A.M. Peak Hour		P.M. Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Auto – Driver	62%	70%	76%	73%
Auto – Passenger	18%	11%	11%	12%
Transit	14%	10%	5%	8%
Walking and Cycling	6%	8%	8%	7%
Non-Auto Total	20%	18%	13%	15%

Table 4.1 shows that the non-auto modal split ranges from 13% to 20% during the weekday peak hours. The resulting non-auto modal splits have been applied to the auto trip generation for the proposed development. It should be also noted that the modal split reduction was not applied for retail trips.

This non-auto modal split for the proposed development is likely understated considering that the proposed development is located much closer to transit stops along Yonge Street than the majority of developments in the surrogate area. Additionally, these modal splits do not account for the future Viva Rapid Transit improvements and TDM measures that will be in place in the future. Hence, the utilization of the existing modal splits for the TTC Zone 2254 and 2561 represents a conservative approach to determine future auto trips to be generated by the proposed development.

4.2 TRIP GENERATION

The vehicle trips generated by the proposed development during the weekday a.m. and p.m. peak hours were estimated using the trip generation rates outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Land Use codes 221 (Multifamily Housing (Mid-Rise) - General Urban/Suburban) was used to estimate the number of auto trips generated during the weekday a.m. and p.m. peak hours.

It is expected that ancillary retail use will primarily serve the proposed residential use. Hence, the ancillary retail component is not anticipated to generate new vehicle trips. However, the trip generation estimate was developed for the retail component based on the ITE trip generation rates for Shopping Centre use.

The use of the shopping centre land use is conservative for the proposed retail component since the ground floor location and magnitude will generate a substantial portion of walk-in trips from the proposed residential use and neighbourhood or pass-by trips of those already driving in the road network. The trip generation rates applied for the different land uses are summarized in **Table 4.2**.

Table 4.2: Rates and Equations

Land Use (Code)	Independent Variable	Rate / Equation			
		Weekday A.M. Peak Hour		Weekday P.M. Peak Hour	
		Inbound	Outbound	Inbound	Outbound
Multifamily Housing (Mid-Rise)-General Urban/Suburban (221)	Equation (x = residential units)	Ln(T) = 0.98 Ln (X) - 0.98		Ln (T) = 0.96 Ln (X) - 0.63	
	Directional Split	26%	74%	61%	39%
Shopping Centre (820)	Equation (x = per 1000 ft ²)	T = 0.5X + 151.78		Ln(T) = 0.74 Ln (X) + 2.89	
	Directional Split	62%	38%	48%	52%

Retail developments typically attract a portion of their trips from traffic passing the site on the way from an origin to an ultimate destination. In these cases, vehicles entering the site are already travelling on adjacent roadways that pass by the site. For the purpose of this study, pass-by trips have not been applied, which is conservative.

A summary of the trip generation for Phase 1 of the development (southern parcel) is provided in **Table 4.3** and the trip generation for Phase 1 and 2 (full built-out) of the development is provided in **Table 4.4**. The trip generation has been estimated based on the ITE Trip Generation rates and the non-auto modal split derived in Table 4.1.

Table 4.3: Site Generated Vehicle Trips for Phase 1 (2026 Horizon)

Land Use	Parameter	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Residential Mid-Rise Housing (480 Units)	Auto Trips	45	128	173	129	82	211
	Modal Split Reduction	(9)	(23)	(32)	(17)	(12)	(29)
	New Trips	36	105	141	112	70	182
Shopping Centre (6650 ft²)	Auto Trips	4	2	6	12	13	25
	New Trips	4	2	6	12	13	25
Total Net Trips		40	107	147	124	83	207

Phase 1 of the development is projected to generate a total of 147 vehicle trips during the a.m. peak hour and 207 vehicle trips during the p.m. peak hour.

Table 4.4: Site Generated Vehicle Trips for Phase 1 & 2 - Built Out Horizon (2031 & 2036)

Land Use	Parameter	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Residential Mid-Rise Housing (900 Units)	Auto Trips	84	240	324	242	154	396
	Modal Split Reduction	(17)	(43)	(60)	(32)	(23)	(54)
	New Trips	67	197	264	211	131	342
Shopping Centre (6650 ft ²)	Auto Trips	4	2	6	12	13	25
	New Trips	4	2	6	12	13	25
Total Net Trips		71	199	270	223	144	367

Based on **Table 4.4**, full built-out (Phase 1 and 2) of the proposed development is expected to generate a total of 270 vehicle trips during the a.m. peak hour and 367 vehicle trips during the p.m. peak hour.

4.3 TRIP DISTRIBUTION AND ASSIGNMENT

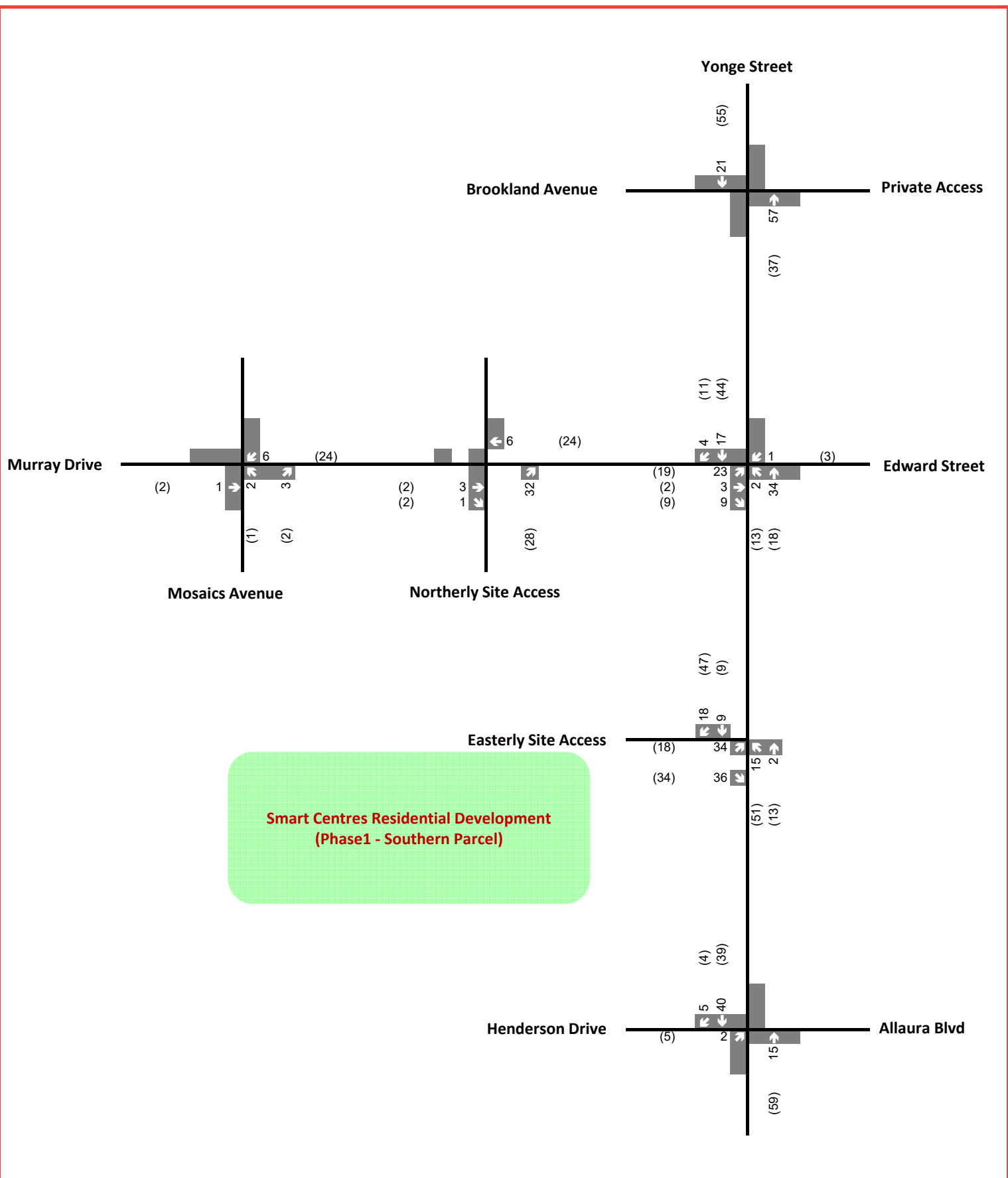
Trip distribution data for home-based trips in Traffic Analysis Zones 2554 and 2561 from TTS data were reviewed to determine the development traffic distribution. **Table 4.5** outlines the resulting TTS trip distribution. The detailed TTS queries are provided in **Appendix H**.

Table 4.5: Site Traffic Analysis Zone Trip Distribution

Direction	Weekday A.M. Peak Hour	Weekday P.M. Peak Hour
Northwest	1%	1%
North	27%	25%
Northeast	24%	17%
East	6%	5%
Southeast	6%	8%
South	24%	32%
Southwest	3%	5%
West	9%	8%
Total	100%	100%

The site-generated auto traffic assignments were developed based on the driveway arrangements, the trip distribution information in **Table 4.5** and the most logical path for vehicles to travel in order to minimize travel time and distance.

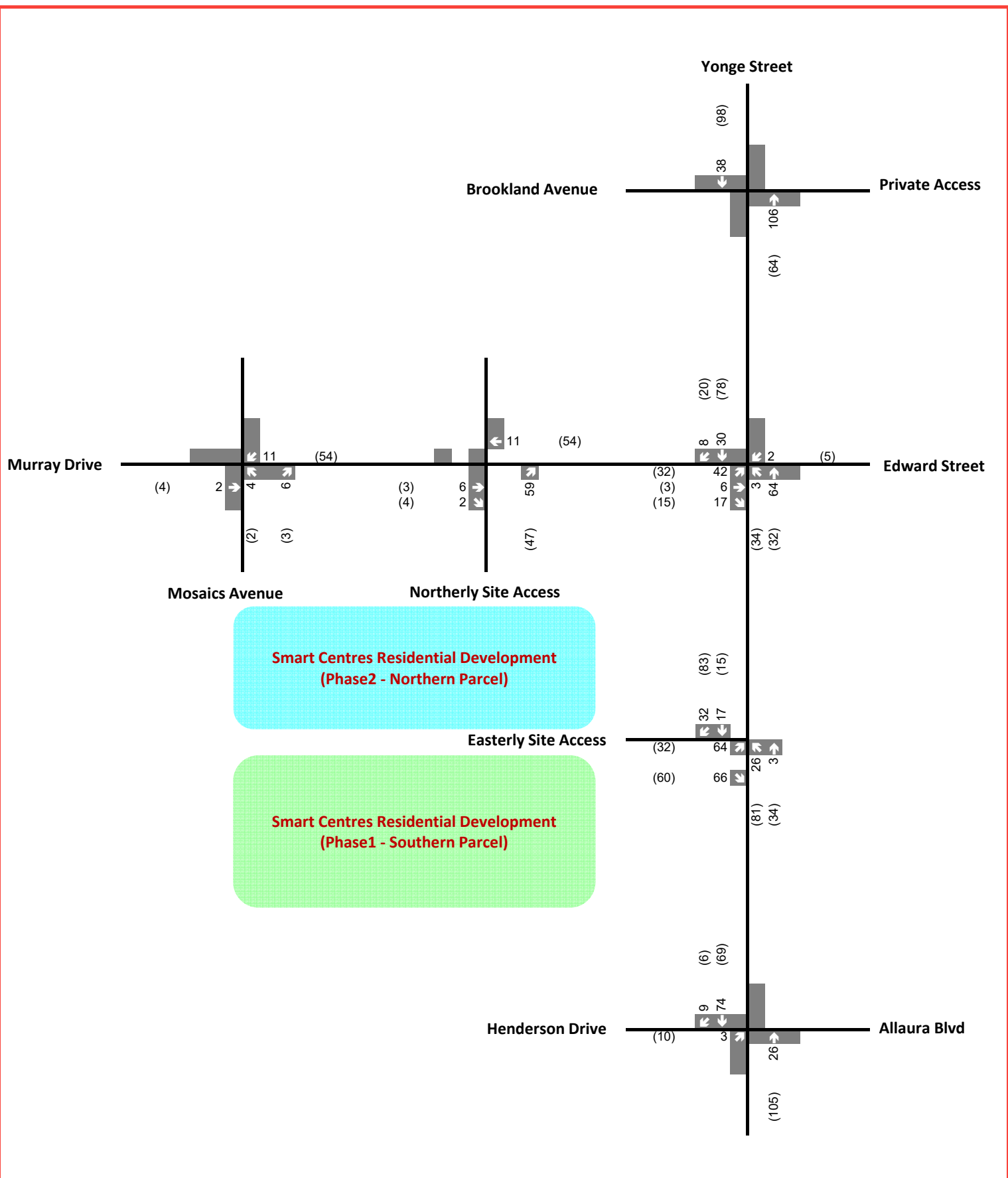
Figure 4.1 and **Figure 4.2** illustrate the resulting traffic assignment boundary road network for Phase 1 (2026) and full built-out (2031 & 2036), respectively.



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 4-1
Site-Generated Traffic Volumes (Phase 1)



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 4-2
Site-Generated Traffic Volumes (Phase 1&2)

5 TOTAL FUTURE TRAFFIC CONDITIONS

5.1 TOTAL FUTURE TRAFFIC OPERATIONS

The 2026 total future traffic volumes were estimated by superimposing the site-generated traffic volumes for Phase 1 illustrated in Figure 4.1 onto the future background traffic volumes illustrated in Figure 3.4. The resulting 2026 total future traffic volumes are illustrated in **Figure 5.1**.

The 2031 and 2036 total future traffic volumes were calculated by aggregating the site generated site generated traffic volumes for Phase 1 and 2 (Figure 4.2) to the 2031 and 2036 future background traffic volumes (Figure 3.5 and Figure 3.6), and subtracting the trips generated by the existing commercial use of the northern parcel of the proposed development (**Figure 5.2**). The resulting 2031 and 2036 total future traffic volumes are illustrated in **Figure 5.3** and **Figure 5.4**, respectively.

5.1.1 INTERSECTION OPERATIONS

The total future traffic operations at the study intersections were analyzed based on the total future traffic forecasts. The resulting levels of service are outlined in Table 5.1. Detailed Synchro worksheets are available in **Appendix I**.

Table 5.1: Total Future Intersection Operations

Intersection	Control Type	Weekday AM Peak Hour		Weekday PM Peak Hour	
		Overall LOS (Delay) in Seconds	Critical Movements (v/c)	Overall LOS (Delay) in Seconds	Critical Movements (v/c)
Horizon Year 2026					
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized ¹	B (14)	-	C (26)	-
Yonge Street at Murray Drive/Edward Street	Signalized	B (14)	-	B (18)	-
Yonge Street at Brookland Avenue/Private Access	Signalized	A (4)	-	A (6)	-
Murray Drive at Mosaics Avenue	Unsignalized ²	B (10)	EB-TR (0.43)	B (14)	WB-TR (0.61)
Yonge Street at Easterly Access	Unsignalized	C (25)	EB-L (0.2)	D (32)	EB-L (0.26)
Murray Drive at Northerly Site Access	Unsignalized	B (14)	SB-TLR (0.03)	D (25)	SB-TLR (0.23)

Horizon Year 2031					
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized	B (14)	-	C (27)	-
Yonge Street at Murray Drive/Edward Street	Signalized	B (14)	-	B (18)	-
Yonge Street at Brookland Avenue/Private Access	Signalized	A (4)	-	A (6)	-
Murray Drive at Mosaics Avenue	Unsignalized	B (10)	EB-TR (0.43)	B (14)	WB-TR (0.61)
Yonge Street at Easterly Access	Unsignalized	D (30)	EB-L (0.33)	D (32)	EB-L (0.21)
Murray Drive at Northerly Site Access	Unsignalized	B (14)	SB-TLR (0.04)	D (27)	SB-TLR (0.24)
Horizon Year 2036					
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized	B (14)	-	C (28)	-
Yonge Street at Murray Drive/Edward Street	Signalized	B (14)	-	B (18)	-
Yonge Street at Brookland Avenue/Private Access	Signalized	A (4)	-	A (6)	-
Murray Drive at Mosaics Avenue	Unsignalized	B (10)	EB-TR (0.43)	B (14)	WB-TR (0.61)
Yonge Street at Easterly Access	Unsignalized	D (32)	EB-L (0.35)	D (35)	EB-L (0.23)
Murray Drive at Northerly Site Access	Unsignalized	B (14)	SB-TLR (0.04)	D (27)	SB-TLR (0.24)

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 0.85.

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

The results presented in Table 5.1 show that with the addition of the site-generated traffic for phase 1 and phase 2, all of the signalized intersections continue to operate at an acceptable LOS “C” or better under 2026, 2031 and 2036 total future conditions. In addition, all of the movements at the signalized intersections are expected to operate within capacity during the weekday a.m., and p.m. peak hours. Compared to the future background conditions, site trips generated by the proposed development have resulted in a maximum increase in average intersection delay of 1 second per vehicle during both the weekday a.m. and p.m. peak hours, at the signalized intersections.

Similar to future background conditions, all of the minor-street stop-controlled movements at the unsignalized study intersections are projected to operate at an acceptable overall LOS ‘D’ or better during the weekday a.m. and p.m. peak hours. Based on 2026, 2031 and 2036 total future intersection evaluations, the proposed development can be readily accommodated by the future background road network. Based on these results, no additional roadway improvements are required to accommodate the traffic generated from the proposed development.

5.1.2 QUEUING ANALYSIS

Queuing for 2026, 2031 and 2036 total future was predicted at key movements within the study area intersections. A summary of the 95th percentile queues is provided **Table 5.2**. The movements with 95th percentile queues forecasted to exceed the available storage lengths are highlighted in red and the 50th percentile queues are also listed for these movements. Queues for all movements can be found in the Synchro output sheets, which are provided in **Appendix I**.

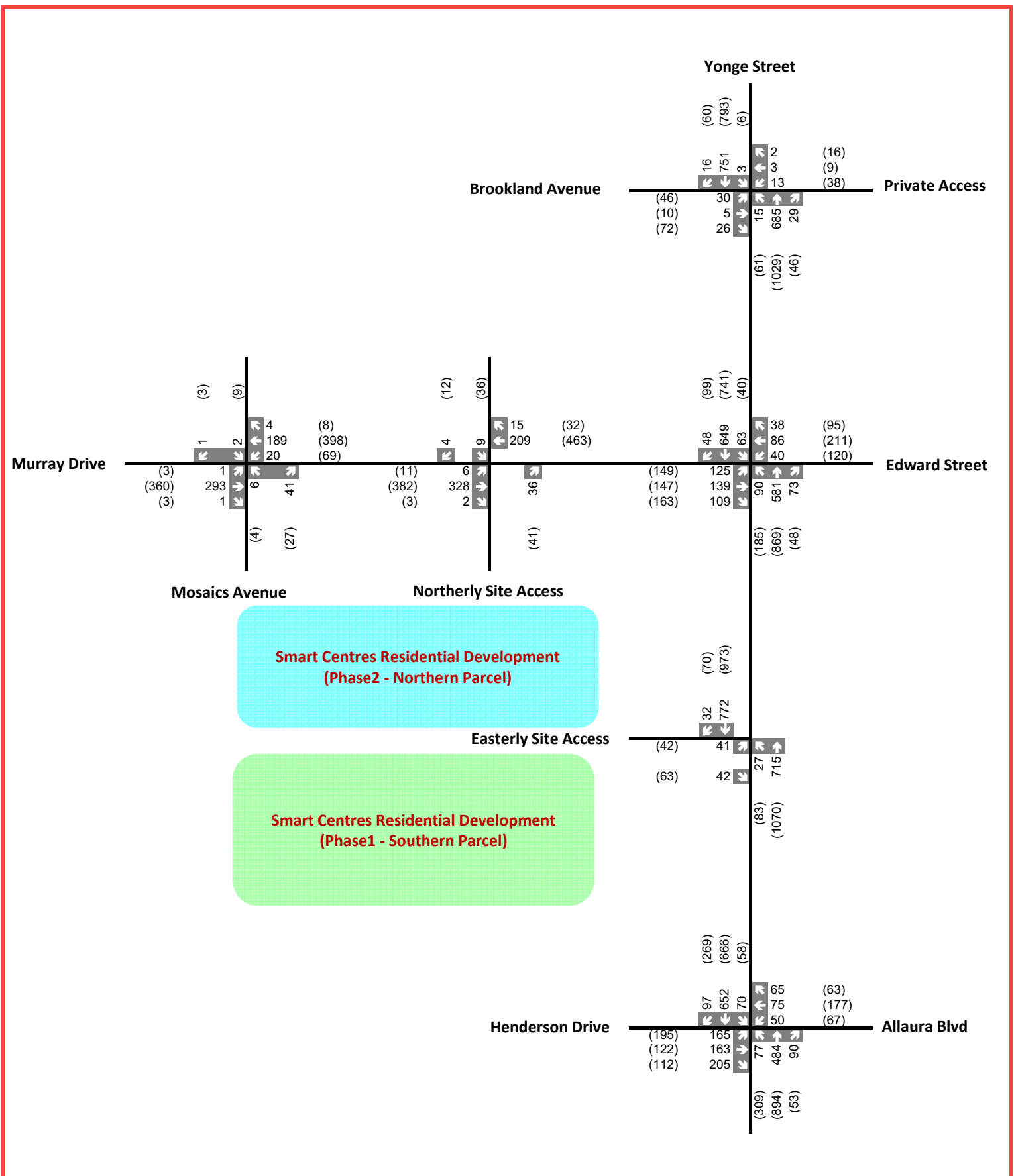
Table 5.2: Total Future Queuing at Critical Movements

Intersection	Movement	Storage Intersection Spacing (m)	95 th Percentile Queues (50 th Percentile Queues)	
			AM Peak Hour	PM Peak Hour
Horizon Year 2026				
Yonge Street at Henderson Drive/Allaura Boulevard	NBL	80	13	55
	NBR	75	7	5
	SBL	90	16	27
	SBR	48	4	54 (25)
	WBL	35	21	24
	EBL	50	43	46
	EBR	15	16	11
Yonge Street at Murray Drive/Edward Street	NBL	42	12	16
	NBR	40	8	1
	SBL	36	8	16
	SBR	15	1	13
	WBL	40	18	40
	WBR	20	0	12
	EBL	45	36	37
Yonge Street at Brookland Avenue/Private Access	NBL	15	2	11
	SBL	15	1	1
	EBR	12	6	13
Murray Drive at Mosaics Avenue	EBL	25	0	0
	WBL	30	0	0
Yonge Street at Easterly Access	NBL	30	1	4
Murray Drive at Northerly Site Access	EBL	35	1	1
Horizon Year 2031				
Yonge Street at Henderson Drive/Allaura Boulevard	NBL	80	13	57
	NBR	75	7	5
	SBL	90	16	26

Intersection	Movement	Storage Intersection Spacing (m)	95 th Percentile Queues (50 th Percentile Queues)	
			AM Peak Hour	PM Peak Hour
	SBR	48	3	56 (27)
	WBL	35	21	24
	EBL	50	43	47
	EBR	15	16	11
Yonge Street at Murray Drive/Edward Street	NBL	42	13	16
	NBR	40	8	1
	SBL	36	8	16
	SBR	15	1	13
	WBL	40	18	41
	WBR	20	0	12
	EBL	45	40	39
	EBR	30	13	14
Yonge Street at Brookland Avenue/Private Access	NBL	15	2	11
	SBL	15	1	1
	EBR	12	6	13
Murray Drive at Mosaics Avenue	EBL	25	0	0
	WBL	30	0	0
Yonge Street at Easterly Access	NBL	30	1	4
Murray Drive at Northerly Site Access	EBL	35	1	1
Horizon Year 2036				
Yonge Street at Henderson Drive/Allaura Boulevard	NBL	80	13	65
	NBR	75	7	5
	SBL	90	15	25
	SBR	48	3	58 (29)
	WBL	35	21	24
	EBL	50	43	47
	EBR	15	16	11
Yonge Street at Murray Drive/Edward Street	NBL	42	14	16
	NBR	40	9	1
	SBL	36	8	16
	SBR	15	1	12
	WBL	40	18	41
	WBR	20	0	12
	EBL	45	40	39
	EBR	30	13	14
	NBL	15	2	12

Intersection	Movement	Storage Intersection Spacing (m)	95 th Percentile Queues (50 th Percentile Queues)	
			AM Peak Hour	PM Peak Hour
Yonge Street at Brookland Avenue/Private Access	SBL	15	1	1
	EBR	12	6	14
Murray Drive at Mosaics Avenue	EBL	25	0	0
	WBL	30	0	0
Yonge Street at Easterly Access	NBL	30	1	4
Murray Drive at Northerly Site Access	EBL	35	1	1

As can be seen in Table 5.2, under 2026, 2031 and 2036 total future conditions, the 95th percentile queues are expected not to exceed the available storage lengths at all intersections. Similar to future background conditions, the only exception continues to be the queue at the southbound right-turn lane on Yonge Street at Henderson Drive/Allaura Boulevard during the weekday p.m. peak hour. However, the 50th percentile queues at this movement can be accommodated well within the available storage lengths.

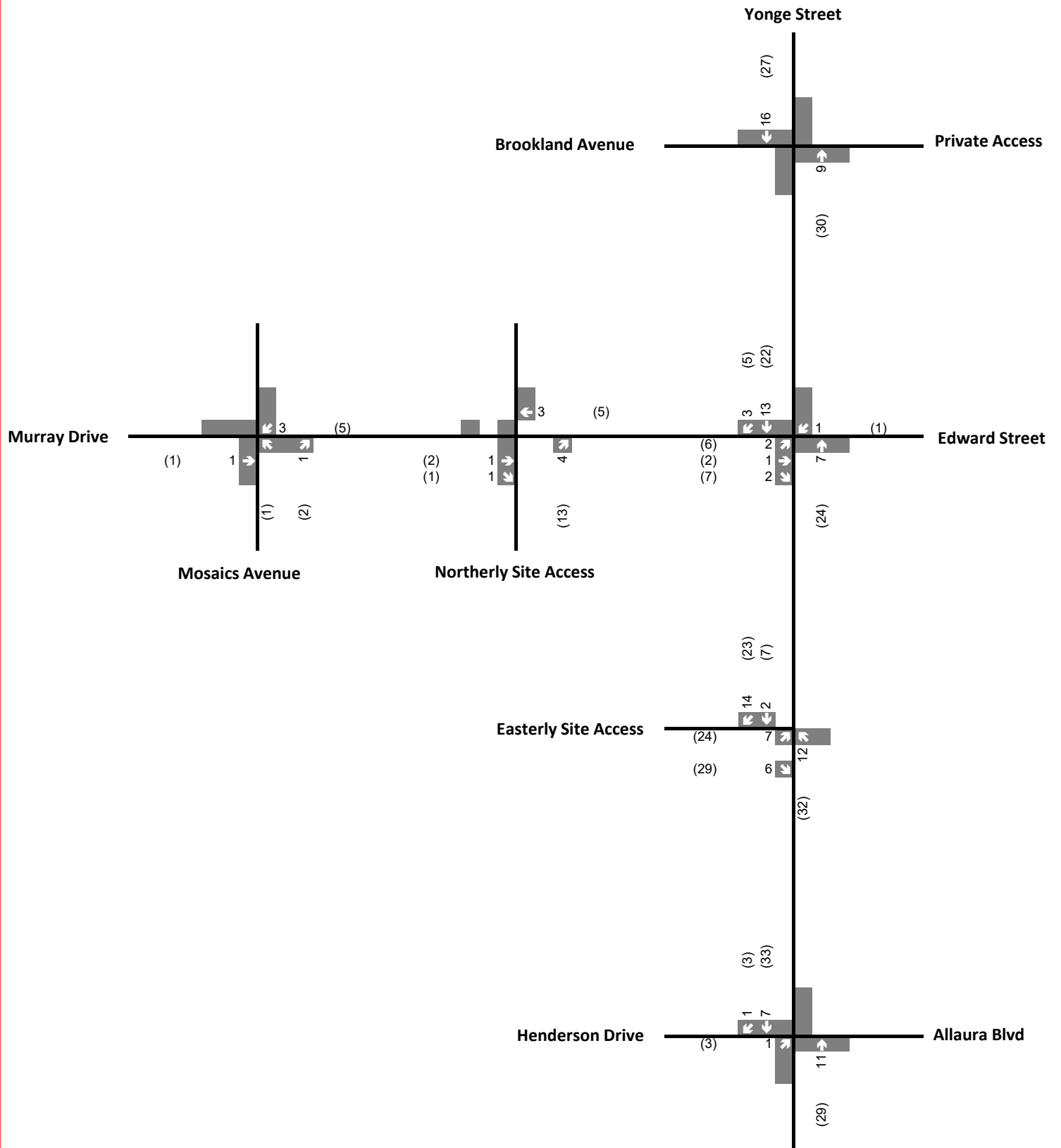


Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 5-1

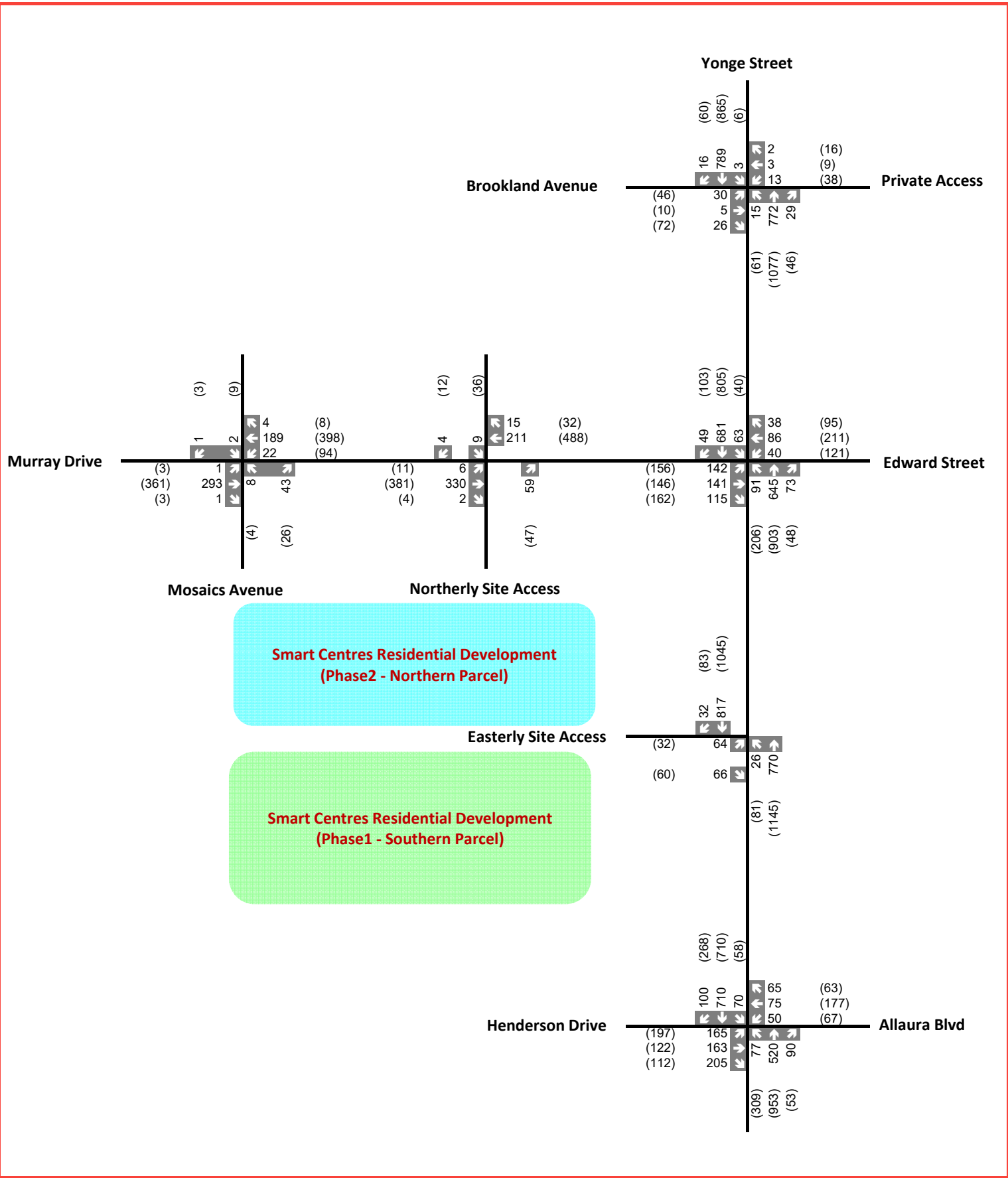
2026 Total Future Traffic Volumes (With Phase 1)



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 5-2
Removal Existing Traffic Volumes (Northern Parcel)



Legend

xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes

Figure 5-3
2031 Total Future Traffic Volumes (With Phase 1&2)

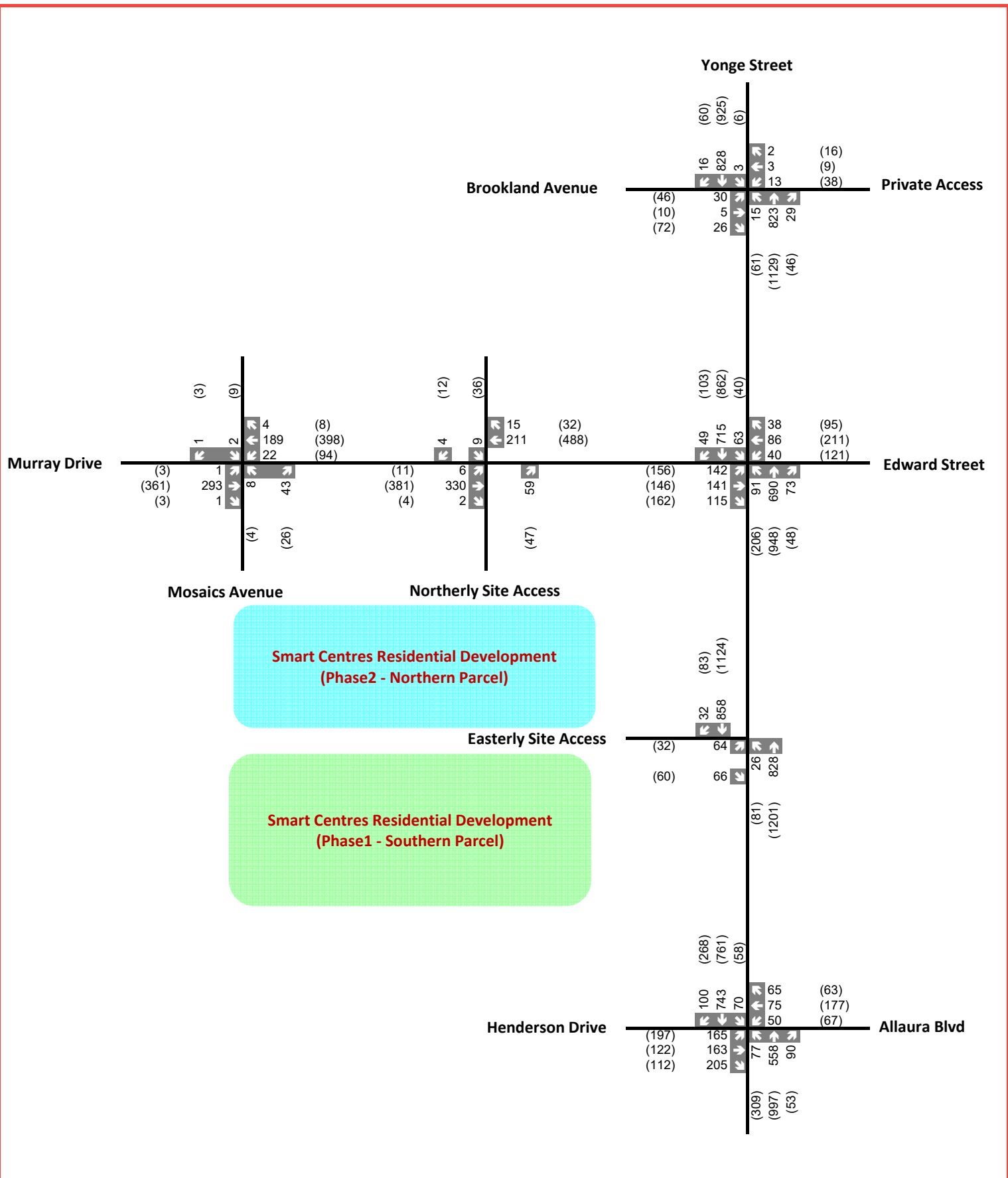


Figure 5-4
2036 Total Future Traffic Volumes
(With Phase 1&2)

5.2 FUTURE TRANSIT LEVEL OF SERVICE

Descriptions of future transit service expansion near the site are provided in Section 3.2. For the purpose of this assessment, the 2036 total future transit levels of services based on the total future intersection results shown in Table 5.1 are shown in **Table 5.3**. Based on York Region’s multimodal level of service evaluation approach, the level of service was evaluated by the categories of access to transit stops, transit headways and intersection approach delays.

Table 5.3: Transit Level of Service (LOS) for the Subject Site (2036 Horizon Year)

Transit Stop Location	Direction	Access to Transit Stops	Transit Headways		Intersection Approach Transit or Curb Lanes			
			LOS		Delay		V/C	
		AM	PM	AM	PM	AM	PM	
Yonge Street & Henderson Drive/Allaura Boulevard	Northbound	C	C	C	A	A	A	A
	Southbound	C	C	C	A	C	A	A
	Eastbound	D	F	F	A	A	A	A
	Westbound	D	F	F	D	D	A	C
Yonge Street at Murray Drive/Edward Street	Northbound	A	C	C	A	A	A	A
	Southbound	A	C	C	A	A	A	A
	Eastbound	A	F	F	A	A	A	A
	Westbound	A	F	F	A	A	A	A
Yonge Street at Brookland Avenue/Private Access	Southbound	D	C	C	A	A	A	A
Mosaics Avenue and Murray Drive	Eastbound	A	F	F	B	B	A	A
	Westbound	A	F	F	A	B	A	B

The performance evaluation of the 2036 total future transit mode indicates that:

- 1 As indicated in the table above, no changes from existing conditions are expected in the categories of access to the transit stops and transit headways.
- 2 The subject site will be served local transit services, where the Region’s target of LOS D or better will be met at most of the study intersections along Yonge Street where transit stops are available.
- 3 The Region’s target of LOS D or better for is met for all intersection approaches at all near-side stops.

5.3 ACTIVE TRANSPORTATION LEVEL OF SERVICE

The evaluation of the pedestrian and cycling facilities under the future 2036 conditions is provided in **Table 5.4**, and was conducted based on the York Region’s multimodal level of service evaluation approach. Descriptions of future active transportation service expansion near the site are provided in Section 3.2.

Table 5.4: Active Transportation Level of Service Criteria for the Subject Site

Intersection	Direction	Description	Pedestrians		Bicycles	
			Segment LOS	Intersection LOS	Segment LOS	Intersection LOS
Yonge Street at Henderson Drive/Allaura Boulevard	Northbound	Yonge Street	C	C	F	F
	Southbound	Yonge Street	C	C	F	F
	Eastbound	Henderson Drive	B	C	E	F
	Westbound	Allaura Boulevard	F	C	E	F
Yonge Street at Murray Drive/Edward Street	Northbound	Yonge Street	B	C	F	F
	Southbound	Yonge Street	B	C	F	F
	Eastbound	Murray Drive	B	C	E	E
	Westbound	Edward Street	B	C	E	E
Yonge Street at Brookland Avenue/Private Access	Northbound	Yonge Street	C	C	F	F
	Southbound	Yonge Street	C	C	F	F
	Eastbound	Brookland Avenue	C	C	F	F
	Westbound	Private Road	F	C	F	F
Yonge Street at Easterly Site Access	Northbound	Yonge Street	B	E	F	F
	Southbound	Yonge Street	B	E	F	F
	Eastbound	Easterly Site Access	C	F	N/A	
Murray Drive at Mosaics Avenue	Northbound	Mosaics Avenue	C	F	F	F
	Southbound	Plaza Access	F	C	F	F
	Eastbound	Murray Drive	B	E	E	E
	Westbound	Murray Drive	B	E	E	E
Murray Drive at Northerly Site Access	Northbound	Northerly Site Access	A	F	N/A	
	Southbound	Plaza Access	F	F	N/A	
	Eastbound	Murray Drive	B	E	E	E
	Westbound	Murray Drive	B	E	E	E

Notes: N/A – not applicable.

As noted in Table 5.4, pedestrian and cycling facilities LOS are anticipated to remain the same under existing conditions by 2036 due to no immediately planned sidewalk or cycling improvements along the respective roadways.

6 SITE PLAN REVIEW

6.1 LOADING REQUIREMENT

Two loading spaces are proposed, one to be built in Phase 1 East Block, and a 2nd one in Phase 1 West Block. According to By-law 6000-17, loading space must be 3.5 metres wide and 9.0 metres long, with a minimum overhead clearance of 4.0 metres. The proposed loading arrangement meets these requirements. Moreover, the design of the loading area comes with adequate staging area. Hence, it is our opinion that the proposed loading arrangement is adequate for the garbage and delivery operations.

6.2 SITE CIRCULATION ASSESSMENT

Our site circulation assessment was completed using the AutoTURN 10.0 software package to ensure adequate manoeuvrability through the site. The AutoTURN simulation assessed the access of fire routes to the principal entrances of the buildings, the access of garbage trucks and loading trucks to the proposed loading bay, and the circulation of passenger vehicles throughout the site. Our AutoTURN evaluation of the other vehicles are as follows.

6.2.1 FIRE TRUCK MANEUVERS

A Custom Fire Truck compliant with the standards of the Town of Aurora was used to test the movement of emergency vehicles at the site. As per *Ontario Regulation 332/12: Building Code Section 3.2.5.5. Location of Access Routes (OBC)*, fire trucks need to get to a distance of less than 15 metres from the principal entrances of the buildings. The truck can have access to principal entrances of the proposed buildings and townhouses with a distance less than 15 metres, along the proposed roadway, without needing to enter the site, inbound and outbound turning maneuver simulations illustrated in **Figure 6.1** and **Figure 6.2** respectively.

6.2.2 WASTE COLLECTION VEHICLE MANEUVERS

The manoeuvres of a custom Garbage Truck compliant with the requirements of the Town of Aurora Standards was tested entering the site in a forward direction driving through the proposed roadways, fronting into the two proposed loading bays, exiting the two loading bays, and exiting the site in a forward direction. The manoeuvres work well inbound and outbound turning maneuver simulations illustrated in **Figure 6.3** and **Figure 6.4** respectively.

6.2.3 LOADING TRUCK MANEUVERS

A typical medium single unit vehicle (MSU) as defined by the Transportation Association of Canada (TAC) was tested entering the site, driving into the two proposed loading bays, exiting the two loading bays, and exiting the site in a forward motion. The manoeuvres work well in both inbound and outbound directions as illustrated in **Figure 6.5** and **Figure 6.6** respectively.

6.3 PASSENGER VEHICLE TURNING MOVEMENTS

6.3.1 PARKING LAYOUT DESIGN

The Town of Aurora Zoning By-law #6000-17, November 2019 stipulates that a single parking space shall have a dimension of 2.7 metres by 5.3 metres, and that the driveway width shall be 7.0 metres. To achieve optimal utilization of the available space and maximize a number of parking spaces provided on the site, the parking layout was design using the 2.6 metres by 5.6 metres parking space dimension and the 6.0 metres driveway width. These design parameters do not conform to the parking space dimension requirements stipulated in Town of Aurora Zoning By-law #6000-17.

The proposed parking design parameters were selected based on a review of the parking space dimension requirements from several municipalities across Canada, and the AutoTurn maneuvering assessment. The parking space dimension requirements from other municipalities area summarized in below.

Based on the review of the parking spaces dimension requirements from the number of municipalities, and the results of an AutoTurn analysis, it was verified that the proposed parking layout design is appropriate.

Table 6.1: Parking Space Dimension Requirements from Other Municipalities

Municipality	Parking Space Dimension	Driveway width
Oakville	2.7m x 5.7m	6.0m
Mississauga	2.6m x 5.2m	7.0m
Ottawa	2.6m x 5.2m	6.7m
Pickering	2.6m x 5.3m	6.5m
Oshawa	2.6m x 5.4m	6.5m
Toronto	2.6m x 5.6m	6.0m
Vancouver	2.5m X 5.5m	n/a
Victoria	2.5m x 5.1m	7.0m
Edmonton	2.6m x 5.5m	7.0m

6.3.2 AISLE AND DRIVEWAY CIRCULATION PLAN

A TAC passenger vehicle was tested making turns at the proposed intersections, entering and exiting the parking garages, and circulating in the parking garage aisles. The manoeuvres work well as illustrated in **Figure 6.7** and **Figure 6.8** for ground floor and 2nd floor respectively. As with most parking garages, convex mirrors are recommended at locations with 90 degree turns and at the top and bottom of the ramp

to facilitate better driver awareness and visibility. It is also worth noting that a P-TAC vehicle's dimension is considered worst case as it represents a vehicle larger than a Hummer. All of the drive aisles are a minimum of 6.0 metres wide.

6.3.3 PASSENGER VEHICLE PARKING MANEUVER ASSESSMENT

WSP reviewed the parking spaces at dead-end areas where there possibly is a limited space for maneuvering on the parking garage levels using AutoTURN 10.2 vehicle turning template software to determine a TAC Passenger vehicle maneuvering efficiently into and out of the parking space.

There are several such parking spaces identified on 2nd Floor Parking Garage, as they are located at dead-end aisles. No critical parking spaces were identified on Ground Floor.

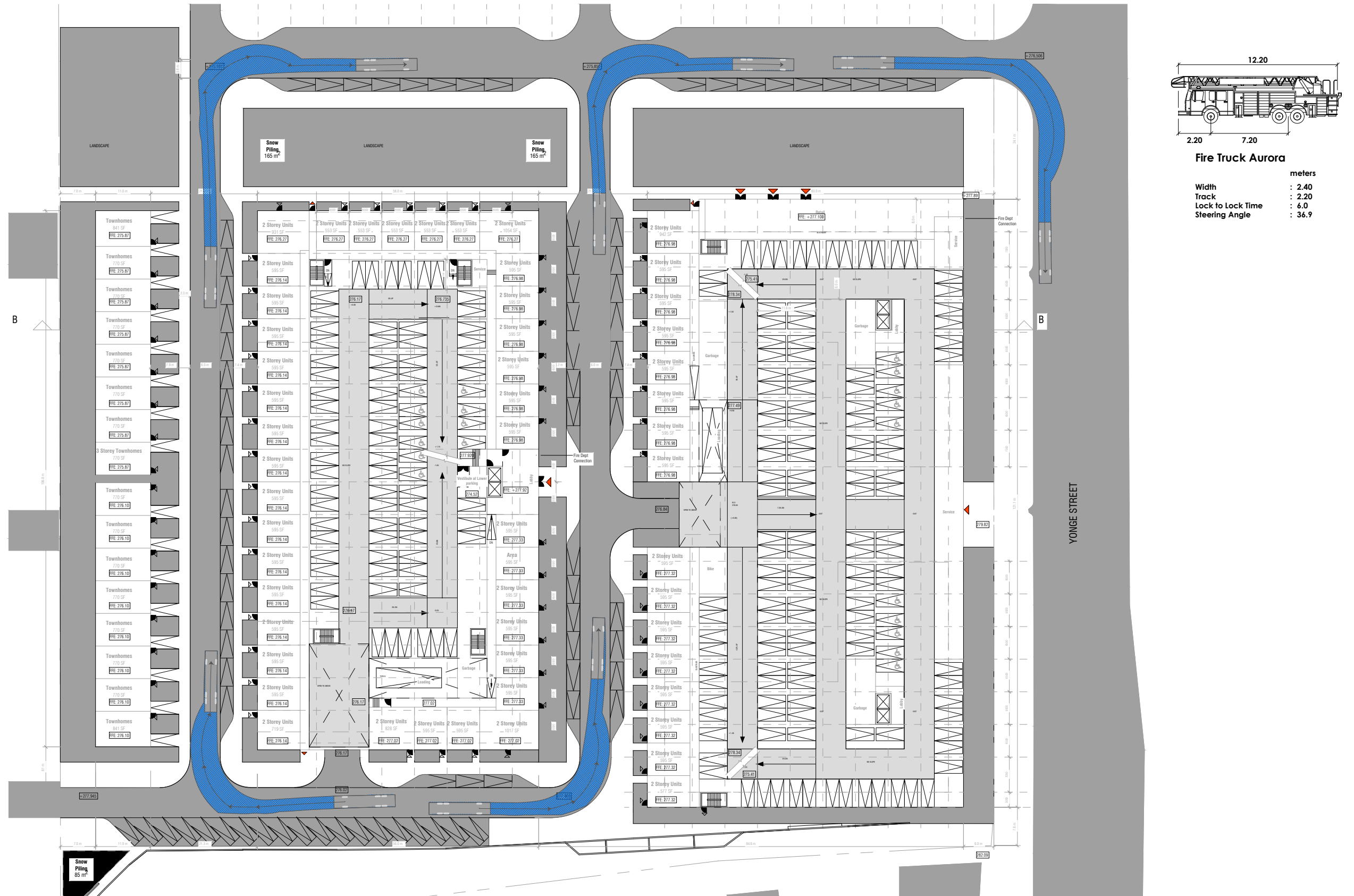
The dead-end parking spaces are expected to operate with no issue or conflict, as they have adequate maneuvering space available nearby them, as demonstrated on **Figure 6.9** and **Figure 6.10**.

6.4 TRAFFIC SIGNAGE AND PAVEMENT MARKING PLAN

The locations of traffic control signage and pavement markings were explored to ensure safe vehicular operations within the study area. **Figure 6.11** and **Figure 6.12** illustrates the proposed signage and pavement marking plan, showing the locations for stop, yield and no parking signs as well as stop bars at intersections.



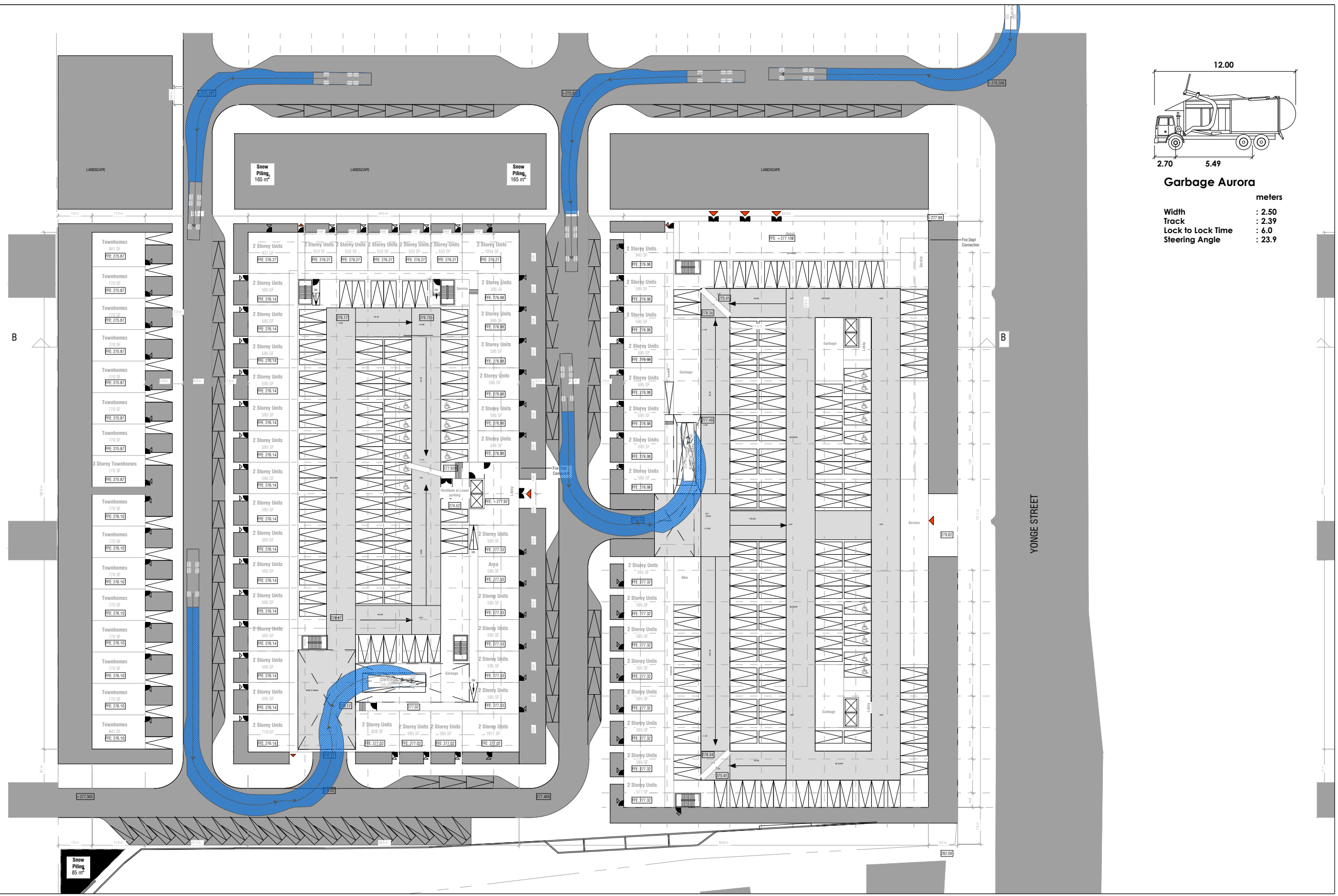
Figure 6.1
Fire Truck Turning Simulation Review - Inbound
Yonge and Murray



Scale: 1:800



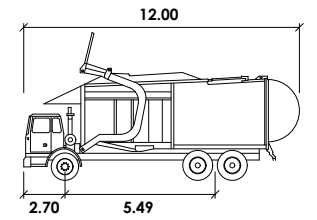
Figure 6.2
Fire Truck Turning Simulation Review - Outbound
Yonge and Murray



Scale: 1:800



Figure 6.3
Garbage Truck Turning Simulation Review - Inbound
Yonge and Murray



Garbage Aurora

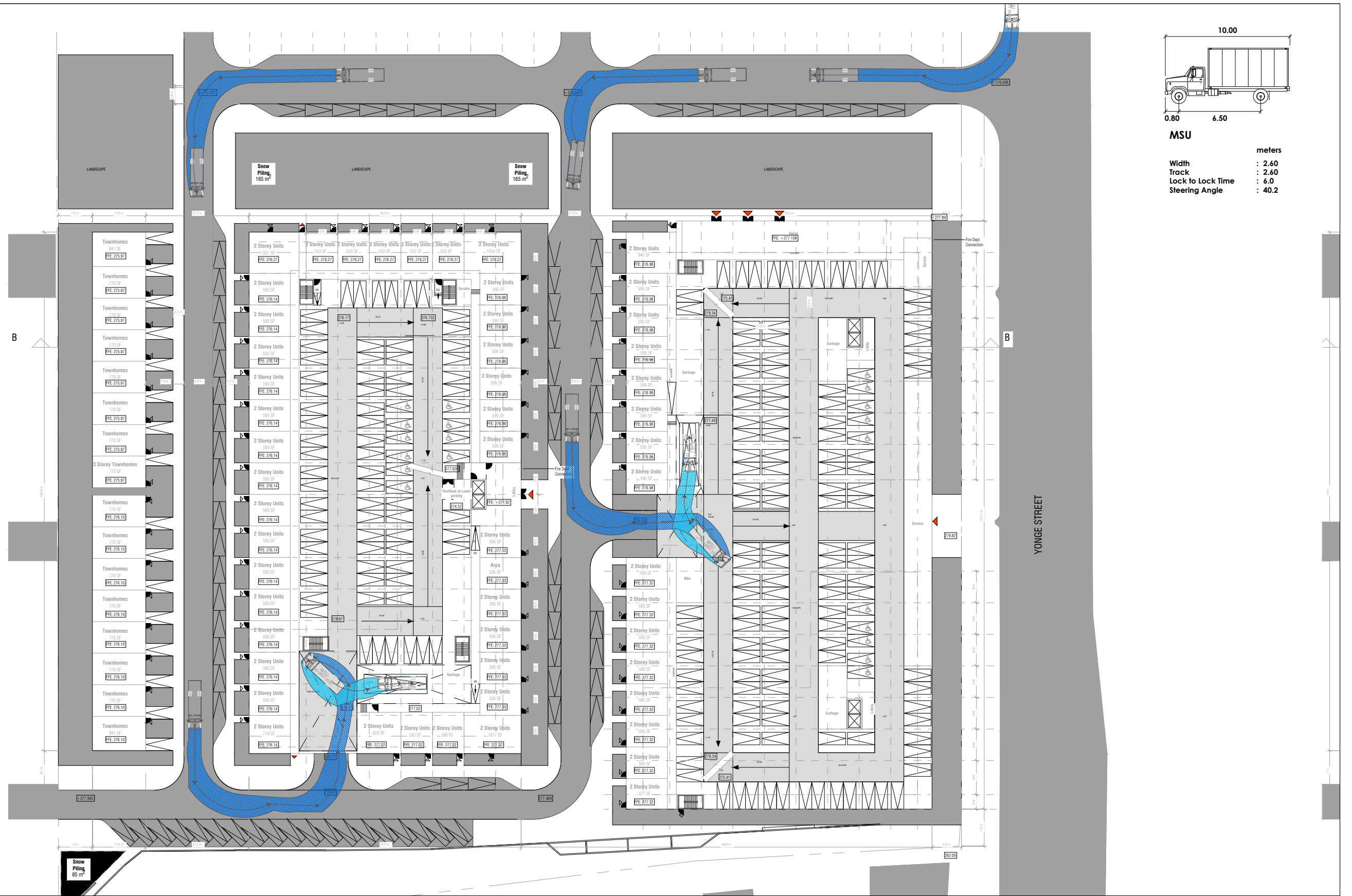
meters

Width	: 2.50
Track	: 2.39
Lock to Lock Time	: 6.0
Steering Angle	: 23.9

Scale: 1:800



Figure 6.4
Garbage Truck Turning Simulation Review - Outbound
Yonge and Murray



Scale: 1:800



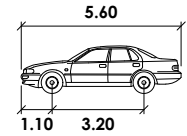
Figure 6.5
Loading Truck Turning Simulation Review - Inbound
Yonge and Murray



Scale: 1:800



Figure 6.6
Loading Truck Turning Simulation Review - Outbound
Yonge and Murray



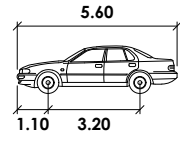
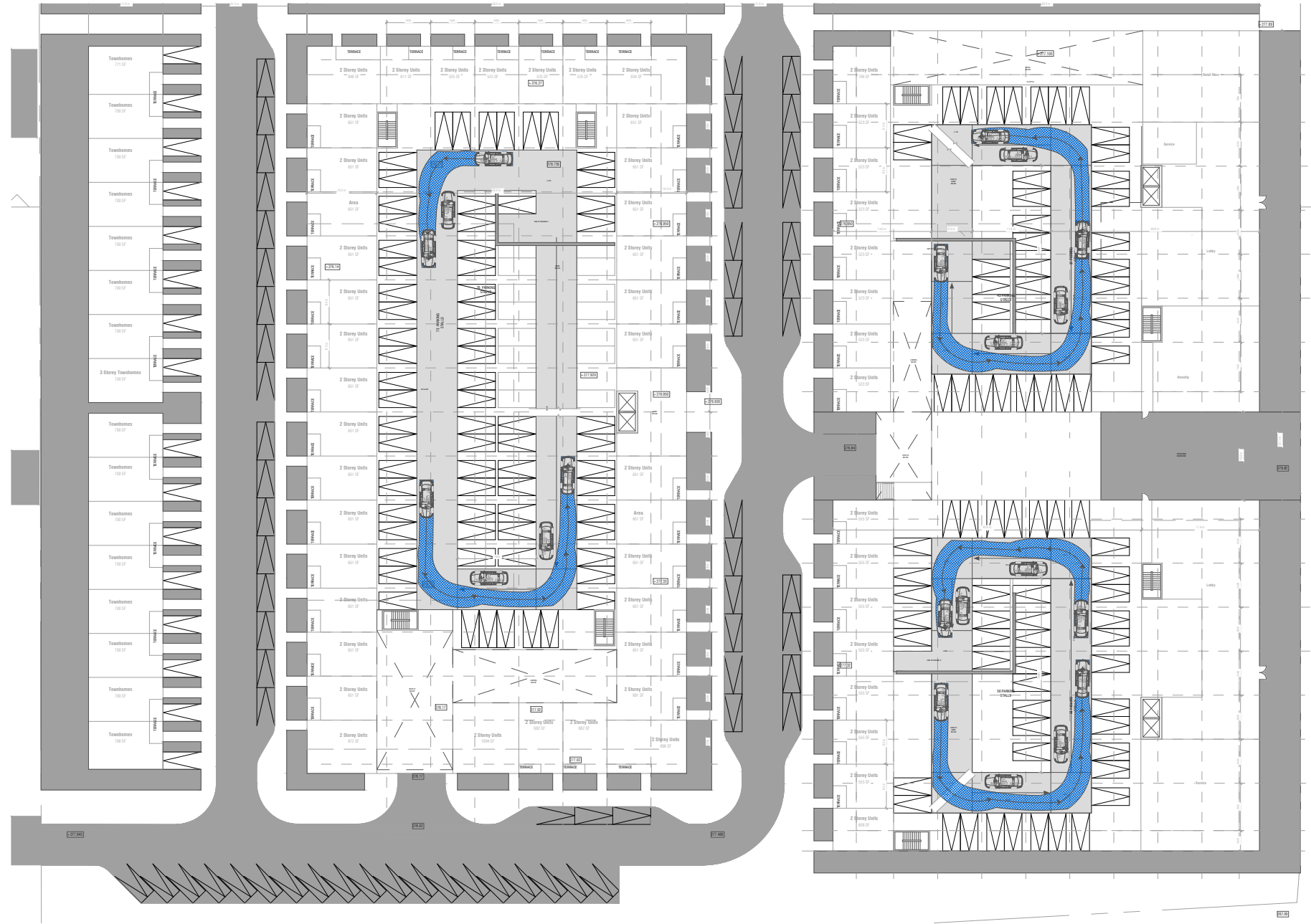
P

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

Scale: 1:800



Figure 6.7
 Passenger Vehicle Site Circulation - Ground Floor
 Yonge and Murray



P

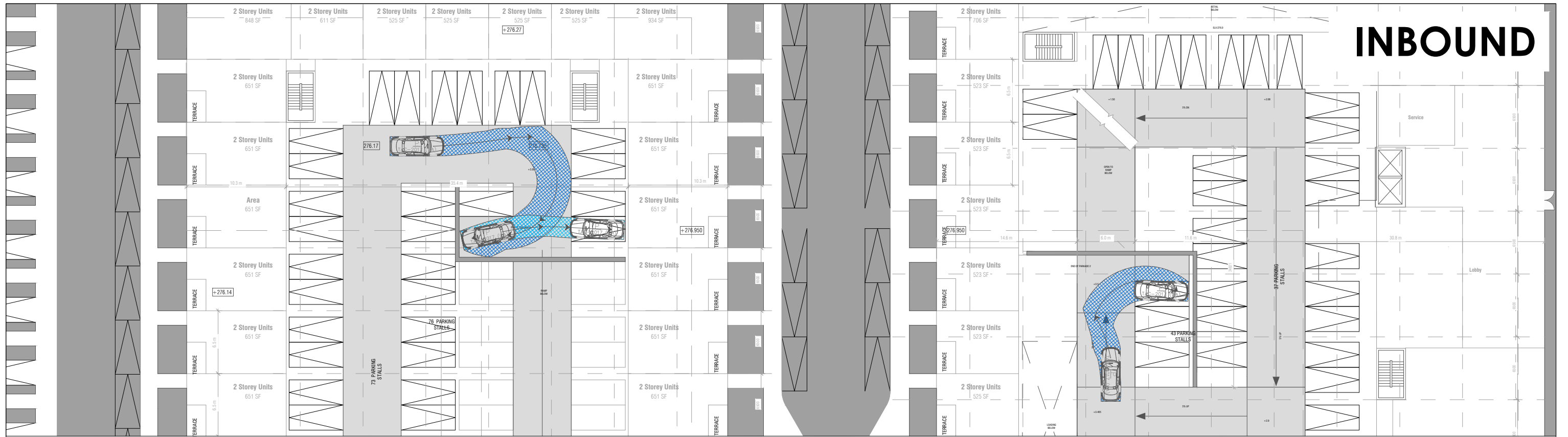
	meters
Width	: 2.00
Track	: 2.00
Lock to Lock Time	: 6.0
Steering Angle	: 35.9

Scale: 1:800

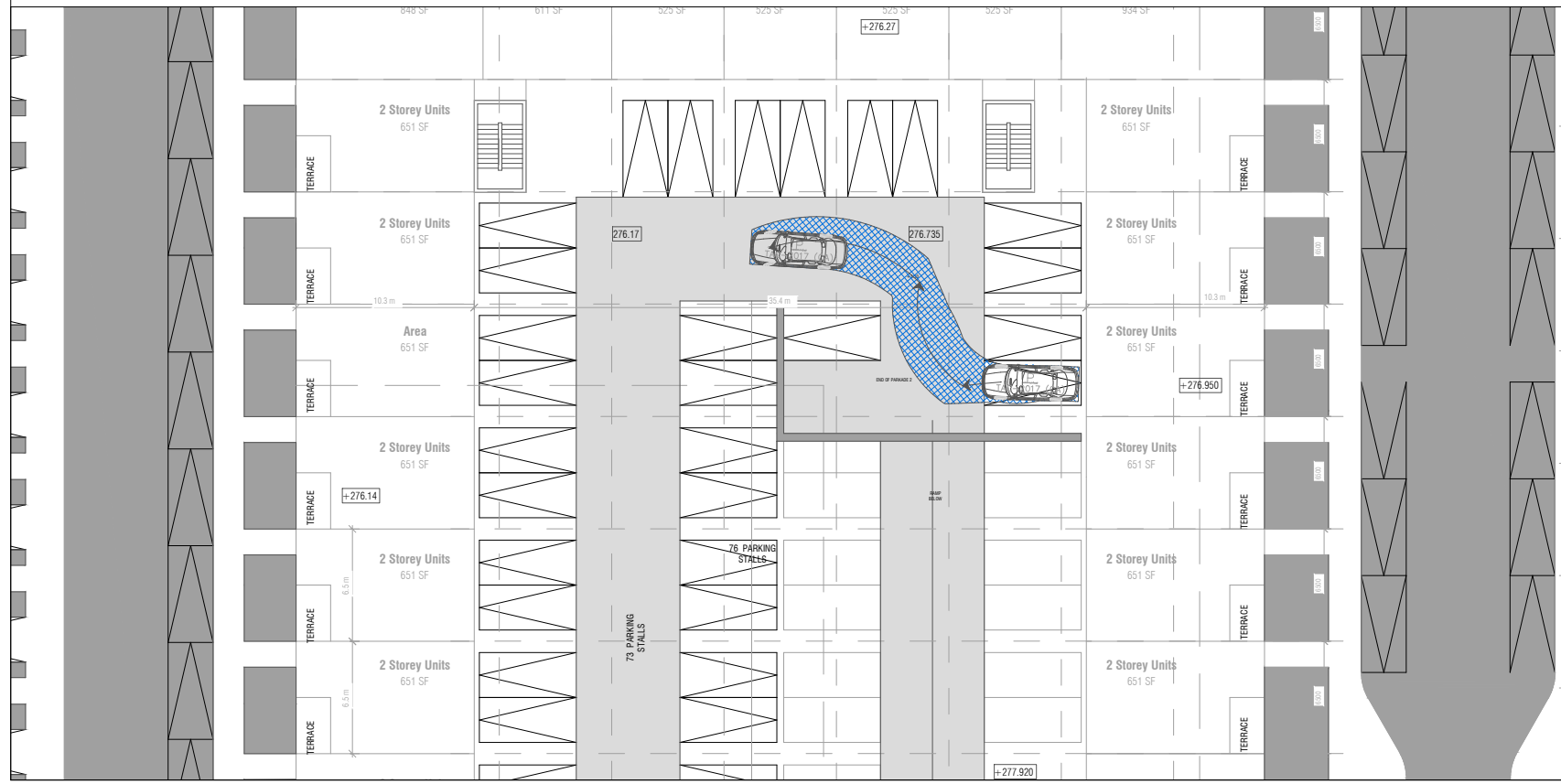


Figure 6.8
 Passenger Vehicle Site Circulation - 2nd Floor
 Yonge and Murray

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INBOUND



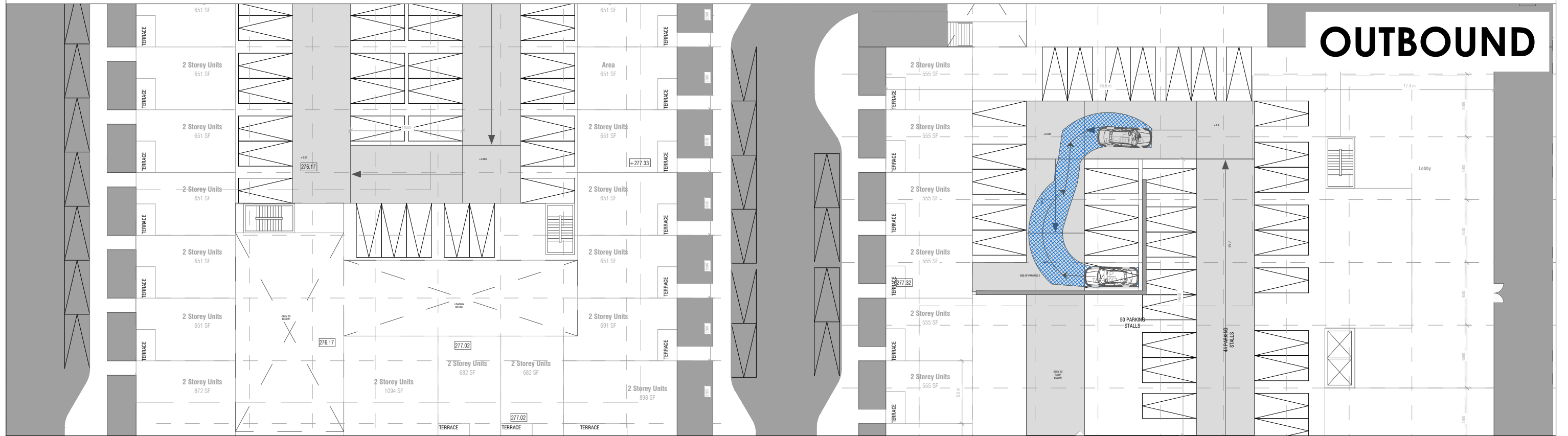
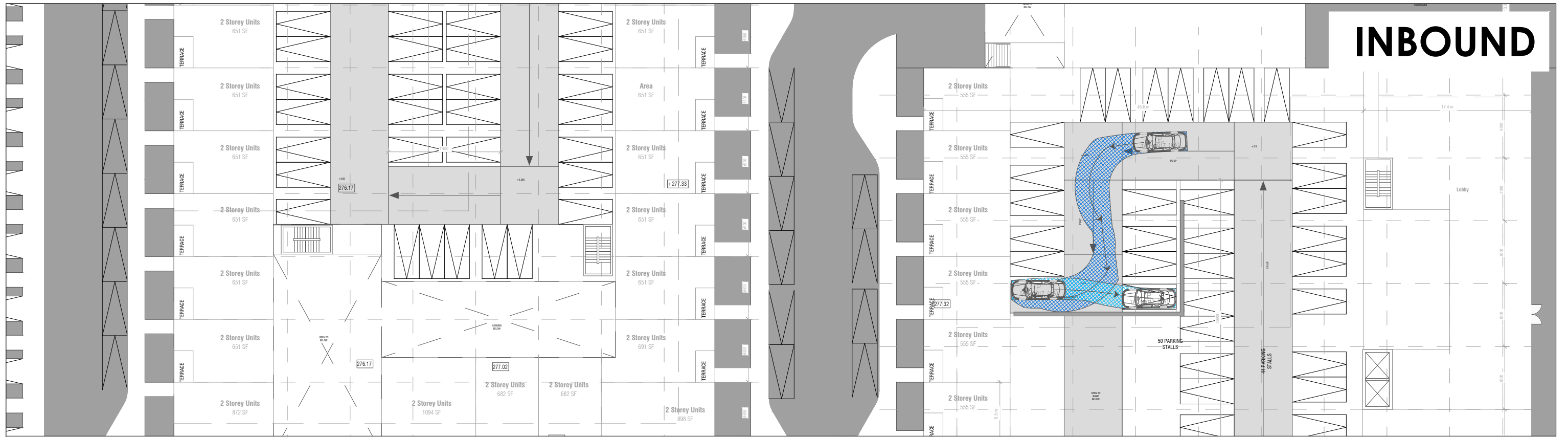
OUTBOUND

Scale: 1:400



Figure 6.9
Parking Space Turning Maneuver Review - L2 Level - North
Yonge and Murray

C:\Users\nima.farid\Desktop\Projects\Yonge Murray\2021-06-11\CAD



Scale: 1:400




Figure 6.10
Parking Space Turning Maneuver Review - L2 Level - South
Yonge and Murray

LABEL	SIGN	NAME
Ra-1		Stop Sign
Rb-53		Parking Permitted (with possible temporal conditions) Sign
Rb-93		Barrier-Free Parking Permit Sign
FIRE ROUTE		Designated Fire Route - Town of Aurora
Visitor Parking		Visitor Parking Sign
Wa-1		Checkerboard Sign
Wc-8		Truck Entrance Sign

SIGNAGE NOTES:
 ALL SIGNAGE HAS BEEN PLACED IN THE OPTIMUM LOCATIONS. HOWEVER, MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT LOCAL CONDITIONS.
 SIGNS ARE IN ACCORDANCE WITH OTM BOOK 5 AND BOOK 6
 PAVEMENT MARKING IS IN ACCORDANCE WITH OTM BOOK 11

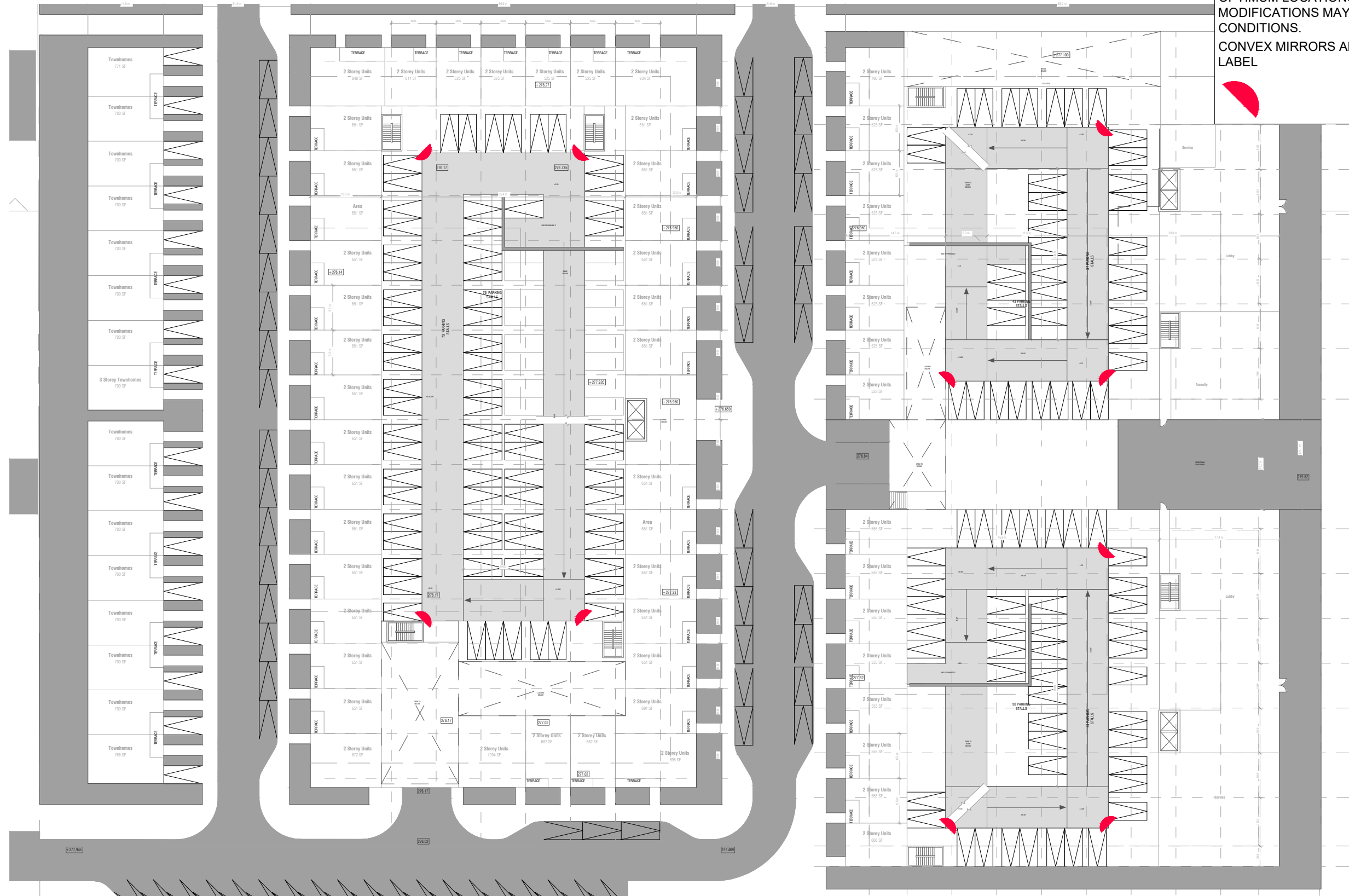
CONVEX MIRROR NOTES:
 ALL CONVEX MIRRORS HAS BEEN PLACED IN THE OPTIMUM LOCATIONS. HOWEVER, MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT LOCAL CONDITIONS.
 CONVEX MIRRORS ARE SHOWN WITH THE FOLLOWING LABEL




Scale: 1:800



Figure 6.11
 Pavemnt Marking, Signage, and Convex Mirror Plan - Ground Floor
 Yonge and Murray



CONVEX MIRROR NOTES:
 ALL CONVEX MIRRORS HAS BEEN PLACED IN THE OPTIMUM LOCATIONS. HOWEVER, MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT LOCAL CONDITIONS.
 CONVEX MIRRORS ARE SHOWN WITH THE FOLLOWING LABEL



Scale: 1:600



Figure 6.12
 Convex Mirror Plan - 2nd Floor
 Yonge and Murray

7 PARKING SUPPLY JUSTIFICATION

This Section documents the parking supply requirements based on the current by-law, proposed parking supply for the subject site, and justifications of the proposed parking supply.

7.1 VEHICULAR PARKING BY-LAW REQUIREMENT

The parking requirements for the proposed development are governed by the Town of Aurora Comprehensive Zoning By-law 6000-17, November 2019. The Zoning By-law 6000-17 contains three sets of parking requirements based on the geographic area: 1) Town-wide; 2) Promenade Downtown Zone; and 3) Promenade Downtown Shoulder Zone.

The parking supply requirements for the proposed uses based on all three sets of zoning-by-law parking rates are summarized in **Table 7-1** below.

Table 7-1: Minimum Required Parking Spaces based on Promenade Zone (By-Law 6000-17)

Land Use	Magnitude (Unit/m ² of GFA)	Proposed Parking Rate	Parking Supply	Comments
Residential	480	1.5 space/unit, minimum 20% of spaces provided shall be set aside for visitor parking	720	Per By-Law 6000-17 (Town-wide)
Retail	618	6.0 spaces / 100 m ² GFA	37	
Total			757	
Residential	480	1 space/unit inclusive of visitor parking	480	Per By-Law 6000-17 (Promenade Zone)
Retail	618	1.0 spaces / 100 m ² GFA	6	
Total			486	
Residential	480	1 space/unit inclusive of visitor parking	480	Per By-Law 6000-17 (Promenade Zone Shoulder)
Retail	618	3.5 spaces / 100 m ² GFA	22	
Total			502	

Based on 480 residential units and 618 m² of retail space proposed, it is required to provide 757 parking spaces based on the 'Town-wide' parking rates, 486 parking spaces based on the Promenade Zone rates, and 502 spaces based on the Promenade Zone Shoulder rates.

7.2 REVIEW OF SITE PARKING SUPPLY

Based on the Zoning By-law 6000-17, the ‘Town-wide’ rates should be applied to the proposed development. However, the applicant proposes to amend the by-law requirements and apply the Promenade Zone Shoulder rates for the proposed residential use, while no ‘retail’ parking would be provided. The proposed parking supply is summarized in **Table 7-2** below.

Table 7-2: Proposed parking supply at the subject site

Land Use	Proposed Rate (parking spaces per unit)
Residential	384
Visitors	96
Retail	0
Total:	480

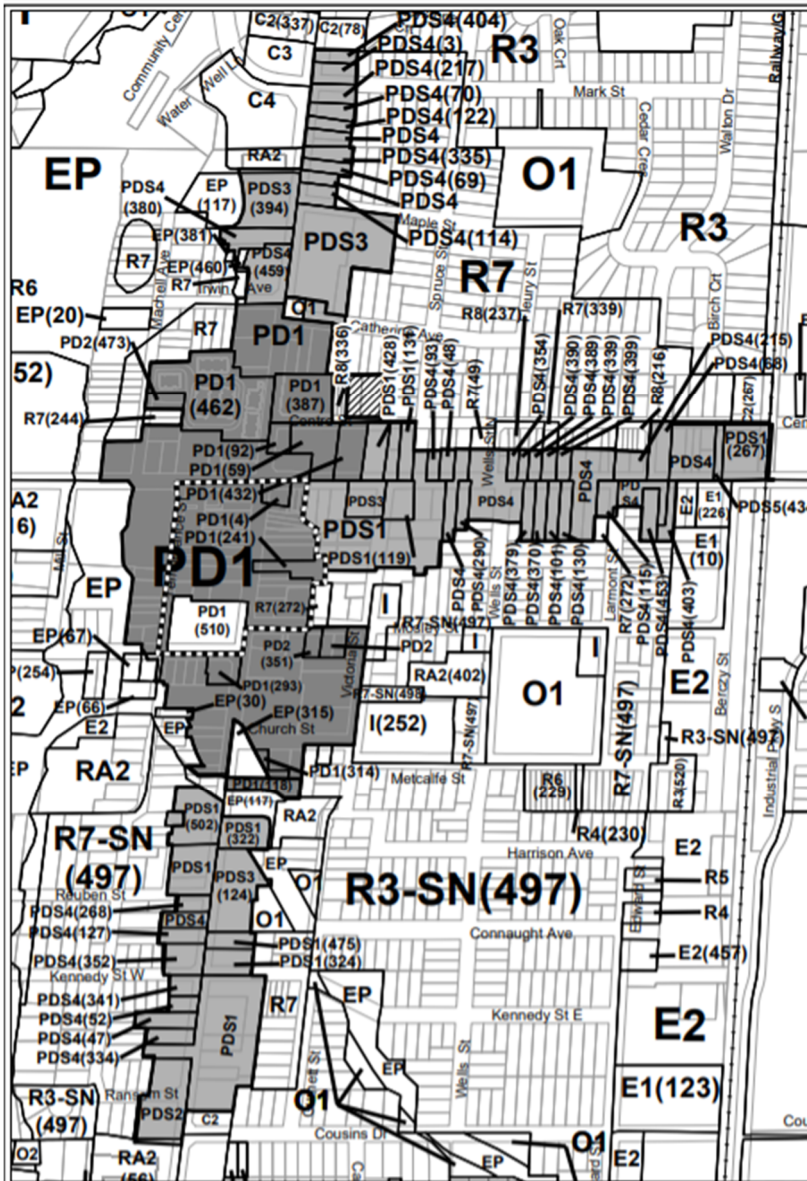
As show in Table 7.2, 480 parking spaces are proposed including 384 residential parking spaces, and 96 residential visitor spaces.

7.3 RESIDENTIAL PARKING JUSTIFICATION

The proposed residential parking supply strategy is based on the Promenade Zone new residential development parking rates from the Zoning By-law 6000-17. The Promenade Zone includes the lands on both sides of Yonge Street from approximately Mark Street to the north to Cousins Drive to the south, and the lands on both sides of Wellington Street from approximately Marchell Avenue to the west to Berzecz Street to the east. The proposed development is located approximately 650 metres south of the south limit of the Promenade Zone. The limits of the Promenade Zone are illustrated in Figure 7.1.

Quality of transit service is one of the main factors in determining the appropriate parking rates. The proposed development is adjacent to the VIVA rapid transit corridor with the rapid transit stops located within 150 metres walking distance from the site. Hence, the residents will have the same if not better access to the transit service than some residents within the Promenade Zone. For example, the area around Berzecz Drive is located more than 500 metres from the VIVA rapid transit corridor; hence, the proposed development has better access to the rapid transit services than developments in that area.

Figure 7.1: Promenade Zone Limits



The area around the proposed development contains the mix of different uses and the variety of retail stores, similar to the Promenade Zone, which reduces the need to travel outside of the neighbourhood by automobile to shop and access services.

Hence for these reasons, it is deemed appropriate to apply the Promenade Zone rates to the proposed developments. The additional justification in support of the proposed residential parking supply strategy is provided below.

7.3.1 DECLINING PARKING DEMAND TREND

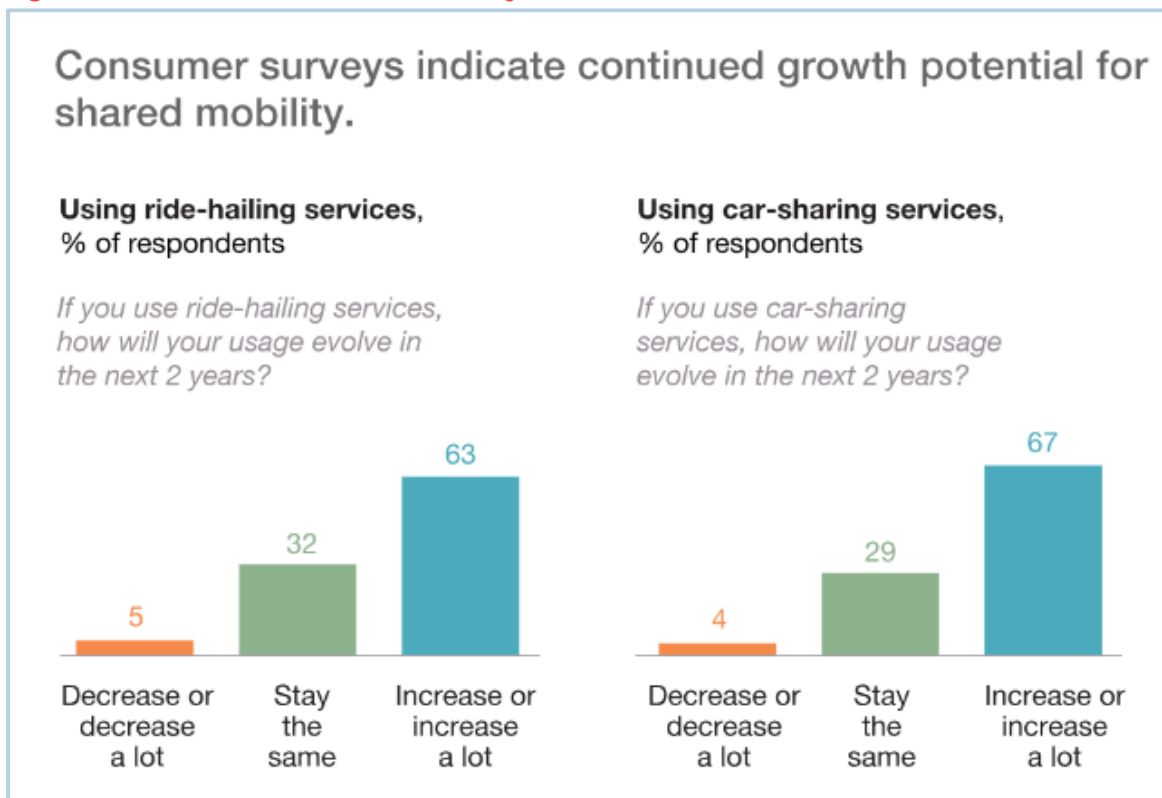
Many municipalities within the GTA has experienced a steady decline in parking demand over last several years. The travel modes of York Region are changing, and the next five to 20 years are anticipated to be significantly different from today. Data from the Transportation Tomorrow Survey indicates reduced vehicle ownership in apartment dwellings from 2011 to 2016, dropping from 1.09 vehicles per residence to 1.05 vehicles per unit. Hence, it is anticipated that the York Region and Town of Aurora will continue to experience a decline in the parking demand.

7.3.2 SHARED MOBILITY

In recent years, more and more people are shifting to the use of private transportation companies (PTC) such as Uber and Lyft to reach their destinations. Moreover, during the Covid-19 pandemic, there has been a significant increase in reliance on home-delivery services, including food and grocery delivery services. It is anticipated that this type of services will continue to be widely used even after the pandemic. This also apply to remote work, which will likely continue to be a viable option for many people. These types of technological trends and the continued high cost of car ownership will continue to reduce the demand for parking spaces.

International consumer surveys on travel showed more people plan on using the various forms of shared mobility, as shown in **Figure 7-2**.

Figure 7-2: Travel Trend in Shared Mobility



Source: <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/how-shared-mobility-will-change-the-automotive-industry>

The travel trend in shared mobility services is further documented in **Figure 7-3**, which indicates that carsharing membership has significantly increased year after year in Canada, from 10,000 members in 2004 to well over 300,000 members in 2015, within just ten years.

Figure 7-3: Changes in Carsharing Membership, 2004 to 2015

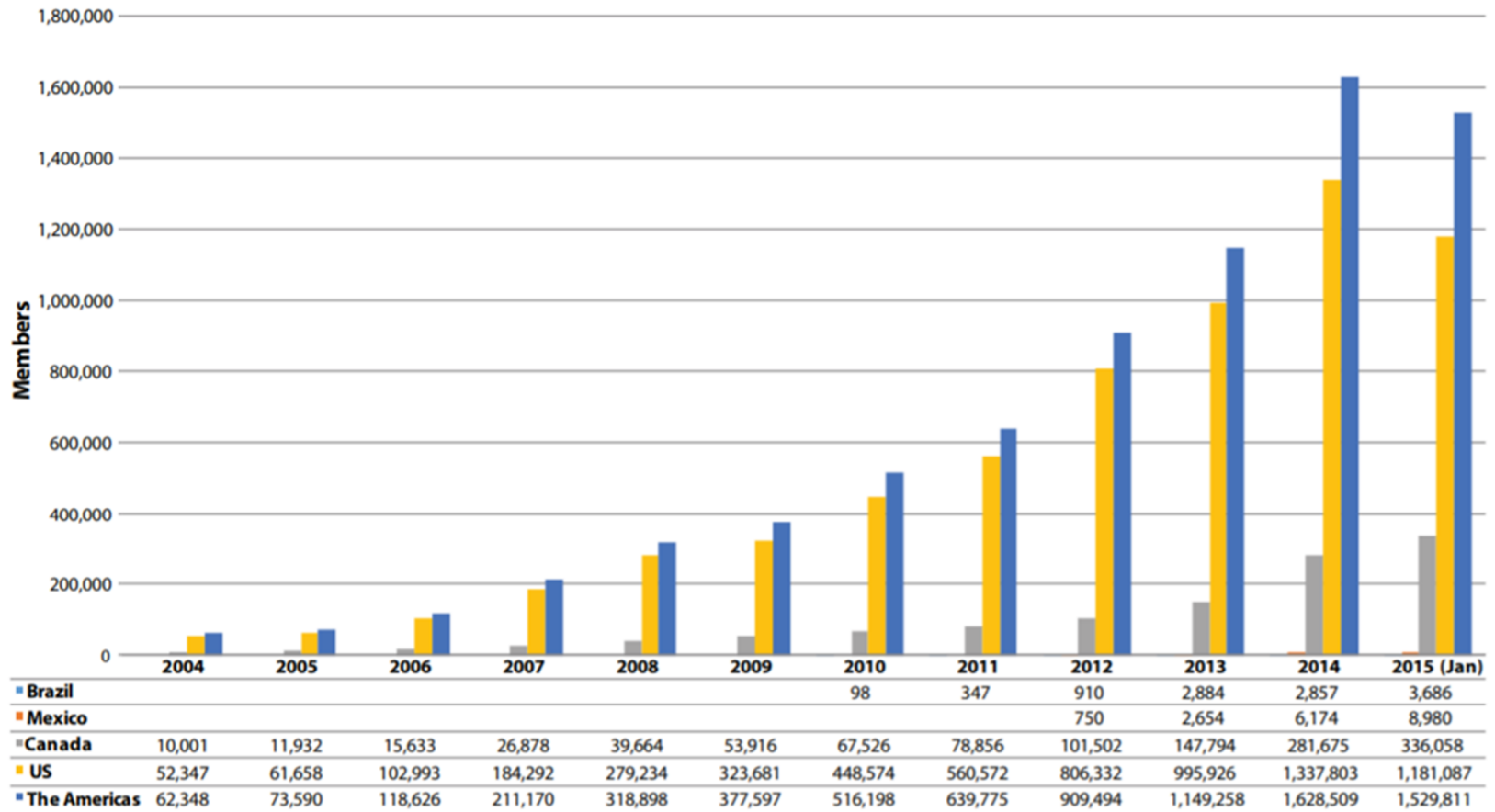


Figure 1.5. Carsharing member growth in the Americas, 2004–2015 (not including peer-to-peer carsharing) (Susan Shaheen and Adam Cohen)

More importantly, various shared mobility services can reduce vehicle ownership, as illustrated in **Figure 7-4**.

Figure 7-4: Impacts of Shared Mobility on Vehicle Ownership

Variable	Effect on Vehicle Ownership
Carshare	11.27 fewer cars per carshare vehicle
Carpool /Ride-splitting	0.2 fewer cars per carpool user
Vanpool ³	.26 fewer cars per vanpool user
Bikesharing	0.16 fewer cars per bikeshare bike
Transit Commuters	0.22 fewer cars per new transit commuter
Working Population	1.31 cars added per person

Source: <https://sharedusemobilitycenter.org/wp-content/uploads/2016/07/SUMC-Toolkit-Final-Report.pdf>

In addition, York Region’s 2016 TMP identified some of the trends occurring in the Region. **Figure 7-5** shows the percentage of young people who owned driver’s licenses, indicating a reduction from 82% in 1991 to 73% in 2011. Fewer young people having driver's licenses were linked to the increased growth in shared mobility services such as Uber and increased transit use.

Figure 7-5: Driver License Trend in York Region



Source: <https://www.statista.com/forecasts/998474/car-sharing-usage-by-brand-in-canada>

7.3.3 MIXED-USE DEVELOPMENTS

The study area currently provides multiple active transportation facilities and is highly accessible by transit. The area is growing and continues to accommodate all land uses such as employment, commercial, institutional, residential, etc. As the area matures and the mix of land uses increases, it will attract more people who will choose to reside in this location due to its convenience to nearby jobs, retail, amenities, services, and attractions, plus access to a large transit hub. With the subject lands providing convenient access to the various transit services coupled with the increased cost of parking spaces across the GTA and cost of owning a vehicle it is expected that many of the individuals living in the study area will rely on transit and walking for their regular commute, resulted in decline in parking demands, especially in residential rates.

7.3.4 UNBUNDLING PARKING AND UNITS

Rising housing costs are impacting potential buyer’s ability to own a home. In situations where parking is included in the cost of a dwelling unit, approximately \$60,000 of this cost is allocated to a parking space which, in some cases, goes unused. Oftentimes, tenants who do not require their parking stall will rent their space to generate additional income, but this practice can be stressful and time-consuming. By unbundling parking from

dwelling units, only those persons who specifically request and ultimately purchase a parking space are guaranteed one. This allows for dwelling units to be sold without parking spaces.

This parking demand strategy serves to target buyers who do not rely on automobile ownership. The cost of purchasing a parking space will make this development much more desirable to users of non-auto modes of travel. Based on the recent trend observed at several sites in the GTA, it appears this strategy has become a very effective in reducing the parking demand requirements.

7.4 RETAIL PARKING JUSTIFICATION

The proposed 618 m² commercial spaces will be located at ground level of the residential buildings. These units are assumed to be small personal care shop/services; such as Dry Cleaners, Nail shop, pet care, Accountant, realtor, and bistro, as seen in similar buildings in the corridor. The commercial units are anticipated to cater to local residents within convenient walking distance or travel by transit to the site including the site residents and visitors. The parking demand for these commercial units are expected to be low and peak during the daytime. Therefore, it is proposed that commercial patrons share the residential visitor parking supply, as this user group is expected to peak late evenings and weekend, when most of the commercial units would be closed or experiencing off peak parking demand. This measure to minimize over supply of parking and be environmentally prudent is regularly accepted by municipalities. In addition, commercial patrons will be able to use the existing parking lot in the north parcel of the site which will be retained in Phase 1. During the SPA process for Phase 2, the retail parking strategy will be revisited, and the necessary adjustment will be made.

8 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (or travel demand management, TDM) is a set of policies and programs that support the reduction of single-occupant vehicle (SOV) trips, especially during peak hours. This can be done through shifting when the trips occur (out of peak hours), increasing vehicle occupancy, or increasing non-auto modes.

An effective TDM program is successful at reducing peak hour roadway demand. This section of the report details the wider measures already implemented and/or planned in the York Region, and the specific TDM initiatives that are proposed for the subject development.

8.1 YORK REGION WIDE PROGRAMS

York Region has adopted a combination of TDM initiatives to decrease the number of SOV trips and improve transportation options throughout the Region. The primary focus is to develop technologies and innovative strategies that would encourage persons to make transit and active transport their primary mode of choice when moving around. The York Region Transportation Master Plan (2016) has outlined the following points to manage the peaking transportation demands brought by development and urbanization:

- Completion of necessary network and system improvements which include transit, walking and cycling, services, and infrastructure.
- Better integration of transportation infrastructure and the built environment.
- Strengthening outreach and education of TDM awareness where persons in homes, workplaces, and schools are concerned.
- Collaboration with local municipalities to improve awareness and mobility, such as the Smart Commute and MyTrip programs and tools.
- Compact complete communities with a land-use mix, design, and density that encourages cycling and walking.

Encouragement of non-auto modes, such as transit, walking, and cycling can also reduce the number of SOV trips. Several transit improvements have been planned for the City. York Region Transit (YRT) has completed its VivaNext Bus Rapidway along the Yonge Street corridor from Highway 7 to Major Mackenzie Drive and from Leventdale Road to 19th Avenue/Gamble Road. Since the development site is conveniently located on the Yonge Street corridor, there are a considerable number of options for residents to access the VIVA transit service, local transit services, and GO stations and trains.

Due to the array of transit services that exist and are proposed, the York Region Transportation Master Plan has a target transit modal split for “centres and corridors” of 50 percent by 2031, and a target transit modal split for the York Region urban area of 30 percent by 2031.

Many of the TDM initiatives already used in the York Region are applicable to the proposed development. The improvements to transit, cycling, and walking in the area will be of use to residents and visitors. The mixed-use nature of Yonge Street will allow many trips to be short and quickly done on foot or by convenient transit service. Together, these initiatives form a holistic TDM strategy, which will reduce auto trips originating from or destined to the development and support the lower parking rates for the site.

8.2 DEVELOPMENT OF A SITE SPECIFIC TDM STRATEGY

8.2.1 TRANSIT

YRT provides both local and rapid transit bus services in the immediate study area. YRT has recently completed its VivaNext Bus Rapidway along the Yonge Street corridor from Highway 7 to Major Mackenzie Drive and from Levedale Road to 19th Avenue/Gamble Road. Since the development site is conveniently located on the Yonge Street corridor, there are considerable number of options for residents to access the VIVA transit service, the existing Richmond Hill, and Langstaff GO stations and trains.

Since local transit provides access to nearby GO services and GO Stations, thus ensuring excellent transit service to the site for both residents and visitors during the weekday peak and off-peak hours and on weekends. These transit routes allow residents and visitors to travel across York Region and Toronto very conveniently with appropriate connections across the GTA.

PRESTO CARD

YRT currently uses the Presto card as the electronic fare option for YRT/Viva customers. The Presto card is also accepted on GO Transit, most TTC services as well as several transit agencies in the Greater Toronto and Hamilton Area (GTHA). The Presto card is an alternative to buying bus tickets or having the correct change to ride YRT/Viva. Presto cards provide an opportunity for transit riders to use alternative transit systems in the GTHA.

Presto card distribution to new residents has become a program within the York Region Development Charge and, as such, each new household is issued a Presto Card with pre-loaded funds to incentivize new residents to try and become familiar with the local transit network. The Presto card is distributed to residents by the Region of York representative through a coordinated information session.

8.2.2 PROPOSED CYCLING AND WALKING FACILITIES

The existing cycle and walking facilities near the site include:

- Pedestrian sidewalks are provided on both sides along Yonge Street, Henderson Drive, Murray Drive, and portions of Edward Street.
- Sidewalks are also provided on one side along Allaura Boulevard, Edward Street, and Brookland Avenue. A buffer is available between most sidewalks and the study roadways.
- Existing shared roadway facilities for cycling along Henderson Drive/Allaura Boulevard, and Murray Drive/Edward Street as per the York Region Cycling Map.

Planned future active transportation facilities include:

- Cycling network have been planned for 2041 as per the York Region Transportation Master Plan (TMP) 2016. Future proposed separated cycling facilities are displayed in Figure 3.2.

The proposed addition of bike lanes along Yonge Street improves access to local amenities and public transit.

8.2.3 UNBUNDLED PARKING

To complement the proposed reduced parking rate for residents, WSP recommends that the developer implement unbundled parking for the proposed development. The practice of unbundled parking is an important and standard TDM strategy for medium and high-density residential developments.

This TDM measure allows potential residents the option to purchase/rent their unit separately from the parking space at a reduced cost. The reduced cost should reflect the realistic and actual cost of the parking space to provide reasonable incentives and encourage purchasers to consider an unbundled parking option. This, in turn, promotes residents to explore alternative transportation options aside from single-occupancy driving. Furthermore, it will also allow residents of larger units to purchase more than one space, if desired. As a result, the likelihood of oversupplying parking spaces for the development is reduced.

Unbundling should be adopted for this development to complement the reduced parking supply.

8.2.4 TRANSPORTATION INTERACTIVE DISPLAY

In the past, interactive displays were recommended to be provided within the lobby or elevators of residential and commercial buildings to provide residents and visitors with an array of information including transportation. These could include the expected arrival time for the next bus on each route by using real-time transit data that can be obtained from the Region.

However, given the widespread adoption of smartphones, it is expected that many residents will use transit applications on their phones to obtain live information about bus transit arrival times. Therefore, an interactive display is not recommended as a required TDM measure. However, should the condominium corporation wish to include an interactive display for their use, they can program transportation information on the unit. As such, where possible the developer should include the appropriate electronic connections within the common area (lobby or elevator) where such a display can be installed by the Condominium Corporation.

8.2.5 INFORMATION PACKAGES PROVIDED TO NEW RESIDENTS

To help facilitate non-auto trips, it is important to provide transportation information to new residents so that they can view and understand their travel options before establishing new travel habits. This will increase the chance that new residents incorporate these alternatives in their travel patterns after moving into the development.

The developer will provide information about transportation options to new residents in an information package that will include items such as:

- Existing transit services, including a YRT system map, a TTC ride guide, a GO system map, route navigators for each area transit route (including GO bus and rail), and seven-day schedules for nearby stops for each of these routes. Information will be provided by the Region and the Municipality and will also include relevant fare and incentive-based information such as GO Transit's \$1 Ride-to-GO option.
- A map of the surrounding area with sidewalks and bicycle facilities, a copy of the York Region cycling network map, cycling and pedestrian safety tips, and information on active transportation events (such as Bike to Work Day and CAN-BIKE cycling lessons). This information would also be provided by the Region and Municipality.
- Carpooling, including information on Smart Commute and how one can join through their employer.

The Region requires the developer to be responsible for coordinating the information packages with information obtained from the municipality and York Region. The information package will be provided to owners at the time of closing of purchase or at a joint information session with York Region at the time the Presto Cards are distributed. Costs associated with the information package will be the responsibility of the developer.

8.3 SITE TDM SUMMARY AND COST

8.3.1 SITE TDM STRATEGY

It is recommended that the owner/developer complete the following as part of a site TDM strategy:

A. Unbundling of Parking Spaces

- a Unbundling of residential parking spaces from unit sale should be implemented since only residents requiring parking spaces will purchase them, thus reducing demand and complimenting the site reduced parking rate.

B. Transit Incentive Program / Presto Card

- b The site should participate in the Region's Presto Card program.

C. Information Package

- c Provide a package of transportation information to new residents prior to and at the time of purchase or lease.
- d Costs associated with the information session will be the responsibility of the developer.

D. Venue

- e The developer will provide a suitable location for the Region to distribute the Presto Cards and information packages in accordance with its Development Charge program.
- f The developer will provide Town-issued travel surveys to new residents as part of the information package prior to or at the time of purchase of units.

9 CONCLUSIONS AND RECOMMENDATIONS

This Traffic Impact Study has evaluated the impact of the proposed development located at the southwest corner of Yonge Street and Murray Drive in the Town of Aurora. The proposed development consists of a total of 900 dwelling units, and 618 m² of retail space. Access to the proposed development will be provided through the existing driveway onto Yonge Street and two existing driveways onto Murray Drive.

The development is proposed to be developed in two phases and has been evaluated to be built out over two horizon years 2026 and 2031. In addition, the year 2036 has also been evaluated to represent the five-year post build-out horizon.

Based on the assessment, the findings are summarized below:

- Under the existing conditions, all of the study intersections, are operating at an acceptable LOS during the a.m. and p.m. peak hours;
- Under 2026, 2031 and 2036 future background conditions, all of the study intersections are expected to operate at an acceptable overall LOS during the weekday a.m. and p.m. peak hours.
- Site trip generation was estimated based on the rates and equations outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Under Phase 1, the site is forecast to generate 147 and 207 auto trips during the weekday a.m. and p.m. peak hours, respectively. By full build-out in 2031, the site will generate a total of 270 and 367 auto trips during the weekday a.m. and p.m. peak hours, respectively.
- Based on 2026, 2031 and 2036 total future evaluations, the incremental increases in delay and v/c ratios relative to the future background conditions as a result of the addition of the site-generated traffic are minor. The signalized study intersections continue to operate at the same LOS even with the addition of the build-out site traffic by 2036 without the need for improvements.
- The evaluation of the transit and active transportation modes indicate that there are minimal changes anticipated from the existing, to total future conditions. Since the auto traffic impact of the development is very low, there are negligible implications on the transit LOS in the study area.
- A total of 480 vehicular parking spaces are proposed for the southern parcel of subject development including 78 residential visitor spaces. This proposed parking spaces are adequate for the site context and with consideration of the tangible TDM measures being considered and applicable Zoning By-law requirements.
- The site plan review of the ground parking level indicates that the various design vehicles can be adequately accommodated during the Phase 1 stage.

APPENDIX

A CORRESPONDENCE



Azari, Kian

From: Lapenna, Sean <SLapenna@aurora.ca>
Sent: June 7, 2021 10:05 AM
To: Azari, Kian
Cc: Medic, Ismet; Sterling, Sharon; Man, Alaric
Subject: RE: DATA REQUEST
Attachments: Traffic Impact and Parking Study & Entrance Analysis Report - Nov 21, 2016.pdf

Hi Kian,

Please see attached.

Thanks,

Sean

From: Azari, Kian <Kian.Azari@wsp.com>
Sent: June 4, 2021 12:08 PM
To: Lapenna, Sean <SLapenna@aurora.ca>
Cc: Medic, Ismet <Ismet.Medic@wsp.com>; Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>
Subject: RE: DATA REQUEST

Hi Sean,

I just wanted to follow up on the email I sent you early this week.

I look forward to hearing from you at the earliest.

Regards,

Kian Azari, EIT
Transportation Planner
Planning & Advisory
Transportation



T + 1 289-982-4029, (647)-676-1325
100 Commerce Valley Drive West,
Thornhill, Ontario
L3T 0A1 Canada
wsp.com

From: Azari, Kian
Sent: May 31, 2021 4:14 PM
To: SLapenna@aurora.ca
Cc: Medic, Ismet <Ismet.Medic@wsp.com>; Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric

<Alaric.Man@wsp.com>

Subject: FW: DATA REQUEST

Hi Sean,

As per the emails below, we are looking for obtaining the information for application number **34**. A copy of the full TIS would be greatly appreciated.

Thanks,

Kian Azari, EIT

Transportation Planner
Planning & Advisory
Transportation



T + 1 289-982-4029, (647)-676-1325
100 Commerce Valley Drive West,
Thornhill, Ontario
L3T 0A1 Canada
wsp.com

From: Peverini, Matthew <MPeverini@aurora.ca>

Sent: May 31, 2021 4:05 PM

To: Azari, Kian <Kian.Azari@wsp.com>

Cc: Medic, Ismet <Ismet.Medic@wsp.com>

Subject: RE: DATA REQUEST

Hello Kian,

See attached for what I was able to pull for #49.

#34 is another Planner – Sean Lapenna (Slapenna@aurora.ca)

Regards,

Matthew Peverini, RPP, MCIP
Planner

Town of Aurora
100 John West Way, Box 1000
Aurora, Ontario L4G 6J1

Phone: 905-727-3123 ext. 4350

Fax: 905-726-4736

mpeverini@aurora.ca

www.aurora.ca

From: Azari, Kian <Kian.Azari@wsp.com>
Sent: May 31, 2021 3:07 PM
To: Peverini, Matthew <MPeverini@aurora.ca>
Cc: Medic, Ismet <Ismet.Medic@wsp.com>
Subject: RE: DATA REQUEST

Hi Matthew,

I am following up on the request below. I would appreciate if you can provide the information.

Please let me know if you have any questions.

Thanks,
Kian Azari, EIT
Transportation Planner
Planning & Advisory
Transportation



T + 1 289-982-4029, (647)-676-1325
100 Commerce Valley Drive West,
Thornhill, Ontario
L3T 0A1 Canada
wsp.com

From: Azari, Kian
Sent: May 27, 2021 3:42 PM
To: Peverini, Matthew <MPeverini@aurora.ca>
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug <Doug.denOuden@wsp.com>; Medic, Ismet <Ismet.Medic@wsp.com>; Bat, Michael <MBat@aurora.ca>
Subject: RE: DATA REQUEST

Hi Peverini,

As per emails below, we are looking for obtaining the information associated to the developments with application numbers **34** and **49**?

A copy of the full TIS, as well as site traffic figures and trip generation details for these background developments would be greatly appreciated.

Thanks,

Kian Azari, EIT
Transportation Planner
Planning & Advisory
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From: Azari, Kian
Sent: May 27, 2021 3:10 PM
To: Bat, Michael <MBat@aurora.ca>
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug <Doug.denOuden@wsp.com>; Medic, Ismet <Ismet.Medic@wsp.com>
Subject: RE: DATA REQUEST

Hi Michael,

Thank you for the clarification and your input. We will incorporate these two background developments in our Traffic Study.

Thanks,
Kian

From: Bat, Michael <MBat@aurora.ca>
Sent: May 27, 2021 2:17 PM
To: Azari, Kian <Kian.Azari@wsp.com>
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug <Doug.denOuden@wsp.com>; Medic, Ismet <Ismet.Medic@wsp.com>
Subject: RE: DATA REQUEST

Hi Kian,

Based on my review, the applicable applications are no. 34 and no. 49.

Thank you.

Michael

From: Azari, Kian <Kian.Azari@wsp.com>
Sent: Thursday, May 27, 2021 11:27 AM
To: Bat, Michael <MBat@aurora.ca>
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug <Doug.denOuden@wsp.com>; Medic, Ismet <Ismet.Medic@wsp.com>
Subject: RE: DATA REQUEST

Hi Michael,

I am just following up on the request below. Due to the tight project timelines, we would appreciate if you can provide this information ASAP this week.

Please let me know if you have any questions.

Thanks,

Kian Azari, EIT

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Just following up on the request below.

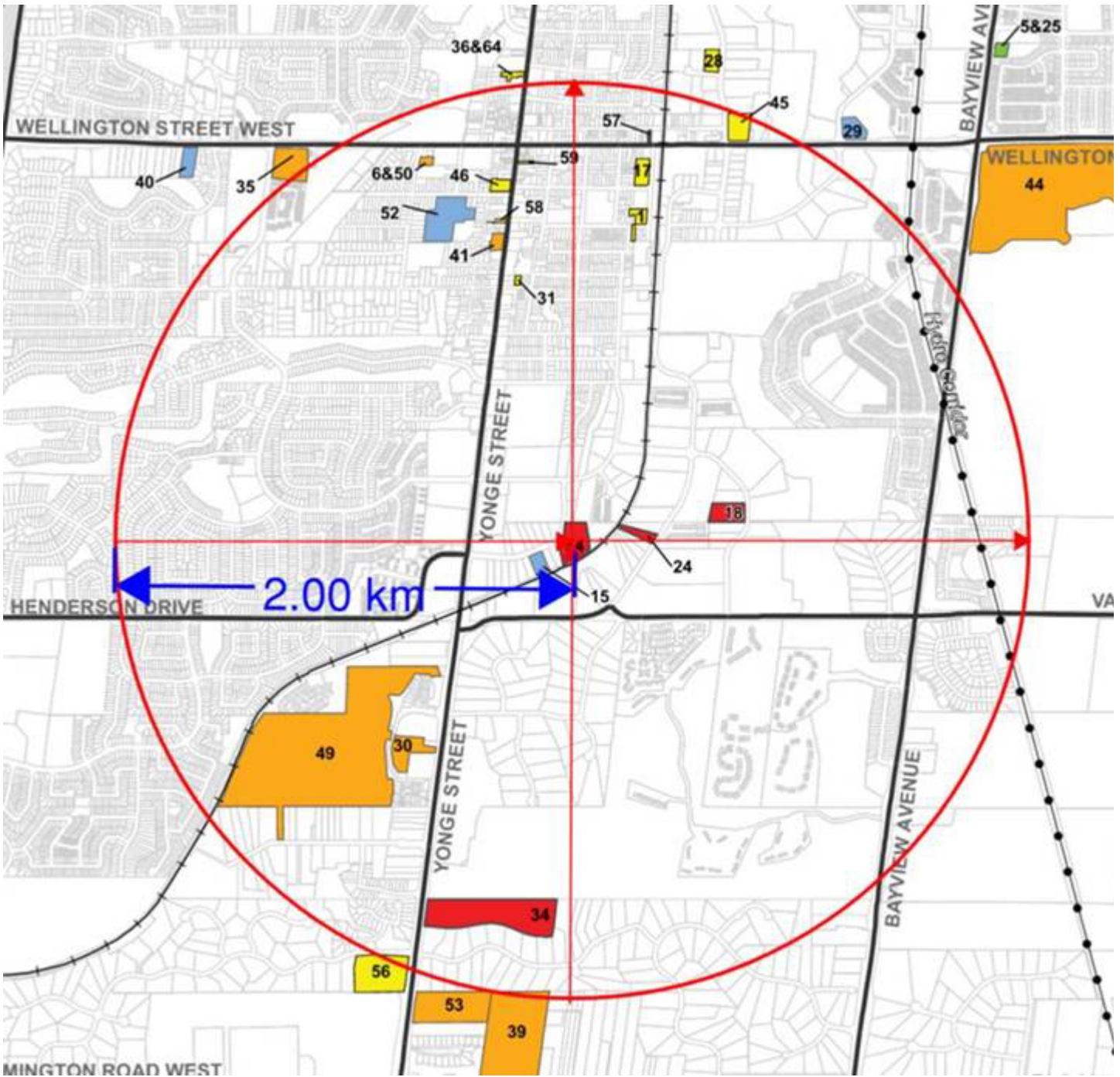
From: Azari, Kian
Sent: May 25, 2021 12:27 PM
To: Bat, Michael <MBat@aurora.ca>
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug <Doug.denOuden@wsp.com>
Subject: FW: DATA REQUEST

Hi Michael,

Thank you for the response, but we are hoping to get more clarity if possible on the planned developments within 2 km of the site.

As you can see from the rough sketch below, two kilometres is a fairly broad area and would be quite challenging to capture in the context of our study. Looking at the map below, would it make sense to instead just capture developments **18, 24, 15, 31, 41, 58, 49, 30, 34, 52** and **46**?

Let us know if you agree with this list of developments, or wish for us to include more on the map.



Regards,

Kian Azari, EIT
 Transportation Planner
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From: Bat, Michael <MBat@aurora.ca>
Sent: May 14, 2021 4:06 PM
To: Azari, Kian <Kian.Azari@wsp.com>
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug <Doug.denOuden@wsp.com>
Subject: RE: DATA REQUEST

Hi Kian,

Please see my response below in green. Thank you.

Michael

From: Azari, Kian <Kian.Azari@wsp.com>
Sent: Monday, May 10, 2021 9:43 AM
To: Bat, Michael <MBat@aurora.ca>
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug <Doug.denOuden@wsp.com>
Subject: RE: DATA REQUEST

Good morning Michael,

I am just following up on the request below. If you can please provide this information ASAP this week, it would be appreciated.

Please let me know if you have any questions.

Thanks,

Kian Azari, EIT
Transportation Planner
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From: Azari, Kian
Sent: April 30, 2021 11:39 AM
To: MBat@aurora.ca
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug

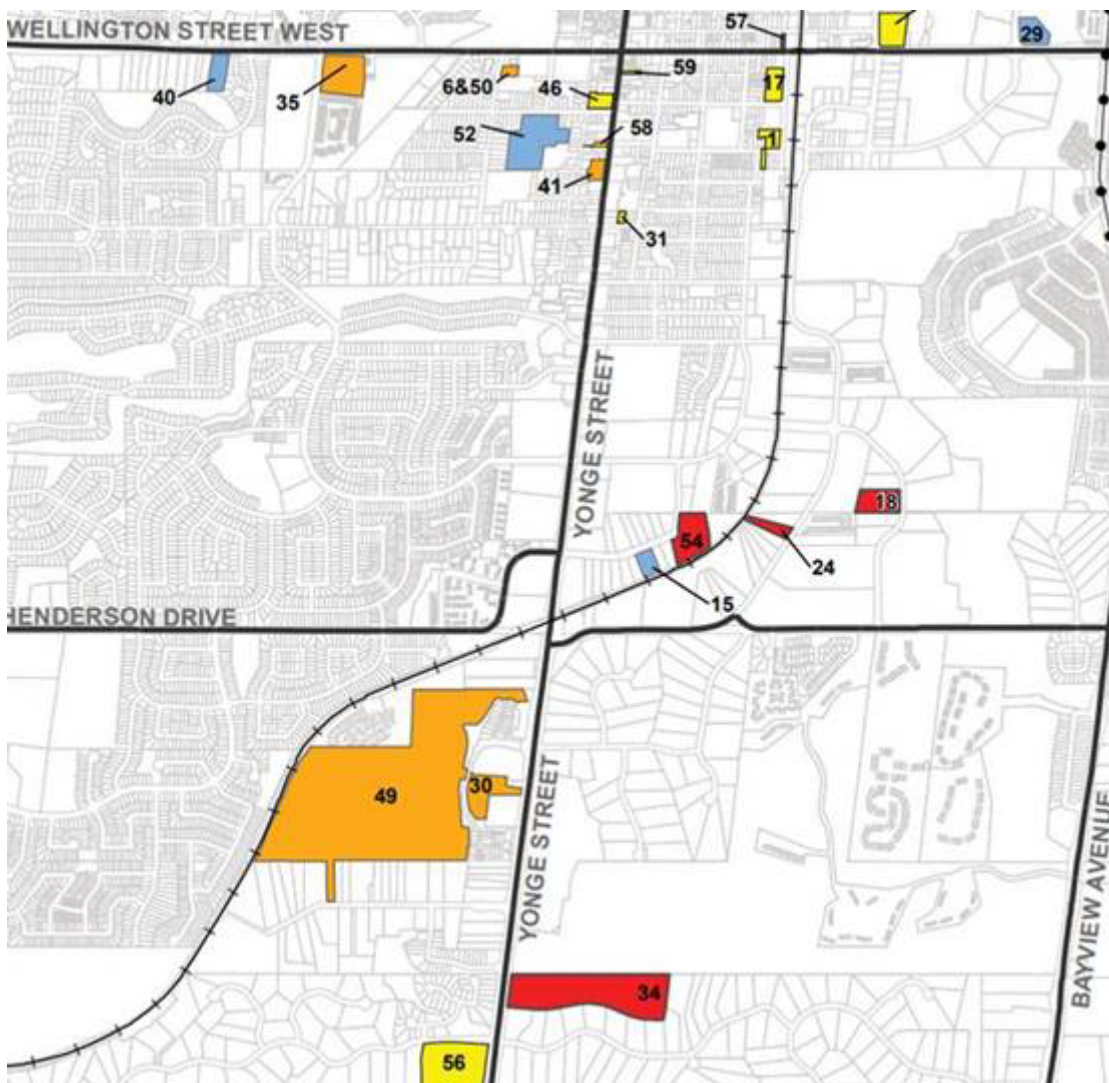
<Doug.denOuden@wsp.com>

Subject: DATA REQUEST

Hi Michael,

I want to follow up on the email below for the 27-35 Allaura Boulevard project, as well as provide additional questions we have before providing the Terms of Reference (ToR) to the Town's transportation team. I would greatly appreciate it if you can assist us with the following questions:

- There appears to be some new developments planned adjacent to our subject site #54 (see photo below). Could you please advise on any planned **background developments** that need to be accounted for in our study, and the traffic impact studies associated to these developments? A copy of the full TIS, as well as site traffic figures and trip generation details for these background developments would be greatly appreciated. **The planned developments within 2 km of the site should be included to calculate background growth. If you wish to review any of the submitted traffic studies, please contact the Planning Department: <https://www.aurora.ca/en/your-government/resources/development-planning/Status-Map.pdf>**



1. Please advise on any **general growth rates** to be applied along Yonge Street and Edward Street to forecast the 2026 volumes. Do you have any available AADT or ATR data along Allaura, Yonge and Edward?

Growth rate assumptions should be based on historical data and professional judgement. The Town has the following AADT: Yonge St between Edward St and Allaura Blvd, dated June 2008. We don't have any other relevant TMC or AADT within the area.

2. Based on the available information, the Yonge Street rapid transit is planned to be implemented curbside via Aurora downtown from 2022 to 2026. Can you provide an update on the status of this improvement, and confirm the anticipated date of construction/completion? Is the rapid transit planned to be implemented in near future, so that we can consider it in our study? Any concept drawings or diagrams of this improvement, if available, would be very helpful.

Please contact York Region for status update.

Due to the tight project timelines, we appreciate your response at your earliest convenience.

Thank you in advance,

Kian Azari, EIT
Transportation Planner
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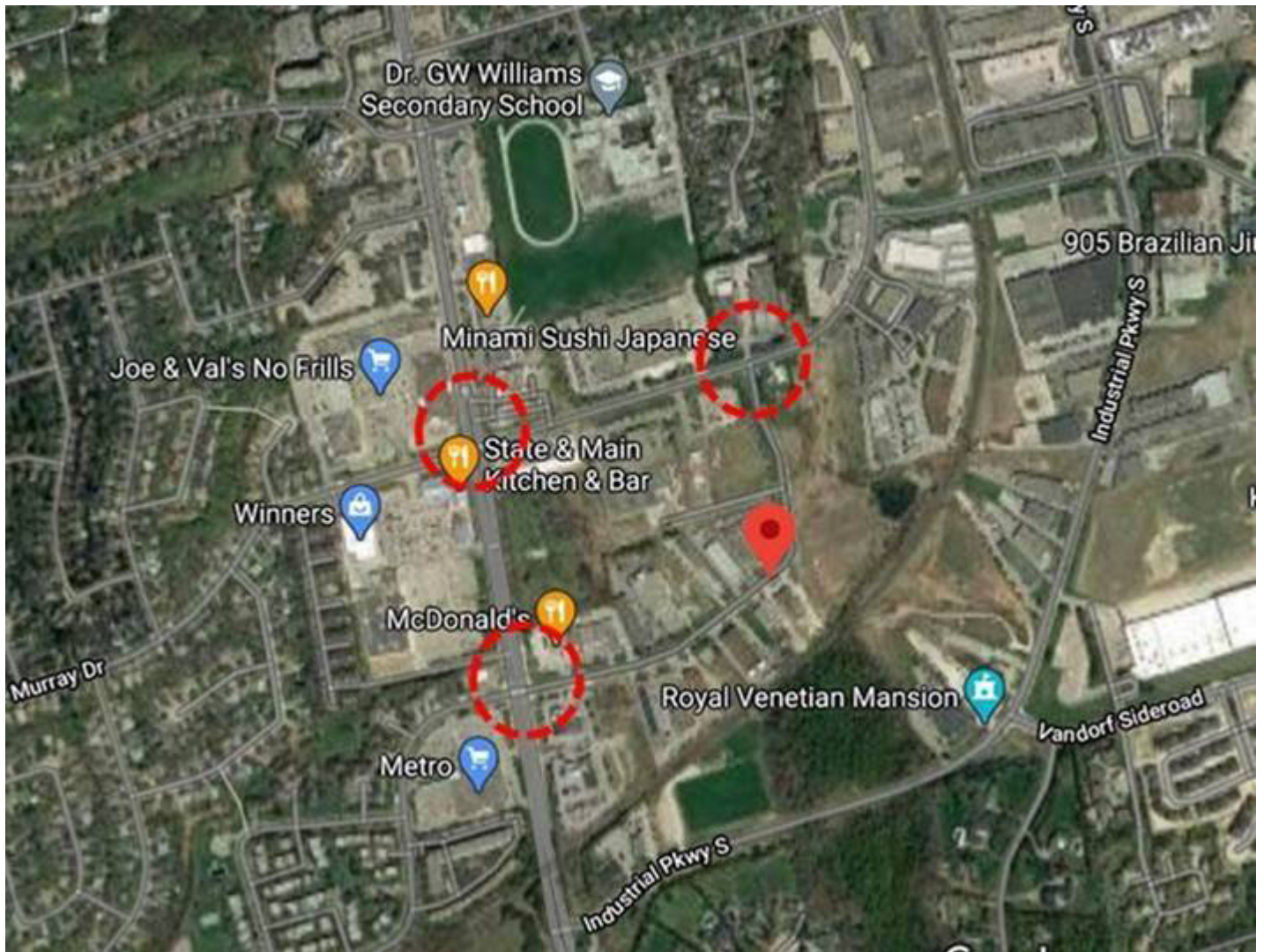
From: Azari, Kian
Sent: April 23, 2021 9:58 AM
To: MBat@aurora.ca
Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>
Subject: DATA REQUEST

Good morning Michael,

WSP Canada Limited is undertaking a Transportation Impact Study (TIS) in support of the proposed multi-building industrial employment complex located on 27-35 Allaura Boulevard in the Town of Aurora. We are looking to provide the Terms of Reference (ToR) for the TIS to the Town's transportation team for review. However, I was unable to find a contact that we obtained traffic counts at the following study intersections:

1. **Yonge Street & Edward Street / Murray Drive (signalized);**
2. **Yonge Street & Allaura Blvd / Henderson Drive (signalized); and**
3. **Allaura Blvd & Edward Street (unsignalized).**

We need to know the availability and the year of the counts.



Best regards,

Kian Azari, EIT
Transportation Planner
Planning & Advisory
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APPENDIX

B

TRAFFIC DATA



Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00
To: 10:00:00

One Hour Peak

From: 8:00:00
To: 9:00:00

Municipality: Aurora
Site #: 1825300007
Intersection: Yonge St & Brookland Ave-Comme
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1312
North Entering: 709
North Peds: 5
Peds Cross: \bowtie

Cyclists	0	1	0	1
Trucks	1	22	0	23
Cars	15	667	3	685
Totals	16	690	3	



Cyclists	1
Trucks	19
Cars	583
Totals	603

East Leg Total: 55
East Entering: 18
East Peds: 5
Peds Cross: \bowtie

Cyclists	Trucks	Cars	Totals
0	4	30	34

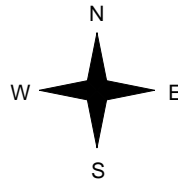


Yonge St

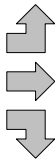
Cars	Trucks	Cyclists	Totals
2	0	0	2
2	1	0	3
13	0	0	13
17	1	0	



Brookland Ave



Cyclists	Trucks	Cars	Totals
0	0	30	30
0	0	5	5
0	2	24	26
0	2	59	



Yonge St



Commercial Access



Cars	Trucks	Cyclists	Totals
37	0	0	37

Peds Cross: \bowtie
West Peds: 12
West Entering: 61
West Leg Total: 95

Cars	704	Cars	13	551	29	593
Trucks	24	Trucks	2	19	0	21
Cyclists	1	Cyclists	0	1	0	1
Totals	729	Totals	15	571	29	



Peds Cross: \bowtie
South Peds: 9
South Entering: 615
South Leg Total: 1344

Comments

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period

From: 11:30:00
To: 13:30:00

One Hour Peak

From: 12:15:00
To: 13:15:00

Municipality: Aurora
Site #: 1825300007
Intersection: Yonge St & Brookland Ave-Comme
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1524
North Entering: 753
North Peds: 1
Peds Cross: \bowtie

Cyclists	0	0	0	0
Trucks	2	20	0	22
Cars	45	680	6	731
Totals	47	700	6	



Cyclists	0
Trucks	11
Cars	760
Totals	771

East Leg Total: 113
East Entering: 56
East Peds: 18
Peds Cross: \bowtie

Cyclists	0
Trucks	2
Cars	89
Totals	91

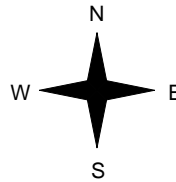


Yonge St

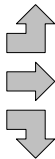
Cars	18	0	0	18
Trucks	0	0	0	0
Cyclists	5	0	0	5
Totals	33	0	0	33
Totals	56	0	0	



Brookland Ave



Cyclists	0
Trucks	0
Cars	48
Totals	48
Cyclists	0
Trucks	0
Cars	4
Totals	4
Cyclists	0
Trucks	1
Cars	46
Totals	47
Cyclists	0
Trucks	1
Cars	98
Totals	99



Yonge St

Commercial Access



Cars	57	0	0	57
Trucks	0	0	0	0
Cyclists	0	0	0	0
Totals	57	0	0	

Peds Cross: \bowtie
West Peds: 23
West Entering: 99
West Leg Total: 190

Cars	759	39	694	47	780
Trucks	21	0	11	0	11
Cyclists	0	0	0	0	0
Totals	780	39	705	47	



Peds Cross: \bowtie
South Peds: 8
South Entering: 791
South Leg Total: 1571

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:30:00
To: 18:30:00

One Hour Peak

From: 16:30:00
To: 17:30:00

Municipality: Aurora
Site #: 1825300007
Intersection: Yonge St & Brookland Ave-Comme
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1738
North Entering: 739
North Peds: 4
Peds Cross: \bowtie

Cyclists	0	2	0	2
Trucks	0	20	0	20
Cars	60	651	6	717
Totals	60	673	6	

Cyclists	4
Trucks	18
Cars	977
Totals	999

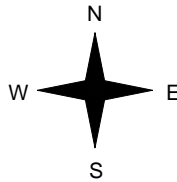
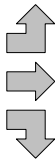
East Leg Total: 125
East Entering: 63
East Peds: 10
Peds Cross: \bowtie

Cyclists	Trucks	Cars	Totals
0	0	130	130



Brookland Ave

Cyclists	Trucks	Cars	Totals
0	0	46	46
0	0	10	10
0	0	72	72
0	0	128	



Yonge St



Cars	Trucks	Cyclists	Totals
15	1	0	16
9	0	0	9
36	0	2	38
60	1	2	



Commercial Access



Cars	Trucks	Cyclists	Totals
61	0	1	62

Peds Cross: \bowtie
West Peds: 53
West Entering: 128
West Leg Total: 258

Cars	759
Trucks	20
Cyclists	4
Totals	783

Cars	61	916	45	1022
Trucks	0	17	0	17
Cyclists	0	4	1	5
Totals	61	937	46	

Peds Cross: \bowtie
South Peds: 14
South Entering: 1044
South Leg Total: 1827

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Aurora
Site #: 1825300007
Intersection: Yonge St & Brookland Ave-Comme
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

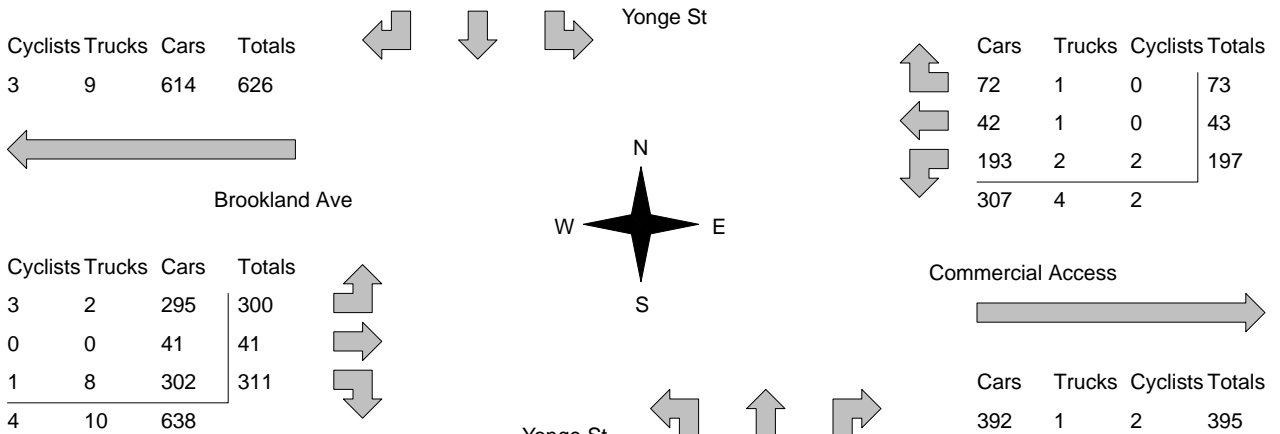
Major Road: Yonge St runs N/S

North Leg Total: 11278
 North Entering: 5528
 North Peds: 22
 Peds Cross: ⚡

Cyclists	2	10	1	13
Trucks	6	156	0	162
Cars	296	5011	46	5353
Totals	304	5177	47	

Cyclists 11
 Trucks 142
 Cars 5597
 Totals 5750

East Leg Total: 708
 East Entering: 313
 East Peds: 73
 Peds Cross: ⚡



Peds Cross: ⚡
 West Peds: 233
 West Entering: 652
 West Leg Total: 1278

Cars	5506	Cars	276	5230	305	5811
Trucks	166	Trucks	2	139	1	142
Cyclists	13	Cyclists	1	8	1	10
Totals	5685	Totals	279	5377	307	

Peds Cross: ⚡
 South Peds: 63
 South Entering: 5963
 South Leg Total: 11648

Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: Yonge St & Brookland Ave-Comm													Count Date: 27-Jun-18		Municipality: Aurora	
North Approach Totals						South Approach Totals										
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	North/South Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds				
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total					
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0				
8:00:00	0	603	13	616	0	1025	8:00:00	9	391	9	409	1				
9:00:00	3	690	16	709	5	1324	9:00:00	15	571	29	615	9				
10:00:00	6	595	18	619	2	1214	10:00:00	15	553	27	595	9				
12:00:00	1	308	25	334	3	739	12:00:00	19	368	18	405	1				
13:00:00	6	694	45	745	1	1527	13:00:00	43	692	47	782	8				
16:00:00	7	668	42	717	3	1509	16:00:00	43	700	49	792	7				
17:00:00	5	664	65	734	4	1698	17:00:00	53	876	35	964	12				
18:00:00	7	643	55	705	3	1673	18:00:00	58	856	54	968	13				
Totals:	35	4865	279	5179	21	10709		255	5007	268	5530	60				
East Approach Totals						West Approach Totals										
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	East/West Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds				
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total					
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0				
8:00:00	4	0	3	7	3	44	8:00:00	27	1	9	37	8				
9:00:00	13	3	2	18	5	79	9:00:00	30	5	26	61	12				
10:00:00	18	4	7	29	10	81	10:00:00	22	5	25	52	26				
12:00:00	14	2	2	18	3	62	12:00:00	20	3	21	44	19				
13:00:00	35	3	21	59	18	159	13:00:00	49	3	48	100	31				
16:00:00	31	7	13	51	10	144	16:00:00	50	4	39	93	29				
17:00:00	25	10	9	44	12	146	17:00:00	40	5	57	102	42				
18:00:00	45	10	14	69	9	193	18:00:00	43	13	68	124	50				
Totals:	185	39	71	295	70	908		281	39	293	613	217				
Calculated Values for Traffic Crossing Major Street																
Hours Ending:	8:00	9:00	10:00	12:00		13:00	16:00	17:00	18:00							
Crossing Values:	33	62	56	41		96	98	91	117							

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300007

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Cyclists - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	129	129	4	4	0	0	5	5	0	0	0	0	0	0	1	1	0	0
7:30:00	0	0	253	124	7	3	0	0	11	6	0	0	0	0	0	0	1	0	0	0
7:45:00	0	0	438	185	9	2	0	0	13	2	0	0	0	0	0	0	1	0	0	0
8:00:00	0	0	583	145	12	3	0	0	20	7	0	0	0	0	0	0	1	0	0	0
8:15:00	2	2	762	179	14	2	0	0	26	6	0	0	0	0	0	0	1	0	4	4
8:30:00	2	0	944	182	16	2	0	0	31	5	1	1	0	0	1	1	1	0	4	0
8:45:00	3	1	1107	163	23	7	0	0	37	6	1	0	0	0	1	0	1	0	4	0
9:00:00	3	0	1250	143	27	4	0	0	42	5	1	0	0	0	1	0	1	0	5	1
9:15:00	4	1	1415	165	34	7	0	0	48	6	1	0	0	0	1	0	1	0	6	1
9:30:00	4	0	1550	135	37	3	0	0	54	6	2	1	0	0	1	0	1	0	6	0
9:45:00	5	1	1686	136	44	7	0	0	61	7	2	0	0	0	1	0	1	0	6	0
10:00:00	9	4	1818	132	44	0	0	0	68	7	2	0	0	0	2	1	1	0	7	1
10:01:05	9	0	1818	0	44	0	0	0	68	0	2	0	0	0	2	0	1	0	7	0
11:30:00	9	0	1818	0	44	0	0	0	68	0	2	0	0	0	2	0	1	0	7	0
11:45:00	9	0	1970	152	50	6	0	0	71	3	2	0	0	0	3	1	1	0	8	1
12:00:00	10	1	2118	148	69	19	0	0	75	4	2	0	0	0	3	0	1	0	10	2
12:15:00	11	1	2287	169	80	11	0	0	80	5	4	2	1	1	3	0	1	0	10	0
12:30:00	13	2	2453	166	91	11	0	0	83	3	5	1	1	0	3	0	1	0	10	0
12:45:00	15	2	2616	163	100	9	0	0	87	4	6	1	1	0	3	0	1	0	11	1
13:00:00	15	0	2792	176	110	10	0	0	95	8	6	0	1	0	3	0	1	0	11	0
13:15:00	17	2	2967	175	125	15	0	0	100	5	6	0	1	0	3	0	1	0	11	0
13:30:00	20	3	3131	164	135	10	0	0	103	3	6	0	1	0	4	1	1	0	12	1
13:31:42	20	0	3131	0	135	0	0	0	103	0	6	0	1	0	4	0	1	0	12	0
15:30:00	20	0	3131	0	135	0	0	0	103	0	6	0	1	0	4	0	1	0	12	0
15:45:00	22	2	3294	163	141	6	0	0	109	6	6	0	1	0	4	0	1	0	13	1
16:00:00	22	0	3438	144	152	11	0	0	116	7	6	0	1	0	4	0	1	0	14	1
16:15:00	23	1	3597	159	174	22	0	0	119	3	6	0	1	0	5	1	1	0	14	0
16:30:00	26	3	3756	159	190	16	0	0	122	3	6	0	1	0	6	1	1	0	15	1
16:45:00	27	1	3916	160	200	10	0	0	128	6	6	0	1	0	7	1	1	0	15	0
17:00:00	27	0	4084	168	217	17	0	0	131	3	6	0	1	0	7	0	1	0	18	3
17:15:00	29	2	4255	171	232	15	0	0	137	6	6	0	1	0	8	1	1	0	19	1
17:30:00	32	3	4407	152	250	18	0	0	142	5	6	0	1	0	8	0	1	0	19	0
17:45:00	34	2	4569	162	263	13	0	0	144	2	6	0	1	0	10	2	1	0	19	0
18:00:00	34	0	4708	139	272	9	0	0	147	3	6	0	1	0	10	0	1	0	21	2
18:15:00	38	4	4885	177	283	11	0	0	151	4	6	0	1	0	10	0	1	0	22	1
18:30:00	46	8	5011	126	296	13	0	0	156	5	6	0	1	0	10	0	2	1	22	0
18:45:00	46	0	5011	0	296	0	0	0	156	0	6	0	1	0	10	0	2	0	22	0
18:47:01	46	0	5011	0	296	0	0	0	156	0	6	0	1	0	10	0	2	0	22	0

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300007

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Cyclists - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2
7:30:00	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1
7:45:00	3	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
8:00:00	4	1	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0
8:15:00	8	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3
8:30:00	10	2	1	1	3	0	0	0	1	1	0	0	0	0	0	0	0	0	7	1
8:45:00	11	1	1	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	7	0
9:00:00	17	6	2	1	5	2	0	0	1	0	0	0	0	0	0	0	0	0	8	1
9:15:00	20	3	3	1	9	4	0	0	1	0	0	0	0	0	0	0	0	0	11	3
9:30:00	28	8	3	0	10	1	0	0	1	0	0	0	0	0	0	0	0	0	13	2
9:45:00	32	4	4	1	11	1	0	0	1	0	0	0	0	0	0	0	0	0	16	3
10:00:00	35	3	6	2	12	1	0	0	1	0	0	0	0	0	0	0	0	0	18	2
10:01:05	35	0	6	0	12	0	0	0	1	0	0	0	0	0	0	0	0	0	18	0
11:30:00	35	0	6	0	12	0	0	0	1	0	0	0	0	0	0	0	0	0	18	0
11:45:00	45	10	7	1	14	2	1	1	1	0	0	0	0	0	0	0	0	0	20	2
12:00:00	48	3	8	1	14	0	1	0	1	0	0	0	0	0	0	0	0	0	21	1
12:15:00	58	10	8	0	19	5	1	0	1	0	0	0	0	0	0	0	0	0	26	5
12:30:00	63	5	10	2	25	6	1	0	1	0	0	0	0	0	0	0	0	0	28	2
12:45:00	74	11	10	0	29	4	1	0	1	0	0	0	0	0	0	0	0	0	33	5
13:00:00	83	9	11	1	35	6	1	0	1	0	0	0	0	0	0	0	0	0	39	6
13:15:00	91	8	13	2	37	2	1	0	1	0	0	0	0	0	0	0	0	0	44	5
13:30:00	102	11	15	2	42	5	1	0	1	0	0	0	0	0	0	0	0	0	46	2
13:31:42	102	0	15	0	42	0	1	0	1	0	0	0	0	0	0	0	0	0	46	0
15:30:00	102	0	15	0	42	0	1	0	1	0	0	0	0	0	0	0	0	0	46	0
15:45:00	108	6	15	0	44	2	1	0	1	0	0	0	0	0	0	0	0	0	47	1
16:00:00	114	6	18	3	48	4	1	0	1	0	0	0	0	0	0	0	0	0	49	2
16:15:00	121	7	20	2	50	2	1	0	1	0	0	0	0	0	0	0	0	0	51	2
16:30:00	125	4	24	4	52	2	1	0	1	0	0	0	0	0	0	0	0	0	55	4
16:45:00	130	5	26	2	52	0	1	0	1	0	0	0	0	0	0	0	0	0	60	5
17:00:00	137	7	28	2	57	5	1	0	1	0	0	0	2	2	0	0	0	0	61	1
17:15:00	150	13	32	4	63	6	1	0	1	0	1	1	2	0	0	0	0	0	63	2
17:30:00	161	11	33	1	67	4	1	0	1	0	1	0	2	0	0	0	0	0	65	2
17:45:00	171	10	36	3	69	2	1	0	1	0	1	0	2	0	0	0	0	0	67	2
18:00:00	182	11	38	2	70	1	1	0	1	0	1	0	2	0	0	0	0	0	70	3
18:15:00	187	5	40	2	70	0	2	1	1	0	1	0	2	0	0	0	0	0	72	2
18:30:00	193	6	42	2	72	2	2	0	1	0	1	0	2	0	0	0	0	0	73	1
18:45:00	193	0	42	0	72	0	2	0	1	0	1	0	2	0	0	0	0	0	73	0
18:47:01	193	0	42	0	72	0	2	0	1	0	1	0	2	0	0	0	0	0	73	0

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300007

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	67	67	4	4	0	0	4	4	0	0	1	1	0	0	0	0	0	0
7:30:00	1	1	148	81	5	1	0	0	8	4	0	0	1	0	0	0	0	0	1	1
7:45:00	4	3	239	91	6	1	0	0	12	4	0	0	1	0	1	1	0	0	1	0
8:00:00	8	4	371	132	9	3	0	0	19	7	0	0	1	0	1	0	0	0	1	0
8:15:00	11	3	505	134	14	5	1	1	27	8	0	0	1	0	2	1	0	0	5	4
8:30:00	12	1	643	138	20	6	2	1	28	1	0	0	1	0	2	0	0	0	7	2
8:45:00	16	4	784	141	26	6	2	0	32	4	0	0	1	0	2	0	0	0	10	3
9:00:00	21	5	922	138	38	12	2	0	38	6	0	0	1	0	2	0	0	0	10	0
9:15:00	23	2	1058	136	48	10	2	0	42	4	0	0	1	0	2	0	0	0	15	5
9:30:00	25	2	1189	131	57	9	2	0	47	5	0	0	1	0	2	0	0	0	16	1
9:45:00	27	2	1325	136	59	2	2	0	53	6	0	0	1	0	2	0	0	0	17	1
10:00:00	36	9	1453	128	65	6	2	0	60	7	0	0	1	0	2	0	0	0	19	2
10:01:05	36	0	1453	0	65	0	2	0	60	0	0	0	1	0	2	0	0	0	19	0
11:30:00	36	0	1453	0	65	0	2	0	60	0	0	0	1	0	2	0	0	0	19	0
11:45:00	46	10	1641	188	69	4	2	0	66	6	0	0	1	0	2	0	0	0	20	1
12:00:00	55	9	1811	170	83	14	2	0	70	4	0	0	1	0	2	0	0	0	20	0
12:15:00	67	12	1980	169	97	14	2	0	74	4	0	0	1	0	2	0	0	0	21	1
12:30:00	77	10	2167	187	105	8	2	0	77	3	0	0	1	0	2	0	0	0	23	2
12:45:00	87	10	2324	157	122	17	2	0	78	1	0	0	1	0	2	0	0	0	26	3
13:00:00	98	11	2492	168	130	8	2	0	81	3	0	0	1	0	2	0	0	0	28	2
13:15:00	106	8	2674	182	144	14	2	0	85	4	0	0	1	0	2	0	0	0	29	1
13:30:00	122	16	2843	169	160	16	2	0	87	2	1	1	1	0	2	0	0	0	30	1
13:31:42	122	0	2843	0	160	0	2	0	87	0	1	0	1	0	2	0	0	0	30	0
15:30:00	122	0	2843	0	160	0	2	0	87	0	1	0	1	0	2	0	0	0	30	0
15:45:00	134	12	3008	165	169	9	2	0	92	5	1	0	1	0	2	0	0	0	34	4
16:00:00	141	7	3179	171	178	9	2	0	94	2	1	0	1	0	2	0	0	0	35	1
16:15:00	152	11	3375	196	189	11	2	0	101	7	1	0	1	0	3	1	0	0	38	3
16:30:00	161	9	3565	190	198	9	2	0	104	3	1	0	1	0	3	0	0	0	38	0
16:45:00	177	16	3791	226	202	4	2	0	109	5	1	0	1	0	3	0	0	0	44	6
17:00:00	194	17	4034	243	213	11	2	0	113	4	1	0	1	0	4	1	0	0	47	3
17:15:00	209	15	4274	240	225	12	2	0	117	4	1	0	1	0	4	0	0	0	50	3
17:30:00	222	13	4481	207	243	18	2	0	121	4	1	0	1	0	7	3	1	1	52	2
17:45:00	237	15	4676	195	255	12	2	0	126	5	1	0	1	0	7	0	1	0	58	6
18:00:00	252	15	4869	193	266	11	2	0	131	5	1	0	1	0	7	0	1	0	60	2
18:15:00	261	9	5050	181	287	21	2	0	135	4	1	0	1	0	8	1	1	0	62	2
18:30:00	276	15	5230	180	305	18	2	0	139	4	1	0	1	0	8	0	1	0	63	1
18:45:00	276	0	5230	0	305	0	2	0	139	0	1	0	1	0	8	0	1	0	63	0
18:47:01	276	0	5230	0	305	0	2	0	139	0	1	0	1	0	8	0	1	0	63	0

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300007

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	7	7	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0
7:30:00	13	6	0	0	2	1	0	0	0	0	0	0	1	0	0	0	0	0	2	2
7:45:00	20	7	1	1	6	4	0	0	0	0	0	0	2	1	0	0	0	0	4	2
8:00:00	25	5	1	0	9	3	0	0	0	0	0	0	2	0	0	0	0	0	8	4
8:15:00	34	9	2	1	13	4	0	0	0	0	0	0	2	0	0	0	0	0	13	5
8:30:00	43	9	3	1	19	6	0	0	0	0	1	1	2	0	0	0	0	0	15	2
8:45:00	50	7	5	2	29	10	0	0	0	0	2	1	2	0	0	0	0	0	18	3
9:00:00	55	5	6	1	33	4	0	0	0	0	2	0	2	0	0	0	0	0	20	2
9:15:00	58	3	7	1	41	8	0	0	0	0	2	0	3	1	0	0	0	0	23	3
9:30:00	62	4	9	2	44	3	1	1	0	0	4	2	3	0	0	0	0	0	28	5
9:45:00	70	8	10	1	50	6	1	0	0	0	4	0	3	0	0	0	0	0	36	8
10:00:00	75	5	11	1	56	6	1	0	0	0	4	0	3	0	0	0	0	0	46	10
10:01:05	75	0	11	0	56	0	1	0	0	0	4	0	3	0	0	0	0	0	46	0
11:30:00	75	0	11	0	56	0	1	0	0	0	4	0	3	0	0	0	0	0	46	0
11:45:00	83	8	13	2	65	9	1	0	0	0	5	1	3	0	0	0	0	0	58	12
12:00:00	94	11	14	1	75	10	2	1	0	0	6	1	3	0	0	0	0	0	65	7
12:15:00	106	12	14	0	86	11	2	0	0	0	6	0	3	0	0	0	0	0	78	13
12:30:00	116	10	14	0	103	17	2	0	0	0	6	0	3	0	0	0	0	0	87	9
12:45:00	130	14	15	1	112	9	2	0	0	0	7	1	3	0	0	0	0	0	93	6
13:00:00	143	13	17	2	122	10	2	0	0	0	7	0	3	0	0	0	0	0	96	3
13:15:00	154	11	18	1	132	10	2	0	0	0	7	0	3	0	0	0	0	0	101	5
13:30:00	172	18	19	1	140	8	2	0	0	0	7	0	3	0	0	0	0	0	106	5
13:31:42	172	0	19	0	140	0	2	0	0	0	7	0	3	0	0	0	0	0	106	0
15:30:00	172	0	19	0	140	0	2	0	0	0	7	0	3	0	0	0	0	0	106	0
15:45:00	177	5	19	0	150	10	2	0	0	0	7	0	3	0	0	0	1	1	116	10
16:00:00	193	16	21	2	160	10	2	0	0	0	7	0	3	0	0	0	1	0	125	9
16:15:00	200	7	21	0	175	15	2	0	0	0	8	1	3	0	0	0	1	0	131	6
16:30:00	211	11	23	2	188	13	2	0	0	0	8	0	3	0	0	0	1	0	144	13
16:45:00	223	12	24	1	203	15	2	0	0	0	8	0	3	0	0	0	1	0	157	13
17:00:00	233	10	26	2	216	13	2	0	0	0	8	0	3	0	0	0	1	0	167	10
17:15:00	246	13	29	3	239	23	2	0	0	0	8	0	3	0	0	0	1	0	182	15
17:30:00	257	11	33	4	260	21	2	0	0	0	8	0	3	0	0	0	1	0	197	15
17:45:00	267	10	34	1	270	10	2	0	0	0	8	0	3	0	0	0	1	0	204	7
18:00:00	276	9	39	5	284	14	2	0	0	0	8	0	3	0	0	0	1	0	217	13
18:15:00	286	10	40	1	293	9	2	0	0	0	8	0	3	0	0	0	1	0	225	8
18:30:00	295	9	41	1	302	9	2	0	0	0	8	0	3	0	0	0	1	0	233	8
18:45:00	295	0	41	0	302	0	2	0	0	0	8	0	3	0	0	0	1	0	233	0
18:47:01	295	0	41	0	302	0	2	0	0	0	8	0	3	0	0	0	1	0	233	0

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00
To: 10:00:00

One Hour Peak

From: 8:15:00
To: 9:15:00

Municipality: Aurora
Site #: 1825300008
Intersection: Yonge St & Murray Dr-Edward St
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1340
North Entering: 704
North Peds: 7
Peds Cross: \bowtie

Cyclists	0	0	0	0
Trucks	2	22	0	24
Cars	42	575	63	680
Totals	44	597	63	

Cyclists	0
Trucks	16
Cars	620
Totals	636

East Leg Total: 435
East Entering: 163
East Peds: 7
Peds Cross: \bowtie

Cyclists	Trucks	Cars	Totals
0	15	203	218

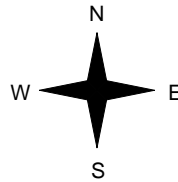


Yonge St

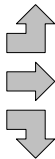
Cars	Trucks	Cyclists	Totals
38	0	0	38
81	5	0	86
34	5	0	39
153	10	0	



Murray Dr



Cyclists	Trucks	Cars	Totals
0	1	101	102
0	5	131	136
0	1	99	100
0	7	331	



Edward St



Cars	Trucks	Cyclists	Totals
264	8	0	272

Peds Cross: \bowtie
West Peds: 7
West Entering: 338
West Leg Total: 556

Cars	708	Cars	80	481	70	631
Trucks	28	Trucks	8	15	3	26
Cyclists	0	Cyclists	0	0	0	0
Totals	736	Totals	88	496	73	



Yonge St



Peds Cross: \bowtie
South Peds: 8
South Entering: 657
South Leg Total: 1393

Comments

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period

From: 11:30:00
To: 13:30:00

One Hour Peak

From: 12:00:00
To: 13:00:00

Municipality: Aurora
Site #: 1825300008
Intersection: Yonge St & Murray Dr-Edward St
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1542
North Entering: 762
North Peds: 8
Peds Cross: \bowtie

Cyclists	0	0	0	0
Trucks	0	17	4	21
Cars	106	565	70	741
Totals	106	582	74	



Cyclists 0
Trucks 11
Cars 769
Totals 780

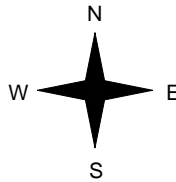
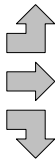
East Leg Total: 572
East Entering: 317
East Peds: 9
Peds Cross: \bowtie

Cyclists	0	Trucks	4	Cars	364	Totals	368
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Murray Dr

Cyclists	0	Trucks	0	Cars	133	Totals	133
	0		2		140		142
	0		2		114		116
	0		4		387		



Yonge St

Cars	64	Trucks	0	Cyclists	0	Totals	64
	144		1		0		145
	105		3		0		108
	313		4		0		

Edward St



Cars	249	Trucks	6	Cyclists	0	Totals	255
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Peds Cross: \bowtie
West Peds: 12
West Entering: 391
West Leg Total: 759

Cars	784	Cars	114	572	39	725
Trucks	22	Trucks	3	11	0	14
Cyclists	0	Cyclists	0	0	0	0
Totals	806	Totals	117	583	39	



Peds Cross: \bowtie
South Peds: 8
South Entering: 739
South Leg Total: 1545

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:30:00
To: 18:30:00

One Hour Peak

From: 16:30:00
To: 17:30:00

Municipality: Aurora
Site #: 1825300008
Intersection: Yonge St & Murray Dr-Edward St
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1791
North Entering: 763
North Peds: 13
Peds Cross: \bowtie

Cyclists	0	0	1	1
Trucks	2	16	2	20
Cars	86	619	37	742
Totals	88	635	40	



Cyclists	0
Trucks	17
Cars	1011
Totals	1028

East Leg Total: 656
East Entering: 423
East Peds: 5
Peds Cross: \bowtie

Cyclists	Trucks	Cars	Totals
3	8	460	471

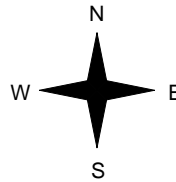


Yonge St

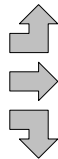
Cars	Trucks	Cyclists	Totals
94	1	0	95
202	6	3	211
115	2	0	117
411	9	3	



Murray Dr



Cyclists	Trucks	Cars	Totals
0	1	129	130
1	6	138	145
0	1	153	154
1	8	420	



Edward St



Cars	Trucks	Cyclists	Totals
223	8	2	233

Yonge St



Peds Cross: \bowtie
West Peds: 12
West Entering: 429
West Leg Total: 900

Cars	887
Trucks	19
Cyclists	0
Totals	906



Cars	172	788	48	1008
Trucks	0	15	0	15
Cyclists	0	0	0	0
Totals	172	803	48	

Peds Cross: \bowtie
South Peds: 4
South Entering: 1023
South Leg Total: 1929

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Aurora
Site #: 1825300008
Intersection: Yonge St & Murray Dr-Edward St
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 11414
 North Entering: 5498
 North Peds: 56
 Peds Cross: ⚡

Cyclists	0	0	1	1
Trucks	7	145	12	164
Cars	507	4407	419	5333
Totals	514	4552	432	



Cyclists 4
 Trucks 142
 Cars 5770
 Totals 5916

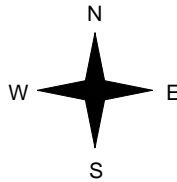
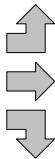
East Leg Total: 3902
 East Entering: 2093
 East Peds: 55
 Peds Cross: ⚡

Cyclists	Trucks	Cars	Totals
6	50	2352	2408



Murray Dr

Cyclists	Trucks	Cars	Totals
1	9	890	900
2	33	930	965
0	12	989	1001
3	54	2809	



Yonge St

Cars	Trucks	Cyclists	Totals
421	5	0	426
998	25	6	1029
617	21	0	638
2036	51	6	



Edward St



Cars	Trucks	Cyclists	Totals
1751	55	3	1809

Peds Cross: ⚡
 West Peds: 88
 West Entering: 2866
 West Leg Total: 5274

Cars	6013
Trucks	178
Cyclists	0
Totals	6191



Cars	847	4459	402	5708
Trucks	18	128	10	156
Cyclists	0	3	0	3
Totals	865	4590	412	

Peds Cross: ⚡
 South Peds: 40
 South Entering: 5867
 South Leg Total: 12058

Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: Yonge St & Murray Dr-Edward St Count Date: 27-Jun-18 Municipality: Aurora												
North Approach Totals						South Approach Totals						
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	North/South Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	46	523	16	585	2	996	8:00:00	31	315	65	411	2
9:00:00	64	607	40	711	7	1342	9:00:00	68	496	67	631	4
10:00:00	40	519	53	612	5	1230	10:00:00	87	474	57	618	6
12:00:00	24	265	39	328	4	691	12:00:00	46	289	28	363	5
13:00:00	74	582	106	762	8	1501	13:00:00	117	583	39	739	8
16:00:00	71	562	71	704	7	1496	16:00:00	126	616	50	792	4
17:00:00	48	599	75	722	5	1668	17:00:00	172	727	47	946	5
18:00:00	42	620	77	739	14	1680	18:00:00	158	746	37	941	3
Totals:	409	4277	477	5163	52	10604		805	4246	390	5441	37
East Approach Totals						West Approach Totals						
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	East/West Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	58	34	24	116	3	363	8:00:00	60	74	113	247	3
9:00:00	34	77	33	144	8	461	9:00:00	96	118	103	317	4
10:00:00	51	78	29	158	7	456	10:00:00	88	117	93	298	15
12:00:00	51	65	31	147	7	335	12:00:00	69	57	62	188	11
13:00:00	108	145	64	317	9	708	13:00:00	133	142	116	391	12
16:00:00	70	153	51	274	9	691	16:00:00	133	137	147	417	12
17:00:00	114	174	96	384	5	776	17:00:00	119	133	140	392	13
18:00:00	100	214	79	393	3	825	18:00:00	136	135	161	432	12
Totals:	586	940	407	1933	51	4615		834	913	935	2682	82
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	8:00	9:00	10:00	12:00			13:00	16:00	17:00	18:00		
Crossing Values:	196	259	267	194			402	367	417	467		

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Cyclists - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	8	8	113	113	4	4	0	0	5	5	0	0	0	0	0	0	0	0	0	0
7:30:00	18	10	225	112	9	5	0	0	11	6	0	0	0	0	0	0	0	0	0	0
7:45:00	31	13	384	159	12	3	0	0	13	2	0	0	0	0	0	0	0	0	1	1
8:00:00	46	15	503	119	16	4	0	0	20	7	0	0	0	0	0	0	0	0	2	1
8:15:00	60	14	664	161	25	9	1	1	25	5	0	0	0	0	0	0	0	0	3	1
8:30:00	85	25	817	153	35	10	1	0	31	6	0	0	0	0	0	0	0	0	5	2
8:45:00	95	10	968	151	43	8	1	0	36	5	2	2	0	0	0	0	0	0	9	4
9:00:00	109	14	1089	121	54	11	1	0	41	5	2	0	0	0	0	0	0	0	9	0
9:15:00	123	14	1239	150	67	13	1	0	47	6	2	0	0	0	0	0	0	0	10	1
9:30:00	131	8	1351	112	80	13	2	1	54	7	2	0	0	0	0	0	0	0	13	3
9:45:00	136	5	1471	120	91	11	3	1	59	5	3	1	0	0	0	0	0	0	13	0
10:00:00	146	10	1585	114	105	14	4	1	64	5	4	1	0	0	0	0	0	0	14	1
10:02:14	146	0	1585	0	105	0	4	0	64	0	4	0	0	0	0	0	0	0	14	0
11:30:00	146	0	1585	0	105	0	4	0	64	0	4	0	0	0	0	0	0	0	14	0
11:45:00	159	13	1713	128	123	18	4	0	69	5	4	0	0	0	0	0	0	0	15	1
12:00:00	170	11	1840	127	144	21	4	0	74	5	4	0	0	0	0	0	0	0	18	3
12:15:00	186	16	1995	155	168	24	8	4	76	2	4	0	0	0	0	0	0	0	19	1
12:30:00	205	19	2130	135	192	24	8	0	79	3	4	0	0	0	0	0	0	0	20	1
12:45:00	219	14	2271	141	216	24	8	0	83	4	4	0	0	0	0	0	0	0	21	1
13:00:00	240	21	2405	134	250	34	8	0	91	8	4	0	0	0	0	0	0	0	26	5
13:15:00	258	18	2552	147	271	21	8	0	96	5	4	0	0	0	0	0	0	0	28	2
13:30:00	284	26	2682	130	293	22	8	0	99	3	4	0	0	0	0	0	0	0	31	3
13:30:50	284	0	2682	0	293	0	8	0	99	0	4	0	0	0	0	0	0	0	31	0
15:30:00	284	0	2682	0	293	0	8	0	99	0	4	0	0	0	0	0	0	0	31	0
15:45:00	292	8	2825	143	307	14	9	1	104	5	4	0	0	0	0	0	0	0	32	1
16:00:00	310	18	2949	124	321	14	9	0	109	5	4	0	0	0	0	0	0	0	33	1
16:15:00	320	10	3099	150	332	11	9	0	112	3	5	1	0	0	0	0	0	0	34	1
16:30:00	331	11	3240	141	352	20	9	0	115	3	5	0	0	0	0	0	0	0	35	1
16:45:00	345	14	3383	143	375	23	10	1	120	5	5	0	0	0	0	0	0	0	35	0
17:00:00	357	12	3535	152	394	19	10	0	122	2	6	1	0	0	0	0	0	0	38	3
17:15:00	365	8	3705	170	414	20	11	1	127	5	6	0	1	1	0	0	0	0	43	5
17:30:00	368	3	3859	154	438	24	11	0	131	4	7	1	1	0	0	0	0	0	48	5
17:45:00	385	17	4003	144	458	20	11	0	133	2	7	0	1	0	0	0	0	0	50	2
18:00:00	397	12	4141	138	470	12	11	0	136	3	7	0	1	0	0	0	0	0	52	2
18:15:00	406	9	4296	155	489	19	11	0	141	5	7	0	1	0	0	0	0	0	54	2
18:30:00	419	13	4407	111	507	18	12	1	145	4	7	0	1	0	0	0	0	0	56	2
18:45:00	419	0	4407	0	507	0	12	0	145	0	7	0	1	0	0	0	0	0	56	0
18:47:03	419	0	4407	0	507	0	12	0	145	0	7	0	1	0	0	0	0	0	56	0

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Cyclists - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	21	21	9	9	9	9	1	1	1	1	0	0	0	0	0	0	0	0	1	1
7:30:00	31	10	20	11	13	4	1	0	1	0	0	0	0	0	1	1	0	0	2	1
7:45:00	41	10	27	7	21	8	2	1	2	1	0	0	0	0	1	0	0	0	2	0
8:00:00	56	15	31	4	24	3	2	0	2	0	0	0	0	0	1	0	0	0	3	1
8:15:00	61	5	43	12	29	5	2	0	3	1	1	1	0	0	1	0	0	0	4	1
8:30:00	75	14	57	14	38	9	3	1	3	0	1	0	0	0	1	0	0	0	9	5
8:45:00	82	7	80	23	44	6	4	1	6	3	1	0	0	0	1	0	0	0	9	0
9:00:00	87	5	104	24	56	12	5	1	6	0	1	0	0	0	1	0	0	0	11	2
9:15:00	95	8	124	20	67	11	7	2	8	2	1	0	0	0	1	0	0	0	11	0
9:30:00	115	20	143	19	70	3	7	0	8	0	1	0	0	0	1	0	0	0	12	1
9:45:00	125	10	164	21	75	5	8	1	8	0	3	2	0	0	1	0	0	0	16	4
10:00:00	134	9	179	15	83	8	9	1	9	1	3	0	0	0	1	0	0	0	18	2
10:02:14	134	0	179	0	83	0	9	0	9	0	3	0	0	0	1	0	0	0	18	0
11:30:00	134	0	179	0	83	0	9	0	9	0	3	0	0	0	1	0	0	0	18	0
11:45:00	163	29	211	32	103	20	11	2	11	2	4	1	0	0	1	0	0	0	22	4
12:00:00	183	20	240	29	113	10	11	0	13	2	4	0	0	0	1	0	0	0	25	3
12:15:00	216	33	276	36	136	23	12	1	13	0	4	0	0	0	1	0	0	0	29	4
12:30:00	246	30	311	35	151	15	12	0	13	0	4	0	0	0	1	0	0	0	30	1
12:45:00	270	24	343	32	162	11	13	1	13	0	4	0	0	0	1	0	0	0	31	1
13:00:00	288	18	384	41	177	15	14	1	14	1	4	0	0	0	1	0	0	0	34	3
13:15:00	300	12	426	42	190	13	15	1	14	0	4	0	0	0	1	0	0	0	38	4
13:30:00	319	19	459	33	207	17	15	0	14	0	4	0	0	0	1	0	0	0	39	1
13:30:50	319	0	459	0	207	0	15	0	14	0	4	0	0	0	1	0	0	0	39	0
15:30:00	319	0	459	0	207	0	15	0	14	0	4	0	0	0	1	0	0	0	39	0
15:45:00	337	18	496	37	217	10	17	2	14	0	4	0	0	0	1	0	0	0	41	2
16:00:00	355	18	534	38	228	11	17	0	16	2	4	0	0	0	2	1	0	0	43	2
16:15:00	378	23	579	45	244	16	17	0	16	0	4	0	0	0	3	1	0	0	45	2
16:30:00	406	28	612	33	272	28	19	2	16	0	4	0	0	0	3	0	0	0	46	1
16:45:00	446	40	654	42	305	33	20	1	18	2	4	0	0	0	4	1	0	0	47	1
17:00:00	465	19	702	48	324	19	21	1	19	1	4	0	0	0	5	1	0	0	48	1
17:15:00	486	21	759	57	354	30	21	0	19	0	5	1	0	0	6	1	0	0	50	2
17:30:00	521	35	814	55	366	12	21	0	22	3	5	0	0	0	6	0	0	0	51	1
17:45:00	544	23	863	49	385	19	21	0	22	0	5	0	0	0	6	0	0	0	51	0
18:00:00	565	21	910	47	402	17	21	0	24	2	5	0	0	0	6	0	0	0	51	0
18:15:00	593	28	963	53	410	8	21	0	24	0	5	0	0	0	6	0	0	0	54	3
18:30:00	617	24	998	35	421	11	21	0	25	1	5	0	0	0	6	0	0	0	55	1
18:45:00	617	0	998	0	421	0	21	0	25	0	5	0	0	0	6	0	0	0	55	0
18:47:03	617	0	998	0	421	0	21	0	25	0	5	0	0	0	6	0	0	0	55	0

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	4	4	40	40	10	10	1	1	4	4	1	1	0	0	0	0	0	0	1	1
7:30:00	9	5	111	71	25	15	1	0	9	5	1	0	0	0	0	0	0	0	1	0
7:45:00	17	8	180	69	41	16	2	1	12	3	1	0	0	0	1	1	0	0	1	0
8:00:00	29	12	297	117	64	23	2	0	17	5	1	0	0	0	1	0	0	0	2	1
8:15:00	38	9	411	114	76	12	2	0	24	7	1	0	0	0	2	1	0	0	2	0
8:30:00	54	16	526	115	101	25	4	2	26	2	2	1	0	0	2	0	0	0	6	4
8:45:00	69	15	649	123	112	11	4	0	30	4	3	1	0	0	2	0	0	0	6	0
9:00:00	91	22	774	125	129	17	8	4	35	5	3	0	0	0	2	0	0	0	6	0
9:15:00	118	27	892	118	146	17	10	2	39	4	4	1	0	0	2	0	0	0	10	4
9:30:00	140	22	1001	109	159	13	11	1	43	4	5	1	0	0	2	0	0	0	12	2
9:45:00	156	16	1118	117	169	10	11	0	47	4	5	0	0	0	2	0	0	0	12	0
10:00:00	175	19	1230	112	184	15	11	0	53	6	5	0	0	0	2	0	0	0	12	0
10:02:14	175	0	1230	0	184	0	11	0	53	0	5	0	0	0	2	0	0	0	12	0
11:30:00	175	0	1230	0	184	0	11	0	53	0	5	0	0	0	2	0	0	0	12	0
11:45:00	194	19	1370	140	193	9	12	1	58	5	8	3	0	0	2	0	0	0	13	1
12:00:00	219	25	1511	141	209	16	13	1	61	3	8	0	0	0	2	0	0	0	17	4
12:15:00	253	34	1648	137	215	6	15	2	66	5	8	0	0	0	2	0	0	0	18	1
12:30:00	284	31	1797	149	223	8	15	0	69	3	8	0	0	0	2	0	0	0	19	1
12:45:00	308	24	1932	135	235	12	16	1	70	1	8	0	0	0	2	0	0	0	23	4
13:00:00	333	25	2083	151	248	13	16	0	72	2	8	0	0	0	2	0	0	0	25	2
13:15:00	355	22	2234	151	258	10	16	0	76	4	10	2	0	0	2	0	0	0	26	1
13:30:00	386	31	2384	150	273	15	18	2	80	4	10	0	0	0	2	0	0	0	26	0
13:30:50	386	0	2384	0	273	0	18	0	80	0	10	0	0	0	2	0	0	0	26	0
15:30:00	386	0	2384	0	273	0	18	0	80	0	10	0	0	0	2	0	0	0	26	0
15:45:00	417	31	2531	147	283	10	18	0	85	5	10	0	0	0	2	0	0	0	26	0
16:00:00	457	40	2681	150	296	13	18	0	89	4	10	0	0	0	3	1	0	0	29	3
16:15:00	497	40	2849	168	302	6	18	0	94	5	10	0	0	0	3	0	0	0	29	0
16:30:00	544	47	2997	148	312	10	18	0	97	3	10	0	0	0	3	0	0	0	31	2
16:45:00	588	44	3174	177	328	16	18	0	102	5	10	0	0	0	3	0	0	0	33	2
17:00:00	629	41	3391	217	343	15	18	0	106	4	10	0	0	0	3	0	0	0	34	1
17:15:00	668	39	3600	209	351	8	18	0	109	3	10	0	0	0	3	0	0	0	34	0
17:30:00	716	48	3785	185	360	9	18	0	112	3	10	0	0	0	3	0	0	0	35	1
17:45:00	754	38	3949	164	369	9	18	0	116	4	10	0	0	0	3	0	0	0	37	2
18:00:00	787	33	4122	173	380	11	18	0	121	5	10	0	0	0	3	0	0	0	37	0
18:15:00	819	32	4288	166	394	14	18	0	125	4	10	0	0	0	3	0	0	0	39	2
18:30:00	847	28	4459	171	402	8	18	0	128	3	10	0	0	0	3	0	0	0	40	1
18:45:00	847	0	4459	0	402	0	18	0	128	0	10	0	0	0	3	0	0	0	40	0
18:47:03	847	0	4459	0	402	0	18	0	128	0	10	0	0	0	3	0	0	0	40	0

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	16	16	16	16	19	19	0	0	1	1	0	0	0	0	0	0	0	0	0	0
7:30:00	26	10	27	11	49	30	0	0	2	1	0	0	0	0	1	1	0	0	2	2
7:45:00	43	17	54	27	84	35	0	0	3	1	2	2	0	0	1	0	0	0	3	1
8:00:00	60	17	70	16	111	27	0	0	3	0	2	0	0	0	1	0	0	0	3	0
8:15:00	79	19	83	13	146	35	1	1	4	1	2	0	0	0	1	0	0	0	5	2
8:30:00	103	24	112	29	161	15	1	0	5	1	2	0	0	0	1	0	0	0	6	1
8:45:00	127	24	137	25	184	23	1	0	5	0	2	0	0	0	1	0	0	0	6	0
9:00:00	154	27	183	46	213	29	2	1	8	3	3	1	0	0	1	0	0	0	7	1
9:15:00	180	26	214	31	245	32	2	0	9	1	3	0	0	0	1	0	0	0	12	5
9:30:00	195	15	241	27	264	19	4	2	10	1	3	0	0	0	1	0	0	0	17	5
9:45:00	215	20	267	26	287	23	4	0	10	0	3	0	0	0	1	0	0	0	20	3
10:00:00	239	24	295	28	306	19	5	1	13	3	3	0	0	0	1	0	0	0	22	2
10:02:14	239	0	295	0	306	0	5	0	13	0	3	0	0	0	1	0	0	0	22	0
11:30:00	239	0	295	0	306	0	5	0	13	0	3	0	0	0	1	0	0	0	22	0
11:45:00	271	32	319	24	330	24	5	0	14	1	6	3	0	0	1	0	0	0	26	4
12:00:00	307	36	351	32	365	35	6	1	14	0	6	0	0	0	1	0	0	0	33	7
12:15:00	343	36	378	27	395	30	6	0	16	2	6	0	0	0	1	0	0	0	37	4
12:30:00	384	41	403	25	424	29	6	0	16	0	7	1	0	0	1	0	0	0	41	4
12:45:00	416	32	443	40	449	25	6	0	16	0	8	1	0	0	1	0	0	0	44	3
13:00:00	440	24	491	48	479	30	6	0	16	0	8	0	0	0	1	0	0	0	45	1
13:15:00	478	38	528	37	514	35	6	0	16	0	8	0	0	0	1	0	0	0	49	4
13:30:00	513	35	551	23	552	38	6	0	17	1	8	0	0	0	1	0	0	0	51	2
13:30:50	513	0	551	0	552	0	6	0	17	0	8	0	0	0	1	0	0	0	51	0
15:30:00	513	0	551	0	552	0	6	0	17	0	8	0	0	0	1	0	0	0	51	0
15:45:00	542	29	589	38	596	44	6	0	19	2	9	1	1	1	1	0	0	0	56	5
16:00:00	572	30	624	35	624	28	6	0	20	1	10	1	1	0	1	0	0	0	57	1
16:15:00	604	32	656	32	656	32	8	2	22	2	10	0	1	0	1	0	0	0	62	5
16:30:00	629	25	684	28	690	34	8	0	22	0	10	0	1	0	1	0	0	0	64	2
16:45:00	659	30	723	39	732	42	8	0	23	1	10	0	1	0	1	0	0	0	66	2
17:00:00	689	30	752	29	763	31	8	0	25	2	11	1	1	0	1	0	0	0	70	4
17:15:00	720	31	788	36	797	34	8	0	27	2	11	0	1	0	1	0	0	0	73	3
17:30:00	758	38	822	34	843	46	9	1	28	1	11	0	1	0	2	1	0	0	76	3
17:45:00	800	42	851	29	887	44	9	0	30	2	11	0	1	0	2	0	0	0	80	4
18:00:00	824	24	880	29	924	37	9	0	31	1	11	0	1	0	2	0	0	0	82	2
18:15:00	859	35	907	27	958	34	9	0	32	1	12	1	1	0	2	0	0	0	85	3
18:30:00	890	31	930	23	989	31	9	0	33	1	12	0	1	0	2	0	0	0	88	3
18:45:00	890	0	930	0	989	0	9	0	33	0	12	0	1	0	2	0	0	0	88	0
18:47:03	890	0	930	0	989	0	9	0	33	0	12	0	1	0	2	0	0	0	88	0

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00
To: 10:00:00

One Hour Peak

From: 8:00:00
To: 9:00:00

Municipality: Aurora
Site #: 1825300009
Intersection: Yonge St & Henderson Dr-Allaura E
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1392
North Entering: 740
North Peds: 16
Peds Cross: \times

Cyclists	0	0	0	0
Trucks	1	24	0	25
Cars	91	554	70	715
Totals	92	578	70	



Cyclists	1
Trucks	24
Cars	627
Totals	652

East Leg Total: 513
East Entering: 190
East Peds: 8
Peds Cross: \times

Cyclists	Trucks	Cars	Totals
0	6	238	244

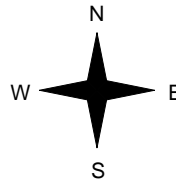


Yonge St

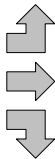
Cars	Trucks	Cyclists	Totals
63	2	0	65
71	4	0	75
50	0	0	50
184	6	0	



Henderson Dr



Cyclists	Trucks	Cars	Totals
0	5	158	163
1	3	159	163
0	1	204	205
1	9	521	



Yonge St

Allaura Blvd



Cars	Trucks	Cyclists	Totals
316	6	1	323

Peds Cross: \times
West Peds: 16
West Entering: 531
West Leg Total: 775

Cars	808	Cars	76	406	87	569
Trucks	25	Trucks	1	17	3	21
Cyclists	0	Cyclists	0	1	0	1
Totals	833	Totals	77	424	90	



Peds Cross: \times
South Peds: 7
South Entering: 591
South Leg Total: 1424

Comments

Ontario Traffic Inc.

Mid-day Peak Diagram

Specified Period

From: 11:30:00
To: 13:30:00

One Hour Peak

From: 12:00:00
To: 13:00:00

Municipality: Aurora
Site #: 1825300009
Intersection: Yonge St & Henderson Dr-Allaura E
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1586
North Entering: 803
North Peds: 15
Peds Cross: \times

Cyclists	0	0	0	0
Trucks	3	19	0	22
Cars	195	497	89	781
Totals	198	516	89	

↑

Cyclists	0
Trucks	15
Cars	768
Totals	783

East Leg Total: 556
East Entering: 262
East Peds: 8
Peds Cross: \times

Cyclists	Trucks	Cars	Totals
0	9	430	439

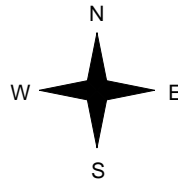


Yonge St

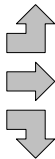
Cars	Trucks	Cyclists	Totals
89	1	0	90
108	3	0	111
58	3	0	61
255	7	0	



Henderson Dr



Cyclists	Trucks	Cars	Totals
0	0	171	171
1	3	126	130
0	3	95	98
1	6	392	



Yonge St



Allaura Blvd



Cars	Trucks	Cyclists	Totals
288	5	1	294

Peds Cross: \times
West Peds: 16
West Entering: 399
West Leg Total: 838

Cars	650	Cars	127	508	73	708
Trucks	25	Trucks	3	14	2	19
Cyclists	0	Cyclists	0	0	0	0
Totals	675	Totals	130	522	75	



Peds Cross: \times
South Peds: 7
South Entering: 727
South Leg Total: 1402

Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period

From: 15:30:00

To: 18:30:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Municipality: Aurora
Site #: 1825300009
Intersection: Yonge St & Henderson Dr-Allaura E
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

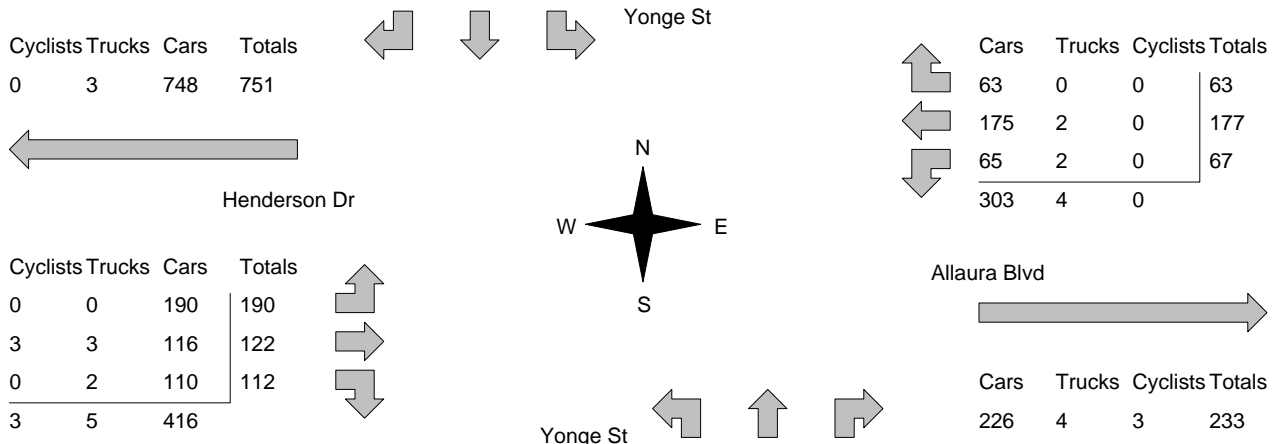
Major Road: Yonge St runs N/S

North Leg Total: 1933
 North Entering: 893
 North Peds: 17
 Peds Cross: \times

Cyclists	0	0	0	0
Trucks	1	16	0	17
Cars	264	554	58	876
Totals	265	570	58	

Cyclists	1
Trucks	16
Cars	1023
Totals	1040

East Leg Total: 540
 East Entering: 307
 East Peds: 11
 Peds Cross: \times



Peds Cross: \times
 West Peds: 18
 West Entering: 424
 West Leg Total: 1175

Cars	729	Cars	309	770	52	1131
Trucks	20	Trucks	0	16	1	17
Cyclists	0	Cyclists	0	1	0	1
Totals	749	Totals	309	787	53	

Peds Cross: \times
 South Peds: 20
 South Entering: 1149
 South Leg Total: 1898

Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Aurora
Site #: 1825300009
Intersection: Yonge St & Henderson Dr-Allaura E
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 12265
 North Entering: 6191
 North Peds: 125
 Peds Cross: \bowtie

Cyclists	0	0	0	0
Trucks	18	154	2	174
Cars	1356	4131	530	6017
Totals	1374	4285	532	

Cyclists 9
 Trucks 154
 Cars 5911
 Totals 6074

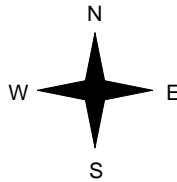
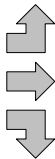
East Leg Total: 3905
 East Entering: 1838
 East Peds: 66
 Peds Cross: \bowtie

Cyclists	Trucks	Cars	Totals
1	54	3390	3445



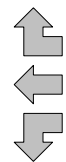
Henderson Dr

Cyclists	Trucks	Cars	Totals
2	9	1281	1292
5	22	980	1007
0	16	1024	1040
7	47	3285	



Yonge St

Cars	Trucks	Cyclists	Totals
500	8	0	508
836	23	0	859
449	22	0	471
1785	53	0	



Allaura Blvd



Cars	Trucks	Cyclists	Totals
2008	54	5	2067

Peds Cross: \bowtie
 West Peds: 114
 West Entering: 3339
 West Leg Total: 6784

Cars	5604
Trucks	192
Cyclists	0
Totals	5796



Cars	1198	4130	498	5826
Trucks	13	137	30	180
Cyclists	1	7	0	8
Totals	1212	4274	528	

Peds Cross: \bowtie
 South Peds: 74
 South Entering: 6014
 South Leg Total: 11810

Comments

Ontario Traffic Inc. Traffic Count Summary

Intersection: Yonge St & Henderson Dr-Allaura													Count Date: 27-Jun-18		Municipality: Aurora	
North Approach Totals						South Approach Totals										
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	North/South Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds				
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total					
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0				
8:00:00	52	586	68	706	9	1072	8:00:00	37	276	53	366	6				
9:00:00	70	578	92	740	16	1331	9:00:00	77	424	90	591	7				
10:00:00	75	503	98	676	14	1265	10:00:00	74	451	64	589	11				
12:00:00	39	245	92	376	6	737	12:00:00	69	263	29	361	4				
13:00:00	89	516	198	803	15	1530	13:00:00	130	522	75	727	7				
16:00:00	65	511	191	767	19	1592	16:00:00	164	587	74	825	8				
17:00:00	60	539	250	849	21	1874	17:00:00	257	711	57	1025	16				
18:00:00	54	561	260	875	12	1937	18:00:00	294	713	55	1062	15				
Totals:	504	4039	1249	5792	112	11338		1102	3947	497	5546	74				
East Approach Totals						West Approach Totals										
Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds	East/West Total Approaches	Hour Ending	Includes Cars, Trucks, & Cyclists				Total Peds				
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total					
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0				
8:00:00	65	66	35	166	6	639	8:00:00	108	153	212	473	10				
9:00:00	50	75	65	190	8	721	9:00:00	163	163	205	531	16				
10:00:00	54	75	64	193	9	553	10:00:00	137	107	116	360	12				
12:00:00	29	47	26	102	6	281	12:00:00	74	52	53	179	7				
13:00:00	61	111	90	262	8	661	13:00:00	171	130	98	399	16				
16:00:00	63	101	71	235	6	605	16:00:00	162	109	99	370	12				
17:00:00	48	147	63	258	12	651	17:00:00	182	118	93	393	15				
18:00:00	72	164	69	305	11	719	18:00:00	190	116	108	414	15				
Totals:	442	786	483	1711	66	4830		1187	948	984	3119	103				
Calculated Values for Traffic Crossing Major Street																
Hours Ending:	8:00	9:00	10:00	12:00			13:00	16:00	17:00	18:00						
Crossing Values:	341	399	323	165			384	361	414	453						

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300009

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	8	8	35	35	13	13	0	0	5	5	1	1	0	0	0	0	0	0	2	2
7:30:00	13	5	92	57	23	10	1	1	10	5	3	2	0	0	0	0	0	0	4	2
7:45:00	19	6	150	58	38	15	1	0	14	4	4	1	0	0	1	1	0	0	4	0
8:00:00	35	16	258	108	48	10	2	1	17	3	5	1	0	0	1	0	0	0	6	2
8:15:00	54	19	353	95	70	22	2	0	23	6	5	0	0	0	2	1	0	0	8	2
8:30:00	74	20	458	105	88	18	2	0	26	3	6	1	0	0	2	0	0	0	11	3
8:45:00	91	17	542	84	111	23	2	0	30	4	7	1	0	0	2	0	0	0	13	2
9:00:00	111	20	664	122	135	24	3	1	34	4	8	1	0	0	2	0	0	0	13	0
9:15:00	129	18	788	124	147	12	4	1	40	6	9	1	0	0	2	0	0	0	13	0
9:30:00	148	19	894	106	167	20	5	1	46	6	12	3	0	0	2	0	0	0	14	1
9:45:00	164	16	994	100	179	12	6	1	50	4	13	1	0	0	2	0	0	0	20	6
10:00:00	182	18	1094	100	192	13	6	0	55	5	15	2	0	0	2	0	0	0	24	4
10:01:46	182	0	1094	0	192	0	6	0	55	0	15	0	0	0	2	0	0	0	24	0
11:30:00	182	0	1094	0	192	0	6	0	55	0	15	0	0	0	2	0	0	0	24	0
11:45:00	216	34	1215	121	207	15	6	0	61	6	16	1	0	0	2	0	0	0	27	3
12:00:00	250	34	1347	132	220	13	6	0	65	4	16	0	1	1	2	0	0	0	28	1
12:15:00	278	28	1469	122	241	21	6	0	71	6	16	0	1	0	2	0	0	0	31	3
12:30:00	321	43	1609	140	258	17	7	1	74	3	16	0	1	0	2	0	0	0	33	2
12:45:00	352	31	1728	119	278	20	7	0	76	2	18	2	1	0	2	0	0	0	35	2
13:00:00	377	25	1855	127	293	15	9	2	79	3	18	0	1	0	2	0	0	0	35	0
13:15:00	411	34	1978	123	313	20	11	2	84	5	20	2	1	0	2	0	0	0	36	1
13:30:00	442	31	2122	144	333	20	12	1	90	6	21	1	1	0	2	0	0	0	37	1
13:30:58	442	0	2122	0	333	0	12	0	90	0	21	0	1	0	2	0	0	0	37	0
15:30:00	442	0	2122	0	333	0	12	0	90	0	21	0	1	0	2	0	0	0	37	0
15:45:00	482	40	2265	143	346	13	12	0	93	3	21	0	1	0	2	0	0	0	42	5
16:00:00	538	56	2422	157	362	16	12	0	98	5	23	2	1	0	3	1	0	0	43	1
16:15:00	587	49	2582	160	373	11	12	0	102	4	25	2	1	0	4	1	0	0	49	6
16:30:00	648	61	2734	152	387	14	12	0	104	2	25	0	1	0	5	1	0	0	50	1
16:45:00	723	75	2907	173	408	21	12	0	109	5	25	0	1	0	5	0	0	0	56	6
17:00:00	795	72	3116	209	417	9	12	0	113	4	25	0	1	0	5	0	0	0	59	3
17:15:00	869	74	3325	209	427	10	12	0	117	4	25	0	1	0	5	0	0	0	66	7
17:30:00	957	88	3504	179	439	12	12	0	120	3	26	1	1	0	6	1	0	0	70	4
17:45:00	1022	65	3658	154	456	17	13	1	124	4	26	0	1	0	6	0	0	0	72	2
18:00:00	1088	66	3812	154	469	13	13	0	129	5	28	2	1	0	6	0	0	0	74	2
18:15:00	1147	59	3972	160	484	15	13	0	133	4	30	2	1	0	7	1	0	0	74	0
18:30:00	1198	51	4130	158	498	14	13	0	137	4	30	0	1	0	7	0	0	0	74	0
18:45:00	1198	0	4130	0	498	0	13	0	137	0	30	0	1	0	7	0	0	0	74	0
18:46:15	1198	0	4130	0	498	0	13	0	137	0	30	0	1	0	7	0	0	0	74	0

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300009

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	19	19	28	28	40	40	0	0	1	1	0	0	0	0	0	0	0	0	2	2
7:30:00	42	23	62	34	103	63	0	0	1	0	0	0	0	0	0	0	0	0	4	2
7:45:00	72	30	104	42	158	55	0	0	2	1	0	0	0	0	0	0	0	0	8	4
8:00:00	107	35	151	47	212	54	1	1	2	0	0	0	0	0	0	0	0	0	10	2
8:15:00	149	42	194	43	273	61	2	1	3	1	0	0	0	0	0	0	0	0	12	2
8:30:00	183	34	236	42	328	55	2	0	3	0	0	0	0	0	1	1	0	0	17	5
8:45:00	227	44	277	41	377	49	3	1	5	2	0	0	0	0	1	0	0	0	18	1
9:00:00	265	38	310	33	416	39	6	3	5	0	1	1	0	0	1	0	0	0	26	8
9:15:00	302	37	334	24	444	28	7	1	6	1	1	0	0	0	1	0	0	0	29	3
9:30:00	335	33	369	35	472	28	7	0	6	0	3	2	0	0	1	0	0	0	31	2
9:45:00	363	28	393	24	496	24	7	0	6	0	3	0	0	0	1	0	0	0	36	5
10:00:00	400	37	414	21	530	34	8	1	8	2	3	0	0	0	1	0	0	0	38	2
10:01:46	400	0	414	0	530	0	8	0	8	0	3	0	0	0	1	0	0	0	38	0
11:30:00	400	0	414	0	530	0	8	0	8	0	3	0	0	0	1	0	0	0	38	0
11:45:00	432	32	443	29	554	24	8	0	10	2	3	0	0	0	1	0	0	0	42	4
12:00:00	474	42	464	21	582	28	8	0	10	0	4	1	0	0	1	0	0	0	45	3
12:15:00	514	40	498	34	602	20	8	0	12	2	5	1	0	0	1	0	0	0	48	3
12:30:00	551	37	524	26	629	27	8	0	12	0	5	0	0	0	1	0	0	0	54	6
12:45:00	600	49	561	37	652	23	8	0	12	0	7	2	0	0	1	0	0	0	54	0
13:00:00	645	45	590	29	677	25	8	0	13	1	7	0	0	0	2	1	0	0	61	7
13:15:00	686	41	621	31	693	16	8	0	13	0	7	0	0	0	2	0	0	0	66	5
13:30:00	738	52	646	25	718	25	9	1	13	0	9	2	0	0	2	0	0	0	67	1
13:30:58	738	0	646	0	718	0	9	0	13	0	9	0	0	0	2	0	0	0	67	0
15:30:00	738	0	646	0	718	0	9	0	13	0	9	0	0	0	2	0	0	0	67	0
15:45:00	771	33	671	25	740	22	9	0	14	1	10	1	0	0	2	0	0	0	69	2
16:00:00	804	33	697	26	773	33	9	0	15	1	10	0	2	2	2	0	0	0	73	4
16:15:00	857	53	720	23	791	18	9	0	15	0	12	2	2	0	2	0	0	0	79	6
16:30:00	894	37	744	24	809	18	9	0	16	1	12	0	2	0	2	0	0	0	81	2
16:45:00	939	45	774	30	835	26	9	0	16	0	12	0	2	0	2	0	0	0	86	5
17:00:00	986	47	812	38	864	29	9	0	18	2	12	0	2	0	2	0	0	0	88	2
17:15:00	1032	46	838	26	887	23	9	0	18	0	14	2	2	0	4	2	0	0	92	4
17:30:00	1084	52	860	22	919	32	9	0	19	1	14	0	2	0	5	1	0	0	99	7
17:45:00	1131	47	888	28	940	21	9	0	19	0	14	0	2	0	5	0	0	0	101	2
18:00:00	1176	45	923	35	970	30	9	0	20	1	14	0	2	0	5	0	0	0	103	2
18:15:00	1230	54	947	24	995	25	9	0	20	0	15	1	2	0	5	0	0	0	109	6
18:30:00	1281	51	980	33	1024	29	9	0	22	2	16	1	2	0	5	0	0	0	114	5
18:45:00	1281	0	980	0	1024	0	9	0	22	0	16	0	2	0	5	0	0	0	114	0
18:46:15	1281	0	980	0	1024	0	9	0	22	0	16	0	2	0	5	0	0	0	114	0

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period

From: 7:00:00
To: 10:00:00

One Hour Peak

From: 8:15:00
To: 9:15:00

Municipality: Aurora
Site #: 1825300006
Intersection: Yonge St & Golf Links Dr-Dunning
TFR File #: 1
Count date: 27-Jun-18

Weather conditions:
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Yonge St runs N/S

North Leg Total: 1278
North Entering: 730
North Peds: 29
Peds Cross: \times

Cyclists	0	1	0	1
Trucks	2	23	0	25
Cars	33	615	56	704
Totals	35	639	56	



Cyclists 1
Trucks 15
Cars 532
Totals 548

East Leg Total: 351
East Entering: 140
East Peds: 57
Peds Cross: \times

Cyclists	Trucks	Cars	Totals
0	2	153	155

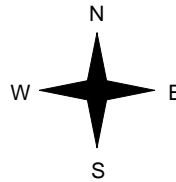


Yonge St

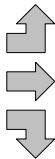
Cars	Trucks	Cyclists	Totals
38	0	1	39
50	0	0	50
51	0	0	51
139	0	1	



Golf Links Dr



Cyclists	Trucks	Cars	Totals
0	0	45	45
5	3	73	81
0	0	42	42
5	3	160	



Dunning Ave



Cars	Trucks	Cyclists	Totals
202	3	6	211

Peds Cross: \times
West Peds: 37
West Entering: 168
West Leg Total: 323

Cars	708	Cars	70	449	73	592
Trucks	23	Trucks	0	15	0	15
Cyclists	1	Cyclists	0	0	1	1
Totals	732	Totals	70	464	74	



Yonge St

Peds Cross: \times
South Peds: 32
South Entering: 608
South Leg Total: 1340

Comments



INTERSECTION NAME: **Yonge @ Golf Links/Brookland**

PROGRAMMED BY: T. Hanrahan

CONTROLLER SERIAL #: _____

CTCS #: _____ 650

ADDRESS: _____ 21

SECURITY CODE: **1000**

PROGRAM DATE: _____

INSTALLATION DATE: _____

MEMORY/RECALL/CNA (MM-2-2-1)

	1	2	3	4	5	6	7	8
MEMORY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
EXT RECALL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MAX RECALL	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
PED RECALL	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
CNA I	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
CNA II	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FL WALK	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SOFT RECALL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
WALK REST	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
COND PED	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FWTPCL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

- | | |
|-----------------|--------------|
| 1 - N/B LT | 5 - Not Used |
| 2 - North/South | 6 - Not Used |
| 3 - Not Used | 7 - Not Used |
| 4 - East/West | 8 - Not Used |

PHASE TIMINGS (MM-2-2-2)

	1	2	3	4	5	6	7	8
MIN GREEN	0	40	0	10	0	0	0	0
PASSAGE	0.0	0.0	0	3.0	0	0	0	0
YELLOW	0.0	4.5	0	4.0	0	0	0	0
RED	0.0	2.0	0	2.0	0	0	0	0
MAX I	0	40	0	28	0	0	0	0
MAX II	0	40	0	40	0	0	0	0
WALK	0	7	0	7	0	0	0	0
PED CLEAR	0	14	0	18	0	0	0	0
S/A	0	0	0	0	0	0	0	0
TBR	0	0	0	0	0	0	0	0
TTR	0	0	0	0	0	0	0	0
MIN GAP	0	0	0	0	0	0	0	0
MAX VI	0	0	0	0	0	0	0	0
MAX EXT	0	0	0	0	0	0	0	0
AUTO MAX	0	0	0	0	0	0	0	0
AMR	0	0	0	0	0	0	0	0

Range: 0-9.9 or 127 except max times and auto max which are 0 -255 secs.

PHASES USED (MM-2-2-3-1)

PHASE	1	2	3	4	5	6	7	8
ON/OFF	ON	ON	OFF	ON	OFF	OFF	OFF	OFF

SEQUENCE (MM-2-2-3-2)

2	1=Sequential, 2= Dual Ring, 3-7= Spec, 8=Lead/Lag
----------	---

LEAD/LAG MODES (MM-2-2-3-2-PGDN....only if Seq = Lead/Lag)

PAIRS	1 AND 2	3 AND 4	5 AND 6	7 AND 8
CODE				

Codes: 1 = No Reversal, 2 = Always Reverse, 3 = Rev. by CSO or Clock

LEAD/LAG BARRIERS (MM-2-2-3-2-PGDN-PGDN...only if lead/lag)

LEAD/LAG BARRIERS ARE:		ON/OFF
------------------------	--	--------

On = Barriers after each ring 1 and 2 phase pair in a vertical column

SPECIAL INCOMPATIBILITIES (MM-2-2-3-3)

PHASE	1	2	3	4	5	6	7	8
INCOMPAT PH 1-8								
INCOMPAT PH 1-8								

INITIALIZE / FLASH (MM-2-2-4)

1 = RED, 2 = YEL., 3 = GRN

	INITIALIZE	ENTER FL	EXIT FL
RING 1 PHASE	2	2	2
RING 2 PHASE	6	6	6
INTERVAL	2	1	2

NOTE: Enter flash interval is permanently set to 1 (RED)

POWER-UP RESTART TIMINGS (MM-2-2-4-PGDN)

MINIMUM FLASH	(0-9.9 or 127 SECONDS)
1ST ALL RED AFTER FLASH	(0-9.9 or 127 SECONDS)

NOTE: Blanks = 0, OFF, or controller default values

31-May-2012

**Regional Municipality of York
Centralized Traffic Control System
Timing Pattern Summary Report - Intersection**



Intersection Name : Yonge St. (Town of Aurora) - Dunning Ave. & Brookland Ave

<u>Pattern Name</u>	<u>Mode</u>	<u>Cycle</u>	<u>Splits (sec)</u>	<u>offset</u>	<u>Max Green</u>	<u>Omits</u>	<u>Veh. Recall</u>	<u>Ped.Omits</u>	<u>Ped. Recalls</u>	<u>Spec. O/P</u>
AM Peak	TBC	100	00 62 00 38 00 62 00 38	76	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
Free Plan	Free	0	00 00 00 00 00 00 00 00	0	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
Off Peak	TBC	100	00 64 00 36 00 64 00 36	30	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
PM Peak	TBC	100	00 64 00 36 00 64 00 36	69	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****

19-Dec-2011

**Regional Municipality of York
Centralized Traffic Control System
Controller Scheduler Summary Report - Intersection**



Intersection Name : Yonge St. (Town of Aurora) - Dunning Ave. & Brookland Ave

Weekly Plan : Yonge at Dunn/Brook

Time of Day	Timing Pattern	MON	TUE	WED	THU	FRI	SAT	SUN
06:00	AM Peak	X	X	X	X	X	-	-
09:30	Off Peak	X	X	X	X	X	X	X
15:00	PM Peak	X	X	X	X	X	-	-
17:00	Free Plan	-	-	-	-	-	X	X
21:00	Free Plan	X	X	X	X	X	-	-

Annual Calendar: Yonge at Dunn/Brook

Default Weekly Schedule : Yonge at Dunn/Brook

Date _____ **Schedule (If blank, use the default weekly schedule)** _____

18-May-2012

**Regional Municipality of York
Centralized Traffic Control System
Controller Scheduler Summary Report - Intersection**



Intersection Name : Yonge St. (Town of Aurora) - Edward St./ Murray Dr.

Weekly Plan : Yonge at Ed/ Murray

Time of Day	Timing Pattern	MON	TUE	WED	THU	FRI	SAT	SUN
06:00	AM Peak	X	X	X	X	X	-	-
09:30	Off Peak	X	X	X	X	X	X	X
15:00	PM Peak	X	X	X	X	X	-	-
17:00	Free Plan	-	-	-	-	-	X	X
21:00	Free Plan	X	X	X	X	X	-	-

Annual Calendar: Yonge at Ed/ Murray

Default Weekly Schedule : Yonge at Ed/ Murray

Date _____ **Schedule (If blank, use the default weekly schedule)** _____

11-Jun-2012

**Regional Municipality of York
Centralized Traffic Control System
Timing Pattern Summary Report - Intersection**



Intersection Name : Yonge St. (Town of Aurora) - Edward St./ Murray Dr.

<u>Pattern Name</u>	<u>Mode</u>	<u>Cycle</u>	<u>Splits (sec)</u>	<u>offset</u>	<u>Max Green</u>	<u>Omits</u>	<u>Veh. Recall</u>	<u>Ped.Omits</u>	<u>Ped. Recalls</u>	<u>Spec. O/P</u>
AM Peak	TBC	100	11 41 11 37 00 52 00 48	92	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
Free Plan	Free	0	00 00 00 00 00 00 00 00	0	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
Off Peak	TBC	100	11 40 12 37 00 51 00 49	60	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
PM Peak	TBC	100	12 39 12 37 00 51 00 49	80	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****



INTERSECTION NAME: **Yonge @ Murray**

PROGRAMMED BY: T. Hanrahan

CONTROLLER SERIAL #: _____

CTCS #: 639

ADDRESS: _____

SECURITY CODE: 1000

PROGRAM DATE: December 20, 2011

INSTALLATION DATE: _____

MEMORY/RECALL/CNA (MM-2-2-1)

	1	2	3	4	5	6	7	8
MEMORY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
EXT RECALL	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
MAX RECALL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PED RECALL	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
CNA I	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
CNA II	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FL WALK	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SOFT RECALL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
WALK REST	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
COND PED	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FWTPCL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

1 - N/B LT	5 - Not Used
2 - Southbound	6 - Northbound
3 - E/B LT	7 - Not Used
4 - Westbound	8 - Eastbound

PHASE TIMINGS (MM-2-2-2)

	1	2	3	4	5	6	7	8
MIN GREEN	7	40	7	10	0	40	0	10
PASSAGE	2.0	4.0	2.0	3.0	0	4.0	0	3.0
YELLOW	3.0	4.5	3.0	4.0	0	4.5	0	4.0
RED	0.0	2.0	0.0	2.0	0	2.0	0	2.0
MAX I	9	40	9	30	0	40	0	30
MAX II	20	40	20	50	0	40	0	50
WALK	0	7	0	7	0	7	0	7
PED CLEAR	0	18	0	23	0	18	0	23
S/A	0	0	0	0	0	0	0	0
TBR	0	0	0	0	0	0	0	0
TTR	0	0	0	0	0	0	0	0
MIN GAP	0	0	0	0	0	0	0	0
MAX VI	0	0	0	0	0	0	0	0
MAX EXT	0	0	0	0	0	0	0	0
AUTO MAX	0	0	0	0	0	0	0	0
AMR	0	0	0	0	0	0	0	0

Range: 0-9.9 or 127 except max times and auto max which are 0 -255 secs.

PHASES USED (MM-2-2-3-1)

PHASE	1	2	3	4	5	6	7	8
ON/OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF

SEQUENCE (MM-2-2-3-2)

2	1=Sequential, 2= Dual Ring, 3-7= Spec, 8=Lead/Lag
---	---

LEAD/LAG MODES (MM-2-2-3-2-PGDN....only if Seq = Lead/Lag)

PAIRS	1 AND 2	3 AND 4	5 AND 6	7 AND 8
CODE				

Codes: 1 = No Reversal, 2 = Always Reverse, 3 = Rev. by CSO or Clock

LEAD/LAG BARRIERS (MM-2-2-3-2-PGDN-PGDN...only if lead/lag)

LEAD/LAG BARRIERS ARE:	ON/OFF
------------------------	--------

On = Barriers after each ring 1 and 2 phase pair in a vertical column

SPECIAL INCOMPATIBILITIES (MM-2-2-3-3)

PHASE	1	2	3	4	5	6	7	8
INCOMPAT PH 1-8								
INCOMPAT PH 1-8								

INITILAZE / FLASH (MM-2-2-4)

1 = RED, 2 = YEL., 3 = GRN

	INITILAZE	ENTER FL	EXIT FL
RING 1 PHASE	2	2	2
RING 2 PHASE	6	6	6
INTERVAL	2	1	2

NOTE: Enter flash interval is permanently set to 1 (RED)

POWER-UP RESTART TIMINGS (MM-2-2-4-PGDN)

MINIMUM FLASH	(0-9.9 or 127 SECONDS)
1ST ALL RED AFTER FLASH	(0-9.9 or 127 SECONDS)

NOTE: Blanks = 0, OFF, or controller default values

11-Jun-2012

**Regional Municipality of York
Centralized Traffic Control System
Timing Pattern Summary Report - Intersection**



Intersection Name : Yonge St. (Town of Aurora) - Allaura Blvd./ Henderson Dr.

<u>Pattern Name</u>	<u>Mode</u>	<u>Cycle</u>	<u>Splits (sec)</u>	<u>offset</u>	<u>Max Green</u>	<u>Omits</u>	<u>Veh. Recall</u>	<u>Ped.Omits</u>	<u>Ped. Recalls</u>	<u>Spec. O/P</u>
AM Peak	TBC	100	12 36 00 52 00 48 14 38	24	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
Free Plan	Free	0	00 00 00 00 00 00 00 00	0	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
Off Peak	TBC	100	12 39 00 49 00 51 11 38	95	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****
PM Peak	TBC	100	17 34 00 49 00 51 11 38	83	11111111	NNNNNNNN	XXXXXXXX	NNNN	NNNN	*****

18-May-2012

**Regional Municipality of York
Centralized Traffic Control System
Controller Scheduler Summary Report - Intersection**



Intersection Name : Yonge St. (Town of Aurora) - Allaura Blvd./ Henderson Dr.

Weekly Plan : Yonge at Henderson

Time of Day	Timing Pattern	MON	TUE	WED	THU	FRI	SAT	SUN
06:00	AM Peak	X	X	X	X	X	-	-
09:30	Off Peak	X	X	X	X	X	X	X
15:00	PM Peak	X	X	X	X	X	-	-
17:00	Free Plan	-	-	-	-	-	X	X
21:00	Free Plan	X	X	X	X	X	-	-

Annual Calendar: Yonge at Henderson

Default Weekly Schedule : Yonge at Henderson

Date _____ **Schedule (If blank, use the default weekly schedule)** _____



INTERSECTION NAME: **Yonge @ Henderson**

PROGRAMMED BY: T. Hanrahan

CONTROLLER SERIAL #: _____

CTCS #: _____

ADDRESS: _____

SECURITY CODE: **1000**

PROGRAM DATE: January 9, 2007

INSTALLATION DATE: _____

MEMORY/RECALL/CNA (MM-2-2-1)

	1	2	3	4	5	6	7	8
MEMORY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
EXT RECALL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
MAX RECALL	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
PED RECALL	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
CNA I	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
CNA II	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FL WALK	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
SOFT RECALL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
WALK REST	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
COND PED	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
FWTPCL	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF

1 - NBLT	5 - Not Used
2 - Southbound	6 - Northbound
3 - Not Used	7 - EBLT
4 - Eastbound	8 - Westbound

PHASE TIMINGS (MM-2-2-2)

	1	2	3	4	5	6	7	8
MIN GREEN	7	20	0	10	0	20	7	10
PASSAGE	2.0	0.0	0	3.0	0	0.0	2.0	3.0
YELLOW	3.0	4.5	0	4.0	0	4.5	3.0	4.0
RED	0.0	2.0	0	2.0	0	2.0	0.0	2.0
MAX I	9	52	0	30	0	52	9	30
MAX II	20	52	0	50	0	52	20	50
WALK	0	7.0	0	7.0	0	7.0	0	14.7
PED CLEAR	0	7.0	0	2.0	0	7.0	0	15.24
S/A	0	0	0	0	0	0	0	0
TBR	0	0	0	0	0	0	0	0
TTR	0	0	0	0	0	0	0	0
MIN GAP	0	0	0	0	0	0	0	0
MAX VI	0	0	0	0	0	0	0	0
MAX EXT	0	0	0	0	0	0	0	0
AUTO MAX	0	0	0	0	0	0	0	0
AMR	0	0	0	0	0	0	0	0

Revised Dec 20/04 PR

Range: 0-9.9 or 127 except max times and auto max which are 0 -255 secs.

PHASES USED (MM-2-2-3-1)

PHASE	1	2	3	4	5	6	7	8
ON/OFF	ON	ON	OFF	ON	OFF	ON	ON	ON

SEQUENCE (MM-2-2-3-2)

2	1=Sequential, 2= Dual Ring, 3-7= Spec, 8=Lead/Lag
---	---

LEAD/LAG MODES (MM-2-2-3-2-PGDN...only if Seq = Lead/Lag)

PAIRS	1 AND 2	3 AND 4	5 AND 6	7 AND 8
CODE				

Codes: 1 = No Reversal, 2 = Always Reverse, 3 = Rev. by CSO or Clock

LEAD/LAG BARRIERS (MM-2-2-3-2-PGDN-PGDN...only if lead/lag)

LEAD/LAG BARRIERS ARE:		ON/OFF
------------------------	--	--------

On = Barriers after each ring 1 and 2 phase pair in a vertical column

SPECIAL INCOMPATIBILITIES (MM-2-2-3-3)

PHASE	1	2	3	4	5	6	7	8
INCOMPAT PH 1-8								
INCOMPAT PH 1-8								

INITIALIZE / FLASH (MM-2-2-4)

1 = RED, 2 = YEL., 3 = GRN

	INITIALIZE	ENTER FL	EXIT FL
RING 1 PHASE	2	2	2
RING 2 PHASE	6	6	6
INTERVAL	2	1	2

NOTE: Enter flash interval is permanently set to 1 (RED)

POWER-UP RESTART TIMINGS (MM-2-2-4-PGDN)

MINIMUM FLASH	(0-9.9 or 127 SECONDS)
1ST ALL RED AFTER FLASH	(0-9.9 or 127 SECONDS)

NOTE: Blanks = 0, OFF, or controller default values

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300009

Interval Time	Total Volumes	Intersection PHF
8:00:00	487	0.94
8:15:00	543	
8:30:00	507	
8:45:00	503	
16:30:00	580	0.93
16:45:00	689	
17:00:00	659	
17:15:00	710	

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300009

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Total Approach V
	Left		Thru		Right		Left		Thru		Right		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
8:00:00	52	13	564	124	67	19	0	0	22	6	1	0	162
8:15:00	65	13	730	166	95	28	0	0	27	5	1	0	212
8:30:00	80	15	874	144	116	21	0	0	33	6	2	1	187
8:45:00	99	19	1006	132	140	24	0	0	39	6	2	0	181
9:00:00	122	23	1118	112	158	18	0	0	46	7	2	0	
9:15:00	142	20	1263	145	181	23	0	0	54	8	2	0	
9:30:00	160	18	1376	113	203	22	1	1	59	5	3	1	
9:45:00	178	18	1493	117	225	22	1	0	63	4	5	2	
10:00:00	196	18	1599	106	252	27	1	0	68	5	6	1	
10:01:46	196	0	1599	0	252	0	1	0	68	0	6	0	
11:30:00	196	0	1599	0	252	0	1	0	68	0	6	0	
11:45:00	215	19	1709	110	301	49	2	1	76	8	9	3	
12:00:00	234	19	1832	123	341	40	2	0	80	4	9	0	
12:15:00	259	25	1974	142	396	55	2	0	83	3	9	0	
12:30:00	288	29	2086	112	447	51	2	0	88	5	9	0	
12:45:00	305	17	2203	117	497	50	2	0	92	4	10	1	
13:00:00	323	18	2329	126	536	39	2	0	99	7	12	2	
13:15:00	340	17	2462	133	578	42	2	0	103	4	13	1	
13:30:00	358	18	2571	109	636	58	2	0	107	4	13	0	
13:30:58	358	0	2571	0	636	0	2	0	107	0	13	0	
15:30:00	358	0	2571	0	636	0	2	0	107	0	13	0	
15:45:00	376	18	2709	138	681	45	2	0	114	7	14	1	
16:00:00	388	12	2823	114	723	42	2	0	116	2	16	2	
16:15:00	401	13	2957	134	780	57	2	0	120	4	16	0	
16:30:00	420	19	3086	129	841	61	2	0	124	4	16	0	213
16:45:00	432	12	3232	146	906	65	2	0	129	5	16	0	228
17:00:00	448	16	3346	114	972	66	2	0	132	3	17	1	200
17:15:00	460	12	3498	152	1031	59	2	0	137	5	17	0	228
17:30:00	478	18	3640	142	1105	74	2	0	140	3	17	0	
17:45:00	494	16	3768	128	1169	64	2	0	141	1	18	1	
18:00:00	502	8	3895	127	1231	62	2	0	144	3	18	0	
18:15:00	514	12	4031	136	1299	68	2	0	150	6	18	0	
18:30:00	530	16	4131	100	1356	57	2	0	154	4	18	0	
18:45:00	530	0	4131	0	1356	0	2	0	154	0	18	0	
18:46:15	530	0	4131	0	1356	0	2	0	154	0	18	0	

Add incremental for N, S, E, W

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300009

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15:00	8	8	35	35	13	13	0	0	5	5	1	1	0	0	0	0	0	0	0	2	2
7:30:00	13	5	92	57	23	10	1	1	10	5	3	2	0	0	0	0	0	0	4	2	
7:45:00	19	6	150	58	38	15	1	0	14	4	4	1	0	0	1	1	0	0	4	0	
8:00:00	35	16	258	108	48	10	2	1	17	3	5	1	0	0	1	0	0	0	6	2	139
8:15:00	54	19	353	95	70	22	2	0	23	6	5	0	0	0	2	1	0	0	8	2	142
8:30:00	74	20	458	105	88	18	2	0	26	3	6	1	0	0	2	0	0	0	11	3	147
8:45:00	91	17	542	84	111	23	2	0	30	4	7	1	0	0	2	0	0	0	13	2	147
9:00:00	111	20	664	122	135	24	3	1	34	4	8	1	0	0	2	0	0	0	13	0	129
9:15:00	129	18	788	124	147	12	4	1	40	6	9	1	0	0	2	0	0	0	13	0	
9:30:00	148	19	894	106	167	20	5	1	46	6	12	3	0	0	2	0	0	0	14	1	
9:45:00	164	16	994	100	179	12	6	1	50	4	13	1	0	0	2	0	0	0	20	6	
10:00:00	182	18	1094	100	192	13	6	0	55	5	15	2	0	0	2	0	0	0	24	4	
10:01:46	182	0	1094	0	192	0	6	0	55	0	15	0	0	0	2	0	0	0	24	0	
11:30:00	182	0	1094	0	192	0	6	0	55	0	15	0	0	0	2	0	0	0	24	0	
11:45:00	216	34	1215	121	207	15	6	0	61	6	16	1	0	0	2	0	0	0	27	3	
12:00:00	250	34	1347	132	220	13	6	0	65	4	16	0	1	1	2	0	0	0	28	1	
12:15:00	278	28	1469	122	241	21	6	0	71	6	16	0	1	0	2	0	0	0	31	3	
12:30:00	321	43	1609	140	258	17	7	1	74	3	16	0	1	0	2	0	0	0	33	2	
12:45:00	352	31	1728	119	278	20	7	0	76	2	18	2	1	0	2	0	0	0	35	2	
13:00:00	377	25	1855	127	293	15	9	2	79	3	18	0	1	0	2	0	0	0	35	0	
13:15:00	411	34	1978	123	313	20	11	2	84	5	20	2	1	0	2	0	0	0	36	1	
13:30:00	442	31	2122	144	333	20	12	1	90	6	21	1	1	0	2	0	0	0	37	1	
13:30:58	442	0	2122	0	333	0	12	0	90	0	21	0	1	0	2	0	0	0	37	0	
15:30:00	442	0	2122	0	333	0	12	0	90	0	21	0	1	0	2	0	0	0	37	0	
15:45:00	482	40	2265	143	346	13	12	0	93	3	21	0	1	0	2	0	0	0	42	5	
16:00:00	538	56	2422	157	362	16	12	0	98	5	23	2	1	0	3	1	0	0	43	1	
16:15:00	587	49	2582	160	373	11	12	0	102	4	25	2	1	0	4	1	0	0	49	6	
16:30:00	648	61	2734	152	387	14	12	0	104	2	25	0	1	0	5	1	0	0	50	1	229
16:45:00	723	75	2907	173	408	21	12	0	109	5	25	0	1	0	5	0	0	0	56	6	274
17:00:00	795	72	3116	209	417	9	12	0	113	4	25	0	1	0	5	0	0	0	59	3	294
17:15:00	869	74	3325	209	427	10	12	0	117	4	25	0	1	0	5	0	0	0	66	7	297
17:30:00	957	88	3504	179	439	12	12	0	120	3	26	1	1	0	6	1	0	0	70	4	
17:45:00	1022	65	3658	154	456	17	13	1	124	4	26	0	1	0	6	0	0	0	72	2	
18:00:00	1088	66	3812	154	469	13	13	0	129	5	28	2	1	0	6	0	0	0	74	2	
18:15:00	1147	59	3972	160	484	15	13	0	133	4	30	2	1	0	7	1	0	0	74	0	
18:30:00	1198	51	4130	158	498	14	13	0	137	4	30	0	1	0	7	0	0	0	74	0	
18:45:00	1198	0	4130	0	498	0	13	0	137	0	30	0	1	0	7	0	0	0	74	0	
18:46:15	1198	0	4130	0	498	0	13	0	137	0	30	0	1	0	7	0	0	0	74	0	

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 182530009

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	19	19	28	28	40	40	0	0	1	1	0	0	0	0	0	0	0	0	0	2	2
7:30:00	42	23	62	34	103	63	0	0	1	0	0	0	0	0	0	0	0	0	0	4	2
7:45:00	72	30	104	42	158	55	0	0	2	1	0	0	0	0	0	0	0	0	0	8	4
8:00:00	107	35	151	47	212	54	1	1	2	0	0	0	0	0	0	0	0	0	10	2	
8:15:00	149	42	194	43	273	61	2	1	3	1	0	0	0	0	0	0	0	0	12	2	
8:30:00	183	34	236	42	328	55	2	0	3	0	0	0	0	0	0	1	1	0	0	17	5
8:45:00	227	44	277	41	377	49	3	1	5	2	0	0	0	0	0	1	0	0	0	18	1
9:00:00	265	38	310	33	416	39	6	3	5	0	1	1	0	0	1	0	0	0	26	8	
9:15:00	302	37	334	24	444	28	7	1	6	1	1	4	0	0	0	1	0	0	0	29	3
9:30:00	335	33	369	35	472	28	7	0	6	0	3	2	0	0	1	0	0	0	0	31	2
9:45:00	363	28	393	24	496	24	7	0	6	0	3	0	0	0	1	0	0	0	0	36	5
10:00:00	400	37	414	21	530	34	8	1	8	2	3	0	0	0	1	0	0	0	0	38	2
10:01:46	400	0	414	0	530	0	8	0	8	0	3	0	0	0	1	0	0	0	0	38	0
11:30:00	400	0	414	0	530	0	8	0	8	0	3	0	0	0	1	0	0	0	0	38	0
11:45:00	432	32	443	29	554	24	8	0	10	2	3	0	0	0	1	0	0	0	0	42	4
12:00:00	474	42	464	21	582	28	8	0	10	0	4	1	0	0	1	0	0	0	0	45	3
12:15:00	514	40	498	34	602	20	8	0	12	2	5	1	0	0	1	0	0	0	0	48	3
12:30:00	551	37	524	26	629	27	8	0	12	0	5	0	0	0	1	0	0	0	0	54	6
12:45:00	600	49	561	37	652	23	8	0	12	0	7	2	0	0	1	0	0	0	0	54	0
13:00:00	645	45	590	29	677	25	8	0	13	1	7	0	0	0	2	1	0	0	0	61	7
13:15:00	686	41	621	31	693	16	8	0	13	0	7	0	0	0	2	0	0	0	0	66	5
13:30:00	738	52	646	25	718	25	9	1	13	0	9	2	0	0	2	0	0	0	0	67	1
13:30:58	738	0	646	0	718	0	9	0	13	0	9	0	0	0	2	0	0	0	0	67	0
15:30:00	738	0	646	0	718	0	9	0	13	0	9	0	0	0	2	0	0	0	0	67	0
15:45:00	771	33	671	25	740	22	9	0	14	1	10	1	0	0	2	0	0	0	0	69	2
16:00:00	804	33	697	26	773	33	9	0	15	1	10	0	2	2	2	0	0	0	0	73	4
16:15:00	857	53	720	23	791	18	9	0	15	0	12	2	2	0	2	0	0	0	0	79	6
16:30:00	894	37	744	24	809	18	9	0	16	1	12	0	2	0	2	0	0	0	0	81	2
16:45:00	939	45	774	30	835	26	9	0	16	0	12	0	2	0	2	0	0	0	0	86	5
17:00:00	986	47	812	38	864	29	9	0	18	2	12	0	2	0	2	0	0	0	0	88	2
17:15:00	1032	46	838	26	887	23	9	0	18	0	14	2	2	0	4	2	0	0	0	92	4
17:30:00	1084	52	860	22	919	32	9	0	19	1	14	0	2	0	5	1	0	0	0	99	7
17:45:00	1131	47	888	28	940	21	9	0	19	0	14	0	2	0	5	0	0	0	0	101	2
18:00:00	1176	45	923	35	970	30	9	0	20	1	14	0	2	0	5	0	0	0	0	103	2
18:15:00	1230	54	947	24	995	25	9	0	20	0	15	1	2	0	5	0	0	0	0	109	6
18:30:00	1281	51	980	33	1024	29	9	0	22	2	16	1	2	0	5	0	0	0	0	114	5
18:45:00	1281	0	980	0	1024	0	9	0	22	0	16	0	2	0	5	0	0	0	0	114	0
18:46:15	1281	0	980	0	1024	0	9	0	22	0	16	0	2	0	5	0	0	0	0	114	0

137
148
131
137

80
101
116
97

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Total Volumes	Intersection PHF
8:15:00	425	0.95
8:30:00	462	
8:45:00	442	
9:00:00	473	
16:30:00	561	0.94
16:45:00	658	
17:00:00	644	
17:15:00	675	

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Total Approach V
	Left		Thru		Right		Left		Thru		Right		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
8:00:00	46	15	503	119	16	4	0	0	20	7	0	0	
8:15:00	60	14	664	161	25	9	1	1	25	5	0	0	190
8:30:00	85	25	817	153	35	10	1	0	31	6	0	0	194
8:45:00	95	10	968	151	43	8	1	0	36	5	2	2	176
9:00:00	109	14	1089	121	54	11	1	0	41	5	2	0	151
9:15:00	123	14	1239	150	67	13	1	0	47	6	2	0	
9:30:00	131	8	1351	112	80	13	2	1	54	7	2	0	
9:45:00	136	5	1471	120	91	11	3	1	59	5	3	1	
10:00:00	146	10	1585	114	105	14	4	1	64	5	4	1	
10:02:14	146	0	1585	0	105	0	4	0	64	0	4	0	
11:30:00	146	0	1585	0	105	0	4	0	64	0	4	0	
11:45:00	159	13	1713	128	123	18	4	0	69	5	4	0	
12:00:00	170	11	1840	127	144	21	4	0	74	5	4	0	
12:15:00	186	16	1995	155	168	24	8	4	76	2	4	0	
12:30:00	205	19	2130	135	192	24	8	0	79	3	4	0	
12:45:00	219	14	2271	141	216	24	8	0	83	4	4	0	
13:00:00	240	21	2405	134	250	34	8	0	91	8	4	0	
13:15:00	258	18	2552	147	271	21	8	0	96	5	4	0	
13:30:00	284	26	2682	130	293	22	8	0	99	3	4	0	
13:30:50	284	0	2682	0	293	0	8	0	99	0	4	0	
15:30:00	284	0	2682	0	293	0	8	0	99	0	4	0	
15:45:00	292	8	2825	143	307	14	9	1	104	5	4	0	
16:00:00	310	18	2949	124	321	14	9	0	109	5	4	0	
16:15:00	320	10	3099	150	332	11	9	0	112	3	5	1	
16:30:00	331	11	3240	141	352	20	9	0	115	3	5	0	175
16:45:00	345	14	3383	143	375	23	10	1	120	5	5	0	186
17:00:00	357	12	3535	152	394	19	10	0	122	2	6	1	186
17:15:00	365	8	3705	170	414	20	11	1	127	5	6	0	204
17:30:00	368	3	3859	154	438	24	11	0	131	4	7	1	
17:45:00	385	17	4003	144	458	20	11	0	133	2	7	0	
18:00:00	397	12	4141	138	470	12	11	0	136	3	7	0	
18:15:00	406	9	4296	155	489	19	11	0	141	5	7	0	
18:30:00	419	13	4407	111	507	18	12	1	145	4	7	0	
18:45:00	419	0	4407	0	507	0	12	0	145	0	7	0	
18:47:03	419	0	4407	0	507	0	12	0	145	0	7	0	

Add incremental for N, S, E, W

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Cyclists - East Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	21	21	9	9	9	9	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1
7:30:00	31	10	20	11	13	4	1	0	1	0	0	0	0	1	1	0	0	0	2	1	
7:45:00	41	10	27	7	21	8	2	1	2	1	0	0	0	1	0	0	0	0	2	0	
8:00:00	56	15	31	4	24	3	2	0	2	0	0	0	0	1	0	0	0	0	3	1	
8:15:00	61	5	43	12	29	5	2	0	3	1	1	0	0	1	0	0	0	0	4	1	
8:30:00	75	14	57	14	38	9	3	1	3	0	1	0	0	1	0	0	0	0	9	5	
8:45:00	82	7	80	23	44	6	4	1	6	3	1	0	0	1	0	0	0	0	9	0	
9:00:00	87	5	104	24	56	12	5	1	6	0	1	0	0	1	0	0	0	0	11	2	
9:15:00	95	8	124	20	67	11	7	2	8	2	1	0	0	1	0	0	0	0	11	0	
9:30:00	115	20	143	19	70	3	7	0	8	0	1	0	0	1	0	0	0	0	12	1	
9:45:00	125	10	164	21	75	5	8	1	8	0	3	2	0	1	0	0	0	0	16	4	
10:00:00	134	9	179	15	83	8	9	1	9	1	3	0	0	1	0	0	0	0	18	2	
10:02:14	134	0	179	0	83	0	9	0	9	0	3	0	0	1	0	0	0	0	18	0	
11:30:00	134	0	179	0	83	0	9	0	9	0	3	0	0	1	0	0	0	0	18	0	
11:45:00	163	29	211	32	103	20	11	2	11	2	4	1	0	1	0	0	0	0	22	4	
12:00:00	183	20	240	29	113	10	11	0	13	2	4	0	0	1	0	0	0	0	25	3	
12:15:00	216	33	276	36	136	23	12	1	13	0	4	0	0	1	0	0	0	0	29	4	
12:30:00	246	30	311	35	151	15	12	0	13	0	4	0	0	1	0	0	0	0	30	1	
12:45:00	270	24	343	32	162	11	13	1	13	0	4	0	0	1	0	0	0	0	31	1	
13:00:00	288	18	384	41	177	15	14	1	14	1	4	0	0	1	0	0	0	0	34	3	
13:15:00	300	12	426	42	190	13	15	1	14	0	4	0	0	1	0	0	0	0	38	4	
13:30:00	319	19	459	33	207	17	15	0	14	0	4	0	0	1	0	0	0	0	39	1	
13:30:50	319	0	459	0	207	0	15	0	14	0	4	0	0	1	0	0	0	0	39	0	
15:30:00	319	0	459	0	207	0	15	0	14	0	4	0	0	1	0	0	0	0	39	0	
15:45:00	337	18	496	37	217	10	17	2	14	0	4	0	0	1	0	0	0	0	41	2	
16:00:00	355	18	534	38	228	11	17	0	16	2	4	0	0	2	1	0	0	0	43	2	
16:15:00	378	23	579	45	244	16	17	0	16	0	4	0	0	3	1	0	0	0	45	2	
16:30:00	406	28	612	33	272	28	19	2	16	0	4	0	0	3	0	0	0	0	46	1	
16:45:00	446	40	654	42	305	33	20	1	18	2	4	0	0	4	1	0	0	0	47	1	
17:00:00	465	19	702	48	324	19	21	1	19	1	4	0	0	5	1	0	0	0	48	1	
17:15:00	486	21	759	57	354	30	21	0	19	0	5	1	0	6	1	0	0	0	50	2	
17:30:00	521	35	814	55	366	12	21	0	22	3	5	0	0	6	0	0	0	0	51	1	
17:45:00	544	23	863	49	385	19	21	0	22	0	5	0	0	6	0	0	0	0	51	0	
18:00:00	565	21	910	47	402	17	21	0	24	2	5	0	0	6	0	0	0	0	51	0	
18:15:00	593	28	963	53	410	8	21	0	24	0	5	0	0	6	0	0	0	0	54	3	
18:30:00	617	24	998	35	421	11	21	0	25	1	5	0	0	6	0	0	0	0	55	1	
18:45:00	617	0	998	0	421	0	21	0	25	0	5	0	0	6	0	0	0	0	55	0	
18:47:03	617	0	998	0	421	0	21	0	25	0	5	0	0	6	0	0	0	0	55	0	

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118
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109

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	4	4	40	40	10	10	1	1	4	4	1	1	0	0	0	0	0	0	1	1	0
7:30:00	9	5	111	71	25	15	1	0	9	5	1	0	0	0	0	0	0	0	1	0	0
7:45:00	17	8	180	69	41	16	2	1	12	3	1	0	0	0	1	1	0	0	1	0	0
8:00:00	29	12	297	117	64	23	2	0	17	5	1	0	0	0	1	0	0	0	2	1	0
8:15:00	38	9	411	114	76	12	2	0	24	7	1	0	0	0	2	1	0	0	2	0	0
8:30:00	54	16	526	115	101	25	4	2	26	2	2	1	0	0	2	0	0	0	6	4	0
8:45:00	69	15	649	123	112	11	4	0	30	4	3	1	0	0	2	0	0	0	6	0	0
9:00:00	91	22	774	125	129	17	8	4	35	5	3	0	0	0	2	0	0	0	6	0	0
9:15:00	118	27	892	118	146	17	10	2	39	4	4	1	0	0	2	0	0	0	10	4	0
9:30:00	140	22	1001	109	159	13	11	1	43	4	5	1	0	0	2	0	0	0	12	2	0
9:45:00	156	16	1118	117	169	10	11	0	47	4	5	0	0	0	2	0	0	0	12	0	0
10:00:00	175	19	1230	112	184	15	11	0	53	6	5	0	0	0	2	0	0	0	12	0	0
10:02:14	175	0	1230	0	184	0	11	0	53	0	5	0	0	0	2	0	0	0	12	0	0
11:30:00	175	0	1230	0	184	0	11	0	53	0	5	0	0	0	2	0	0	0	12	0	0
11:45:00	194	19	1370	140	193	9	12	1	58	5	8	3	0	0	2	0	0	0	13	1	0
12:00:00	219	25	1511	141	209	16	13	1	61	3	8	0	0	0	2	0	0	0	17	4	0
12:15:00	253	34	1648	137	215	6	15	2	66	5	8	0	0	0	2	0	0	0	18	1	0
12:30:00	284	31	1797	149	223	8	15	0	69	3	8	0	0	0	2	0	0	0	19	1	0
12:45:00	308	24	1932	135	235	12	16	1	70	1	8	0	0	0	2	0	0	0	23	4	0
13:00:00	333	25	2083	151	248	13	16	0	72	2	8	0	0	0	2	0	0	0	25	2	0
13:15:00	355	22	2234	151	258	10	16	0	76	4	10	2	0	0	2	0	0	0	26	1	0
13:30:00	386	31	2384	150	273	15	18	2	80	4	10	0	0	0	2	0	0	0	26	0	0
13:30:50	386	0	2384	0	273	0	18	0	80	0	10	0	0	0	2	0	0	0	26	0	0
15:30:00	386	0	2384	0	273	0	18	0	80	0	10	0	0	0	2	0	0	0	26	0	0
15:45:00	417	31	2531	147	283	10	18	0	85	5	10	0	0	0	2	0	0	0	26	0	0
16:00:00	457	40	2681	150	296	13	18	0	89	4	10	0	0	0	3	1	0	0	29	3	0
16:15:00	497	40	2849	168	302	6	18	0	94	5	10	0	0	0	3	0	0	0	29	0	0
16:30:00	544	47	2997	148	312	10	18	0	97	3	10	0	0	0	3	0	0	0	31	2	0
16:45:00	588	44	3174	177	328	16	18	0	102	5	10	0	0	0	3	0	0	0	33	2	0
17:00:00	629	41	3391	217	343	15	18	0	106	4	10	0	0	0	3	0	0	0	34	1	0
17:15:00	668	39	3600	209	351	8	18	0	109	3	10	0	0	0	3	0	0	0	34	0	0
17:30:00	716	48	3785	185	360	9	18	0	112	3	10	0	0	0	3	0	0	0	35	1	0
17:45:00	754	38	3949	164	369	9	18	0	116	4	10	0	0	0	3	0	0	0	37	2	0
18:00:00	787	33	4122	173	380	11	18	0	121	5	10	0	0	0	3	0	0	0	37	0	0
18:15:00	819	32	4288	166	394	14	18	0	125	4	10	0	0	0	3	0	0	0	39	2	0
18:30:00	847	28	4459	171	402	8	18	0	128	3	10	0	0	0	3	0	0	0	40	1	0
18:45:00	847	0	4459	0	402	0	18	0	128	0	10	0	0	0	3	0	0	0	40	0	0
18:47:03	847	0	4459	0	402	0	18	0	128	0	10	0	0	0	3	0	0	0	40	0	0

142
161
154
173

208
242
277
259

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300008

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	16	16	16	16	19	19	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
7:30:00	26	10	27	11	49	30	0	0	2	1	0	0	0	0	1	1	0	0	0	2	2
7:45:00	43	17	54	27	84	35	0	0	3	1	2	2	0	0	1	0	0	0	0	3	1
8:00:00	60	17	70	16	111	27	0	0	3	0	2	0	0	0	1	0	0	0	0	3	0
8:15:00	79	19	83	13	146	35	1	1	4	1	2	0	0	0	1	0	0	0	0	5	2
8:30:00	103	24	112	29	161	15	1	0	5	1	2	0	0	0	1	0	0	0	0	6	1
8:45:00	127	24	137	25	184	23	1	0	5	0	2	0	0	0	1	0	0	0	0	6	0
9:00:00	154	27	183	46	213	29	2	1	8	3	3	1	0	0	1	0	0	0	0	7	1
9:15:00	180	26	214	31	245	32	2	0	9	1	3	0	0	0	1	0	0	0	0	12	5
9:30:00	195	15	241	27	264	19	4	2	10	1	3	0	0	0	1	0	0	0	0	17	5
9:45:00	215	20	267	26	287	23	4	0	10	0	3	0	0	0	1	0	0	0	0	20	3
10:00:00	239	24	295	28	306	19	5	1	13	3	3	0	0	0	1	0	0	0	0	22	2
10:02:14	239	0	295	0	306	0	5	0	13	0	3	0	0	0	1	0	0	0	0	22	0
11:30:00	239	0	295	0	306	0	5	0	13	0	3	0	0	0	1	0	0	0	0	22	0
11:45:00	271	32	319	24	330	24	5	0	14	1	6	3	0	0	1	0	0	0	0	26	4
12:00:00	307	36	351	32	365	35	6	1	14	0	6	0	0	0	1	0	0	0	0	33	7
12:15:00	343	36	378	27	395	30	6	0	16	2	6	0	0	0	1	0	0	0	0	37	4
12:30:00	384	41	403	25	424	29	6	0	16	0	7	1	0	0	1	0	0	0	0	41	4
12:45:00	416	32	443	40	449	25	6	0	16	0	8	1	0	0	1	0	0	0	0	44	3
13:00:00	440	24	491	48	479	30	6	0	16	0	8	0	0	0	1	0	0	0	0	45	1
13:15:00	478	38	528	37	514	35	6	0	16	0	8	0	0	0	1	0	0	0	0	49	4
13:30:00	513	35	551	23	552	38	6	0	17	1	8	0	0	0	1	0	0	0	0	51	2
13:30:50	513	0	551	0	552	0	6	0	17	0	8	0	0	0	1	0	0	0	0	51	0
15:30:00	513	0	551	0	552	0	6	0	17	0	8	0	0	0	1	0	0	0	0	51	0
15:45:00	542	29	589	38	596	44	6	0	19	2	9	1	1	1	1	0	0	0	0	56	5
16:00:00	572	30	624	35	624	28	6	0	20	1	10	1	1	0	1	0	0	0	0	57	1
16:15:00	604	32	656	32	656	32	8	2	22	2	10	0	1	0	1	0	0	0	0	62	5
16:30:00	629	25	684	28	690	34	8	0	22	0	10	0	1	0	1	0	0	0	0	64	2
16:45:00	659	30	723	39	732	42	8	0	23	1	10	0	1	0	1	0	0	0	0	66	2
17:00:00	689	30	752	29	763	31	8	0	25	2	11	1	1	0	1	0	0	0	0	70	4
17:15:00	720	31	788	36	797	34	8	0	27	2	11	0	1	0	1	0	0	0	0	73	3
17:30:00	758	38	822	34	843	46	9	1	28	1	11	0	1	0	2	1	0	0	0	76	3
17:45:00	800	42	851	29	887	44	9	0	30	2	11	0	1	0	2	0	0	0	0	80	4
18:00:00	824	24	880	29	924	37	9	0	31	1	11	0	1	0	2	0	0	0	0	82	2
18:15:00	859	35	907	27	958	34	9	0	32	1	12	1	1	0	2	0	0	0	0	85	3
18:30:00	890	31	930	23	989	31	9	0	33	1	12	0	1	0	2	0	0	0	0	88	3
18:45:00	890	0	930	0	989	0	9	0	33	0	12	0	1	0	2	0	0	0	0	88	0
18:47:03	890	0	930	0	989	0	9	0	33	0	12	0	1	0	2	0	0	0	0	88	0

69
69
72
107

87
112
93
103

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300007

Interval Time	Total Volumes	Intersection PHF
8:00:00	311	0.96
8:15:00	358	
8:30:00	358	
8:45:00	353	
16:30:00	428	0.91
16:45:00	463	
17:00:00	502	
17:15:00	528	

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300007

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Total Approach V
	Left		Thru		Right		Left		Thru		Right		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
8:00:00	0	0	583	145	12	3	0	0	20	7	0	0	155
8:15:00	2	2	762	179	14	2	0	0	26	6	0	0	189
8:30:00	2	0	944	182	16	2	0	0	31	5	1	1	190
8:45:00	3	1	1107	163	23	7	0	0	37	6	1	0	177
9:00:00	3	0	1250	143	27	4	0	0	42	5	1	0	
9:15:00	4	1	1415	165	34	7	0	0	48	6	1	0	
9:30:00	4	0	1550	135	37	3	0	0	54	6	2	1	
9:45:00	5	1	1686	136	44	7	0	0	61	7	2	0	
10:00:00	9	4	1818	132	44	0	0	0	68	7	2	0	
10:01:05	9	0	1818	0	44	0	0	0	68	0	2	0	
11:30:00	9	0	1818	0	44	0	0	0	68	0	2	0	
11:45:00	9	0	1970	152	50	6	0	0	71	3	2	0	
12:00:00	10	1	2118	148	69	19	0	0	75	4	2	0	
12:15:00	11	1	2287	169	80	11	0	0	80	5	4	2	
12:30:00	13	2	2453	166	91	11	0	0	83	3	5	1	
12:45:00	15	2	2616	163	100	9	0	0	87	4	6	1	
13:00:00	15	0	2792	176	110	10	0	0	95	8	6	0	
13:15:00	17	2	2967	175	125	15	0	0	100	5	6	0	
13:30:00	20	3	3131	164	135	10	0	0	103	3	6	0	
13:31:42	20	0	3131	0	135	0	0	0	103	0	6	0	
15:30:00	20	0	3131	0	135	0	0	0	103	0	6	0	
15:45:00	22	2	3294	163	141	6	0	0	109	6	6	0	
16:00:00	22	0	3438	144	152	11	0	0	116	7	6	0	
16:15:00	23	1	3597	159	174	22	0	0	119	3	6	0	
16:30:00	26	3	3756	159	190	16	0	0	122	3	6	0	181
16:45:00	27	1	3916	160	200	10	0	0	128	6	6	0	177
17:00:00	27	0	4084	168	217	17	0	0	131	3	6	0	188
17:15:00	29	2	4255	171	232	15	0	0	137	6	6	0	194
17:30:00	32	3	4407	152	250	18	0	0	142	5	6	0	
17:45:00	34	2	4569	162	263	13	0	0	144	2	6	0	
18:00:00	34	0	4708	139	272	9	0	0	147	3	6	0	
18:15:00	38	4	4885	177	283	11	0	0	151	4	6	0	
18:30:00	46	8	5011	126	296	13	0	0	156	5	6	0	
18:45:00	46	0	5011	0	296	0	0	0	156	0	6	0	
18:47:01	46	0	5011	0	296	0	0	0	156	0	6	0	

Add incremental for N, S, E, W

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 182530007

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Cyclists - East Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
7:30:00	2	2	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1
7:45:00	3	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
8:00:00	4	1	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	
8:15:00	8	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3	
8:30:00	10	2	1	1	3	0	0	0	1	1	0	0	0	0	0	0	0	0	7	1	
8:45:00	11	1	1	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	7	0	
9:00:00	17	6	2	1	5	2	0	0	1	0	0	0	0	0	0	0	0	0	8	1	
9:15:00	20	3	3	1	9	4	0	0	1	0	0	0	0	0	0	0	0	0	11	3	
9:30:00	28	8	3	0	10	1	0	0	1	0	0	0	0	0	0	0	0	0	13	2	
9:45:00	32	4	4	1	11	1	0	0	1	0	0	0	0	0	0	0	0	0	16	3	
10:00:00	35	3	6	2	12	1	0	0	1	0	0	0	0	0	0	0	0	0	18	2	
10:01:05	35	0	6	0	12	0	0	0	1	0	0	0	0	0	0	0	0	0	18	0	
11:30:00	35	0	6	0	12	0	0	0	1	0	0	0	0	0	0	0	0	0	18	0	
11:45:00	45	10	7	1	14	2	1	1	1	0	0	0	0	0	0	0	0	0	20	2	
12:00:00	48	3	8	1	14	0	1	0	1	0	0	0	0	0	0	0	0	0	21	1	
12:15:00	58	10	8	0	19	5	1	0	1	0	0	0	0	0	0	0	0	0	26	5	
12:30:00	63	5	10	2	25	6	1	0	1	0	0	0	0	0	0	0	0	0	28	2	
12:45:00	74	11	10	0	29	4	1	0	1	0	0	0	0	0	0	0	0	0	33	5	
13:00:00	83	9	11	1	35	6	1	0	1	0	0	0	0	0	0	0	0	0	39	6	
13:15:00	91	8	13	2	37	2	1	0	1	0	0	0	0	0	0	0	0	0	44	5	
13:30:00	102	11	15	2	42	5	1	0	1	0	0	0	0	0	0	0	0	0	46	2	
13:31:42	102	0	15	0	42	0	1	0	1	0	0	0	0	0	0	0	0	0	46	0	
15:30:00	102	0	15	0	42	0	1	0	1	0	0	0	0	0	0	0	0	0	46	0	
15:45:00	108	6	15	0	44	2	1	0	1	0	0	0	0	0	0	0	0	0	47	1	
16:00:00	114	6	18	3	48	4	1	0	1	0	0	0	0	0	0	0	0	0	49	2	
16:15:00	121	7	20	2	50	2	1	0	1	0	0	0	0	0	0	0	0	0	51	2	
16:30:00	125	4	24	4	52	2	1	0	1	0	0	0	0	0	0	0	0	0	55	4	
16:45:00	130	5	26	2	52	0	1	0	1	0	0	0	0	0	0	0	0	0	60	5	
17:00:00	137	7	28	2	57	5	1	0	1	0	0	0	2	2	0	0	0	0	61	1	
17:15:00	150	13	32	4	63	6	1	0	1	0	1	1	2	0	0	0	0	0	63	2	
17:30:00	161	11	33	1	67	4	1	0	1	0	1	0	2	0	0	0	0	0	65	2	
17:45:00	171	10	36	3	69	2	1	0	1	0	1	0	2	0	0	0	0	0	67	2	
18:00:00	182	11	38	2	70	1	1	0	1	0	1	0	2	0	0	0	0	0	70	3	
18:15:00	187	5	40	2	70	0	2	1	1	0	1	0	2	0	0	0	0	0	72	2	
18:30:00	193	6	42	2	72	2	2	0	1	0	1	0	2	0	0	0	0	0	73	1	
18:45:00	193	0	42	0	72	0	2	0	1	0	1	0	2	0	0	0	0	0	73	0	
18:47:01	193	0	42	0	72	0	2	0	1	0	1	0	2	0	0	0	0	0	73	0	

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1

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24

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 182530007

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	67	67	4	4	0	0	4	4	0	0	1	1	0	0	0	0	0	0	0
7:30:00	1	1	148	81	5	1	0	0	8	4	0	0	1	0	0	0	0	0	0	1	1
7:45:00	4	3	239	91	6	1	0	0	12	4	0	0	1	0	1	1	0	0	0	1	0
8:00:00	8	4	371	132	9	3	0	0	19	7	0	0	1	0	1	0	0	0	1	0	0
8:15:00	11	3	505	134	14	5	1	1	27	8	0	0	1	0	2	1	0	0	0	5	4
8:30:00	12	1	643	138	20	6	2	1	28	1	0	0	1	0	2	0	0	0	0	7	2
8:45:00	16	4	784	141	26	6	2	0	32	4	0	0	1	0	2	0	0	0	0	10	3
9:00:00	21	5	922	138	38	12	2	0	38	6	0	0	1	0	2	0	0	0	0	10	0
9:15:00	23	2	1058	136	48	10	2	0	42	4	0	0	1	0	2	0	0	0	0	15	5
9:30:00	25	2	1189	131	57	9	2	0	47	5	0	0	1	0	2	0	0	0	0	16	1
9:45:00	27	2	1325	136	59	2	2	0	53	6	0	0	1	0	2	0	0	0	0	17	1
10:00:00	36	9	1453	128	65	6	2	0	60	7	0	0	1	0	2	0	0	0	0	19	2
10:01:05	36	0	1453	0	65	0	2	0	60	0	0	0	1	0	2	0	0	0	0	19	0
11:30:00	36	0	1453	0	65	0	2	0	60	0	0	0	1	0	2	0	0	0	0	19	0
11:45:00	46	10	1641	188	69	4	2	0	66	6	0	0	1	0	2	0	0	0	0	20	1
12:00:00	55	9	1811	170	83	14	2	0	70	4	0	0	1	0	2	0	0	0	0	20	0
12:15:00	67	12	1980	169	97	14	2	0	74	4	0	0	1	0	2	0	0	0	0	21	1
12:30:00	77	10	2167	187	105	8	2	0	77	3	0	0	1	0	2	0	0	0	0	23	2
12:45:00	87	10	2324	157	122	17	2	0	78	1	0	0	1	0	2	0	0	0	0	26	3
13:00:00	98	11	2492	168	130	8	2	0	81	3	0	0	1	0	2	0	0	0	0	28	2
13:15:00	106	8	2674	182	144	14	2	0	85	4	0	0	1	0	2	0	0	0	0	29	1
13:30:00	122	16	2843	169	160	16	2	0	87	2	1	1	1	0	2	0	0	0	0	30	1
13:31:42	122	0	2843	0	160	0	2	0	87	0	1	0	1	0	2	0	0	0	0	30	0
15:30:00	122	0	2843	0	160	0	2	0	87	0	1	0	1	0	2	0	0	0	0	30	0
15:45:00	134	12	3008	165	169	9	2	0	92	5	1	0	1	0	2	0	0	0	0	34	4
16:00:00	141	7	3179	171	178	9	2	0	94	2	1	0	1	0	2	0	0	0	0	35	1
16:15:00	152	11	3375	196	189	11	2	0	101	7	1	0	1	0	3	1	0	0	0	38	3
16:30:00	161	9	3565	190	198	9	2	0	104	3	1	0	1	0	3	0	0	0	0	38	0
16:45:00	177	16	3791	226	202	4	2	0	109	5	1	0	1	0	3	0	0	0	0	44	6
17:00:00	194	17	4034	243	213	11	2	0	113	4	1	0	1	0	4	1	0	0	0	47	3
17:15:00	209	15	4274	240	225	12	2	0	117	4	1	0	1	0	4	0	0	0	0	50	3
17:30:00	222	13	4481	207	243	18	2	0	121	4	1	0	1	0	7	3	1	1	1	52	2
17:45:00	237	15	4676	195	255	12	2	0	126	5	1	0	1	0	7	0	1	0	0	58	6
18:00:00	252	15	4869	193	266	11	2	0	131	5	1	0	1	0	7	0	1	0	0	60	2
18:15:00	261	9	5050	181	287	21	2	0	135	4	1	0	1	0	8	1	1	0	0	62	2
18:30:00	276	15	5230	180	305	18	2	0	139	4	1	0	1	0	8	0	1	0	0	63	1
18:45:00	276	0	5230	0	305	0	2	0	139	0	1	0	1	0	8	0	1	0	0	63	0
18:47:01	276	0	5230	0	305	0	2	0	139	0	1	0	1	0	8	0	1	0	0	63	0

146
151
147
155

211
251
275
271

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 182530007

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	7	7	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
7:30:00	13	6	0	0	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	2
7:45:00	20	7	1	1	6	4	0	0	0	0	0	0	2	1	0	0	0	0	0	4	2
8:00:00	25	5	1	0	9	3	0	0	0	0	0	0	2	0	0	0	0	0	8	4	
8:15:00	34	9	2	1	13	4	0	0	0	0	0	0	2	0	0	0	0	0	13	5	
8:30:00	43	9	3	1	19	6	0	0	0	0	0	1	1	2	0	0	0	0	15	2	
8:45:00	50	7	5	2	29	10	0	0	0	0	2	1	2	0	0	0	0	0	18	3	
9:00:00	55	5	6	1	33	4	0	0	0	0	2	0	2	0	0	0	0	0	20	2	
9:15:00	58	3	7	1	41	8	0	0	0	0	2	0	3	1	0	0	0	0	23	3	
9:30:00	62	4	9	2	44	3	1	1	0	0	4	2	3	0	0	0	0	0	28	5	
9:45:00	70	8	10	1	50	6	1	0	0	0	4	0	3	0	0	0	0	0	36	8	
10:00:00	75	5	11	1	56	6	1	0	0	0	4	0	3	0	0	0	0	0	46	10	
10:01:05	75	0	11	0	56	0	1	0	0	0	4	0	3	0	0	0	0	0	46	0	
11:30:00	75	0	11	0	56	0	1	0	0	0	4	0	3	0	0	0	0	0	46	0	
11:45:00	83	8	13	2	65	9	1	0	0	0	5	1	3	0	0	0	0	0	58	12	
12:00:00	94	11	14	1	75	10	2	1	0	0	6	1	3	0	0	0	0	0	65	7	
12:15:00	106	12	14	0	86	11	2	0	0	0	6	0	3	0	0	0	0	0	78	13	
12:30:00	116	10	14	0	103	17	2	0	0	0	6	0	3	0	0	0	0	0	87	9	
12:45:00	130	14	15	1	112	9	2	0	0	0	7	1	3	0	0	0	0	0	93	6	
13:00:00	143	13	17	2	122	10	2	0	0	0	7	0	3	0	0	0	0	0	96	3	
13:15:00	154	11	18	1	132	10	2	0	0	0	7	0	3	0	0	0	0	0	101	5	
13:30:00	172	18	19	1	140	8	2	0	0	0	7	0	3	0	0	0	0	0	106	5	
13:31:42	172	0	19	0	140	0	2	0	0	0	7	0	3	0	0	0	0	0	106	0	
15:30:00	172	0	19	0	140	0	2	0	0	0	7	0	3	0	0	0	0	0	106	0	
15:45:00	177	5	19	0	150	10	2	0	0	0	7	0	3	0	0	0	1	1	116	10	
16:00:00	193	16	21	2	160	10	2	0	0	0	7	0	3	0	0	0	1	0	125	9	
16:15:00	200	7	21	0	175	15	2	0	0	0	8	1	3	0	0	0	1	0	131	6	
16:30:00	211	11	23	2	188	13	2	0	0	0	8	0	3	0	0	0	1	0	144	13	
16:45:00	223	12	24	1	203	15	2	0	0	0	8	0	3	0	0	0	1	0	157	13	
17:00:00	233	10	26	2	216	13	2	0	0	0	8	0	3	0	0	0	1	0	167	10	
17:15:00	246	13	29	3	239	23	2	0	0	0	8	0	3	0	0	0	1	0	182	15	
17:30:00	257	11	33	4	260	21	2	0	0	0	8	0	3	0	0	0	1	0	197	15	
17:45:00	267	10	34	1	270	10	2	0	0	0	8	0	3	0	0	0	1	0	204	7	
18:00:00	276	9	39	5	284	14	2	0	0	0	8	0	3	0	0	0	1	0	217	13	
18:15:00	286	10	40	1	293	9	2	0	0	0	8	0	3	0	0	0	1	0	225	8	
18:30:00	295	9	41	1	302	9	2	0	0	0	8	0	3	0	0	0	1	0	233	8	
18:45:00	295	0	41	0	302	0	2	0	0	0	8	0	3	0	0	0	1	0	233	0	
18:47:01	295	0	41	0	302	0	2	0	0	0	8	0	3	0	0	0	1	0	233	0	

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39

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300006

Interval Time	Total Volumes	Intersection PHF
8:15:00	396	0.98
8:30:00	408	
8:45:00	418	
9:00:00	413	
16:15:00	466	0.95
16:30:00	475	
16:45:00	484	
17:00:00	511	

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300006

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Total Approach V
	Left		Thru		Right		Left		Thru		Right		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
8:00:00	43	16	551	128	16	8	0	0	22	7	0	0	
8:15:00	63	20	709	158	16	0	0	0	28	6	0	0	184
8:30:00	70	7	871	162	24	8	0	0	34	6	0	0	183
8:45:00	83	13	1013	142	35	11	0	0	40	6	0	0	172
9:00:00	109	26	1149	136	43	8	0	0	45	5	0	0	175
9:15:00	119	10	1324	175	49	6	0	0	51	6	2	2	
9:30:00	135	16	1449	125	55	6	0	0	56	5	2	0	
9:45:00	145	10	1574	125	66	11	0	0	61	5	3	1	
10:00:00	163	18	1701	127	77	11	1	1	67	6	3	0	
10:00:32	163	0	1701	0	77	0	1	0	67	0	3	0	
11:30:00	163	0	1701	0	77	0	1	0	67	0	3	0	
11:45:00	177	14	1842	141	87	10	1	0	70	3	3	0	
12:00:00	192	15	2006	164	95	8	1	0	74	4	3	0	
12:15:00	205	13	2165	159	103	8	1	0	81	7	3	0	
12:30:00	223	18	2327	162	110	7	2	1	85	4	3	0	
12:45:00	233	10	2479	152	110	0	3	1	89	4	3	0	
13:00:00	244	11	2645	166	123	13	3	0	93	4	3	0	
13:15:00	249	5	2817	172	134	11	3	0	97	4	3	0	
13:30:00	264	15	2969	152	139	5	3	0	100	3	4	1	
13:30:31	264	0	2969	0	139	0	3	0	100	0	4	0	
15:30:00	264	0	2969	0	139	0	3	0	100	0	4	0	
15:45:00	275	11	3118	149	147	8	3	0	105	5	4	0	
16:00:00	281	6	3254	136	154	7	3	0	112	7	4	0	
16:15:00	292	11	3415	161	159	5	3	0	115	3	4	0	180
16:30:00	301	9	3577	162	168	9	3	0	118	3	4	0	183
16:45:00	306	5	3722	145	174	6	3	0	123	5	5	1	162
17:00:00	314	8	3888	166	183	9	3	0	126	3	5	0	186
17:15:00	320	6	4058	170	189	6	3	0	131	5	5	0	
17:30:00	326	6	4221	163	192	3	3	0	136	5	5	0	
17:45:00	334	8	4374	153	196	4	3	0	139	3	5	0	
18:00:00	343	9	4506	132	201	5	4	1	142	3	5	0	
18:15:00	351	8	4678	172	205	4	4	0	145	3	5	0	
18:30:00	354	3	4815	137	209	4	4	0	150	5	5	0	
18:45:00	354	0	4815	0	209	0	4	0	150	0	5	0	
18:46:19	354	0	4815	0	209	0	4	0	150	0	5	0	

Add incremental for N, S, E, W

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 182530006

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Cyclists - East Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	8	8	9	9	5	5	0	0	1	1	0	0	0	0	0	0	0	0	0	3	3
7:30:00	11	3	13	4	11	6	0	0	1	0	0	0	0	0	0	0	0	0	0	4	1
7:45:00	15	4	21	8	15	4	0	0	2	1	0	0	0	0	0	0	0	0	7	3	
8:00:00	30	15	29	8	22	7	1	1	2	0	1	1	0	0	0	0	0	0	11	4	
8:15:00	40	10	37	8	28	6	1	0	2	0	3	2	0	0	0	0	0	0	24	13	
8:30:00	55	15	52	15	38	10	1	0	2	0	3	0	0	0	0	0	0	0	28	4	
8:45:00	78	23	68	16	47	9	1	0	2	0	3	0	0	0	0	0	0	0	47	19	
9:00:00	86	8	77	9	57	10	1	0	2	0	3	0	0	0	0	0	0	0	66	19	
9:15:00	91	5	87	10	66	9	1	0	2	0	3	0	0	0	0	0	1	1	81	15	
9:30:00	96	5	95	8	71	5	1	0	2	0	3	0	0	0	1	1	1	0	87	6	
9:45:00	104	8	106	11	77	6	1	0	2	0	3	0	0	0	1	0	1	0	94	7	
10:00:00	113	9	116	10	91	14	1	0	2	0	3	0	0	0	1	0	1	0	102	8	
10:00:32	113	0	116	0	91	0	1	0	2	0	3	0	0	0	1	0	1	0	102	0	
11:30:00	113	0	116	0	91	0	1	0	2	0	3	0	0	0	1	0	1	0	102	0	
11:45:00	125	12	124	8	102	11	1	0	3	1	4	1	0	0	1	0	2	1	111	9	
12:00:00	139	14	133	9	117	15	1	0	3	0	4	0	0	0	3	2	2	0	119	8	
12:15:00	161	22	143	10	136	19	1	0	3	0	4	0	1	1	5	2	2	0	133	14	
12:30:00	177	16	157	14	151	15	1	0	4	1	4	0	1	0	5	0	2	0	145	12	
12:45:00	188	11	170	13	168	17	1	0	4	0	4	0	1	0	6	1	2	0	160	15	
13:00:00	201	13	180	10	180	12	2	1	4	0	4	0	1	0	7	1	2	0	166	6	
13:15:00	213	12	185	5	193	13	3	1	4	0	4	0	1	0	7	0	2	0	168	2	
13:30:00	230	17	193	8	202	9	5	2	4	0	4	0	1	0	7	0	2	0	177	9	
13:30:31	230	0	193	0	202	0	5	0	4	0	4	0	1	0	7	0	2	0	177	0	
15:30:00	230	0	193	0	202	0	5	0	4	0	4	0	1	0	7	0	2	0	177	0	
15:45:00	242	12	205	12	213	11	5	0	5	1	4	0	1	0	7	0	2	0	185	8	
16:00:00	254	12	224	19	226	13	5	0	5	0	4	0	1	0	8	1	2	0	199	14	
16:15:00	266	12	244	20	242	16	5	0	5	0	4	0	1	0	9	1	2	0	204	5	
16:30:00	283	17	262	18	260	18	5	0	6	1	4	0	2	1	9	0	2	0	208	4	
16:45:00	297	14	283	21	277	17	5	0	6	0	4	0	2	0	10	1	2	0	214	6	
17:00:00	310	13	300	17	289	12	5	0	6	0	4	0	2	0	10	0	2	0	219	5	
17:15:00	325	15	324	24	313	24	5	0	6	0	4	0	2	0	10	0	2	0	222	3	
17:30:00	336	11	337	13	328	15	5	0	6	0	4	0	3	1	10	0	2	0	225	3	
17:45:00	352	16	359	22	346	18	5	0	6	0	4	0	3	0	10	0	2	0	233	8	
18:00:00	358	6	372	13	361	15	5	0	6	0	5	1	3	0	10	0	2	0	238	5	
18:15:00	369	11	399	27	371	10	5	0	7	1	5	0	4	1	10	0	2	0	247	9	
18:30:00	381	12	417	18	378	7	5	0	7	0	5	0	4	0	10	0	2	0	247	0	
18:45:00	381	0	417	0	378	0	5	0	7	0	5	0	4	0	10	0	2	0	247	0	
18:46:19	381	0	417	0	378	0	5	0	7	0	5	0	4	0	10	0	2	0	247	0	

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 182530006

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Cyclists - South Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15:00	6	6	71	71	2	2	0	0	5	5	0	0	0	0	0	0	0	0	0	0	
7:30:00	16	10	144	73	3	1	0	0	9	4	0	0	0	0	0	0	0	0	0	1	1
7:45:00	27	11	222	78	14	11	0	0	14	5	0	0	0	0	2	2	0	0	2	1	
8:00:00	33	6	341	119	25	11	0	0	20	6	1	1	0	0	2	0	0	0	7	5	
8:15:00	48	15	458	117	38	13	0	0	25	5	3	2	0	0	3	1	0	0	10	3	143
8:30:00	72	24	563	105	59	21	0	0	26	1	3	0	0	0	3	0	0	0	14	4	152
8:45:00	85	13	666	103	94	35	0	0	30	4	3	0	0	0	3	0	0	0	24	10	151
9:00:00	103	18	785	119	106	12	0	0	36	6	3	0	0	0	3	0	0	0	35	11	155
9:15:00	118	15	907	122	111	5	0	0	40	4	3	0	0	0	3	0	1	1	42	7	
9:30:00	129	11	1032	125	118	7	1	1	46	6	3	0	0	0	3	0	1	0	47	5	
9:45:00	147	18	1154	122	123	5	1	0	52	6	3	0	0	0	3	0	1	0	49	2	
10:00:00	163	16	1269	115	129	6	1	0	59	7	3	0	0	0	3	0	1	0	53	4	
10:00:32	163	0	1269	0	129	0	1	0	59	0	3	0	0	0	3	0	1	0	53	0	
11:30:00	163	0	1269	0	129	0	1	0	59	0	3	0	0	0	3	0	1	0	53	0	
11:45:00	178	15	1436	167	141	12	2	1	62	3	5	2	0	0	3	0	1	0	63	10	
12:00:00	191	13	1589	153	147	6	3	1	66	4	5	0	0	0	3	0	1	0	68	5	
12:15:00	211	20	1743	154	154	7	3	0	70	4	5	0	0	0	3	0	1	0	72	4	
12:30:00	231	20	1905	162	161	7	3	0	73	3	5	0	0	0	3	0	1	0	81	9	
12:45:00	240	9	2066	161	167	6	3	0	74	1	5	0	0	0	4	1	1	0	88	7	
13:00:00	261	21	2226	160	172	5	3	0	77	3	5	0	0	0	4	0	1	0	98	10	
13:15:00	276	15	2389	163	183	11	3	0	81	4	5	0	0	0	4	0	1	0	103	5	
13:30:00	296	20	2559	170	193	10	3	0	83	2	5	0	0	0	5	1	1	0	110	7	
13:30:31	296	0	2559	0	193	0	3	0	83	0	5	0	0	0	5	0	1	0	110	0	
15:30:00	296	0	2559	0	193	0	3	0	83	0	5	0	0	0	5	0	1	0	110	0	
15:45:00	310	14	2720	161	199	6	3	0	88	5	5	0	0	0	5	0	1	0	113	3	
16:00:00	325	15	2887	167	208	9	3	0	90	2	5	0	0	0	5	0	1	0	115	2	
16:15:00	342	17	3061	174	219	11	3	0	96	6	5	0	0	0	7	2	1	0	117	2	208
16:30:00	354	12	3250	189	230	11	3	0	99	3	5	0	0	0	7	0	1	0	123	6	215
16:45:00	369	15	3463	213	236	6	3	0	104	5	5	0	0	0	7	0	1	0	127	4	239
17:00:00	378	9	3700	237	250	14	3	0	108	4	5	0	0	0	8	1	1	0	130	3	264
17:15:00	395	17	3937	237	255	5	3	0	113	5	6	1	0	0	8	0	1	0	133	3	
17:30:00	407	12	4135	198	265	10	3	0	117	4	6	0	0	0	11	3	1	0	140	7	
17:45:00	418	11	4317	182	272	7	3	0	122	5	6	0	0	0	12	1	2	1	149	9	
18:00:00	430	12	4492	175	280	8	3	0	126	4	6	0	0	0	12	0	2	0	152	3	
18:15:00	446	16	4652	160	291	11	4	1	130	4	6	0	0	0	12	0	2	0	158	6	
18:30:00	454	8	4823	171	303	12	4	0	134	4	6	0	0	0	12	0	2	0	158	0	
18:45:00	454	0	4823	0	303	0	4	0	134	0	6	0	0	0	12	0	2	0	158	0	
18:46:19	454	0	4823	0	303	0	4	0	134	0	6	0	0	0	12	0	2	0	158	0	

Ontario Traffic Inc.

Count Date: 27-Jun-18 Site #: 1825300006

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Cyclists - West Approach						Pedestrians		Total Approach V
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15:00	0	0	7	7	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
7:30:00	3	3	18	11	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11	9
7:45:00	12	9	37	19	10	5	0	0	0	0	0	0	0	0	0	0	0	0	0	17	6
8:00:00	20	8	58	21	18	8	0	0	0	0	0	0	1	1	0	0	0	0	0	29	12
8:15:00	32	12	73	15	25	7	0	0	0	0	0	1	0	0	0	0	0	0	34	5	
8:30:00	38	6	86	13	39	14	0	0	1	1	0	0	1	0	2	2	0	0	43	9	
8:45:00	47	9	109	23	50	11	0	0	1	0	0	0	1	0	4	2	0	0	50	7	
9:00:00	64	17	137	28	59	9	0	0	3	2	0	0	1	0	5	1	0	0	64	14	
9:15:00	77	13	146	9	67	8	0	0	3	0	0	0	1	0	5	0	0	0	71	7	
9:30:00	83	6	156	10	78	11	1	1	3	0	2	2	1	0	6	1	0	0	87	16	
9:45:00	90	7	161	5	89	11	2	1	3	0	4	2	1	0	6	0	0	0	95	8	
10:00:00	95	5	166	5	99	10	2	0	3	0	4	0	1	0	9	3	0	0	105	10	
10:00:32	95	0	166	0	99	0	2	0	3	0	4	0	1	0	9	0	0	0	105	0	
11:30:00	95	0	166	0	99	0	2	0	3	0	4	0	1	0	9	0	0	0	105	0	
11:45:00	104	9	173	7	111	12	2	0	3	0	4	0	1	0	9	0	0	0	120	15	
12:00:00	111	7	183	10	120	9	4	2	3	0	4	0	1	0	10	1	0	0	129	9	
12:15:00	117	6	189	6	126	6	4	0	3	0	4	0	1	0	10	0	0	0	137	8	
12:30:00	126	9	195	6	133	7	4	0	3	0	4	0	1	0	10	0	0	0	147	10	
12:45:00	130	4	198	3	143	10	4	0	3	0	4	0	1	0	10	0	0	0	163	16	
13:00:00	139	9	207	9	150	7	4	0	3	0	6	2	1	0	10	0	0	0	185	22	
13:15:00	149	10	216	9	158	8	4	0	3	0	6	0	1	0	10	0	0	0	194	9	
13:30:00	156	7	230	14	166	8	4	0	3	0	6	0	1	0	11	1	0	0	202	8	
13:30:31	156	0	230	0	166	0	4	0	3	0	6	0	1	0	11	0	0	0	202	0	
15:30:00	156	0	230	0	166	0	4	0	3	0	6	0	1	0	11	0	0	0	202	0	
15:45:00	167	11	237	7	178	12	4	0	3	0	6	0	1	0	12	1	0	0	206	4	
16:00:00	173	6	247	10	190	12	4	0	3	0	6	0	1	0	12	0	0	0	224	18	
16:15:00	185	12	255	8	200	10	4	0	3	0	6	0	1	0	12	0	0	0	232	8	
16:30:00	193	8	263	8	207	7	4	0	3	0	6	0	1	0	13	1	0	0	248	16	
16:45:00	200	7	277	14	217	10	4	0	3	0	6	0	1	0	13	0	0	0	256	8	
17:00:00	202	2	285	8	226	9	4	0	3	0	6	0	1	0	13	0	0	0	260	4	
17:15:00	208	6	295	10	235	9	4	0	3	0	6	0	1	0	13	0	0	0	270	10	
17:30:00	215	7	309	14	241	6	4	0	3	0	6	0	1	0	13	0	0	0	287	17	
17:45:00	220	5	317	8	249	8	4	0	3	0	6	0	1	0	13	0	2	2	304	17	
18:00:00	223	3	327	10	254	5	4	0	3	0	6	0	1	0	13	0	2	0	311	7	
18:15:00	227	4	338	11	262	8	4	0	3	0	6	0	1	0	15	2	2	0	317	6	
18:30:00	230	3	349	11	268	6	4	0	3	0	6	0	1	0	15	0	2	0	317	0	
18:45:00	230	0	349	0	268	0	4	0	3	0	6	0	1	0	15	0	2	0	317	0	
18:46:19	230	0	349	0	268	0	4	0	3	0	6	0	1	0	15	0	2	0	317	0	

34
34
43
56

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23
31
19

APPENDIX

C

LEVEL OF SERVICE 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.

APPENDIX

D

EXISTING
INTERSECTION
OPERATIONS

Lanes, Volumes, Timings

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Existing <AM>

07-05-2021



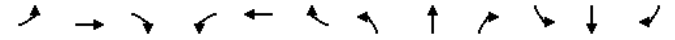
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	163	163	205	50	75	65	77	424	90	70	578	92
Future Volume (vph)	163	163	205	50	75	65	77	424	90	70	578	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.99	0.99		0.96	0.99		0.95
Frt			0.850		0.931				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456			0.648			0.367			0.491		
Satd. Flow (perm)	823	1863	1563	1225	1656	0	676	3438	1496	925	3438	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		46				96			98
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Confl. Peds. (#/hr)	16		7	7		16	16		8	8		16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	2%	1%	0%	6%	4%	2%	5%	4%	0%	5%	2%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	173	173	218	53	80	69	82	451	96	74	615	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	173	218	53	149	0	82	451	96	74	615	98
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template			Left									
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type					Cl+Ex				Cl+Ex			Cl+Ex
Detector 2 Channel												

Lanes, Volumes, Timings

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Existing <AM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	14.0	52.0	52.0	38.0	38.0		12.0	48.0	48.0	36.0	36.0	36.0
Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0			17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0			0	0	0	0	0
Act Effect Green (s)	29.1	26.1	26.1	12.7	12.7		64.9	61.4	61.4	53.1	53.1	53.1
Actuated g/C Ratio	0.29	0.26	0.26	0.13	0.13		0.65	0.61	0.61	0.53	0.53	0.53
v/c Ratio	0.52	0.36	0.38	0.34	0.60		0.16	0.21	0.10	0.15	0.34	0.12
Control Delay	32.9	31.4	5.8	44.9	37.8		8.1	9.4	2.4	8.4	9.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	31.4	5.8	44.9	37.8		8.1	9.4	2.4	8.4	9.0	1.8
LOS	C	C	A	D	D		A	A	A	A	A	A
Approach Delay		22.0			39.7			8.2				8.1
Approach LOS		C			D			A				A
Queue Length 50th (m)	27.8	28.9	0.0	10.1	20.1		5.5	19.6	0.0	5.5	33.4	0.0
Queue Length 95th (m)	42.8	44.4	16.4	21.1	38.3		13.0	32.1	7.0	17.1	51.8	6.1
Internal Link Dist (m)		151.9			655.6			285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0			80.0		75.0	90.0		40.0
Base Capacity (vph)	340	856	836	392	561		537	2109	955	490	1824	842
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.20	0.26	0.14	0.27		0.15	0.21	0.10	0.15	0.34	0.12
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	24 (24%), Referenced to phase 2:SBTL and 6:NBT, Start of Green											
Natural Cycle:	90											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.60											

Lanes, Volumes, Timings

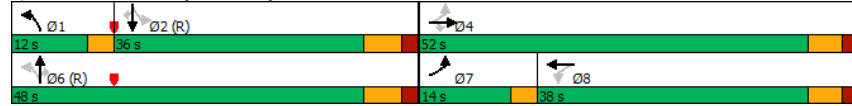
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Existing <AM>

07-05-2021

Intersection Signal Delay: 14.6	Intersection LOS: B
Intersection Capacity Utilization 80.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd



Queues

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Existing <AM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	173	218	53	149	82	451	96	74	615	98
v/c Ratio	0.52	0.36	0.38	0.34	0.60	0.16	0.21	0.10	0.15	0.34	0.12
Control Delay	32.9	31.4	5.8	44.9	37.8	8.1	9.4	2.4	8.4	9.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	31.4	5.8	44.9	37.8	8.1	9.4	2.4	8.4	9.0	1.8
Queue Length 50th (m)	27.8	28.9	0.0	10.1	20.1	5.5	19.6	0.0	5.5	33.4	0.0
Queue Length 95th (m)	42.8	44.4	16.4	21.1	38.3	13.0	32.1	7.0	17.1	51.8	6.1
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	340	856	836	392	561	537	2109	955	490	1824	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.20	0.26	0.14	0.27	0.15	0.21	0.10	0.15	0.34	0.12

Intersection Summary

Lanes, Volumes, Timings
2: Yonge Street & Murray Drive/Edward Street

Existing <AM>
07-05-2021

	←	→	↙	↘	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (vph)	102	136	100	39	86	38	88	496	73	63	597	44
Future Volume (vph)	102	136	100	39	86	38	88	496	73	63	597	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Ped Bike Factor	0.99		0.98	0.99		0.98	1.00		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1827	1593	1597	1792	1609	1641	3471	1513	1805	3471	1513
Flt Permitted	0.554			0.666			0.373			0.459		
Satd. Flow (perm)	1036	1827	1561	1112	1792	1578	641	3471	1462	866	3471	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			104			77			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	7		8	8		7	7		7	7		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	4%	1%	13%	6%	0%	10%	4%	5%	0%	4%	5%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	107	143	105	41	91	40	93	522	77	66	628	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	143	105	41	91	40	93	522	77	66	628	46
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)		3.6			3.6			3.6			3.6	
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											Yes	
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	7.7	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8				4		1	6			2
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings
2: Yonge Street & Murray Drive/Edward Street

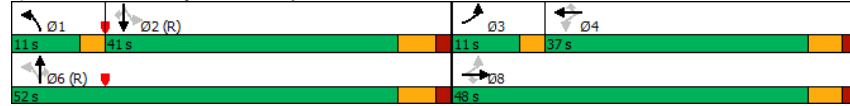
Existing <AM>
07-05-2021

	←	→	↙	↘	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	11.0	48.0	48.0	37.0	37.0	37.0	11.0	52.0	52.0	41.0	41.0	41.0
Total Split (%)	11.0%	48.0%	48.0%	37.0%	37.0%	37.0%	11.0%	52.0%	52.0%	41.0%	41.0%	41.0%
Maximum Green (s)	8.0	42.0	42.0	31.0	31.0	31.0	8.0	45.5	45.5	34.5	34.5	34.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	23.2	20.2	20.2	11.5	11.5	11.5	70.8	67.3	67.3	59.0	59.0	59.0
Actuated g/C Ratio	0.23	0.20	0.20	0.12	0.12	0.12	0.71	0.67	0.67	0.59	0.59	0.59
v/c Ratio	0.36	0.39	0.26	0.32	0.44	0.15	0.18	0.22	0.08	0.13	0.31	0.05
Control Delay	33.2	36.3	7.8	47.1	47.9	1.1	4.6	6.1	2.2	9.4	8.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	36.3	7.8	47.1	47.9	1.1	4.6	6.1	2.2	9.4	8.7	0.1
LOS	C	D	A	D	D	A	A	A	A	A	A	A
Approach Delay		27.0				36.9		5.5				8.2
Approach LOS		C				D		A				A
Queue Length 50th (m)	17.6	25.0	0.0	7.9	17.8	0.0	3.7	13.3	0.0	4.0	20.1	0.0
Queue Length 95th (m)	30.6	41.0	12.8	18.1	32.5	0.0	8.4	30.3	5.6	8.3	26.2	0.1
Internal Link Dist (m)								347.6		100.4		304.9
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	300	767	716	344	555	560	535	2336	1009	510	2047	902
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.19	0.15	0.12	0.16	0.07	0.17	0.22	0.08	0.13	0.31	0.05
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	92 (92%), Referenced to phase 2:SBTL and 6:NBT, Start of Green											
Natural Cycle:	105											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.44											
Intersection Signal Delay:	13.2						Intersection LOS: B					
Intersection Capacity Utilization:	108.1%						ICU Level of Service G					
Analysis Period (min):	15											

Lanes, Volumes, Timings
2: Yonge Street & Murray Drive/Edward Street

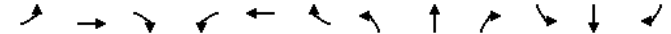
Existing <AM>
07-05-2021

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues
2: Yonge Street & Murray Drive/Edward Street

Existing <AM>
07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	143	105	41	91	40	93	522	77	66	628	46
v/c Ratio	0.36	0.39	0.26	0.32	0.44	0.15	0.18	0.22	0.08	0.13	0.31	0.05
Control Delay	33.2	36.3	7.8	47.1	47.9	1.1	4.6	6.1	2.2	9.4	8.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	36.3	7.8	47.1	47.9	1.1	4.6	6.1	2.2	9.4	8.7	0.1
Queue Length 50th (m)	17.6	25.0	0.0	7.9	17.8	0.0	3.7	13.3	0.0	4.0	20.1	0.0
Queue Length 95th (m)	30.6	41.0	12.8	18.1	32.5	0.0	8.4	30.3	5.6	8.3	26.2	0.1
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	300	767	716	344	555	560	535	2336	1009	510	2047	902
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.19	0.15	0.12	0.16	0.07	0.17	0.22	0.08	0.13	0.31	0.05

Intersection Summary

Lanes, Volumes, Timings

3: Yonge Street & Brook Ave/Private Access

Existing <AM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	30	5	26	13	3	2	15	571	29	3	690	16
Future Volume (vph)	30	5	26	13	3	2	15	571	29	3	690	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	0.98	0.98	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.986			0.993			0.997		
Flt Protected	0.959			0.964			0.950			0.950		
Satd. Flow (prot)	0	1822	1495	0	1711	0	1583	3448	0	1805	3455	0
Flt Permitted	0.742			0.760			0.372			0.415		
Satd. Flow (perm)	0	1403	1462	0	1338	0	614	3448	0	785	3455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38		2		8			4		
Link Speed (k/h)	40			20			50			50		
Link Distance (m)	216.1			83.1			328.9			104.0		
Travel Time (s)	19.4			15.0			23.7			7.5		
Conf. Peds. (#/hr)	5		9	9		5	12		5	5		12
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%	0%	8%	0%	34%	0%	14%	4%	0%	0%	4%	7%
Adj. Flow (vph)	31	5	27	14	3	2	16	595	30	3	719	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	27	0	19	0	16	625	0	3	736	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			3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3: Yonge Street & Brook Ave/Private Access

Existing <AM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)	10.1	10.1	10.1	10.1	10.1		81.9	81.9		81.9	81.9	
Actuated g/C Ratio	0.10	0.10	0.10	0.10	0.10		0.82	0.82		0.82	0.82	
v/c Ratio	0.25	0.15	0.14	0.03	0.22		0.00	0.26		0.00	0.26	
Control Delay	46.3	11.1	40.4	2.8	3.2		2.0	2.2		2.0	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.1		0.0	0.1	
Total Delay	46.3	11.1	40.4	2.8	3.2		2.0	2.3		2.0	2.3	
LOS	D	B	D	A	A		A	A		A	A	
Approach Delay	31.2		40.4		3.2			2.3				
Approach LOS	C		D		A			A				
Queue Length 50th (m)	6.9	0.0	3.2	1.0	19.7		0.1	15.4		0.1	15.4	
Queue Length 95th (m)	17.0	6.1	10.4	m2.2	18.3		m0.3	16.7		m0.3	16.7	
Internal Link Dist (m)	192.1		59.1		304.9			80.0				
Turn Bay Length (m)			12.0		15.0			15.0				
Base Capacity (vph)	448	493	429	502	2824		642	2829		642	2829	
Starvation Cap Reductn	0	0	0	0	0		0	976		0	976	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.05	0.04	0.03	0.22		0.00	0.40		0.00	0.40	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 76 (76%), Referenced to phase 2:NBL and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.26
 Intersection Signal Delay: 4.4
 Intersection Capacity Utilization 70.6%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

3: Yonge Street & Brookland Ave/Private Access

Existing <AM>

07-05-2021

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues

3: Yonge Street & Brookland Ave/Private Access

Existing <AM>

07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	27	19	16	625	3	736
v/c Ratio	0.25	0.15	0.14	0.03	0.22	0.00	0.26
Control Delay	46.3	11.1	40.4	2.8	3.2	2.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	46.3	11.1	40.4	2.8	3.2	2.0	2.3
Queue Length 50th (m)	6.9	0.0	3.2	1.0	19.7	0.1	15.4
Queue Length 95th (m)	17.0	6.1	10.4	m2.2	18.3	m0.3	16.7
Internal Link Dist (m)	192.1		59.1		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	448	493	429	502	2824	642	2829
Starvation Cap Reductn	0	0	0	0	0	0	976
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.04	0.03	0.22	0.00	0.40

Intersection Summary

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

Lanes, Volumes, Timings

5: Mosaics Avenue & Murray Drive

Existing <AM>

07-05-2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Future Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	25.0			20.0			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												
Frt					0.997			0.877			0.955	
Flt Protected	0.950			0.950				0.996			0.968	
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1627	0	0	1722	0
Flt Permitted	0.950			0.950				0.996			0.968	
Satd. Flow (perm)	1770	1827	0	1770	1788	0	0	1627	0	0	1722	0
Link Speed (k/h)		50			50			20			20	
Link Distance (m)		81.7			100.7			49.5			50.6	
Travel Time (s)		5.9			7.3			8.9			9.1	
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	1	317	1	15	205	4	4	0	41	2	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	318	0	15	209	0	0	45	0	0	3	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis

5: Mosaics Avenue & Murray Drive

Existing <AM>

07-05-2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Future Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	317	1	15	205	4	4	0	41	2	0	1
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	1	318	15	209	45	3						
Volume Left (vph)	1	0	15	0	4	2						
Volume Right (vph)	0	1	0	4	41	1						
Hadj (s)	0.53	0.07	0.53	0.09	-0.49	-0.03						
Departure Headway (s)	5.3	4.9	5.4	4.9	4.7	5.2						
Degree Utilization, x	0.00	0.43	0.02	0.29	0.06	0.00						
Capacity (veh/h)	664	729	649	713	690	613						
Control Delay (s)	7.1	10.3	7.3	8.7	8.0	8.2						
Approach Delay (s)	10.3		8.6		8.0	8.2						
Approach LOS	B		A		A	A						

Intersection Summary	
Delay	9.5
Level of Service	A
Intersection Capacity Utilization	25.4%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

Existing <AM>
07-05-2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↔				↔	↔	↔	
Traffic Volume (vph)	6	325	1	0	203	15	0	0	4	9	0	4
Future Volume (vph)	6	325	1	0	203	15	0	0	4	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Fit					0.991				0.865		0.961	
Fit Protected	0.950										0.966	
Satd. Flow (prot)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Fit Permitted	0.950										0.966	
Satd. Flow (perm)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Link Speed (k/h)		50			50				20		20	
Link Distance (m)		100.7			97.6				57.9		51.0	
Travel Time (s)		7.3			7.0				10.4		9.2	
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	353	1	0	221	16	0	0	4	10	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	354	0	0	237	0	0	0	4	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6				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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

Existing <AM>
07-05-2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↔				↔	↔	↔	
Traffic Volume (veh/h)	6	325	1	0	203	15	0	0	4	9	0	4
Future Volume (Veh/h)	6	325	1	0	203	15	0	0	4	9	0	4
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	353	1	0	221	16	0	0	4	10	0	4
Pedestrians	8											
Lane Width (m)	3.6											
Walking Speed (m/s)	1.2											
Percent Blockage	1											
Right turn flare (veh)	1											
Median type	None			None								
Median storage (veh)												
Upstream signal (m)	98											
pX, platoon unblocked	0.96						0.96			0.96		
vC, conflicting volume	244			362			608			620		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	194			362			573			584		
tC, single (s)	4.1			4.1			7.1			6.5		
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5			4.0		
p0 queue free %	99			100			100			100		
cM capacity (veh/h)	1319			1700			1700			679		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	7	354	237	4	14							
Volume Left	7	0	0	0	10							
Volume Right	0	1	16	4	4							
cSH	1319	1700	1700	679	473							
Volume to Capacity	0.01	0.21	0.14	0.01	0.03							
Queue Length 95th (m)	0.1	0.0	0.0	0.1	0.7							
Control Delay (s)	7.7	0.0	0.0	10.3	12.8							
Lane LOS	A			B	B							
Approach Delay (s)	0.2		0.0	10.3	12.8							
Approach LOS				B	B							
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	33.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

Existing <AM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	7	6	12	650	722	14
Future Volume (vph)	7	6	12	650	722	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		50.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3438	3430	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	3438	3430	0
Link Speed (k/h)	40		50	50		
Link Distance (m)	76.1		198.7	124.4		
Travel Time (s)	6.8		14.3	9.0		
Confl. Peds. (#/hr)			16			16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	5%	5%	2%
Adj. Flow (vph)	8	7	13	707	785	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	7	13	707	800	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
7: Yonge Street /Yonge Street & Easterly Access

Existing <AM>
07-05-2021

Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	7	6	12	650	722	14	
Future Volume (Veh/h)	7	6	12	650	722	14	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	8	7	13	707	785	15	
Pedestrians	16						
Lane Width (m)	3.6						
Walking Speed (m/s)	1.2						
Percent Blockage	1						
Right turn flare (veh)							
Median type				None	None		
Median storage (veh)							
Upstream signal (m)				199	124		
pX, platoon unblocked	0.93	0.91	0.91				
vC, conflicting volume	1188	416	816				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	887	166	604				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	97	99	99				
cM capacity (veh/h)	256	764	872				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	8	7	13	354	354	523	277
Volume Left	8	0	13	0	0	0	0
Volume Right	0	7	0	0	0	0	15
cSH	256	764	872	1700	1700	1700	1700
Volume to Capacity	0.03	0.01	0.01	0.21	0.21	0.31	0.16
Queue Length 95th (m)	0.8	0.2	0.4	0.0	0.0	0.0	0.0
Control Delay (s)	19.5	9.8	9.2	0.0	0.0	0.0	0.0
Lane LOS	C	A	A				
Approach Delay (s)	15.0		0.2			0.0	
Approach LOS	B						
Intersection Summary							
Average Delay				0.2			
Intersection Capacity Utilization	30.4%			ICU Level of Service		A	
Analysis Period (min)	15						

Lanes, Volumes, Timings

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Existing <PM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↗	↘	↔	↗	↘	↔	↗	↘	↔	↗	↘
Traffic Volume (vph)	190	122	112	67	177	63	309	787	53	58	570	265
Future Volume (vph)	190	122	112	67	177	63	309	787	53	58	570	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.97	0.98		0.99	0.99		0.95	0.99		0.94
Frt			0.850			0.960			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1810	1577	1752	1780	0	1805	3505	1583	1805	3505	1599
Flt Permitted	0.312			0.673			0.302			0.334		
Satd. Flow (perm)	589	1810	1528	1221	1780	0	567	3505	1497	628	3505	1508
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		19				65			270
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	11		20	20		11	18		17	17		18
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 (%)	0%	5%	2%	3%	2%	0%	0%	3%	2%	0%	3%	1%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	204	131	120	72	190	68	332	846	57	62	613	285
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	131	120	72	258	0	332	846	57	62	613	285
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template				Left								
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Existing <PM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	14.0	52.0	52.0	38.0	38.0		12.0	48.0	48.0	36.0	36.0	36.0
Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0			17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0			0	0	0	0	0
Act Effect Green (s)	35.6	32.6	32.6	18.9	18.9		58.4	54.9	54.9	35.1	35.1	35.1
Actuated g/C Ratio	0.36	0.33	0.33	0.19	0.19		0.58	0.55	0.55	0.35	0.35	0.35
v/c Ratio	0.60	0.22	0.21	0.31	0.73		0.62	0.44	0.07	0.28	0.50	0.40
Control Delay	30.2	24.0	4.7	36.7	47.1		17.4	15.2	3.3	28.0	23.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	24.0	4.7	36.7	47.1		17.4	15.2	3.3	28.0	23.2	6.7
LOS	C	C	A	D	D		B	B	A	C	C	A
Approach Delay		21.7			44.8			15.3				18.6
Approach LOS		C			D			B				B
Queue Length 50th (m)	29.7	19.2	0.0	12.8	46.3		32.6	51.5	0.0	5.6	29.7	1.1
Queue Length 95th (m)	42.7	30.2	10.8	23.9	67.9		59.1	78.1	5.8	19.2	61.7	22.9
Internal Link Dist (m)		151.9			655.6			285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0			80.0		75.0	90.0		40.0
Base Capacity (vph)	343	832	767	390	582		538	1925	851	220	1231	705
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.16	0.16	0.18	0.44		0.62	0.44	0.07	0.28	0.50	0.40
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	83 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green											
Natural Cycle:	90											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.73											

Lanes, Volumes, Timings

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Existing <PM>

07-05-2021

Intersection Signal Delay: 20.6

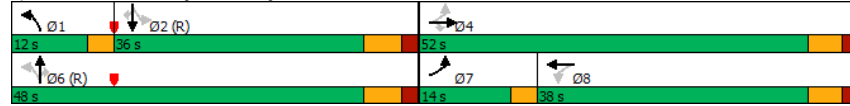
Intersection LOS: C

Intersection Capacity Utilization 85.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd



Queues

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Existing <PM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	131	120	72	258	332	846	57	62	613	285
v/c Ratio	0.60	0.22	0.21	0.31	0.73	0.62	0.44	0.07	0.28	0.50	0.40
Control Delay	30.2	24.0	4.7	36.7	47.1	17.4	15.2	3.3	28.0	23.2	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	24.0	4.7	36.7	47.1	17.4	15.2	3.3	28.0	23.2	6.7
Queue Length 50th (m)	29.7	19.2	0.0	12.8	46.3	32.6	51.5	0.0	5.6	29.7	1.1
Queue Length 95th (m)	42.7	30.2	10.8	23.9	67.9	59.1	78.1	5.8	19.2	61.7	22.9
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	343	832	767	390	582	538	1925	851	220	1231	705
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.16	0.16	0.18	0.44	0.62	0.44	0.07	0.28	0.50	0.40

Intersection Summary

Lanes, Volumes, Timings

2: Yonge Street & Murray Drive/Edward Street

Existing <PM>

07-05-2021

	↖	→	↘	↙	←	↖	↘	↙	↗	↘	↙	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↙	↖	↘	↗	↘	↙	↖	↗	↘
Traffic Volume (vph)	130	145	154	117	211	95	172	803	48	40	635	88
Future Volume (vph)	130	145	154	117	211	95	172	803	48	40	635	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.97	1.00		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1810	1593	1770	1845	1577	1805	3539	1589	1719	3505	1543
Flt Permitted	0.359			0.659			0.318			0.331		
Satd. Flow (perm)	670	1810	1567	1224	1845	1538	600	3539	1542	597	3505	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			104			65			98
Link Speed (k/h)		40			50			50			50	
Link Distance (m)		97.6			371.6			124.4			328.9	
Travel Time (s)		8.8			26.8			9.0			23.7	
Confl. Peds. (#/hr)	13		4	4		13	12		5	5		12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	5%	1%	2%	3%	2%	0%	2%	0%	5%	3%	3%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	138	154	164	124	224	101	183	854	51	43	676	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	154	164	124	224	101	183	854	51	43	676	94
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)		3.6			3.6			3.6			3.6	
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											Yes	
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8				4		1	6			2
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

2: Yonge Street & Murray Drive/Edward Street

Existing <PM>

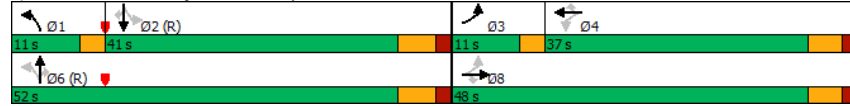
07-05-2021

	↖	→	↘	↙	←	↖	↘	↙	↗	↘	↙	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	11.0	48.0	48.0	37.0	37.0	37.0	11.0	52.0	52.0	41.0	41.0	41.0
Total Split (%)	11.0%	48.0%	48.0%	37.0%	37.0%	37.0%	11.0%	52.0%	52.0%	41.0%	41.0%	41.0%
Maximum Green (s)	8.0	42.0	42.0	31.0	31.0	31.0	8.0	45.5	45.5	34.5	34.5	34.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	31.5	28.5	28.5	17.7	17.7	17.7	62.5	59.0	59.0	46.7	46.7	46.7
Actuated g/C Ratio	0.32	0.28	0.28	0.18	0.18	0.18	0.62	0.59	0.59	0.47	0.47	0.47
v/c Ratio	0.46	0.30	0.29	0.57	0.69	0.28	0.38	0.41	0.05	0.15	0.41	0.13
Control Delay	29.4	28.3	5.2	47.3	48.9	8.2	8.6	8.4	0.7	15.9	15.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	28.3	5.2	47.3	48.9	8.2	8.6	8.4	0.7	15.9	15.4	1.8
LOS	C	C	A	D	D	A	A	A	A	B	B	A
Approach Delay		20.3				39.3		8.1				13.8
Approach LOS		C				D		A				B
Queue Length 50th (m)	20.7	24.5	0.0	23.4	43.3	0.0	11.2	31.4	0.3	3.4	28.2	0.0
Queue Length 95th (m)	32.5	37.4	13.4	39.4	63.3	12.4	18.5	41.5	m0.5	11.7	53.5	2.7
Internal Link Dist (m)		73.6				347.6		100.4				304.9
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	300	760	753	379	571	548	490	2087	936	278	1635	741
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.20	0.22	0.33	0.39	0.18	0.37	0.41	0.05	0.15	0.41	0.13
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset: 80 (80%), Referenced to phase 2:SBTL and 6:NBT, Start of Green												
Natural Cycle:	105											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.69											
Intersection Signal Delay:	16.7						Intersection LOS: B					
Intersection Capacity Utilization 109.0%							ICU Level of Service H					
Analysis Period (min)	15											
m Volume for 95th percentile queue is metered by upstream signal.												

Lanes, Volumes, Timings
2: Yonge Street & Murray Drive/Edward Street

Existing <PM>
07-05-2021

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues
2: Yonge Street & Murray Drive/Edward Street

Existing <PM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	154	164	124	224	101	183	854	51	43	676	94
v/c Ratio	0.46	0.30	0.29	0.57	0.69	0.28	0.38	0.41	0.05	0.15	0.41	0.13
Control Delay	29.4	28.3	5.2	47.3	48.9	8.2	8.6	8.4	0.7	15.9	15.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	28.3	5.2	47.3	48.9	8.2	8.6	8.4	0.7	15.9	15.4	1.8
Queue Length 50th (m)	20.7	24.5	0.0	23.4	43.3	0.0	11.2	31.4	0.3	3.4	28.2	0.0
Queue Length 95th (m)	32.5	37.4	13.4	39.4	63.3	12.4	18.5	41.5	m0.5	11.7	53.5	2.7
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	300	760	753	379	571	548	490	2087	936	278	1635	741
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.20	0.22	0.33	0.39	0.18	0.37	0.41	0.05	0.15	0.41	0.13
Intersection Summary												
m Volume for 95th percentile queue is metered by upstream signal.												

Lanes, Volumes, Timings

3: Yonge Street & Brook Ave/Private Access

Existing <PM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	46	10	72	38	9	16	61	937	46	6	673	60
Future Volume (vph)	46	10	72	38	9	16	61	937	46	6	673	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.97		0.99		0.97	1.00		1.00	0.99	
Frt			0.850		0.965		0.993			0.988		
Flt Protected		0.960			0.971		0.950			0.950		
Satd. Flow (prot)	0	1824	1615	0	1741	0	1805	3511	0	1805	3430	0
Flt Permitted		0.792			0.780		0.347			0.253		
Satd. Flow (perm)	0	1499	1569	0	1386	0	637	3511	0	479	3430	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		18		8			15		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	4		14	14		4	53		10	10		53
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	51	11	79	42	10	18	67	1030	51	7	740	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	79	0	70	0	67	1081	0	7	806	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0		3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8		2			6		
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3: Yonge Street & Brook Ave/Private Access

Existing <PM>

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		11.1			11.1		80.9	80.9		80.9	80.9	
Actuated g/C Ratio		0.11			0.11		0.81	0.81		0.81	0.81	
v/c Ratio		0.38			0.32		0.41	0.13		0.38	0.02	0.29
Control Delay	47.6	13.0			39.4		4.0	3.5		2.5	2.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.1	
Total Delay	47.6	13.0			39.4		4.0	3.5		2.5	2.5	
LOS		D			B		D	A		A	A	
Approach Delay		28.2			39.4			3.5			2.5	
Approach LOS		C			D			A			A	
Queue Length 50th (m)		12.1			0.0		10.1	1.5		13.1	0.2	15.6
Queue Length 95th (m)		24.5			13.3		23.5	8.7		50.1	m0.8	19.8
Internal Link Dist (m)		192.1			30.6			304.9			80.0	
Turn Bay Length (m)					12.0			15.0			15.0	
Base Capacity (vph)		479			555		455	515		2843	387	2779
Starvation Cap Reductn		0			0		0	0		0	0	843
Spillback Cap Reductn		0			0		0	0		0	0	0
Storage Cap Reductn		0			0		0	0		0	0	0
Reduced v/c Ratio		0.13			0.14		0.15	0.13		0.38	0.02	0.42

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 69 (69%), Referenced to phase 2:NBL and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 5.9
 Intersection Capacity Utilization 74.1%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings
3: Yonge Street & Brookland Ave/Private Access

Existing <PM>
07-05-2021

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access

Existing <PM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	79	70	67	1081	7	806
v/c Ratio	0.38	0.32	0.41	0.13	0.38	0.02	0.29
Control Delay	47.6	13.0	39.4	4.0	3.5	2.5	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	47.6	13.0	39.4	4.0	3.5	2.5	2.5
Queue Length 50th (m)	12.1	0.0	10.1	1.5	13.1	0.2	15.6
Queue Length 95th (m)	24.5	13.3	23.5	8.7	50.1	m0.8	19.8
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	479	555	455	515	2843	387	2779
Starvation Cap Reductn	0	0	0	0	0	0	843
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.15	0.13	0.38	0.02	0.42
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings

5: Mosaics Avenue & Murray Drive

Existing <PM>

07-05-2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	
Traffic Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3
Future Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	25.0			20.0			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												
Frt		0.999			0.997			0.878			0.969	
Flt Protected	0.950			0.950				0.995			0.963	
Satd. Flow (prot)	1770	1808	0	1770	1839	0	0	1627	0	0	1738	0
Flt Permitted	0.950			0.950				0.995			0.963	
Satd. Flow (perm)	1770	1808	0	1770	1839	0	0	1627	0	0	1738	0
Link Speed (k/h)		50			50			20			20	
Link Distance (m)		81.7			100.7			49.5			50.6	
Travel Time (s)		5.9			7.3			8.9			9.1	
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	389	3	49	433	9	3	0	27	10	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	392	0	49	442	0	0	30	0	0	13	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	38.1%
Analysis Period (min)	15
ICU Level of Service	A

HCM Unsignalized Intersection Capacity Analysis

5: Mosaics Avenue & Murray Drive

Existing <PM>

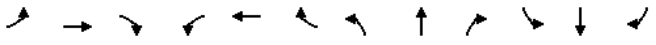
07-05-2021

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement	↔	↔		↔	↔			↔			↔	
Lane Configurations	↔	↔		↔	↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3
Future Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	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
Hourly flow rate (vph)	3	389	3	49	433	9	3	0	27	10	0	3
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	3	392	49	442	30	13						
Volume Left (vph)	3	0	49	0	3	10						
Volume Right (vph)	0	3	0	9	27	3						
Hadj (s)	0.53	0.08	0.53	0.04	-0.49	0.05						
Departure Headway (s)	5.6	5.1	5.5	5.0	5.4	6.0						
Degree Utilization, x	0.00	0.56	0.07	0.61	0.05	0.02						
Capacity (veh/h)	631	694	640	716	564	514						
Control Delay (s)	7.4	13.1	7.7	14.2	8.7	9.1						
Approach Delay (s)	13.1		13.6		8.7	9.1						
Approach LOS	B		B		A	A						

Intersection Summary	
Delay	13.1
Level of Service	B
Intersection Capacity Utilization	38.1%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

Existing <PM>
07-05-2021




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	11	380	1	0	439	32	0	0	13	36	0	12
Future Volume (vph)	11	380	1	0	439	32	0	0	13	36	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Fit					0.991				0.865		0.966	
Fit Protected	0.950										0.964	
Satd. Flow (prot)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Fit Permitted	0.950										0.964	
Satd. Flow (perm)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Link Speed (k/h)		50			50			20		20		
Link Distance (m)		100.7			97.6			57.9		51.0		
Travel Time (s)		7.3			7.0			10.4		9.2		
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	12	413	1	0	477	35	0	0	14	39	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	414	0	0	512	0	0	0	14	0	52	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.7%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

Existing <PM>
07-05-2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔		↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	11	380	1	0	439	32	0	0	13	36	0	12
Future Volume (Veh/h)	11	380	1	0	439	32	0	0	13	36	0	12
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	413	1	0	477	35	0	0	14	39	0	13
Pedestrians							8			7		
Lane Width (m)							3.6			3.6		
Walking Speed (m/s)							1.2			1.2		
Percent Blockage							1			1		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)							98					
pX, platoon unblocked	0.85						0.85			0.85		
vC, conflicting volume	519			422			953			964		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	345			422			856			869		
tC, single (s)	4.1			4.1			7.1			6.5		
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5			4.0		
p0 queue free %	99			100			100			100		
cM capacity (veh/h)	1025			1130			225			240		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	12	414	512	14	52							
Volume Left	12	0	0	0	39							
Volume Right	0	1	35	14	13							
cSH	1025	1700	1700	628	267							
Volume to Capacity	0.01	0.24	0.30	0.02	0.19							
Queue Length 95th (m)	0.3	0.0	0.0	0.5	5.6							
Control Delay (s)	8.6	0.0	0.0	10.9	21.7							
Lane LOS	A			B	C							
Approach Delay (s)	0.2		0.0	10.9	21.7							
Approach LOS				B	C							
Intersection Summary												
Average Delay				1.4								
Intersection Capacity Utilization				36.7%			ICU Level of Service			A		
Analysis Period (min)	15											

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

Existing <PM>
07-05-2021

	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Volume (vph)	24	29	32	999	883	23
Future Volume (vph)	24	29	32	999	883	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		50.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3505	3492	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	3505	3492	0
Link Speed (k/h)	40		50	50		
Link Distance (m)	76.1		198.7	124.4		
Travel Time (s)	6.8		14.3	9.0		
Confl. Peds. (#/hr)			16			16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	3%	2%
Adj. Flow (vph)	26	32	35	1086	960	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	32	35	1086	985	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	37.6%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis
7: Yonge Street /Yonge Street & Easterly Access

Existing <PM>
07-05-2021

	EBL	EBR	NBL	NBT	SBT	SBR
Movement	↔	↔	↔	↕↕	↕↕	↔
Lane Configurations	↔	↔	↔	↕↕	↕↕	↔
Traffic Volume (veh/h)	24	29	32	999	883	23
Future Volume (Veh/h)	24	29	32	999	883	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	32	35	1086	960	25
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				199	124	
pX, platoon unblocked	0.93	0.88	0.88			
vC, conflicting volume	1602	508	1001			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	882	154	717			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	90	96	95			
cM capacity (veh/h)	249	747	760			

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	26	32	35	543	543	640	345
Volume Left	26	0	35	0	0	0	0
Volume Right	0	32	0	0	0	0	25
cSH	249	747	760	1700	1700	1700	1700
Volume to Capacity	0.10	0.04	0.05	0.32	0.32	0.38	0.20
Queue Length 95th (m)	2.8	1.1	1.2	0.0	0.0	0.0	0.0
Control Delay (s)	21.2	10.0	10.0	0.0	0.0	0.0	0.0
Lane LOS	C	B	A				
Approach Delay (s)	15.0		0.3			0.0	
Approach LOS	C						

Intersection Summary	
Average Delay	0.6
Intersection Capacity Utilization	37.6%
Analysis Period (min)	15
	ICU Level of Service A

APPENDIX

E

TRAFFIC GROWTH
RATE

Comparison TMCs between 2011 with 2018
Yonge Street at Henderson Drive/Allaura Boulevard (2018) & Yonge Street at Industrial Parkway (2011)

AM Peak

Movement	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2018 counts	77	424	90	70	578	92	163	163	205	50	75	65
2011 counts		480	192	123	962					202		62
2018		591			833			531			190	
2011		542			1085			0			264	
2011-2018		49			-252			531			-74	
% Difference = (2018 counts - 2011 counts)/ (2011 counts*(2018-2011))		1.3%			-3.3%							

PM Peak

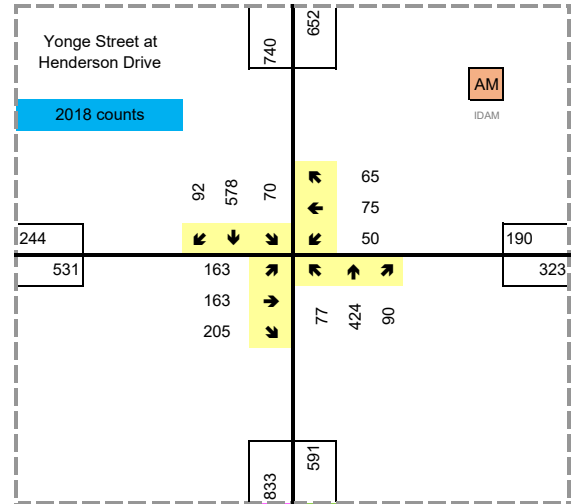
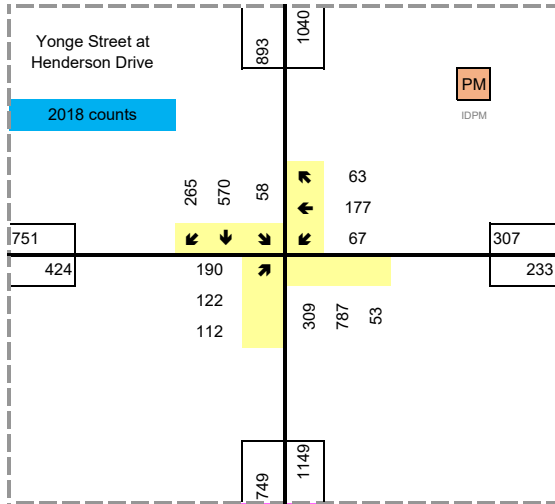
Movement	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
2018 counts	309	787	53	58	570	265	190	122	112	67	177	63
2011 counts		952	149	109	677					232		237
2018		1149			749			424			307	
2011		1189			786			0			469	
2011-2018		-40			-37			424			-162	
% Difference = (2018 counts - 2011 counts)/ (2011 counts*(2018-2011))		-0.5%			-0.7%							

Link Volume Comparison at between 2011 with 2018
Yonge Street at Henderson Drive/Allaura Boulevard (2018) & Yonge Street at Industrial Parkway (2011)

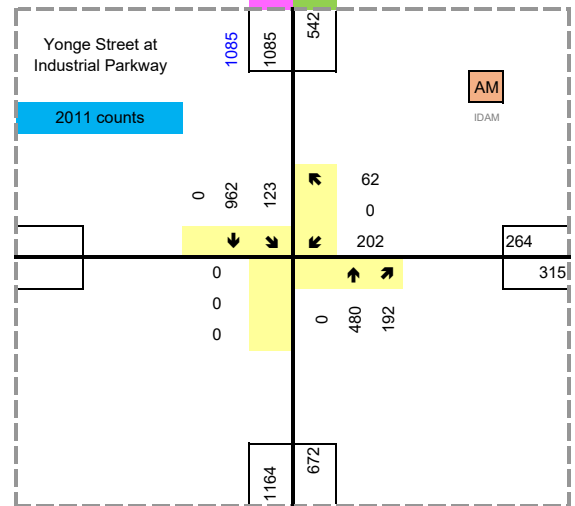
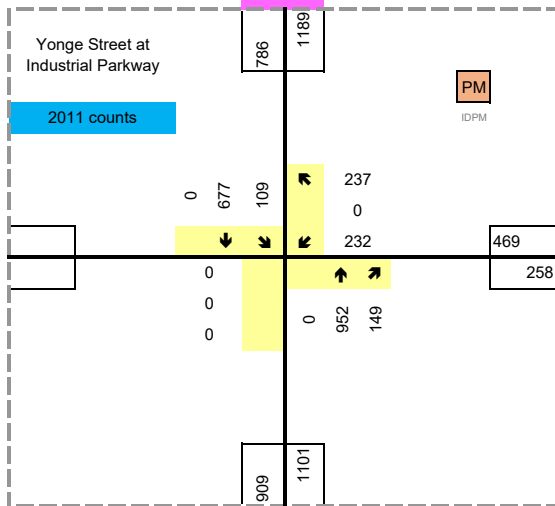
PM

AM

Yonge Street at Henderson Drive/Allaura Boulevard (2018 TMC)



Yonge Street at Industrial Parkway (2011 TMC)



Disclaimer

It is advised that A.M. peak hour auto volumes and A.M. 3-hour peak period transit volumes presented in the plots are simulated assignment results from York Region's travel demand forecasting model. The plots are provided for information purposes and shall not be intended to be attached to a report as an appendix.

The population and employment data used in the model are projections, and should be used only for the purposes of studies on a regional context and for estimating transportation demands on regional roads.

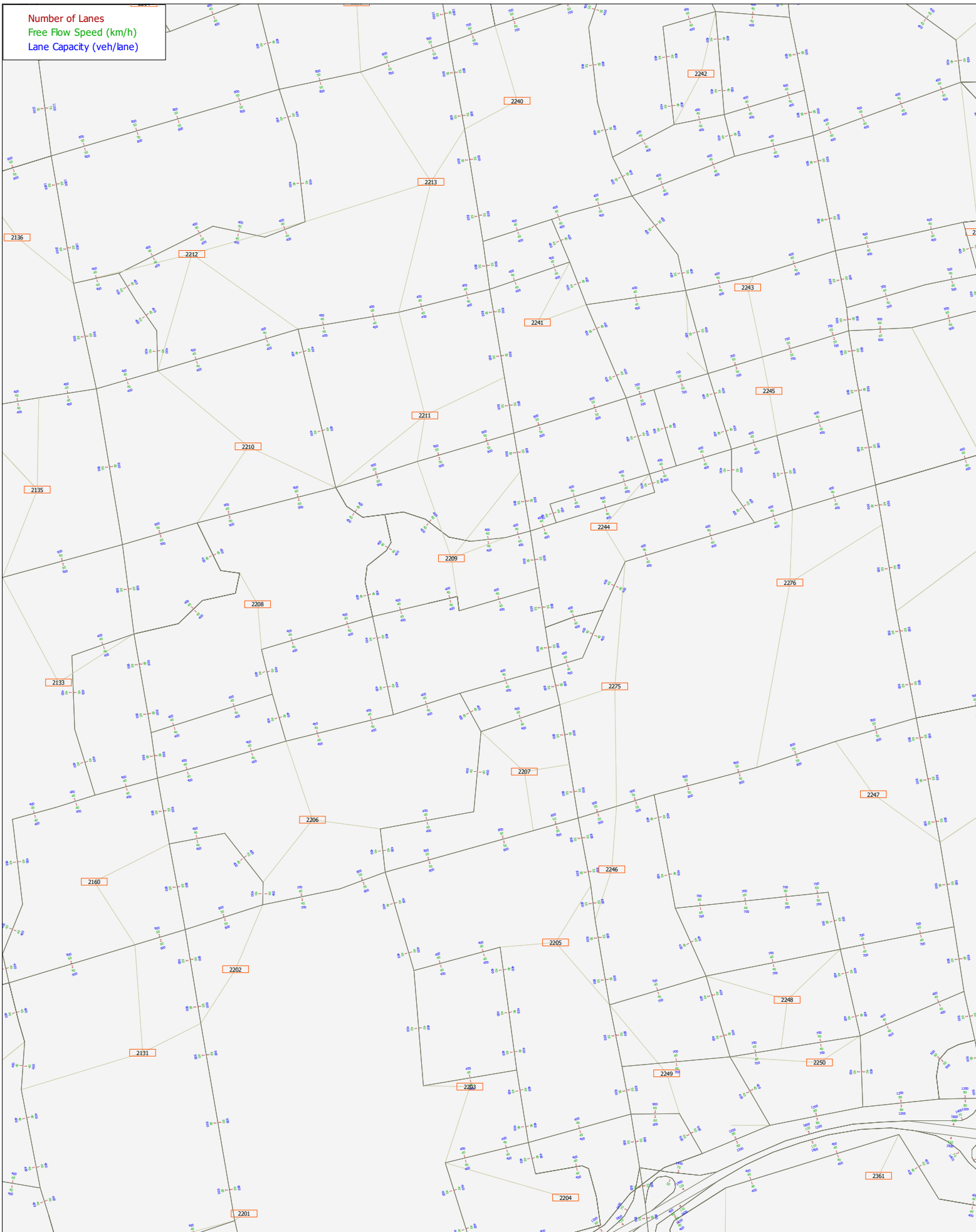
The consultant should be fully aware of the modelling assumptions and understand the limitations of the model.

While efforts are made to see that the supplied information is accurate and up-to-date:

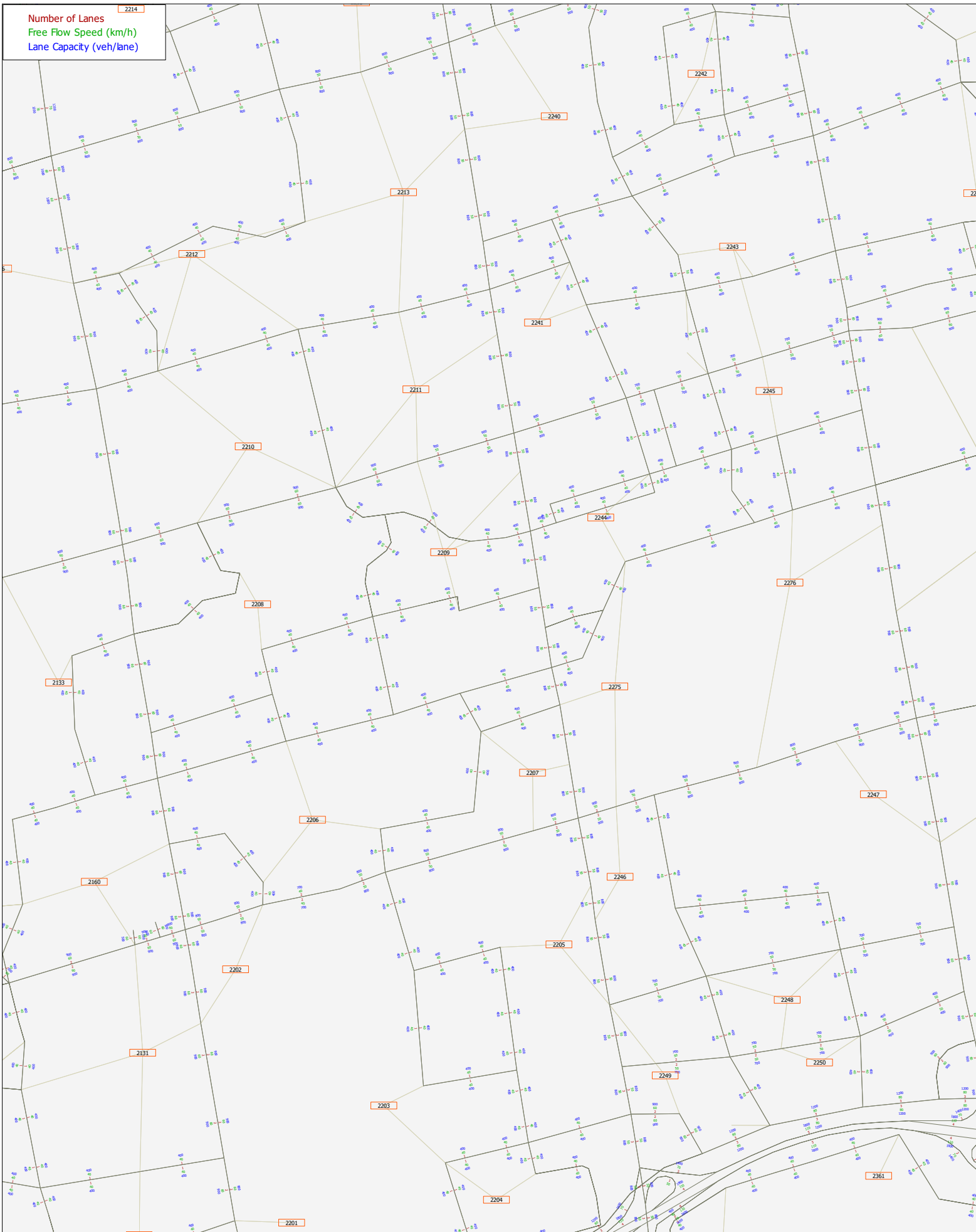
- i. neither The Regional Municipality of York, the Owners, nor any of the respective employees, officers, or servants shall be liable for any damages or suffer any loss arising from any errors or inaccuracies in the information, or from any misuse, misinterpretation or misapplication thereof, whether due to the negligence of such employees, officers, servants or otherwise: and
- ii. the information is made available to the recipient thereof solely on condition that the recipient and all the recipient's heirs, executors, administrators, successors and assigns shall assume full responsibility for any risk associated with the use or misuse thereof and agree to indemnify and hold harmless The Regional Municipality of York, the Owners, and the respective employees, officers and servants from any and all damages or losses whether arising directly or indirectly from the release of digital data including all damages and losses of the type described in Clause i.

2016 Link Attributes

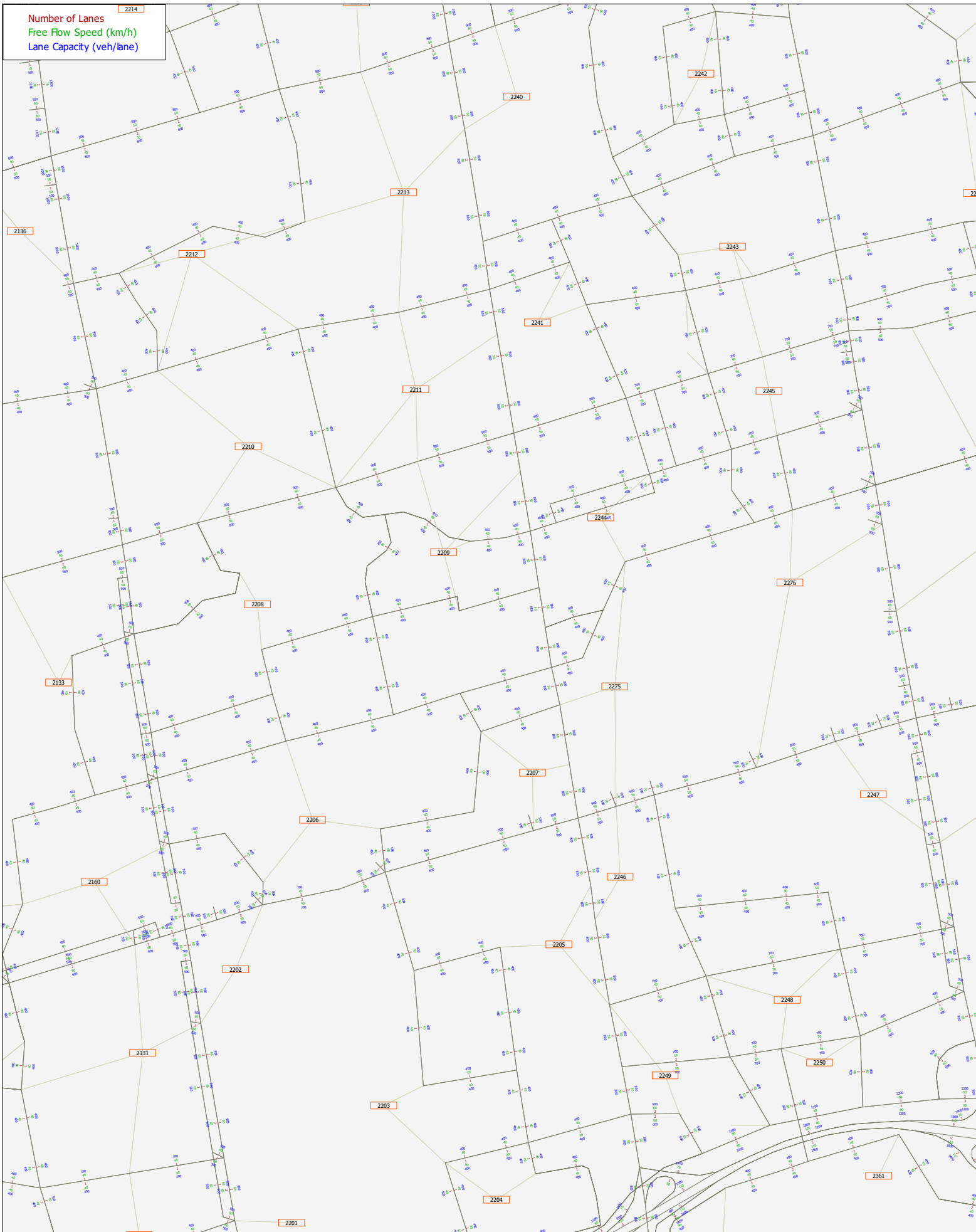
Number of Lanes
Free Flow Speed (km/h)
Lane Capacity (veh/lane)



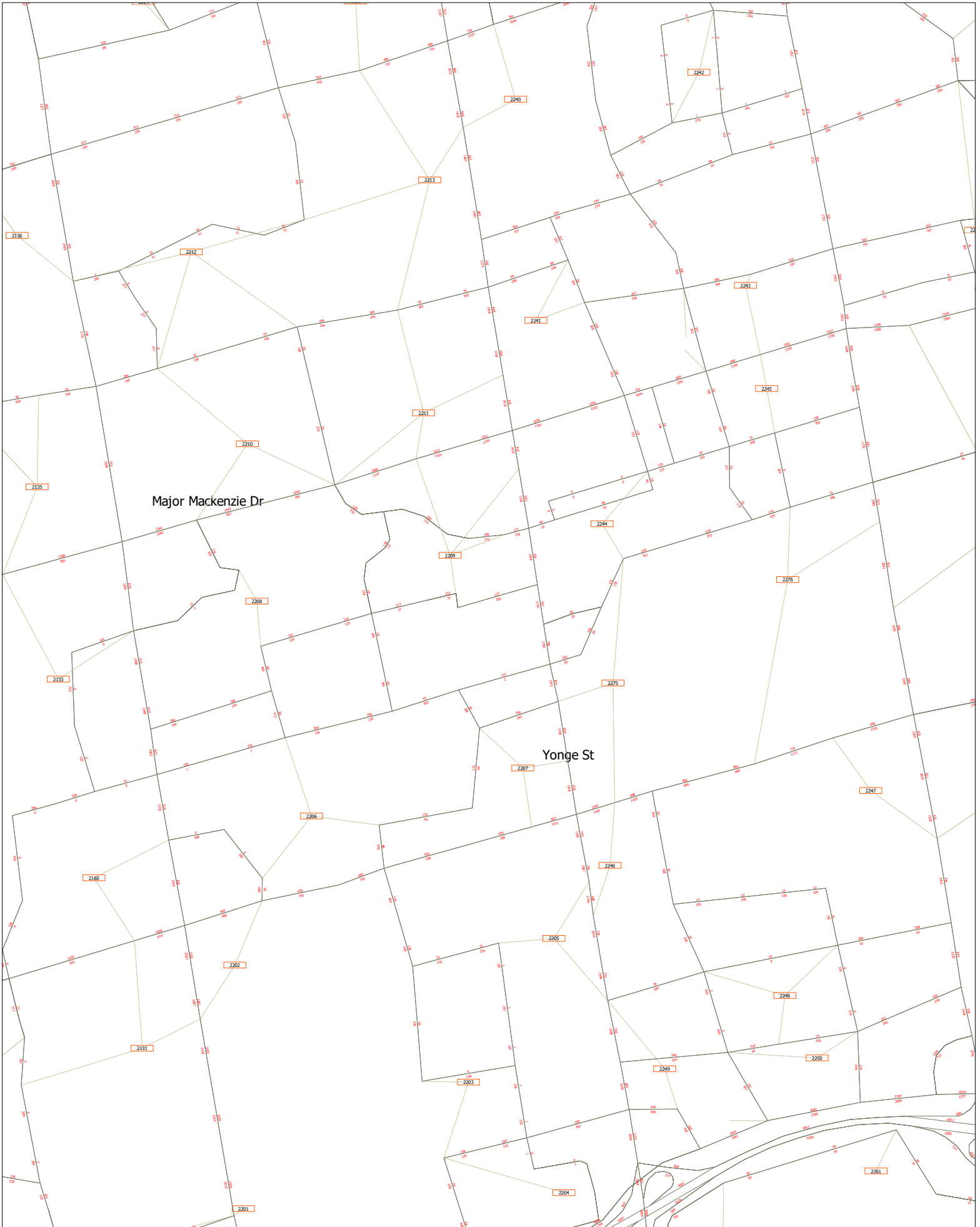
2021 Link Attributes



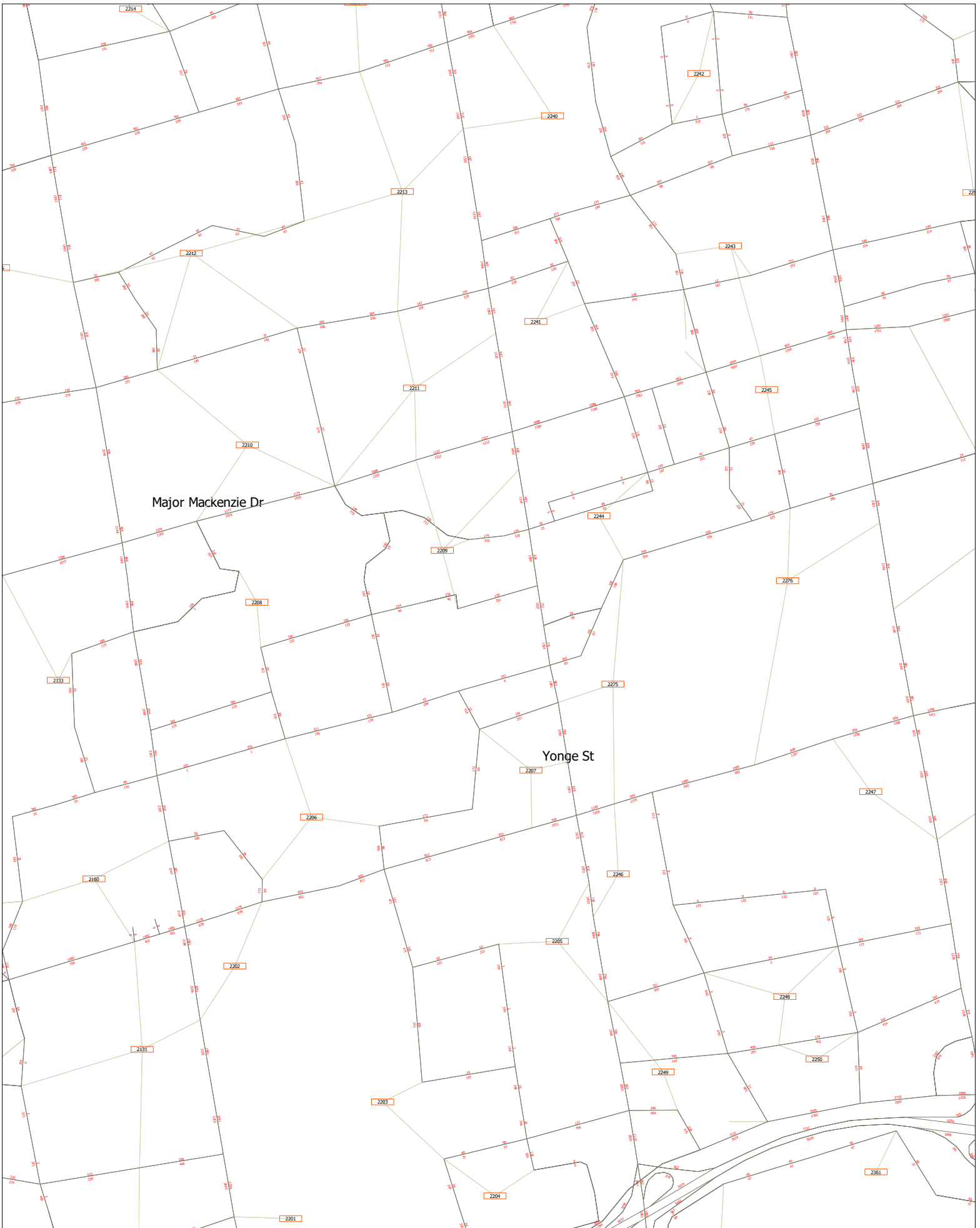
2031 Link Attributes



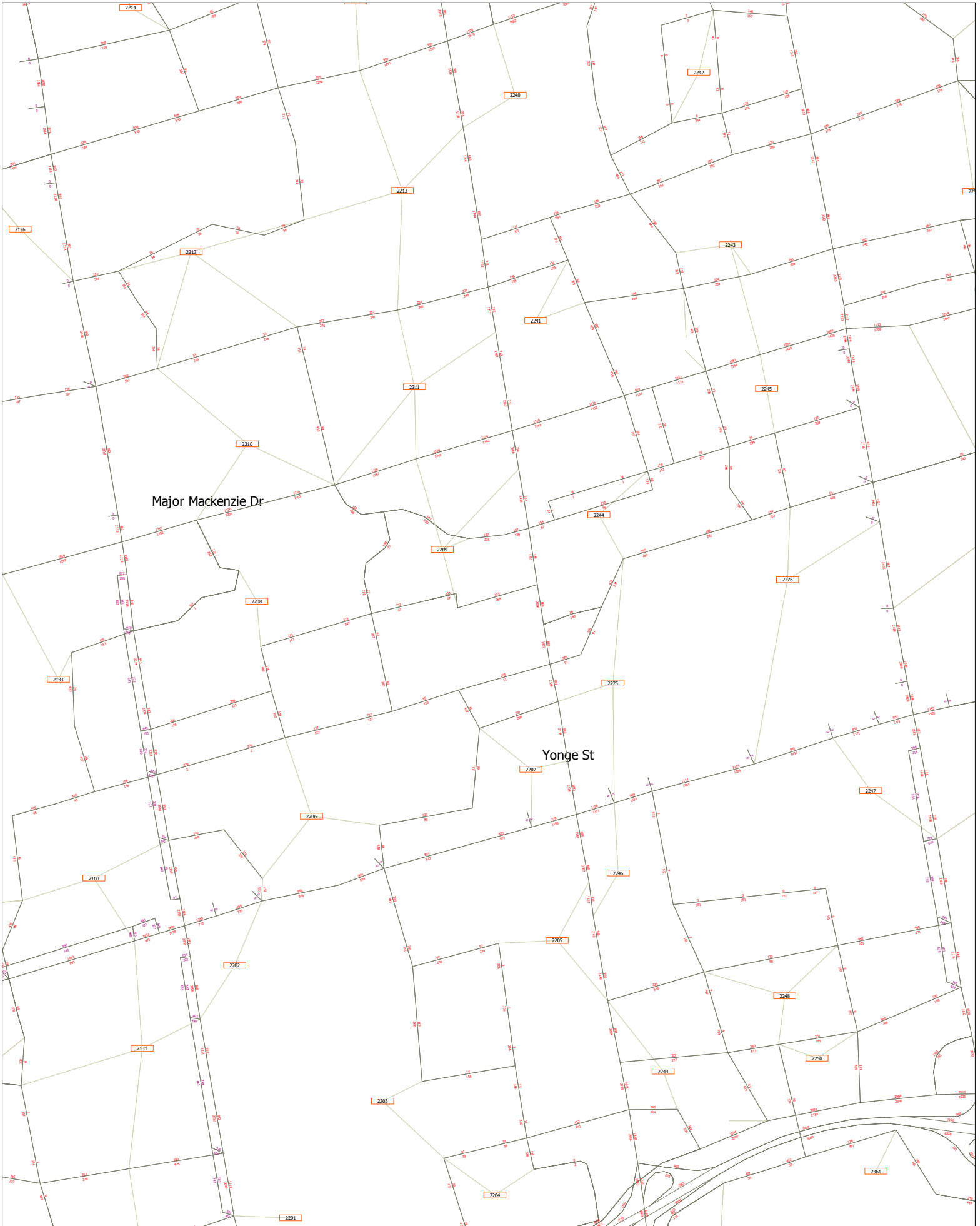
2016 AM Pkhr Auto Link Volumes



2021 AM Pkhr Auto Link Volumes



2031 AM Pkhr Auto Link Volumes



2016 AM 3-hour Pkpd Transit Ridership



2021 AM 3-hour Pkpd Transit Ridership



2031 AM 3-hour Pkpd Transit Ridership



APPENDIX

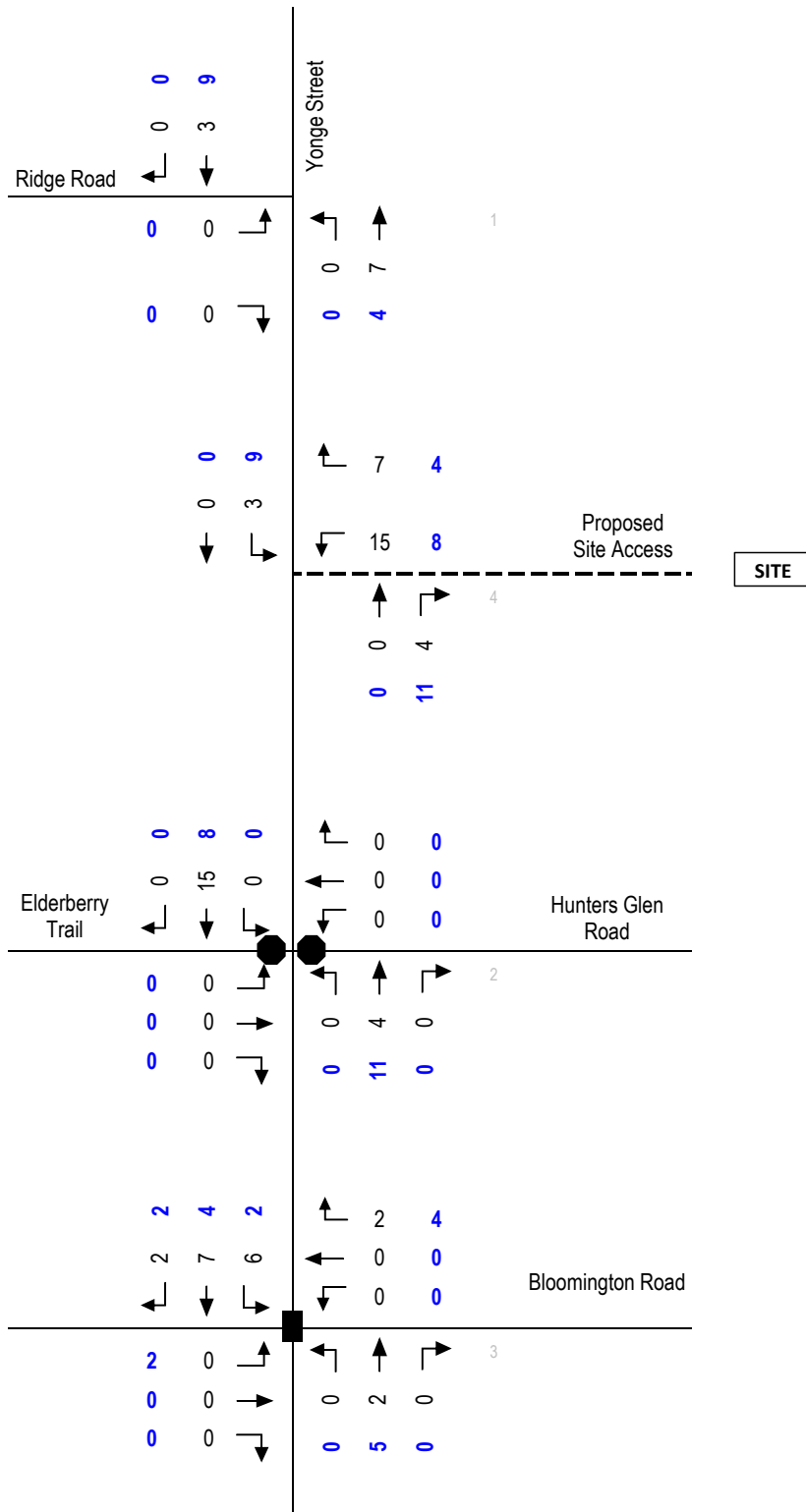
F

FUTURE



BACKGROUND

DEVELOPMENTS

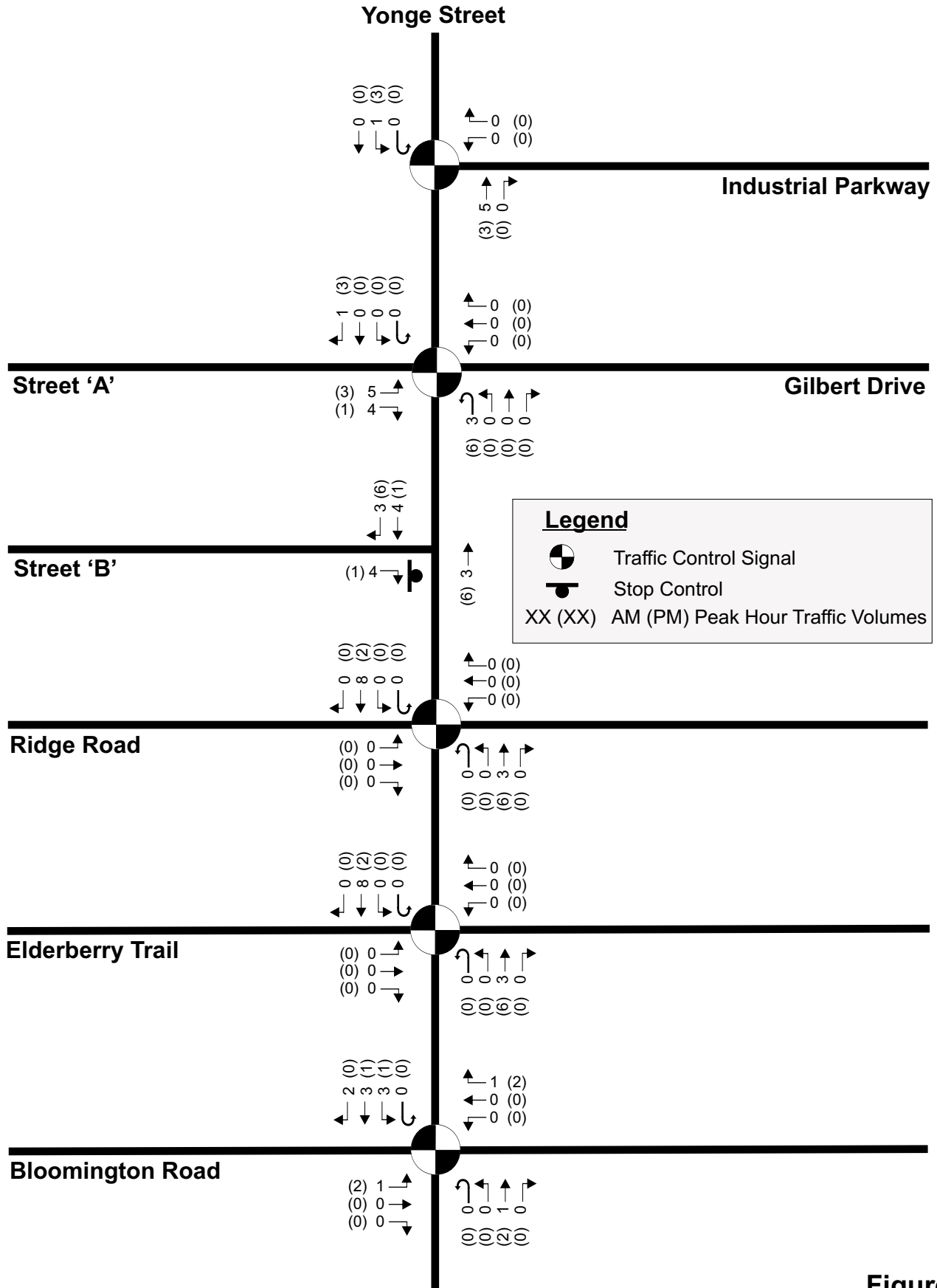
Figure 7: Site Traffic Assignment, Weekday AM and PM Peak Hours



LEGEND

-  Traffic Signal
-  Stop Sign
- xx xx AM / PM Peak Hour

Schematic; Not To Scale



Not to Scale

Figure 4-2
Site Traffic Volumes
With BRT

APPENDIX

G

FUTURE
BACKGROUND
INTERSECTION
OPERATIONS

Lanes, Volumes, Timings

3026 Future Background <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	163	163	205	50	75	65	77	469	90	70	612	92
Future Volume (vph)	163	163	205	50	75	65	77	469	90	70	612	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.99	0.99		0.96	0.99		0.95
Frt			0.850		0.931				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456			0.648			0.349			0.469		
Satd. Flow (perm)	823	1863	1563	1225	1656	0	644	3438	1496	884	3438	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		46				96			98
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	16		7	7		16	16		8	8		16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	2%	1%	0%	6%	4%	2%	5%	4%	0%	5%	2%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	173	173	218	53	80	69	82	499	96	74	651	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	173	218	53	149	0	82	499	96	74	651	98
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	0.0											
Detector 2 Size(m)	0.0											
Detector 2 Type	Cl+Ex											
Detector 2 Channel												

Lanes, Volumes, Timings

3026 Future Background <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

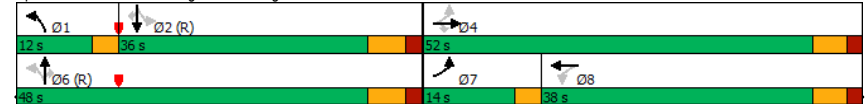


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	14.0	52.0	52.0	38.0	38.0		12.0	48.0	48.0	36.0	36.0	36.0
Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0		0	0	0	0	0	0
Act Effect Green (s)	29.1	26.1	26.1	12.7	12.7		64.9	61.4	61.4	53.1	53.1	53.1
Actuated g/C Ratio	0.29	0.26	0.26	0.13	0.13		0.65	0.61	0.61	0.53	0.53	0.53
v/c Ratio	0.52	0.36	0.38	0.34	0.60		0.16	0.24	0.10	0.16	0.36	0.12
Control Delay	32.9	31.4	5.8	44.9	37.8		8.2	9.6	2.4	8.1	9.0	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	31.4	5.8	44.9	37.8		8.2	9.6	2.4	8.1	9.0	1.5
LOS	C	C	A	D	D		A	A	A	A	A	A
Approach Delay		22.0			39.7			8.4				8.0
Approach LOS		C			D			A				A


Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 14.4
 Intersection LOS: B
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 3026 Future Background <AM>
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	173	218	53	149	82	499	96	74	651	98
v/c Ratio	0.52	0.36	0.38	0.34	0.60	0.16	0.24	0.10	0.16	0.36	0.12
Control Delay	32.9	31.4	5.8	44.9	37.8	8.2	9.6	2.4	8.1	9.0	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	31.4	5.8	44.9	37.8	8.2	9.6	2.4	8.1	9.0	1.5
Queue Length 50th (m)	27.8	28.9	0.0	10.1	20.1	5.5	22.1	0.0	5.0	37.5	0.0
Queue Length 95th (m)	42.8	44.4	16.4	21.1	38.3	13.0	35.5	7.0	16.2	57.3	3.8
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	340	856	836	392	561	518	2109	955	469	1824	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.20	0.26	0.14	0.27	0.16	0.24	0.10	0.16	0.36	0.12

Intersection Summary

Lanes, Volumes, Timings 3026 Future Background <AM>
2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	102	136	100	39	86	38	88	547	73	63	632	44
Future Volume (vph)	102	136	100	39	86	38	88	547	73	63	632	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.98	1.00		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Fit Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1827	1593	1597	1792	1609	1641	3471	1513	1805	3471	1513
Fit Permitted	0.554			0.666			0.352			0.435		
Satd. Flow (perm)	1036	1827	1561	1112	1792	1578	605	3471	1462	821	3471	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			104			77			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	7		8	8		7	7		7	7		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	4%	1%	13%	6%	0%	10%	4%	5%	0%	4%	5%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	107	143	105	41	91	40	93	576	77	66	665	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	143	105	41	91	40	93	576	77	66	665	46
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)		25		15	25		15	25		15	25	15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	7.7	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

3026 Future Background <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	13.0	49.0	49.0	36.0	36.0	36.0	11.0	51.0	51.0	40.0	40.0	40.0
Total Split (%)	13.0%	49.0%	49.0%	36.0%	36.0%	36.0%	11.0%	51.0%	51.0%	40.0%	40.0%	40.0%
Maximum Green (s)	10.0	43.0	43.0	30.0	30.0	30.0	8.0	44.5	44.5	33.5	33.5	33.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	24.2	21.2	21.2	11.5	11.5	11.5	69.8	66.3	66.3	57.9	57.9	57.9
Actuated g/C Ratio	0.24	0.21	0.21	0.12	0.12	0.12	0.70	0.66	0.66	0.58	0.58	0.58
v/c Ratio	0.34	0.37	0.25	0.32	0.44	0.15	0.19	0.25	0.08	0.14	0.33	0.05
Control Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.0	7.4	3.0	10.2	9.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.0	7.4	3.0	10.2	9.5	0.1
LOS	C	C	A	D	D	A	A	A	B	A	A	A
Approach Delay		25.7			36.9			6.8			9.0	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

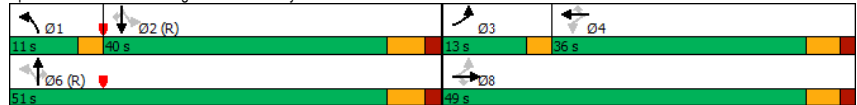
Maximum v/c Ratio: 0.44

Intersection Signal Delay: 13.4 Intersection LOS: B

Intersection Capacity Utilization 108.1% ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

3026 Future Background <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	143	105	41	91	40	93	576	77	66	665	46
v/c Ratio	0.34	0.37	0.25	0.32	0.44	0.15	0.19	0.25	0.08	0.14	0.33	0.05
Control Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.0	7.4	3.0	10.2	9.5	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.0	7.4	3.0	10.2	9.5	0.1
Queue Length 50th (m)	17.3	24.6	0.0	7.9	17.8	0.0	4.0	16.2	0.0	4.1	22.0	0.0
Queue Length 95th (m)	29.6	39.8	12.5	18.1	32.5	0.0	11.6	40.3	7.4	8.5	28.4	0.1
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	325	785	731	333	537	546	506	2301	995	475	2009	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.18	0.14	0.12	0.17	0.07	0.18	0.25	0.08	0.14	0.33	0.05

Intersection Summary

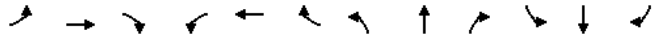
Intersection Summary												
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Lanes, Volumes, Timings

3026 Future Background <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	30	5	26	13	3	2	15	628	29	3	730	16
Future Volume (vph)	30	5	26	13	3	2	15	628	29	3	730	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99	0.98		0.99		0.99	1.00		1.00		1.00
Frt			0.850		0.986		0.993			0.997		
Flt Protected		0.959			0.964		0.950			0.950		
Satd. Flow (prot)	0	1822	1495	0	1711	0	1583	3448	0	1805	3455	0
Flt Permitted		0.742			0.760		0.357			0.392		
Satd. Flow (perm)	0	1403	1462	0	1338	0	590	3448	0	742	3455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38		2		7			4		4
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	5		9	9		5	12		5	5		12
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%	0%	8%	0%	34%	0%	14%	4%	0%	0%	4%	7%
Adj. Flow (vph)	31	5	27	14	3	2	16	654	30	3	760	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	27	0	19	0	16	684	0	3	777	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		3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3026 Future Background <AM>

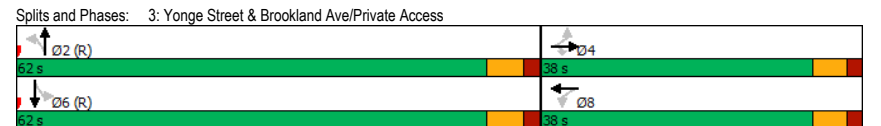
3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%	62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		10.1	10.1		10.1		81.9	81.9		81.9	81.9	
Actuated g/C Ratio		0.10	0.10		0.10		0.82	0.82		0.82	0.82	
v/c Ratio		0.25	0.15		0.14		0.03	0.24		0.00	0.27	
Control Delay		46.3	11.1		40.4		2.7	3.3		2.0	2.2	
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay		46.3	11.1		40.4		2.7	3.3		2.0	2.3	
LOS		D	B		D		A	A		A	A	
Approach Delay		31.2			40.4			3.3			2.3	
Approach LOS		C			D			A			A	

Intersection Summary
 Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 76 (76%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.27
 Intersection Signal Delay: 4.4 Intersection LOS: A
 Intersection Capacity Utilization 70.6% ICU Level of Service C
 Analysis Period (min) 15



Queues
3: Yonge Street & Brookland Ave/Private Access

3026 Future Background <AM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	27	19	16	684	3	777
v/c Ratio	0.25	0.15	0.14	0.03	0.24	0.00	0.27
Control Delay	46.3	11.1	40.4	2.7	3.3	2.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	46.3	11.1	40.4	2.7	3.3	2.0	2.3
Queue Length 50th (m)	6.9	0.0	3.2	1.0	22.0	0.1	15.7
Queue Length 95th (m)	17.0	6.1	10.4	m1.9	16.4	m0.3	17.2
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	448	493	429	483	2823	607	2829
Starvation Cap Reductn	0	0	0	0	0	0	915
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.04	0.03	0.24	0.00	0.41
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive

3026 Future Background <AM>
07-05-2021

	↖	→	↘	↙	←	↗	↖	↗	↑	↘	↙	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗	
Traffic Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1	
Future Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	25.0			20.0			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	1.00
Ped Bike Factor													
Frt					0.997			0.877				0.955	
Fit Protected	0.950			0.950				0.996				0.968	
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1627	0	0	1722	0	
Fit Permitted	0.950			0.950				0.996				0.968	
Satd. Flow (perm)	1770	1827	0	1770	1788	0	0	1627	0	0	1722	0	
Link Speed (k/h)		50			50			20			20		
Link Distance (m)		81.7			100.7			49.5			50.6		
Travel Time (s)		5.9			7.3			8.9			9.1		
Confl. Peds. (#/hr)	7		8	8		7							
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	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	1	317	1	15	205	4	4	0	41	2	0	1	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	1	318	0	15	209	0	0	45	0	0	3	0	
Enter Blocked Intersection	No	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15	25
Sign Control		Stop			Stop			Stop			Stop		Stop
Intersection Summary													
Area Type: Other													
Control Type: Unsignalized													
Intersection Capacity Utilization 25.4%													
ICU Level of Service A													
Analysis Period (min) 15													

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

3026 Future Background <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔		↔
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Future Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	317	1	15	205	4	4	0	41	2	0	1
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	1	318	15	209	45	3						
Volume Left (vph)	1	0	15	0	4	2						
Volume Right (vph)	0	1	0	4	41	1						
Hadj (s)	0.53	0.07	0.53	0.09	-0.49	-0.03						
Departure Headway (s)	5.3	4.9	5.4	4.9	4.7	5.2						
Degree Utilization, x	0.00	0.43	0.02	0.29	0.06	0.00						
Capacity (veh/h)	664	729	649	713	690	613						
Control Delay (s)	7.1	10.3	7.3	8.7	8.0	8.2						
Approach Delay (s)	10.3		8.6		8.0	8.2						
Approach LOS	B		A		A	A						
Intersection Summary												
Delay	9.5											
Level of Service	A											
Intersection Capacity Utilization	25.4%		ICU Level of Service		A							
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

3026 Future Background <AM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔		↔
Traffic Volume (vph)	6	325	1	0	203	15	0	0	4	9	0	4
Future Volume (vph)	6	325	1	0	203	15	0	0	4	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Fit	0.991						0.865			0.961		
Fit Protected	0.950											
Satd. Flow (prot)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Fit Permitted	0.950											
Satd. Flow (perm)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Link Speed (k/h)	50		50		20		20		20		20	
Link Distance (m)	100.7		97.6		57.9		51.0		51.0		51.0	
Travel Time (s)	7.3		7.0		10.4		9.2		9.2		9.2	
Confl. Peds. (#/hr)	7	8		8		7		7		7		0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	353	1	0	221	16	0	0	4	10	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	354	0	0	237	0	0	0	4	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	3.6		3.6		0.0		0.0		0.0		0.0	
Link Offset(m)	0.0		0.0		0.0		0.0		0.0		0.0	
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.8%		ICU Level of Service		A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

3026 Future Background <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↗	↘	↔	↗	↘	↔	↗	↘	↔	↗	↘
Traffic Volume (veh/h)	6	325	1	0	203	15	0	0	4	9	0	4
Future Volume (Veh/h)	6	325	1	0	203	15	0	0	4	9	0	4
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	353	1	0	221	16	0	0	4	10	0	4
Pedestrians							8			7		
Lane Width (m)							3.6			3.6		
Walking Speed (m/s)							1.2			1.2		
Percent Blockage							1			1		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)	98											
pX, platoon unblocked	0.96					0.96	0.96	0.96	0.96	0.96	0.96	0.96
vC, conflicting volume	244	362				608	620	362	607	612	236	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	194	362				573	584	362	571	576	185	
tC, single (s)	4.1	4.1				7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)												
tF (s)	2.2	2.2				3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	99	100				100	100	99	98	100	100	
cM capacity (veh/h)	1319	1189				404	400	679	404	404	819	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	7	354	237	4	14							
Volume Left	7	0	0	0	10							
Volume Right	0	1	16	4	4							
cSH	1319	1700	1700	679	473							
Volume to Capacity	0.01	0.21	0.14	0.01	0.03							
Queue Length 95th (m)	0.1	0.0	0.0	0.1	0.7							
Control Delay (s)	7.7	0.0	0.0	10.3	12.8							
Lane LOS	A			B	B							
Approach Delay (s)	0.2	0.0		10.3	12.8							
Approach LOS			B	B								
Intersection Summary												
Average Delay	0.4											
Intersection Capacity Utilization	33.8%			ICU Level of Service			A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

3026 Future Background <AM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↗	↘	↕	↕	↕
Traffic Volume (vph)	7	6	12	713	763	14
Future Volume (vph)	7	6	12	713	763	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		50.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.997		
Fit Protected	0.950			0.950		
Satd. Flow (prot)	1770	1583	1770	3438	3430	0
Fit Permitted	0.950			0.950		
Satd. Flow (perm)	1770	1583	1770	3438	3430	0
Link Speed (k/h)	40			50	50	
Link Distance (m)	76.1			198.7	124.4	
Travel Time (s)	6.8			14.3	9.0	
Confl. Peds. (#/hr)				16	16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	5%	5%	2%
Adj. Flow (vph)	8	7	13	775	829	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	7	13	775	844	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free		Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 31.6%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

3026 Future Background <AM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↕	↕	↗
Traffic Volume (veh/h)	7	6	12	713	763	14
Future Volume (Veh/h)	7	6	12	713	763	14
Sign Control	Stop			Free		Free
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	7	13	775	829	15
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (m)			199	124		
pX, platoon unblocked	0.92	0.90	0.90			
vC, conflicting volume	1266	438	860			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	910	158	626			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	99	98			
cM capacity (veh/h)	246	764	846			
Direction, Lane #	EB 1	EB 2	NB 1	NB 3	SB 1	SB 2
Volume Total	8	7	13	388	388	291
Volume Left	8	0	13	0	0	0
Volume Right	0	7	0	0	0	15
cSH	246	764	846	1700	1700	1700
Volume to Capacity	0.03	0.01	0.02	0.23	0.23	0.17
Queue Length 95th (m)	0.8	0.2	0.4	0.0	0.0	0.0
Control Delay (s)	20.1	9.8	9.3	0.0	0.0	0.0
Lane LOS	C	A	A			
Approach Delay (s)	15.3		0.2		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			31.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings

2026 Future Background <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



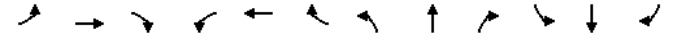
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	190	122	112	67	177	63	309	835	53	58	627	265
Future Volume (vph)	190	122	112	67	177	63	309	835	53	58	627	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.97	0.98		0.99	0.99		0.95	0.99		0.94
Frt			0.850		0.960				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1810	1577	1752	1780	0	1805	3505	1583	1805	3505	1599
Flt Permitted	0.310			0.673			0.291			0.317		
Satd. Flow (perm)	585	1810	1528	1221	1780	0	547	3505	1497	596	3505	1508
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120		19			65				246
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	11		20	20		11	18		17	17		18
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 (%)	0%	5%	2%	3%	2%	0%	0%	3%	2%	0%	3%	1%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	204	131	120	72	190	68	332	898	57	62	674	285
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	131	120	72	258	0	332	898	57	62	674	285
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)					0.0						0.0	
Detector 2 Size(m)					0.0						0.0	
Detector 2 Type					CI+Ex						CI+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings

2026 Future Background <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	11.0	48.0	48.0	37.0	37.0		16.0	52.0	52.0	36.0	36.0	36.0
Total Split (%)	11.0%	48.0%	48.0%	37.0%	37.0%		16.0%	52.0%	52.0%	36.0%	36.0%	36.0%
Maximum Green (s)	8.0	42.0	42.0	31.0	31.0		13.0	45.5	45.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0			17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0			0	0	0	0	0
Act Effect Green (s)	32.9	29.9	29.9	18.9	18.9		61.1	57.6	57.6	39.8	39.8	39.8
Actuated g/C Ratio	0.33	0.30	0.30	0.19	0.19		0.61	0.58	0.58	0.40	0.40	0.40
w/c Ratio	0.70	0.24	0.22	0.31	0.74		0.64	0.44	0.06	0.26	0.48	0.38
Control Delay	38.8	26.4	5.3	36.8	47.4		16.3	13.8	2.9	43.3	38.6	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	26.4	5.3	36.8	47.4		16.3	13.8	2.9	43.3	38.6	20.6
LOS	D	C	A	D	D		B	B	A	D	D	C
Approach Delay		26.4			45.0			13.9				33.8
Approach LOS		C			D			B				C


Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 83 (83%), Referenced to phase 2:SBLT and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum w/c Ratio: 0.74
 Intersection Signal Delay: 25.7
 Intersection LOS: C
 Intersection Capacity Utilization 86.7%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 2026 Future Background <PM>
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	131	120	72	258	332	898	57	62	674	285	
v/c Ratio	0.70	0.24	0.22	0.31	0.74	0.64	0.44	0.06	0.26	0.48	0.38	
Control Delay	38.8	26.4	5.3	36.8	47.4	16.3	13.8	2.9	43.3	38.6	20.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.8	26.4	5.3	36.8	47.4	16.3	13.8	2.9	43.3	38.6	20.6	
Queue Length 50th (m)	31.3	20.1	0.0	12.8	46.4	29.8	51.4	0.0	11.1	71.6	24.5	
Queue Length 95th (m)	45.3	31.9	11.4	24.0	68.1	54.9	78.6	5.4	27.2	95.7	51.6	
Internal Link Dist (m)		151.9		655.6	285.8		174.7					
Turn Bay Length (m)	50.0		15.0	35.0	80.0		75.0	90.0		40.0		
Base Capacity (vph)	290	760	711	378	564	527	2019	890	237	1396	748	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.70	0.17	0.17	0.19	0.46	0.63	0.44	0.06	0.26	0.48	0.38	

Intersection Summary

Lanes, Volumes, Timings 2026 Future Background <PM>
2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	130	145	154	117	211	95	172	851	48	40	697	88
Future Volume (vph)	130	145	154	117	211	95	172	851	48	40	697	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.97	1.00		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1810	1593	1770	1845	1577	1805	3539	1589	1719	3505	1543
Flt Permitted	0.359			0.659			0.290			0.315		
Satd. Flow (perm)	670	1810	1567	1224	1845	1538	548	3539	1542	568	3505	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			104			65			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	13		4	4		13	12		5	5		12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	5%	1%	2%	3%	2%	0%	2%	0%	5%	3%	3%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	138	154	164	124	224	101	183	905	51	43	741	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	154	164	124	224	101	183	905	51	43	741	94
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

2026 Future Background <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

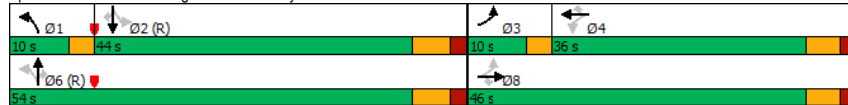


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	10.0	46.0	46.0	36.0	36.0	36.0	10.0	54.0	54.0	44.0	44.0	44.0
Total Split (%)	10.0%	46.0%	46.0%	36.0%	36.0%	36.0%	10.0%	54.0%	54.0%	44.0%	44.0%	44.0%
Maximum Green (s)	7.0	40.0	40.0	30.0	30.0	30.0	7.0	47.5	47.5	37.5	37.5	37.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	30.7	27.7	27.7	17.7	17.7	17.7	63.3	59.8	59.8	47.6	47.6	47.6
Actuated g/C Ratio	0.31	0.28	0.28	0.18	0.18	0.18	0.63	0.60	0.60	0.48	0.48	0.48
v/c Ratio	0.49	0.31	0.30	0.57	0.69	0.28	0.40	0.43	0.05	0.16	0.44	0.12
Control Delay	31.0	29.1	5.4	47.3	48.9	8.2	8.7	8.8	0.5	16.9	17.2	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	29.1	5.4	47.3	48.9	8.2	8.7	8.8	0.5	16.9	17.2	3.9
LOS	C	C	A	D	D	A	A	A	A	B	B	A
Approach Delay		21.1			39.3			8.4			15.7	
Approach LOS		C			D			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.3 Intersection LOS: B
 Intersection Capacity Utilization 109.0% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

2026 Future Background <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	154	164	124	224	101	183	905	51	43	741	94
v/c Ratio	0.49	0.31	0.30	0.57	0.69	0.28	0.40	0.43	0.05	0.16	0.44	0.12
Control Delay	31.0	29.1	5.4	47.3	48.9	8.2	8.7	8.8	0.5	16.9	17.2	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	29.1	5.4	47.3	48.9	8.2	8.7	8.8	0.5	16.9	17.2	3.9
Queue Length 50th (m)	21.1	24.8	0.0	23.4	43.3	0.0	9.4	25.0	0.2	5.4	55.4	1.1
Queue Length 95th (m)	33.0	38.0	13.7	39.4	63.3	12.4	m14.8	38.1	m0.2	15.8	86.4	12.5
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	283	724	725	367	553	534	461	2115	947	270	1669	754
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.21	0.23	0.34	0.41	0.19	0.40	0.43	0.05	0.16	0.44	0.12

Intersection Summary

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

Lanes, Volumes, Timings

3: Yonge Street & Brookland Ave/Private Access

2026 Future Background <PM>

07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	46	10	72	38	9	16	61	992	46	6	738	60
Future Volume (vph)	46	10	72	38	9	16	61	992	46	6	738	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.97			0.99		0.97	1.00		1.00	0.99
Frt			0.850			0.965		0.993			0.989	
Flt Protected		0.960			0.971		0.950		0.950			
Satd. Flow (prot)	0	1824	1615	0	1741	0	1805	3511	0	1805	3436	0
Flt Permitted		0.792			0.780		0.320		0.235			
Satd. Flow (perm)	0	1499	1569	0	1386	0	590	3511	0	445	3436	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		18		8		13			
Link Speed (k/h)		40			20		50		50			
Link Distance (m)		216.1			54.6		328.9		104.0			
Travel Time (s)		19.4			9.8		23.7		7.5			
Conf. Peds. (#/hr)	4		14	14		4	53		10	10		53
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	51	11	79	42	10	18	67	1090	51	7	811	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	79	0	70	0	67	1141	0	7	877	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		3.6		3.6			
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							Yes		Yes			
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8		2			6		
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3: Yonge Street & Brookland Ave/Private Access

2026 Future Background <PM>

07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		11.1	11.1		11.1		80.9	80.9		80.9	80.9	
Actuated g/C Ratio		0.11	0.11		0.11		0.81	0.81		0.81	0.81	
v/c Ratio		0.38	0.32		0.41		0.14	0.40		0.02	0.32	
Control Delay	47.6	13.0		39.4			4.8	4.1		2.5	2.4	
Queue Delay	0.0	0.0		0.0			0.0	0.0		0.0	0.1	
Total Delay	47.6	13.0		39.4			4.8	4.1		2.5	2.5	
LOS	D	B		D			A	A		A	A	
Approach Delay		28.2		39.4				4.1			2.5	
Approach LOS		C		D				A			A	
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset: 69 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green												
Natural Cycle:	80											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.41											
Intersection Signal Delay:	6.0						Intersection LOS: A					
Intersection Capacity Utilization 74.1%							ICU Level of Service D					
Analysis Period (min)	15											
Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access												

Queues
3: Yonge Street & Brookland Ave/Private Access
2026 Future Background <PM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	79	70	67	1141	7	877
v/c Ratio	0.38	0.32	0.41	0.14	0.40	0.02	0.32
Control Delay	47.6	13.0	39.4	4.8	4.1	2.5	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	47.6	13.0	39.4	4.8	4.1	2.5	2.5
Queue Length 50th (m)	12.1	0.0	10.1	2.0	20.5	0.2	16.4
Queue Length 95th (m)	24.5	13.3	23.5	10.7	62.5	m0.9	20.5
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	479	555	455	477	2843	360	2783
Starvation Cap Reductn	0	0	0	0	0	0	742
Spillback Cap Reductn	0	0	0	0	36	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.15	0.14	0.41	0.02	0.43
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive
2026 Future Background <PM>
07-05-2021

	↖	→	↘	↙	←	↗	↖	↗	↑	↘	↙	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗	
Traffic Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3	
Future Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	25.0			20.0			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	1.00
Ped Bike Factor													
Frt		0.999			0.997			0.878				0.969	
Fit Protected	0.950			0.950				0.995				0.963	
Satd. Flow (prot)	1770	1808	0	1770	1839	0	0	1627	0	0	1738	0	
Fit Permitted	0.950			0.950				0.995				0.963	
Satd. Flow (perm)	1770	1808	0	1770	1839	0	0	1627	0	0	1738	0	
Link Speed (k/h)		50			50			20			20		
Link Distance (m)		81.7			100.7			49.5			50.6		
Travel Time (s)		5.9			7.3			8.9			9.1		
Confl. Peds. (#/hr)	7		8	8		7							
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	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	389	3	49	433	9	3	0	27	10	0	3	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	3	392	0	49	442	0	0	30	0	0	13	0	
Enter Blocked Intersection	No	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15	25
Sign Control		Stop			Stop			Stop			Stop		Stop
Intersection Summary													
Area Type: Other													
Control Type: Unsignalized													
Intersection Capacity Utilization 38.1%													
ICU Level of Service A													
Analysis Period (min) 15													

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

2026 Future Background <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3
Future Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	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
Hourly flow rate (vph)	3	389	3	49	433	9	3	0	27	10	0	3
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	3	392	49	442	30	13						
Volume Left (vph)	3	0	49	0	3	10						
Volume Right (vph)	0	3	0	9	27	3						
Hadj (s)	0.53	0.08	0.53	0.04	-0.49	0.05						
Departure Headway (s)	5.6	5.1	5.5	5.0	5.4	6.0						
Degree Utilization, x	0.00	0.56	0.07	0.61	0.05	0.02						
Capacity (veh/h)	631	694	640	716	564	514						
Control Delay (s)	7.4	13.1	7.7	14.2	8.7	9.1						
Approach Delay (s)	13.1		13.6		8.7	9.1						
Approach LOS	B		B		A	A						
Intersection Summary												
Delay	13.1											
Level of Service	B											
Intersection Capacity Utilization	38.1%		ICU Level of Service				A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

2026 Future Background <PM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Traffic Volume (vph)	11	380	1	0	439	32	0	0	13	36	0	12
Future Volume (vph)	11	380	1	0	439	32	0	0	13	36	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Flt	0.991						0.865			0.966		
Flt Protected	0.950											
Satd. Flow (prot)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Link Speed (k/h)	50				50			20			20	
Link Distance (m)	100.7				97.6			57.9			51.0	
Travel Time (s)	7.3				7.0			10.4			9.2	
Confl. Peds. (#/hr)	7	8		8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	12	413	1	0	477	35	0	0	14	39	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	414	0	0	512	0	0	0	14	0	52	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)	3.6				3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15		25	15		25	15		25	15
Sign Control	Free				Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	36.7%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

2026 Future Background <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↗	↘	↔	↗	↘	↔	↗	↘	↔	↗	↘	
Traffic Volume (veh/h)	11	380	1	0	439	32	0	0	13	36	0	12	
Future Volume (Veh/h)	11	380	1	0	439	32	0	0	13	36	0	12	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	12	413	1	0	477	35	0	0	14	39	0	13	
Pedestrians							8			7			
Lane Width (m)							3.6			3.6			
Walking Speed (m/s)							1.2			1.2			
Percent Blockage							1			1			
Right turn flare (veh)													
Median type	None			None									
Median storage (veh)													
Upstream signal (m)				98									
pX, platoon unblocked	0.85							0.85	0.85	0.85	0.85	0.85	
vC, conflicting volume	519				422				953	964	422	952	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	346				422				857	870	422	856	
tC, single (s)	4.1				4.1				7.1	6.5	6.2	7.1	
tC, 2 stage (s)													
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	
p0 queue free %	99				100				100	100	98	83	
cM capacity (veh/h)	1025				1130				225	240	628	225	
Direction_Lane #	EB 1	EB 2	WB 1	NB 1	SB 1								
Volume Total	12	414	512	14	52								
Volume Left	12	0	0	0	39								
Volume Right	0	1	35	14	13								
cSH	1025	1700	1700	628	267								
Volume to Capacity	0.01	0.24	0.30	0.02	0.19								
Queue Length 95th (m)	0.3	0.0	0.0	0.5	5.6								
Control Delay (s)	8.6	0.0	0.0	10.9	21.7								
Lane LOS	A				B	C							
Approach Delay (s)	0.2				0.0	10.9	21.7						
Approach LOS				B	C								
Intersection Summary													
Average Delay				1.4									
Intersection Capacity Utilization				36.7%	ICU Level of Service	A							
Analysis Period (min)				15									

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

2026 Future Background <PM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↗	↘	↕	↕	↕
Traffic Volume (vph)	24	29	32	1057	964	23
Future Volume (vph)	24	29	32	1057	964	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.850			0.997		
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3505	3495	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3505	3495	0
Link Speed (k/h)	40	50		50		
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)				16	16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	3%	2%
Adj. Flow (vph)	26	32	35	1149	1048	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	32	35	1149	1073	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6	3.6		3.6		
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

2026 Future Background <PM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↕	↗
Traffic Volume (veh/h)	24	29	32	1057	964	23
Future Volume (Veh/h)	24	29	32	1057	964	23
Sign Control	Stop			Free		Free
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	32	35	1149	1048	25
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				199	124	
pX, platoon unblocked	0.93	0.86	0.86			
vC, conflicting volume	1721	552	1089			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	951	160	782			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	96	95			
cM capacity (veh/h)	224	729	707			
Direction, Lane #	EB 1	EB 2	NB 1	NB 3	SB 1	SB 2
Volume Total	26	32	35	574	574	374
Volume Left	26	0	35	0	0	0
Volume Right	0	32	0	0	0	25
cSH	224	729	707	1700	1700	1700
Volume to Capacity	0.12	0.04	0.05	0.34	0.34	0.41
Queue Length 95th (m)	3.1	1.1	1.2	0.0	0.0	0.0
Control Delay (s)	23.1	10.2	10.4	0.0	0.0	0.0
Lane LOS	C	B	B			
Approach Delay (s)	16.0		0.3		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay	0.6					
Intersection Capacity Utilization	39.2%		ICU Level of Service		A	
Analysis Period (min)	15					

Lanes, Volumes, Timings

3031 Future Background <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	163	163	205	50	75	65	77	505	90	70	643	92
Future Volume (vph)	163	163	205	50	75	65	77	505	90	70	643	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.99	0.99		0.96	0.99		0.95
Frt			0.850		0.931				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456			0.648			0.332			0.452		
Satd. Flow (perm)	823	1863	1563	1225	1656	0	613	3438	1496	852	3438	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		46				96			98
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	16		7	7		16	16		8	8		16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	2%	1%	0%	6%	4%	2%	5%	4%	0%	5%	2%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	173	173	218	53	80	69	82	537	96	74	684	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	173	218	53	149	0	82	537	96	74	684	98
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type	CI+Ex											
Detector 2 Channel												

Lanes, Volumes, Timings

3031 Future Background <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

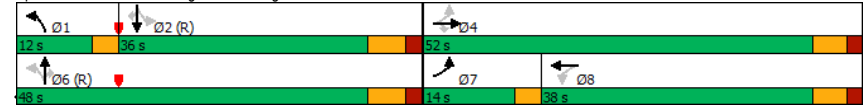


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Detector 2 Extend (s)					0.0			0.0					
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4			8		1	6			2		
Permitted Phases	4		4	8			6		6	2		2	
Detector Phase	7	4	4	8	8		1	6	6	2	2	2	
Switch Phase													
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5	
Total Split (s)	14.0	52.0	52.0	38.0	38.0		12.0	48.0	48.0	36.0	36.0	36.0	
Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.0%	
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.5	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	
Flash Dont Walk (s)		24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0	17.0	
Pedestrian Calls (#/hr)		0	0	0	0		0	0	0	0	0	0	
Act Effect Green (s)	29.1	26.1	26.1	12.7	12.7		64.9	61.4	61.4	53.1	53.1	53.1	
Actuated g/C Ratio	0.29	0.26	0.26	0.13	0.13		0.65	0.61	0.61	0.53	0.53	0.53	
v/c Ratio	0.52	0.36	0.38	0.34	0.60		0.17	0.25	0.10	0.16	0.38	0.12	
Control Delay	32.9	31.4	5.8	44.9	37.8		8.2	9.7	2.4	8.1	9.1	1.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.9	31.4	5.8	44.9	37.8		8.2	9.7	2.4	8.1	9.1	1.4	
LOS	C	C	A	D	D		A	A	A	A	A	A	
Approach Delay					22.0					39.7			8.6
Approach LOS					C					D			A


Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 14.3
 Intersection LOS: B
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 3031 Future Background <AM>
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	173	218	53	149	82	537	96	74	684	98
v/c Ratio	0.52	0.36	0.38	0.34	0.60	0.17	0.25	0.10	0.16	0.38	0.12
Control Delay	32.9	31.4	5.8	44.9	37.8	8.2	9.7	2.4	8.1	9.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	31.4	5.8	44.9	37.8	8.2	9.7	2.4	8.1	9.1	1.4
Queue Length 50th (m)	27.8	28.9	0.0	10.1	20.1	5.5	24.0	0.0	5.0	39.2	0.0
Queue Length 95th (m)	42.8	44.4	16.4	21.1	38.3	13.0	38.4	7.0	15.6	62.8	3.5
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	340	856	836	392	561	501	2109	955	452	1824	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.20	0.26	0.14	0.27	0.16	0.25	0.10	0.16	0.38	0.12

Intersection Summary

Lanes, Volumes, Timings 3031 Future Background <AM>
2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	102	136	100	39	86	38	88	588	73	63	664	44
Future Volume (vph)	102	136	100	39	86	38	88	588	73	63	664	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.98	1.00		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1827	1593	1597	1792	1609	1641	3471	1513	1805	3471	1513
Flt Permitted	0.554			0.666			0.337			0.417		
Satd. Flow (perm)	1036	1827	1561	1112	1792	1578	580	3471	1462	788	3471	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			104			77			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	7		8	8		7	7		7	7		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	4%	1%	13%	6%	0%	10%	4%	5%	0%	4%	5%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	107	143	105	41	91	40	93	619	77	66	699	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	143	105	41	91	40	93	619	77	66	699	46
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	7.7	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

3031 Future Background <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

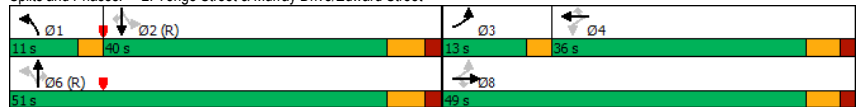


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	13.0	49.0	49.0	36.0	36.0	36.0	11.0	51.0	51.0	40.0	40.0	40.0
Total Split (%)	13.0%	49.0%	49.0%	36.0%	36.0%	36.0%	11.0%	51.0%	51.0%	40.0%	40.0%	40.0%
Maximum Green (s)	10.0	43.0	43.0	30.0	30.0	30.0	8.0	44.5	44.5	33.5	33.5	33.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	24.2	21.2	21.2	11.5	11.5	11.5	69.8	66.3	66.3	57.9	57.9	57.9
Actuated g/C Ratio	0.24	0.21	0.21	0.12	0.12	0.12	0.70	0.66	0.66	0.58	0.58	0.58
v/c Ratio	0.34	0.37	0.25	0.32	0.44	0.15	0.19	0.27	0.08	0.14	0.35	0.05
Control Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.4	7.9	3.3	10.3	9.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.4	7.9	3.3	10.3	9.6	0.1
LOS	C	C	A	D	D	A	A	A	B	A	A	A
Approach Delay		25.7			36.9			7.3			9.1	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	13.4
Intersection LOS:	B
Intersection Capacity Utilization:	108.1%
ICU Level of Service:	G
Analysis Period (min):	15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

3031 Future Background <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	143	105	41	91	40	93	619	77	66	699	46
v/c Ratio	0.34	0.37	0.25	0.32	0.44	0.15	0.19	0.27	0.08	0.14	0.35	0.05
Control Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.4	7.9	3.3	10.3	9.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.4	7.9	3.3	10.3	9.6	0.1
Queue Length 50th (m)	17.3	24.6	0.0	7.9	17.8	0.0	4.1	18.1	0.0	4.1	23.2	0.0
Queue Length 95th (m)	29.6	39.8	12.5	18.1	32.5	0.0	12.5	45.3	8.0	8.4	32.6	0.1
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	325	785	731	333	537	546	491	2301	995	456	2009	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.18	0.14	0.12	0.17	0.07	0.19	0.27	0.08	0.14	0.35	0.05

Intersection Summary

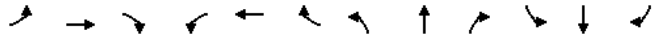
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	13.4
Intersection LOS:	B
Intersection Capacity Utilization:	108.1%
ICU Level of Service:	G
Analysis Period (min):	15

Lanes, Volumes, Timings

3031 Future Background <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕		↕	↕		↕	↕	
Traffic Volume (vph)	30	5	26	13	3	2	15	675	29	3	767	16
Future Volume (vph)	30	5	26	13	3	2	15	675	29	3	767	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99	0.98		0.99	0.99	0.99	1.00		1.00	1.00	
Frt			0.850		0.986		0.994			0.997		
Flt Protected		0.959			0.964		0.950			0.950		
Satd. Flow (prot)	0	1822	1495	0	1711	0	1583	3451	0	1805	3455	0
Flt Permitted		0.742			0.760		0.344			0.373		
Satd. Flow (perm)	0	1403	1462	0	1338	0	569	3451	0	706	3455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38		2		7			3		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	5		9	9		5	12		5	5		12
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%	0%	8%	0%	34%	0%	14%	4%	0%	0%	4%	7%
Adj. Flow (vph)	31	5	27	14	3	2	16	703	30	3	799	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	27	0	19	0	16	733	0	3	816	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			3.6			3.6	
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3031 Future Background <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%	62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		10.1	10.1		10.1		81.9	81.9		81.9	81.9	
Actuated g/C Ratio		0.10	0.10		0.10		0.82	0.82		0.82	0.82	
v/c Ratio		0.25	0.15		0.14		0.03	0.26		0.01	0.29	
Control Delay	46.3	11.1	40.4		40.4		2.7	3.4		2.0	2.2	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay	46.3	11.1	40.4		40.4		2.7	3.4		2.0	2.3	
LOS	D	B	D		D		A	A		A	A	
Approach Delay	31.2				40.4			3.4			2.3	
Approach LOS	C				D			A			A	

Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	76 (76%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.29
Intersection Signal Delay:	4.3
Intersection Capacity Utilization:	70.6%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	C

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access

3031 Future Background <AM>
07-05-2021



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	27	19	16	733	3	816
v/c Ratio	0.25	0.15	0.14	0.03	0.26	0.01	0.29
Control Delay	46.3	11.1	40.4	2.7	3.4	2.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	46.3	11.1	40.4	2.7	3.4	2.0	2.3
Queue Length 50th (m)	6.9	0.0	3.2	1.0	24.0	0.1	16.2
Queue Length 95th (m)	17.0	6.1	10.4	m1.8	17.0	m0.3	17.8
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	448	493	429	465	2826	578	2829
Starvation Cap Reductn	0	0	0	0	0	0	857
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.04	0.03	0.26	0.01	0.41

Intersection Summary

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

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive

3031 Future Background <AM>
07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Future Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	25.0			20.0			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												
Friction					0.997			0.877				0.955
Fit Protected	0.950			0.950				0.996				0.968
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1627	0	0	1722	0
Fit Permitted	0.950			0.950				0.996				0.968
Satd. Flow (perm)	1770	1827	0	1770	1788	0	0	1627	0	0	1722	0
Link Speed (k/h)		50			50			20			20	
Link Distance (m)		81.7			100.7			49.5			50.6	
Travel Time (s)		5.9			7.3			8.9			9.1	
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	1	317	1	15	205	4	4	0	41	2	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	318	0	15	209	0	0	45	0	0	3	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.4%

ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

3031 Future Background <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔		↔
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Future Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	317	1	15	205	4	4	0	41	2	0	1
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	1	318	15	209	45	3						
Volume Left (vph)	1	0	15	0	4	2						
Volume Right (vph)	0	1	0	4	41	1						
Hadj (s)	0.53	0.07	0.53	0.09	-0.49	-0.03						
Departure Headway (s)	5.3	4.9	5.4	4.9	4.7	5.2						
Degree Utilization, x	0.00	0.43	0.02	0.29	0.06	0.00						
Capacity (veh/h)	664	729	649	713	690	613						
Control Delay (s)	7.1	10.3	7.3	8.7	8.0	8.2						
Approach Delay (s)	10.3	8.6		8.0		8.2						
Approach LOS	B		A		A							
Intersection Summary												
Delay	9.5											
Level of Service	A											
Intersection Capacity Utilization	25.4%		ICU Level of Service		A							
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

3031 Future Background <AM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔		↔
Traffic Volume (vph)	6	325	1	0	203	15	0	0	4	9	0	4
Future Volume (vph)	6	325	1	0	203	15	0	0	4	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0		0.0		0.0		0.0		0.0	
Storage Lanes	1		0		0		0		1		0	
Taper Length (m)	20.0		7.5		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												
Fit	0.991				0.865				0.961			
Fit Protected	0.950											
Satd. Flow (prot)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Fit Permitted	0.950											
Satd. Flow (perm)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Link Speed (k/h)	50		50		20		20		20		20	
Link Distance (m)	100.7		97.6		57.9		51.0		51.0		51.0	
Travel Time (s)	7.3		7.0		10.4		9.2		9.2		9.2	
Confl. Peds. (#/hr)	7		8		7		7		7		7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	353	1	0	221	16	0	0	4	10	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	354	0	0	237	0	0	0	4	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	3.6		3.6		0.0		0.0		0.0		0.0	
Link Offset(m)	0.0		0.0		0.0		0.0		0.0		0.0	
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15		25		15		25		15	
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.8%		ICU Level of Service		A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

3031 Future Background <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↔			↔				↔		↔		
Traffic Volume (veh/h)	6	325	1	0	203	15	0	0	4	9	0	4	
Future Volume (Veh/h)	6	325	1	0	203	15	0	0	4	9	0	4	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	7	353	1	0	221	16	0	0	4	10	0	4	
Pedestrians							8			7			
Lane Width (m)							3.6			3.6			
Walking Speed (m/s)							1.2			1.2			
Percent Blockage							1			1			
Right turn flare (veh)													
Median type	None				None								
Median storage (veh)													
Upstream signal (m)	98												
pX, platoon unblocked	0.96					0.96	0.96	0.96	0.96	0.96	0.96		
vC, conflicting volume	244	362				608	620	362	607	612	236		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	194	362				573	584	362	571	576	185		
tC, single (s)	4.1	4.1				7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)													
tF (s)	2.2	2.2				3.5	4.0	3.3	3.5	4.0	3.3		
p0 queue free %	99	100				100	100	99	98	100	100		
cM capacity (veh/h)	1319	1189				404	400	679	404	404	819		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1								
Volume Total	7	354	237	4	14								
Volume Left	7	0	0	0	10								
Volume Right	0	1	16	4	4								
cSH	1319	1700	1700	679	473								
Volume to Capacity	0.01	0.21	0.14	0.01	0.03								
Queue Length 95th (m)	0.1	0.0	0.0	0.1	0.7								
Control Delay (s)	7.7	0.0	0.0	10.3	12.8								
Lane LOS	A			B	B								
Approach Delay (s)	0.2	0.0		10.3	12.8								
Approach LOS				B	B								
Intersection Summary													
Average Delay	0.4												
Intersection Capacity Utilization	33.8%			ICU Level of Service			A						
Analysis Period (min)	15												

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

3031 Future Background <AM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	7	6	12	767	802	14
Future Volume (vph)	7	6	12	767	802	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.997		
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3438	3429	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3438	3429	0
Link Speed (k/h)	40	50				
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)			16	16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	5%	5%	2%
Adj. Flow (vph)	8	7	13	834	872	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	7	13	834	887	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop			Free		Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
7: Yonge Street /Yonge Street & Easterly Access

3031 Future Background <AM>
07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↵	↵	↵	↕↕	↕↕		
Traffic Volume (veh/h)	7	6	12	767	802	14	
Future Volume (Veh/h)	7	6	12	767	802	14	
Sign Control	Stop			Free		Free	
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	8	7	13	834	872	15	
Pedestrians	16						
Lane Width (m)	3.6						
Walking Speed (m/s)	1.2						
Percent Blockage	1						
Right turn flare (veh)							
Median type			None	None			
Median storage (veh)							
Upstream signal (m)				199	124		
pX, platoon unblocked	0.92	0.89	0.89				
vC, conflicting volume	1338	460	903				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	942	160	655				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	97	99	98				
cM capacity (veh/h)	234	757	819				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	8	7	13	417	417	581	306
Volume Left	8	0	13	0	0	0	0
Volume Right	0	7	0	0	0	0	15
cSH	234	757	819	1700	1700	1700	1700
Volume to Capacity	0.03	0.01	0.02	0.25	0.25	0.34	0.18
Queue Length 95th (m)	0.8	0.2	0.4	0.0	0.0	0.0	0.0
Control Delay (s)	21.0	9.8	9.5	0.0	0.0	0.0	0.0
Lane LOS	C	A	A				
Approach Delay (s)	15.8			0.1	0.0		
Approach LOS	C						
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			32.6%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings

2031 Future Background <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	190	122	112	67	177	63	309	877	53	58	674	265
Future Volume (vph)	190	122	112	67	177	63	309	877	53	58	674	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.97	0.98		0.99	0.99		0.95	0.99		0.94
Frt			0.850		0.960				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1810	1577	1752	1780	0	1805	3505	1583	1805	3505	1599
Flt Permitted	0.310			0.673			0.261			0.303		
Satd. Flow (perm)	585	1810	1528	1221	1780	0	491	3505	1497	570	3505	1508
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120		19			65				229
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	11		20	20		11	18		17	17		18
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 (%)	0%	5%	2%	3%	2%	0%	0%	3%	2%	0%	3%	1%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	204	131	120	72	190	68	332	943	57	62	725	285
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	131	120	72	258	0	332	943	57	62	725	285
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template				Left								
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)					0.0			0.0			0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

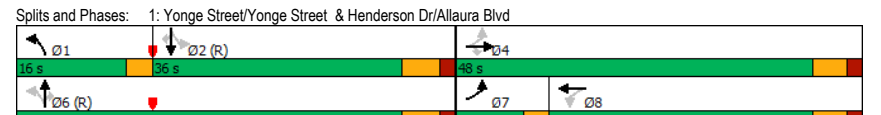
Lanes, Volumes, Timings

2031 Future Background <PM>


1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	11.0	48.0	48.0	37.0	37.0		16.0	52.0	52.0	36.0	36.0	36.0
Total Split (%)	11.0%	48.0%	48.0%	37.0%	37.0%		16.0%	52.0%	52.0%	36.0%	36.0%	36.0%
Maximum Green (s)	8.0	42.0	42.0	31.0	31.0		13.0	45.5	45.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0		0	0	0	0	0	0
Act Effect Green (s)	32.9	29.9	29.9	18.9	18.9		61.1	57.6	57.6	39.1	39.1	39.1
Actuated g/C Ratio	0.33	0.30	0.30	0.19	0.19		0.61	0.58	0.58	0.39	0.39	0.39
v/c Ratio	0.70	0.24	0.22	0.31	0.74		0.66	0.47	0.06	0.28	0.53	0.39
Control Delay	38.8	26.4	5.3	36.8	47.4		17.0	14.0	2.9	44.3	40.2	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	26.4	5.3	36.8	47.4		17.0	14.0	2.9	44.3	40.2	21.9
LOS	D	C	A	D	D		B	B	A	D	D	C
Approach Delay		26.4			45.0			14.3				35.6
Approach LOS		C			D			B				D
Intersection Summary												
Area Type:	Other											
Cycle Length:	100											
Actuated Cycle Length:	100											
Offset:	83 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green											
Natural Cycle:	90											
Control Type:	Actuated-Coordinated											
Maximum v/c Ratio:	0.74											
Intersection Signal Delay:	26.4						Intersection LOS: C					
Intersection Capacity Utilization:	87.9%						ICU Level of Service E					
Analysis Period (min):	15											




Queues 2031 Future Background <PM>
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	131	120	72	258	332	943	57	62	725	285
v/c Ratio	0.70	0.24	0.22	0.31	0.74	0.66	0.47	0.06	0.28	0.53	0.39
Control Delay	38.8	26.4	5.3	36.8	47.4	17.0	14.0	2.9	44.3	40.2	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	26.4	5.3	36.8	47.4	17.0	14.0	2.9	44.3	40.2	21.9
Queue Length 50th (m)	31.3	20.1	0.0	12.8	46.4	29.8	55.0	0.0	11.3	79.4	25.1
Queue Length 95th (m)	45.3	31.9	11.4	24.0	68.1	54.9	83.4	5.4	27.3	102.4	54.2
Internal Link Dist (m)		151.9		655.6		285.8		174.7			
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	290	760	711	378	564	509	2019	890	222	1369	728
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.17	0.17	0.19	0.46	0.65	0.47	0.06	0.28	0.53	0.39

Intersection Summary

Lanes, Volumes, Timings 2031 Future Background <PM>
2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	130	145	154	117	211	95	172	895	48	40	749	88
Future Volume (vph)	130	145	154	117	211	95	172	895	48	40	749	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.97	1.00		0.96
Frt			0.850			0.850			0.850			0.850
Fit Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1810	1593	1770	1845	1577	1805	3539	1589	1719	3505	1543
Fit Permitted	0.359			0.659			0.265			0.301		
Satd. Flow (perm)	670	1810	1567	1224	1845	1538	501	3539	1542	543	3505	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			104			65			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	13		4	4		13	12		5	5		12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	5%	1%	2%	3%	2%	0%	2%	0%	5%	3%	3%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	138	154	164	124	224	101	183	952	51	43	797	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	154	164	124	224	101	183	952	51	43	797	94
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

2031 Future Background <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

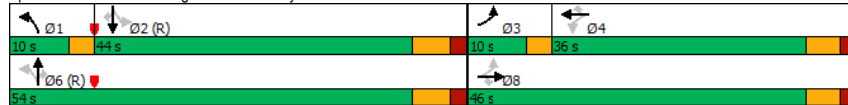


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	10.0	46.0	46.0	36.0	36.0	36.0	10.0	54.0	54.0	44.0	44.0	44.0
Total Split (%)	10.0%	46.0%	46.0%	36.0%	36.0%	36.0%	10.0%	54.0%	54.0%	44.0%	44.0%	44.0%
Maximum Green (s)	7.0	40.0	40.0	30.0	30.0	30.0	7.0	47.5	47.5	37.5	37.5	37.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	30.7	27.7	27.7	17.7	17.7	17.7	63.3	59.8	59.8	47.6	47.6	47.6
Actuated g/C Ratio	0.31	0.28	0.28	0.18	0.18	0.18	0.63	0.60	0.60	0.48	0.48	0.48
v/c Ratio	0.49	0.31	0.30	0.57	0.69	0.28	0.42	0.45	0.05	0.17	0.48	0.12
Control Delay	31.0	29.1	5.4	47.3	48.9	8.2	8.9	8.7	0.4	16.8	17.4	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	29.1	5.4	47.3	48.9	8.2	8.9	8.7	0.4	16.8	17.4	3.7
LOS	C	C	A	D	D	A	A	A	A	B	B	A
Approach Delay		21.1			39.3			8.4			16.0	
Approach LOS		C			D			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.2 Intersection LOS: B
 Intersection Capacity Utilization 109.0% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

2031 Future Background <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	154	164	124	224	101	183	952	51	43	797	94
v/c Ratio	0.49	0.31	0.30	0.57	0.69	0.28	0.42	0.45	0.05	0.17	0.48	0.12
Control Delay	31.0	29.1	5.4	47.3	48.9	8.2	8.9	8.7	0.4	16.8	17.4	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	29.1	5.4	47.3	48.9	8.2	8.9	8.7	0.4	16.8	17.4	3.7
Queue Length 50th (m)	21.1	24.8	0.0	23.4	43.3	0.0	9.2	25.6	0.2	5.0	60.4	1.5
Queue Length 95th (m)	33.0	38.0	13.7	39.4	63.3	12.4	m14.4	40.9	m0.2	16.1	93.6	11.1
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	283	724	725	367	553	534	436	2115	947	258	1669	754
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.21	0.23	0.34	0.41	0.19	0.42	0.45	0.05	0.17	0.48	0.12

Intersection Summary

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

Lanes, Volumes, Timings

2031 Future Background <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↑	↑	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	46	10	72	38	9	16	61	1043	46	6	794	60
Future Volume (vph)	46	10	72	38	9	16	61	1043	46	6	794	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.97		0.99		0.97	1.00		1.00	0.99	
Frt			0.850		0.965		0.994			0.989		
Flt Protected		0.960			0.971		0.950			0.950		
Satd. Flow (prot)	0	1824	1615	0	1741	0	1805	3514	0	1805	3438	0
Flt Permitted		0.792			0.780		0.298			0.220		
Satd. Flow (perm)	0	1499	1569	0	1386	0	552	3514	0	417	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		18		7			12		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	4		14	14		4	53		10	10		53
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	51	11	79	42	10	18	67	1146	51	7	873	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	79	0	70	0	67	1197	0	7	939	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		3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

2031 Future Background <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

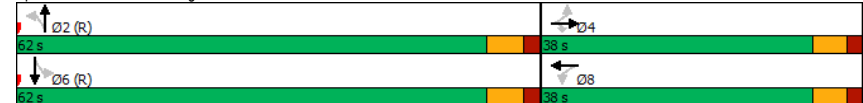


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	40.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	46.5	46.5	46.5	46.5	46.5	46.5
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	62.0	62.0	62.0	62.0	62.0	62.0
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%	62.0%	62.0%
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	55.5	55.5	55.5	55.5	55.5	55.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-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	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effect Green (s)		11.1	11.1		11.1		80.9	80.9		80.9	80.9	
Actuated g/C Ratio		0.11	0.11		0.11		0.81	0.81		0.81	0.81	
v/c Ratio		0.38	0.32		0.41		0.15	0.42		0.02	0.34	
Control Delay	47.6	13.0		39.4		5.2	4.5		2.5	2.4		
Queue Delay	0.0	0.0		0.0		0.0	0.0		0.0	0.1		
Total Delay	47.6	13.0		39.4		5.2	4.5		2.5	2.5		
LOS	D	B		D		A	A		A	A		
Approach Delay		28.2		39.4		4.5			2.5			
Approach LOS		C		D		A			A			

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 69 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.42
 Intersection Signal Delay: 6.1 Intersection LOS: A
 Intersection Capacity Utilization 74.1% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access

2031 Future Background <PM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	79	70	67	1197	7	939
v/c Ratio	0.38	0.32	0.41	0.15	0.42	0.02	0.34
Control Delay	47.6	13.0	39.4	5.2	4.5	2.5	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	47.6	13.0	39.4	5.2	4.5	2.5	2.5
Queue Length 50th (m)	12.1	0.0	10.1	2.0	22.3	0.2	17.0
Queue Length 95th (m)	24.5	13.3	23.5	11.6	68.7	m0.7	21.2
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	479	555	455	446	2845	337	2785
Starvation Cap Reductn	0	0	0	0	0	0	655
Spillback Cap Reductn	0	0	0	0	38	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.15	0.15	0.43	0.02	0.44
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive

2031 Future Background <PM>
07-05-2021

	↖	→	↘	↙	←	↗	↖	↗	↑	↘	↙	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗			↕			↕		
Traffic Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3	
Future Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	25.0			20.0			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	1.00
Ped Bike Factor													
Frt		0.999			0.997			0.878				0.969	
Fit Protected	0.950			0.950				0.995				0.963	
Satd. Flow (prot)	1770	1808	0	1770	1839	0	0	1627	0	0	1738	0	
Fit Permitted	0.950			0.950				0.995				0.963	
Satd. Flow (perm)	1770	1808	0	1770	1839	0	0	1627	0	0	1738	0	
Link Speed (k/h)		50			50			20			20		
Link Distance (m)		81.7			100.7			49.5			50.6		
Travel Time (s)		5.9			7.3			8.9			9.1		
Confl. Peds. (#/hr)	7		8	8		7							
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	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	389	3	49	433	9	3	0	27	10	0	3	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	3	392	0	49	442	0	0	30	0	0	13	0	
Enter Blocked Intersection	No	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15	25
Sign Control		Stop			Stop			Stop			Stop		Stop
Intersection Summary													
Area Type: Other													
Control Type: Unsignalized													
Intersection Capacity Utilization 38.1%													
ICU Level of Service A													
Analysis Period (min) 15													

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

2031 Future Background <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Sign Control	Stop			Stop			Stop				Stop	
Traffic Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3
Future Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	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
Hourly flow rate (vph)	3	389	3	49	433	9	3	0	27	10	0	3
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	3	392	49	442	30	13						
Volume Left (vph)	3	0	49	0	3	10						
Volume Right (vph)	0	3	0	9	27	3						
Hadj (s)	0.53	0.08	0.53	0.04	-0.49	0.05						
Departure Headway (s)	5.6	5.1	5.5	5.0	5.4	6.0						
Degree Utilization, x	0.00	0.56	0.07	0.61	0.05	0.02						
Capacity (veh/h)	631	694	640	716	564	514						
Control Delay (s)	7.4	13.1	7.7	14.2	8.7	9.1						
Approach Delay (s)	13.1		13.6		8.7	9.1						
Approach LOS	B		B		A	A						
Intersection Summary												
Delay	13.1											
Level of Service	B											
Intersection Capacity Utilization	38.1%		ICU Level of Service				A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

2031 Future Background <PM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Traffic Volume (vph)	11	380	1	0	439	32	0	0	13	36	0	12
Future Volume (vph)	11	380	1	0	439	32	0	0	13	36	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Flt					0.991					0.865	0.966	
Flt Protected	0.950											
Satd. Flow (prot)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Link Speed (k/h)	50				50			20			20	
Link Distance (m)	100.7				97.6			57.9			51.0	
Travel Time (s)	7.3				7.0			10.4			9.2	
Confl. Peds. (#/hr)	7	8		8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	12	413	1	0	477	35	0	0	14	39	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	414	0	0	512	0	0	0	14	0	52	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)	3.6				3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15		25	15		25	15		25	15
Sign Control	Free				Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	36.7%				ICU Level of Service A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

2031 Future Background <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔	↔	↔
Traffic Volume (veh/h)	11	380	1	0	439	32	0	0	13	36	0	12
Future Volume (Veh/h)	11	380	1	0	439	32	0	0	13	36	0	12
Sign Control	Free			Free			Stop		Stop			
Grade	0%			0%			0%		0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	413	1	0	477	35	0	0	14	39	0	13
Pedestrians							8		7			
Lane Width (m)							3.6		3.6			
Walking Speed (m/s)							1.2		1.2			
Percent Blockage							1		1			
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)	98											
pX, platoon unblocked	0.85					0.85	0.85	0.85	0.85	0.85	0.85	0.85
vC, conflicting volume	519	422				953	964	422	952	948	502	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	346	422				857	870	422	856	850	325	
tC, single (s)	4.1	4.1				7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)												
tF (s)	2.2	2.2				3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	99	100				100	100	98	83	100	98	
cM capacity (veh/h)	1025	1130				225	240	628	225	247	605	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	12	414	512	14	52							
Volume Left	12	0	0	0	39							
Volume Right	0	1	35	14	13							
cSH	1025	1700	1700	628	267							
Volume to Capacity	0.01	0.24	0.30	0.02	0.19							
Queue Length 95th (m)	0.3	0.0	0.0	0.5	5.6							
Control Delay (s)	8.6	0.0	0.0	10.9	21.7							
Lane LOS	A			B	C							
Approach Delay (s)	0.2	0.0		10.9	21.7							
Approach LOS				B	C							
Intersection Summary												
Average Delay	1.4											
Intersection Capacity Utilization	36.7%		ICU Level of Service		A							
Analysis Period (min)	15											

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

2031 Future Background <PM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↔	↔	↔
Traffic Volume (vph)	24	29	32	1111	1037	23
Future Volume (vph)	24	29	32	1111	1037	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.850		
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3505	3495	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3505	3495	0
Link Speed (k/h)	40	50		50		
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)	16			16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	3%	2%
Adj. Flow (vph)	26	32	35	1208	1127	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	32	35	1208	1152	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6	3.6		3.6		
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop		Free		Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.7%		ICU Level of Service A			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
7: Yonge Street /Yonge Street & Easterly Access

2031 Future Background <PM>
07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↕	↗
Traffic Volume (veh/h)	24	29	32	1111	1037	23
Future Volume (Veh/h)	24	29	32	1111	1037	23
Sign Control	Stop			Free		Free
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	32	35	1208	1127	25
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				199	124	
pX, platoon unblocked	0.92	0.85	0.85			
vC, conflicting volume	1830	592	1168			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	989	158	838			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	96	95			
cM capacity (veh/h)	210	719	662			
Direction, Lane #	EB 1	EB 2	NB 1	NB 3	SB 1	SB 2
Volume Total	26	32	35	604	604	401
Volume Left	26	0	35	0	0	0
Volume Right	0	32	0	0	0	25
cSH	210	719	662	1700	1700	1700
Volume to Capacity	0.12	0.04	0.05	0.36	0.36	0.44
Queue Length 95th (m)	3.3	1.1	1.3	0.0	0.0	0.0
Control Delay (s)	24.5	10.2	10.7	0.0	0.0	0.0
Lane LOS	C	B	B			
Approach Delay (s)	16.6		0.3		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay	0.5					
Intersection Capacity Utilization	40.7%			ICU Level of Service		A
Analysis Period (min)	15					

Lanes, Volumes, Timings

3036 Future Background <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	163	163	205	50	75	65	77	543	90	70	676	92
Future Volume (vph)	163	163	205	50	75	65	77	543	90	70	676	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.99	0.99		0.96	0.99		0.95
Frt			0.850			0.931			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456			0.648			0.316			0.434		
Satd. Flow (perm)	823	1863	1563	1225	1656	0	584	3438	1496	818	3438	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		46				96			98
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	16		7	7		16	16		8	8		16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	2%	1%	0%	6%	4%	2%	5%	4%	0%	5%	2%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	173	173	218	53	80	69	82	578	96	74	719	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	173	218	53	149	0	82	578	96	74	719	98
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type	Cl+Ex											
Detector 2 Channel												

Lanes, Volumes, Timings

3036 Future Background <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

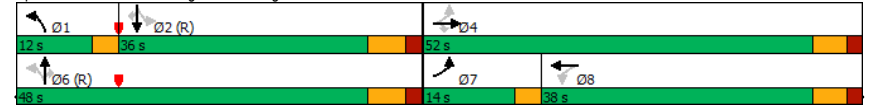


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Detector 2 Extend (s)					0.0			0.0					
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4			8		1	6			2		
Permitted Phases	4		4	8			6		6	2		2	
Detector Phase	7	4	4	8	8		1	6	6	2	2	2	
Switch Phase													
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5	
Total Split (s)	14.0	52.0	52.0	38.0	38.0		12.0	48.0	48.0	36.0	36.0	36.0	
Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.0%	
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.5	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5	
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	7.0	
Flash Dont Walk (s)		24.0	24.0	24.0	24.0			17.0	17.0	17.0	17.0	17.0	
Pedestrian Calls (#/hr)		0	0	0	0			0	0	0	0	0	
Act Effect Green (s)	29.1	26.1	26.1	12.7	12.7		64.9	61.4	61.4	53.1	53.1	53.1	
Actuated g/C Ratio	0.29	0.26	0.26	0.13	0.13		0.65	0.61	0.61	0.53	0.53	0.53	
v/c Ratio	0.52	0.36	0.38	0.34	0.60		0.18	0.27	0.10	0.17	0.39	0.12	
Control Delay	32.9	31.4	5.8	44.9	37.8		8.3	9.9	2.4	8.0	9.1	1.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.9	31.4	5.8	44.9	37.8		8.3	9.9	2.4	8.0	9.1	1.4	
LOS	C	C	A	D	D		A	A	A	A	A	A	
Approach Delay					22.0					39.7			8.8
Approach LOS					C					D			A


Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 14.2
 Intersection LOS: B
 Intersection Capacity Utilization 80.6%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 3036 Future Background <AM>
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	173	218	53	149	82	578	96	74	719	98
v/c Ratio	0.52	0.36	0.38	0.34	0.60	0.18	0.27	0.10	0.17	0.39	0.12
Control Delay	32.9	31.4	5.8	44.9	37.8	8.3	9.9	2.4	8.0	9.1	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	31.4	5.8	44.9	37.8	8.3	9.9	2.4	8.0	9.1	1.4
Queue Length 50th (m)	27.8	28.9	0.0	10.1	20.1	5.5	26.2	0.0	4.8	40.9	0.3
Queue Length 95th (m)	42.8	44.4	16.4	21.1	38.3	13.0	41.5	7.0	15.1	68.2	3.3
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	340	856	836	392	561	485	2109	955	434	1824	842
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.20	0.26	0.14	0.27	0.17	0.27	0.10	0.17	0.39	0.12

Intersection Summary

Lanes, Volumes, Timings 3036 Future Background <AM>
2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	102	136	100	39	86	38	88	633	73	63	698	44
Future Volume (vph)	102	136	100	39	86	38	88	633	73	63	698	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.98	1.00		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1827	1593	1597	1792	1609	1641	3471	1513	1805	3471	1513
Flt Permitted	0.554			0.666			0.320			0.399		
Satd. Flow (perm)	1036	1827	1561	1112	1792	1578	551	3471	1462	754	3471	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			104			77			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	7		8	8		7	7		7	7		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	4%	1%	13%	6%	0%	10%	4%	5%	0%	4%	5%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	107	143	105	41	91	40	93	666	77	66	735	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	143	105	41	91	40	93	666	77	66	735	46
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)		25		15	25		15	25		15		25
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	7.7	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

3036 Future Background <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

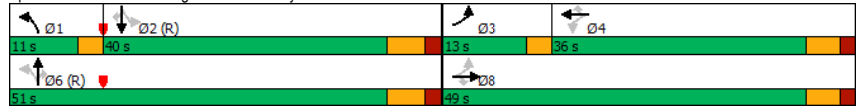


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	13.0	49.0	49.0	36.0	36.0	36.0	11.0	51.0	51.0	40.0	40.0	40.0
Total Split (%)	13.0%	49.0%	49.0%	36.0%	36.0%	36.0%	11.0%	51.0%	51.0%	40.0%	40.0%	40.0%
Maximum Green (s)	10.0	43.0	43.0	30.0	30.0	30.0	8.0	44.5	44.5	33.5	33.5	33.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	24.2	21.2	21.2	11.5	11.5	11.5	69.8	66.3	66.3	57.9	57.9	57.9
Actuated g/C Ratio	0.24	0.21	0.21	0.12	0.12	0.12	0.70	0.66	0.66	0.58	0.58	0.58
v/c Ratio	0.34	0.37	0.25	0.32	0.44	0.15	0.20	0.29	0.08	0.15	0.37	0.05
Control Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.8	8.5	3.7	10.5	9.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.8	8.5	3.7	10.5	9.7	0.1
LOS	C	C	A	D	D	A	A	A	B	A	A	A
Approach Delay		25.7			36.9			7.9				9.2
Approach LOS		C			D			A				A

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	13.5
Intersection LOS:	B
Intersection Capacity Utilization:	108.1%
ICU Level of Service:	G
Analysis Period (min):	15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

3036 Future Background <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	107	143	105	41	91	40	93	666	77	66	735	46
v/c Ratio	0.34	0.37	0.25	0.32	0.44	0.15	0.20	0.29	0.08	0.15	0.37	0.05
Control Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.8	8.5	3.7	10.5	9.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.6	34.8	7.4	47.1	47.9	1.1	6.8	8.5	3.7	10.5	9.7	0.1
Queue Length 50th (m)	17.3	24.6	0.0	7.9	17.8	0.0	4.2	20.3	0.0	4.2	24.4	0.0
Queue Length 95th (m)	29.6	39.8	12.5	18.1	32.5	0.0	13.3	51.1	8.6	8.5	40.2	0.1
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	325	785	731	333	537	546	473	2301	995	436	2009	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.18	0.14	0.12	0.17	0.07	0.20	0.29	0.08	0.15	0.37	0.05

Intersection Summary

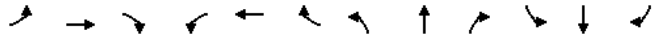
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	13.5
Intersection LOS:	B
Intersection Capacity Utilization:	108.1%
ICU Level of Service:	G
Analysis Period (min):	15

Lanes, Volumes, Timings

3036 Future Background <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↕		↕		↕	↕		↕	↕	
Traffic Volume (vph)	30	5	26	13	3	2	15	726	29	3	806	16
Future Volume (vph)	30	5	26	13	3	2	15	726	29	3	806	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99	0.98		0.99	0.99	0.99	1.00		1.00	1.00	
Frt			0.850		0.986		0.994			0.997		
Flt Protected		0.959			0.964		0.950			0.950		
Satd. Flow (prot)	0	1822	1495	0	1711	0	1583	3451	0	1805	3455	0
Flt Permitted		0.742			0.760		0.329			0.354		
Satd. Flow (perm)	0	1403	1462	0	1338	0	545	3451	0	670	3455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38		2		6			3		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	5		9	9		5	12		5	5		12
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%	0%	8%	0%	34%	0%	14%	4%	0%	0%	4%	7%
Adj. Flow (vph)	31	5	27	14	3	2	16	756	30	3	840	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	27	0	19	0	16	786	0	3	857	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			3.6			3.6	
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3036 Future Background <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		10.1	10.1		10.1		81.9	81.9		81.9	81.9	
Actuated g/C Ratio		0.10	0.10		0.10		0.82	0.82		0.82	0.82	
v/c Ratio		0.25	0.15		0.14		0.04	0.28		0.01	0.30	
Control Delay	46.3	11.1		40.4			2.6	3.4		2.0	2.2	
Queue Delay	0.0	0.0		0.0			0.0	0.0		0.0	0.1	
Total Delay	46.3	11.1		40.4			2.6	3.4		2.0	2.3	
LOS	D	B		D			A	A		A	A	
Approach Delay		31.2			40.4			3.4			2.3	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	76 (76%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.30
Intersection Signal Delay:	4.3
Intersection Capacity Utilization:	70.6%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access

3036 Future Background <AM>
07-05-2021



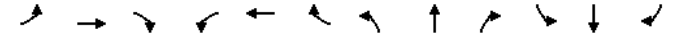
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	27	19	16	786	3	857
v/c Ratio	0.25	0.15	0.14	0.04	0.28	0.01	0.30
Control Delay	46.3	11.1	40.4	2.6	3.4	2.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	46.3	11.1	40.4	2.6	3.4	2.0	2.3
Queue Length 50th (m)	6.9	0.0	3.2	1.0	26.3	0.1	16.6
Queue Length 95th (m)	17.0	6.1	10.4	m1.7	17.5	m0.3	18.4
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	448	493	429	446	2825	548	2829
Starvation Cap Reductn	0	0	0	0	0	0	799
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.04	0.04	0.28	0.01	0.42

Intersection Summary

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

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive

3036 Future Background <AM>
07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Future Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	25.0			20.0			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												
Frt					0.997			0.877				0.955
Fit Protected	0.950			0.950				0.996				0.968
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1627	0	0	1722	0
Fit Permitted	0.950			0.950				0.996				0.968
Satd. Flow (perm)	1770	1827	0	1770	1788	0	0	1627	0	0	1722	0
Link Speed (k/h)		50			50			20				20
Link Distance (m)		81.7			100.7			49.5				50.6
Travel Time (s)		5.9			7.3			8.9				9.1
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	1	317	1	15	205	4	4	0	41	2	0	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	318	0	15	209	0	0	45	0	0	3	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop				Stop

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.4%

ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

3036 Future Background <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Future Volume (vph)	1	292	1	14	189	4	4	0	38	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	317	1	15	205	4	4	0	41	2	0	1
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	1	318	15	209	45	3						
Volume Left (vph)	1	0	15	0	4	2						
Volume Right (vph)	0	1	0	4	41	1						
Hadj (s)	0.53	0.07	0.53	0.09	-0.49	-0.03						
Departure Headway (s)	5.3	4.9	5.4	4.9	4.7	5.2						
Degree Utilization, x	0.00	0.43	0.02	0.29	0.06	0.00						
Capacity (veh/h)	664	729	649	713	690	613						
Control Delay (s)	7.1	10.3	7.3	8.7	8.0	8.2						
Approach Delay (s)	10.3		8.6		8.0	8.2						
Approach LOS	B		A		A	A						
Intersection Summary												
Delay	9.5											
Level of Service	A											
Intersection Capacity Utilization	25.4%		ICU Level of Service			A						
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

3036 Future Background <AM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Traffic Volume (vph)	6	325	1	0	203	15	0	0	4	9	0	4
Future Volume (vph)	6	325	1	0	203	15	0	0	4	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Fit Protected	0.950											
Satd. Flow (prot)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Fit Permitted	0.950											
Satd. Flow (perm)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Link Speed (k/h)	50											
Link Distance (m)	100.7											
Travel Time (s)	7.3											
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	353	1	0	221	16	0	0	4	10	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	354	0	0	237	0	0	0	4	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	3.6											
Link Offset(m)	0.0											
Crosswalk Width(m)	4.8											
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control	Free		Free			Stop			Stop			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	33.8%			ICU Level of Service A								
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

3036 Future Background <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↗	↘	↔	↗	↘	↔	↗	↘	↔	↗	↘
Traffic Volume (veh/h)	6	325	1	0	203	15	0	0	4	9	0	4
Future Volume (Veh/h)	6	325	1	0	203	15	0	0	4	9	0	4
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	353	1	0	221	16	0	0	4	10	0	4
Pedestrians							8			7		
Lane Width (m)							3.6			3.6		
Walking Speed (m/s)							1.2			1.2		
Percent Blockage							1			1		
Right turn flare (veh)												
Median type	None				None							
Median storage (veh)												
Upstream signal (m)							98					
pX, platoon unblocked	0.96					0.96	0.96	0.96	0.96	0.96	0.96	0.96
vC, conflicting volume	244	362				608	620	362	607	612	236	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	194	362				573	584	362	571	576	185	
tC, single (s)	4.1	4.1				7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)												
tF (s)	2.2	2.2				3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	99	100				100	100	99	98	100	100	
cM capacity (veh/h)	1319	1189				404	400	679	404	404	819	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	7	354	237	4	14							
Volume Left	7	0	0	0	10							
Volume Right	0	1	16	4	4							
cSH	1319	1700	1700	679	473							
Volume to Capacity	0.01	0.21	0.14	0.01	0.03							
Queue Length 95th (m)	0.1	0.0	0.0	0.1	0.7							
Control Delay (s)	7.7	0.0	0.0	10.3	12.8							
Lane LOS	A			B	B							
Approach Delay (s)	0.2	0.0		10.3	12.8							
Approach LOS			B	B								
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			33.8%	ICU Level of Service		A						
Analysis Period (min)	15											

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

3036 Future Background <AM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↗	↘	↕	↕	↕
Traffic Volume (vph)	7	6	12	825	843	14
Future Volume (vph)	7	6	12	825	843	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.998		
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3438	3433	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3438	3433	0
Link Speed (k/h)	40	50		50		
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)	16			16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	5%	5%	2%
Adj. Flow (vph)	8	7	13	897	916	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	7	13	897	931	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6	3.6		3.6		
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop		Free		Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization 33.8%			ICU Level of Service A			
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

3036 Future Background <AM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘	↗	↘	↕	↕	↗
Traffic Volume (veh/h)	7	6	12	825	843	14
Future Volume (Veh/h)	7	6	12	825	843	14
Sign Control	Stop			Free		
Grade	0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	7	13	897	916	15
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				199	124	
pX, platoon unblocked	0.92	0.89	0.89			
vC, conflicting volume	1414	482	947			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	974	160	685			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	99	98			
cM capacity (veh/h)	222	750	791			
Direction, Lane #	EB 1	EB 2	NB 1	NB 3	SB 1	SB 2
Volume Total	8	7	13	448	448	320
Volume Left	8	0	13	0	0	0
Volume Right	0	7	0	0	0	15
cSH	222	750	791	1700	1700	1700
Volume to Capacity	0.04	0.01	0.02	0.26	0.26	0.19
Queue Length 95th (m)	0.9	0.2	0.4	0.0	0.0	0.0
Control Delay (s)	21.8	9.8	9.6	0.0	0.0	0.0
Lane LOS	C	A	A			
Approach Delay (s)	16.2		0.1		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			33.8%		ICU Level of Service A	
Analysis Period (min)	15					

Lanes, Volumes, Timings

2036 Future Background <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	190	122	112	67	177	63	309	921	53	58	725	265
Future Volume (vph)	190	122	112	67	177	63	309	921	53	58	725	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.97	0.98		0.99	0.99		0.95	0.99		0.94
Frt			0.850			0.960			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1810	1577	1752	1780	0	1805	3505	1583	1805	3505	1599
Flt Permitted	0.310			0.673			0.225			0.289		
Satd. Flow (perm)	585	1810	1528	1221	1780	0	424	3505	1497	544	3505	1508
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		19				65			212
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	11		20	20		11	18		17	17		18
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 (%)	0%	5%	2%	3%	2%	0%	0%	3%	2%	0%	3%	1%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	204	131	120	72	190	68	332	990	57	62	780	285
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	131	120	72	258	0	332	990	57	62	780	285
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template			Left									
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type					Cl+Ex							Cl+Ex
Detector 2 Channel												

Lanes, Volumes, Timings

2036 Future Background <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

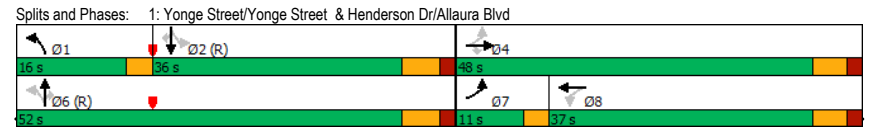
07-05-2021




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	11.0	48.0	48.0	37.0	37.0		16.0	52.0	52.0	36.0	36.0	36.0
Total Split (%)	11.0%	48.0%	48.0%	37.0%	37.0%		16.0%	52.0%	52.0%	36.0%	36.0%	36.0%
Maximum Green (s)	8.0	42.0	42.0	31.0	31.0		13.0	45.5	45.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0		0	0	0	0	0	0
Act Effect Green (s)	32.9	29.9	29.9	18.9	18.9		61.1	57.6	57.6	37.5	37.5	37.5
Actuated g/C Ratio	0.33	0.30	0.30	0.19	0.19		0.61	0.58	0.58	0.38	0.38	0.38
v/c Ratio	0.70	0.24	0.22	0.31	0.74		0.67	0.49	0.06	0.31	0.59	0.41
Control Delay	38.8	26.4	5.3	36.8	47.4		18.3	14.4	2.9	46.3	42.6	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	26.4	5.3	36.8	47.4		18.3	14.4	2.9	46.3	42.6	23.6
LOS	D	C	A	D	D		B	B	A	D	D	C
Approach Delay		26.4			45.0			14.9				38.0
Approach LOS		C			D			B				D

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 27.4
 Intersection LOS: C
 Intersection Capacity Utilization 89.1%
 ICU Level of Service E
 Analysis Period (min) 15




Queues 2036 Future Background <PM>
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	204	131	120	72	258	332	990	57	62	780	285
v/c Ratio	0.70	0.24	0.22	0.31	0.74	0.67	0.49	0.06	0.31	0.59	0.41
Control Delay	38.8	26.4	5.3	36.8	47.4	18.3	14.4	2.9	46.3	42.6	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	26.4	5.3	36.8	47.4	18.3	14.4	2.9	46.3	42.6	23.6
Queue Length 50th (m)	31.3	20.1	0.0	12.8	46.4	29.8	58.7	0.0	11.7	86.3	27.3
Queue Length 95th (m)	45.3	31.9	11.4	24.0	68.1	58.9	89.1	5.4	m26.1	109.5	56.5
Internal Link Dist (m)		151.9		655.6		285.8			174.7		
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	290	760	711	378	564	495	2019	890	203	1314	697
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.17	0.17	0.19	0.46	0.67	0.49	0.06	0.31	0.59	0.41

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

Lanes, Volumes, Timings 2036 Future Background <PM>
2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	130	145	154	117	211	95	172	940	48	40	806	88
Future Volume (vph)	130	145	154	117	211	95	172	940	48	40	806	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	1.00		0.97	1.00		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1810	1593	1770	1845	1577	1805	3539	1589	1719	3505	1543
Flt Permitted	0.359			0.659			0.239			0.287		
Satd. Flow (perm)	670	1810	1567	1224	1845	1538	452	3539	1542	518	3505	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			104			65			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	13		4	4		13	12		5	5		12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	5%	1%	2%	3%	2%	0%	2%	0%	5%	3%	3%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	138	154	164	124	224	101	183	1000	51	43	857	94
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	154	164	124	224	101	183	1000	51	43	857	94
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

2036 Future Background <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

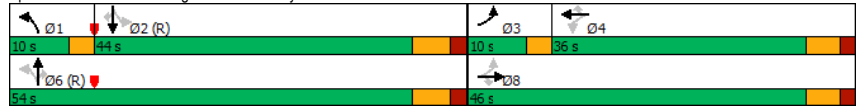


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	10.0	46.0	46.0	36.0	36.0	36.0	10.0	54.0	54.0	44.0	44.0	44.0
Total Split (%)	10.0%	46.0%	46.0%	36.0%	36.0%	36.0%	10.0%	54.0%	54.0%	44.0%	44.0%	44.0%
Maximum Green (s)	7.0	40.0	40.0	30.0	30.0	30.0	7.0	47.5	47.5	37.5	37.5	37.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	30.7	27.7	27.7	17.7	17.7	17.7	63.3	59.8	59.8	47.6	47.6	47.6
Actuated g/C Ratio	0.31	0.28	0.28	0.18	0.18	0.18	0.63	0.60	0.60	0.48	0.48	0.48
v/c Ratio	0.49	0.31	0.30	0.57	0.69	0.28	0.45	0.47	0.05	0.17	0.51	0.12
Control Delay	31.0	29.1	5.4	47.3	48.9	8.2	9.4	8.6	0.3	16.8	17.8	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	29.1	5.4	47.3	48.9	8.2	9.4	8.6	0.3	16.8	17.8	3.5
LOS	C	C	A	D	D	A	A	A	A	B	B	A
Approach Delay		21.1			39.3			8.4			16.4	
Approach LOS		C			D			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.2 Intersection LOS: B
 Intersection Capacity Utilization 109.0% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

2036 Future Background <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	138	154	164	124	224	101	183	1000	51	43	857	94
v/c Ratio	0.49	0.31	0.30	0.57	0.69	0.28	0.45	0.47	0.05	0.17	0.51	0.12
Control Delay	31.0	29.1	5.4	47.3	48.9	8.2	9.4	8.6	0.3	16.8	17.8	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	29.1	5.4	47.3	48.9	8.2	9.4	8.6	0.3	16.8	17.8	3.5
Queue Length 50th (m)	21.1	24.8	0.0	23.4	43.3	0.0	8.8	26.1	0.1	4.9	66.1	1.9
Queue Length 95th (m)	33.0	38.0	13.7	39.4	63.3	12.4	m14.0	43.0	m0.1	16.2	101.4	10.3
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	283	724	725	367	553	534	410	2115	947	246	1667	753
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.21	0.23	0.34	0.41	0.19	0.45	0.47	0.05	0.17	0.51	0.12

Intersection Summary

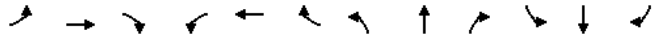
m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2036 Future Background <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	46	10	72	38	9	16	61	1095	46	6	854	60
Future Volume (vph)	46	10	72	38	9	16	61	1095	46	6	854	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.97		0.99		0.98	1.00		1.00	0.99	
Frt			0.850		0.965		0.994			0.990		
Flt Protected		0.960			0.971		0.950			0.950		
Satd. Flow (prot)	0	1824	1615	0	1741	0	1805	3515	0	1805	3444	0
Flt Permitted		0.792			0.780		0.276			0.205		
Satd. Flow (perm)	0	1499	1569	0	1386	0	513	3515	0	389	3444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		18		7			12		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	4		14	14		4	53		10	10		53
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	51	11	79	42	10	18	67	1203	51	7	938	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	79	0	70	0	67	1254	0	7	1004	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		3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

2036 Future Background <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

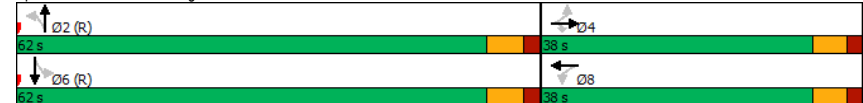


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%	62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		11.1	11.1		11.1		80.9	80.9		80.9	80.9	
Actuated g/C Ratio		0.11	0.11		0.11		0.81	0.81		0.81	0.81	
v/c Ratio		0.38	0.32		0.41		0.16	0.44		0.02	0.36	
Control Delay	47.6	13.0		39.4			5.8	4.9		2.3	2.4	
Queue Delay	0.0	0.0		0.0			0.0	0.0		0.0	0.1	
Total Delay	47.6	13.0		39.4			5.8	4.9		2.3	2.5	
LOS	D	B		D			A	A		A	A	
Approach Delay		28.2			39.4			4.9			2.5	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	69 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	6.2
Intersection Capacity Utilization:	74.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues

2036 Future Background <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	79	70	67	1254	7	1004
v/c Ratio	0.38	0.32	0.41	0.16	0.44	0.02	0.36
Control Delay	47.6	13.0	39.4	5.8	4.9	2.3	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	47.6	13.0	39.4	5.8	4.9	2.3	2.5
Queue Length 50th (m)	12.1	0.0	10.1	2.1	24.3	0.2	17.6
Queue Length 95th (m)	24.5	13.3	23.5	12.2	75.2	m0.7	21.8
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	479	555	455	415	2846	315	2789
Starvation Cap Reductn	0	0	0	0	0	0	564
Spillback Cap Reductn	0	0	0	0	38	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.15	0.16	0.45	0.02	0.45

Intersection Summary

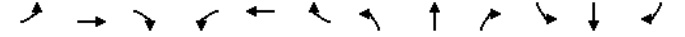
m Volume for 95th percentile queue is metered by upstream signal.

Lanes, Volumes, Timings

2036 Future Background <PM>

5: Mosaics Avenue & Murray Drive

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3
Future Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	25.0			20.0			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												
Frt		0.999			0.997			0.878				0.969
Fit Protected	0.950			0.950				0.995				0.963
Satd. Flow (prot)	1770	1808	0	1770	1839	0	0	1627	0	0	1738	0
Fit Permitted	0.950			0.950				0.995				0.963
Satd. Flow (perm)	1770	1808	0	1770	1839	0	0	1627	0	0	1738	0
Link Speed (k/h)		50			50			20				20
Link Distance (m)		81.7			100.7			49.5				50.6
Travel Time (s)		5.9			7.3			8.9				9.1
Confl. Peds. (#/hr)	7		8		8		7					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	389	3	49	433	9	3	0	27	10	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	392	0	49	442	0	0	30	0	0	13	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop				Stop

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.1%

ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

2036 Future Background <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	3
Future Volume (vph)	3	358	3	45	398	8	3	0	25	9	0	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
Hourly flow rate (vph)	3	389	3	49	433	9	3	0	27	10	0	3
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	3	392	49	442	30	13						
Volume Left (vph)	3	0	49	0	3	10						
Volume Right (vph)	0	3	0	9	27	3						
Hadj (s)	0.53	0.08	0.53	0.04	-0.49	0.05						
Departure Headway (s)	5.6	5.1	5.5	5.0	5.4	6.0						
Degree Utilization, x	0.00	0.56	0.07	0.61	0.05	0.02						
Capacity (veh/h)	631	694	640	716	564	514						
Control Delay (s)	7.4	13.1	7.7	14.2	8.7	9.1						
Approach Delay (s)	13.1		13.6		8.7	9.1						
Approach LOS	B		B		A	A						
Intersection Summary												
Delay	13.1											
Level of Service	B											
Intersection Capacity Utilization	38.1%		ICU Level of Service				A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

2036 Future Background <PM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Traffic Volume (vph)	11	380	1	0	439	32	0	0	13	36	0	12
Future Volume (vph)	11	380	1	0	439	32	0	0	13	36	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Fit	0.991						0.865			0.966		
Fit Protected	0.950											
Satd. Flow (prot)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Fit Permitted	0.950											
Satd. Flow (perm)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Link Speed (k/h)	50		50		20		20		20		20	
Link Distance (m)	100.7		97.6		57.9		51.0		51.0		51.0	
Travel Time (s)	7.3		7.0		10.4		9.2		9.2		9.2	
Confl. Peds. (#/hr)	7	8		8		7		7		7		7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	12	413	1	0	477	35	0	0	14	39	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	414	0	0	512	0	0	0	14	0	52	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)	3.6		3.6		0.0		0.0		0.0		0.0	
Link Offset(m)	0.0		0.0		0.0		0.0		0.0		0.0	
Crosswalk Width(m)	4.8		4.8		4.8		4.8		4.8		4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15		25		15		25		15	
Sign Control	Free		Free		Stop		Stop		Stop		Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	36.7%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

2036 Future Background <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↔			↔				↔		↔		
Traffic Volume (veh/h)	11	380	1	0	439	32	0	0	13	36	0	12	
Future Volume (Veh/h)	11	380	1	0	439	32	0	0	13	36	0	12	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	12	413	1	0	477	35	0	0	14	39	0	13	
Pedestrians							8			7			
Lane Width (m)							3.6			3.6			
Walking Speed (m/s)							1.2			1.2			
Percent Blockage							1			1			
Right turn flare (veh)													
Median type	None			None									
Median storage (veh)													
Upstream signal (m)	98												
pX, platoon unblocked	0.85						0.85	0.85	0.85	0.85	0.85	0.85	
vC, conflicting volume	519	422			953		964	422	952	948	502		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	346	422			857		870	422	856	850	325		
tC, single (s)	4.1	4.1			7.1		6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)													
tF (s)	2.2	2.2			3.5		4.0	3.3	3.5	4.0	3.3		
p0 queue free %	99	100			100		100	98	83	100	98		
cM capacity (veh/h)	1025	1130			225		240	628	225	247	605		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1								
Volume Total	12	414	512	14	52								
Volume Left	12	0	0	0	39								
Volume Right	0	1	35	14	13								
cSH	1025	1700	1700	628	267								
Volume to Capacity	0.01	0.24	0.30	0.02	0.19								
Queue Length 95th (m)	0.3	0.0	0.0	0.5	5.6								
Control Delay (s)	8.6	0.0	0.0	10.9	21.7								
Lane LOS	A	B			C								
Approach Delay (s)	0.2	0.0			10.9	21.7							
Approach LOS	B			C									
Intersection Summary													
Average Delay	1.4												
Intersection Capacity Utilization	36.7%			ICU Level of Service			A						
Analysis Period (min)	15												

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

2036 Future Background <PM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	24	29	32	1167	1116	23
Future Volume (vph)	24	29	32	1167	1116	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.850			0.997		
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3505	3495	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3505	3495	0
Link Speed (k/h)	40	50		50		
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)	16			16		16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	3%	2%
Adj. Flow (vph)	26	32	35	1268	1213	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	26	32	35	1268	1238	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6	3.6		3.6		
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop			Free		Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

2036 Future Background <PM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↖	↗	↖	↕	↕	↗	
Traffic Volume (veh/h)	24	29	32	1167	1116	23	
Future Volume (Veh/h)	24	29	32	1167	1116	23	
Sign Control	Stop			Free		Free	
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	26	32	35	1268	1213	25	
Pedestrians	16						
Lane Width (m)	3.6						
Walking Speed (m/s)	1.2						
Percent Blockage	1						
Right turn flare (veh)							
Median type				None	None		
Median storage (veh)							
Upstream signal (m)				199	124		
pX, platoon unblocked	0.91	0.83	0.83				
vC, conflicting volume	1946	635	1254				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1033	153	898				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	87	95	94				
cM capacity (veh/h)	194	710	616				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	26	32	35	634	634	809	429
Volume Left	26	0	35	0	0	0	0
Volume Right	0	32	0	0	0	0	25
cSH	194	710	616	1700	1700	1700	1700
Volume to Capacity	0.13	0.05	0.06	0.37	0.37	0.48	0.25
Queue Length 95th (m)	3.6	1.1	1.4	0.0	0.0	0.0	0.0
Control Delay (s)	26.4	10.3	11.2	0.0	0.0	0.0	0.0
Lane LOS	D	B	B				
Approach Delay (s)	17.5		0.3		0.0		
Approach LOS	C						
Intersection Summary							
Average Delay	0.5						
Intersection Capacity Utilization	42.3%		ICU Level of Service		A		
Analysis Period (min)	15						

APPENDIX

H

TTS & MULTI SHARE FACTOR



Trip Purpose

Code	Description
1	Home-Based Work
2	Home-based School
3	Home-based Discreti
4	Non Home-based

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

Group Attributes

Grouping file: No file chosen

Filter Selection +

In

 In

 In

Output

Comma-delimited table
 Column format
 Expansion Factor On

Fri May 14 2021 13:14:16 GMT-0400 (Eastern Daylight Time) - Run Time: 2743ms

Cross Tabulation Query Form - Trip - 2016 v1.1

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

Filters:

2006 GTA zone of destination - gta06_dest In 2554,2561
and
Start time of trip - start_time In 0630-0930
and
Trip purpose - trip_purp In 1, 2, 3,

Trip 2016

Table:

,Transit excluding GO rail,Cycle,Auto driver,Motorcycle,Auto passenger,School bus,Taxi passenger,Walk
 2554,49,47,594,39,81,88,0,101
 2561,143,0,1718,16,588,211,12,26



Code	Description
400 -	Total range - 4:00 a.
2800	3:39 a.m. the next d

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

Group Attributes

Grouping file: No file chosen

Filter Selection +

In

In

In

Output

Comma-delimited table
 Column format
 Expansion Factor On

Fri May 14 2021 13:36:06 GMT-0400 (Eastern Daylight Time) - Run Time: 2531ms

Cross Tabulation Query Form - Trip - 2016 v1.1

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

Filters:

2006 GTA zone of origin - gta06_orig In 2554,2561
and
Start time of trip - start_time In 0930-0630
and
Trip purpose - trip_purp In 1, 2, 3,

Trip 2016
Table:

,Transit excluding GO rail,Cycle,Auto driver,GO rail only,Joint GO rail and local transit,Motorcycle,Auto passenger,
2554,143,141,1460,45,9,0,291,70,101
2561,45,0,782,8,4,9,71,8,0



Code	Description
400 -	Total range - 4:00 a.
2800	3:39 a.m. the next d

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

Group Attributes

Grouping file: No file chosen

Filter Selection +

In

In

In

Output

Comma-delimited table
 Column format
 Expansion Factor On

Fri May 14 2021 13:17:12 GMT-0400 (Eastern Daylight Time) - Run Time: 2588ms

Cross Tabulation Query Form - Trip - 2016 v1.1

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

Filters:
 2006 GTA zone of destination - gta06_dest In 2554,2561
 and
 Start time of trip - start_time In 1530-1830
 and
 Trip purpose - trip_purp In 1, 2, 3,

Trip 2016
Table:

,Transit excluding GO rail,Cycle,Auto driver,GO rail only,Joint GO rail and local transit,Motorcycle,Auto passenger,
 2554,37,47,2294,45,19,20,370,70,175
 2561,0,47,769,29,4,0,58,8,18



Database Index DMG TTS CCP Contact Logout

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

2006 GTA zone of origin Primary travel mode of t... (Optional) Table Attribute

Group Attributes

Row Grouping Column Grouping Table Grouping

Grouping file: Choose File No file chosen

Filter Selection +

2006 GTA zone of origin In 2554,2561
And
Start time of trip In 1530-1830
And
Trip purpose In 1, 2, 3,

Add Delete

Output

Comma-delimited table Column format Expansion Factor On Click to Select Load Load

Execute Query Select All Save As

Fri May 14 2021 13:23:39 GMT-0400 (Eastern Daylight Time) - Run Time: 2492ms

Cross Tabulation Query Form - Trip - 2016 v1.1

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

Filters:
2006 GTA zone of origin - gta06_orig In 2554,2561
and
Start time of trip - start_time In 1530-1830
and
Trip purpose - trip_purp In 1, 2, 3,

Trip 2016
Table:

,Transit excluding 60 rail,Cycle,Auto driver,Motorcycle,Auto passenger,School bus,Walk
2554,17,94,1499,0,131,107,134
2561,98,8,1308,16,315,98,0

Filter Tutorial Here about the c
Open current page in new tab

2006 GTA Zone of Or

Code	Description
1 - 625	Toronto
1001 - 1334	Durham
2001 - 2877	York
3001 - 3879	Peel
4001 - 4197	Halton
5001 - 5253	Hamilton
6001 - 6366	Niagara
7001 - 7576	Waterloo
8001 - 8207	Guelph
8301 - 8380	Wellington
8401 - 8405	Orangeville
8411 - 8417	Dufferin
8501 - 8532	Barrie
8551 - 8667	Simcoe
8681 - 8685	Orillia
8701 - 8717	Kawartha Lake
8801 - 8825	City of Peterbc
8851 - 8855	Peterborough
8901 - 8949	Brantford
8950 - 8960	Brant
9001 - 9016	Northumberland
9017 - 9068	External
9800, 9998	External Unde
9999	Unknown/Refu

**Table : Mode Split
(TTS Zone 2554,2561)**

Primary Travel Mode	Modal Split Percentage			
	A.M. Peak Hour		P.M. Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Auto – Driver	62%	70%	76%	73%
Auto – Passenger	18%	11%	11%	12%
Transit	14%	10%	5%	8%
Walking and Cycling	6%	8%	8%	7%
Non-Auto Total	20%	18%	13%	15%
Total	100%	100%	100%	100%



Code	Description
400 -	Total range - 4:00 a.
2800	3:39 a.m. the next d

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

2006 GTA zone of origin 2006 GTA zone of desti... (Optional) Table Attribute

Group Attributes

Row Grouping Column Grouping Table Grouping

Grouping file: No file chosen

Filter Selection +

2006 GTA zone of destination In 2554,2561

Start time of trip In 1530-1830

Trip purpose of destination In H

Output

Comma-delimited table Column format Expansion Factor On

Fri May 14 2021 12:01:26 GMT-0400 (Eastern Daylight Time) - Run Time: 2707ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest

Filters:
2006 GTA zone of destination - gta06_dest In 2554,2561
and
Start time of trip - start_time In 1530-1830
and
Trip purpose of destination - purp_dest In H

Trip 2016
Table:

```
,2554,2561
40,9,0
55,20,0
62,25,0
70,0,4
195,18,0
197,0,5
307,42,0
391,10,29
463,38,0
498,17,0
592,44,0
623,0,35
2096,55,0
2101,13,0
2111,44,0
2117,15,0
2119,26,0
2122,44,0
2140,32,0
```

2206,89,0
2221,0,23
2231,0,8
2240,0,4
2244,37,0
2251,9,0
2253,18,0
2254,29,0
2264,0,8
2271,30,35
2272,0,10
2374,25,0
2376,22,0
2385,17,0
2386,32,0
2389,49,0
2396,0,16
2406,30,0
2433,26,0
2551,88,0
2553,130,10
2554,224,59
2555,0,10
2557,130,8
2558,104,0
2559,26,17
2560,334,46
2561,71,0
2562,70,0
2568,49,0
2606,61,0
2611,70,0
2615,23,0

Filter Tutorial Here about the c
[Open current page in new tab.](#)

Start Time of Trip

Code	Description
400 -	Total range - 4:00 a.
2800	3:39 a.m. the next d

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Code	Description
400 -	Total range - 4:00 a.
2800	3:39 a.m. the next d

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

2006 GTA zone of desti... 2006 GTA zone of origin (Optional) Table Attribute

Group Attributes

Row Grouping Column Grouping Table Grouping

Grouping file: Choose File No file chosen

Filter Selection +

2006 GTA zone of origin In 2554,2561

And

Start time of trip In 0630-0930

And

Trip purpose of origin In H

Add Delete

Output

Comma-delimited table Column format Expansion Factor On Click to Select Load Load

Execute Query Select All Save As

Fri May 14 2021 12:17:19 GMT-0400 (Eastern Daylight Time) - Run Time: 2481ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig

Filters:
2006 GTA zone of origin - gta06_orig In 2554,2561
and
Start time of trip - start_time In 0630-0930
and
Trip purpose of origin - purp_orig In H

Trip 2016
Table:

```
,2554,2561
40,9,0
55,20,0
62,25,0
70,0,4
194,26,0
196,0,35
197,0,5
391,0,29
592,44,0
623,0,35
1319,0,9
2096,55,0
2111,44,0
2117,15,0
2118,0,17
2119,26,0
2122,44,0
2221,0,23
2231,0,9
```

2244, 37, 0
2251, 9, 0
2253, 18, 0
2271, 30, 35
2272, 0, 10
2374, 25, 0
2376, 22, 0
2385, 17, 0
2386, 32, 0
2389, 49, 0
2396, 0, 16
2406, 30, 0
2551, 88, 0
2553, 221, 18
2554, 89, 13
2555, 0, 10
2557, 76, 8
2558, 104, 0
2559, 253, 17
2560, 171, 29
2562, 0, 103
2568, 49, 0
2569, 89, 0
2602, 0, 21
2604, 52, 4
2606, 31, 24
2611, 15, 8
2613, 0, 72
2617, 54, 0
2620, 28, 0
2621, 32, 72
2622, 79, 0
2623, 65, 12

Filter Tutorial Here about the c
[Open current page in new tab.](#)

Start Time of Trip

Code	Description
400 -	Total range - 4:00 a.
2800	3:39 a.m. the next d

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TTS Trip Distribution Summary

In order to inform the trip assignment stage of the analysis, information 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 summarize the general trip distribution results, which were calculated using Transportation Tomorrow Survey (TTS) 2011 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.

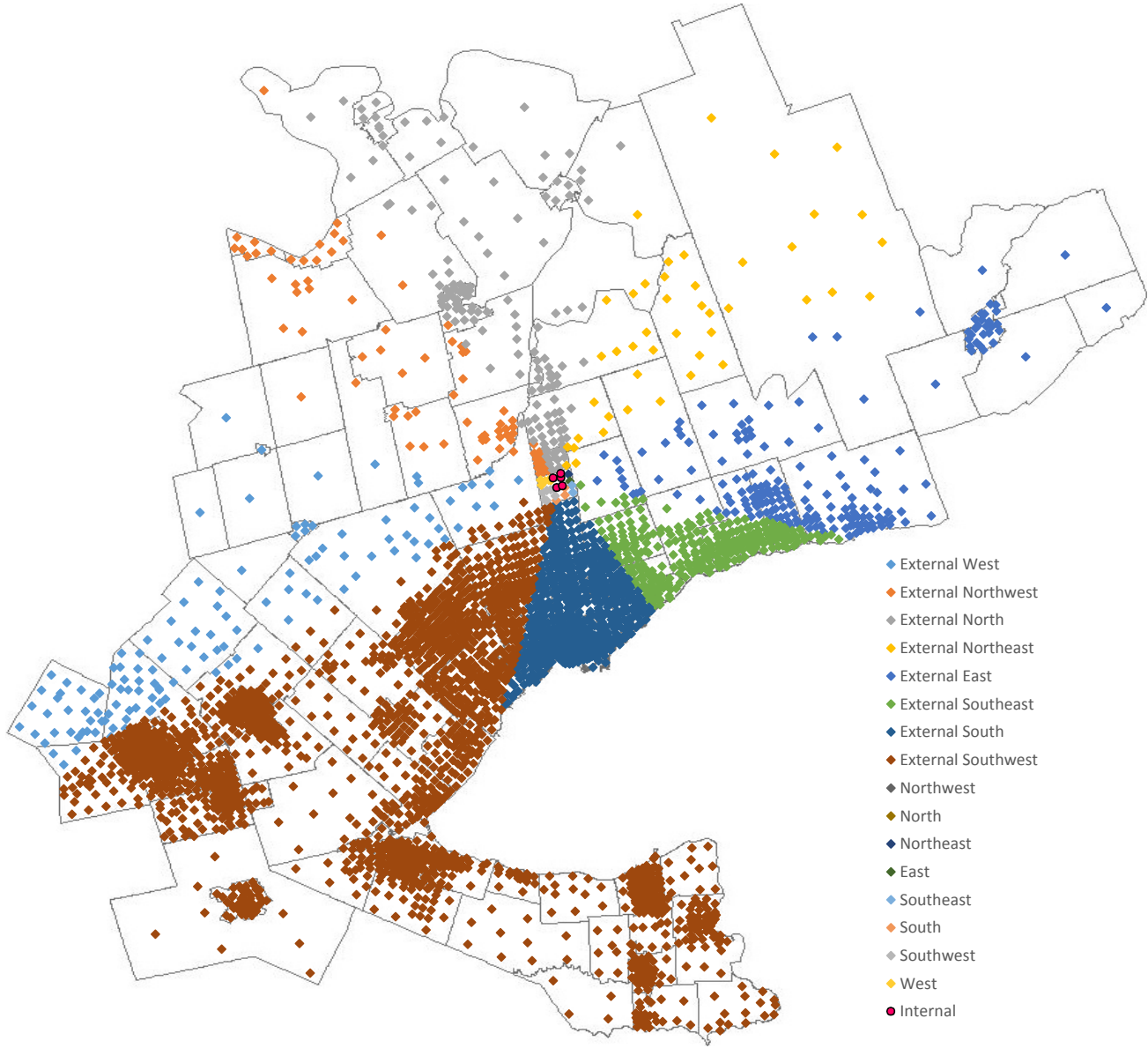
TTS Directional Distribution Summary: Wellington Street East and Mavrinac Boulevard

Notes:

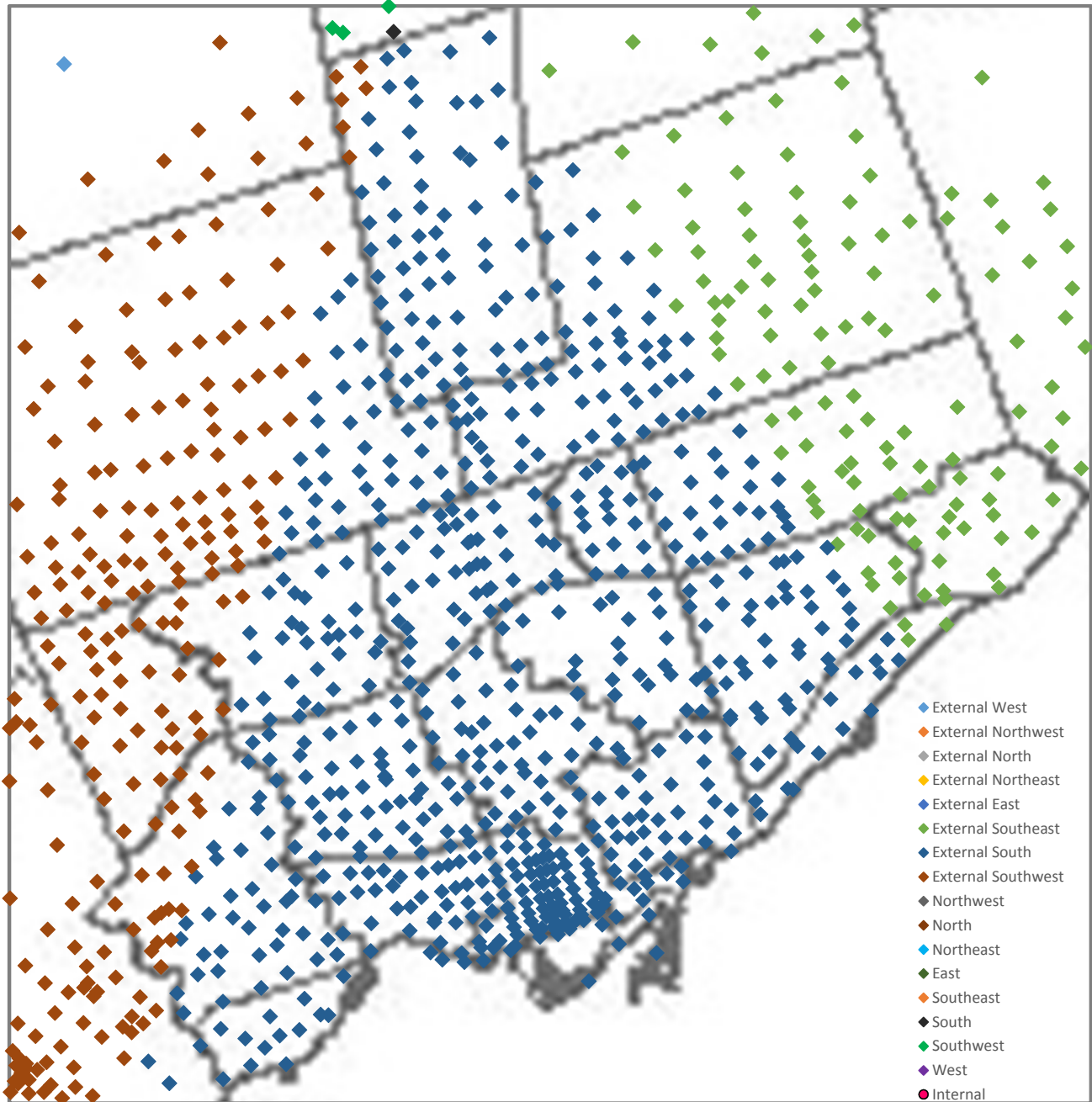
1. Directions determined based on centroid coordinates of destination/origin traffic analysis zones.
2. 'Internal' refers to trips made within the home planning district(s), while 'External' refers to trips made to areas outside of the home planning district(s).

		Internal										External									
	Time Period	Direction	NW	N	NE	E	SE	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total	
Trips	A.M.	Inbound	0	0	0	0	0	0	189	167	356	17	52	0	0	0	39	59	0	167	
		Outbound	0	0	76	57	0	0	1579	1164	2876	393	710	21	0	302	3067	926	0	5419	
	P.M.	Inbound	0	0	105	0	0	0	553	532	1190	456	674	47	20	349	3334	666	38	5584	
		Outbound	0	0	110	0	0	0	187	214	511	248	158	15	0	75	122	86	28	732	
Percentage	A.M.	Inbound	0%	0%	0%	0%	0%	0%	22%	20%	42%	2%	6%	0%	0%	0%	5%	7%	0%	20%	
		Outbound	0%	0%	1%	1%	0%	0%	16%	12%	29%	4%	7%	0%	0%	3%	31%	9%	0%	55%	
	P.M.	Inbound	0%	0%	1%	0%	0%	0%	7%	7%	15%	6%	8%	1%	0%	4%	42%	8%	0%	70%	
		Outbound	0%	0%	6%	0%	0%	0%	11%	12%	30%	14%	9%	1%	0%	4%	7%	5%	2%	42%	

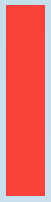
TAZ Directional Categorisation Visualisation (Complete TTS Survey Area)



TAZ Directional Categorisation Visualisation (City of Toronto)




APPENDIX



TOTAL FUTURE INTERSECTION OPERATIONS




Queues 3026 Future Total <AM>
 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	176	173	218	53	149	82	515	96	74	694	103
v/c Ratio	0.53	0.36	0.38	0.34	0.60	0.17	0.24	0.10	0.16	0.38	0.12
Control Delay	33.1	31.4	5.8	44.9	37.8	8.2	9.7	2.4	8.5	9.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	31.4	5.8	44.9	37.8	8.2	9.7	2.4	8.5	9.6	1.4
Queue Length 50th (m)	28.4	28.9	0.0	10.1	20.1	5.5	22.9	0.0	4.4	40.3	0.0
Queue Length 95th (m)	43.3	44.4	16.4	21.1	38.3	13.0	36.7	7.0	16.1	65.6	3.5
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	340	856	836	392	561	496	2108	954	462	1824	841
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.20	0.26	0.14	0.27	0.17	0.24	0.10	0.16	0.38	0.12

Intersection Summary

Lanes, Volumes, Timings 3026 Future Total <AM>
 2: Yonge Street & Murray Drive/Edward Street 07-05-2021



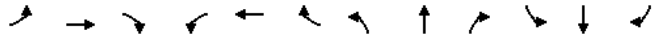
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	125	139	109	40	86	38	90	581	73	63	649	48
Future Volume (vph)	125	139	109	40	86	38	90	581	73	63	649	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.98	1.00		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1827	1593	1597	1792	1609	1641	3471	1513	1805	3471	1513
Flt Permitted	0.530			0.664			0.342			0.420		
Satd. Flow (perm)	991	1827	1561	1109	1792	1578	588	3471	1462	793	3471	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			104			77			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	7		8	8		7	7		7	7		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	4%	1%	13%	6%	0%	10%	4%	5%	0%	4%	5%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	132	146	115	42	91	40	95	612	77	66	683	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	146	115	42	91	40	95	612	77	66	683	51
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	7.7	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

3026 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

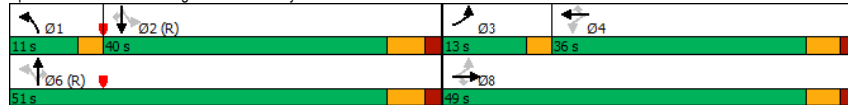


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	13.0	49.0	49.0	36.0	36.0	36.0	11.0	51.0	51.0	40.0	40.0	40.0
Total Split (%)	13.0%	49.0%	49.0%	36.0%	36.0%	36.0%	11.0%	51.0%	51.0%	40.0%	40.0%	40.0%
Maximum Green (s)	10.0	43.0	43.0	30.0	30.0	30.0	8.0	44.5	44.5	33.5	33.5	33.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	24.6	21.6	21.6	11.5	11.5	11.5	69.4	65.9	65.9	57.5	57.5	57.5
Actuated g/C Ratio	0.25	0.22	0.22	0.12	0.12	0.12	0.69	0.66	0.66	0.58	0.58	0.58
v/c Ratio	0.41	0.37	0.27	0.33	0.44	0.15	0.20	0.27	0.08	0.15	0.34	0.06
Control Delay	32.9	34.6	7.2	47.5	47.9	1.1	6.3	7.7	3.0	10.4	9.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	34.6	7.2	47.5	47.9	1.1	6.3	7.7	3.0	10.4	9.6	0.1
LOS	C	C	A	D	D	A	A	A	A	B	A	A
Approach Delay		26.0			37.0			7.1			9.1	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.44
 Intersection Signal Delay: 13.7 Intersection LOS: B
 Intersection Capacity Utilization 108.1% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

3026 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	132	146	115	42	91	40	95	612	77	66	683	51
v/c Ratio	0.41	0.37	0.27	0.33	0.44	0.15	0.20	0.27	0.08	0.15	0.34	0.06
Control Delay	32.9	34.6	7.2	47.5	47.9	1.1	6.3	7.7	3.0	10.4	9.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	34.6	7.2	47.5	47.9	1.1	6.3	7.7	3.0	10.4	9.6	0.1
Queue Length 50th (m)	21.4	24.9	0.0	8.1	17.8	0.0	4.3	18.3	0.0	4.1	22.6	0.0
Queue Length 95th (m)	35.5	40.6	13.1	18.3	32.5	0.0	12.3	43.4	7.6	8.4	31.7	0.1
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	328	785	736	332	537	546	494	2288	989	455	1995	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.19	0.16	0.13	0.17	0.07	0.19	0.27	0.08	0.15	0.34	0.06

Intersection Summary

(This section contains the same summary information as the left page, but is partially obscured in the image.)

Lanes, Volumes, Timings

3026 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	30	5	26	13	3	2	15	685	29	3	751	16
Future Volume (vph)	30	5	26	13	3	2	15	685	29	3	751	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99	0.98		0.99		0.99	1.00		1.00		1.00
Frt			0.850		0.986		0.994			0.997		
Flt Protected		0.959			0.964		0.950			0.950		
Satd. Flow (prot)	0	1822	1495	0	1711	0	1583	3451	0	1805	3455	0
Flt Permitted		0.742			0.760		0.350			0.369		
Satd. Flow (perm)	0	1403	1462	0	1338	0	579	3451	0	699	3455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38		2		7			3		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	5		9	9		5	12		5	5		12
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%	0%	8%	0%	34%	0%	14%	4%	0%	0%	4%	7%
Adj. Flow (vph)	31	5	27	14	3	2	16	714	30	3	782	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	27	0	19	0	16	744	0	3	799	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			3.6			3.6	
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3026 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%	62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		10.1	10.1		10.1		81.9	81.9		81.9	81.9	
Actuated g/C Ratio		0.10	0.10		0.10		0.82	0.82		0.82	0.82	
v/c Ratio		0.25	0.15		0.14		0.03	0.26		0.01	0.28	
Control Delay	46.3	11.1	40.4		40.4		2.5	3.3		2.0	2.2	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay	46.3	11.1	40.4		40.4		2.5	3.3		2.0	2.3	
LOS	D	B	D		D		A	A		A	A	
Approach Delay		31.2			40.4			3.3			2.3	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	76 (76%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.28
Intersection Signal Delay:	4.3
Intersection Capacity Utilization:	70.6%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	C

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access

3026 Future Total <AM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	27	19	16	744	3	799
v/c Ratio	0.25	0.15	0.14	0.03	0.26	0.01	0.28
Control Delay	46.3	11.1	40.4	2.5	3.3	2.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	46.3	11.1	40.4	2.5	3.3	2.0	2.3
Queue Length 50th (m)	6.9	0.0	3.2	0.9	23.0	0.1	16.0
Queue Length 95th (m)	17.0	6.1	10.4	m1.7	16.9	m0.3	17.6
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	448	493	429	473	2826	572	2829
Starvation Cap Reductn	0	0	0	0	0	0	882
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.04	0.03	0.26	0.01	0.41
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive

3026 Future Total <AM>
07-05-2021

	↖	→	↘	↙	←	↗	↘	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗			↕			↕		
Traffic Volume (vph)	1	293	1	20	189	4	6	0	41	2	0	1	
Future Volume (vph)	1	293	1	20	189	4	6	0	41	2	0	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	25.0			20.0			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													
Frt					0.997			0.883				0.955	
Fit Protected	0.950			0.950				0.993				0.968	
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1633	0	0	1722	0	
Fit Permitted	0.950			0.950				0.993				0.968	
Satd. Flow (perm)	1770	1827	0	1770	1788	0	0	1633	0	0	1722	0	
Link Speed (k/h)		50			50			20				20	
Link Distance (m)		81.7			100.7			49.5				50.6	
Travel Time (s)		5.9			7.3			8.9				9.1	
Confl. Peds. (#/hr)	7		8	8		7							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%	
Adj. Flow (vph)	1	318	1	22	205	4	7	0	45	2	0	1	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	1	319	0	22	209	0	0	52	0	0	3	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (k/h)	25		15	25		15	25		15	25		15	
Sign Control		Stop			Stop			Stop				Stop	
Intersection Summary													
Area Type: Other													
Control Type: Unsignalized													
Intersection Capacity Utilization 26.6%													
ICU Level of Service A													
Analysis Period (min) 15													

Lanes, Volumes, Timings

3026 Future Total <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	165	163	205	50	75	65	77	484	90	70	652	97
Future Volume (vph)	165	163	205	50	75	65	77	484	90	70	652	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.99	0.99		0.96	0.99		0.95
Frt			0.850		0.931				0.850		0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456			0.648			0.327			0.462		
Satd. Flow (perm)	823	1863	1563	1225	1656	0	604	3438	1496	871	3438	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		46				96			98
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Confl. Peds. (#/hr)	16		7	7		16	16		8	8		16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	2%	1%	0%	6%	4%	2%	5%	4%	0%	5%	2%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	176	173	218	53	80	69	82	515	96	74	694	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	173	218	53	149	0	82	515	96	74	694	103
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type	Cl+Ex											
Detector 2 Channel												

Lanes, Volumes, Timings

3026 Future Total <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

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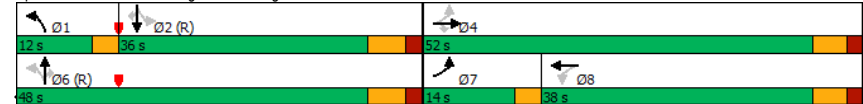


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	14.0	52.0	52.0	38.0	38.0		12.0	48.0	48.0	36.0	36.0	36.0
Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0		0	0	0	0	0	0
Act Effect Green (s)	29.2	26.2	26.2	12.7	12.7		64.8	61.3	61.3	53.1	53.1	53.1
Actuated g/C Ratio	0.29	0.26	0.26	0.13	0.13		0.65	0.61	0.61	0.53	0.53	0.53
v/c Ratio	0.53	0.36	0.38	0.34	0.60		0.17	0.24	0.10	0.16	0.38	0.12
Control Delay	33.1	31.4	5.8	44.9	37.8		8.2	9.7	2.4	8.5	9.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	31.4	5.8	44.9	37.8		8.2	9.7	2.4	8.5	9.6	1.4
LOS	C	C	A	D	D		A	A	A	A	A	A
Approach Delay	22.1				39.7				8.5			
Approach LOS	C				D				A			

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	24 (24%), Referenced to phase 2:SBL and 6:NBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	14.5
Intersection LOS:	B
Intersection Capacity Utilization:	80.7%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd



HCM Unsignalized Intersection Capacity Analysis

3026 Future Total <AM>

5: Mosaics Avenue & Murray Drive

07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↕			↕	
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	1	293	1	20	189	4	6	0	41	2	0	1
Future Volume (vph)	1	293	1	20	189	4	6	0	41	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	318	1	22	205	4	7	0	45	2	0	1
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	1	319	22	209	52	3						
Volume Left (vph)	1	0	22	0	7	2						
Volume Right (vph)	0	1	0	4	45	1						
Hadj (s)	0.53	0.07	0.53	0.09	-0.46	-0.03						
Departure Headway (s)	5.4	4.9	5.4	5.0	4.7	5.2						
Degree Utilization, x	0.00	0.43	0.03	0.29	0.07	0.00						
Capacity (veh/h)	660	724	645	709	682	608						
Control Delay (s)	7.2	10.4	7.4	8.8	8.1	8.3						
Approach Delay (s)	10.4		8.6		8.1	8.3						
Approach LOS	B		A		A	A						

Intersection Summary						
Delay		9.5				
Level of Service		A				
Intersection Capacity Utilization		26.6%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

3026 Future Total <AM>

6: Northerly Access & Murray Drive

07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↕			↕	
Traffic Volume (vph)	6	328	2	0	209	15	0	0	36	9	0	4
Future Volume (vph)	6	328	2	0	209	15	0	0	36	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Frt	0.999			0.991			0.865			0.961		
Flt Protected	0.950											
Satd. Flow (prot)	1770	1825	0	0	1781	0	0	0	1611	0	1729	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1825	0	0	1781	0	0	0	1611	0	1729	0
Link Speed (k/h)	50			50			20			20		
Link Distance (m)	100.7			97.6			57.9			51.0		
Travel Time (s)	7.3			7.0			10.4			9.2		
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	357	2	0	227	16	0	0	39	10	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	359	0	0	243	0	0	0	39	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15		25		15		25		15	
Sign Control	Free			Free			Stop			Stop		

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

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

3026 Future Total <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations	↔	↗	↘	↔	↗	↘	↔	↗	↘	↔	↗	↘			
Traffic Volume (veh/h)	6	328	2	0	209	15	0	0	36	9	0	4			
Future Volume (Veh/h)	6	328	2	0	209	15	0	0	36	9	0	4			
Sign Control	Free			Free			Stop			Stop					
Grade	0%			0%			0%			0%					
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Hourly flow rate (vph)	7	357	2	0	227	16	0	0	39	10	0	4			
Pedestrians							8			7					
Lane Width (m)							3.6			3.6					
Walking Speed (m/s)							1.2			1.2					
Percent Blockage							1			1					
Right turn flare (veh)															
Median type	None				None										
Median storage (veh)															
Upstream signal (m)	98														
pX, platoon unblocked	0.96						0.96	0.96					0.96	0.96	0.96
vC, conflicting volume	250						367	619	630	366	652	623	242		
vC1, stage 1 conf vol															
vC2, stage 2 conf vol															
vCu, unblocked vol	198						367	582	594	366	617	587	190		
tC, single (s)	4.1						4.1	7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)															
tF (s)	2.2						2.2	3.5	4.0	3.3	3.5	4.0	3.3		
p0 queue free %	99						100	100	100	94	97	100	100		
cM capacity (veh/h)	1312						1184	397	394	675	357	398	813		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1										
Volume Total	7	359	243	39	14										
Volume Left	7	0	0	0	10										
Volume Right	0	2	16	39	4										
cSH	1312	1700	1700	675	425										
Volume to Capacity	0.01	0.21	0.14	0.06	0.03										
Queue Length 95th (m)	0.1	0.0	0.0	1.5	0.8										
Control Delay (s)	7.8	0.0	0.0	10.7	13.8										
Lane LOS	A			B	B										
Approach Delay (s)	0.1	0.0		10.7	13.8										
Approach LOS				B	B										
Intersection Summary															
Average Delay				1.0											
Intersection Capacity Utilization				34.1%	ICU Level of Service	A									
Analysis Period (min)				15											

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

3026 Future Total <AM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↗	↘	↔	↗	↘
Traffic Volume (vph)	41	42	27	715	772	32
Future Volume (vph)	41	42	27	715	772	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			
Storage Lanes	1	1	1			
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.994		
Fit Protected	0.950			0.950		
Satd. Flow (prot)	1770	1583	1770	3438	3421	0
Fit Permitted	0.950			0.950		
Satd. Flow (perm)	1770	1583	1770	3438	3421	0
Link Speed (k/h)	40	50				
Link Distance (m)	76.1			198.7	124.4	
Travel Time (s)	6.8			14.3	9.0	
Confl. Peds. (#/hr)				16	16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	5%	5%	2%
Adj. Flow (vph)	45	46	29	777	839	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	46	29	777	874	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

3026 Future Total <AM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↖	↗	↖	↕	↕	↗	
Traffic Volume (veh/h)	41	42	27	715	772	32	
Future Volume (Veh/h)	41	42	27	715	772	32	
Sign Control	Stop			Free		Free	
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	45	46	29	777	839	35	
Pedestrians	16						
Lane Width (m)	3.6						
Walking Speed (m/s)	1.2						
Percent Blockage	1						
Right turn flare (veh)							
Median type			None	None			
Median storage (veh)							
Upstream signal (m)			199	124			
pX, platoon unblocked	0.92	0.90	0.90				
vC, conflicting volume	1319	453	890				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	949	155	643				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	80	94	96				
cM capacity (veh/h)	226	762	828				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	45	46	29	388	388	559	315
Volume Left	45	0	29	0	0	0	0
Volume Right	0	46	0	0	0	0	35
cSH	226	762	828	1700	1700	1700	1700
Volume to Capacity	0.20	0.06	0.04	0.23	0.23	0.33	0.19
Queue Length 95th (m)	5.8	1.5	0.9	0.0	0.0	0.0	0.0
Control Delay (s)	24.8	10.0	9.5	0.0	0.0	0.0	0.0
Lane LOS	C	B	A				
Approach Delay (s)	17.3	0.3		0.0			
Approach LOS	C						
Intersection Summary							
Average Delay			1.0				
Intersection Capacity Utilization			32.4%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings

2026 Future Total <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	195	122	112	67	177	63	309	894	53	58	666	269
Future Volume (vph)	195	122	112	67	177	63	309	894	53	58	666	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.97	0.98		0.99	0.99		0.95	0.99		0.94
Frt			0.850		0.960				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1810	1577	1752	1780	0	1805	3505	1583	1805	3505	1599
Flt Permitted	0.310			0.673			0.267			0.298		
Satd. Flow (perm)	585	1810	1528	1221	1780	0	502	3505	1497	561	3505	1508
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120		19			65				235
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	11		20	20		11	18		17	17		18
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 (%)	0%	5%	2%	3%	2%	0%	0%	3%	2%	0%	3%	1%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	210	131	120	72	190	68	332	961	57	62	716	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	131	120	72	258	0	332	961	57	62	716	289
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template			Left									
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type					Cl+Ex							Cl+Ex
Detector 2 Channel												

Lanes, Volumes, Timings

2026 Future Total <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

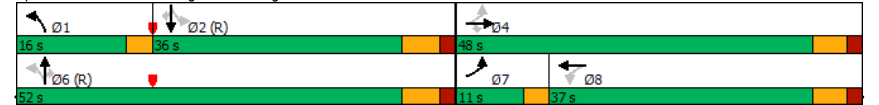


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	11.0	48.0	48.0	37.0	37.0		16.0	52.0	52.0	36.0	36.0	36.0
Total Split (%)	11.0%	48.0%	48.0%	37.0%	37.0%		16.0%	52.0%	52.0%	36.0%	36.0%	36.0%
Maximum Green (s)	8.0	42.0	42.0	31.0	31.0		13.0	45.5	45.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0			17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0			0	0	0	0	0
Act Effect Green (s)	32.9	29.9	29.9	18.9	18.9		61.1	57.6	57.6	39.3	39.3	39.3
Actuated g/C Ratio	0.33	0.30	0.30	0.19	0.19		0.61	0.58	0.58	0.39	0.39	0.39
v/c Ratio	0.72	0.24	0.22	0.31	0.74		0.66	0.48	0.06	0.28	0.52	0.39
Control Delay	40.3	26.4	5.3	36.8	47.4		16.9	14.2	2.9	43.7	39.4	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	26.4	5.3	36.8	47.4		16.9	14.2	2.9	43.7	39.4	21.2
LOS	D	C	A	D	D		B	B	A	D	D	C
Approach Delay		27.2			45.0			14.4				34.7
Approach LOS		C			D			B				C


Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 26.1
 Intersection LOS: C
 Intersection Capacity Utilization 88.6%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 2026 Future Total <PM>
 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	210	131	120	72	258	332	961	57	62	716	289
v/c Ratio	0.72	0.24	0.22	0.31	0.74	0.66	0.48	0.06	0.28	0.52	0.39
Control Delay	40.3	26.4	5.3	36.8	47.4	16.9	14.2	2.9	43.7	39.4	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	26.4	5.3	36.8	47.4	16.9	14.2	2.9	43.7	39.4	21.2
Queue Length 50th (m)	32.3	20.1	0.0	12.8	46.4	29.8	56.4	0.0	11.1	77.8	24.5
Queue Length 95th (m)	46.5	31.9	11.4	24.0	68.1	54.9	85.6	5.4	26.8	101.1	53.5
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	290	760	711	378	564	512	2019	890	220	1376	734
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.17	0.17	0.19	0.46	0.65	0.48	0.06	0.28	0.52	0.39

Intersection Summary

Lanes, Volumes, Timings 2026 Future Total <PM>
 2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	149	147	163	120	211	95	185	869	48	40	741	99
Future Volume (vph)	149	147	163	120	211	95	185	869	48	40	741	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	0.99		0.97	1.00		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1810	1593	1770	1845	1577	1805	3539	1589	1719	3505	1543
Flt Permitted	0.359			0.658			0.268			0.309		
Satd. Flow (perm)	670	1810	1567	1222	1845	1538	506	3539	1542	558	3505	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			104			65			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	13		4	4		13	12		5	5		12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	5%	1%	2%	3%	2%	0%	2%	0%	5%	3%	3%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	159	156	173	128	224	101	197	924	51	43	788	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	156	173	128	224	101	197	924	51	43	788	105
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

2026 Future Total <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	10.0	46.0	46.0	36.0	36.0	36.0	10.0	54.0	54.0	44.0	44.0	44.0
Total Split (%)	10.0%	46.0%	46.0%	36.0%	36.0%	36.0%	10.0%	54.0%	54.0%	44.0%	44.0%	44.0%
Maximum Green (s)	7.0	40.0	40.0	30.0	30.0	30.0	7.0	47.5	47.5	37.5	37.5	37.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	30.7	27.7	27.7	17.7	17.7	17.7	63.3	59.8	59.8	47.4	47.4	47.4
Actuated g/C Ratio	0.31	0.28	0.28	0.18	0.18	0.18	0.63	0.60	0.60	0.47	0.47	0.47
v/c Ratio	0.56	0.31	0.31	0.59	0.69	0.28	0.45	0.44	0.05	0.16	0.47	0.14
Control Delay	33.6	29.2	5.3	48.2	48.9	8.2	9.3	8.4	0.4	16.8	17.5	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	29.2	5.3	48.2	48.9	8.2	9.3	8.4	0.4	16.8	17.5	4.1
LOS	C	C	A	D	D	A	A	A	B	B	B	A
Approach Delay		22.2			39.6			8.2			16.0	
Approach LOS		C			D			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 17.5

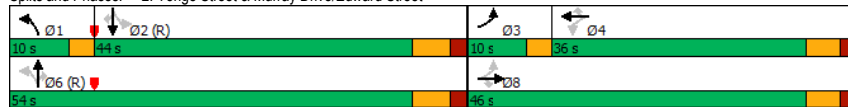
Intersection LOS: B

Intersection Capacity Utilization 110.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

2026 Future Total <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	159	156	173	128	224	101	197	924	51	43	788	105
v/c Ratio	0.56	0.31	0.31	0.59	0.69	0.28	0.45	0.44	0.05	0.16	0.47	0.14
Control Delay	33.6	29.2	5.3	48.2	48.9	8.2	9.3	8.4	0.4	16.8	17.5	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.6	29.2	5.3	48.2	48.9	8.2	9.3	8.4	0.4	16.8	17.5	4.1
Queue Length 50th (m)	24.6	25.2	0.0	24.3	43.3	0.0	9.9	25.0	0.1	5.1	59.9	1.9
Queue Length 95th (m)	37.4	38.6	14.1	40.5	63.3	12.4	m15.5	38.0	m0.2	16.1	92.3	13.0
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	283	724	730	366	553	534	441	2115	947	264	1662	751
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.22	0.24	0.35	0.41	0.19	0.45	0.44	0.05	0.16	0.47	0.14

Intersection Summary

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

Lanes, Volumes, Timings

2026 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	46	10	72	38	9	16	61	1029	46	6	793	60
Future Volume (vph)	46	10	72	38	9	16	61	1029	46	6	793	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.97		0.99		0.97	1.00		1.00	0.99	
Frt			0.850		0.965		0.994			0.989		
Flt Protected		0.960			0.971		0.950			0.950		
Satd. Flow (prot)	0	1824	1615	0	1741	0	1805	3514	0	1805	3438	0
Flt Permitted		0.792			0.780		0.299			0.224		
Satd. Flow (perm)	0	1499	1569	0	1386	0	553	3514	0	424	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		18		7			13		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	4		14	14		4	53		10	10		53
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	51	11	79	42	10	18	67	1131	51	7	871	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	79	0	70	0	67	1182	0	7	937	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		3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8		2			6		
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

2026 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

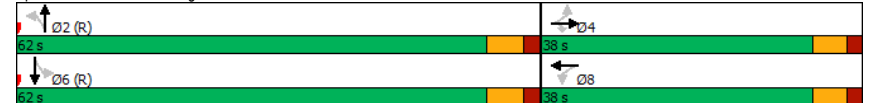


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		11.1	11.1		11.1		80.9	80.9		80.9	80.9	
Actuated g/C Ratio		0.11	0.11		0.11		0.81	0.81		0.81	0.81	
v/c Ratio		0.38	0.32		0.41		0.15	0.42		0.02	0.34	
Control Delay	47.6	13.0		39.4			4.9	4.1		2.5	2.4	
Queue Delay	0.0	0.0		0.0			0.0	0.0		0.0	0.1	
Total Delay	47.6	13.0		39.4			4.9	4.1		2.5	2.5	
LOS	D	B		D			A	A		A	A	
Approach Delay		28.2		39.4				4.2			2.5	
Approach LOS		C		D				A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	69 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.42
Intersection Signal Delay:	6.0
Intersection Capacity Utilization:	74.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access

2026 Future Total <PM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	79	70	67	1182	7	937
v/c Ratio	0.38	0.32	0.41	0.15	0.42	0.02	0.34
Control Delay	47.6	13.0	39.4	4.9	4.1	2.5	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	47.6	13.0	39.4	4.9	4.1	2.5	2.5
Queue Length 50th (m)	12.1	0.0	10.1	1.9	21.4	0.2	17.0
Queue Length 95th (m)	24.5	13.3	23.5	m10.6	65.0	m0.7	21.1
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	479	555	455	447	2845	343	2785
Starvation Cap Reductn	0	0	0	0	0	0	657
Spillback Cap Reductn	0	0	0	0	38	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.15	0.15	0.42	0.02	0.44
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive

2026 Future Total <PM>
07-05-2021

	↖	→	↘	↙	←	↗	↖	↗	↑	↘	↙	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗			↖↗			↖↗		
Traffic Volume (vph)	3	360	3	69	398	8	4	0	27	9	0	3	
Future Volume (vph)	3	360	3	69	398	8	4	0	27	9	0	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	25.0			20.0			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	1.00
Ped Bike Factor													
Frt		0.999			0.997			0.881				0.969	
Fit Protected	0.950			0.950				0.994				0.963	
Satd. Flow (prot)	1770	1808	0	1770	1839	0	0	1631	0	0	1738	0	
Fit Permitted	0.950			0.950				0.994				0.963	
Satd. Flow (perm)	1770	1808	0	1770	1839	0	0	1631	0	0	1738	0	
Link Speed (k/h)		50			50			20			20		
Link Distance (m)		81.7			100.7			49.5			50.6		
Travel Time (s)		5.9			7.3			8.9			9.1		
Confl. Peds. (#/hr)	7		8	8		7							
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	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	391	3	75	433	9	4	0	29	10	0	3	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	3	394	0	75	442	0	0	33	0	0	13	0	
Enter Blocked Intersection	No	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15	25
Sign Control		Stop			Stop			Stop			Stop		Stop
Intersection Summary													
Area Type: Other													
Control Type: Unsignalized													
Intersection Capacity Utilization 38.1%													
ICU Level of Service A													
Analysis Period (min) 15													

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

2026 Future Total <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↕			↕	
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	3	360	3	69	398	8	4	0	27	9	0	3
Future Volume (vph)	3	360	3	69	398	8	4	0	27	9	0	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
Hourly flow rate (vph)	3	391	3	75	433	9	4	0	29	10	0	3
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	3	394	75	442	33	13						
Volume Left (vph)	3	0	75	0	4	10						
Volume Right (vph)	0	3	0	9	29	3						
Hadj (s)	0.53	0.08	0.53	0.04	-0.47	0.05						
Departure Headway (s)	5.6	5.2	5.5	5.0	5.5	6.0						
Degree Utilization, x	0.00	0.56	0.11	0.61	0.05	0.02						
Capacity (veh/h)	625	687	638	713	560	511						
Control Delay (s)	7.4	13.4	8.0	14.3	8.8	9.2						
Approach Delay (s)	13.4		13.4		8.8	9.2						
Approach LOS	B		B		A	A						
Intersection Summary												
Delay	13.2											
Level of Service	B											
Intersection Capacity Utilization	38.1%		ICU Level of Service				A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

2026 Future Total <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↕			↕	
Traffic Volume (vph)	11	382	3	0	463	32	0	0	41	36	0	12
Future Volume (vph)	11	382	3	0	463	32	0	0	41	36	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Lanes	1		0	0	0	0	0	0	1	0	0	0
Taper Length (m)	20.0			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												
Frt	0.999			0.991			0.865			0.966		
Flt Protected	0.950									0.964		
Satd. Flow (prot)	1770	1808	0	0	1829	0	0	0	1611	0	1735	0
Flt Permitted	0.950									0.964		
Satd. Flow (perm)	1770	1808	0	0	1829	0	0	0	1611	0	1735	0
Link Speed (k/h)	50			50			20			20		
Link Distance (m)	100.7			97.6			57.9			51.0		
Travel Time (s)	7.3			7.0			10.4			9.2		
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	12	415	3	0	503	35	0	0	45	39	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	418	0	0	538	0	0	0	45	0	52	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)	3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15		25		15		25		15	
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.0%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

2026 Future Total <PM>
07-05-2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↔				↔		↔	
Traffic Volume (veh/h)	11	382	3	0	463	32	0	0	41	36	0	12
Future Volume (Veh/h)	11	382	3	0	463	32	0	0	41	36	0	12
Sign Control	Free		Free		Free		Stop		Stop		Stop	
Grade	0%		0%		0%		0%		0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	415	3	0	503	35	0	0	45	39	0	13
Pedestrians							8			7		
Lane Width (m)							3.6			3.6		
Walking Speed (m/s)							1.2			1.2		
Percent Blockage							1			1		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)				98								
pX, platoon unblocked	0.85					0.85	0.85			0.85	0.85	0.85
vC, conflicting volume	545			426		982	994	424	1012	978	528	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	370			426		887	901	424	922	882	349	
tC, single (s)	4.1			4.1		7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)												
tF (s)	2.2			2.2		3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	99			100		100	100	93	80	100	98	
cM capacity (veh/h)	999			1126		213	229	625	192	235	583	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	12	418	538	45	52							
Volume Left	12	0	0	0	39							
Volume Right	0	3	35	45	13							
cSH	999	1700	1700	625	231							
Volume to Capacity	0.01	0.25	0.32	0.07	0.23							
Queue Length 95th (m)	0.3	0.0	0.0	1.9	6.7							
Control Delay (s)	8.6	0.0	0.0	11.2	25.1							
Lane LOS	A			B	D							
Approach Delay (s)	0.2			11.2	25.1							
Approach LOS				B	D							
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization			37.0%	ICU Level of Service		A						
Analysis Period (min)			15									

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

2026 Future Total <PM>
07-05-2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	42	63	83	1070	973	70
Future Volume (vph)	42	63	83	1070	973	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt	0.850		0.990			
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3505	3472	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3505	3472	0
Link Speed (k/h)	40	50		50		
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)			16			16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	3%	2%
Adj. Flow (vph)	46	68	90	1163	1058	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	68	90	1163	1134	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop		Free		Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

2026 Future Total <PM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↘	↘	↘	↕	↕	↙	
Traffic Volume (veh/h)	42	63	83	1070	973	70	
Future Volume (Veh/h)	42	63	83	1070	973	70	
Sign Control	Stop			Free			
Grade	0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	46	68	90	1163	1058	76	
Pedestrians	16						
Lane Width (m)	3.6						
Walking Speed (m/s)	1.2						
Percent Blockage	1						
Right turn flare (veh)							
Median type				None	None		
Median storage (veh)							
Upstream signal (m)				199	124		
pX, platoon unblocked	0.92	0.85	0.85				
vC, conflicting volume	1874	583	1150				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1047	152	820				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	74	91	87				
cM capacity (veh/h)	176	726	674				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	46	68	90	582	582	705	429
Volume Left	46	0	90	0	0	0	0
Volume Right	0	68	0	0	0	0	76
cSH	176	726	674	1700	1700	1700	1700
Volume to Capacity	0.26	0.09	0.13	0.34	0.34	0.41	0.25
Queue Length 95th (m)	8.0	2.5	3.7	0.0	0.0	0.0	0.0
Control Delay (s)	32.4	10.5	11.2	0.0	0.0	0.0	0.0
Lane LOS	D	B	B				
Approach Delay (s)	19.3	0.8		0.0			
Approach LOS	C						
Intersection Summary							
Average Delay	1.3						
Intersection Capacity Utilization	47.2%		ICU Level of Service		A		
Analysis Period (min)	15						

Lanes, Volumes, Timings

3031 Future Total <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	165	163	205	50	75	65	77	520	90	70	710	100
Future Volume (vph)	165	163	205	50	75	65	77	520	90	70	710	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.99	0.99		0.96	0.99		0.95
Frt			0.850		0.931				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456			0.648			0.299			0.445		
Satd. Flow (perm)	823	1863	1563	1225	1656	0	553	3438	1496	839	3438	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		46				96			98
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	16		7	7		16	16		8	8		16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	2%	1%	0%	6%	4%	2%	5%	4%	0%	5%	2%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	176	173	218	53	80	69	82	553	96	74	755	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	173	218	53	149	0	82	553	96	74	755	106
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type					Cl+Ex							Cl+Ex
Detector 2 Channel												

Lanes, Volumes, Timings

3031 Future Total <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

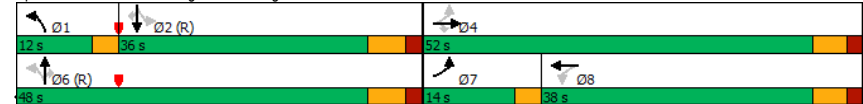


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				0.0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	14.0	52.0	52.0	38.0	38.0		12.0	48.0	48.0	36.0	36.0	36.0
Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0		0	0	0	0	0	0
Act Effect Green (s)	29.2	26.2	26.2	12.7	12.7		64.8	61.3	61.3	53.1	53.1	53.1
Actuated g/C Ratio	0.29	0.26	0.26	0.13	0.13		0.65	0.61	0.61	0.53	0.53	0.53
v/c Ratio	0.53	0.36	0.38	0.34	0.60		0.18	0.26	0.10	0.17	0.41	0.13
Control Delay	33.1	31.4	5.8	44.9	37.8		8.4	9.8	2.4	8.7	10.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	31.4	5.8	44.9	37.8		8.4	9.8	2.4	8.7	10.1	1.3
LOS	C	C	A	D	D		A	A	A	A	B	A
Approach Delay		22.1			39.7			8.7			9.0	
Approach LOS		C			D			A			A	


Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	24 (24%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	14.5
Intersection LOS:	B
Intersection Capacity Utilization:	80.7%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 3031 Future Total <AM>
 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	176	173	218	53	149	82	553	96	74	755	106
v/c Ratio	0.53	0.36	0.38	0.34	0.60	0.18	0.26	0.10	0.17	0.41	0.13
Control Delay	33.1	31.4	5.8	44.9	37.8	8.4	9.8	2.4	8.7	10.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	31.4	5.8	44.9	37.8	8.4	9.8	2.4	8.7	10.1	1.3
Queue Length 50th (m)	28.4	28.9	0.0	10.1	20.1	5.5	24.9	0.0	4.4	43.8	0.0
Queue Length 95th (m)	43.3	44.4	16.4	21.1	38.3	13.0	39.7	7.0	15.5	76.9	3.3
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	340	856	836	392	561	468	2108	954	445	1824	841
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.20	0.26	0.14	0.27	0.18	0.26	0.10	0.17	0.41	0.13

Intersection Summary

Lanes, Volumes, Timings 3031 Future Total <AM>
 2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	142	141	115	40	86	38	91	645	73	63	681	49
Future Volume (vph)	142	141	115	40	86	38	91	645	73	63	681	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.98	1.00		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1827	1593	1597	1792	1609	1641	3471	1513	1805	3471	1513
Flt Permitted	0.530			0.663			0.325			0.393		
Satd. Flow (perm)	991	1827	1561	1108	1792	1578	559	3471	1462	743	3471	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			104			77			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	7		8	8		7	7		7	7		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	4%	1%	13%	6%	0%	10%	4%	5%	0%	4%	5%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	149	148	121	42	91	40	96	679	77	66	717	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	148	121	42	91	40	96	679	77	66	717	52
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	7.7	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

3031 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

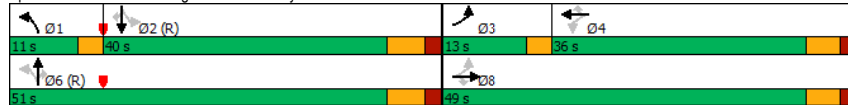


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	13.0	49.0	49.0	36.0	36.0	36.0	11.0	51.0	51.0	40.0	40.0	40.0
Total Split (%)	13.0%	49.0%	49.0%	36.0%	36.0%	36.0%	11.0%	51.0%	51.0%	40.0%	40.0%	40.0%
Maximum Green (s)	10.0	43.0	43.0	30.0	30.0	30.0	8.0	44.5	44.5	33.5	33.5	33.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	24.7	21.7	21.7	11.5	11.5	11.5	69.3	65.8	65.8	57.3	57.3	57.3
Actuated g/C Ratio	0.25	0.22	0.22	0.12	0.12	0.12	0.69	0.66	0.66	0.57	0.57	0.57
v/c Ratio	0.45	0.37	0.28	0.33	0.44	0.15	0.21	0.30	0.08	0.15	0.36	0.06
Control Delay	34.0	34.6	7.2	47.5	47.9	1.1	6.7	8.4	3.4	10.7	9.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	34.6	7.2	47.5	47.9	1.1	6.7	8.4	3.4	10.7	9.8	0.1
LOS	C	C	A	D	D	A	A	A	B	A	A	A
Approach Delay		26.4			37.0			7.7			9.3	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay: 13.9 Intersection LOS: B
 Intersection Capacity Utilization 108.1% ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

3031 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	149	148	121	42	91	40	96	679	77	66	717	52
v/c Ratio	0.45	0.37	0.28	0.33	0.44	0.15	0.21	0.30	0.08	0.15	0.36	0.06
Control Delay	34.0	34.6	7.2	47.5	47.9	1.1	6.7	8.4	3.4	10.7	9.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	34.6	7.2	47.5	47.9	1.1	6.7	8.4	3.4	10.7	9.8	0.1
Queue Length 50th (m)	24.4	25.3	0.0	8.1	17.8	0.0	4.5	21.4	0.0	4.2	23.8	0.0
Queue Length 95th (m)	39.5	41.0	13.4	18.3	32.5	0.0	13.3	50.1	8.1	8.5	38.2	0.1
Internal Link Dist (m)		73.6			347.6		100.4			304.9		
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	329	785	740	332	537	546	475	2283	988	426	1990	880
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.19	0.16	0.13	0.17	0.07	0.20	0.30	0.08	0.15	0.36	0.06

Intersection Summary

(This section contains the same summary text as the left page, but is partially obscured by the table above.)

Lanes, Volumes, Timings

3031 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	30	5	26	13	3	2	15	772	29	3	789	16
Future Volume (vph)	30	5	26	13	3	2	15	772	29	3	789	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99	0.98		0.99		0.99	1.00		1.00		1.00
Frt			0.850		0.986		0.995			0.997		
Flt Protected		0.959			0.964		0.950			0.950		
Satd. Flow (prot)	0	1822	1495	0	1711	0	1583	3455	0	1805	3455	0
Flt Permitted		0.742			0.760		0.335			0.337		
Satd. Flow (perm)	0	1403	1462	0	1338	0	554	3455	0	638	3455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38		2		6			3		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	5		9	9		5	12		5	5		12
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%	0%	8%	0%	34%	0%	14%	4%	0%	0%	4%	7%
Adj. Flow (vph)	31	5	27	14	3	2	16	804	30	3	822	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	27	0	19	0	16	834	0	3	839	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			3.6			3.6	
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3031 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

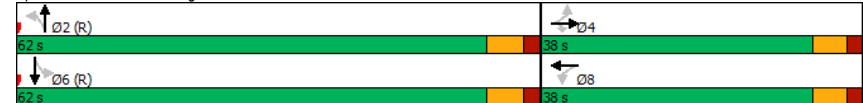
07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	40.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	46.5	46.5	46.5	46.5	46.5	46.5
Total Split (s)	38.0	38.0	38.0	38.0	38.0	38.0	62.0	62.0	62.0	62.0	62.0	62.0
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%	62.0%	62.0%
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	55.5	55.5	55.5	55.5	55.5	55.5
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Max	C-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	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0	18.0	14.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effect Green (s)		10.1	10.1		10.1		81.9	81.9		81.9	81.9	
Actuated g/C Ratio		0.10	0.10		0.10		0.82	0.82		0.82	0.82	
v/c Ratio		0.25	0.15		0.14		0.04	0.29		0.01	0.30	
Control Delay	46.3	11.1	40.4		40.4		2.5	3.3		2.0	2.2	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay	46.3	11.1	40.4		40.4		2.5	3.3		2.0	2.3	
LOS	D	B	D		D		A	A		A	A	
Approach Delay	31.2				40.4		3.3				2.3	
Approach LOS	C				D		A				A	

Intersection Summary	
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset: 76 (76%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.30
Intersection Signal Delay:	4.2
Intersection Capacity Utilization 70.6%	Intersection LOS: A
Analysis Period (min) 15	ICU Level of Service C

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access

3031 Future Total <AM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	27	19	16	834	3	839
v/c Ratio	0.25	0.15	0.14	0.04	0.29	0.01	0.30
Control Delay	46.3	11.1	40.4	2.5	3.3	2.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	46.3	11.1	40.4	2.5	3.3	2.0	2.3
Queue Length 50th (m)	6.9	0.0	3.2	1.0	25.7	0.1	16.4
Queue Length 95th (m)	17.0	6.1	10.4	m1.6	17.9	m0.3	18.2
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	448	493	429	453	2829	522	2829
Starvation Cap Reductn	0	0	0	0	0	0	822
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.04	0.04	0.29	0.01	0.42
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive

3031 Future Total <AM>
07-05-2021

	↖	→	↘	↙	←	↗	↖	↗	↑	↘	↙	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗			↖	↗		↖	↗	
Traffic Volume (vph)	1	293	1	22	189	4	8	0	43	2	0	1	
Future Volume (vph)	1	293	1	22	189	4	8	0	43	2	0	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	25.0			20.0			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													
Frt					0.997			0.887				0.955	
Fit Protected	0.950			0.950				0.992				0.968	
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1639	0	0	1722	0	
Fit Permitted	0.950			0.950				0.992				0.968	
Satd. Flow (perm)	1770	1827	0	1770	1788	0	0	1639	0	0	1722	0	
Link Speed (k/h)		50			50			20			20		
Link Distance (m)		81.7			100.7			49.5			50.6		
Travel Time (s)		5.9			7.3			8.9			9.1		
Confl. Peds. (#/hr)	7		8	8		7							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%	
Adj. Flow (vph)	1	318	1	24	205	4	9	0	47	2	0	1	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	1	319	0	24	209	0	0	56	0	0	3	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (k/h)	25		15	25		15	25		15	25		15	
Sign Control		Stop			Stop			Stop			Stop		
Intersection Summary													
Area Type: Other													
Control Type: Unsignalized													
Intersection Capacity Utilization 28.3%													
ICU Level of Service A													
Analysis Period (min) 15													

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

3031 Future Total <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↕			↕	
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	1	293	1	22	189	4	8	0	43	2	0	1
Future Volume (vph)	1	293	1	22	189	4	8	0	43	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	318	1	24	205	4	9	0	47	2	0	1
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	1	319	24	209	56	3						
Volume Left (vph)	1	0	24	0	9	2						
Volume Right (vph)	0	1	0	4	47	1						
Hadj (s)	0.53	0.07	0.53	0.09	-0.44	-0.03						
Departure Headway (s)	5.4	4.9	5.4	5.0	4.8	5.2						
Degree Utilization, x	0.00	0.43	0.04	0.29	0.07	0.00						
Capacity (veh/h)	658	721	643	706	679	606						
Control Delay (s)	7.2	10.4	7.4	8.8	8.1	8.3						
Approach Delay (s)	10.4		8.7		8.1	8.3						
Approach LOS	B		A		A	A						
Intersection Summary												
Delay	9.5											
Level of Service	A											
Intersection Capacity Utilization	28.3%		ICU Level of Service			A						
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

3031 Future Total <AM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↕			↕	
Traffic Volume (vph)	6	330	2	0	211	15	0	0	59	9	0	4
Future Volume (vph)	6	330	2	0	211	15	0	0	59	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Frt	0.999			0.991			0.865			0.961		
Flt Protected	0.950									0.966		
Satd. Flow (prot)	1770	1825	0	0	1781	0	0	0	1611	0	1729	0
Flt Permitted	0.950									0.966		
Satd. Flow (perm)	1770	1825	0	0	1781	0	0	0	1611	0	1729	0
Link Speed (k/h)	50			50			20			20		
Link Distance (m)	100.7			97.6			57.9			51.0		
Travel Time (s)	7.3			7.0			10.4			9.2		
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	359	2	0	229	16	0	0	64	10	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	361	0	0	245	0	0	0	64	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15		25		15		25		15	
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	34.5%			ICU Level of Service A								
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

3031 Future Total <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↗	↘	↔	↗	↘	↔	↗	↘	↔	↗	↘	
Traffic Volume (veh/h)	6	330	2	0	211	15	0	0	59	9	0	4	
Future Volume (Veh/h)	6	330	2	0	211	15	0	0	59	9	0	4	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	7	359	2	0	229	16	0	0	64	10	0	4	
Pedestrians							8			7			
Lane Width (m)							3.6			3.6			
Walking Speed (m/s)							1.2			1.2			
Percent Blockage							1			1			
Right turn flare (veh)													
Median type	None				None								
Median storage (veh)													
Upstream signal (m)	98												
pX, platoon unblocked	0.96					0.96	0.96						
vC, conflicting volume	252	369				623	634	368	681	627	244		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	200	369				587	598	368	647	591	192		
tC, single (s)	4.1	4.1				7.1	6.5	6.2	7.1	6.5	6.2		
tC, 2 stage (s)													
tF (s)	2.2	2.2				3.5	4.0	3.3	3.5	4.0	3.3		
p0 queue free %	99	100				100	100	90	97	100	100		
cM capacity (veh/h)	1310	1182				395	392	673	327	396	811		
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1								
Volume Total	7	361	245	64	14								
Volume Left	7	0	0	0	10								
Volume Right	0	2	16	64	4								
cSH	1310	1700	1700	673	394								
Volume to Capacity	0.01	0.21	0.14	0.10	0.04								
Queue Length 95th (m)	0.1	0.0	0.0	2.5	0.9								
Control Delay (s)	7.8	0.0	0.0	10.9	14.5								
Lane LOS	A			B	B								
Approach Delay (s)	0.1	0.0		10.9	14.5								
Approach LOS				B	B								
Intersection Summary													
Average Delay	1.4												
Intersection Capacity Utilization	34.5%			ICU Level of Service			A						
Analysis Period (min)	15												

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

3031 Future Total <AM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↗	↘	↕	↕	↕
Traffic Volume (vph)	64	66	26	770	817	32
Future Volume (vph)	64	66	26	770	817	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0	0.0		
Storage Lanes	1	1	1	0		
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.994		
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3438	3421	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3438	3421	0
Link Speed (k/h)	40	50				
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)	16			16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	5%	5%	2%
Adj. Flow (vph)	70	72	28	837	888	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	72	28	837	923	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6	3.6		3.6		
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop			Free		Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

3031 Future Total <AM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↖	↗	↖	↕	↕	↗	
Traffic Volume (veh/h)	64	66	26	770	817	32	
Future Volume (Veh/h)	64	66	26	770	817	32	
Sign Control	Stop			Free		Free	
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	70	72	28	837	888	35	
Pedestrians	16						
Lane Width (m)	3.6						
Walking Speed (m/s)	1.2						
Percent Blockage	1						
Right turn flare (veh)							
Median type				None	None		
Median storage (veh)							
Upstream signal (m)				199	124		
pX, platoon unblocked	0.91	0.89	0.89				
vC, conflicting volume	1396	478	939				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	983	157	677				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	67	90	96				
cM capacity (veh/h)	214	753	797				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	70	72	28	418	418	592	331
Volume Left	70	0	28	0	0	0	0
Volume Right	0	72	0	0	0	0	35
cSH	214	753	797	1700	1700	1700	1700
Volume to Capacity	0.33	0.10	0.04	0.25	0.25	0.35	0.19
Queue Length 95th (m)	10.9	2.5	0.9	0.0	0.0	0.0	0.0
Control Delay (s)	29.8	10.3	9.7	0.0	0.0	0.0	0.0
Lane LOS	D	B	A				
Approach Delay (s)	19.9		0.3			0.0	
Approach LOS	C						
Intersection Summary							
Average Delay			1.6				
Intersection Capacity Utilization			34.4%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings

2031 Future Total <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	197	122	112	67	177	63	309	953	53	58	710	268
Future Volume (vph)	197	122	112	67	177	63	309	953	53	58	710	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.97	0.98		0.99	0.99		0.95	0.99		0.94
Frt			0.850		0.960				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1810	1577	1752	1780	0	1805	3505	1583	1805	3505	1599
Flt Permitted	0.310			0.673			0.236			0.280		
Satd. Flow (perm)	585	1810	1528	1221	1780	0	445	3505	1497	528	3505	1508
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120		19			65				219
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	11		20	20		11	18		17	17		18
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 (%)	0%	5%	2%	3%	2%	0%	0%	3%	2%	0%	3%	1%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	212	131	120	72	190	68	332	1025	57	62	763	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	212	131	120	72	258	0	332	1025	57	62	763	288
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type					Cl+Ex							Cl+Ex
Detector 2 Channel												

Lanes, Volumes, Timings

2031 Future Total <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

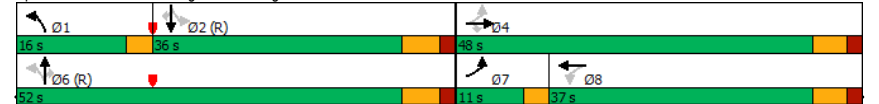


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	11.0	48.0	48.0	37.0	37.0		16.0	52.0	52.0	36.0	36.0	36.0
Total Split (%)	11.0%	48.0%	48.0%	37.0%	37.0%		16.0%	52.0%	52.0%	36.0%	36.0%	36.0%
Maximum Green (s)	8.0	42.0	42.0	31.0	31.0		13.0	45.5	45.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0			17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0			0	0	0	0	0
Act Effect Green (s)	32.9	29.9	29.9	18.9	18.9		61.1	57.6	57.6	38.1	38.1	38.1
Actuated g/C Ratio	0.33	0.30	0.30	0.19	0.19		0.61	0.58	0.58	0.38	0.38	0.38
v/c Ratio	0.73	0.24	0.22	0.31	0.74		0.67	0.51	0.06	0.31	0.57	0.41
Control Delay	40.8	26.4	5.3	36.8	47.4		17.9	14.6	2.9	45.4	41.6	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	26.4	5.3	36.8	47.4		17.9	14.6	2.9	45.4	41.6	22.9
LOS	D	C	A	D	D		B	B	A	D	D	C
Approach Delay		27.5			45.0			14.9				36.9
Approach LOS		C			D			B				D


Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 27.1
 Intersection LOS: C
 Intersection Capacity Utilization 90.3%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 2031 Future Total <PM>
 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	212	131	120	72	258	332	1025	57	62	763	288
v/c Ratio	0.73	0.24	0.22	0.31	0.74	0.67	0.51	0.06	0.31	0.57	0.41
Control Delay	40.8	26.4	5.3	36.8	47.4	17.9	14.6	2.9	45.4	41.6	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	26.4	5.3	36.8	47.4	17.9	14.6	2.9	45.4	41.6	22.9
Queue Length 50th (m)	32.6	20.1	0.0	12.8	46.4	29.8	61.6	0.0	11.5	83.8	27.1
Queue Length 95th (m)	46.8	31.9	11.4	24.0	68.1	56.6	93.2	5.4	26.3	107.2	55.9
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	290	760	711	378	564	497	2019	890	201	1336	710
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.17	0.17	0.19	0.46	0.67	0.51	0.06	0.31	0.57	0.41

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

Lanes, Volumes, Timings 2031 Future Total <PM>
 2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	156	146	162	121	211	95	206	903	48	40	805	103
Future Volume (vph)	156	146	162	121	211	95	206	903	48	40	805	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	1.00		0.97	1.00		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1810	1593	1770	1845	1577	1805	3539	1589	1719	3505	1543
Flt Permitted	0.359			0.659			0.235			0.298		
Satd. Flow (perm)	670	1810	1567	1224	1845	1538	444	3539	1542	538	3505	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172			104			65			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	13		4	4		13	12		5	5		12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	5%	1%	2%	3%	2%	0%	2%	0%	5%	3%	3%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	166	155	172	129	224	101	219	961	51	43	856	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	155	172	129	224	101	219	961	51	43	856	110
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

2031 Future Total <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

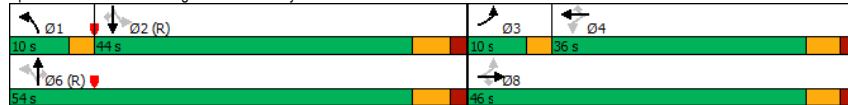


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	10.0	46.0	46.0	36.0	36.0	36.0	10.0	54.0	54.0	44.0	44.0	44.0
Total Split (%)	10.0%	46.0%	46.0%	36.0%	36.0%	36.0%	10.0%	54.0%	54.0%	44.0%	44.0%	44.0%
Maximum Green (s)	7.0	40.0	40.0	30.0	30.0	30.0	7.0	47.5	47.5	37.5	37.5	37.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	30.7	27.7	27.7	17.7	17.7	17.7	63.3	59.8	59.8	46.6	46.6	46.6
Actuated g/C Ratio	0.31	0.28	0.28	0.18	0.18	0.18	0.63	0.60	0.60	0.47	0.47	0.47
v/c Ratio	0.59	0.31	0.31	0.60	0.69	0.28	0.52	0.45	0.05	0.17	0.52	0.15
Control Delay	34.6	29.2	5.3	48.4	48.9	8.2	10.8	8.1	0.3	17.2	18.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	29.2	5.3	48.4	48.9	8.2	10.8	8.1	0.3	17.2	18.6	4.2
LOS	C	C	A	D	D	A	B	A	A	B	B	A
Approach Delay		22.7			39.7			8.2			16.9	
Approach LOS		C			D			A			B	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.7 Intersection LOS: B
 Intersection Capacity Utilization 110.5% ICU Level of Service H
 Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

2031 Future Total <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	166	155	172	129	224	101	219	961	51	43	856	110
v/c Ratio	0.59	0.31	0.31	0.60	0.69	0.28	0.52	0.45	0.05	0.17	0.52	0.15
Control Delay	34.6	29.2	5.3	48.4	48.9	8.2	10.8	8.1	0.3	17.2	18.6	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	29.2	5.3	48.4	48.9	8.2	10.8	8.1	0.3	17.2	18.6	4.2
Queue Length 50th (m)	25.8	25.0	0.0	24.5	43.3	0.0	10.5	24.9	0.1	5.3	67.7	4.1
Queue Length 95th (m)	38.9	38.4	14.0	40.7	63.3	12.4	m16.0	36.7	m0.1	16.1	101.2	12.9
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	283	724	730	367	553	534	420	2115	947	250	1631	739
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.21	0.24	0.35	0.41	0.19	0.52	0.45	0.05	0.17	0.52	0.15

Intersection Summary

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

Lanes, Volumes, Timings

2031 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	46	10	72	38	9	16	61	1077	46	6	865	60
Future Volume (vph)	46	10	72	38	9	16	61	1077	46	6	865	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.97		0.99		0.98	1.00		1.00	0.99	
Frt			0.850		0.965		0.994			0.990		
Flt Protected		0.960			0.971		0.950			0.950		
Satd. Flow (prot)	0	1824	1615	0	1741	0	1805	3515	0	1805	3444	0
Flt Permitted		0.792			0.780		0.272			0.210		
Satd. Flow (perm)	0	1499	1569	0	1386	0	506	3515	0	398	3444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			79		18		7			11		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	4		14	14		4	53		10	10		53
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	51	11	79	42	10	18	67	1184	51	7	951	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	79	0	70	0	67	1235	0	7	1017	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		3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

2031 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		11.1	11.1		11.1		80.9	80.9		80.9	80.9	
Actuated g/C Ratio		0.11	0.11		0.11		0.81	0.81		0.81	0.81	
v/c Ratio		0.38	0.32		0.41		0.16	0.43		0.02	0.36	
Control Delay	47.6	13.0		39.4			5.4	4.5		2.3	2.4	
Queue Delay	0.0	0.0		0.0			0.0	0.0		0.0	0.1	
Total Delay	47.6	13.0		39.4			5.4	4.5		2.3	2.5	
LOS	D	B		D			A	A		A	A	
Approach Delay		28.2			39.4			4.5			2.5	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	69 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.43
Intersection Signal Delay:	6.0
Intersection Capacity Utilization:	74.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access
2031 Future Total <PM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	79	70	67	1235	7	1017
v/c Ratio	0.38	0.32	0.41	0.16	0.43	0.02	0.36
Control Delay	47.6	13.0	39.4	5.4	4.5	2.3	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	47.6	13.0	39.4	5.4	4.5	2.3	2.5
Queue Length 50th (m)	12.1	0.0	10.1	2.0	23.0	0.2	17.8
Queue Length 95th (m)	24.5	13.3	23.5	m11.2	70.0	m0.7	22.0
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	479	555	455	409	2846	322	2789
Starvation Cap Reductn	0	0	0	0	0	0	544
Spillback Cap Reductn	0	0	0	0	38	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.15	0.16	0.44	0.02	0.45
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive
2031 Future Total <PM>
07-05-2021

	↖	→	↘	↙	←	↗	↖	↗	↑	↘	↙	↓	↖
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗			↕			↕		
Traffic Volume (vph)	3	361	3	94	398	8	4	0	26	9	0	3	
Future Volume (vph)	3	361	3	94	398	8	4	0	26	9	0	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	25.0			20.0			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													
Frt		0.999			0.997			0.882				0.969	
Fit Protected	0.950			0.950				0.994				0.963	
Satd. Flow (prot)	1770	1808	0	1770	1839	0	0	1633	0	0	1738	0	
Fit Permitted	0.950			0.950				0.994				0.963	
Satd. Flow (perm)	1770	1808	0	1770	1839	0	0	1633	0	0	1738	0	
Link Speed (k/h)		50			50			20				20	
Link Distance (m)		81.7			100.7			49.5				50.6	
Travel Time (s)		5.9			7.3			8.9				9.1	
Confl. Peds. (#/hr)	7		8	8		7							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%	
Adj. Flow (vph)	3	392	3	102	433	9	4	0	28	10	0	3	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	3	395	0	102	442	0	0	32	0	0	13	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (k/h)	25		15	25		15	25		15	25		15	
Sign Control		Stop			Stop			Stop				Stop	
Intersection Summary													
Area Type: Other													
Control Type: Unsignalized													
Intersection Capacity Utilization 38.1%													
ICU Level of Service A													
Analysis Period (min) 15													

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

2031 Future Total <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔		↔
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	3	361	3	94	398	8	4	0	26	9	0	3
Future Volume (vph)	3	361	3	94	398	8	4	0	26	9	0	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
Hourly flow rate (vph)	3	392	3	102	433	9	4	0	28	10	0	3
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	3	395	102	442	32	13						
Volume Left (vph)	3	0	102	0	4	10						
Volume Right (vph)	0	3	0	9	28	3						
Hadj (s)	0.53	0.08	0.53	0.04	-0.47	0.05						
Departure Headway (s)	5.6	5.2	5.5	5.0	5.5	6.1						
Degree Utilization, x	0.00	0.57	0.16	0.61	0.05	0.02						
Capacity (veh/h)	620	683	639	713	558	511						
Control Delay (s)	7.5	13.6	8.3	14.3	8.8	9.2						
Approach Delay (s)	13.6		13.2		8.8	9.2						
Approach LOS	B		B		A	A						
Intersection Summary												
Delay	13.2											
Level of Service	B											
Intersection Capacity Utilization	38.1%		ICU Level of Service				A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

2031 Future Total <PM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔		↔
Traffic Volume (vph)	11	381	4	0	488	32	0	0	47	36	0	12
Future Volume (vph)	11	381	4	0	488	32	0	0	47	36	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Frt	0.999		0.992				0.865				0.966	
Flt Protected	0.950										0.964	
Satd. Flow (prot)	1770	1808	0	0	1831	0	0	0	1611	0	1735	0
Flt Permitted	0.950										0.964	
Satd. Flow (perm)	1770	1808	0	0	1831	0	0	0	1611	0	1735	0
Link Speed (k/h)	50		50				20				20	
Link Distance (m)	100.7		97.6				57.9				51.0	
Travel Time (s)	7.3		7.0				10.4				9.2	
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	12	414	4	0	530	35	0	0	51	39	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	418	0	0	565	0	0	0	51	0	52	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)	3.6		3.6				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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15				25				15	
Sign Control	Free		Free				Stop				Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.7%				ICU Level of Service A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

2031 Future Total <PM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔	↔		↔	↔		↔	↔	↔	↔
Traffic Volume (veh/h)	11	381	4	0	488	32	0	0	47	36	0	12
Future Volume (Veh/h)	11	381	4	0	488	32	0	0	47	36	0	12
Sign Control	Free			Free			Stop		Stop			
Grade	0%			0%			0%		0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	414	4	0	530	35	0	0	51	39	0	13
Pedestrians							8		7			
Lane Width (m)							3.6		3.6			
Walking Speed (m/s)							1.2		1.2			
Percent Blockage							1		1			
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (m)							98					
pX, platoon unblocked	0.84						0.84	0.84	0.84	0.84	0.84	0.84
vC, conflicting volume	572	426			1008		1020	424	1044	1004	554	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	392	426			913		927	424	955	909	371	
tC, single (s)	4.1	4.1			7.1		6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)												
tF (s)	2.2	2.2			3.5		4.0	3.3	3.5	4.0	3.3	
p0 queue free %	99	100			100		100	92	78	100	98	
cM capacity (veh/h)	971	1126			203		219	626	179	225	562	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	12	418	565	51	52							
Volume Left	12	0	0	0	39							
Volume Right	0	4	35	51	13							
cSH	971	1700	1700	626	215							
Volume to Capacity	0.01	0.25	0.33	0.08	0.24							
Queue Length 95th (m)	0.3	0.0	0.0	2.1	7.3							
Control Delay (s)	8.8	0.0	0.0	11.3	27.0							
Lane LOS	A			B	D							
Approach Delay (s)	0.2	0.0		11.3	27.0							
Approach LOS				B	D							
Intersection Summary												
Average Delay	1.9											
Intersection Capacity Utilization	37.7%			ICU Level of Service		A						
Analysis Period (min)	15											

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

2031 Future Total <PM>
07-05-2021

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔		↔	↔	↔	↔
Traffic Volume (vph)	32	60	81	1145	1045	83
Future Volume (vph)	32	60	81	1145	1045	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.850		
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3505	3469	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3505	3469	0
Link Speed (k/h)	40	50		50		
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)	16			16		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	3%	2%
Adj. Flow (vph)	35	65	88	1245	1136	90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	65	88	1245	1226	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6	3.6		3.6		
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop			Free		Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

2031 Future Total <PM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↖	↗	↖	↕	↕	↘	
Traffic Volume (veh/h)	32	60	81	1145	1045	83	
Future Volume (Veh/h)	32	60	81	1145	1045	83	
Sign Control	Stop			Free		Free	
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	35	65	88	1245	1136	90	
Pedestrians	16						
Lane Width (m)	3.6						
Walking Speed (m/s)	1.2						
Percent Blockage	1						
Right turn flare (veh)							
Median type				None	None		
Median storage (veh)							
Upstream signal (m)				199	124		
pX, platoon unblocked	0.91	0.83	0.83				
vC, conflicting volume	1996	629	1242				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1068	135	876				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	79	91	86				
cM capacity (veh/h)	167	726	626				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	35	65	88	622	622	757	469
Volume Left	35	0	88	0	0	0	0
Volume Right	0	65	0	0	0	0	90
cSH	167	726	626	1700	1700	1700	1700
Volume to Capacity	0.21	0.09	0.14	0.37	0.37	0.45	0.28
Queue Length 95th (m)	6.1	2.4	3.9	0.0	0.0	0.0	0.0
Control Delay (s)	32.1	10.4	11.7	0.0	0.0	0.0	0.0
Lane LOS	D	B	B				
Approach Delay (s)	18.0		0.8		0.0		
Approach LOS	C						
Intersection Summary							
Average Delay			1.1				
Intersection Capacity Utilization			49.5%		ICU Level of Service		A
Analysis Period (min)	15						

Lanes, Volumes, Timings

3036 Future Total <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	165	163	205	50	75	65	77	558	90	70	743	100
Future Volume (vph)	165	163	205	50	75	65	77	558	90	70	743	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.99	0.99		0.96	0.99		0.95
Frt			0.850		0.931				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456			0.648			0.284			0.428		
Satd. Flow (perm)	823	1863	1563	1225	1656	0	525	3438	1496	807	3438	1500
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		46				96			98
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Confl. Peds. (#/hr)	16		7	7		16	16		8	8		16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	2%	1%	0%	6%	4%	2%	5%	4%	0%	5%	2%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	176	173	218	53	80	69	82	594	96	74	790	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	173	218	53	149	0	82	594	96	74	790	106
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)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type	Cl+Ex											
Detector 2 Channel												

Lanes, Volumes, Timings

3036 Future Total <AM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

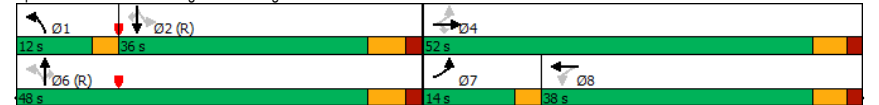


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	14.0	52.0	52.0	38.0	38.0		12.0	48.0	48.0	36.0	36.0	36.0
Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.0%
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0		0	0	0	0	0	0
Act Effect Green (s)	29.2	26.2	26.2	12.7	12.7		64.8	61.3	61.3	53.1	53.1	53.1
Actuated g/C Ratio	0.29	0.26	0.26	0.13	0.13		0.65	0.61	0.61	0.53	0.53	0.53
v/c Ratio	0.53	0.36	0.38	0.34	0.60		0.19	0.28	0.10	0.17	0.43	0.13
Control Delay	33.1	31.4	5.8	44.9	37.8		8.4	10.0	2.4	8.6	10.2	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	31.4	5.8	44.9	37.8		8.4	10.0	2.4	8.6	10.2	1.3
LOS	C	C	A	D	D		A	A	A	A	B	A
Approach Delay	22.1				39.7				8.9			
Approach LOS	C				D				A			


Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 14.4
 Intersection LOS: B
 Intersection Capacity Utilization 80.7%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 3036 Future Total <AM>
 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	176	173	218	53	149	82	594	96	74	790	106
v/c Ratio	0.53	0.36	0.38	0.34	0.60	0.19	0.28	0.10	0.17	0.43	0.13
Control Delay	33.1	31.4	5.8	44.9	37.8	8.4	10.0	2.4	8.6	10.2	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	31.4	5.8	44.9	37.8	8.4	10.0	2.4	8.6	10.2	1.3
Queue Length 50th (m)	28.4	28.9	0.0	10.1	20.1	5.5	27.1	0.0	4.4	45.6	0.8
Queue Length 95th (m)	43.3	44.4	16.4	21.1	38.3	13.0	42.8	7.0	15.2	81.8	3.1
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	340	856	836	392	561	452	2108	954	428	1824	841
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.20	0.26	0.14	0.27	0.18	0.28	0.10	0.17	0.43	0.13

Intersection Summary

Lanes, Volumes, Timings 3036 Future Total <AM>
 2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	142	141	115	40	86	38	91	690	73	63	715	49
Future Volume (vph)	142	141	115	40	86	38	91	690	73	63	715	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	0.99		0.98	1.00		0.97	0.99		0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1827	1593	1597	1792	1609	1641	3471	1513	1805	3471	1513
Flt Permitted	0.530			0.663			0.309			0.376		
Satd. Flow (perm)	991	1827	1561	1108	1792	1578	532	3471	1462	711	3471	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			121			104			77			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	7		8	8		7	7		7	7		7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	4%	1%	13%	6%	0%	10%	4%	5%	0%	4%	5%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	149	148	121	42	91	40	96	726	77	66	753	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	149	148	121	42	91	40	96	726	77	66	753	52
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-0.2	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	7.7	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

3036 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	13.0	49.0	49.0	36.0	36.0	36.0	11.0	51.0	51.0	40.0	40.0	40.0
Total Split (%)	13.0%	49.0%	49.0%	36.0%	36.0%	36.0%	11.0%	51.0%	51.0%	40.0%	40.0%	40.0%
Maximum Green (s)	10.0	43.0	43.0	30.0	30.0	30.0	8.0	44.5	44.5	33.5	33.5	33.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	24.7	21.7	21.7	11.5	11.5	11.5	69.3	65.8	65.8	57.3	57.3	57.3
Actuated g/C Ratio	0.25	0.22	0.22	0.12	0.12	0.12	0.69	0.66	0.66	0.57	0.57	0.57
v/c Ratio	0.45	0.37	0.28	0.33	0.44	0.15	0.21	0.32	0.08	0.16	0.38	0.06
Control Delay	34.0	34.6	7.2	47.5	47.9	1.1	7.1	8.9	3.8	10.8	9.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	34.6	7.2	47.5	47.9	1.1	7.1	8.9	3.8	10.8	9.9	0.1
LOS	C	C	A	D	D	A	A	A	B	A	A	A
Approach Delay		26.4			37.0			8.3			9.4	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

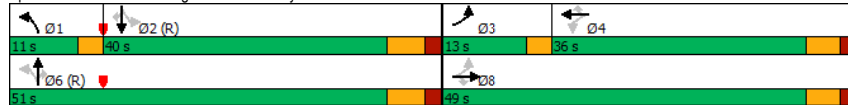
Maximum v/c Ratio: 0.45

Intersection Signal Delay: 14.0 Intersection LOS: B

Intersection Capacity Utilization 108.1% ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

3036 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	149	148	121	42	91	40	96	726	77	66	753	52
v/c Ratio	0.45	0.37	0.28	0.33	0.44	0.15	0.21	0.32	0.08	0.16	0.38	0.06
Control Delay	34.0	34.6	7.2	47.5	47.9	1.1	7.1	8.9	3.8	10.8	9.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	34.6	7.2	47.5	47.9	1.1	7.1	8.9	3.8	10.8	9.9	0.1
Queue Length 50th (m)	24.4	25.3	0.0	8.1	17.8	0.0	4.6	23.7	0.0	4.2	25.2	0.0
Queue Length 95th (m)	39.5	41.0	13.4	18.3	32.5	0.0	14.0	56.1	8.6	8.5	45.4	0.1
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	329	785	740	332	537	546	458	2283	988	407	1990	880
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.19	0.16	0.13	0.17	0.07	0.21	0.32	0.08	0.16	0.38	0.06

Intersection Summary

Intersection Summary												
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Lanes, Volumes, Timings

3036 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	30	5	26	13	3	2	15	823	29	3	828	16
Future Volume (vph)	30	5	26	13	3	2	15	823	29	3	828	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99	0.98		0.99		0.99	1.00		1.00		1.00
Frt			0.850		0.986		0.995			0.997		
Flt Protected		0.959			0.964		0.950			0.950		
Satd. Flow (prot)	0	1822	1495	0	1711	0	1583	3455	0	1805	3456	0
Flt Permitted		0.742			0.760		0.320			0.318		
Satd. Flow (perm)	0	1403	1462	0	1338	0	530	3455	0	603	3456	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			38		2		6			3		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	5		9	9		5	12		5	5		12
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%	0%	8%	0%	34%	0%	14%	4%	0%	4%	7%	17%
Adj. Flow (vph)	31	5	27	14	3	2	16	857	30	3	863	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	27	0	19	0	16	887	0	3	880	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		3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8		2			6		
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

3036 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

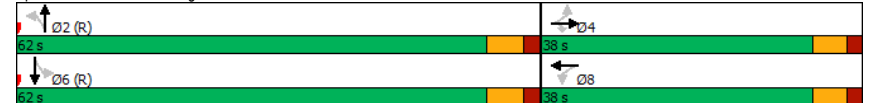


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		10.1	10.1		10.1		81.9	81.9		81.9	81.9	
Actuated g/C Ratio		0.10	0.10		0.10		0.82	0.82		0.82	0.82	
v/c Ratio		0.25	0.15		0.14		0.04	0.31		0.01	0.31	
Control Delay	46.3	11.1	40.4		40.4		2.5	3.4		2.0	2.2	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.1	
Total Delay	46.3	11.1	40.4		40.4		2.5	3.4		2.0	2.3	
LOS	D	B	D		D		A	A		A	A	
Approach Delay		31.2			40.4			3.3			2.3	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	76 (76%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.31
Intersection Signal Delay:	4.2
Intersection Capacity Utilization:	70.6%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	C

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues
3: Yonge Street & Brookland Ave/Private Access

3036 Future Total <AM>
07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	27	19	16	887	3	880
v/c Ratio	0.25	0.15	0.14	0.04	0.31	0.01	0.31
Control Delay	46.3	11.1	40.4	2.5	3.4	2.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	46.3	11.1	40.4	2.5	3.4	2.0	2.3
Queue Length 50th (m)	6.9	0.0	3.2	1.0	27.9	0.1	16.8
Queue Length 95th (m)	17.0	6.1	10.4	m1.6	18.4	m0.3	18.8
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	448	493	429	433	2829	493	2829
Starvation Cap Reductn	0	0	0	0	0	0	764
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.05	0.04	0.04	0.31	0.01	0.43
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings
5: Mosaics Avenue & Murray Drive

3036 Future Total <AM>
07-05-2021

	↖	→	↘	↙	←	↗	↘	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↖	↗		↖	↗			↕			↕		
Traffic Volume (vph)	1	293	1	22	189	4	8	0	43	2	0	1	
Future Volume (vph)	1	293	1	22	189	4	8	0	43	2	0	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0	
Storage Lanes	1		0	1		0	0		0	0		0	
Taper Length (m)	25.0			20.0			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													
Frt					0.997			0.887				0.955	
Fit Protected	0.950			0.950				0.992				0.968	
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1639	0	0	1722	0	
Fit Permitted	0.950			0.950				0.992				0.968	
Satd. Flow (perm)	1770	1827	0	1770	1788	0	0	1639	0	0	1722	0	
Link Speed (k/h)		50			50			20			20		
Link Distance (m)		81.7			100.7			49.5			50.6		
Travel Time (s)		5.9			7.3			8.9			9.1		
Confl. Peds. (#/hr)	7		8	8		7							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%	
Adj. Flow (vph)	1	318	1	24	205	4	9	0	47	2	0	1	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	1	319	0	24	209	0	0	56	0	0	3	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (k/h)	25		15	25		15	25		15	25		15	
Sign Control		Stop			Stop			Stop			Stop		
Intersection Summary													
Area Type: Other													
Control Type: Unsignalized													
Intersection Capacity Utilization 28.3%													
ICU Level of Service A													
Analysis Period (min) 15													

HCM Unsignalized Intersection Capacity Analysis
5: Mosaics Avenue & Murray Drive

3036 Future Total <AM>
07-05-2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	1	293	1	22	189	4	8	0	43	2	0	1
Future Volume (vph)	1	293	1	22	189	4	8	0	43	2	0	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	318	1	24	205	4	9	0	47	2	0	1
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	1	319	24	209	56	3						
Volume Left (vph)	1	0	24	0	9	2						
Volume Right (vph)	0	1	0	4	47	1						
Hadj (s)	0.53	0.07	0.53	0.09	-0.44	-0.03						
Departure Headway (s)	5.4	4.9	5.4	5.0	4.8	5.2						
Degree Utilization, x	0.00	0.43	0.04	0.29	0.07	0.00						
Capacity (veh/h)	658	721	643	706	679	606						
Control Delay (s)	7.2	10.4	7.4	8.8	8.1	8.3						
Approach Delay (s)	10.4		8.7		8.1	8.3						
Approach LOS	B		A		A	A						
Intersection Summary												
Delay	9.5											
Level of Service	A											
Intersection Capacity Utilization	28.3%		ICU Level of Service			A						
Analysis Period (min)	15											

Lanes, Volumes, Timings
6: Northerly Access & Murray Drive

3036 Future Total <AM>
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↔			↔	↔
Traffic Volume (vph)	6	330	2	0	211	15	0	0	59	9	0	4
Future Volume (vph)	6	330	2	0	211	15	0	0	59	9	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Frt	0.999			0.991			0.865			0.961		
Flt Protected	0.950									0.966		
Satd. Flow (prot)	1770	1825	0	0	1781	0	0	0	1611	0	1729	0
Flt Permitted	0.950									0.966		
Satd. Flow (perm)	1770	1825	0	0	1781	0	0	0	1611	0	1729	0
Link Speed (k/h)	50			50			20			20		
Link Distance (m)	100.7			97.6			57.9			51.0		
Travel Time (s)	7.3			7.0			10.4			9.2		
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	2%	2%	6%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	7	359	2	0	229	16	0	0	64	10	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	361	0	0	245	0	0	0	64	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control	Free			Free			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	34.5%			ICU Level of Service A								
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

3036 Future Total <AM>
07-05-2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔			↔				↔		↔	
Traffic Volume (veh/h)	6	330	2	0	211	15	0	0	59	9	0	4
Future Volume (Veh/h)	6	330	2	0	211	15	0	0	59	9	0	4
Sign Control	Free				Free		Stop				Stop	
Grade	0%				0%		0%				0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	359	2	0	229	16	0	0	64	10	0	4
Pedestrians							8				7	
Lane Width (m)							3.6				3.6	
Walking Speed (m/s)							1.2				1.2	
Percent Blockage							1				1	
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (m)							98					
pX, platoon unblocked	0.96					0.96	0.96			0.96	0.96	0.96
vC, conflicting volume	252			369		623	634	368	681	627	244	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	200			369		587	598	368	647	591	192	
tC, single (s)	4.1			4.1		7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)												
tF (s)	2.2			2.2		3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	99			100		100	100	90	97	100	100	
cM capacity (veh/h)	1310			1182		395	392	673	327	396	811	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total	7	361	245	64	14							
Volume Left	7	0	0	0	10							
Volume Right	0	2	16	64	4							
cSH	1310	1700	1700	673	394							
Volume to Capacity	0.01	0.21	0.14	0.10	0.04							
Queue Length 95th (m)	0.1	0.0	0.0	2.5	0.9							
Control Delay (s)	7.8	0.0	0.0	10.9	14.5							
Lane LOS	A			B		B						
Approach Delay (s)	0.1			0.0	10.9	14.5						
Approach LOS				B	B							
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utilization			34.5%		ICU Level of Service		A					
Analysis Period (min)	15											

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

3036 Future Total <AM>
07-05-2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	64	66	26	828	858	32
Future Volume (vph)	64	66	26	828	858	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.850		
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3438	3424	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3438	3424	0
Link Speed (k/h)	40	50		50		
Link Distance (m)	76.1	198.7		124.4		
Travel Time (s)	6.8	14.3		9.0		
Confl. Peds. (#/hr)			16		16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	5%	5%	2%
Adj. Flow (vph)	70	72	28	900	933	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	72	28	900	968	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6	3.6		3.6		
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop		Free		Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	35.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

3036 Future Total <AM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	↖	↗	↖	↕	↕	↗	
Traffic Volume (veh/h)	64	66	26	828	858	32	
Future Volume (Veh/h)	64	66	26	828	858	32	
Sign Control	Stop			Free			
Grade	0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	70	72	28	900	933	35	
Pedestrians	16						
Lane Width (m)	3.6						
Walking Speed (m/s)	1.2						
Percent Blockage	1						
Right turn flare (veh)							
Median type				None	None		
Median storage (veh)							
Upstream signal (m)				199	124		
pX, platoon unblocked	0.91	0.88	0.88				
vC, conflicting volume	1472	500	984				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	1015	157	707				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	65	90	96				
cM capacity (veh/h)	203	747	770				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	70	72	28	450	450	622	346
Volume Left	70	0	28	0	0	0	0
Volume Right	0	72	0	0	0	0	35
cSH	203	747	770	1700	1700	1700	1700
Volume to Capacity	0.35	0.10	0.04	0.26	0.26	0.37	0.20
Queue Length 95th (m)	11.6	2.6	0.9	0.0	0.0	0.0	0.0
Control Delay (s)	31.8	10.3	9.9	0.0	0.0	0.0	0.0
Lane LOS	D	B	A				
Approach Delay (s)	20.9		0.3		0.0		
Approach LOS	C						
Intersection Summary							
Average Delay	1.6						
Intersection Capacity Utilization	35.5%		ICU Level of Service			A	
Analysis Period (min)	15						

Lanes, Volumes, Timings

2036 Future Total <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	197	122	112	67	177	63	309	997	53	58	761	268
Future Volume (vph)	197	122	112	67	177	63	309	997	53	58	761	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	35.0		0.0	80.0		75.0	90.0		40.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	35.0			30.0			100.0			50.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.97	0.98		0.99	0.99		0.95	0.99		0.94
Frt			0.850		0.960				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1810	1577	1752	1780	0	1805	3505	1583	1805	3505	1599
Flt Permitted	0.310			0.673			0.196			0.267		
Satd. Flow (perm)	585	1810	1528	1221	1780	0	370	3505	1497	503	3505	1508
Right Turn on Red			Yes			Yes		Yes			Yes	
Satd. Flow (RTOR)			120		19			65				205
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		175.9			679.6			309.8			198.7	
Travel Time (s)		12.7			61.2			22.3			14.3	
Conf. Peds. (#/hr)	11		20	20		11	18		17	17		18
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 (%)	0%	5%	2%	3%	2%	0%	0%	3%	2%	0%	3%	1%
Bus Blockages (#/hr)	0	0	1	0	1	0	0	0	0	0	0	0
Adj. Flow (vph)	212	131	120	72	190	68	332	1072	57	62	818	288
Shared Lane Traffic (%)												
Lane Group Flow (vph)	212	131	120	72	258	0	332	1072	57	62	818	288
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
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	1.00	1.00	1.01	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	0	2		1	2	1	0	2	1
Detector Template	Left											
Leading Detector (m)	21.9	7.5	7.5	0.0	0.0		21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	0.0	0.0		12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	2.0	0.0		9.0	0.0	0.0	2.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)												
Detector 2 Size(m)												
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lanes, Volumes, Timings

2036 Future Total <PM>

1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

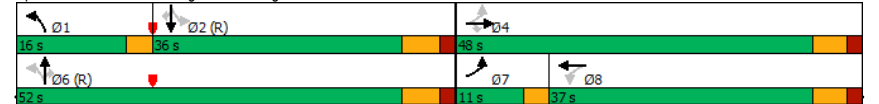
07-05-2021

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)					0.0			0.0				
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		2
Detector Phase	7	4	4	8	8		1	6	6	2	2	2
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Total Split (s)	11.0	48.0	48.0	37.0	37.0		16.0	52.0	52.0	36.0	36.0	36.0
Total Split (%)	11.0%	48.0%	48.0%	37.0%	37.0%		16.0%	52.0%	52.0%	36.0%	36.0%	36.0%
Maximum Green (s)	8.0	42.0	42.0	31.0	31.0		13.0	45.5	45.5	29.5	29.5	29.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0		3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-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	7.0	7.0
Flash Dont Walk (s)		24.0	24.0	24.0	24.0		17.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)		0	0	0	0		0	0	0	0	0	0
Act Effect Green (s)	32.9	29.9	29.9	18.9	18.9		61.1	57.6	57.6	35.9	35.9	35.9
Actuated g/C Ratio	0.33	0.30	0.30	0.19	0.19		0.61	0.58	0.58	0.36	0.36	0.36
v/c Ratio	0.73	0.24	0.22	0.31	0.74		0.67	0.53	0.06	0.34	0.65	0.43
Control Delay	40.8	26.4	5.3	36.8	47.4		19.7	15.0	2.9	48.1	44.9	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	26.4	5.3	36.8	47.4		19.7	15.0	2.9	48.1	44.9	24.6
LOS	D	C	A	D	D		B	B	A	D	D	C
Approach Delay		27.5			45.0			15.6				40.1
Approach LOS		C			D			B				D


Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 28.4
 Intersection LOS: C
 Intersection Capacity Utilization 91.6%
 ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd




Queues 2036 Future Total <PM>
 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	212	131	120	72	258	332	1072	57	62	818	288
v/c Ratio	0.73	0.24	0.22	0.31	0.74	0.67	0.53	0.06	0.34	0.65	0.43
Control Delay	40.8	26.4	5.3	36.8	47.4	19.7	15.0	2.9	48.1	44.9	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	26.4	5.3	36.8	47.4	19.7	15.0	2.9	48.1	44.9	24.6
Queue Length 50th (m)	32.6	20.1	0.0	12.8	46.4	29.8	65.7	0.0	12.0	91.2	29.2
Queue Length 95th (m)	46.8	31.9	11.4	24.0	68.1	64.6	99.2	5.4	24.9	114.1	57.8
Internal Link Dist (m)		151.9			655.6		285.8			174.7	
Turn Bay Length (m)	50.0		15.0	35.0		80.0		75.0	90.0		40.0
Base Capacity (vph)	290	760	711	378	564	494	2019	890	180	1259	673
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.17	0.17	0.19	0.46	0.67	0.53	0.06	0.34	0.65	0.43

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

Lanes, Volumes, Timings 2036 Future Total <PM>
 2: Yonge Street & Murray Drive/Edward Street 07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	156	146	162	121	211	95	206	948	48	40	862	103
Future Volume (vph)	156	146	162	121	211	95	206	948	48	40	862	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	15.0			50.0			46.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.98	1.00		0.97	1.00		0.96
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1810	1593	1770	1845	1577	1805	3539	1589	1719	3505	1543
Flt Permitted	0.359			0.659			0.208			0.284		
Satd. Flow (perm)	670	1810	1567	1224	1845	1538	394	3539	1542	513	3505	1476
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			172			104			65			98
Link Speed (k/h)		40			50			50				50
Link Distance (m)		97.6			371.6			124.4				328.9
Travel Time (s)		8.8			26.8			9.0				23.7
Confl. Peds. (#/hr)	13		4	4		13	12		5	5		12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	5%	1%	2%	3%	2%	0%	2%	0%	5%	3%	3%
Bus Blockages (#/hr)	0	0	1	0	0	1	0	0	4	0	0	4
Adj. Flow (vph)	166	155	172	129	224	101	219	1009	51	43	917	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	155	172	129	224	101	219	1009	51	43	917	110
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)		3.6			3.6			3.6				3.6
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												Yes
Headway Factor	1.00	1.00	1.01	1.00	1.00	1.01	1.00	1.00	1.02	1.00	1.00	1.02
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template												
Leading Detector (m)	21.9	7.5	7.5	7.5	7.5	7.5	21.5	0.0	0.0	0.0	0.0	0.0
Trailing Detector (m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	12.9	-1.5	-1.5	-1.5	-1.5	-1.5	12.5	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	9.0	9.0	9.0	9.0	9.0	9.0	9.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	3	8			4		1	6			2	
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Lanes, Volumes, Timings

2036 Future Total <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
Minimum Split (s)	10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
Total Split (s)	10.0	46.0	46.0	36.0	36.0	36.0	10.0	54.0	54.0	44.0	44.0	44.0
Total Split (%)	10.0%	46.0%	46.0%	36.0%	36.0%	36.0%	10.0%	54.0%	54.0%	44.0%	44.0%	44.0%
Maximum Green (s)	7.0	40.0	40.0	30.0	30.0	30.0	7.0	47.5	47.5	37.5	37.5	37.5
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	6.0	6.0	3.0	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-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	7.0	7.0
Flash Dont Walk (s)		23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0	0	0	0
Act Effect Green (s)	30.7	27.7	27.7	17.7	17.7	17.7	63.3	59.8	59.8	46.0	46.0	46.0
Actuated g/C Ratio	0.31	0.28	0.28	0.18	0.18	0.18	0.63	0.60	0.60	0.46	0.46	0.46
v/c Ratio	0.59	0.31	0.31	0.60	0.69	0.28	0.55	0.48	0.05	0.18	0.57	0.15
Control Delay	34.6	29.2	5.3	48.4	48.9	8.2	12.1	8.0	0.2	17.5	19.5	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	29.2	5.3	48.4	48.9	8.2	12.1	8.0	0.2	17.5	19.5	4.2
LOS	C	C	A	D	D	A	B	A	A	B	B	A
Approach Delay		22.7			39.7			8.4			17.8	
Approach LOS		C			D			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBT, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 17.9

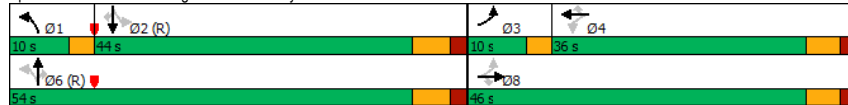
Intersection LOS: B

Intersection Capacity Utilization 110.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street



Queues

2036 Future Total <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	166	155	172	129	224	101	219	1009	51	43	917	110
v/c Ratio	0.59	0.31	0.31	0.60	0.69	0.28	0.55	0.48	0.05	0.18	0.57	0.15
Control Delay	34.6	29.2	5.3	48.4	48.9	8.2	12.1	8.0	0.2	17.5	19.5	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.6	29.2	5.3	48.4	48.9	8.2	12.1	8.0	0.2	17.5	19.5	4.2
Queue Length 50th (m)	25.8	25.0	0.0	24.5	43.3	0.0	10.3	25.5	0.1	5.5	75.0	4.3
Queue Length 95th (m)	38.9	38.4	14.0	40.7	63.3	12.4	m16.1	39.2	m0.3	16.2	109.6	11.8
Internal Link Dist (m)		73.6			347.6		100.4				304.9	
Turn Bay Length (m)	45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
Base Capacity (vph)	283	724	730	367	553	534	400	2115	947	236	1612	732
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.21	0.24	0.35	0.41	0.19	0.55	0.48	0.05	0.18	0.57	0.15

Intersection Summary

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

Lanes, Volumes, Timings

2036 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑		↔		↑	↑		↑	↑	
Traffic Volume (vph)	46	10	72	38	9	16	61	1129	46	6	925	60
Future Volume (vph)	46	10	72	38	9	16	61	1129	46	6	925	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Storage Lanes	0		1	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			10.0			12.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00	0.97		0.99		0.98	1.00		1.00	0.99	
Frt			0.850		0.965		0.994			0.991		
Flt Protected		0.960			0.971		0.950			0.950		
Satd. Flow (prot)	0	1824	1615	0	1741	0	1805	3515	0	1805	3449	0
Flt Permitted		0.792			0.780		0.252			0.196		
Satd. Flow (perm)	0	1499	1569	0	1386	0	470	3515	0	372	3449	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			74		18		7			11		
Link Speed (k/h)		40			20		50			50		
Link Distance (m)		216.1			54.6		328.9			104.0		
Travel Time (s)		19.4			9.8		23.7			7.5		
Conf. Peds. (#/hr)	4		14	14		4	53		10	10		53
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	7%	0%	2%	0%	0%	3%	0%
Adj. Flow (vph)	51	11	79	42	10	18	67	1241	51	7	1016	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	79	0	70	0	67	1292	0	7	1082	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		3.6			3.6		
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							Yes			Yes		
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	0	0	1	1		0	0		0	0	
Detector Template	Left	Thru	Right	Left			Left	Thru		Left	Thru	
Leading Detector (m)	2.0	0.0	0.0	2.0	7.5		0.0	0.0		0.0	0.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	9.0		2.0	0.6		2.0	0.6	
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings

2036 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%	38.0%	38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.5	6.5		6.5	6.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	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		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		14.0	14.0		14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	
Act Effect Green (s)		11.1	11.1		11.1		80.9	80.9		80.9	80.9	
Actuated g/C Ratio		0.11	0.11		0.11		0.81	0.81		0.81	0.81	
v/c Ratio		0.38	0.33		0.41		0.18	0.45		0.02	0.39	
Control Delay	47.6	14.8		39.4			6.0	4.9		2.3	2.4	
Queue Delay	0.0	0.0		0.0			0.0	0.0		0.0	0.1	
Total Delay	47.6	14.8		39.4			6.0	4.9		2.3	2.5	
LOS		D	B		D		A	A		A	A	
Approach Delay		29.2			39.4			5.0			2.5	
Approach LOS		C			D			A			A	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 69 (69%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay: 6.1 Intersection LOS: A
 Intersection Capacity Utilization 74.1% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Yonge Street & Brookland Ave/Private Access



Queues 2036 Future Total <PM>
3: Yonge Street & Brookland Ave/Private Access 07-05-2021

	→	↘	←	↙	↑	↗	↓
Lane Group	EBT	EBR	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	79	70	67	1292	7	1082
v/c Ratio	0.38	0.33	0.41	0.18	0.45	0.02	0.39
Control Delay	47.6	14.8	39.4	6.0	4.9	2.3	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	47.6	14.8	39.4	6.0	4.9	2.3	2.5
Queue Length 50th (m)	12.1	0.9	10.1	2.0	25.0	0.2	18.4
Queue Length 95th (m)	24.5	14.2	23.5	m12.2	76.4	m0.6	22.5
Internal Link Dist (m)	192.1		30.6		304.9		80.0
Turn Bay Length (m)		12.0		15.0		15.0	
Base Capacity (vph)	479	552	455	380	2846	301	2793
Starvation Cap Reductn	0	0	0	0	0	0	451
Spillback Cap Reductn	0	0	0	0	39	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.14	0.15	0.18	0.46	0.02	0.46
Intersection Summary							
m Volume for 95th percentile queue is metered by upstream signal.							

Lanes, Volumes, Timings 2036 Future Total <PM>
5: Mosaics Avenue & Murray Drive 07-05-2021

	↖	→	↘	↙	←	↗	↘	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Volume (vph)	3	361	3	94	398	8	4	0	26	9	0	3
Future Volume (vph)	3	361	3	94	398	8	4	0	26	9	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (m)	25.0			20.0			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												
Frt		0.999			0.997			0.882				0.969
Fit Protected	0.950			0.950				0.994				0.963
Satd. Flow (prot)	1770	1808	0	1770	1839	0	0	1633	0	0	1738	0
Fit Permitted	0.950			0.950				0.994				0.963
Satd. Flow (perm)	1770	1808	0	1770	1839	0	0	1633	0	0	1738	0
Link Speed (k/h)		50			50			20				20
Link Distance (m)		81.7			100.7			49.5				50.6
Travel Time (s)		5.9			7.3			8.9				9.1
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	392	3	102	433	9	4	0	28	10	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	395	0	102	442	0	0	32	0	0	13	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)		3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop				Stop
Intersection Summary												
Area Type: Other												
Control Type: Unsignalized												
Intersection Capacity Utilization 38.1%												
ICU Level of Service A												
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

2036 Future Total <PM>

5: Mosaics Avenue & Murray Drive

07-05-2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↕			↕	
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	3	361	3	94	398	8	4	0	26	9	0	3
Future Volume (vph)	3	361	3	94	398	8	4	0	26	9	0	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
Hourly flow rate (vph)	3	392	3	102	433	9	4	0	28	10	0	3
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total (vph)	3	395	102	442	32	13						
Volume Left (vph)	3	0	102	0	4	10						
Volume Right (vph)	0	3	0	9	28	3						
Hadj (s)	0.53	0.08	0.53	0.04	-0.47	0.05						
Departure Headway (s)	5.6	5.2	5.5	5.0	5.5	6.1						
Degree Utilization, x	0.00	0.57	0.16	0.61	0.05	0.02						
Capacity (veh/h)	620	683	639	713	558	511						
Control Delay (s)	7.5	13.6	8.3	14.3	8.8	9.2						
Approach Delay (s)	13.6		13.2		8.8	9.2						
Approach LOS	B		B		A	A						

Intersection Summary						
Delay		13.2				
Level of Service		B				
Intersection Capacity Utilization		38.1%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings

2036 Future Total <PM>

6: Northerly Access & Murray Drive

07-05-2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↔			↕			↕	
Traffic Volume (vph)	11	381	4	0	488	32	0	0	47	36	0	12
Future Volume (vph)	11	381	4	0	488	32	0	0	47	36	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	35.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (m)	20.0			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												
Frt	0.999			0.992			0.865			0.966		
Flt Protected	0.950											
Satd. Flow (prot)	1770	1808	0	0	1831	0	0	0	1611	0	1735	0
Flt Permitted	0.950											
Satd. Flow (perm)	1770	1808	0	0	1831	0	0	0	1611	0	1735	0
Link Speed (k/h)	50			50			20			20		
Link Distance (m)	100.7			97.6			57.9			51.0		
Travel Time (s)	7.3			7.0			10.4			9.2		
Confl. Peds. (#/hr)	7		8	8		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	2%	2%	3%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	12	414	4	0	530	35	0	0	51	39	0	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	418	0	0	565	0	0	0	51	0	52	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)	3.6			3.6			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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15		25		15		25		15	
Sign Control	Free			Free			Stop			Stop		

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

HCM Unsignalized Intersection Capacity Analysis
6: Northerly Access & Murray Drive

2036 Future Total <PM>
07-05-2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔	↔			↔				↔		↔		
Traffic Volume (veh/h)	11	381	4	0	488	32	0	0	47	36	0	12	
Future Volume (Veh/h)	11	381	4	0	488	32	0	0	47	36	0	12	
Sign Control	Free			Free			Stop			Stop			
Grade	0%			0%			0%			0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	12	414	4	0	530	35	0	0	51	39	0	13	
Pedestrians							8			7			
Lane Width (m)							3.6			3.6			
Walking Speed (m/s)							1.2			1.2			
Percent Blockage							1			1			
Right turn flare (veh)													
Median type	None					None							
Median storage (veh)													
Upstream signal (m)	98												
pX, platoon unblocked	0.84						0.84	0.84			0.84	0.84	0.84
vC, conflicting volume	572	426					1008	1020	424	1044	1004	554	
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	392	426					913	927	424	955	909	371	
tC, single (s)	4.1	4.1					7.1	6.5	6.2	7.1	6.5	6.2	
tC, 2 stage (s)													
tF (s)	2.2	2.2					3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	99	100					100	100	92	78	100	98	
cM capacity (veh/h)	971	1126					203	219	626	179	225	562	
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1								
Volume Total	12	418	565	51	52								
Volume Left	12	0	0	0	39								
Volume Right	0	4	35	51	13								
cSH	971	1700	1700	626	215								
Volume to Capacity	0.01	0.25	0.33	0.08	0.24								
Queue Length 95th (m)	0.3	0.0	0.0	2.1	7.3								
Control Delay (s)	8.8	0.0	0.0	11.3	27.0								
Lane LOS	A			B	D								
Approach Delay (s)	0.2	0.0		11.3	27.0								
Approach LOS				B	D								
Intersection Summary													
Average Delay	1.9												
Intersection Capacity Utilization	37.7%		ICU Level of Service		A								
Analysis Period (min)	15												

Lanes, Volumes, Timings
7: Yonge Street /Yonge Street & Easterly Access

2036 Future Total <PM>
07-05-2021



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Traffic Volume (vph)	32	60	81	1201	1124	83
Future Volume (vph)	32	60	81	1201	1124	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5	50.0				
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor				0.990		
Fit	0.850		0.990			
Fit Protected	0.950	0.950				
Satd. Flow (prot)	1770	1583	1770	3505	3472	0
Fit Permitted	0.950	0.950				
Satd. Flow (perm)	1770	1583	1770	3505	3472	0
Link Speed (k/h)	40	50				
Link Distance (m)	76.1			198.7	124.4	
Travel Time (s)	6.8			14.3	9.0	
Confl. Peds. (#/hr)				16	16	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	2%	3%	3%	2%
Adj. Flow (vph)	35	65	88	1305	1222	90
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	65	88	1305	1312	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	15		
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 7: Yonge Street /Yonge Street & Easterly Access

2036 Future Total <PM>
 07-05-2021



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↕	↕	↗
Traffic Volume (veh/h)	32	60	81	1201	1124	83
Future Volume (Veh/h)	32	60	81	1201	1124	83
Sign Control	Stop			Free		Free
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	35	65	88	1305	1222	90
Pedestrians	16					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)				199	124	
pX, platoon unblocked	0.90	0.81	0.81			
vC, conflicting volume	2112	672	1328			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1103	119	931			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	91	85			
cM capacity (veh/h)	155	726	583			
Direction, Lane #	EB 1	EB 2	NB 1	NB 3	SB 1	SB 2
Volume Total	35	65	88	652	815	497
Volume Left	35	0	88	0	0	0
Volume Right	0	65	0	0	0	90
cSH	155	726	583	1700	1700	1700
Volume to Capacity	0.23	0.09	0.15	0.38	0.48	0.29
Queue Length 95th (m)	6.6	2.4	4.2	0.0	0.0	0.0
Control Delay (s)	34.9	10.4	12.3	0.0	0.0	0.0
Lane LOS	D	B	B			
Approach Delay (s)	19.0		0.8	0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			51.6%	ICU Level of Service	A	
Analysis Period (min)	15					