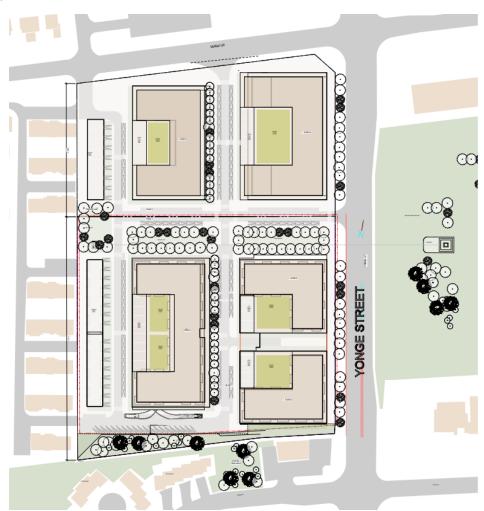
#### **SMARTCENTRES**

## 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

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

WSP.COM

July 05, 2021

Lily Wu Senior Development Manager SmartCentres 3200 Highway 7 Vaughn, Ontario 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

Milion Azari

Transportation Planning and Advisory

WSP ref.: 211-07103-00 T01

## QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	<b>REVISION 2</b>	REVISION 3
Remarks				
Date	2021-07-05			
Prepared by	Kian Azari			
Signature	MineAzari			
Checked by	Ismet Medic			
Signature	Jan Hotel			
Authorized by				
Signature				
Project number	211-07103-00 T01			
Report number				
File reference				



## TABLE OF CONTENTS

1	INTRODUCTION	13
1.1	Background	13
1.2	Development Proposal	13
2	EXISTING TRANSPORTATION CONDITIONS	16
2.1	Boundary Roadways	16
2.2	Traffic Data	19
2.3	Existing Traffic Operations	22
2.3.1	Auto Traffic Analysis Methodology	22
2.3.2	Inputs and Parameters	22
2.3.3	Existing Performance Analysis	22
2.3.4	Queuing Analysis	24
2.4	Public Transit	25
2.4.1	Regular Transit Service	25
2.4.2	Transit Level of Service	29
2.4.3	Performance Analysis	29
2.5	Active Transportation Infrastructure	30
2.5.1	Active Mode Level of Service	31
2.5.2	Performance Analysis	32
3	FUTURE BACKGROUND TRAFFIC CONDITION	<b>IS</b> 35
3.1	Time Frame	35
3.2	Background Corridor Traffic Growth	35
3.3	Planned Transportation Network	36
3.4	Planned Active Transportation Network	37
3.5	Background Network Improvements	37
3.6	Traffic Increases Related to Other Developments	38
3.7	Future Background Traffic Operations	40
3.7.1	Intersection Operations	40

3.7.2	Queuing Analysis	41
4	SITE GENERATED TRAFFIC	48
4.1	Area Travel Characteristics	48
4.2	Trip Generation	48
4.3	Trip Distribution and Assignment	50
5	TOTAL FUTURE TRAFFIC CONDITIONS	53
5.1	Total Future Traffic Operations	53
5.1.1	Intersection Operations	53
5.1.2	Queuing Analysis	55
5.2	Future Transit Level of Service	62
5.3	Active Transportation Level of Service	62
6	SITE PLAN REVIEW	64
6.1	Loading Requirement	64
6.2	Site Circulation Assessment	64
6.2.1	Fire Truck Maneuvers	64
6.2.2	Waste Collection Vehicle Maneuvers	64
6.2.3	Loading Truck Maneuvers	64
6.3	Passenger Vehicle Turning Movements	65
6.3.1	Parking Layout Design	65
6.3.2	Aisle and Driveway Circulation Plan	65
6.3.3	Passenger Vehicle Parking Maneuver Assessment	66
6.4	Traffic Signage and Pavement Marking Plan	66
7	PARKING SUPPLY JUSTIFICATION	79
7.1	Vehicular Parking By-law Requirement	<b>7</b> 9
7.2	Review of Site Parking Supply	80
7.3	Residential Parking Justification	80
7.3.1	Declining parking Demand trend	82
732	Shared Mohility	87

7.3.3	Mixed-Use Developments	87
7.3.4	Unbundling Parking and Units	87
7.4	Retail Parking Justification	89
8	TRANSPORTATION DEMAND MANAGEMENT	Г.90
8.1	York Region Wide Programs	90
8.2	Development of a Site Specific TDM Strategy	9
8.2.1	Transit	9
8.2.2	Proposed Cycling and Walking Facilities	9
8.2.3	Unbundled Parking	92
8.2.4	Transportation Interactive Display	92
8.2.5	Information Packages Provided to New Residents	92
8.3	Site TDM Summary and Cost	93
8.3.1	Site TDM Strategy	93
9	CONCLUSIONS AND RECOMMENDATIONS	94

#### **TABLES**

TABLE 2.1: INTERSECTION COUNTS COLLECTED FOR THIS	
STUDY	19
TABLE 2.2: EXISTING INTERSECTION OPERATIONS	23
TABLE 2.3: EXISTING QUEUING AT CRITICAL MOVEMENTS	24
TABLE 2.4: EXISTING TRANSIT SERVICES WITHIN THE	
STUDY AREA	27
TABLE 2.5: TRANSIT LEVEL OF SERVICE CRITERIA	29
TABLE 2.6: EXISTING TRANSIT LEVEL OF SERVICE (LOS)	
FOR THE SUBJECT SITE	30
TABLE 2.7: PEDESTRIAN LEVEL OF SERVICE CRITERIA	3
TABLE 2.8: CYCLING MODE LEVELS OF SERVICE, EXISTING	
CONDITIONS	32
TABLE 3.1: CORRIDOR FUTURE TRAFFIC GROWTH	35
TABLE 3.2: BACKGROUND DEVELOPMENTS	38
TABLE 3.3: FUTURE BACKGROUND INTERSECTION	
OPERATIONS	40
TABLE 3.4: FUTURE BACKGROUND QUEUING AT CRITICAL	
MOVEMENTS	
TABLE 4.1: MODE SPLIT CHARACTERISTICS	
TABLE 4.2: RATES AND EQUATIONS	49
TABLE 4.3: SITE GENERATED VEHICLE TRIPS FOR PHASE 1	
(2026 HORIZON)	49
TABLE 4.4: SITE GENERATED VEHICLE TRIPS FOR PHASE 1	
& 2 - BUILT OUT HORIZON (2031 & 2036)	5C
TABLE 4.5: SITE TRAFFIC ANALYSIS ZONE TRIP	
DISTRIBUTION	
TABLE 5.1: TOTAL FUTURE INTERSECTION OPERATIONS	53
TABLE 5.2: TOTAL FUTURE QUEUING AT CRITICAL	
MOVEMENTS	55
TABLE 5.3: TRANSIT LEVEL OF SERVICE (LOS) FOR THE	-
SUBJECT SITE (2036 HORIZON YEAR)	62
TABLE 5.4: ACTIVE TRANSPORTATION LEVEL OF SERVICE	67
CRITERIA FOR THE SUBJECT SITE	63
TABLE 6.1: PARKING SPACE DIMENSION REQUIREMENTS	<b>6</b> F
FROM OTHER MUNICIPALITIES	65
TABLE 7-1: MINIMUM REQUIRED PARKING SPACES	
BASED ON PROMENADE ZONE (BY-LAW	-
6000-17)TABLE 7-2: PROPOSED PARKING SUPPLY AT THE	79
	0.0
SUBJECT SITE	8L

#### **FIGURES**

FIGURE 1.1: SITE LOCATION AND CONTEXT	
FIGURE 1.2: PROPOSED SITE PLAN	
FIGURE 2.1: EXISTING LANE CONFIGURATIONS	
FIGURE 2.2: RAW EXISTING TRAFFIC VOLUMES	
FIGURE 2.3: BALANCED EXISTING TRAFFIC VOLUMES	21
FIGURE 2.4: EXISTING TRANSIT SERVICES	
FIGURE 2.5: ACTIVE TRANSPORTATION INFRASTRUCTURE	34
FIGURE 3.1: YORK REGION 2041 TRANSIT NETWORK	36
FIGURE 3.2: YORK REGION 2041 CYCLING NETWORK	37
FIGURE 3.3: FUTURE BACKGROUND DEVELOPMENT	
TRAFFIC VOLUMES	39
FIGURE 3.4: 2026 FUTURE BACKGROUND TRAFFIC	
VOLUMES	45
FIGURE 3.5: 2031 FUTURE BACKGROUND TRAFFIC	
VOLUMES	46
FIGURE 3.6: 2036 FUTURE BACKGROUND TRAFFIC	
VOLUMES	
FIGURE 4.1: SITE GENERATED TRAFFIC FOR PHASE 1	51
FIGURE 4.2: SITE GENERATED TRAFFIC FOR PHASE 1 & 2	52
FIGURE 5.1: 2026 TOTAL FUTURE TRAFFIC VOLUMES	58
FIGURE 5.2: REMOVAL EXISTING TRAFFIC VOLUMES	
(NORTHERN PARCEL)	59
FIGURE 5.3: 2031 TOTAL FUTURE TRAFFIC VOLUMES	60
FIGURE 5.4: 2036 TOTAL FUTURE TRAFFIC VOLUMES	61
FIGURE 6.1: FIRE TRUCK TURNING SIMULATION REVIEW -	
INBOUND	67
FIGURE 6.2: FIRE TRUCK TURNING SIMULATION REVIEW -	
OUTBOUND	68
FIGURE 6.3: GARBAGE TRUCK TURNING SIMULATION	
REVIEW - INBOUND	69
FIGURE 6.4: GARBAGE TRUCK TURNING SIMULATION	
REVIEW - OUTBOUND	70
FIGURE 6.5: LOADING TRUCK TURNING SIMULATION	
REVIEW - INBOUND	71
FIGURE 6.6: LOADING TRUCK TURNING SIMULATION	
REVIEW - OUTBOUND	72
FIGURE 6.7: PASSENGER VEHICLE SITE CIRCULATION -	
GROUND FLOOR	73
FIGURE 6.8: PASSENGER VEHICLE SITE CIRCULATION -	
2ND FLOOR	74
FIGURE 6.9: CRITICAL PARKING SPACE TURNING	
MOVEMENT TESTS - 2ND FLOOR - NORTH	75

FIGURE 6.10: CRITICAL PARKING SPACE TURNING	
MOVEMENT TESTS - 2ND FLOOR - SOUTH	76
FIGURE 6.11: 77	
FIGURE 7.1: PROMENADE ZONE LIMITS	81
FIGURE 7-2: TRAVEL TREND IN SHARED MOBILITY	83
FIGURE 7-3: CHANGES IN CARSHARING MEMBERSHIP,	
2004 TO 2015	84
FIGURE 7-4: IMPACTS OF SHARED MOBILITY ON VEHICLE	
OWNERSHIP	87
FIGURE 7-5: DRIVER LICENSE TREND IN YORK REGION	87

#### **APPENDICES**

- **A** CORRESPONDENCE
- **B** TRAFFIC DATA
- C LEVEL OF SERVICE DEFINITIONS
- **D** EXISTING INTERSECTION OPERATIONS
- **E** TRAFFIC GROWTH RATE
- **F** FUTURE BACKGROUND DEVELOPMENTS
- **G** FUTURE BACKGROUND INTERSECTION OPERATIONS
- H TTS & MULTI SHARE FACTOR
- I TOTAL FUTURE INTERSECTION OPERATIONS

### 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.

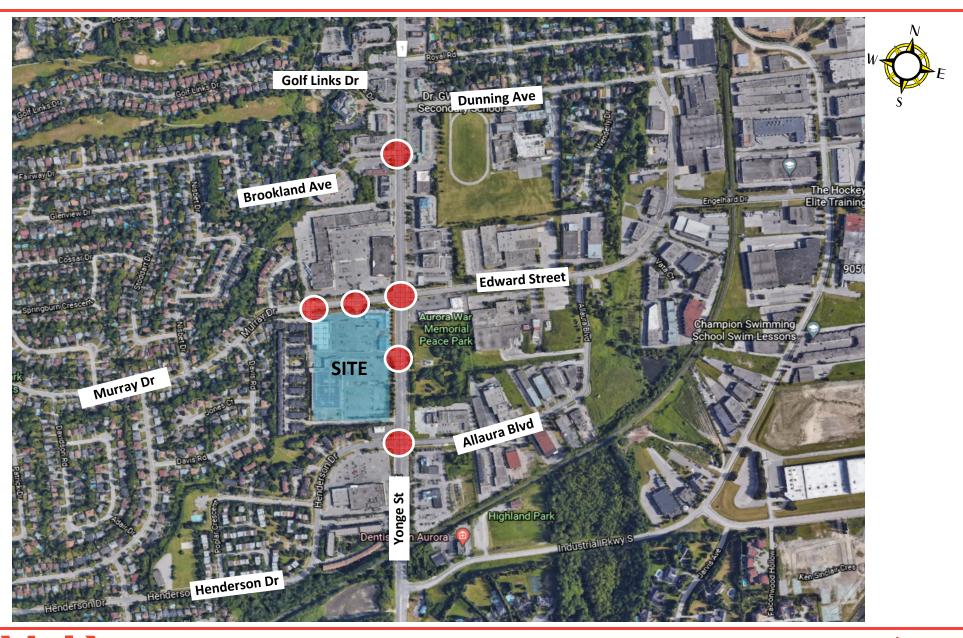
#### 1.2 DEVELOPMENT PROPOSAL

The proposed mixed-use development consists of a total of 900 dwelling units, and 618  $m^2$  of retail space. The site plan is shown in **Figure 1.2**.

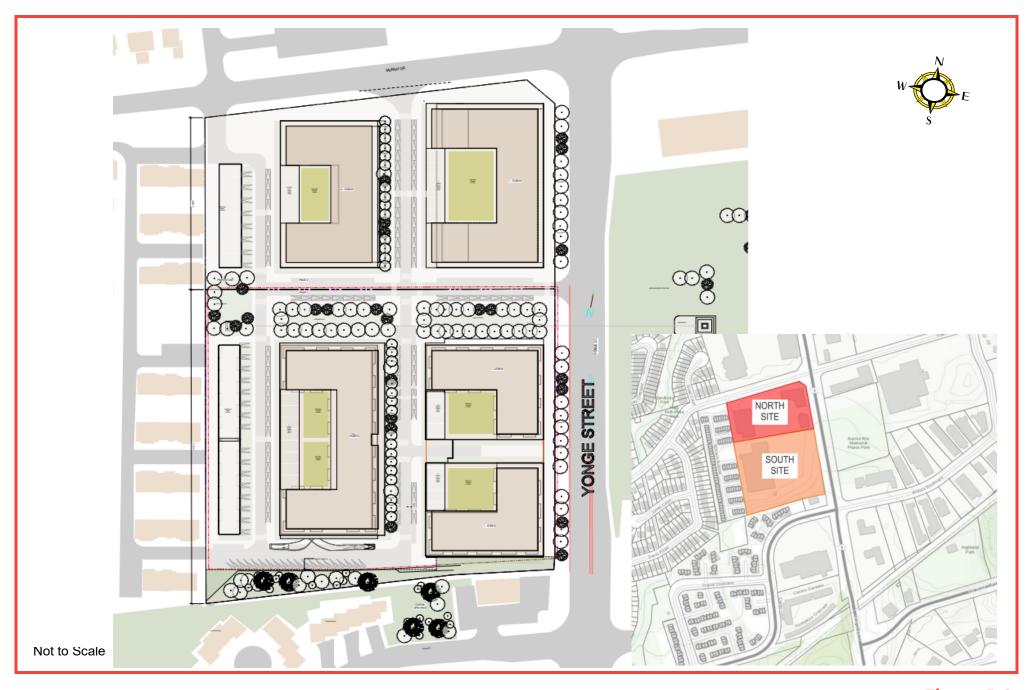
The development is proposed to be phased as follows:

- 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 m<sup>2</sup> 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.









# 2 EXISTING TRANSPORTATION CONDITIONS

#### 2.1 BOUNDARY ROADWAYS

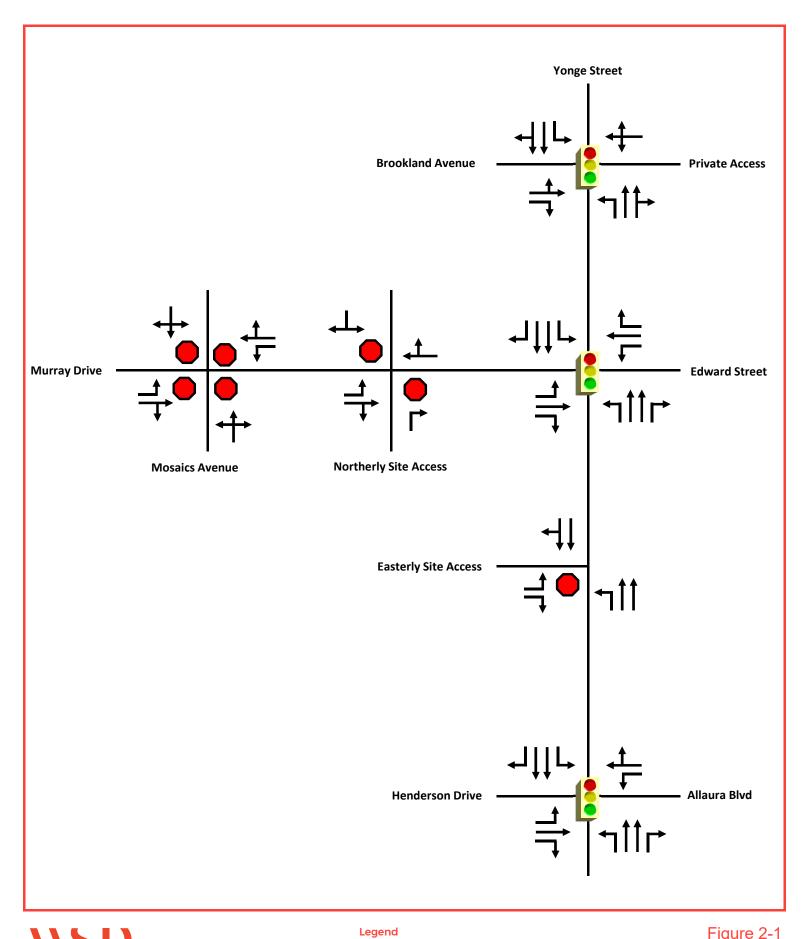
The following boundary roadways were identified within the vicinity of the subject site. These roadways are under the jurisdiction of the Town of Aurora.

- 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)













#### 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**.

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

**Table 2.1: Intersection Counts Collected for this Study** 

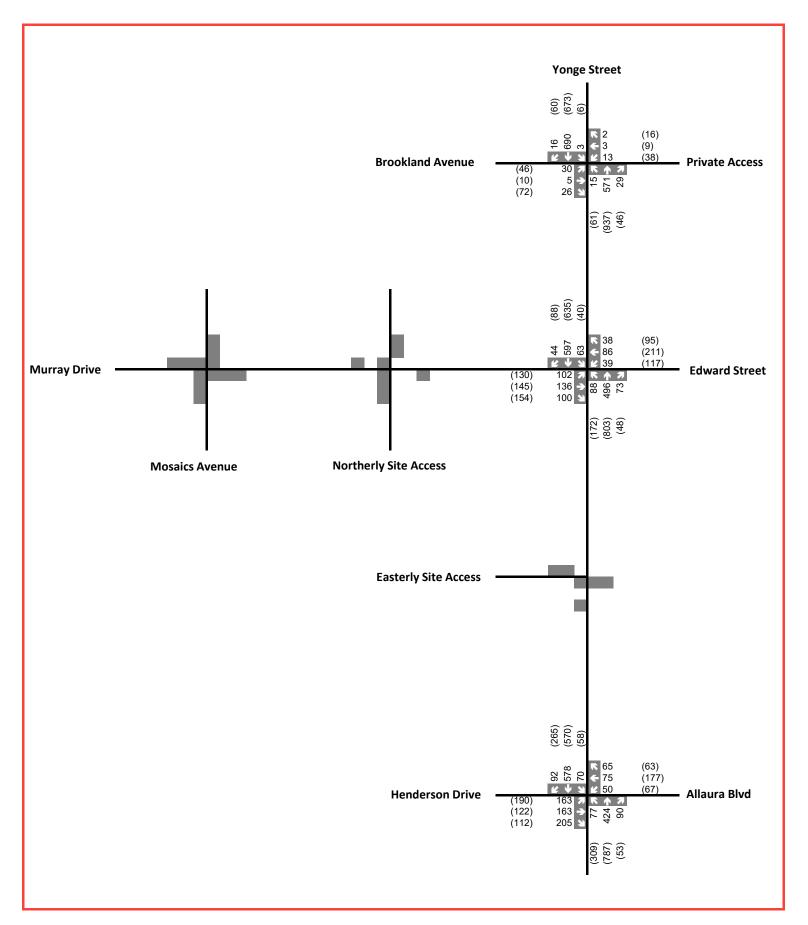
At the unsignalized intersections, the existing turning movements were estimated based on a first-principles approach by considering the number of residential units along Mosaics Avenue and the total GFA of retail space on north and south sides of Murray Drive. At the intersection of Yonge Street at 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**.

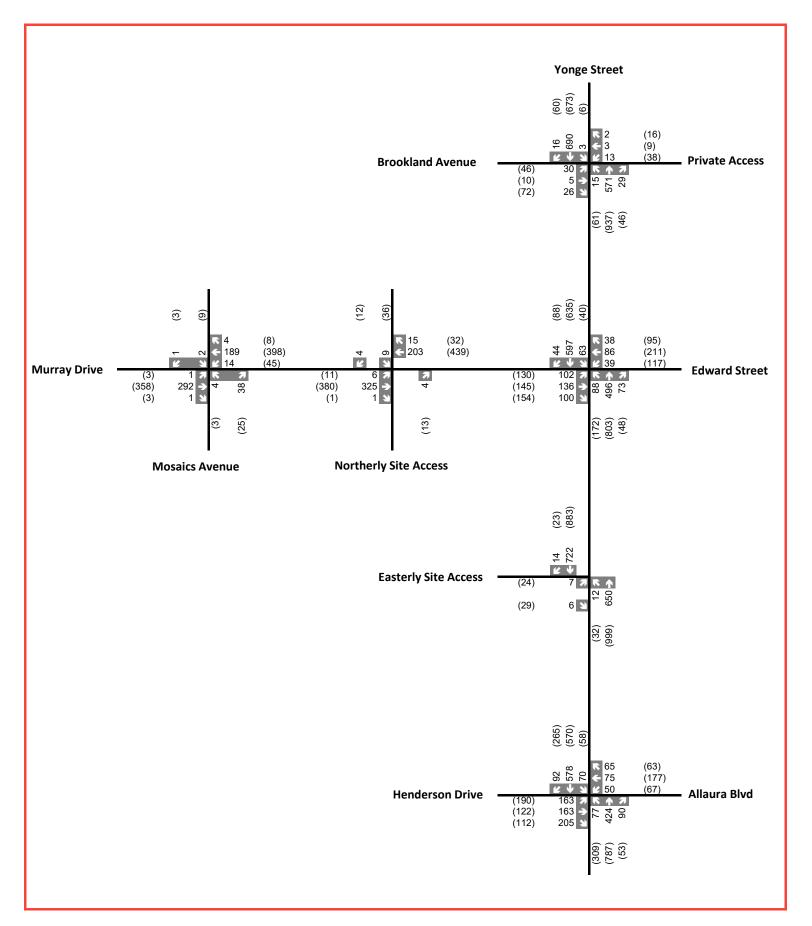
Three of the signal timing plans at the signalized intersections were also extracted from the Town of Aurora Master Transportation Study, by HDR Group, December 2020. These signal timing plans are included in **Appendix B**.

& balancing)





**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** 

		Weekday AM Peak Hour		Weekday PM Peak Hour		
Intersection	Control Type	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 <sup>1</sup>	B (15)	-	C (21)	-	
Yonge Street at Murray Drive/Edward Street	Signalized	B (13)	-	В (17)	-	
Yonge Street at Brookland Avenue/Private Access	Signalized	A (4)	-	A (6)	-	
Murray Drive at Mosaics Avenue	Unsignalized <sup>2</sup>	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)	

<sup>1</sup> 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.

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.

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

#### 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** 

		Storage	95 <sup>th</sup> Percentile Queues		
Intersection	Movement	Intersection Spacing (m)	AM Peak Hour	PM Peak Hour	
	NBL	80	13	59	
	NBR	75	7	6	
Yonge Street at Henderson	SBL	90	17	19	
Drive/Allaura Boulevard	SBR	48	6	23	
Direct Minagra Boulevara	WBL	35	21	24	
	EBL	50	43	43	
	EBR	15	16	11	
	NBL	42	8	18	
Yonge Street at Murray Drive/	NBR	40	6	1	
	SBL	36	8	12	
	SBR	15	1	3	
Edward Street	WBL	40	18	39	
	WBR	20	0	12	
	EBL	45	31	32	
	EBR	30	13	13	
Yonge Street at Brookland	NBL	15	2	9	
Avenue/Private Access	SBL	15	1	1	
Tivenue, i Tivute necess	EBR	12	6	13	
Murray Drive at Mosaics Avenue	EBL	25	0	0	
mairay Drive at Mosaics Avenue	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  $95^{th}$  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 eastwest 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.

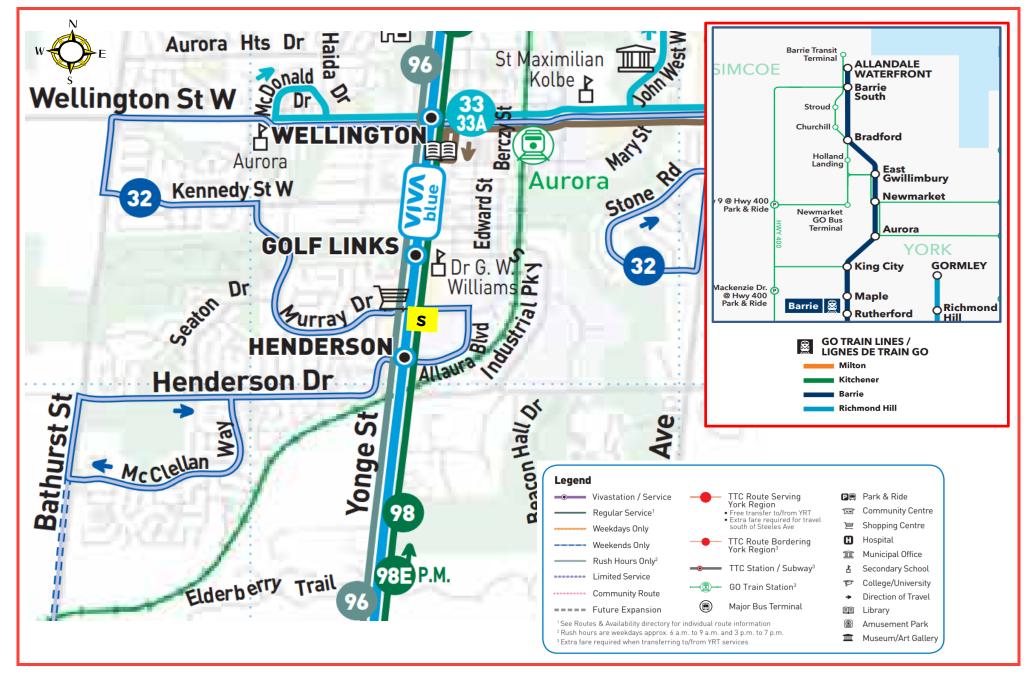
- YRT Route 98 (Yonge) operates along Yonge Street, in a north-south direction. Route 98 provides access to both the Newmarket Terminal and Bernard Terminal. Service is available Monday through Sunday, including holidays. This route operates approximately every 50 minutes during the weekday peak periods 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** 

	Tra	Transit Service Operating Frequencies					
Route	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 Figure 2-4

#### 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)		Intersection Approach			
		Access to Stops <sup>1</sup>	Delay (seconds/veh)	Volume/Capacity Ratio		
A	≤ 5 minutes	90% within ≤ 200 m	≤ 10	0 to 0.60		
В	> 5-10 minutes	90% within ≤ 500 m and 70% within ≤ 200 m	> 10-20	0.61 to 0.70		
С	> 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		
Е	> 20-30 minutes	100 % within ≤ 800 m	> 55-80	0.91 to 1.00		
F	≥ 30 minutes	100% > 800 m	> 80	> 1.00		

<sup>1</sup> 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				
Transit Stop Bocation	2 ii corion	LOS	LOS		Delay		v/c	
			AM	PM	AM	PM	AM	PM
	Northbound	С	С	С	A	A	Α	A
Yonge Street & Henderson	Southbound	С	С	С	A	A	A	A
Drive/Allaura Boulevard	Eastbound	D	F	F	A	A	A	A
	Westbound	D	F	F	D	D	A	С
	Northbound	A	С	С	A	A	Α	A
Yonge Street at Murray	Southbound	A	С	С	A	A	Α	A
Drive/Edward Street	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	С	С	A	A	A	A
Mosaics Avenue and Murray	Eastbound	A	F	F	В	В	A	A
Drive	Westbound	A	F	F	A	В	A	В

The performance evaluation of the existing transit mode indicates that:

- 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 importanly, 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 experiance 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	
В	≥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	
С	≥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** 

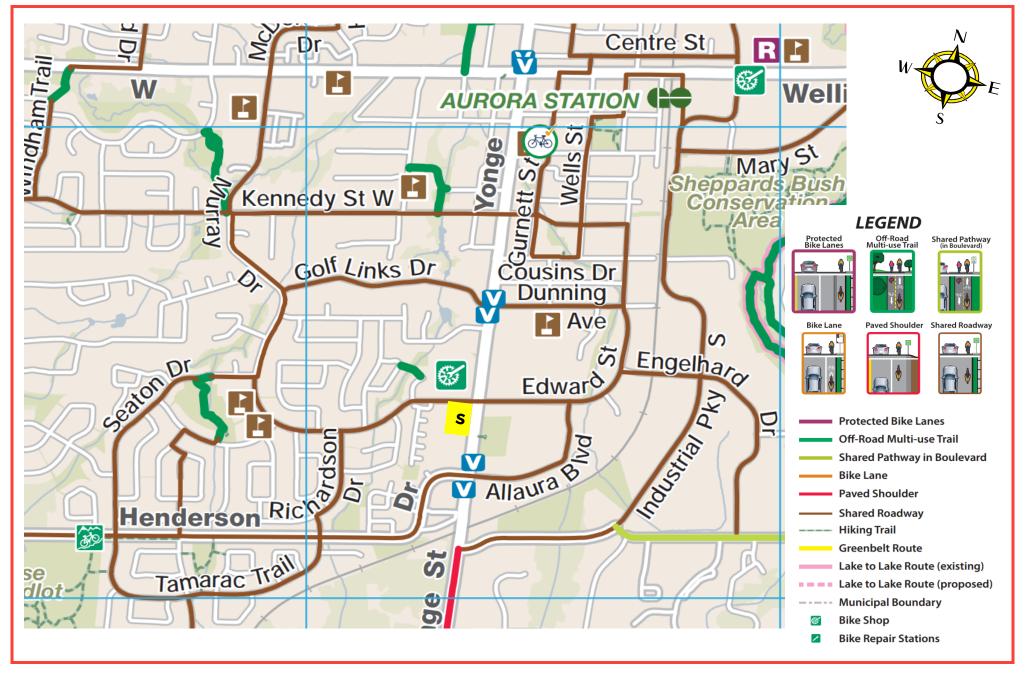
	Direction	Description	Ped	lestrians	Bicycles		
Intersection			Segment LOS	Intersection LOS	Segment LOS	Intersection LOS	
	Northbound	Yonge Street	С	С	F	F	
Yonge Street at Henderson Drive/Allaura	Southbound	Yonge Street	С	С	F	F	
Boulevard	Eastbound	Henderson Drive	В	С	Е	F	
	Westbound	Allaura Boulevard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

Site Location

**Figure 2-5** Existing Active

## 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 %			
Corridor	Direction	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/19<sup>th</sup> 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.

Vivian Road Drive St John's Sideroad Ballantrae Rapid Transit Corridor ■ ■ Rapid Transit Subject to Further Study Frequent Transit Network Highway Bus Service (YRT/Viva, GO) Transitway ➤ Rural Bus Connections **Subject Site** Subway Extension Potential Subway Extension to be Bloomington Road Future Subway Station GO Train, 15-min Two Way All Day GO Train, Two Way All Day Service Bethesda S GO Train, Rush Hour Service Existing GO Station 404 Potential GO Station Existing Commuter Lots Stouffville P Potential Commuter Lots Note: Special Study Area 19th BASE MAP INFORMATION Provincial Freeway Provincial Highway R \*\*\*\*\*\* Railway

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.

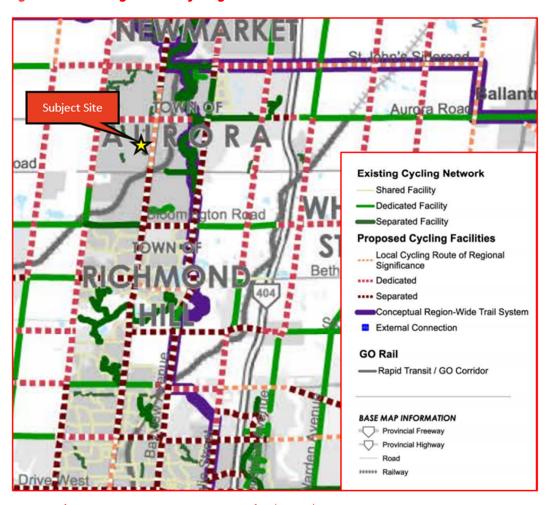


Figure 3.2: York Region 2041 Cycling Network

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).

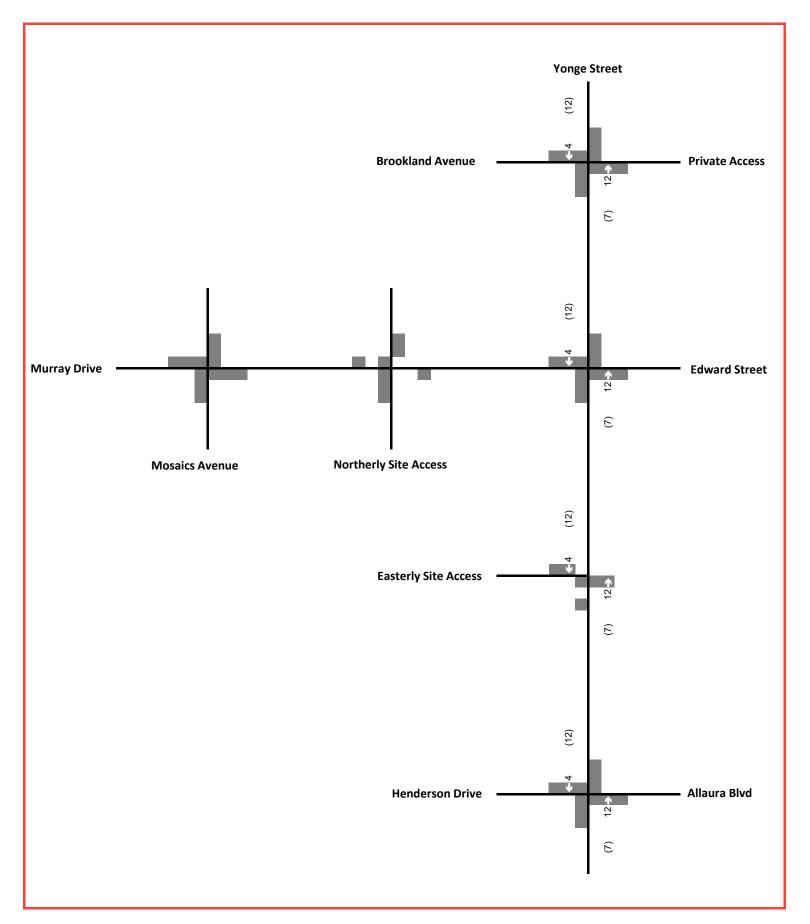
# 3.6 TRAFFIC INCREASES RELATED TO OTHER DEVELOPMENTS

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.





# 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** 

		Weekday AM Po		Weekday I	PM Peak Hour
Intersection	Control Type	Overall LOS (Delay) in Seconds	Critical Movements (v/c)	Overall LOS (Delay) in Seconds	Critical Movements (v/c)
	Но	rizon Year 20	26		
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized <sup>1</sup>	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 <sup>2</sup>	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)
	Но	rizon Year 20	31		
Yonge Street at Henderson Drive/Allaura Boulevard	Signalized	B (14)	-	C (27)	-
Yonge Street at Murray Drive/Edward Street	Signalized	В (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)				

<sup>1</sup> 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.

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 queueing 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 95<sup>th</sup> percentile queues is provided in **Table 3.4**. The movements with 95<sup>th</sup> percentile queues forecasted to exceed the available storage lengths are highlighted in red and the 50<sup>th</sup> 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**.

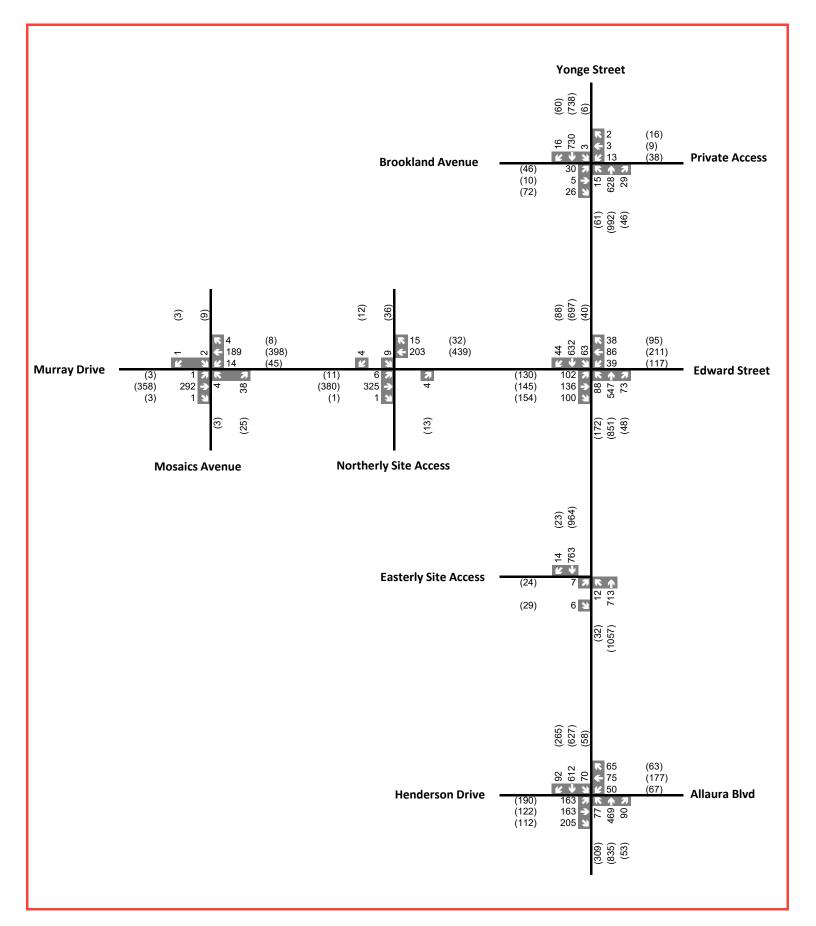
<sup>2</sup> For two-way stop controlled intersections, the level of service is based on the delay associated with the critical movement.

**Table 3.4: Future Background Queuing at Critical Movements** 

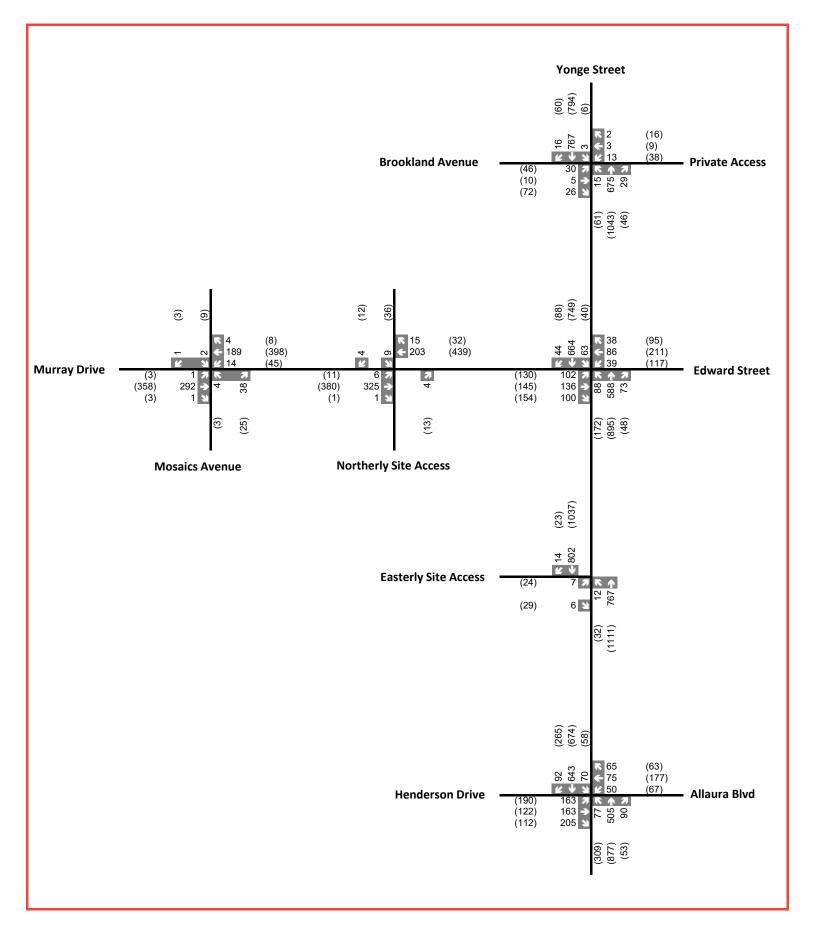
Intersection	M	Storage		ntile Queues ntile Queues)
intersection	Movement	Intersection Spacing (m)	AM Peak Hour	PM Peak Hour
F	Horizon Year	2026		
	NBL	80	13	55
	NBR	75	7	5
Various Chrosat at Haradaman	SBL	90	16	27
Yonge Street at Henderson Drive/Allaura Boulevard	SBR	48	4	<mark>52</mark> (25)
Drive/Allaura Boulevaru	WBL	35	21	24
	EBL	50	43	45
	EBR	15	16	11
	NBL	42	12	15
	NBR	40	7	1
	SBL	36	8	16
Yonge Street at Murray Drive/Edward	SBR	15	1	12
Street	WBL	40	18	39
	WBR	20	0	12
	EBL	45	30	33
	EBR	30	12	14
Vanca Street at Prophland	NBL	15	2	11
Yonge Street at Brookland Avenue/Private Access	SBL	15	1	1
Avenue/Filvate Access	EBR	12	6	13
Murray Drive at Mosaics Avenue	EBL	25	0	0
Multay Drive at Mosaics Avenue	WBL	30	0	0
Yonge Street at Easterly Access	NBL	30	1	1
Murray Drive at Northerly Site Access	EBL	35	1	1
H	Horizon Year	2031		
	NBL	80	13	55
	NBR	75	7	5
Yonge Street at Henderson	SBL	90	16	27
Drive/Allaura Boulevard	SBR	48	4	<mark>54</mark> (25)
Directiniania Donicvara	WBL	35	21	24
	EBL	50	43	45
	EBR	15	16	11
	NBL	42	12	14
Yonge Street at Murray Drive/Edward	NBR	40	8	1
Street	SBL	36	8	16
	SBR	15	1	11

Test ann a atriana	Manamant	Storage	95 <sup>th</sup> Percentile Queues (50 <sup>th</sup> Percentile Queues)		
Intersection	Movement	Intersection Spacing (m)	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	NBL	15	2	12	
Avenue/Private Access	SBL	15	1	1	
Avenue/Private Access	EBR	12	6	13	
Marmory Duive at Magaiga Avyonya	EBL	25	0	0	
Murray Drive at Mosaics Avenue	WBL	30	0	0	
Yonge Street at Easterly Access	NBL	30	1	1	
Murray Drive at Northerly Site Access	EBL	35	1	1	
F	Iorizon Year	2036			
	NBL	80	13	59	
	NBR	75	7	5	
Vanga Street at Handarson	SBL	90	15	26	
Yonge Street at Henderson Drive/Allaura Boulevard	SBR	48	3	<del>56</del> (27)	
Drive/Allaura boulevaru	WBL	35	21	24	
	EBL	50	43	45	
	EBR	15	16	11	
	NBL	42	13	14	
	NBR	40	9	1	
	SBL	36	8	16	
Yonge Street at Murray Drive/Edward	SBR	15	1	10	
Street	WBL	40	18	39	
	WBR	20	0	12	
	EBL	45	30	33	
	EBR	30	12	14	
Yonge Street at Brookland	NBL	15	2	12	
Avenue/Private Access	SBL	15	1	1	
Avenue/Frivate Access	EBR	12	6	13	
Murray Drive at Mosaics Avenue	EBL	25	0	0	
Murray Drive at Mosaics Aveilue	WBL	30	0	0	
Yonge Street at Easterly Access	NBL	30	1	1	
Murray Drive at Northerly Site Access	EBL	35	1	1	

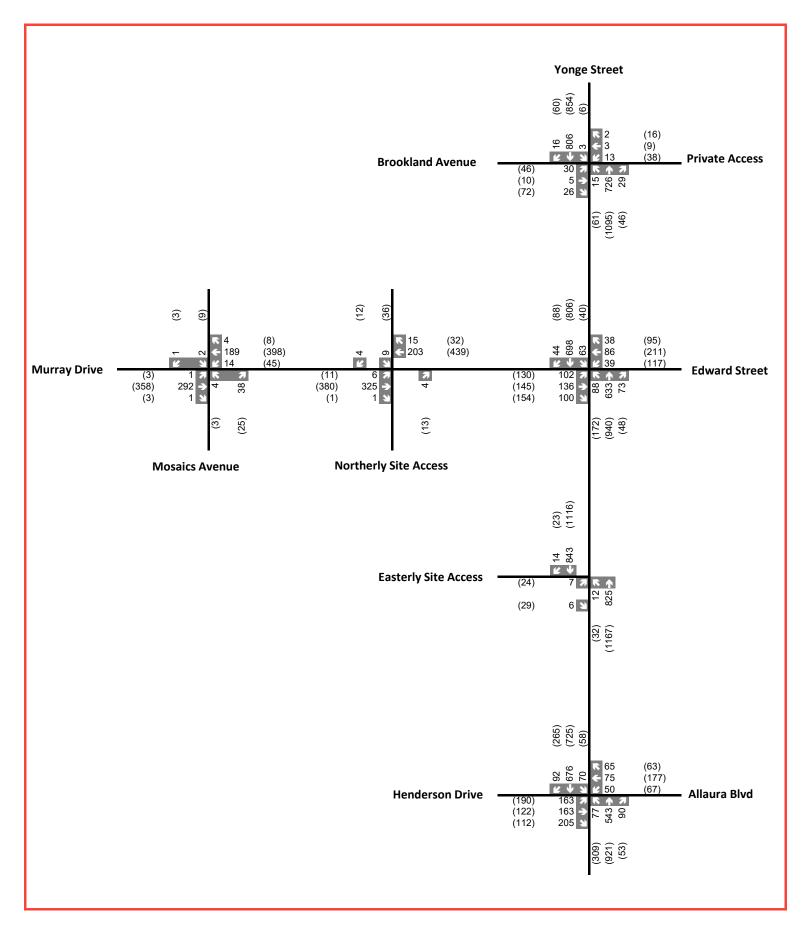
As can be seen in **Table 3.4**, under 2026, 2031 and 2036 future background conditions, the 95<sup>th</sup> percentile queues are expected not to exceed the available storage lengths at all intersections, with the exception of the queue at the southbound right-turn lane on Yonge Street at Henderson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













# 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** 

	Modal Split Percentage						
Travel Mode	A.M. Pe	eak 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, 10<sup>th</sup> 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** 

			Rate / Equation					
Land Use (Code)	Independent Variable	Weekda	y A.M. Peak Hour	Weekday P.M. Peak Hour				
		Inbound	Outbound	Inbound	Outbound			
Multifamily Housing (Mid-Rise)-	Equation (x = residential units)	Ln(T) =	0.98 Ln (X) – 0.98	Ln (T) = 0.96 Ln (X) - 0.63				
General Urban/ Suburban (221)	Directional Split	26%	74%	61%	39%			
Shopping Centre	Equation $(x = per 1000 ft^2)$	T = 0.5X + 151.78		T = 0.5X + 151.78				
(820)	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		
Land Ose	Parameter	Inbound	Outbound	Total	Inbound	Outbound	Total
	Auto Trips	45	128	173	129	82	211
Residential Mid- Rise Housing	Modal Split Reduction	(9)	(23)	(32)	(17)	(12)	(29)
(480 Units)	New Trips	36	105	141	112	70	182
Shopping Centre	Auto Trips	4	2	6	12	13	25
$(6650 \text{ ft}^2)$	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	Weekd	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
	rarameter	Inbound	Outbound	Total	Inbound	Outbound	Total	
Residential	Auto Trips	84	240	324	242	154	396	
Mid-Rise Housing	Modal Split Reduction	(17)	(43)	(60)	(32)	(23)	(54)	
(900 Units)	New Trips	67	197	264	211	131	342	
Shopping Centre	Auto Trips	4	2	6	12	13	25	
(6650 ft <sup>2</sup> )	New Trips	4	2	6	12	13	25	
Total Ne	et 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

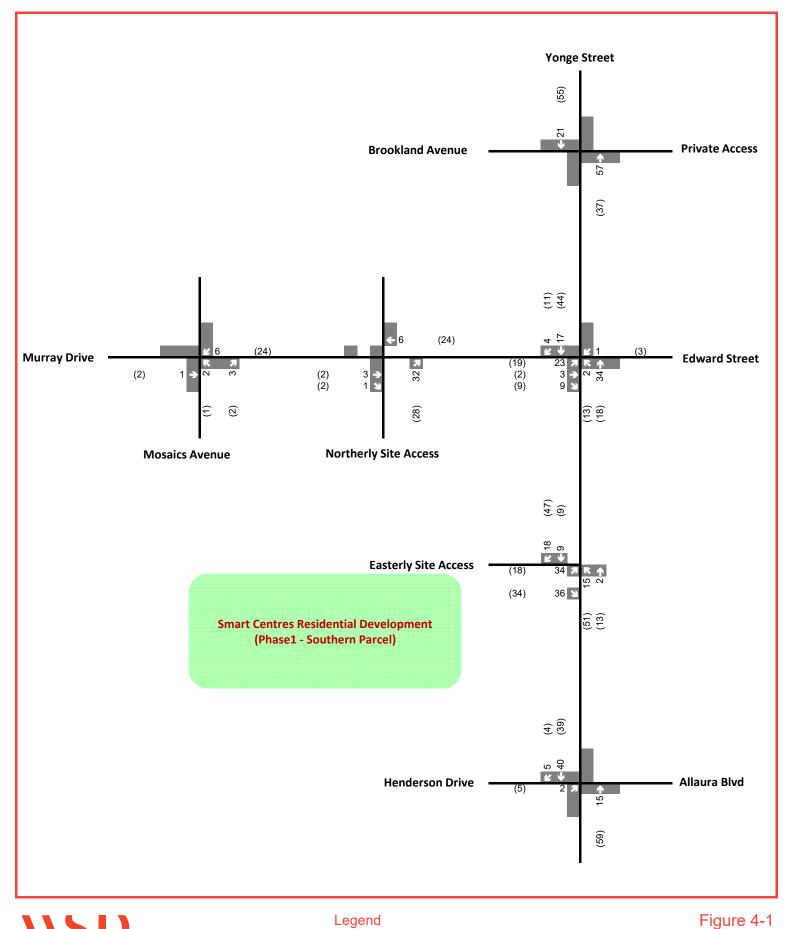
Trip distribution data for home-based trips in Traffic Analysis Zones 2554 and 2561 from TTS data were reviewed to determine the development traffic distribution. **Table 4.5** outlines the resulting TTS trip distribution. The detailed TTS queries are provided in **Appendix H**.

**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.

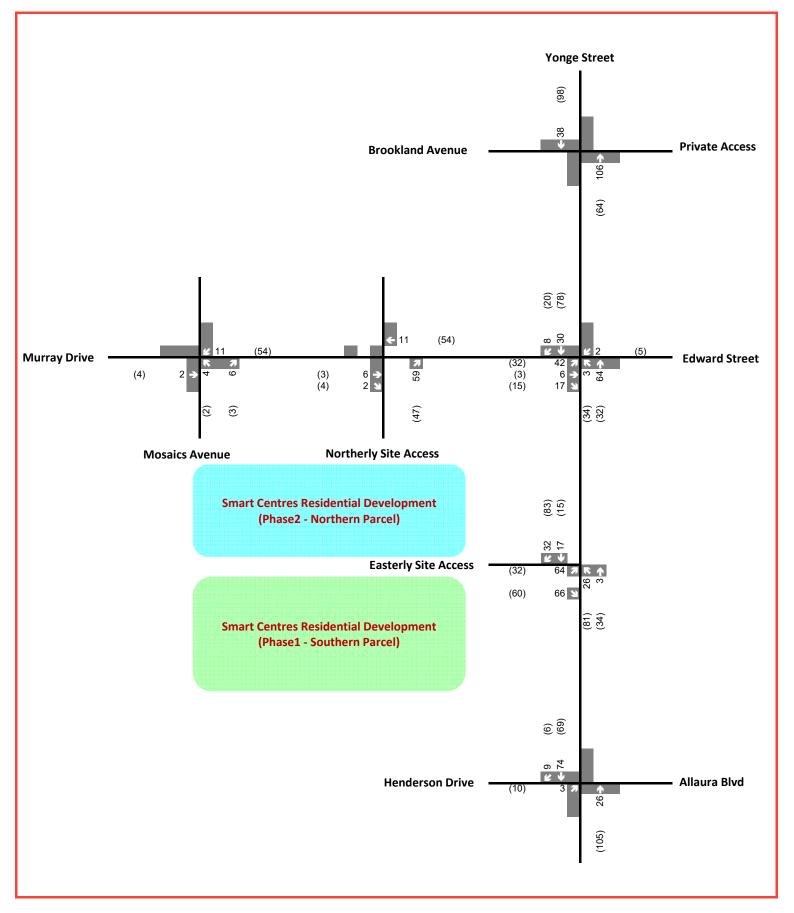
**Figure 4.1** and **Figure 4.2** illustrate the resulting traffic assignment boundary road network for Phase 1 (2026) and full built-out (2031 & 2036), respectively.





Legend

P.M. Peak Hour 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** 

		Weekday A	AM Peak Hour	Weekday PM Peak Hour					
Intersection	Control Type	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 <sup>1</sup>	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 <sup>2</sup>	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)		
	Но	rizon Year 20	)36				
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)		

<sup>1</sup> 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.

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.

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

## 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 95<sup>th</sup> percentile queues is provided **Table 5.2**. The movements with 95<sup>th</sup> percentile queues forecasted to exceed the available storage lengths are highlighted in red and the 50<sup>th</sup> 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**.

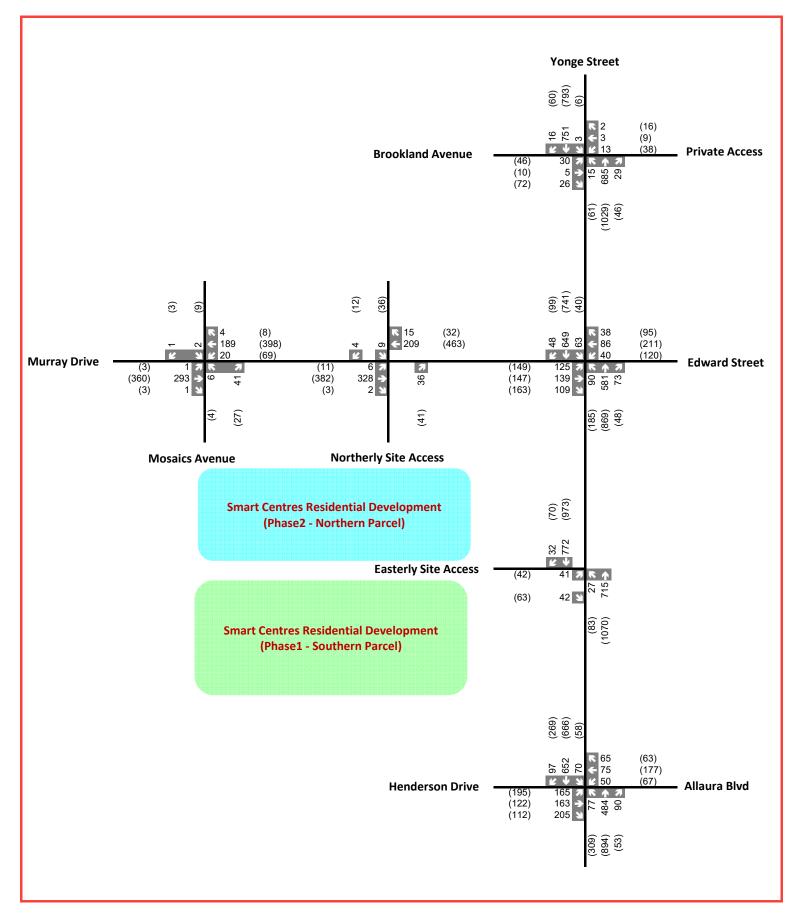
**Table 5.2: Total Future Queuing at Critical Movements** 

Intersection	Movement	Storage Intersection	95 <sup>th</sup> Percentile Queues (50 <sup>th</sup> Percentile Queues)					
intersection	Movement	Spacing (m)	AM Peak Hour	PM Peak Hour				
Horizon Year 2026								
	NBL	80	13	55				
	NBR	75	7	5				
Yonge Street at Henderson	SBL	90	16	27				
Drive/Allaura Boulevard	SBR	48	4	<mark>54</mark> (25)				
Drive/Allaura Boulevaru	WBL	35	21	24				
	EBL	50	43	46				
	EBR	15	16	11				
	NBL	42	12	16				
	NBR	40	8	1				
	SBL	36	8	16				
Yonge Street at Murray Drive/	SBR	15	1	13				
<b>Edward Street</b>	WBL	40	18	40				
	WBR	20	0	12				
	EBL	45	36	37				
	EBR	30	13	14				
Yonge Street at Brookland	NBL	15	2	11				
Avenue/Private Access	SBL	15	1	1				
Avenue, i livate necess	EBR	12	6	13				
Murray Drive at Mosaics Avenue	EBL	25	0	0				
marray Drive at Mosaics Avenue	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	NBL	80	13	57				
Drive/Allaura Boulevard	NBR	75	7	5				
Direj inimata Doutevala	SBL	90	16	26				

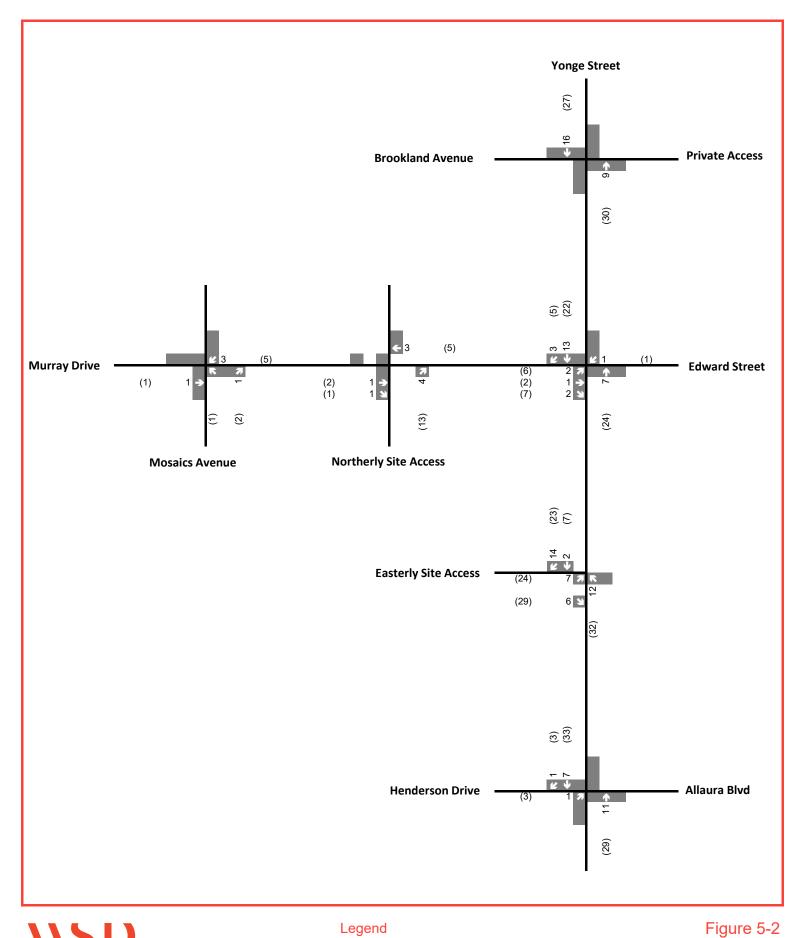
Intersection	Movement	Storage Intersection	95 <sup>th</sup> Percentile Queues (50 <sup>th</sup> Percentile Queues)		
intersection	Movement	Spacing (m)	AM Peak Hour	PM Peak Hour	
	SBR	48	3	<mark>56</mark> (27)	
	WBL	35	21	24	
	EBL	50	43	47	
	EBR	15	16	11	
	NBL	42	13	16	
	NBR	40	8	1	
	SBL	36	8	16	
Yonge Street at Murray	SBR	15	1	13	
Drive/Edward Street	WBL	40	18	41	
	WBR	20	0	12	
	EBL	45	40	39	
	EBR	30	13	14	
V Ctt -t D111	NBL	15	2	11	
Yonge Street at Brookland Avenue/Private Access	SBL	15	1	1	
Avenue/Private Access	EBR	12	6	13	
Manuary Duive at Magaiga Arranga	EBL	25	0	0	
Murray Drive at Mosaics Avenue	WBL	30	0	0	
Yonge Street at Easterly Access	NBL	30	1	4	
Murray Drive at Northerly Site Access	EBL	35	1	1	
	Horizon Yea	r 2036			
	NBL	80	13	65	
	NBR	75	7	5	
Warran Chrosch at Harrian	SBL	90	15	25	
Yonge Street at Henderson Drive/Allaura Boulevard	SBR	48	3	<mark>58</mark> (29)	
Drive/Anaura Douievaru	WBL	35	21	24	
	EBL	50	43	47	
	EBR	15	16	11	
	NBL	42	14	16	
	NBR	40	9	1	
	SBL	36	8	16	
Yonge Street at Murray Drive/	SBR	15	1	12	
Edward Street	WBL	40	18	41	
	WBR	20	0	12	
	EBL	45	40	39	
	EBR	30	13	14	
	NBL	15	2	12	

Intersection	Movement	Storage Intersection	95 <sup>th</sup> Percentile Queues (50 <sup>th</sup> Percentile Queues)		
intersection	Wiovellient	Spacing (m)	AM Peak Hour	PM Peak Hour	
Yonge Street at Brookland	SBL	15	1	1	
Avenue/Private Access	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	

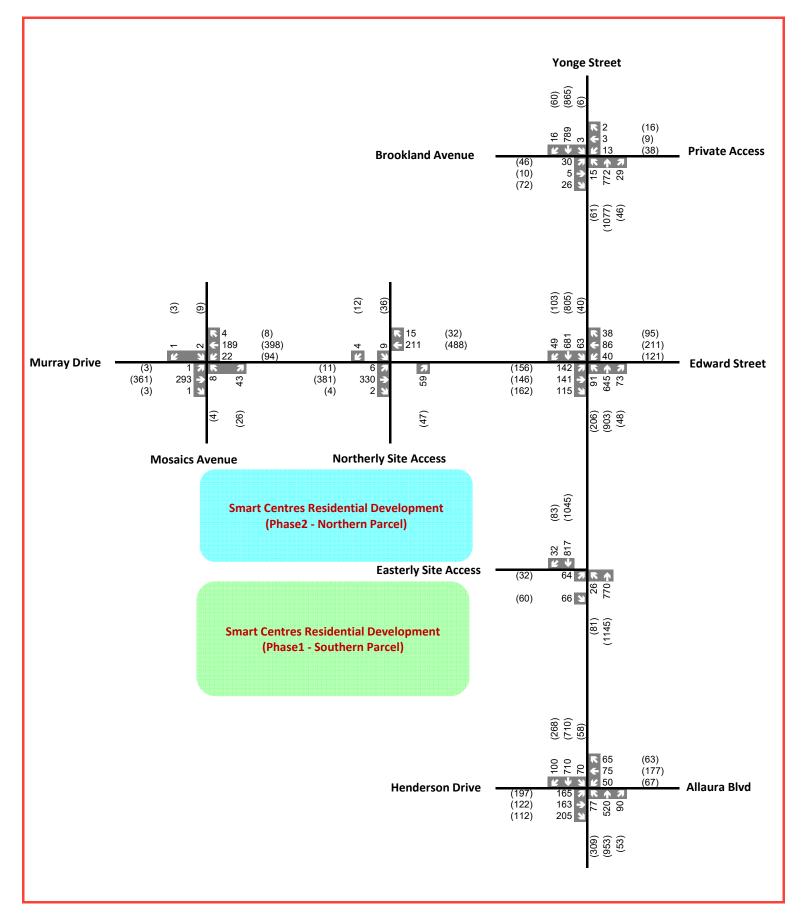
As can be seen in Table 5.2, under 2026, 2031 and 2036 total future conditions, the 95<sup>th</sup> percentile queues are expected not to exceed the available storage lengths at all intersections. Similar to future background conditions, the only exception continues to be the queue at the southbound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



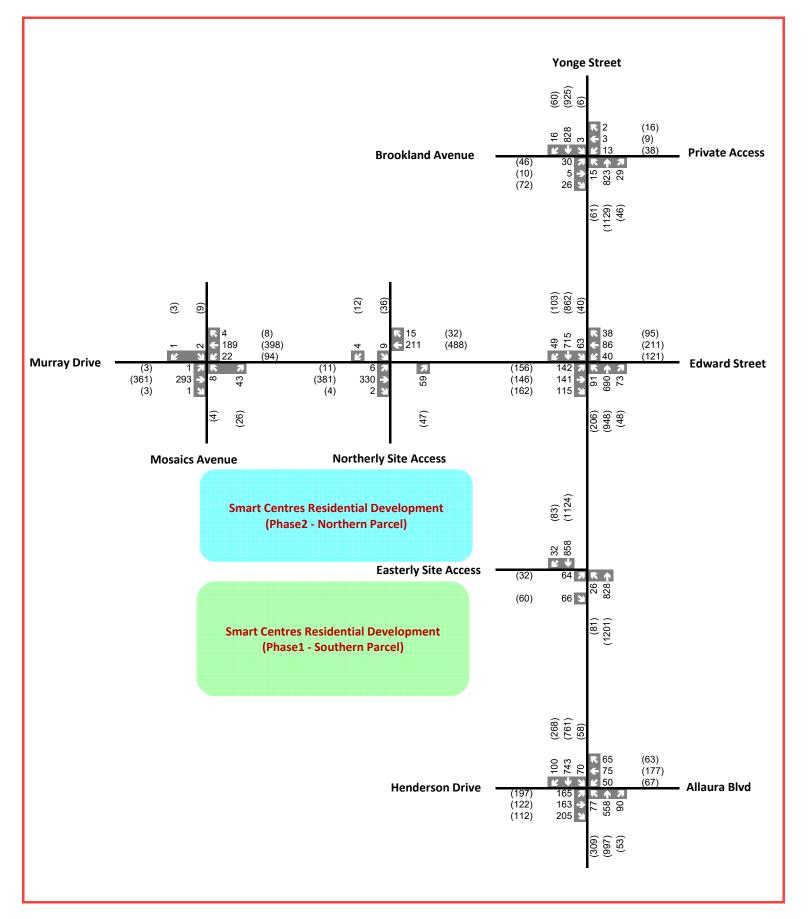














(With Phase 1&2)

# 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		nsit Iways	Inters	Intersection Approach Transit or Curb Lanes			
		LOS	LOS		Delay		v/c		
			AM	PM	AM	PM	AM	PM	
	Northbound	С	С	С	A	A	A	A	
Yonge Street & Henderson	Southbound	С	С	С	A	С	A	A	
Drive/Allaura Boulevard	Eastbound	D	F	F	A	A	A	A	
	Westbound	D	F	F	D	D	A	С	
	Northbound	A	С	С	A	A	A	A	
Yonge Street at Murray	Southbound	A	С	С	A	A	A	A	
Drive/Edward Street	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	С	С	A	A	A	A	
Mosaics Avenue and Murray	Eastbound	A	F	F	В	В	A	A	
Drive	Westbound	A	F	F	A	В	A	В	

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

- 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.
- 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** 

			Pedestrians		Bicycles	
Intersection	Direction	Description	Segment LOS	Intersection LOS	Segment LOS	Intersection LOS
	Northbound	Yonge Street	С	С	F	F
Yonge Street at Henderson	Southbound	Yonge Street	С	С	F	F
Drive/Allaura Boulevard	Eastbound	Henderson Drive	В	С	E	F
	Westbound	Allaura Boulevard	F	С	Е	F
	Northbound	Yonge Street	В	С	F	F
Yonge Street at Murray Drive/Edward Street	Southbound	Yonge Street	В	С	F	F
Drive/Edward Street	Eastbound	Murray Drive	В	С	Е	Е
	Westbound	Edward Street	В	С	Е	Е
	Northbound	Yonge Street	С	С	F	F
Yonge Street at Brookland	Southbound	Yonge Street	С	С	F	F
Avenue/Private Access	Eastbound	Brookland Avenue	С	С	F	F
	Westbound	Private Road	F	С	F	F
	Northbound	Yonge Street	В	Е	F	F
Yonge Street at Easterly Site Access	Southbound	Yonge Street	В	Е	F	F
	Eastbound	Easterly Site Access	С	F	N/A	
	Northbound	Mosaics Avenue	С	F	F	F
Murray Drive at Mosaics	Southbound	Plaza Access	F	С	F	F
Avenue	Eastbound	Murray Drive	В	Е	Е	Е
	Westbound	Murray Drive	В	Е	Е	Е
Murray Drive at Northerly	Northbound	Northerly Site Access	A	F	N/A	
	Southbound	Plaza Access	F	F	1	N/A
Site Access	Eastbound	Murray Drive	В	Е	Е	Е
	Westbound	Murray Drive	В	Е	Е	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 manoeuverability 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 6.4** 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 <b>.</b> 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 2<sup>nd</sup> 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 2<sup>nd</sup> Floor Parking Garage, as they are located at deadend 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.

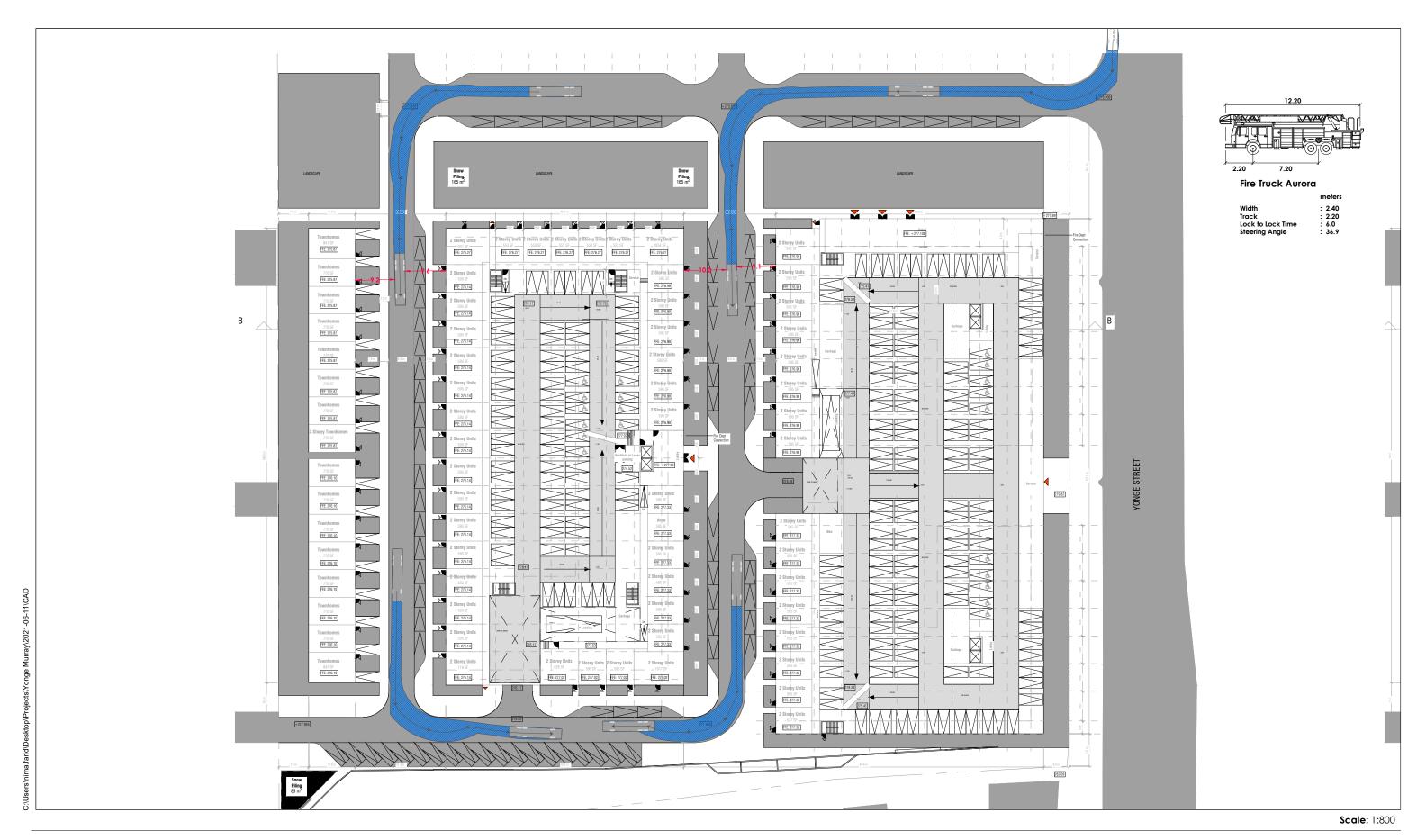




Figure 6.1 Fire Truck Turning Simulation Review - Inbound Yonge and Murray

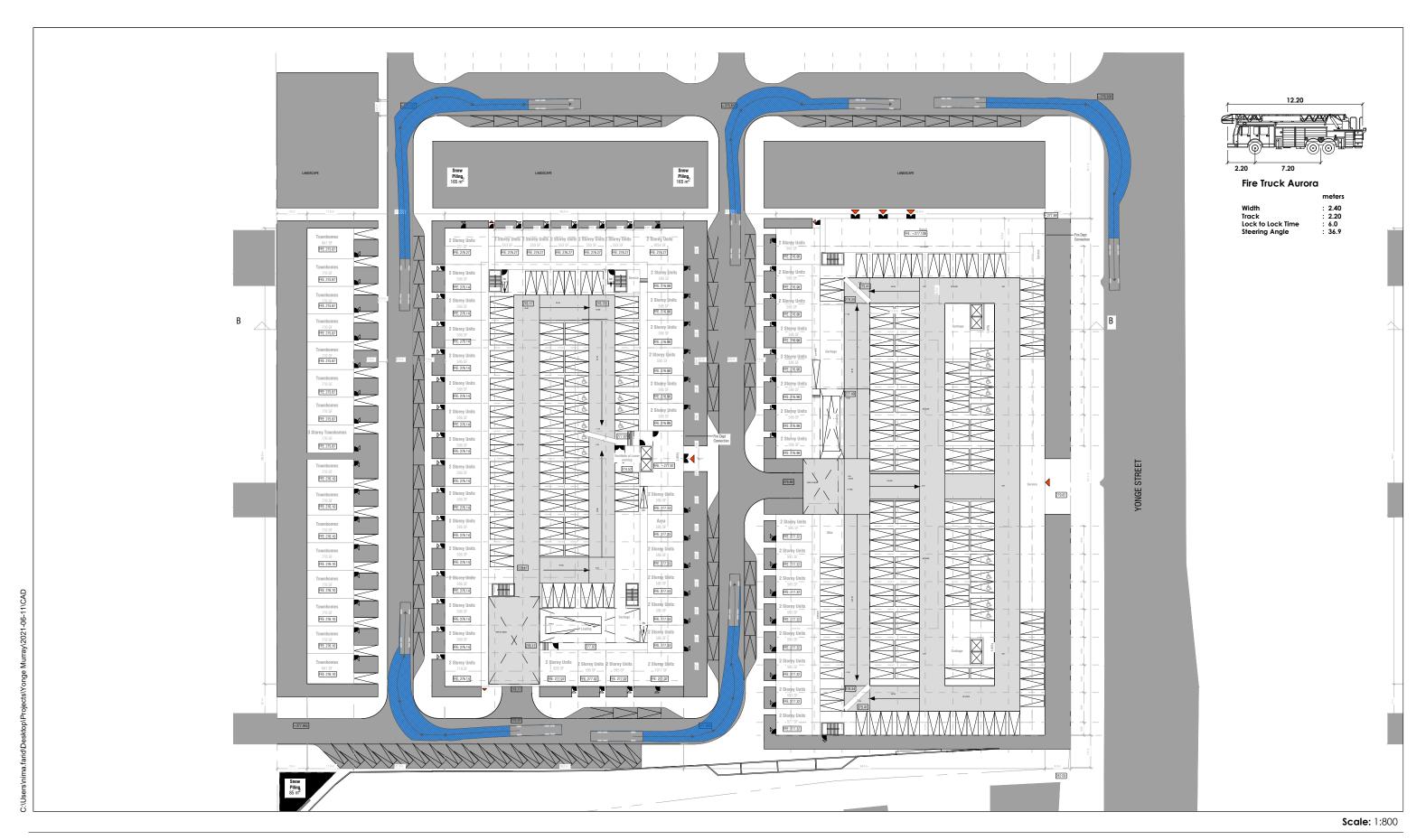




Figure 6.2 Fire Truck Turning Simulation Review - Outbound Yonge and Murray

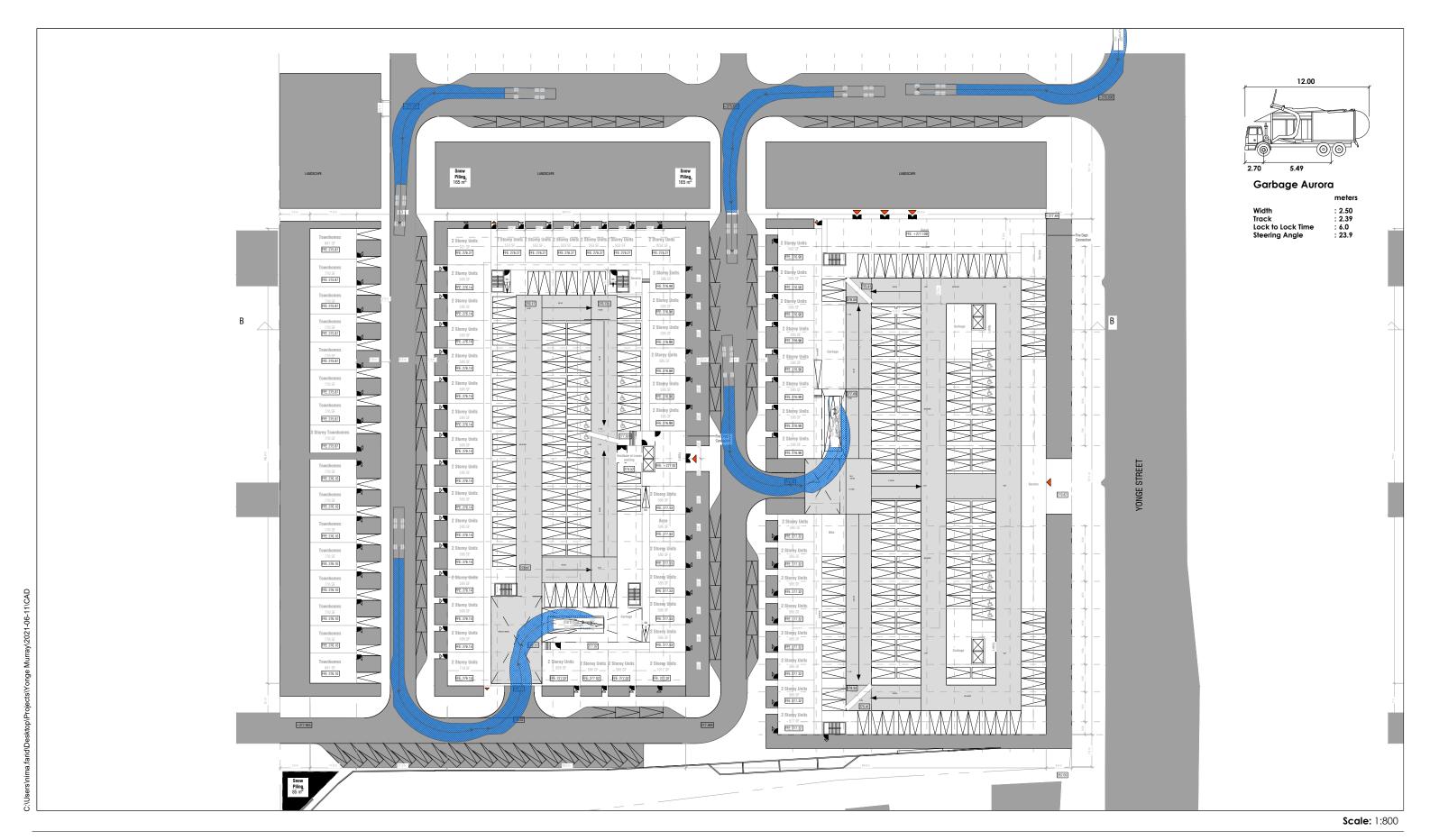




Figure 6.3 Garbage Truck Turning Simulation Review - Inbound Yonge and Murray

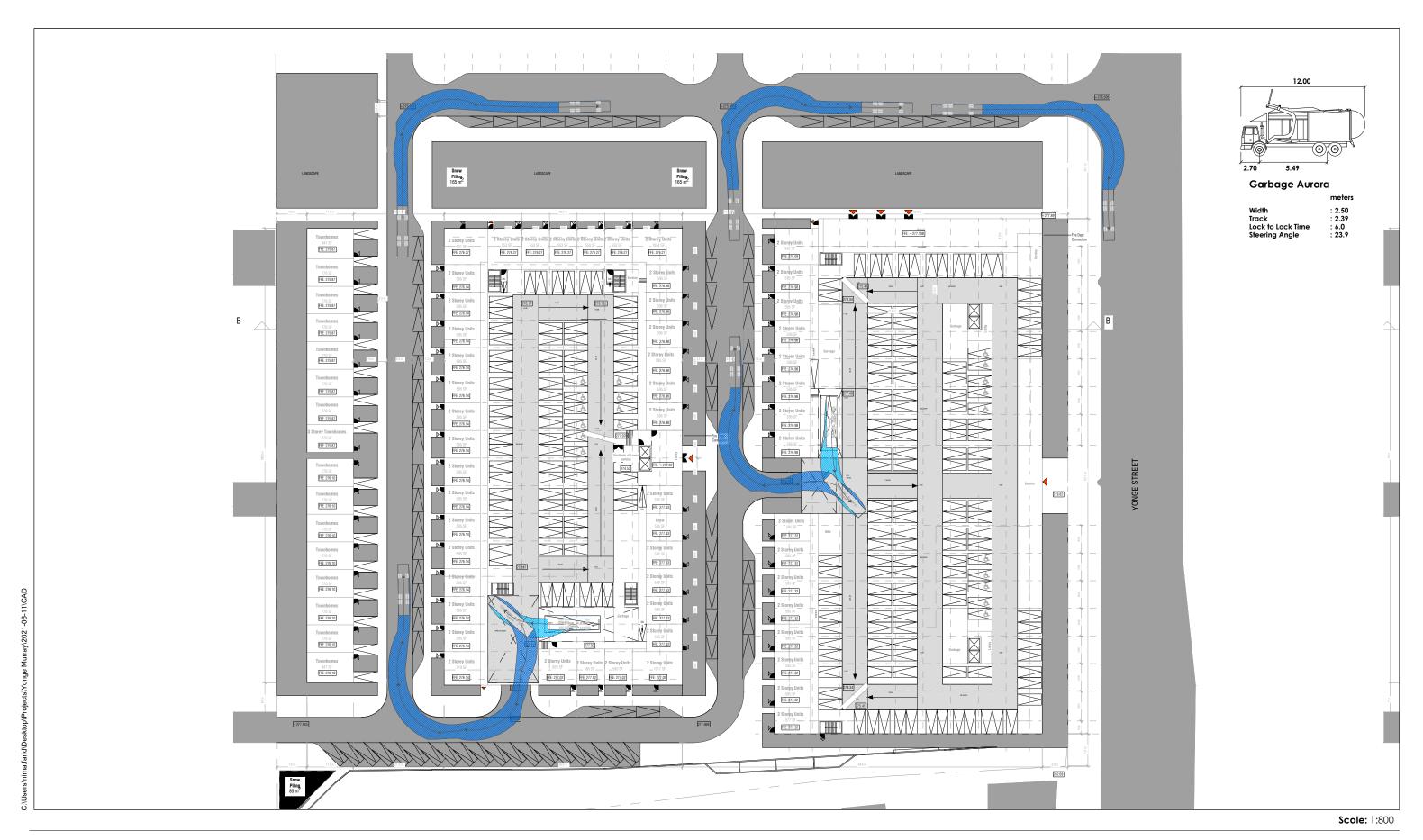




Figure 6.4 Garbage Truck Turning Simulation Review - Outbound Yonge and Murray

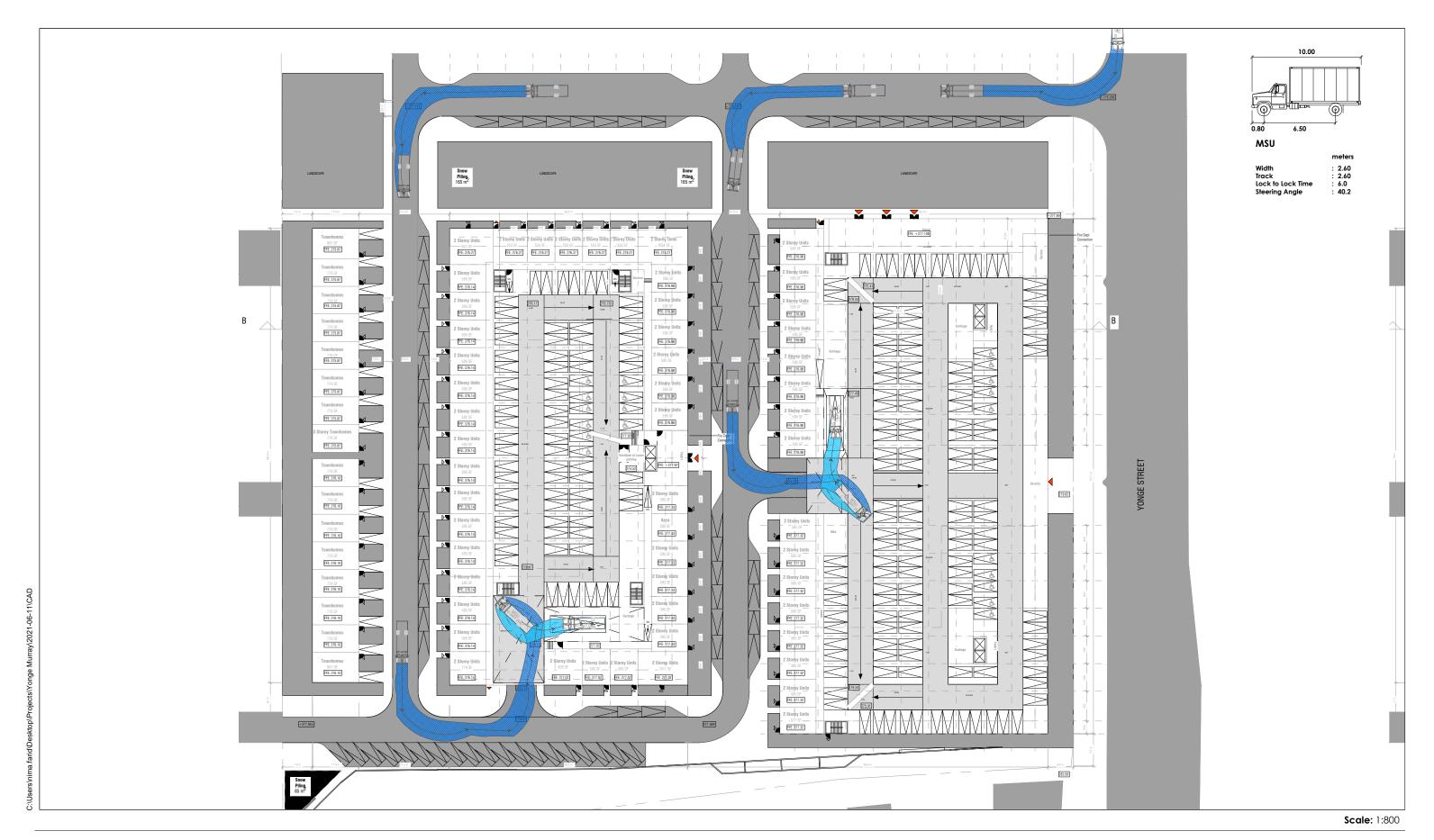




Figure 6.5 Loading Truck Turning Simulation Review - Inbound Yonge and Murray

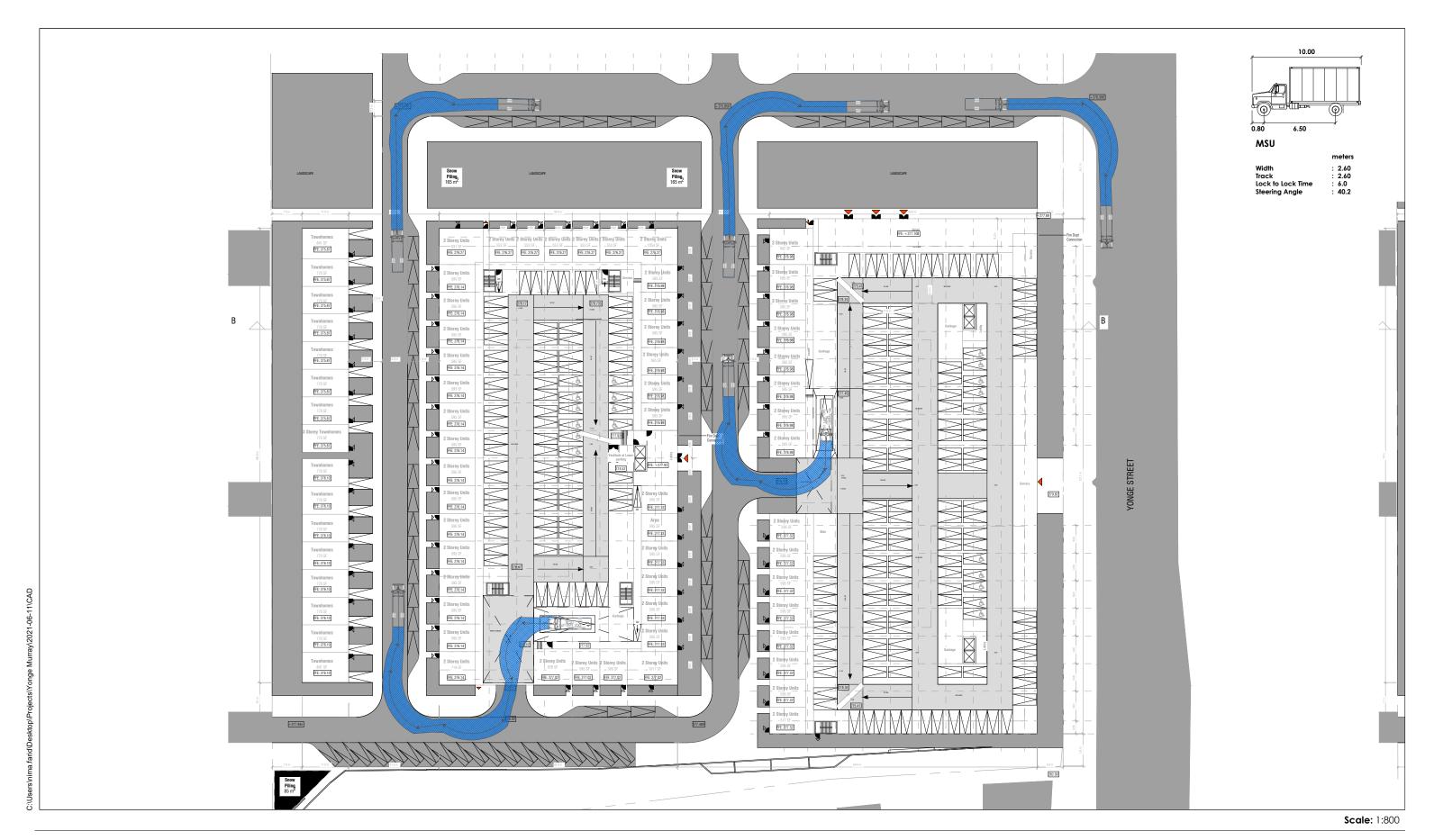




Figure 6.6 Loading Truck Turning Simulation Review - Outbound Yonge and Murray

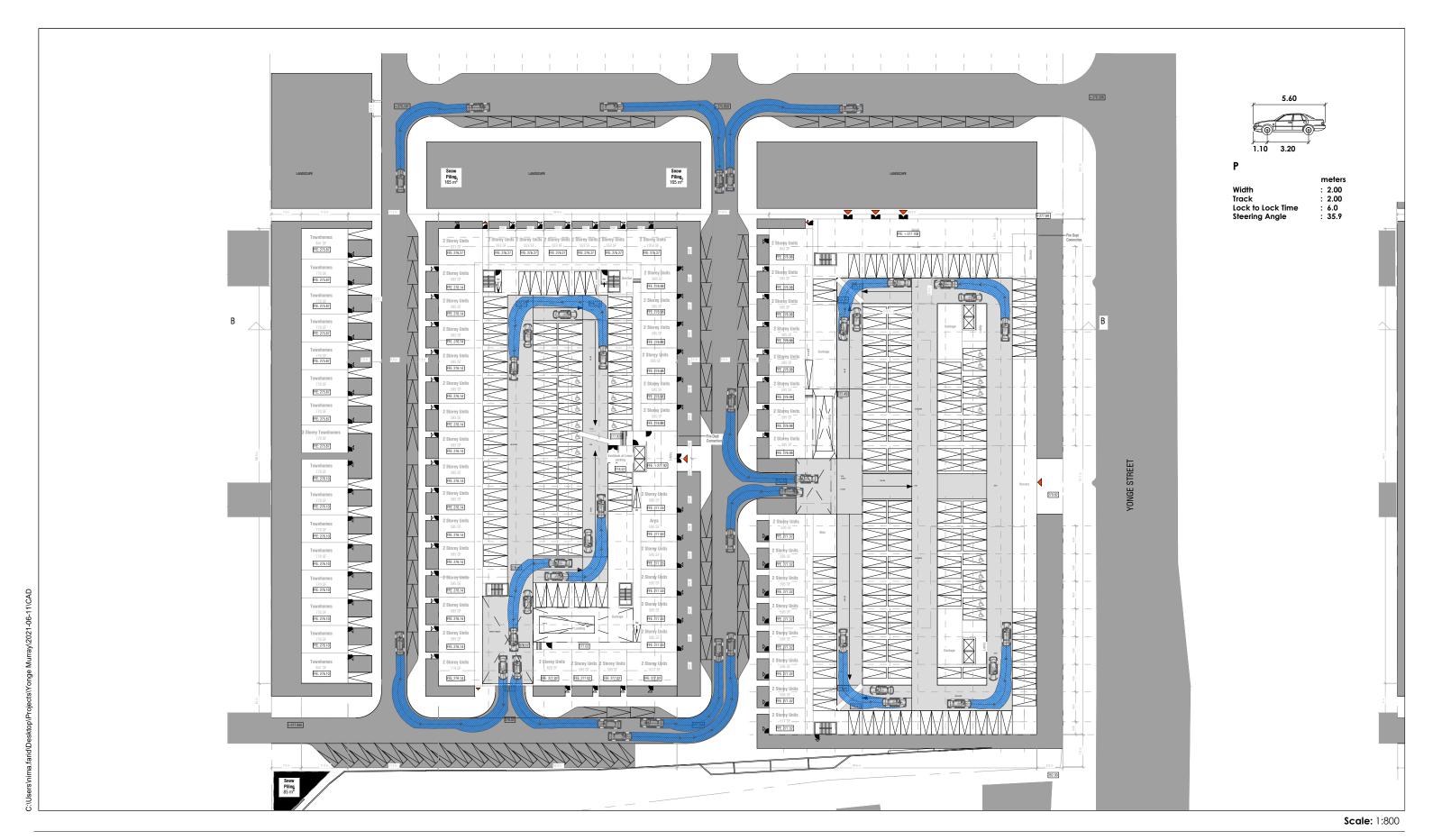
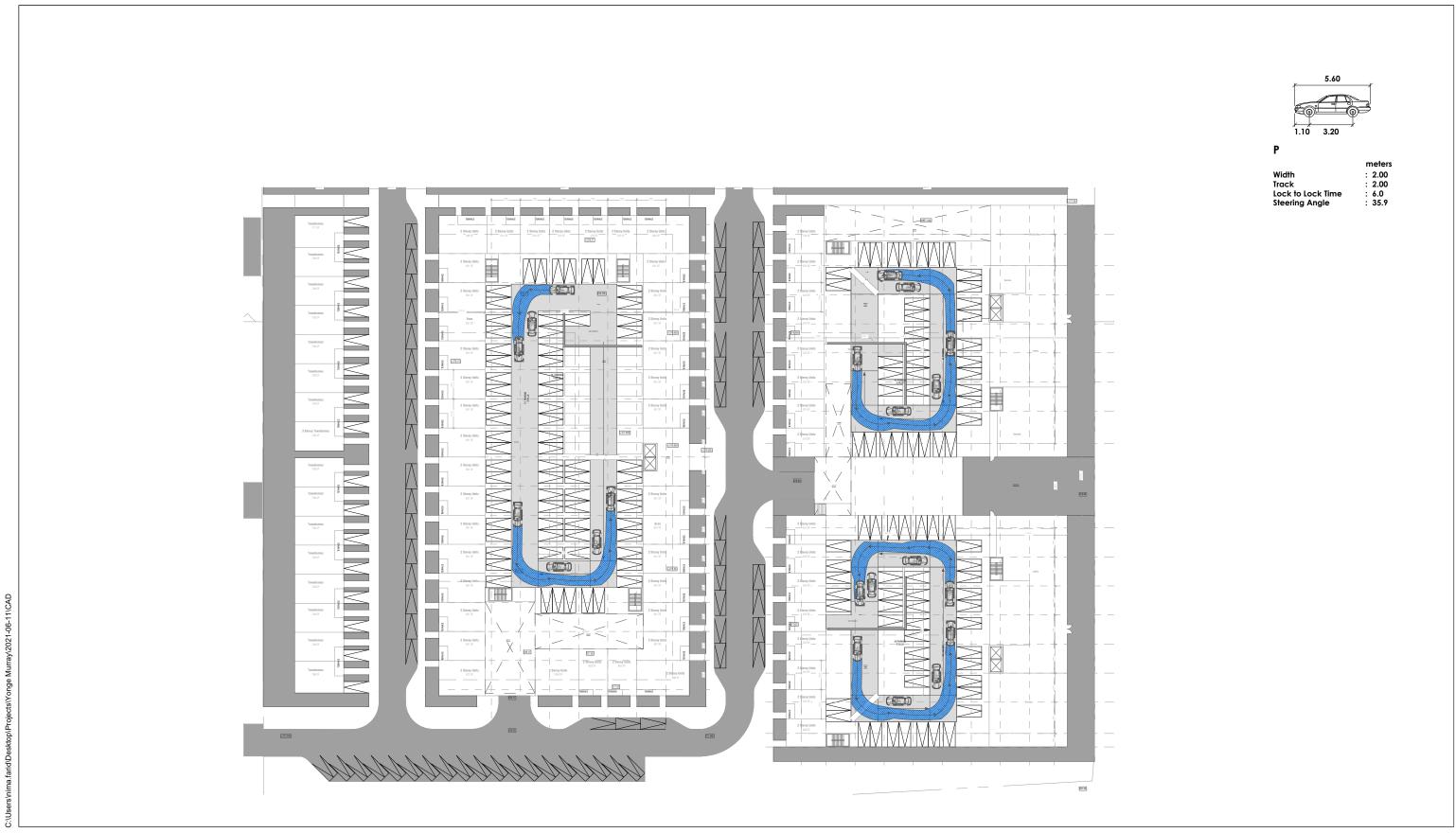




Figure 6.7 Passenger Vehicle Site Circulation - Ground Floor Yonge and Murray



**Scale:** 1:800



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





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

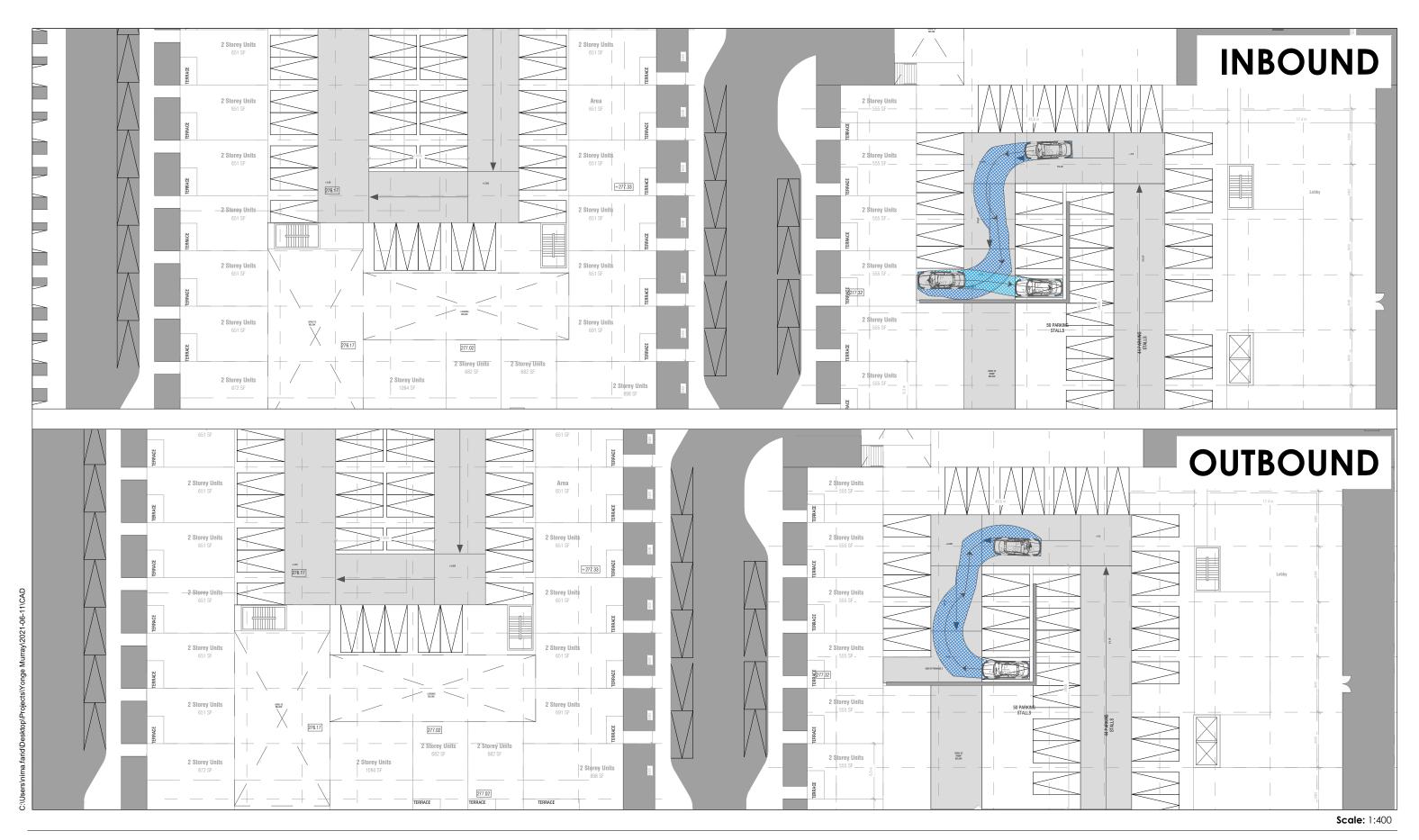




Figure 6.10 Parking Space Turning Maneuver Review - L2 Level - South Yonge and Murray



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

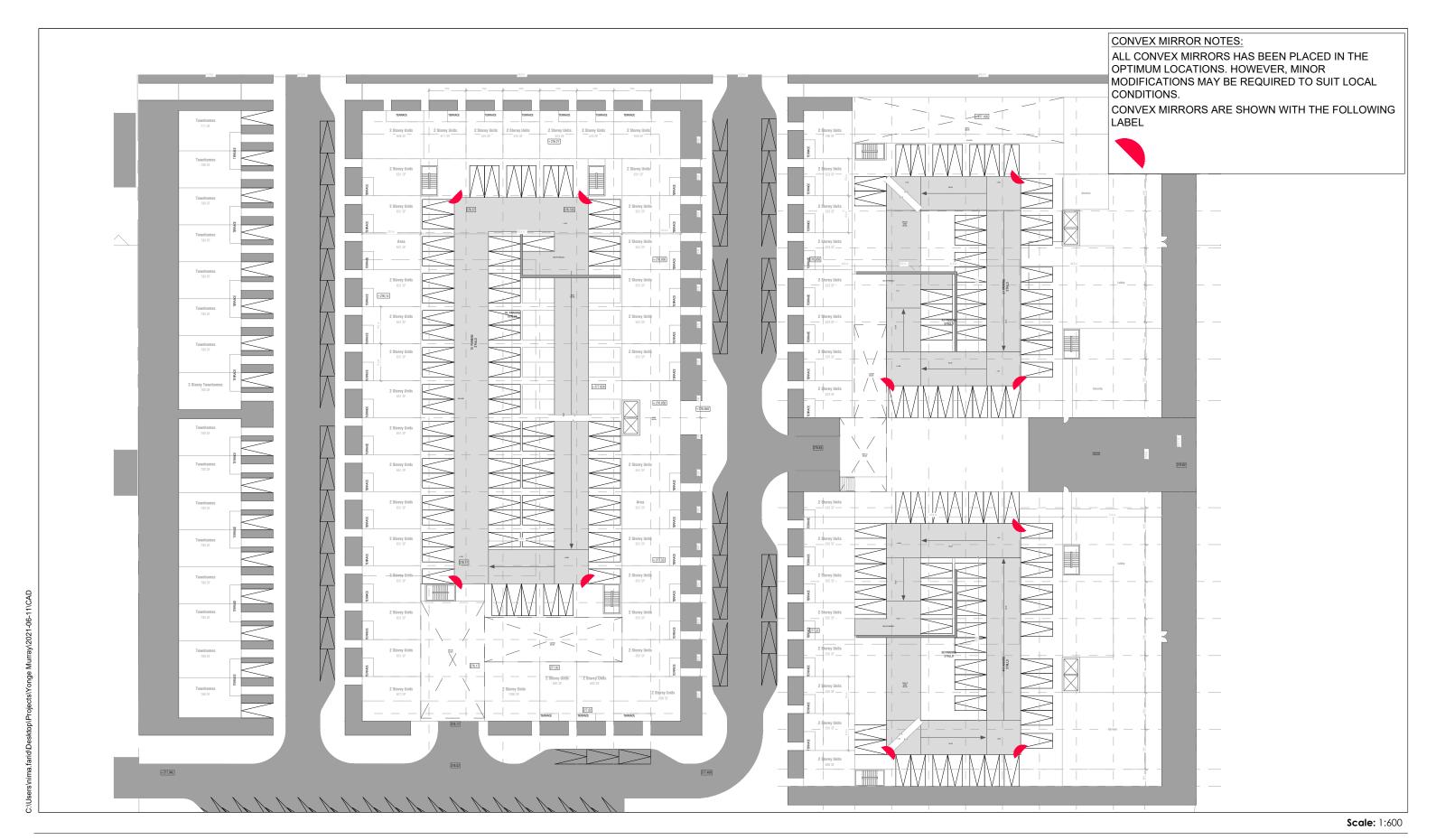




Figure 6.12 Convex Mirror Plan - 2nd Floor Yonge and Murray

## 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	Land Use   Magnitude   (Unit/m²   Proposed Parking Rate of GFA)		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 m² 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 m² GFA	6		
		Total	486		
Residential	480	1 space/unit inclusive of visitor parking	480	Per By-Law 6000-17 (Promenade Zone	
Retail	618	3.5 spaces / 100 m² GFA	22	Shoulder)	
	Total				

Based on 480 residential units and 618  $m^2$  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		

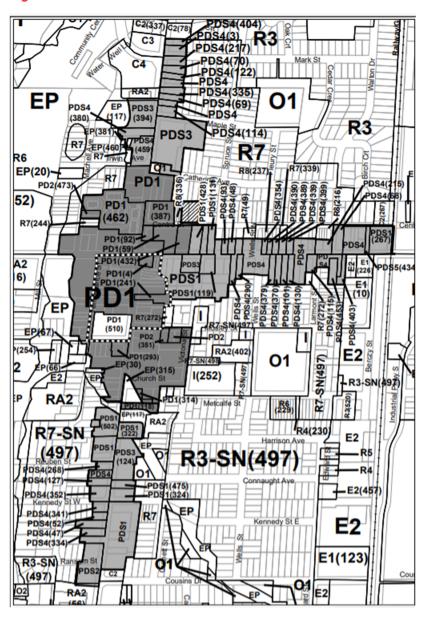
As show in Table 7.2, 480 parking spaces are proposed including 384 residential parking spaces, and 96 residential visitor spaces.

## 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 Berzecy 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 Berzecy 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**.

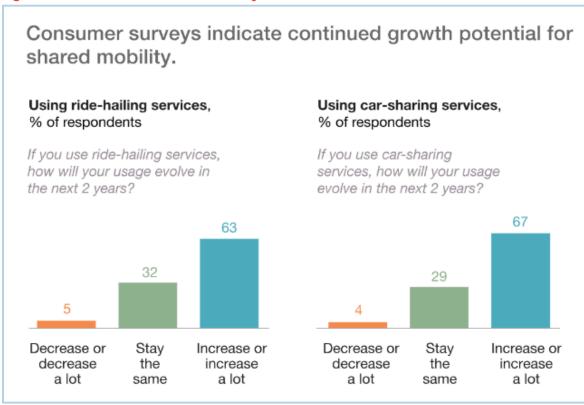
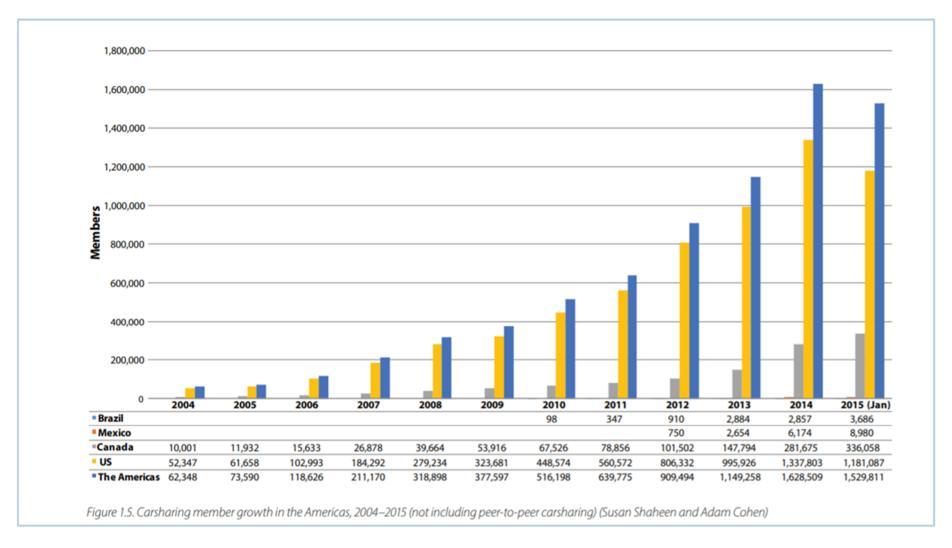


Figure 7-2: Travel Trend in Shared Mobility

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



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

/ariable	Effect on Vehicle Ownership
Carshare	11.27 fewer cars per carshare vehicle
Carpool /Ride-splitting	0.2 fewer cars per carpool user
Vanpool <sup>3</sup>	.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 unit	es, only thos ne. This allo	se persons w ws for dwellii	who specifical	lly request a	and ultimately t parking space	purchase a	parking	space	are

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 me 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 Levendale 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 Levendale 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.
- 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  $m^2$  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, 10<sup>th</sup> 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 < <u>Kian.Azari@wsp.com</u>> **Cc:** Medic, Ismet < <u>Ismet.Medic@wsp.com</u>>

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 < <a href="MPEverini@aurora.ca">MPeverini@aurora.ca</a> <a href="MPEverini@aurora.ca">Cc: Medic, Ismet < <a href="MPEverini@aurora.ca">Ismet.Medic@wsp.com</a> <a href="MPEverini@aurora.ca">Ismet.Medic@usp.com</a> <a href="MPEverini@aurora.c

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

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 <<u>Sharon.Sterling@wsp.com</u>>; Man, Alaric <<u>Alaric.Man@wsp.com</u>>; den Ouden, Doug <<u>Doug.denOuden@wsp.com</u>>; Medic, Ismet <<u>Ismet.Medic@wsp.com</u>>; Bat, Michael <<u>MBat@aurora.ca</u>>

Subject: RE: DATA REQUEST

Hi Peverini,

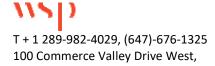
As per emails below, we are looking for obtaining the information associated to the developments with application numbers **34** and **49**?

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 Transportation



Thornhill, Ontario L3T 0A1 Canada wsp.com

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

<<u>Doug.denOuden@wsp.com</u>>; Medic, Ismet <<u>Ismet.Medic@wsp.com</u>>

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 < <u>Kian.Azari@wsp.com</u>>
Sent: Thursday, May 27, 2021 11:27 AM
To: Bat, Michael < <u>MBat@aurora.ca</u>>

Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>; den Ouden, Doug

<<u>Doug.denOuden@wsp.com</u>>; Medic, Ismet <<u>Ismet.Medic@wsp.com</u>>

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

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

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 < <a href="mailto:Sharon.Sterling@wsp.com">Sharon.Sterling@wsp.com</a>; Man, Alaric < <a href="mailto:Alaric.Man@wsp.com">Alaric.Man@wsp.com</a>; den Ouden, Doug

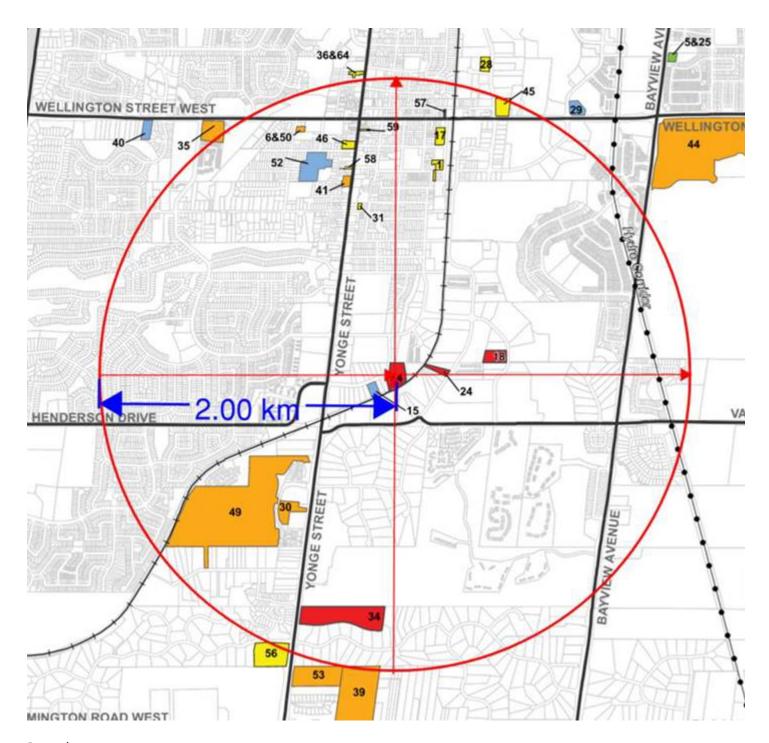
<<u>Doug.denOuden@wsp.com</u>> **Subject:** FW: DATA REQUEST

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 Planning & Advisory Transportation



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

## wsp.com

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

<<u>Doug.denOuden@wsp.com</u>> **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

<<u>Doug.denOuden@wsp.com</u>>
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 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:** 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

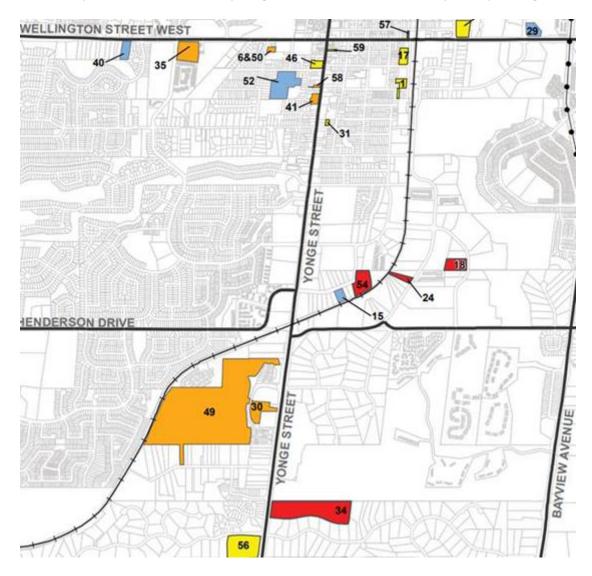
## <Doug.denOuden@wsp.com>

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: <a href="https://www.aurora.ca/en/your-government/resources/development-planning/Status-Map.pdf">https://www.aurora.ca/en/your-government/resources/development-planning/Status-Map.pdf</a>



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' 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 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: April 23, 2021 9:58 AM

To: MBat@aurora.ca

Cc: Sterling, Sharon <Sharon.Sterling@wsp.com>; Man, Alaric <Alaric.Man@wsp.com>

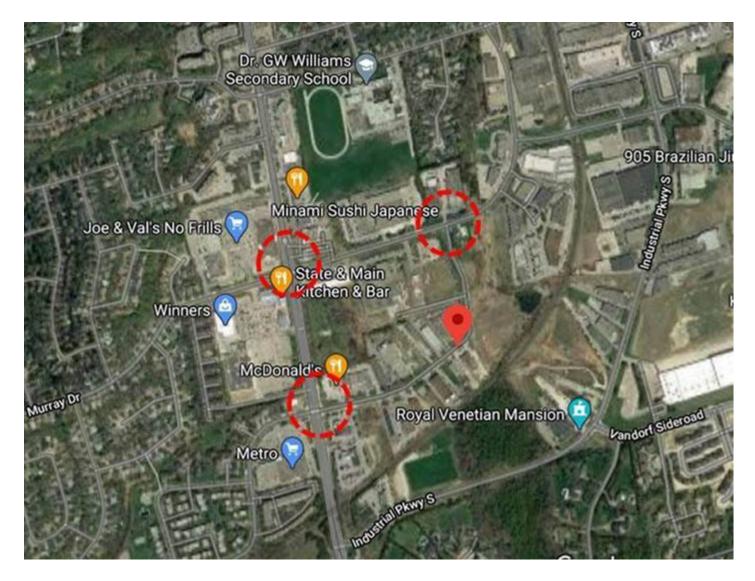
**Subject:** DATA REQUEST

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 Transportation



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

NOTICE: This communication and any attachments ("this message") may contain information which is privileged, confidential, proprietary or otherwise subject to restricted disclosure under applicable law. This message is for the sole use of the intended recipient(s). Any unauthorized use, disclosure, viewing, copying, alteration, dissemination or distribution of, or reliance on, this message is strictly prohibited. If you have received this message in error, or you are not an authorized or intended recipient, please notify the sender immediately by replying to this message, delete this message and all copies from your e-mail system and destroy any printed copies. You are receiving this communication because you are listed as a current WSP contact. Should you have any questions regarding WSP's electronic communications policy, please consult our Anti-Spam Commitment at <a href="www.wsp.com/casl">www.wsp.com/casl</a>. For any concern or if you believe you should not be receiving this message, please forward this message to <a href="mailto:caslcompliance@wsp.com">caslcompliance@wsp.com</a> so that we can promptly address your request. Note that not all messages sent by WSP qualify as commercial electronic messages.

## **APPENDIX**

# B TRAFFIC DATA

### Ontario Traffic Inc. **Morning Peak Diagram Specified Period One Hour Peak** From: 8:00:00 From: 7:00:00 To: 10:00:00 To: 9:00:00 Weather conditions: Municipality: Aurora Site #: 1825300007 Intersection: Person(s) who counted: Yonge St & Brookland Ave-Comme TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1312 Cyclists 0 0 Cyclists 1 East Leg Total: 55 23 North Entering: 709 Trucks 1 22 0 Trucks 19 East Entering: 18 North Peds: Cars 15 667 3 685 Cars 583 East Peds: 5 $\mathbb{X}$ Peds Cross: ⋈ Totals 16 690 3 Totals 603 Peds Cross: Yonge St $\mathbb{L}$ Totals Trucks Cyclists Totals Cyclists Trucks Cars 30 0 0 3 13 13 **Brookland Ave** Cyclists Trucks Cars Totals **Commercial Access** 0 0 30 30 0 5 2 26 Trucks Cyclists Totals 0 24 Cars 37 0 37 Yonge St $\mathbb{X}$ Peds Cross: Cars 704 Peds Cross: $\bowtie$ Cars 13 551 29 593 West Peds: 12 Trucks 24 Trucks 2 0 21 South Peds: 9 19 Cyclists 0 West Entering: 61 Cyclists 1 0 1 South Entering: 615 West Leg Total: 95 Totals 15 South Leg Total: 1344 Totals 729 **Comments**

### Ontario Traffic Inc. Mid-day Peak Diagram **Specified Period One Hour Peak** From: 11:30:00 **From:** 12:15:00 To: 13:30:00 To: 13:15:00 Weather conditions: Municipality: Aurora Site #: 1825300007 Intersection: Person(s) who counted: Yonge St & Brookland Ave-Comme TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1524 Cyclists 0 0 0 Cyclists 0 East Leg Total: 113 22 North Entering: 753 Trucks 2 20 0 Trucks 11 East Entering: 56 North Peds: Cars 45 680 6 731 Cars 760 East Peds: 18 $\mathbb{X}$ Totals 771 Peds Cross: Totals 47 700 6 Peds Cross: $\bowtie$ Yonge St 7 Totals Trucks Cyclists Totals Cyclists Trucks Cars Cars 2 89 91 0 0 18 0 0 5 33 0 33 **Brookland Ave** 56 0 Cyclists Trucks Cars Totals **Commercial Access** 0 0 48 48 0 46 47 Trucks Cyclists Totals 0 1 Cars 57 0 98 57 Yonge St $\mathbb{X}$ Peds Cross: Cars 759 780 Peds Cross: $\bowtie$ Cars 39 694 47 West Peds: 23 Trucks 21 Trucks 0 0 11 South Peds: 8 11 Cyclists 0 0 West Entering: 99 Cyclists 0 0 0 South Entering: 791 West Leg Total: 190 Totals 39 South Leg Total: 1571 Totals 780 **Comments**

#### Ontario Traffic Inc. **Afternoon Peak Diagram Specified Period One Hour Peak** From: 15:30:00 **From:** 16:30:00 To: 18:30:00 To: 17:30:00 Weather conditions: Municipality: Aurora Site #: 1825300007 Intersection: Person(s) who counted: Yonge St & Brookland Ave-Comme TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1738 Cyclists 0 0 2 Cyclists 4 East Leg Total: 125 20 North Entering: 739 Trucks 0 20 0 Trucks 18 East Entering: 63 North Peds: Cars 60 651 6 717 Cars 977 East Peds: 10 $\mathbb{X}$ Peds Cross: Totals 60 673 6 Totals 999 Peds Cross: ⋈ Yonge St 7 Totals Trucks Cyclists Totals Cyclists Trucks Cars Cars 0 130 130 0 16 0 0 9 36 2 38 **Brookland Ave** 60 2 Cyclists Trucks Cars Totals **Commercial Access** 0 0 46 46 0 0 10 10 0 72 Trucks Cyclists Totals 0 72 Cars 128 61 62 Yonge St $\mathbb{X}$ Peds Cross: Cars 759 Peds Cross: $\bowtie$ Cars 61 916 45 1022 West Peds: 53 Trucks 20 Trucks 0 17 0 17 South Peds: 14 Cyclists 4 5 West Entering: 128 Cyclists 0 1 South Entering: 1044 West Leg Total: 258 Totals 61 South Leg Total: 1827 Totals 783 **Comments**

## **Total Count Diagram**

Municipality: Aurora

**Site #:** 1825300007

Intersection: Yonge St & Brookland Ave-Comme

TFR File #: 1

North Leg Total: 11278

North Entering: 5528

North Peds:

Peds Cross:

Count date: 27-Jun-18

#### Weather conditions:

Person(s) who counted:

## \*\* Signalized Intersection \*\*

22

⋈

 Cyclists
 2
 10
 1
 13

 Trucks
 6
 156
 0
 162

Cars 296 5011 46
Totals 304 5177 47

Major Road: Yonge St runs N/S

Cyclists 11

Trucks 142

Cars 5597

Totals 5750

Cyclists Trucks Cars Totals

3 9 614 626



5353

Cars Trucks Cyclists Totals
72 1 0 73
42 1 0 43

2

197

Brookland Ave

Cyclist	s Trucks	Cars	Totals
3	2	295	300
0	0	41	41
1	8	302	311
4	10	638	,





Cars	Trucks	Cyclists	Totals
392	1	2	395

**Commercial Access** 

Peds Cross: 

West Peds: 233

West Entering: 652

West Leg Total: 1278

 Cars
 5506

 Trucks
 166

 Cyclists
 13

 Totals
 5685



 Cars
 276
 5230
 305
 5811

 Trucks
 2
 139
 1
 142

 Cyclists
 1
 8
 1
 10

 Totals
 279
 5377
 307

Peds Cross: 
South Peds: 63

South Entering: 5963

South Leg Total: 11648

#### **Comments**

# Ontario Traffic Inc. Traffic Count Summary

Intersection: \	Yonae S	t & Bro	okland A	ve-Comi	ne Count E	<sup>Date:</sup> 27-Jun-18	3	Munio	cipality: Au	rora			
			ach Tot								ach Tot	als	
	Include	es Cars, T	rucks, & C	yclists		North/South			Include	es Cars, T	rucks, & C	yclists	
Hour Ending	Left	Thru	Right	Grand Total	Total Peds	Total Approaches	Hou Endi		Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00		0	0	0	0	0
8:00:00	Ō	603	13	616	0	1025	8:00		9	391	9	409	1
9:00:00	3	690	16	709	5	1324	9:00		15	571	29	615	9
10:00:00	6	595	18	619	2		10:00		15	553	27	595	9 9 1 8 7
12:00:00	1	308	25	334	3		12:00		19	368	18	405	1
13:00:00 16:00:00	6 7	694 668	45 42	745 717	1 3		13:00 16:00		43 43	692 700	47 49	782 792	8
17:00:00	5	664	65	734	4		17:00		53	876	35	964	12
18:00:00	7	643	55	705	3		18:00		58	856	54	968	13
Totals:	35	4865		5179	21	10709			255	5007	268	5530	60
	Include	: <b>Appro</b> a es Cars, T	ach Tota rucks, & C	IIS yclists		East/West			Include	<b>t Appro</b> es Cars, T	ach Totarucks, & C	a <b>is</b> yclists	
Hour Ending	Left	Thru	Right	Grand Total	Total Peds	Total Approaches	Hou Endi	ır ng	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00	0:00	0	0	0	0	0
8:00:00	4	0	3	7	3	44	8:00		27	1	9	37	8
9:00:00	13	3	2	18	5	79	9:00		30	5	26	61	12
10:00:00	18	4	7	29	10	81	10:00		22	5	25	52	26
12:00:00	14 35	2 3	2 21	18	3		12:00 13:00		20	3	21	44	19 31
13:00:00 16:00:00	31	3 7	13	59 51	18 10		16:00		49 50	3 4	48 39	100 93	29
17:00:00	25	10	9	44	12		17:00		40	5	57	102	42
18:00:00	45	10	14	69	9		18:00		43	13	68	124	50
Totals:	185	39	71 <b>Calc</b>	295 ulated V	70 /alues f	908 or Traffic Cr	ossin	g Ma	281 ajor Stre	39 eet	293	613	217
Totals:		39 8:00				908 or Traffic Cr		<b>g M</b> a 3:00			293	613	217

		Passen	ger Cars -	North A	oproach			Tru	icks - Nor	h Appro	ach			Сус	lists - No	rth Appro	ach		Pedes	trians
Interval	Let	ft	Thi	ru	Rig	ıht	Le	ft	Th	ru	Rig	ht	Le	ft	Th	ru	Rig	jht	North	Cross
Time	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	
7:15:00	0	0	129	129	4	4	0	0	5	5	0	0	0	0	0	0	1	1	0	C
7:30:00	0	0	253	124	7	3	0	0	11	6	0	0	0	0	0	0	1	0	0	(
7:45:00	0	0	438	185	9	2	0	0	13	2	0	0	0	0	0	0	1	0	0	(
8:00:00	0	0	583	145	12	3	0	0	20	7	0	0	0	0	0	0	1	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	
8:45:00	3	1	1107	163	23	7	0	0		6	1	0	0	0	1	0	1	0	4	(
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	C
9:45:00	5	1	1686	136	44	7	0	0	61	7	2	0	0	0	1	0	1	0	6	C
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	C
11:45:00	9	0	1970	152	50	6	0	0		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		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	C
15:30:00	20	0	3131	0	135	0	0	0		0	6	0	1	0	4	0	1	0	12	C
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		3	6	0	1	0	5	1	1	0	14	
16:30:00	26	3	3756	159	190	16	0	0	1	3	6	0	1	0		1	1	0	15	1
16:45:00	27	1	3916	160	200	10	0	0	1	6	6	0	1	0		1	1	0	15	0
17:00:00	27	0	4084	168	217	17	0	0		3	6	0		0	-	0	1	0	18	3
17:15:00	29	2	4255	171	232	15	0	0		6	6	0	1	0		1	1	0	19	1
17:30:00	32	3	4407	152	250	18	0	0		5	6	0	•	0		0	1	0	19	C
17:45:00	34	2	4569	162	263	13	0	0		2	6	0		0		2	1	0	19	C
18:00:00	34	0	4708	139	272	9	0	0		3	6	0	1	0		0	1	0	21	2
18:15:00	38	4	4885	177	283	11	0	0		4	6	0		0		0	1	0	22	1
18:30:00	46	8	5011	126	296	13	0	0		5	6	0		0		0	2	1	22	(
18:45:00	46	0	5011	0	296	0	0	0		0		0	-	0		0	2	0	22	
18:47:01	46	0	5011	0	296	0	0	0	156	0	6	0	1	0	10	0	2	0	22	0

		Passen	ger Cars	- East Ap	proach			Tru	ucks - Eas	st Appro	ach			Сус	clists - Ea	st Appro	ach		Pedes	trians
Interval	Let	ft	Th	ru	Rig	ht	Le	ft	Th	ru	Rig	ht	Le	ft	Th	ru	Rig	ht	East 0	Cross
Time	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	C
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	C
8:00:00	4	1	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	3	C
8:15:00	8	4	0	0	3	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	7	1
8:45:00	11	1	1	0	3	0	0	0	1	0	0	0	_	0	0	0	0	0	7	C
9:00:00	17	6	2	1	5	2	0	0	1	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	11	3
9:30:00	28	8	3	0	10	1	0	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	16	3
10:00:00	35	3	6	2	12	1	0	0	1	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	18	C
11:30:00	35	0	6	0	12	0	0	0		0	0	0		0	0	0	0	0	18	
11:45:00	45	10	7	1	14	2	1	1	1	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	21	1
12:15:00	58	10	8	0	19	5	1 1	0	1	0	0	0	_	0	0	0	0	0	26	5
12:30:00	63	5	10	2	25	6	1 1	0	1 1	0	0	0	_	0	0	0	0	0	28	2 5
12:45:00 13:00:00	74 83	11	10 11	0	29 35	4	1	0	1	0	0	0	1	0	0	0	0	0	33 39	
13:15:00	91	9	13		37	6	<u> </u> 1	0	1	0	0	0		0	0	0	0	0	44	6
13:15:00	102	11	15	2	42	5	<u> </u> 1	0	1	0	0	0	_	0		0	0	0	44	5
13:31:42	102	0		0	42	0	<u>'</u>	0	1	0	0	0		0	0	0	0	0	46	
15:30:00	102	0		0	42	0	1	0		0	0	0		0	0	0	0	0	46	
15:45:00	102	6		0	44	2	1	0	1	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	49	2
16:15:00	121	7	20	2	50	2	1	0	1	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	55	
16:45:00	130	5	26	2	52	0	1	0	1	0	0	0	1	0	0	0	0	0	60	5
17:00:00	137	7		2		5	1	0	1	0		0	1	2	0	0	0	0	61	1
17:15:00	150	13		4	63	6	1	0	1	0	1	1	1	0	0	0	0	0	63	2
17:30:00	161	11	33	1	67	4	1	0	1	0	1	0	1	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		0	0	0	0	0	70	3
18:15:00	187	5	40	2	70	0	2	1	1	0	1	0		0	0	0	0	0	72	2
18:30:00	193	6		2	72	2	2	0	1	0	1	0	1	0	0	0	0	0	73	1
18:45:00	193	0		0	72	0	2	0	1	0	1	0		0	0	0	0	0	73	C
18:47:01	193	0		0	72	0	2	0	1	0	1	0		0	0	0	0	0	73	C

			Passenç	ger Cars -	South A	pproach			Tru	ıcks - Sou	th Appro	ach			Сус	lists - Sou	ıth Appro	oach		Pedes	trians
Topono	Interval	Le	ft	Th	ru	Rig	ht	Le	ft	Th	ru	Rig	jht	Le	ft	Th	ru	Rig	jht	South	Cross
7:15:00 0 0 0 67 67 4 4 4 0 0 0 4 4 0 0 0 1 1 0 0 0 0 0 0 7:30:00 1 1 148 81 5 1 0 0 0 8 4 4 0 0 0 1 1 0 0 0 0 0 0 7:45:00 4 3 239 91 6 1 1 0 0 0 12 4 0 0 0 1 0 1 0 0 1 1 0 0 0 0 0 7:45:00 4 3 239 91 6 1 1 0 0 0 12 4 0 0 0 1 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0	Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7.350.00 1 1 1 148 81 5 1 0 0 8 4 4 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.45.00         4         3         239         91         6         1         0         0         12         4         0         0         1         0         0         0         0         1         0         1         0         0         0         0         1         0         0         0         0         0         1         0         1         0         0         0         0         0         1         0         1         0         0         0         0         0         0         0         1         0         2         1         0         0         0         0         1         0         2         1         0 <th< td=""><td>7:15:00</td><td>0</td><td>0</td><td>67</td><td>67</td><td>4</td><td>4</td><td>0</td><td>0</td><td>4</td><td>4</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>	7:15:00	0	0	67	67	4	4	0	0	4	4	0	0	1	1	0	0	0	0	0	0
8.00.00	7:30:00	1	1	148	81	5	1	0	0	8	4	0	0	1	0	0	0	0	0	1	1
8:15:00 11 3 5:05 134 14 5 1 1 27 8 0 0 0 1 0 2 1 0 0 0 8:30:00 12 1 643 138 20 6 2 1 28 1 0 0 0 1 0 2 0 0 0 0 9:00:00 16 4 764 141 26 6 2 0 32 4 0 0 0 1 0 2 0 0 0 0 9:00:00 21 5 922 138 38 12 2 0 0 38 6 0 0 0 1 0 2 0 0 0 0 9:15:00 23 2 10:58 136 48 10 2 0 42 4 0 0 0 1 0 2 0 0 0 0 9:30:00 25 2 1189 131 57 9 2 0 0 47 5 0 0 1 0 0 2 0 0 0 0 9:45:00 27 2 1325 136 59 2 2 0 0 53 6 0 0 1 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7:45:00	4	3	239	91	6	1	0	0	12	4	0	0	1	0	1	1	0	0	1	0
8:36:00 12 1 643 138 20 6 2 1 28 1 0 0 0 1 0 2 0 0 0 0 9:00:00 16 4 784 141 26 6 2 0 32 4 0 0 0 1 0 2 0 0 0 0 9:00:00 21 5 922 138 38 12 2 0 38 6 0 0 0 1 0 2 0 0 0 0 9:15:00 23 2 10:58 136 48 10 2 0 42 4 0 0 0 1 0 2 0 0 0 0 9:15:00 23 2 10:58 136 48 10 2 0 42 4 0 0 0 1 0 2 0 0 0 0 9:30:00 25 2 11:89 131 57 9 2 0 47 5 0 0 1 0 1 0 2 0 0 0 0 9:45:00 27 2 13:25 136 59 2 2 2 0 53 6 0 0 0 1 0 2 0 0 0 0 9:45:00 27 2 13:25 136 59 2 2 2 0 0 53 6 0 0 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8:00:00		4	371		9	3	0	0	19	7	0	0	1	0	1	0	0	0	1	0
8.45-00	8:15:00		3	505			5	1	1	27	8	0	0	1	0	2	1	0	0	5	4
9:00:00	8:30:00		1	643	138	20	6	2	1		1	0	0	1	0	2	0	0	0	7	2
9:15:00	8:45:00	16	4	784	141	26	6	2	0	32	4	0	0	1	0	2	0	0	0	10	3
9:30:00	9:00:00	21	5	922	138	38	12	2	0	38	6	0	0	1	0	2	0	0	0	10	0
9.45:00	9:15:00	23	2	1058	136	48	10	2	0	42	4	0	0	1	0	2	0	0	0	15	5
10:00:00   36		25	2	1189			9	2	0		5	0	0	1	0	2	0	0	0	16	1
10:01:05	9:45:00	27	2	1325	136	59	2	2	0	53	6	0	0	1	0	2	0	0	0	17	1
11:30:00	10:00:00	36	9	1453	128	65	6	2	0	60	7	0	0	1	0	2	0	0	0	19	2
11:45:00	10:01:05	36	0	1453	0	65	0	2	0	60	0	0	0	1	0	2	0	0	0	19	0
12:00:00   55   9   1811   170   83   14   2   0   70   4   0   0   1   0   2   0   0   0     12:15:00   67   12   1980   169   97   14   2   0   74   4   0   0   1   0   2   0   0   0     12:30:00   77   10   2167   187   105   8   2   0   77   3   0   0   1   0   2   0   0   0     12:45:00   87   10   2324   157   122   17   2   0   78   1   0   0   1   0   2   0   0   0     13:00:00   98   11   2492   168   130   8   2   0   81   3   0   0   1   0   2   0   0   0     13:30:00   106   8   2674   182   144   14   2   0   85   4   0   0   1   0   2   0   0   0     13:30:00   122   16   2843   169   160   16   2   0   87   2   1   1   1   0   2   0   0   0     13:31:42   122   0   2843   0   160   0   2   0   87   0   1   0   1   0   2   0   0   0     15:30:00   122   0   2843   0   160   0   2   0   87   0   1   0   1   0   2   0   0   0     15:45:00   134   12   3008   165   169   9   2   0   92   5   1   0   1   0   2   0   0   0     16:00:00   141   7   3179   171   178   9   2   0   94   2   1   0   1   0   2   0   0   0     16:45:00   152   11   3375   196   189   11   2   0   101   7   1   0   1   0   3   0   0   0     16:45:00   177   16   3791   226   202   4   2   0   109   5   1   0   1   0   3   0   0   0     17:30:00   222   13   4481   207   243   18   2   0   113   4   1   0   1   0   4   1   0   0   0     17:45:00   261   9   5050   181   287   21   2   0   135   4   1   0   1   0   8   0   1   0	11:30:00	36	0	1453	0	65	0	2	0	60	0	0	0	1	0	2	0	0	0	19	0
12:15:00 67 12 1980 169 97 14 2 0 74 4 0 0 0 1 0 2 0 0 0 0 1 12:30:00 77 10 2167 187 105 8 2 0 77 3 0 0 0 1 0 2 0 0 0 0 1 12:45:00 87 10 2324 157 122 17 2 0 78 1 0 0 0 1 0 2 0 0 0 0 1 1 0 2 0 0 0 0 1 12:45:00 98 11 2492 168 130 8 2 0 81 3 0 0 1 0 1 0 2 0 0 0 0 1 13:00:00 98 11 2492 168 130 8 2 0 81 3 0 0 1 0 1 0 2 0 0 0 0 1 13:30:00 106 8 2674 182 1444 14 2 0 85 4 0 0 0 1 0 2 0 0 0 0 1 13:30:00 122 16 2843 169 160 16 2 0 87 2 1 1 1 1 0 2 0 0 0 0 1 13:31:42 122 0 2843 0 160 0 2 0 87 0 1 0 1 0 2 0 0 0 0 1 15:30:00 122 0 2843 0 160 0 2 0 87 0 1 0 1 0 1 0 2 0 0 0 0 1 15:30:00 122 0 2843 0 160 0 2 0 87 0 1 0 1 0 1 0 2 0 0 0 0 1 15:40:00 134 12 3008 165 169 9 2 0 92 5 1 0 0 1 0 2 0 0 0 0 1 16:00:00 141 7 3179 171 178 9 2 0 94 2 1 0 1 0 1 0 2 0 0 0 0 1 16:500 152 11 3375 196 189 11 2 0 101 7 1 0 1 0 2 0 0 0 0 1 16:45:00 152 11 3375 196 189 11 2 0 104 3 1 0 1 0 1 0 3 0 0 0 1 16:45:00 177 16 3791 226 202 4 2 0 104 3 1 0 1 0 1 0 3 0 0 0 0 1 16:45:00 194 17 4034 243 213 11 2 0 113 4 1 0 1 0 1 0 3 0 0 0 0 1 17:50:00 209 15 4274 240 225 12 2 0 117 4 1 0 1 0 1 0 7 0 1 0 1 0 1 1 1 1 0 1	11:45:00	46	10	1641	188	69	4	2	0	66	6	0	0	1	0	2	0	0	0	20	1
12:30:00         77         10         2167         187         105         8         2         0         77         3         0         0         1         0         2         0         0         0         0         1         0         2         0		55	9	1811	170	83	14	2	0	70	4	0	0	1	0	2	0	0	0	20	0
12:45:00         87         10         2324         157         122         17         2         0         78         1         0         0         1         0         2         0         0         0           13:00:00         98         11         2492         168         130         8         2         0         81         3         0         0         1         0         2         0         0         0           13:15:00         106         8         2674         182         144         14         2         0         85         4         0         0         1         0         2         0         0         0         1         0         2         0	12:15:00	67	12	1980	169	97	14	2	0	74	4	0	0	1	0	2	0	0	0	21	1
13:00:00         98         11         2492         168         130         8         2         0         81         3         0         0         1         0         2         0         0         0           13:15:00         106         8         2674         182         144         14         2         0         85         4         0         0         1         0         2         0         0         0           13:30:00         122         16         2843         169         160         16         2         0         87         2         1         1         1         0         2         0	12:30:00	77	10	2167	187	105	8	2	0	77	3	0	0	1	0	2	0	0	0	23	2
13:15:00         106         8         2674         182         144         14         2         0         85         4         0         0         1         0         2         0         0         0           13:30:00         122         16         2843         169         160         0         2         0         87         2         1         1         1         0         2         0         0         0           13:31:42         122         0         2843         0         160         0         2         0         87         0         1         0         1         0         2         0	12:45:00	87	10	2324	157	122	17	2	0	78	1	0	0	1	0	2	0	0	0	26	3
13:30:00         122         16         2843         169         160         16         2         0         87         2         1         1         1         0         2         0	13:00:00	98	11	2492	168	130	8	2	0	81	3	0	0	1	0	2	0	0	0	28	2
13:31:42       122       0       2843       0       160       0       2       0       87       0       1       0       1       0       2       0	13:15:00	106	8	2674	182	144	14	2	0	85	4	0	0	1	0	2	0	0	0	29	1
15:30:00         122         0         2843         0         160         0         2         0         87         0         1         0         1         0         2         0         0         0         0         15:45:00         134         12         3008         165         169         9         2         0         92         5         1         0         1         0         2         0         1	13:30:00	122	16	2843	169	160	16	2	0	87	2	1	1	1	0	2	0	0	0	30	1
15:45:00       134       12       3008       165       169       9       2       0       92       5       1       0       1       0       2       0       0       0         16:00:00       141       7       3179       171       178       9       2       0       94       2       1       0       1       0       2       0       0       0         16:15:00       152       11       3375       196       189       11       2       0       101       7       1       0       1       0       3       1       0       0         16:30:00       161       9       3565       190       198       9       2       0       104       3       1       0       1       0       3       0       0       0         16:45:00       177       16       3791       226       202       4       2       0       109       5       1       0       1       0       3       0       0       0         17:00:00       194       17       4034       243       213       11       2       0       113       4       1	13:31:42	122	0	2843	0	160	0	2	0	87	0	1	0	1	0	2	0	0	0	30	0
16:00:00       141       7       3179       171       178       9       2       0       94       2       1       0       1       0       2       0       0       0         16:15:00       152       11       3375       196       189       11       2       0       101       7       1       0       1       0       3       1       0       0         16:30:00       161       9       3565       190       198       9       2       0       104       3       1       0       1       0       3       0       0       0       0         16:45:00       177       16       3791       226       202       4       2       0       109       5       1       0       1       0       3       0       0       0         17:00:00       194       17       4034       243       213       11       2       0       113       4       1       0       1       0       4       1       0       0         17:15:00       209       15       4274       240       225       12       2       0       117       4 <td>15:30:00</td> <td>122</td> <td>0</td> <td>2843</td> <td>0</td> <td>160</td> <td>0</td> <td>2</td> <td>0</td> <td>87</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> <td>30</td> <td>0</td>	15:30:00	122	0	2843	0	160	0	2	0	87	0	1	0	1	0	2	0	0	0	30	0
16:15:00       152       11       3375       196       189       11       2       0       101       7       1       0       1       0       3       1       0       0         16:30:00       161       9       3565       190       198       9       2       0       104       3       1       0       1       0       3       0       0       0       0         16:45:00       177       16       3791       226       202       4       2       0       109       5       1       0       1       0       3       0       0       0       0         17:00:00       194       17       4034       243       213       11       2       0       113       4       1       0       1       0       4       1       0       0         17:15:00       209       15       4274       240       225       12       2       0       117       4       1       0       1       0       4       0       0       0         17:30:00       222       13       4481       207       243       18       2       0       126	15:45:00	134	12	3008	165	169	9	2	0	92	5	1	0	1	0	2	0	0	0	34	4
16:30:00       161       9       3565       190       198       9       2       0       104       3       1       0       1       0       3       0       0       0       0         16:45:00       177       16       3791       226       202       4       2       0       109       5       1       0       1       0       3       0       0       0       0         17:00:00       194       17       4034       243       213       11       2       0       113       4       1       0       1       0       4       1       0       0         17:15:00       209       15       4274       240       225       12       2       0       117       4       1       0       1       0       4       0       0       0         17:30:00       222       13       4481       207       243       18       2       0       121       4       1       0       1       0       7       3       1       1         17:45:00       237       15       4676       195       255       12       2       0       126	16:00:00	141	7	3179	171	178	9	2	0	94	2	1	0	1	0	2	0	0	0	35	1
16:45:00       177       16       3791       226       202       4       2       0       109       5       1       0       1       0       3       0       0       0         17:00:00       194       17       4034       243       213       11       2       0       113       4       1       0       1       0       4       1       0       0         17:15:00       209       15       4274       240       225       12       2       0       117       4       1       0       1       0       4       0       0       0         17:30:00       222       13       4481       207       243       18       2       0       121       4       1       0       1       0       7       3       1       1         17:45:00       237       15       4676       195       255       12       2       0       126       5       1       0       1       0       7       0       1       0         18:00:00       252       15       4869       193       266       11       2       0       135       4 <td< td=""><td>16:15:00</td><td>152</td><td>11</td><td>3375</td><td>196</td><td>189</td><td>11</td><td>2</td><td>0</td><td>101</td><td>7</td><td>1</td><td>0</td><td>1</td><td>0</td><td>3</td><td>1</td><td>0</td><td>0</td><td>38</td><td>3</td></td<>	16:15:00	152	11	3375	196	189	11	2	0	101	7	1	0	1	0	3	1	0	0	38	3
17:00:00       194       17       4034       243       213       11       2       0       113       4       1       0       1       0       4       1       0       0         17:15:00       209       15       4274       240       225       12       2       0       117       4       1       0       1       0       4       0       0       0         17:30:00       222       13       4481       207       243       18       2       0       121       4       1       0       1       0       7       3       1       1         17:45:00       237       15       4676       195       255       12       2       0       126       5       1       0       1       0       7       0       1       0         18:00:00       252       15       4869       193       266       11       2       0       131       5       1       0       1       0       7       0       1       0         18:15:00       261       9       5050       181       287       21       2       0       135       4 <td< td=""><td>16:30:00</td><td>161</td><td>9</td><td>3565</td><td>190</td><td>198</td><td>9</td><td>2</td><td>0</td><td>104</td><td>3</td><td>1</td><td>0</td><td>1</td><td>0</td><td>3</td><td>0</td><td>0</td><td>0</td><td>38</td><td>0</td></td<>	16:30:00	161	9	3565	190	198	9	2	0	104	3	1	0	1	0	3	0	0	0	38	0
17:15:00       209       15       4274       240       225       12       2       0       117       4       1       0       1       0       4       0       0       0       0         17:30:00       222       13       4481       207       243       18       2       0       121       4       1       0       1       0       7       3       1       1         17:45:00       237       15       4676       195       255       12       2       0       126       5       1       0       1       0       7       0       1       0         18:00:00       252       15       4869       193       266       11       2       0       131       5       1       0       1       0       7       0       1       0         18:15:00       261       9       5050       181       287       21       2       0       135       4       1       0       1       0       8       1       1       0         18:30:00       276       15       5230       180       305       18       2       0       139 <td< td=""><td>16:45:00</td><td>177</td><td>16</td><td>3791</td><td>226</td><td>202</td><td>4</td><td>2</td><td>0</td><td>109</td><td>5</td><td>1</td><td>0</td><td>1</td><td>0</td><td>3</td><td>0</td><td>0</td><td>0</td><td>44</td><td>6</td></td<>	16:45:00	177	16	3791	226	202	4	2	0	109	5	1	0	1	0	3	0	0	0	44	6
17:30:00     222     13     4481     207     243     18     2     0     121     4     1     0     1     0     7     3     1     1       17:45:00     237     15     4676     195     255     12     2     0     126     5     1     0     1     0     7     0     1     0       18:00:00     252     15     4869     193     266     11     2     0     131     5     1     0     1     0     7     0     1     0       18:15:00     261     9     5050     181     287     21     2     0     135     4     1     0     1     0     8     1     1     0       18:30:00     276     15     5230     180     305     18     2     0     139     4     1     0     1     0     8     0     1     0       18:45:00     276     0     5230     0     305     0     2     0     139     0     1     0     1     0     8     0     1     0	17:00:00	194	17	4034	243	213	11	2	0	113	4	1	0	1	0	4	1	0	0	47	3
17:45:00     237     15     4676     195     255     12     2     0     126     5     1     0     1     0     7     0     1     0         18:00:00       252       15       4869       193       266       11       2       0       131       5       1       0       1       0       7       0       1       0         18:15:00       261       9       5050       181       287       21       2       0       135       4       1       0       1       0       8       1       1       0         18:30:00       276       15       5230       180       305       18       2       0       139       4       1       0       1       0       8       0       1       0         18:45:00       276       0       5230       0       305       0       2       0       139       0       1       0       1       0       8       0       1       0		209	15	4274		225		2	0	117	4	1	0	1	0	4	0	0	0	50	3
18:00:00     252     15     4869     193     266     11     2     0     131     5     1     0     1     0     7     0     1     0         18:15:00       261       9       5050       181       287       21       2       0       135       4       1       0       1       0       8       1       1       0         18:30:00       276       15       5230       180       305       18       2       0       139       4       1       0       1       0       8       0       1       0         18:45:00       276       0       5230       0       305       0       2       0       139       0       1       0       1       0       8       0       1       0	17:30:00	222	13	4481	207	243	18	2	0	121	4	1	0	1	0	7	3	1	1	52	2
18:15:00     261     9     5050     181     287     21     2     0     135     4     1     0     1     0     8     1     1     0       18:30:00     276     15     5230     180     305     18     2     0     139     4     1     0     1     0     8     0     1     0       18:45:00     276     0     5230     0     305     0     2     0     139     0     1     0     1     0     8     0     1     0	17:45:00	237	15	4676		255	12	2	0	126	5	1	0	1	0	-	0	1	0	58	6
18:30:00     276     15     5230     180     305     18     2     0     139     4     1     0     1     0     8     0     1     0         18:45:00       276       0       5230       0       305       0       2       0       139       0       1       0       1       0       8       0       1       0	18:00:00	252	15	4869	193	266	11	2	0	131	5	1	0	1	0	7	0	1	0	60	2
18:45:00 276 0 5230 0 305 0 2 0 139 0 1 0 1 0 8 0 1 0	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
18:47:01 276 0 5230 0 305 0 2 0 139 0 1 0 1 0 8 0 1 0		276	0		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

		Passen	ger Cars ·	- West Ap	proach			Tru	ıcks - We	st Appro	ach			Сус	lists - We	est Appro	ach		Pedes	trians
Interval	Le	ft	Th	ru	Rig	ht	Le	ft	Th	ru	Rig	jht	Le	ft	Th	ru	Rig	ht	West	Cross
Time	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	О
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		1	0	0	0	0	23	3
9:30:00	62	4	9	2	44	3	1	1	0	0		2		0			0	0	28	5
9:45:00	70	8	10	1	50	6	1	0	0	0	4	0		0	0	0	0	0	36	8
10:00:00	75	5		1	56	6	1	0		0	4	0	_	0			0	0	46	10
10:01:05	75	0		0	56	0	1	0		0		0		0		-	0	0	46	0
11:30:00	75	0		0	56	0	1	0		0		0	1	0			0	0	46	0
11:45:00	83	8	13	2	65	9	1	0	-	0		1	3	0			0	0	58	12
12:00:00	94	11		1	75	10	2	1	0	0		1	3	0			0	0	65	7
12:15:00	106	12	1	0	86	11	2	0	-	0		0		0			0	0	78	13
12:30:00	116	10		0	103	17	2	0	-	0	_	0	_	0			0	0	87	9
12:45:00	130	14	1	1	112	9	2	0		0		1	0	0		-	0	0	93	6
13:00:00	143	13	1	2	122	10	2	0		0		0	1	0			0	0	96	3
13:15:00	154	11	18	1	132	10	2	0		0		0	_	0			0	0	101	5
13:30:00	172	18		1	140	8	2	0		0	· · · · · ·	0		0			0	0	106	5
13:31:42	172	0		0	140	0	2	0		0		0		0			0	0	106	0
15:30:00	172	0		0	140	0	2	0	-	0		0	1	0			0	0	106	0
15:45:00	177	5		0	150	10	2	0		0		0	1	0			1	1	116	10
16:00:00	193	16	1	2	160	10	2	0	-	0	7	0	-	0			1	0	125	9
16:15:00	200	7	21	0	175	15	2	0	-	0		1		0			1	0	131	6
16:30:00	211	11		2	188	13	2	0		0		0		0			1	0	144	13
16:45:00	223	12		1	203	15	2	0		0		0	_	0			1	0	157	13
17:00:00 17:15:00	233	10 13		2	216 239	13 23	2	0		0		0	1	0		-	1	0	167 182	10 15
	246			4				0		0		0	_	0		-	1	0		
17:30:00 17:45:00	257 267	11 10	33 34	1	260 270	21 10	2	0		0		0		0			1	0	197 204	15 7
18:00:00	267	9		5	270	10	2	0		0		0	-	0			1	0	204	13
18:15:00	276	10		ე 1	293	9	2	0		0		0		0			1	0	225	8
18:30:00	295	9		1	302	9	2	0	-	0		0		0	-		1	0	233	8
18:45:00	295	0		0	302	0	2	0		0		0	_	0	1		1	0	233	0
18:47:01	295	0		0	302	0	2	0		0		0	_	0			1	0	233	0
10.47.01	290	U	41	U	302	U		0	0		•		3	0	U	U	<u> </u>	U	233	

#### Ontario Traffic Inc. **Morning Peak Diagram Specified Period One Hour Peak** From: 7:00:00 **From:** 8:15:00 To: 10:00:00 To: 9:15:00 Weather conditions: Municipality: Aurora Site #: 1825300008 Intersection: Person(s) who counted: Yonge St & Murray Dr-Edward St TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1340 Cyclists 0 0 0 Cyclists 0 East Leg Total: 435 24 North Entering: 704 Trucks 2 22 0 Trucks 16 East Entering: 163 North Peds: Cars 42 575 63 680 Cars 620 East Peds: 7 $\mathbb{X}$ Peds Cross: Totals 44 597 63 Totals 636 Peds Cross: ⋈ Yonge St Totals Trucks Cyclists Totals Cyclists Trucks Cars Cars 15 203 218 0 0 38 81 5 0 86 34 39 Murray Dr 153 Cyclists Trucks Cars Totals Edward St 0 1 101 102 0 5 131 136 99 100 Trucks Cyclists Totals 0 1 Cars 0 331 264 272 Yonge St $\mathbb{X}$ Peds Cross: 631 Peds Cross: $\bowtie$ Cars 708 Cars 80 481 70 West Peds: 7 Trucks 28 Trucks 8 15 3 26 South Peds: 8 Cyclists 0 0 West Entering: 338 Cyclists 0 0 0 South Entering: 657 West Leg Total: 556 Totals 88 South Leg Total: 1393 Totals 736 **Comments**

#### Ontario Traffic Inc. Mid-day Peak Diagram **Specified Period One Hour Peak** From: 11:30:00 **From:** 12:00:00 To: 13:30:00 To: 13:00:00 Weather conditions: Municipality: Aurora Site #: 1825300008 Intersection: Person(s) who counted: Yonge St & Murray Dr-Edward St TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1542 Cyclists 0 0 0 Cyclists 0 East Leg Total: 572 21 4 North Entering: 762 Trucks 0 17 Trucks 11 East Entering: 317 North Peds: Cars 106 565 70 741 Cars 769 East Peds: 9 $\mathbb{X}$ 74 Totals 780 Peds Cross: ⋈ Totals 106 582 Peds Cross: Yonge St Trucks Cyclists Totals Cyclists Trucks Cars Totals Cars 364 368 0 64 144 0 145 105 0 108 Murray Dr 313 0 Cyclists Trucks Cars Totals Edward St 0 0 133 133 0 2 140 142 2 114 116 Trucks Cyclists Totals 0 Cars 0 255 0 387 249 Yonge St $\mathbb{X}$ Peds Cross: Peds Cross: $\bowtie$ Cars 784 Cars 114 572 39 725 West Peds: 12 Trucks 22 Trucks 3 0 14 South Peds: 8 11 Cyclists 0 Cyclists 0 0 West Entering: 391 0 South Entering: 739 West Leg Total: 759 Totals 117 South Leg Total: 1545 Totals 806 **Comments**

#### Ontario Traffic Inc. **Afternoon Peak Diagram Specified Period One Hour Peak** From: 15:30:00 **From:** 16:30:00 To: 18:30:00 To: 17:30:00 Weather conditions: Municipality: Aurora Site #: 1825300008 Intersection: Yonge St & Murray Dr-Edward St Person(s) who counted: TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1791 Cyclists 0 1 Cyclists 0 East Leg Total: 656 2 20 North Entering: 763 Trucks 2 16 Trucks 17 East Entering: 423 North Peds: 13 Cars 86 619 37 742 Cars 1011 East Peds: 5 $\mathbb{X}$ Peds Cross: Peds Cross: Totals 88 635 40 Totals 1028 ⋈ Yonge St Totals Trucks Cyclists Totals Cyclists Trucks Cars Cars 8 460 471 0 95 202 211 6 3 115 0 117 Murray Dr 411 3 Cyclists Trucks Cars **Totals** Edward St 1 129 130 1 138 145 153 154 Trucks Cyclists Totals 0 1 Cars 223 2 420 233 Yonge St $\mathbb{X}$ Peds Cross: Cars 887 1008 Peds Cross: $\bowtie$ Cars 172 788 48 West Peds: 12 Trucks 19 Trucks 0 15 0 15 South Peds: 4 Cyclists 0 0 West Entering: 429 Cyclists 0 0 South Entering: 1023 West Leg Total: 900 Totals 172 South Leg Total: 1929 Totals 906 **Comments**

## **Total Count Diagram**

Municipality: Aurora

Site #: 1825300008

Intersection: Yonge St & Murray Dr-Edward St

TFR File #:

Count date: 27-Jun-18

#### Weather conditions:

## Person(s) who counted:

### \*\* Signalized Intersection \*\*

North Leg Total: 11414 Cyclists 0 1 North Entering: 5498 Trucks 7 145 12

North Peds: 56 Peds Cross: ⋈ Totals 514 4552 432

Cyclists 4 164 Cars 507 4407 419 5333

Yonge St

Trucks 142 Cars 5770 Totals 5916

Major Road: Yonge St runs N/S

East Leg Total: 3902 East Entering: 2093 East Peds: 55  $\mathbb{X}$ Peds Cross:

Cyclists Trucks Cars Totals 50 2352 2408



Murray Dr

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

 $\mathbb{X}$ 

88

Peds Cross:

West Peds:

West Leg Total: 5274

West Entering: 2866



Cars 6013 Trucks 178 Cyclists 0 Totals 6191







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

Edward St



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

Trucks Cyclists Totals Cars 1751 55 1809

> Peds Cross:  $\bowtie$ South Peds: 40 South Entering: 5867 South Leg Total: 12058

#### **Comments**

# Ontario Traffic Inc. Traffic Count Summary

Intersection: \	Yonge S	t & Muri	ay Dr-E	dward St	Count D	<sup>Date:</sup> 27-Jun-18	3	Munic	ipality: Au	rora			
	North	Appro	ach Tot	als	-				South	n Appro	ach Tot	als	
	Include	es Cars, T	rucks, & C	yclists		North/South			Include	s Cars, T	rucks, & C	yclists	
Hour Ending	Left	Thru	Right	Grand Total	Total Peds	Total Approaches	Hou Endi		Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0	0	7:00	0:00	0	0	0	0	0
8:00:00	46	523	16	585	2	996	8:00	0:00	31	315	65	411	2
9:00:00	64	607	40	711	7	1342	9:00		68	496	67	631	2 4
10:00:00	40	519	53	612	5		10:00		87	474	57	618	6
12:00:00	24	265	39	328	4		12:00		46	289	28	363	5
13:00:00	74	582	106	762	8		13:00		117	583	39	739	6 5 8 4 5 3
16:00:00 17:00:00	71 48	562 599	71 75	704 722	7 5		16:00 17:00		126 172	616 727	50 47	792 946	4
18:00:00	40 42	620	75 77	739	14		18:00		158	746	37	946	2
18.00.00	42	020	,,,	139	14	1000	10.00	J.00	130	740	31	941	3
Totals:			477 ach Tota		52	10604 East/West			805 West	4246 <b>Appro</b> es Cars, T	390 ach Totarucks, & C	5441	37
Hour Ending	Left	Thru	Right	Grand Total	Total Peds	Total Approaches	Hou Endi	ur na	Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	Nigiti 0	0	0	Approacties 0	7:00		0	0	Night 0	0	0
8:00:00	58	34	24	116	3	363	8:00		60	74	113	247	3
9:00:00	34	77	33	144	8	461	9:00		96	118	103	317	4
10:00:00	51	78	29	158	7		10:00		88	117	93	298	15
12:00:00	51	65	31	147	7		12:00		69	57	62	188	11
13:00:00	108	145	64	317	9		13:00		133	142	116	391	12
16:00:00	70	153	51	274	9		16:00		133	137	147	417	12
17:00:00 18:00:00	114 100	174 214	96 79	384 393	5 3		17:00 18:00		119 136	133 135	140 161	392 432	13 12
Totals:	586	940	407	1933	51	4615			834	913	935	2682	82
						or Traffic Cr		_	-				
Hours En Crossing		8:00 196	9:00 259	ulated Va 10:00 267	alues f 12:00 194	or Traffic Cr	13	<b>g Ma</b> 3:00 402	ajor Stre 16:00 367	17:00 417	18:00 467		

		Passenç	ger Cars -	North A	pproach			Tru	ıcks - Nor	th Appro	ach			Сус	lists - No	rth Appro	ach		Pedes	trians
Interval	Lef	ft	Thi	·u	Rig	ht	Le	ft	Th	ru	Rig	ght	Le	ft	Th	ru	Riç	ght	North	Cross
Time	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		6	0	0		0	0	0	0	0	5	2
8:45:00	95	10	968	151	43	8	1	0	36	5	2	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		6	2	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	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		0	4	0		0	0	0	0	0	14	0
11:30:00	146	0	1585	0	105	0	4	0		0	4	0		0	0	0	0	0	14	0
11:45:00	159	13	1713	128	123	18	4	0		5	4	0		0	0	0	0	0	15	1
12:00:00	170	11	1840	127	144	21	4	0		5	4	0		0	0	0	0	0	18	3
12:15:00	186	16	1995	155	168	24	8	4		2	4	0		0	0	0	0	0	19	1
12:30:00	205	19	2130	135	192	24	8	0		3	4	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	21	1
13:00:00	240	21	2405	134	250	34	8	0	1	8	4	0	_	0	0	0	0	0	26	5
13:15:00	258	18	2552	147	271	21	8	0		5	4	0	_	0	0	0	0	0	28	2
13:30:00	284	26	2682	130	293	22	8	0		3	4	0	-	0	0	0	0	0	31	3
13:30:50	284	0	2682	0	293	0	8	0		0	4	0		0	0	0	0	0	31	0
15:30:00	284	0	2682	0	293	0	8	0		0	4	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	32	1
16:00:00	310	18	2949	124	321	14	9	0		5	4	0	-	0	0	0	0	0	33	1
16:15:00	320	10	3099	150	332	11	9	0		3	5	1		0	0	0	0	0	34	1
16:30:00	331	11	3240	141	352	20	9	0	1	3	5	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	35	0
17:00:00	357	12	3535	152	394	19	10	0		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	0	0	0	0	43	5
17:30:00	368	3	3859	154	438	24	11	0		4	7	1		0	0	0	0	0	48	5
17:45:00	385	17	4003	144	458	20	11	0		2	7	0	•	0	0	0	0	0	50	2
18:00:00	397	12	4141	138	470	12	11	0		3	7	0		0	0	0	0	0	52	2
18:15:00	406	9	4296	155	489	19	11	0		5	7	0		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	1	0	7	0		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

	Passenger Cars - East Approac			proach			Tr	ucks - Eas	st Appro	ach			Сус	lists - Ea	st Appro	ach		Pedes	trians	
Interval	Lef	ft	Thi	·u	Rig	ht	Le	ft	Th	ru	Rig	ght	Le	ft	Th	ru	Riç	ght	East C	ross
Time	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	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		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	1	0	0	0	39	1
13:30:50	319	0	459	0	207	0	15	0		0	4	0		0	1	0	0	0	39	0
15:30:00	319	0	459	0	207	0	15	0		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	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		0	4	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	4	1	0	0	47	1
17:00:00	465	19	702	48	324	19	21	1	19	1	4	0		0	5	1	0	0	48	1
17:15:00	486	21	759	57	354	30	21	0		0	5	1		0	6	1	0	0	50	2
17:30:00	521	35	814	55	366	12	21	0	22	3	5	0	_	0	6	0	0	0	51	1
17:45:00	544	23	863	49	385	19	21	0		0	5	0		0	6	0	0	0	51	0
18:00:00	565	21	910	47	402	17	21	0		2	5	0	_	0	6	0	0	0	51	0
18:15:00	593	28	963	53	410	8	21	0		0	5	0		0	6	0	0	0	54	3
18:30:00	617	24	998	35	421	11	21	0		1	5	0	0	0	6	0	0	0	55	1
18:45:00	617	0	998	0	421	0	21	0		0	5	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

Net   Time   Cum   Inter			Passeng	ger Cars -	South A	pproach			Tru	icks - Sou	th Appro	ach			Сус	lists - Sou	ıth Appro	oach		Pedes	trians
Total   Tota	Interval	Let	ft	The	ru	Rig	ht	Le	ft	Th	ru	Rig	ght	Le	ft	Th	ru	Rig	jht	South	Cross
7.1500	Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
73000         9         5         111         71         25         15         1         0         9         5         1         0	7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.4500         17         8         180         69         41         16         2         1         12         3         1         0         0         0         1         1         0         0         2         2         1         1         0         0         0         0         0         0         0         0         0         0         2         2         8.1500         38         9         411         114         76         12         2         0         24         7         1         0         0         0         2         1         0         0         2         1         0         0         2         0         0         0         2           8.4500         69         15         649         123         112         11         4         0         30         4         3         1         0         0         2         0         0         0         6           9.0000         19         22         774         125         129         17         8         4         35         5         3         0         0         0         2         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
8:00:00		9	5	111	71	25	15	1	0	9	5	1	0	0	0	0	0	0	0	1	0
8.1500 38 9 411 114 76 12 2 0 0 24 7 1 0 0 0 0 2 1 1 0 0 0 2 8 3000 54 16 526 115 101 25 4 2 2 26 2 2 1 0 0 0 0 2 0 0 0 6 8 4.4500 69 15 649 123 112 11 4 0 0 30 4 3 1 0 0 0 2 0 0 0 6 8 9.0000 91 22 774 125 129 17 8 4 35 5 3 0 0 0 0 0 2 0 0 0 0 6 9.0000 118 27 774 125 129 17 8 4 35 5 3 0 0 0 0 0 2 0 0 0 0 6 9.5500 118 27 892 118 146 17 10 0 2 39 4 4 1 0 0 0 2 0 0 0 0 10 9.3000 140 22 1001 109 159 13 11 1 4 3 4 5 1 0 0 0 2 0 0 0 0 12 10 9.3000 140 22 1001 109 159 13 11 1 0 47 4 5 0 0 0 0 2 0 0 0 0 12 10 100 175 19 1230 112 184 15 11 0 53 6 5 0 0 0 0 2 0 0 0 0 12 10 100.001 175 19 1230 112 184 15 11 0 53 6 5 0 0 0 0 2 0 0 0 12 11 114.6500 175 0 1230 0 184 0 11 0 53 0 5 0 0 0 0 2 0 0 0 0 12 114.6500 176 176 177 18 13 12 14 14 1209 16 13 1 1 0 53 0 5 0 0 0 0 2 0 0 0 0 12 11 11.6500 176 176 177 18 18 137 18 18 12.3000 24 3 1648 137 245 6 15 2 6 6 5 8 0 0 0 0 2 0 0 0 0 13 12 12.1500 253 34 1648 137 245 6 15 2 6 6 5 8 0 0 0 0 2 0 0 0 0 13 12 12.1500 253 34 1648 137 245 6 15 2 6 6 5 8 0 0 0 0 0 2 0 0 0 0 13 12 12.1500 386 3 1 1797 149 223 8 15 0 6 9 3 8 8 0 0 0 0 0 2 0 0 0 0 13 13 13.0000 386 31 1797 149 223 8 15 0 6 9 3 8 8 0 0 0 0 0 2 0 0 0 0 13 13 13.0000 386 31 1797 149 223 8 15 0 6 9 3 8 8 0 0 0 0 0 2 0 0 0 0 13 13 13.0000 386 31 138 15 0 273 0 18 0 8 0 0 10 0 0 2 0 0 0 0 2 0 0 0 0 13 13 13.0000 386 31 138 15 1 288 10 16 0 76 4 10 0 0 0 0 2 0 0 0 0 2 0 0 0 0 2 13 13.0000 386 31 138 15 1 288 10 18 0 80 0 10 0 0 0 2 0 0 0 0 2 0 0 0 2 2 0 0 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
8.3500		29	12	297	117				0		5	1	0	0	0	•	0	0	0		1
8.4500 69 15 649 123 112 11 4 0 30 4 3 1 0 0 0 2 0 0 0 6 6 9:00:00 91 22 774 125 129 17 8 4 355 5 3 0 0 0 0 2 0 0 0 0 6 9:00:00 118 27 892 118 146 17 10 2 39 4 4 1 1 0 0 0 2 0 0 0 0 10 9:30:00 1140 22 1001 109 159 13 11 1 1 43 4 5 1 0 0 0 2 0 0 0 0 12 10 9:30:00 140 22 1001 109 159 13 11 1 1 43 4 5 1 0 0 0 2 0 0 0 0 12 10:00:00 156 16 1118 117 169 10 11 0 11 0 47 4 5 0 0 0 0 2 0 0 0 0 12 10:00:00 175 19 1230 112 184 15 11 0 53 6 5 0 0 0 0 2 0 0 0 0 12 10:00:00 175 19 1230 10 112 184 15 11 0 53 6 5 0 0 0 0 2 0 0 0 0 12 11:00:00:14 175 0 1230 0 184 0 11 0 53 0 5 0 0 0 0 2 0 0 0 0 12 11:30:00 175 0 1230 0 184 0 11 0 53 0 5 0 0 0 0 2 0 0 0 0 12 11:30:00 175 0 1230 0 184 0 11 0 53 0 5 0 0 0 0 2 0 0 0 12 11:30:00 175 0 1230 0 184 0 11 0 53 0 5 0 0 0 0 0 2 0 0 0 0 12 11:30:00 175 0 1230 0 184 0 11 0 53 0 5 0 0 0 0 0 2 0 0 0 0 12 11:30:00 175 0 1230 0 184 0 11 0 53 0 5 0 0 0 0 0 2 0 0 0 0 12 11:30:00 175 0 1230 0 184 0 11 0 53 0 5 0 0 0 0 0 2 0 0 0 0 12 11:30:00 175 0 1230 0 184 0 13 1 16 1 3 8 0 0 0 0 2 0 0 0 0 12 11:30:00 129 25 1511 141 209 16 13 1 61 3 8 0 0 0 0 2 0 0 0 17 12:15:00 253 34 1648 137 215 6 15 2 66 5 8 0 0 0 0 2 0 0 0 18 12:30:00 284 31 1797 149 223 8 15 0 69 3 8 0 0 0 0 2 0 0 0 0 18 12:30:00 338 24 1932 135 235 12 16 1 70 1 8 0 0 0 0 2 0 0 0 0 18 12:30:00 338 24 1932 135 235 12 16 1 70 1 8 0 0 0 0 2 0 0 0 0 2 13:30:00 386 31 2384 150 273 15 18 0 80 4 10 0 0 0 0 2 0 0 0 0 2 5 13:30:50 386 0 2384 0 273 0 18 0 80 0 10 0 0 0 0 2 0 0 0 0 2 6 15:30:00 386 0 2384 0 273 0 18 0 80 0 10 0 0 0 0 2 0 0 0 0 2 6 15:30:00 588 44 3174 177 328 16 18 0 80 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0								2					0	_			1		0		0
9:00:00 91 22 774 126 129 17 8 4 35 5 3 0 0 0 0 2 0 0 0 0 6 9 9:15:00 118 27 892 118 146 17 10 2 39 4 4 1 1 0 0 0 2 0 0 0 0 10 9:30:00 140 22 10:01 109 159 13 11 1 1 43 4 5 1 0 0 0 2 0 0 0 0 12 9:45:00 156 16 11118 117 169 10 11 0 47 4 5 0 0 0 0 2 0 0 0 0 12 10:00:00 175 19 1230 112 184 15 11 0 53 6 5 0 0 0 0 2 0 0 0 0 12 10:00:01 175 0 1230 0 184 0 111 0 53 0 5 0 0 0 0 2 0 0 0 0 12 10:02:14 175 0 1230 0 184 0 111 0 53 0 5 0 0 0 0 2 0 0 0 0 12 11:30:00 175 19 1370 140 193 9 12 1 58 5 8 3 0 0 0 2 0 0 0 0 12 11:30:00 175 19 1370 140 193 9 12 1 58 5 8 8 3 0 0 0 2 0 0 0 0 12 11:30:00 249 19 1370 140 193 9 12 1 58 5 8 8 3 0 0 0 2 0 0 0 0 13 12:00:02:25 33 4 1648 137 215 6 15 2 66 5 8 0 0 0 0 2 0 0 0 0 18 12:45:00 284 31 1797 149 223 8 15 0 69 3 8 0 0 0 0 2 0 0 0 0 18 12:45:00 308 24 1932 135 235 12 18 1 70 1 1 8 0 0 0 2 0 0 0 0 2 1 3 13:00:00 333 25 2083 151 248 13 16 0 72 2 8 8 0 0 0 0 2 0 0 0 0 2 1 13:30:00 386 31 2384 150 273 15 18 2 80 4 10 0 0 0 2 0 0 0 0 2 0 0 0 0 26 13:30:00 386 0 2384 0 273 0 18 0 80 0 10 0 0 0 2 0 0 0 0 2 6 13:30:00 386 4 47 29 97 148 312 18 0 80 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0								4			2		1				0		0		4
9:15:00								-	0		4		1	-	0	1	0	_	0		0
9:30:00		91		774	125				4		5	3	0	_	0		0	_	0		0
9:45:00		118	27	892	118	146		10	2	39	4	4	1	0	0	2	0	0	0	10	4
10:00:00		140	22	1001		159		11	1	43	4	_	1	0	0	2	0	0	0		2
10:02:14 175 0 1230 0 184 0 111 0 53 0 5 0 0 0 2 0 0 0 0 12 111 1130:00 175 0 1230 0 184 0 111 0 53 0 5 0 0 0 0 2 0 0 0 0 12 1131:00:00 175 0 1230 0 184 0 111 0 53 0 5 0 0 0 0 2 0 0 0 0 12 12 11:45:00 194 19 1370 140 193 9 12 1 5 5 5 5 5 5 0 0 0 0 2 0 0 0 0 13 12 12:00:00 194 19 1370 140 193 9 12 1 5 5 5 5 5 5 0 0 0 0 2 0 0 0 0 13 12 12:00:00 194 19 1370 140 193 9 12 1 1 58 5 8 8 3 0 0 0 2 0 0 0 0 13 12 12:00:00 125 1511 141 1209 16 13 1 61 3 8 0 0 0 0 2 0 0 0 0 17 12 12:00:00 125 3 34 1648 137 215 6 15 2 66 5 8 0 0 0 0 0 2 0 0 0 0 18 12 12:00:00 1284 31 1797 149 123 8 15 0 69 3 8 0 0 0 0 0 2 0 0 0 0 19 12 12:45:00 308 24 1932 135 235 12 16 1 70 1 8 0 0 0 0 2 0 0 0 0 19 12 12:45:00 333 25 2083 151 248 13 16 0 72 2 8 0 0 0 0 0 2 0 0 0 0 2 3 13:00:00 333 25 2083 151 258 10 16 0 76 4 10 2 0 0 0 2 0 0 0 2 2 0 0 0 0 25 13:30:00 386 31 2384 150 273 15 18 2 80 4 10 0 2 0 0 2 0 0 0 0 26 13:30:00 386 31 2384 0 273 0 18 0 80 0 10 0 0 0 2 0 0 0 0 26 15:30:00 386 0 2384 0 273 0 18 0 80 0 10 0 0 0 0 2 0 0 0 0 26 15:30:00 386 0 2384 0 273 0 18 0 80 0 10 0 0 0 0 2 0 0 0 0 26 15:30:00 350 386 0 2384 0 273 0 18 0 80 0 10 0 0 0 0 2 0 0 0 0 26 15:30:00 356 44 47 2997 148 312 10 18 0 80 0 10 0 0 0 0 0 2 0 0 0 0 26 15:30:00 457 40 2661 150 296 13 18 0 80 9 4 10 0 0 0 0 3 3 1 0 0 0 0 29 16:15:00 497 40 2849 188 302 6 18 0 94 5 10 0 0 0 0 3 3 0 0 0 0 29 16:15:00 588 44 374 177 328 16 18 0 994 5 10 0 0 0 0 3 3 0 0 0 0 3 3 17:00:00 629 41 3391 217 343 15 18 0 100 4 100 0 0 0 0 3 3 0 0 0 0 3 3 17:00:00 629 41 3391 217 343 15 18 0 100 4 100 0 0 0 0 3 0 0 0 3 3 17:00:00 629 41 3391 217 343 15 18 0 100 4 100 0 0 0 0 3 0 0 0 3 3 17:00:00 629 41 3394 164 369 9 18 0 116 4 10 0 0 0 0 0 3 0 0 0 3 3 17:00:00 629 41 3394 164 369 9 18 0 116 4 10 0 0 0 0 0 3 0 0 0 3 3 17:00:00 629 41 3394 164 369 9 18 0 116 4 10 0 0 0 0 0 3 0 0 0 3 3 18:00:00 787 33 4122 173 380 11 18 0 125 4 10 0 0 0 0 0 3 0 0 0 3 3 0 0 0 0 3 3 18:00:00 787 33 4122 173 380 11 18 0 125 4 10 0 0 0 0 0 3 0 0 0 0 3 3 18:00:00 787 33 4122 173 380 11 18 0 125 4 10 0 0 0 0 0 3 0 0 0 0 3	9:45:00	156	16	1118	117	169	10	11	0	47	4	5	0	0	0	2	0	0	0	12	0
11:30:00	10:00:00	175	19	1230	112	184	15	11	0	53	6	5	0	0	0	2	0	0	0	12	0
11:45:00		175	0	1230	0	184	0	11	0	53	0	5	0	0	0		0	0	0	12	0
12:00:00		175	0	1230	0	184	0		0	53	0	5	0	0	0	2	0	0	0		0
12:15:00         253         34         1648         137         215         6         15         2         66         5         8         0         0         0         2         0         0         0         18           12:35:00         284         31         1797         149         223         8         15         0         69         3         8         0         0         0         2         0         0         0         19           12:45:00         308         24         1932         135         235         12         16         1         70         1         8         0         0         0         0         0         0         2         0         0         0         0         2         0         0         0         0         0         2         0	11:45:00	194	19	1370	140	193	9	12	1	58	5	8	3	0	0	2	0	0	0	13	1
12:30:00	12:00:00	219	25	1511		209	16		1	-	3	8	0	0	0	2	0	0	0	17	4
12:45:00         308         24         1932         135         235         12         16         1         70         1         8         0         0         0         2         0         0         0         23           13:00:00         3333         25         2083         151         248         13         16         0         72         2         8         0         0         0         2         0         0         0         25           13:15:00         355         22         2234         151         258         10         16         0         76         4         10         2         0         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2         0         0         0         2<	12:15:00	253	34	1648	137	215	6	15	2	66	5	8	0	0	0	2	0	0	0	18	1
13:00:00         333         25         2083         151         248         13         16         0         72         2         8         0         0         0         2         0         0         0         25           13:15:00         355         22         2234         151         258         10         16         0         76         4         10         2         0         0         0         26           13:30:00         386         31         2384         150         273         15         18         2         80         4         10         0         0         0         2         0         0         0         26           15:30:00         386         0         2384         0         273         0         18         0         80         0         10         0         0         0         2         0         0         0         26           15:45:00         417         31         2531         147         283         10         18         0         85         5         10         0         0         0         2         0         0         0         2	12:30:00	284	31	1797	149	223	-		0	69	3	8	0	0	0	2	0	0	0		1
13:15:00         355         22         2234         151         258         10         16         0         76         4         10         2         0         0         2         0         0         0         26           13:30:00         386         31         2384         150         273         15         18         2         80         4         10         0         0         0         2         0         0         0         26           13:30:50         386         0         2384         0         273         0         18         0         80         0         10         0         0         0         0         26           15:30:00         386         0         2384         0         273         0         18         0         80         0         10         0         0         0         0         0         26           15:45:00         417         31         2531         147         283         10         18         0         85         5         10         0         0         0         2         0         0         0         26           15:45:00	12:45:00	308	24	1932	135	235	12	16	1	70	1	8	0	0	0	2	0	0	0	23	4
13:30:00         386         31         2384         150         273         15         18         2         80         4         10         0         0         0         2         0         0         0         26           13:30:50         386         0         2384         0         273         0         18         0         80         0         10         0         0         0         2         0         0         0         26           15:30:00         386         0         2384         0         273         0         18         0         80         0         10         0         0         0         2         0         0         0         26           15:45:00         417         31         2531         147         283         10         18         0         85         5         10         0         0         0         2         0         0         0         26           16:40:00         497         40         2649         168         302         6         18         0         94         5         10         0         0         0         3         0         0 <td>13:00:00</td> <td>333</td> <td>25</td> <td>2083</td> <td>151</td> <td>248</td> <td>13</td> <td>16</td> <td>0</td> <td>72</td> <td>2</td> <td>8</td> <td>0</td> <td>0</td> <td>0</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> <td>25</td> <td>2</td>	13:00:00	333	25	2083	151	248	13	16	0	72	2	8	0	0	0	2	0	0	0	25	2
13:30:50         386         0         2384         0         273         0         18         0         80         0         10         0         0         0         2         0         0         0         26           15:30:00         386         0         2384         0         273         0         18         0         80         0         10         0         0         0         2         0         0         0         26           15:45:00         417         31         2531         147         283         10         18         0         85         5         10         0         0         0         2         0         0         0         26           16:00:00         457         40         2681         150         296         13         18         0         89         4         10         0         0         0         3         1         0         0         29           16:30:00         544         47         2997         148         312         10         18         0         97         3         10         0         0         0         3         0         0 </td <td>13:15:00</td> <td>355</td> <td>22</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td>76</td> <td>4</td> <td></td> <td>2</td> <td>0</td> <td>0</td> <td>2</td> <td>0</td> <td>0</td> <td>0</td> <td>26</td> <td>1</td>	13:15:00	355	22						0	76	4		2	0	0	2	0	0	0	26	1
15:30:00       386       0       2384       0       273       0       18       0       80       0       10       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0       0       0       0       2       0		386	31	2384	150	273	15	18	2	80	4	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       0       26         16:00:00       457       40       2681       150       296       13       18       0       89       4       10       0       0       0       3       1       0       0       29         16:15:00       497       40       2849       168       302       6       18       0       94       5       10       0       0       0       3       0       0       0       29         16:30:00       544       47       2997       148       312       10       18       0       97       3       10       0       0       0       3       0       0       0       31         16:45:00       588       44       3174       177       328       16       18       0       102       5       10       0       0       0       3       0       0       0       33         17:00:00       629       41       3391       217	13:30:50	386	0	2384	0	273	0	18	0	80	0	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           16:15:00         497         40         2849         168         302         6         18         0         94         5         10         0         0         0         3         0         0         0         29           16:30:00         544         47         2997         148         312         10         18         0         97         3         10         0         0         0         3         0         0         0         31           16:45:00         588         44         3174         177         328         16         18         0         102         5         10         0         0         0         3         0         0         0         33         0         0         0         33         0         0         0         33         1         0         0         0         0         3         0         0         0         33         0	15:30:00	386	0	2384	0	273	0	18	0		0	10	0	0	0	2	0	0	0	26	0
16:15:00       497       40       2849       168       302       6       18       0       94       5       10       0       0       0       3       0       0       0       29         16:30:00       544       47       2997       148       312       10       18       0       97       3       10       0       0       0       3       0       0       0       31         16:45:00       588       44       3174       177       328       16       18       0       102       5       10       0       0       0       3       0       0       0       33       0       0       0       33       0       0       0       33       0       0       0       33       0       0       0       33       0       0       0       33       0       0       0       33       0       0       0       33       0       0       0       33       0       0       0       34       17:15:00       668       39       3600       299       351       8       18       0       109       3       10       0       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
16:30:00       544       47       2997       148       312       10       18       0       97       3       10       0       0       0       3       0       0       0       31         16:45:00       588       44       3174       177       328       16       18       0       102       5       10       0       0       0       3       0       0       0       33         17:00:00       629       41       3391       217       343       15       18       0       106       4       10       0       0       0       3       0       0       0       34         17:15:00       668       39       3600       209       351       8       18       0       109       3       10       0       0       0       3       0       0       0       34         17:30:00       716       48       3785       185       360       9       18       0       112       3       10       0       0       0       3       0       0       0       35         17:45:00       754       38       3949       164       369	16:00:00	457	40	2681	150	296	13	18	0	89	4	10	0	0	0	3	1	0	0	29	3
16:45:00       588       44       3174       177       328       16       18       0       102       5       10       0       0       0       3       0       0       0       0       33         17:00:00       629       41       3391       217       343       15       18       0       106       4       10       0       0       0       3       0       0       0       34         17:15:00       668       39       3600       209       351       8       18       0       109       3       10       0       0       0       3       0       0       0       34         17:30:00       716       48       3785       185       360       9       18       0       112       3       10       0       0       0       3       0       0       0       35         17:45:00       754       38       3949       164       369       9       18       0       116       4       10       0       0       0       3       0       0       0       37         18:00:00       787       33       4122       173	16:15:00	497	40	2849	168	302	6	18	0	94	5	10	0	0	0	3	0	0	0	29	0
17:00:00       629       41       3391       217       343       15       18       0       106       4       10       0       0       0       3       0       0       0       34         17:15:00       668       39       3600       209       351       8       18       0       109       3       10       0       0       0       3       0       0       0       34         17:30:00       716       48       3785       185       360       9       18       0       112       3       10       0       0       0       3       0       0       0       35         17:45:00       754       38       3949       164       369       9       18       0       116       4       10       0       0       0       3       0       0       0       37         18:00:00       787       33       4122       173       380       11       18       0       121       5       10       0       0       0       3       0       0       0       37         18:15:00       819       32       4288       166       394	16:30:00	544	47	2997	148	312	10	18	0	97	3	10	0	0	0	3	0	0	0	31	2
17:15:00       668       39       3600       209       351       8       18       0       109       3       10       0       0       0       3       0       0       0       34         17:30:00       716       48       3785       185       360       9       18       0       112       3       10       0       0       0       3       0       0       0       35         17:45:00       754       38       3949       164       369       9       18       0       116       4       10       0       0       0       3       0       0       0       37         18:00:00       787       33       4122       173       380       11       18       0       121       5       10       0       0       0       3       0       0       0       37         18:15:00       819       32       4288       166       394       14       18       0       125       4       10       0       0       0       3       0       0       0       39         18:30:00       847       28       4459       171       402	16:45:00	588	44	3174	177	328	16	18	0	102	5	10	0	0	0	3	0	0	0	33	2
17:30:00       716       48       3785       185       360       9       18       0       112       3       10       0       0       0       3       0       0       0       35         17:45:00       754       38       3949       164       369       9       18       0       116       4       10       0       0       0       3       0       0       0       37         18:00:00       787       33       4122       173       380       11       18       0       121       5       10       0       0       0       3       0       0       0       37         18:15:00       819       32       4288       166       394       14       18       0       125       4       10       0       0       0       3       0       0       0       39         18:30:00       847       28       4459       171       402       8       18       0       128       3       10       0       0       0       3       0       0       0       40         18:45:00       847       0       4459       0       402	17:00:00	629	41	3391	217	343	15	18	0	106	4	10	0	0	0	3	0	0	0	34	1
17:45:00       754       38       3949       164       369       9       18       0       116       4       10       0       0       0       3       0       0       0       37         18:00:00       787       33       4122       173       380       11       18       0       121       5       10       0       0       0       3       0       0       0       37         18:15:00       819       32       4288       166       394       14       18       0       125       4       10       0       0       0       3       0       0       0       39         18:30:00       847       28       4459       171       402       8       18       0       128       3       10       0       0       0       3       0       0       0       40         18:45:00       847       0       4459       0       402       0       18       0       128       0       10       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0		668	39			351	8		0	109	3	10	0	0	0	3	0	0	0		0
18:00:00     787     33     4122     173     380     11     18     0     121     5     10     0     0     0     3     0     0     0     37       18:15:00     819     32     4288     166     394     14     18     0     125     4     10     0     0     0     3     0     0     0     39       18:30:00     847     28     4459     171     402     8     18     0     128     3     10     0     0     0     3     0     0     0     40       18:45:00     847     0     4459     0     402     0     18     0     128     0     10     0     0     0     3     0     0     0     40	17:30:00	716	48	3785	185	360	9	18	0	112	3	10	0	0	0	3	0	0	0	35	1
18:15:00     819     32     4288     166     394     14     18     0     125     4     10     0     0     0     3     0     0     0     39       18:30:00     847     28     4459     171     402     8     18     0     128     3     10     0     0     0     3     0     0     0     40       18:45:00     847     0     4459     0     402     0     18     0     128     0     10     0     0     0     3     0     0     0     40	17:45:00	754	38	3949		369	9	18	0	116	4		0	0	0		0	0	0		2
18:30:00     847     28     4459     171     402     8     18     0     128     3     10     0     0     0     3     0     0     0     40       18:45:00     847     0     4459     0     402     0     18     0     128     0     10     0     0     0     3     0     0     0     40	18:00:00	787	33	4122	173	380	11	18	0	121	5	10	0	0	0	3	0	0	0	37	0
18:45:00 847 0 4459 0 402 0 18 0 128 0 10 0 0 3 0 0 0 40	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
18:47:03         847         0         4459         0         402         0         18         0         128         0         10         0         0         3         0         0         0         40	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

		Passeng	ger Cars -	West Ap	proach			Tru	ıcks - Wes	st Appro	ach			Сус	lists - We	st Appro	ach		Pedes	trians
Interval	Le	ft	Thi	ru	Rig	ıht	Le	ft	Th	ru	Rig	ht	Le	ft	Th	ru	Rig	ht	West	Cross
Time	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	
7:15:00	16	16	16	16	19	19	0	0	1	1	0	0	0	0	0	0	0	0	0	C
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	
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		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	
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	1	0	0	0	12	
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		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	1	0	0	0	22	C
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		1	8	0		0	1	0	0	0	51	2
13:30:50	513	0	551	0	552	0	6	0		0	8	0		0	1	0	0	0	51	C
15:30:00	513	0	551	0	552	0	6	0		0	8	0	0	0	1	0	0	0	51	0
15:45:00	542	29	589	38	596	44	6	0		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		2	10	0	1	0	1	0	0	0	62	5
16:30:00	629	25	684	28	690	34	8	0		0		0	1	0		0	0	0	64	2
16:45:00	659	30	723	39	732	42	8	0	23	1	10	0	-	0	-	0	0	0	66	2
17:00:00	689	30	752	29	763	31	8	0		2	11	1		0		0	0	0	70	4
17:15:00	720	31	788	36	797	34	8	0		2		0	•	0	· ·	0	0	0	73	3
17:30:00	758	38	822	34	843	46	9	1	28	1	11	0	•	0		1	0	0	76	3
17:45:00	800	42	851	29	887	44	9	0		2	11	0		0		0	0	0	80	4
18:00:00	824	24	880	29	924	37	9	0		1	11	0		0		0	0	0	82	2
18:15:00	859	35	907	27	958	34	9	0		1	12	1		0		0	0	0	85	3
18:30:00	890	31	930	23	989	31	9	0		1	12	0		0		0	0	0	88	
18:45:00	890	0	930	0	989	0	9	0	33	0		0	-	0		0	0	0	88	C
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 One Hour Peak** From: 8:00:00 From: 7:00:00 To: 10:00:00 To: 9:00:00 Weather conditions: Municipality: Aurora Site #: 1825300009 Intersection: Person(s) who counted: Yonge St & Henderson Dr-Allaura E TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1392 Cyclists 0 0 0 Cyclists 1 East Leg Total: 513 0 25 North Entering: 740 Trucks 1 24 Trucks 24 East Entering: 190 North Peds: 16 Cars 91 554 70 715 Cars 627 East Peds: 8 $\mathbb{X}$ 70 Peds Cross: ⋈ Totals 92 578 Totals 652 Peds Cross: Yonge St Trucks Cyclists Totals Cyclists Trucks Cars Totals Cars 6 238 244 2 0 65 71 75 0 50 0 50 Henderson Dr 184 0 Cyclists Trucks Cars Totals Allaura Blvd 5 158 163 1 3 159 163 204 205 Trucks Cyclists Totals 0 1 Cars 521 316 323 Yonge St $\mathbb{X}$ Peds Cross: Peds Cross: $\bowtie$ Cars 808 Cars 76 406 87 569 West Peds: 16 Trucks 25 Trucks 1 17 3 21 South Peds: 7 Cyclists 0 West Entering: 531 Cyclists 0 0 1 South Entering: 591 West Leg Total: 775 Totals 77 South Leg Total: 1424 Totals 833 **Comments**

#### Ontario Traffic Inc. Mid-day Peak Diagram **Specified Period One Hour Peak** From: 11:30:00 **From:** 12:00:00 To: 13:30:00 To: 13:00:00 Weather conditions: Municipality: Aurora Site #: 1825300009 Intersection: Person(s) who counted: Yonge St & Henderson Dr-Allaura E TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1586 Cyclists 0 0 0 Cyclists 0 East Leg Total: 556 22 North Entering: 803 Trucks 3 19 0 Trucks 15 East Entering: 262 North Peds: 15 Cars 195 497 89 781 Cars 768 East Peds: 8 $\mathbb{X}$ Totals 783 Peds Cross: Totals 198 516 89 Peds Cross: ⋈ Yonge St Trucks Cyclists Totals Cyclists Trucks Cars Totals Cars 9 430 439 0 90 108 3 0 111 58 0 61 Henderson Dr 255 0 Cyclists Trucks Cars Totals Allaura Blvd 0 0 171 171 1 3 126 130 95 98 Trucks Cyclists Totals 0 3 Cars 392 288 294 Yonge St $\mathbb{X}$ Peds Cross: 708 Peds Cross: $\bowtie$ Cars 650 Cars 127 508 73 West Peds: 16 Trucks 25 Trucks 3 14 2 19 South Peds: 7 Cyclists 0 Cyclists 0 0 West Entering: 399 0 South Entering: 727 West Leg Total: 838 Totals 130 South Leg Total: 1402 Totals 675 **Comments**

#### Ontario Traffic Inc. **Afternoon Peak Diagram Specified Period One Hour Peak** From: 15:30:00 **From:** 16:30:00 To: 18:30:00 To: 17:30:00 Weather conditions: Municipality: Aurora Site #: 1825300009 Intersection: Person(s) who counted: Yonge St & Henderson Dr-Allaura E TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1933 Cyclists 0 0 0 Cyclists 1 East Leg Total: 540 17 North Entering: 893 Trucks 1 16 0 Trucks 16 East Entering: 307 North Peds: 17 Cars 264 554 58 876 Cars 1023 East Peds: 11 $\mathbb{X}$ Totals 265 Peds Cross: Peds Cross: 570 58 Totals 1040 ⋈ Yonge St Totals Trucks Cyclists Totals Cyclists Trucks Cars Cars 3 748 751 0 0 63 175 177 0 65 0 67 Henderson Dr 303 0 Cyclists Trucks Cars Totals Allaura Blvd 0 0 190 190 3 3 116 122 2 110 112 Trucks Cyclists Totals 0 Cars 3 226 3 5 416 233 Yonge St $\mathbb{X}$ Peds Cross: Peds Cross: $\bowtie$ Cars 729 Cars 309 770 52 1131 West Peds: 18 Trucks 20 Trucks 0 1 17 South Peds: 20 16 Cyclists 0 1 West Entering: 424 Cyclists 0 0 South Entering: 1149 West Leg Total: 1175 Totals 309 South Leg Total: 1898 Totals 749 **Comments**

## **Total Count Diagram**

Municipality: Aurora

Site #: 1825300009

Intersection: Yonge St & Henderson Dr-Allaura E Person(s) who counted:

TFR File #:

Count date: 27-Jun-18

#### Weather conditions:

## \*\* Signalized Intersection \*\*

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	•

532

Cyclists 9 Trucks 154 Cars 5911 Totals 6074

Major Road: Yonge St runs N/S

East Leg Total: 3905 East Entering: 1838 East Peds: 66  $\mathbb{X}$ Peds Cross:

Cyclists Trucks Cars Totals 54 3390 3445



Henderson Dr

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

 $\mathbb{X}$ 

114

Peds Cross:

West Peds:

West Entering: 3339

West Leg Total: 6784



Cars 5604

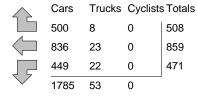
Trucks 192

Totals 5796

Cyclists 0



Yonge St



Allaura Blvd



Yonge St		

4130

137

4274

7

498

30

0

528

Cars 1198

Totals 1212

Trucks 13

Cyclists 1

5826 180 8

Trucks Cyclists Totals Cars 2008 2067

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

#### **Comments**

# Ontario Traffic Inc. Traffic Count Summary

Intersection:	Yonge S	t & Her	nderson l	Dr-Allaura	Count D	<sup>Date:</sup> 27-Jun-18	3	Munic	cipality: Au	rora	<sup>ity:</sup> Aurora				
	North	1 Appro	ach Tot	als					South	1 Appro	ach Tot	als			
			rucks, & C	yclists		North/South					rucks, & C				
Hour Ending	Left	Thru	Right	Grand Total	Total Peds	Total Approaches	Hou Endii		Left	Thru	Right	Grand Total	Total Peds		
7:00:00	0	0	0	0	0	0	7:00	0:00	0	0	0	0	0		
8:00:00	52	586	68	706	9	1072	8:00		37	276	53	366	6		
9:00:00	70	578	92	740	16	1331	9:00		77	424	90	591	7		
10:00:00	75	503	98	676	14		10:00		74	451	64	589	11		
12:00:00	39	245	92	376	6		12:00		69	263	29	361	4		
13:00:00	89	516	198	803	15		13:00		130	522	75 74	727	7		
16:00:00 17:00:00	65 60	511 539	191 250	767 849	19 21		16:00 17:00		164 257	587 711	74 57	825 1025	8 16		
18:00:00	54	561	260	875	12		18:00		294	711	57 55	1025	15		
18.00.00	54	501	260	0/3	12	1937	16.00	J.00	294	713	55	1062	15		
Totals:			1249 ach Tota rucks, & C		112	11338 East/West					497 ach Tota rucks, & C		74		
Hour Ending	Left	Thru	Right	Grand Total	Total Peds	Total Approaches	Hou Endii	ır	Left	Thru	Right	Grand Total	Total Peds		
7:00:00	0	0	0	0	0	0	7:00		0	0	0	0	0		
8:00:00	65	66	35	166	6	639	8:00		108	153	212	473	10		
9:00:00	50	75	65	190	8	721	9:00		163	163	205	531	16		
10:00:00	54	75	64	193	9		10:00		137	107	116	360	12		
12:00:00	29	47	26	102	6		12:00		74	52	53	179	7		
13:00:00	61	111	90	262	8		13:00		171	130	98	399	16		
16:00:00 17:00:00	63	101	71	235	6		16:00		162	109	99	370	12 15		
18:00:00	48 72	147 164	63 69	258 305	12 11	651 719	17:00 18:00		182 190	118 116	93 108	393 414	15		
Totala	442	786	483	1711	66	4830	!	a. M.	1187	948	984	3119	103		
Totals:			210	illaten w		nr irattic i r	nee in								
Hours En	ding:	8:00	9:00	10:00	12:00	or Traffic Cr		<b>g ivi</b> 3:00	16:00	17:00	18:00				

		Passeng	jer Cars -	North Ap	oproach			Tru	icks - Nor	th Appro	ach			Сус	lists - No	rth Appro	ach		Pedes	trians
Interval	Le	ft	Thr	·u	Rig	ht	Le	ft	Th	ru	Rig	ght	Le	ft	Th	ru	Rig	ht	North	Cross
Time	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	C
7:15:00	10	10	133	133	15	15	0	0	5	5	1	1	0	0	0	0	0	0	3	3
7:30:00	20	10	262	129	27	12	0	0	11	6	1	0	0	0	0	0	0	0	4	1
7:45:00	39	19	440	178	48	21	0	0	16	5	1	0	0	0	0	0	0	0	6	2
8:00:00	52	13	564	124	67	19	0	0	22	6	1	0	0	0	0	0	0	0	9	3
8:15:00	65	13	730	166	95	28	0	0	27	5	1	0	0	0	0	0	0	0	13	4
8:30:00	80	15	874	144	116	21	0	0	33	6	2	1	0	0	0	0	0	0	15	2
8:45:00	99	19	1006	132	140	24	0	0	39	6	2	0	0	0	0	0	0	0	18	3
9:00:00	122	23	1118	112	158	18	0	0	46	7	2	0	0	0	0	0	0	0	25	7
9:15:00	142	20	1263	145	181	23	0	0	54	8	2	0	0	0	0	0	0	0	32	7
9:30:00	160	18	1376	113	203	22	1	1	59	5	3	1	0	0	0	0	0	0	35	3
9:45:00	178	18	1493	117	225	22	1	0	63	4	5	2	0	0	0	0	0	0	38	3
10:00:00	196	18	1599	106	252	27	1	0	68	5	6	1	0	0	0	0	0	0	39	1
10:01:46	196	0	1599	0	252	0	1	0	68	0	6	0	0	0	0	0	0	0	39	0
11:30:00	196	0	1599	0	252	0	1	0	68	0	6	0	0	0	0	0	0	0	39	0
11:45:00	215	19	1709	110	301	49	2	1	76	8	9	3	0	0	0	0	0	0	42	3
12:00:00	234	19	1832	123	341	40	2	0	80	4	9	0	0	0	0	0	0	0	45	3
12:15:00	259	25	1974	142	396	55	2	0	83	3	9	0	0	0	0	0	0	0	47	2
12:30:00	288	29	2086	112	447	51	2	0	88	5	9	0	0	0	0	0	0	0	51	4
12:45:00	305	17	2203	117	497	50	2	0	92	4	10	1	0	0	0	0	0	0	54	3
13:00:00	323	18	2329	126	536	39	2	0	99	7	12	2	0	0	0	0	0	0	60	6
13:15:00	340	17	2462	133	578	42	2	0	103	4	13	1	0	0	0	0	0	0	66	6
13:30:00	358	18	2571	109	636	58	2	0	107	4	13	0	0	0	0	0	0	0	72	6
13:30:58	358	0	2571	0	636	0	2	0	107	0	13	0	0	0	0	0	0	0	72	0
15:30:00	358	0	2571	0	636	0	2	0	107	0	13	0	0	0	0	0	0	0	72	0
15:45:00	376	18	2709	138	681	45	2	0	114	7	14	1	0	0	0	0	0	0	76	4
16:00:00	388	12	2823	114	723	42	2	0	116	2	16	2	0	0	0	0	0	0	79	3
16:15:00	401	13	2957	134	780	57	2	0	120	4	16	0	0	0	0	0	0	0	83	4
16:30:00	420	19	3086	129	841	61	2	0	124	4	16	0	0	0	0	0	0	0	88	5
16:45:00	432	12	3232	146	906	65	2	0	129	5	16	0	0	0	0	0	0	0	95	7
17:00:00	448	16	3346	114	972	66	2	0		3	17	1	0	0	0	0	0	0	100	5
17:15:00	460	12	3498	152	1031	59	2	0	137	5	17	0	0	0	0	0	0	0	100	0
17:30:00	478	18	3640	142	1105	74	2	0	140	3	17	0	0	0	0	0	0	0	105	5
17:45:00	494	16	3768	128	1169	64	2	0	141	1	18	1	0	0		0	0	0	108	3
18:00:00	502	8	3895	127	1231	62	2	0	144	3	18	0	0	0	0	0	0	0	112	4
18:15:00	514	12	4031	136	1299	68	2	0		6	18	0	0	0	0	0	0	0	119	7
18:30:00	530	16	4131	100	1356	57	2	0	154	4	18	0	0	0	0	0	0	0	125	6
18:45:00	530	0	4131	0	1356	0	2	0	154	0	18	0	0	0	0	0	0	0	125	0
18:46:15	530	0	4131	0	1356	0	2	0	154	0	18	0	0	0	0	0	0	0	125	0

		Passen	ger Cars -	East Ap	proach			Tre	ucks - Eas	st Appro	ach			Сус	lists - Eas	st Appro	ach		Pedes	trians
Interval	Lef	ft	Thi	ru	Rig	ht	Le	ft	Th	ru	Rig	ght	Le	ft	Thi	ru	Rig	ıht	East 0	cross
Time	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	16	16	6	6	0	0	0	0	0	0	0	0	0	0	0	0	3	3
7:30:00	33	12	26	10	13	7	1	1	1	1	0	0	0	0	0	0	0	0	3	0
7:45:00	48	15	45	19	20	7	3	2	1	0	0	0	0	0	0	0	0	0	3	0
8:00:00	62	14	64	19	34	14	3	0	2	1	1	1	0	0	0	0	0	0	6	3
8:15:00	73	11	88	24	39	5	3	0	3	1	1	0		0	0	0	0	0	8	2
8:30:00	86	13	98	10	55	16	3	0		1	3	2		0	0	0	0	0	9	1
8:45:00	98	12	116	18	80	25	3	0	5	1	3	0	0	0	0	0	0	0	14	5
9:00:00	112	14	135	19	97	17	3	0		1	3	0	-	0	0	0	0	0	14	0
9:15:00	129	17	154	19	110	13	4	1	6	0	3	0	0	0	0	0	0	0	14	0
9:30:00	138	9	174	20	130	20	4	0		1	3	0	0	0	0	0	0	0	14	0
9:45:00	147	9	193	19	142	12	4	0	7	0	3	0	0	0	0	0	0	0	19	5
10:00:00	164	17	209	16	160	18	5	1	7	0	4	1	0	0	0	0	0	0	23	4
10:01:46	164	0	209	0	160	0	5	0	7	0	4	0	0	0	0	0	0	0	23	0
11:30:00	164	0	209	0	160	0	5	0		0	4	0		0	0	0	0	0	23	0
11:45:00	171	7	233	24	176	16	5	0	9	2	7	3	0	0	0	0	0	0	27	4
12:00:00	190	19	254	21	183	7	8	3	9	0	7	0	0	0	0	0	0	0	29	2
12:15:00	203	13	285	31	200	17	10	2	10	1	8	1	0	0	0	0	0	0	32	3
12:30:00	220	17	312	27	228	28	10	0	10	0	8	0	0	0	0	0	0	0	36	4
12:45:00	235	15	344	32	251	23	10	0		2	8	0	0	0	0	0	0	0	37	1
13:00:00	248	13	362	18	272	21	11	1	12	0	8	0	0	0	0	0	0	0	37	0
13:15:00	268	20	384	22	297	25	12	1	12	0	8	0	0	0	0	0	0	0	39	2
13:30:00	284	16	412	28	310	13	15	3	12	0	8	0	0	0	0	0	0	0	40	1
13:30:58	284	0	412	0	310	0	15	0		0	8	0	0	0	0	0	0	0	40	0
15:30:00	284	0	412	0	310	0	15	0	12	0	8	0	0	0	0	0	0	0	40	0
15:45:00	295	11	434	22	327	17	15	0	14	2	8	0	0	0	0	0	0	0	42	2
16:00:00	305	10	460	26	343	16	17	2	15	1	8	0	0	0	0	0	0	0	43	1
16:15:00	319	14	496	36	357	14	17	0		1	8	0	0	0	0	0	0	0	50	7
16:30:00	325	6	526	30	376	19	18	1	18	2	8	0	0	0	0	0	0	0	51	1
16:45:00	341	16	575	49	396	20	18	0	19	1	8	0	0	0	0	0	0	0	53	2
17:00:00	351	10	603	28	406	10	19	1	19	0	8	0	0	0	0	0	0	0	55	2
17:15:00	377	26	648	45	422	16	19	0	20	1	8	0	0	0	0	0	0	0	59	4
17:30:00	390	13	701	53	439	17	20	1	20	0	8	0	0	0	0	0	0	0	62	3
17:45:00	408	18	732	31	456	17	21	1	22	2	8	0	0	0	0	0	0	0	63	1
18:00:00	421	13	764	32	475	19	21	0	22	0	8	0	0	0	0	0	0	0	66	3
18:15:00	430	9	802	38	493	18	22	1	23	1	8	0	0	0	0	0	0	0	66	0
18:30:00	449	19	836	34	500	7	22	0	23	0	8	0	0	0	0	0	0	0	66	0
18:45:00	449	0	836	0	500	0	22	0	23	0	8	0	0	0	0	0	0	0	66	0
18:46:15	449	0	836	0	500	0	22	0	23	0	8	0	0	0	0	0	0	0	66	0

		Passeng	ger Cars -	South A	pproach			Tru	cks - Sou	th Appro	ach			Сус	lists - Sou	ıth Appro	ach		Pedes	trians
Interval	Let	ft	Thi	·u	Rig	ht	Le	ft	Th	ru	Rig	jht	Le	ft	Th	ru	Rig	ht	South	Cross
Time	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		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		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		0	0	0	13	0
9:30:00	148	19	894	106	167	20	5	1	46	6	12	3	1	0		0	0	0	14	1
9:45:00	164	16	994	100	179	12	6	1	50	4	13	1		0		0	0	0	20	6
10:00:00	182	18	1094	100	192	13	6	0	55	5	15	2	-	0		0	0	0	24	4
10:01:46	182	0	1094	0	192	0	6	0		0	15	0		0		0	0	0	24	0
11:30:00	182	0	1094	0	192	0	6	0		0	15	0	_	0		0	0	0	24	0
11:45:00	216	34	1215	121	207	15	6	0	61	6	16	1	0	0		0	0	0	27	3
12:00:00	250	34	1347	132	220	13	6	0	65	4	16	0	· ·	1	2	0	0	0	28	1
12:15:00	278	28	1469	122	241	21	6	0		6	16	0		0		0	0	0	31	3
12:30:00	321	43	1609	140	258	17	7	1	74	3	16	0		0		0	0	0	33	2
12:45:00	352	31	1728	119	278	20	7	0		2	18	2		0		0	0	0	35	2
13:00:00	377	25	1855	127	293	15	9	2		3	18	0	· ·	0		0	0	0	35	0
13:15:00	411	34	1978	123	313	20	11	2	84	5	20	2	1	0		0	0	0	36	1
13:30:00	442	31	2122	144	333	20	12	1	90	6	21	1		0		0	0	0	37	1
13:30:58	442	0	2122	0	333	0	12	0		0		0		0		0	0	0	37	0
15:30:00	442	0	2122	0	333	0	12	0		0	21	0	· ·	0		0	0	0	37	0
15:45:00	482	40	2265	143	346	13	12	0		3	21	0		0		0	0	0	42	5
16:00:00	538	56	2422	157	362	16	12	0		5	23	2		0	3	1	0	0	43	1
16:15:00	587	49	2582	160	373	11	12	0		4	25	2		0		1	0	0	49	6
16:30:00	648	61	2734	152	387	14	12	0		2	25	0		0		1	0	0	50	1
16:45:00	723	75	2907	173	408	21	12	0		5	25	0		0		0	0	0	56	6
17:00:00	795	72	3116	209	417	9	12	0		4	25	0		0		0	0	0	59	3
17:15:00	869	74	3325	209	427	10	12	0		4	25	0		0		0	0	0	66	7
17:30:00	957	88	3504	179	439	12	12	0		3	26	1		0		1	0	0	70	4
17:45:00	1022	65	3658	154	456	17	13	1	124	4	26	0		0		0	0	0	72	2
18:00:00	1088	66	3812	154	469	13	13	0		5	28	2		0		0	0	0	74	2
18:15:00	1147	59	3972	160	484	15	13	0		4	30	2		0		1	0	0	74	0
18:30:00	1198	51	4130	158	498	14	13	0		4	30	0		0	-	0	0	0	74	0
18:45:00	1198	0	4130	0	498	0	13	0	137	0		0		0		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

		Passen	ger Cars -	West Ap	proach			Tru	ıcks - Wes	t Appro	ach			Сус	lists - We	st Appro	ach		Pedes	trians
Interval	Le	ft	The	ru	Rig	ht	Le	ft	Thr	·u	Rig	ht	Le	ft	Th	ru	Rig	ht	West (	Cross
Time	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	C
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	1	0	0	0	29	3
9:30:00	335	33	369	35	472	28	7	0	6	0	3	2		0		0	0	0	31	2
9:45:00	363	28	393	24	496	24	7	0	6	0	3	0		0	1	0	0	0	36	5
10:00:00	400	37	414	21	530	34	8	1	8	2	3	0	_	0	1	0	0	0	38	2
10:01:46	400	0	414	0	530	0	8	0	8	0	3	0		0	1	0	0	0	38	0
11:30:00	400	0	414	0	530	0	8	0		0	3	0		0		0	0	0	38	0
11:45:00	432	32	443	29	554	24	8	0	10	2	3	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		2	5	1	0	0		0	0	0	48	3
12:30:00	551	37	524	26	629	27	8	0	12	0	5	0	-	0	1	0	0	0	54	6
12:45:00	600	49	561	37	652	23	8	0		0	7	2		0	-	0	0	0	54	0
13:00:00	645	45	590	29	677	25	8	0		1	7	0	1	0		1	0	0	61	7
13:15:00	686	41	621	31	693	16	8	0	13	0	7	0	_	0		0	0	0	66	5
13:30:00	738	52	646	25	718	25	9	1	13	0	9	2		0		0	0	0	67	1
13:30:58	738	0	646	0	718	0	9	0	13	0	9	0		0		0	0	0	67	0
15:30:00	738	0	646	0	718	0	9	0		0	9	0		0		0	0	0	67	0
15:45:00	771	33	671	25	740	22	9	0		1	10	1	0	0		0	0	0	69	2
16:00:00	804	33	697	26	773	33	9	0	15	1	10	0		2		0	0	0	73	4
16:15:00	857	53	720	23	791	18	9	0		0	12	2		0		0	0	0	79	6
16:30:00	894	37	744	24	809	18	9	0		1	12	0		0		0	0	0	81	2
16:45:00	939	45	774	30	835	26	9	0	16	0		0		0		0	0	0	86	5
17:00:00	986	47	812	38	864	29	9	0		2	12	0		0		0	0	0	88	2
17:15:00	1032	46	838	26	887	23	9	0		0		2		0		2	0	0	92	4
17:30:00	1084	52	860	22	919	32	9	0	19	1	14	0	_	0		1	0	0	99	7
17:45:00	1131	47	888	28	940	21	9	0		0		0		0		0	0	0	101	2
18:00:00	1176	45	923	35	970	30	9	0	1	1	14	0	_	0		0	0	0	103	2
18:15:00	1230	54	947	24	995	25	9	0		0	15	1	_	0		0	0	0	109	6
18:30:00	1281	51	980	33	1024	29	9	0		2	16	1	2	0		0	0	0	114	5
18:45:00	1281	0	980	0	1024	0	9	0	22	0		0		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	114	0

#### Ontario Traffic Inc. **Morning Peak Diagram Specified Period One Hour Peak** From: 7:00:00 **From:** 8:15:00 To: 10:00:00 To: 9:15:00 Weather conditions: Municipality: Aurora Site #: 1825300006 Intersection: Person(s) who counted: Yonge St & Golf Links Dr-Dunning TFR File #: Count date: 27-Jun-18 \*\* Signalized Intersection \*\* Major Road: Yonge St runs N/S North Leg Total: 1278 Cyclists 0 0 Cyclists 1 East Leg Total: 351 25 North Entering: 730 Trucks 2 23 0 Trucks 15 East Entering: 140 North Peds: 29 Cars 33 615 56 704 Cars 532 East Peds: 57 $\mathbb{X}$ Totals 35 Peds Cross: 639 56 Totals 548 Peds Cross: ⋈ Yonge St Totals Trucks Cyclists Totals Cyclists Trucks Cars Cars 2 153 155 0 39 50 0 0 50 51 0 51 Golf Links Dr 139 Cyclists Trucks Cars Totals **Dunning Ave** 0 0 45 45 5 73 81 0 42 42 Trucks Cyclists Totals 0 Cars 5 6 160 202 211 Yonge St $\mathbb{X}$ Peds Cross: Cars 708 Peds Cross: $\bowtie$ Cars 70 449 73 592 West Peds: 37 Trucks 23 Trucks 0 15 0 15 South Peds: 32 1 West Entering: 168 Cyclists 1 Cyclists 0 1 South Entering: 608 West Leg Total: 323 Totals 70 South Leg Total: 1340 Totals 732 **Comments**

	PEEK
TE	AFFIC

TRAFF		CTCS #:	650	
INTERSECTION NAME:	Yonge @ Golf Links/Brookland	ADDRESS:	21	
PROGRAMMED BY:	T. Hanrahan	SECURITY CODE:	1000	
CONTOLLER SERIAL#		PROGRAM DATE:		
		INSTALLATION DATE:		

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

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

1 -	N/B LT	5 -	Not Used	
2 - 3 -	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 Ri	ing, 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								

#### INITILAIZE / FLASH (MM-2-2-4) 1 = RED, 2 = YEL., 3 = GRN

	INITILIZE	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

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



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

Pattern Name	<u>Mode</u>	Cycle	Splits (sec)	offset	Max Green	<b>Omits</b>	Veh. Recall	Ped.Omits	Ped. Recalls	Spec. O/P
AM Peak	TBC	100	00 62 00 38 00 62 00 38	76	11111111	NNNNNNN	XXXXXXX	NNNN	NNNN	*****
Free Plan	Free	0	00 00 00 00 00 00 00	0	11111111	ииииииии	XXXXXXX	NNNN	NNNN	*****
Off Peak	TBC	100	00 64 00 36 00 64 00 36	30	11111111	NNNNNNN	XXXXXXX	NNNN	NNNN	*****
PM Peak	TBC	100	00 64 00 36 00 64 00 36	69	11111111	NNNNNNN	XXXXXXX	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	Х	Х	Х	X		-
09:30	Off Peak	X	X	X	X	X	X	X
15:00	PM Peak	Х	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)

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



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

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



		CTCS #:	639
INTERSECTION NAME:	Yonge @ Murray	ADDRESS:	
PROGRAMMED BY:	T. Hanrahan	SECURITY CODE:	1000
CONTOLLER SERIAL #:		PROGRAM DATE:	December 20, 2011
		INSTALLATION DATE:	

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

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

	(111111)	,						
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)**

	, , , , , , , , , , , , , , , , , , , ,
1 2	4.0
l 2	1=Sequential, 2= Dual Ring, 3-7= Spec, 8=Lead/Lag
	t obquoritial, 2 Dual Hing, 67 Opec, 0-Lead/Lag

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

				<del>3</del> /
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				Ï				
INCOMPAT PH 1-8	-							

#### INITILAIZE / FLASH (MM-2-2-4)

=RED	2=1	/FI	3 =	GRN

	INITILIZE	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

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



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

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



		0103 #.	
INTERSECTION NAME:	Yonge @ Henderson	ADDRESS:	
PROGRAMMED BY:	T. Hanrahan	SECURITY CODE:	1000
CONTOLLER SERIAL #:		PROGRAM DATE:	January 9, 2007
		INSTALLATION DATE:	3 ,

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

		•						
	1	2	3	4	5	6	7	8
MEMORY	OFF							
EXT RECALL	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							
FL WALK	OFF							
SOFT RECALL	OFF							
WALK REST	OFF							
COND PED	OFF							
FWTPCL	OFF							

1 -	NBLT	5 -	Not Used	
2 -	Southbound	6 -	Northbound	
3 -	Not Used	7 -	EBLT	
4.	Fasthound	8 -	Westhound	

#### PHASE TIMINGS (MM-2-2-2)

_										
۱		1	2	3	4	5	6	7	8	ĺ
i	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	
į	MAX II	20	52	0	50	0	52	20	50	
۱	WALK	0	プ <del>10</del>	0	70-	0	710	0	14-	7
i	PED CLEAR	0 /	710	0 %	240	0 /	710	0	15/2	15
	S/A	0	0	0	0	0	0	0	0	Ι.
	TBR	0	0	0	0	0	0	0	0	ı
	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	ı
	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	ĺ

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

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

1101010101	- ( =							
PHASE	1	2	3	4	5	6	7	8
ON/OFF	ON	ON	OFF	ON	OFF	ON	ON	ON

CTCC #

#### **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	ı

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								

#### INITILAIZE / FLASH (MM-2-2-4)

=RED, 2	= YF	I 3 ±	GRN
-1 1660, 2	_ , _	<b>∟</b> ., ∪	

	INITILIZE	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

Page 1



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	

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

Interval		Passenge	er Cars - N	orth Appro	ach			Truck	s - North A	pproach			
Time	L	eft	Th	ru	Ri	ight	L	eft	Thi	ru	Riç	ght	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
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	_		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			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			6		0	
18:30:00	530	16	4131	100	1356	57	2		154	4		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		0	
													1

Add incremental for N, S, E, W

Interval		Passenge	er Cars - Ea	st Approa	ch			Truck	s - East Ap	proach				Cycl	ists - East	Approach			Pedes	trians	
Time	Le	ft	Th	ru	Ri	ght	L	eft	Th	ru	Ri	ght	Le	eft	Ti	nru	R	ight	East C	ross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0	C	) (	) (	0	0	
7:15:00	21	21		16		6	0	0	0	0	0		0		0		) (	) (	3	3	i l
7:30:00	33	12		10		7	1	1	1	1	0		0		0			-	·	0	i l
7:45:00	48	15		19		7	3			0	0		0		0				3	0	
8:00:00	62	14		19		14	3		2		1		0		0		(		6	3	49
8:15:00	73	11		24		5	3		3		1		0		0		(	, ,	8	2	41
8:30:00	86	13				16			4		3		2 0		0		(		9		42
8:45:00	98	12		18	80	25	3		5		3		0		0		(		14		56
9:00:00	112	14		19		17	3	0	6		3		0		0			-			i l
9:15:00	129	17		19		13		1	6	0	3		0		0						i l
9:30:00	138	9		20		20		0	7	1	3		0		0						i l
9:45:00	147	9		19		12		0	7	0	3		0		0			-			i l
10:00:00	164	17		16		18	5		7		4		0		0						l l
10:01:46	164	0		0	160	0	5		7	0	4		0		0			-			l l
11:30:00	164	0		0	160	0	5		7	0	4		0		0			, ,			l l
11:45:00	171	7		24		16		0			7		0		0						l l
12:00:00	190	19		21		7		3	9		7		0		0						l l
12:15:00	203	13		31		17					8		0					, ,	,		l l
12:30:00	220	17				28					8		0								İ
12:45:00	235	15		32		23							0								
13:00:00	248	13		18		21			12		8		0		-						i l
13:15:00	268 284	20 16		22 28		25 13			12 12		8		0 0						39		i
13:30:00 13:30:58						0					8				0			, ,			i
15:30:56	284 284	0			310 310	0	15 15				8		0 0		0			, ,	,		i
15:45:00	295	11		22		17					8								_		i
16:00:00	305	10		26		16					8		0 0								i
16:15:00	319	14		36		14			16		8				0			, ,	50		İ
16:30:00	325	6				19			18		8		0		0				51		58
16:45:00	341	16		49		20			19		8		0		0				53		
17:00:00	351	10		28		10	19		19		8		0		0				55		86 49
17:15:00	377	26		45		16			20		8		0		0				59		88
17:13:00	390	13		53		17			20		8				-						88
17:45:00	408	18				17			22		8				0				63		
18:00:00	400	13		32		19												-			
18:15:00	430	9		38		18					8		·						, 00		
18:30:00	449	19		34		7	22		23		8				0				66		
18:45:00	449	0		n	500	0	22				8				0			-			ĺ
18:46:15	449	0		0	500	0	22												, 00		İ
10.40.13	773	- 0	030		300	- 0	22	- 0	23	- 0					"			, (	, 00	- 0	
																					i

Interval		Passenge	er Cars - So	outh Appro	ach			Truck	s - South A	pproach				Cycl	ists - Soutl	h Approac	h		Pedes	trians	
Time	Le	eft	Th	ru	Ri	ght	Le	eft	Th	ru	Ri	ght	Le	eft	TI	hru	R	ight	South	Cross	1
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	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	5	5	1	1	0	0	0	) (	) (	) (	2	2	i
7:30:00	13	5		57	23	10		1	10		3	2	. 0		0	) (			· .	2	i
7:45:00	19	6		58	38	15		0			4	·	0		1	•	1 (			0	l
8:00:00	35	16		108	48	10			17		5		0		1		) (		6	2	139
8:15:00	54	19		95	70	22			23		5		0		2		1 (		8	2	142
8:30:00	74	20		105	88	18			26		6		0		2		0		11		147
8:45:00	91	17		84	111	23			30		7		0		2				13		129
9:00:00	111	20		122	135	24		1	34		8		0								1
9:15:00	129	18		124	147	12		1	40				0		2						1
9:30:00	148	19		106	167	20			46		12		0		_		_				
9:45:00	164	16		100	179	12			50		13		0					-			1
10:00:00	182	18		100	192	13							. 0								1
10:01:46	182	0		0	192	0							0		2			-			1
11:30:00	182	0		0	192	0	-						0								1
11:45:00	216	34	1215	121	207	15				6			0								1
12:00:00	250	34		132	220	13					16		1		2		_		28		1
12:15:00	278	28		122	241	21															l
12:30:00	321	43		140	258	17			74		16				_						l
12:45:00 13:00:00	352 377	31	1728 1855	119	278 293	20					18		1 1						35		
		25		127 123		15							1						, 00		1
13:15:00 13:30:00	411	34 31	1978	123	313	20 20			84 90		20 21		1		2			-	36	1	1
13:30:58	442 442	0		144	333 333	0											`			1	1
15:30:58	442	0		0	333	0															ı
15:30:00	442			143	346	13					21		1 1		2				42		1
16:00:00	538	40 56		157	362	16											1 (				ı
16:15:00	587	49	2582	160	373	11					25		1				1 (	-			ı
16:30:00	648	61		152	387	14			102		25		1		5		1 (		50		220
16:45:00	723	75		173	408	21			104		25		1		5						229
17:00:00	795	73		209	417	9			113		25		1		5				59		274 294
17:00:00	869	74		209	417	10			113		25		1		5				66		294 297
17:13:00	957	88		179	439	12					26		1		-		1 (		-		291
17:45:00	1022	65		154	456	17			124		26		1				_				ı
18:00:00	1022	66		154	469	13	-				28		1		6				72		
18:15:00	1147	59	3972	160	484	15					30		1				1 (	-			
18:30:00	1198	51		158	498	14				4	30						-				
18:45:00	1198	0		130	498	0	13		137	0	30		1		7				74		l
18:46:15	1198	0	4130	n	498	0			137	0			1								l
10.40.10	1130	- 0	7100		730		13	- 0	107		30				· '	,			1 '-	- 0	
													l		1				1		1

Interval		Passenge	er Cars - W	est Approa	ach			Truck	s - West Ap	proach				Cycl	ists - West	Approach	ı		Pedes	trians	
Time	Le	ft	Th	ru	Ri	ght	L	eft	Th	ru	Ri	ght	Le	eft	Ti	hru	Ri	ight	West 0	Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0	) (	) (	) 0	0	0	
7:15:00	19	19		28		40	0	0	1	1	0		0		0	) (	0	) 0	2	2	
7:30:00	42	23				63			1	0	0		0		0		-			2	
7:45:00	72	30		42		55			_		0		0		0		-			4	
8:00:00	107	35		47	212	54	1		2		0		0		0				10		137
8:15:00	149	42		43	273	61			3		0		0		0			<del></del>	12		148
8:30:00	183	34		42		55			3		0		0		1				17		131
8:45:00 9:00:00	227 265	44 38		41 33	377 416	49 39	3 6		5 5		0		0		1				18		137
9:00:00	302	37		24		28			6	1	1		0		1				_		
9:30:00	335	33		35		28	7		6	0	3		2 0		1						
9:45:00	363	28		24		24	7	0	6	0	3				1						
10:00:00	400	37		21		34	8	1	8		3				1			, ,			
10:01:46	400	0			530	0	8		8	0	3		0		1						
11:30:00	400	0		0	530	0	8		8	0	3		0		1						
11:45:00	432	32		29		24	8		10	2	3		0	0	1		) (	) 0			
12:00:00	474	42		21		28	8	0	10		4	. 1	0	0	1	(	) (	) 0	_		
12:15:00	514	40		34		20		0			5	. 1	0	0	1	(	0	) 0			
12:30:00	551	37	524	26	629	27	8	0	12	0	5		0	0	1	(	) (	) 0	54	6	
12:45:00	600	49	561	37	652	23	8	0	12	0	7	. 2	2 0	0	1	(	) (	) 0	54	0	
13:00:00	645	45	590	29	677	25	8	0	13	1	7		0	0	2	! 1	1 0	) 0	61	7	
13:15:00	686	41	621	31	693	16	8	0	13	0	7	· c	0	0	2		0	) 0	66	5	
13:30:00	738	52	646	25	718	25	9	1	13	0	9	2	2 0	0	2	. (	) (	) 0	67	1	
13:30:58	738	0		0	718	0	9	0			9		0	0	2		0	) 0		0	
15:30:00	738	0		0	718	0	9				9		0		2		0 0	) 0	٠.		
15:45:00	771	33		25		22			14		10		0				-				
16:00:00	804	33		26		33			15		10		2		2		-	, ,			l
16:15:00	857	53		23		18			15		12		2 2		2		<u> </u>		79		ĺ
16:30:00	894	37				18			16		12		2		2				81		80
16:45:00	939	45		30		26			16		12		2		2				86		101
17:00:00	986	47				29	9		18		12		2		2			<del></del>	88		116
17:15:00	1032	46		26		23	9		18		14		2 2		4				92		97
17:30:00 17:45:00	1084	52 47		22		32	9		19		14 14		) 2		5			, ,			İ
17:45:00	1131 1176	47		28 35		21 30			19 20		14		) 2						101		İ
18:00:00	1230	54 54		24		25							2						100		1
18:30:00	1230	51		33		29			20		16		2		5				114		İ
18:45:00	1281	0			1024	0	9		22		16		2		5				114		İ
18:46:15	1281	0		0	1024	0	9														İ
10.40.13	1201	- 0	300		1024	- 0	9	- 0		- 0	10			. 0		,	1	, 0	114	- 0	
																					<u> </u>

425 462	0.95
442	
473	
561	0.94
658	
644	
675	
	561 658 644

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

		. asserige	er cars - NC	orth Appro	acn			Trucks	s - North A	pproach			
Time	Le	eft	Thi	ru	Ri	ght	L	eft	Th	ru	Riç	ght	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
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		-	2		
9:30:00	131	8	1351	112	80	13	2		54		2	0	
9:45:00	136	5	1471	120	91	11	3	1	59		3	1	
10:00:00	146	10	1585	114	105	14	4	1	64		4	1	
10:02:14	146	0	1585	0	105	0	4	0	-	-	4	0	
11:30:00	146	0	1585	0	105	0	4	0		-	4	0	
11:45:00	159	13	1713	128	123	18	4	0			4	0	
12:00:00	170	11	1840	127	144	21	4	0		_	4	0	
12:15:00	186	16	1995	155	168	24	8	4	76		4	0	
12:30:00	205	19	2130	135	192	24	8	0	_		4	0	
12:45:00	219	14	2271	141	216	24	8	0			4	0	
13:00:00	240	21	2405	134	250	34	8	0	-	-	4	0	
13:15:00	258	18	2552	147	271	21	8	0			4	0	
13:30:00	284	26	2682	130	293	22	8	0		_	4	0	
13:30:50	284	0	2682	0	293	0	8	0			4	0	
15:30:00	284	0	2682	0	293	0	8	0		-	4	0	
15:45:00	292	8	2825	143	307	14	9	1	104		4	0	
16:00:00	310	18	2949	124	321	14	9	0			4	0	
16:15:00	320	10	3099	150	332	11	9	0			5	1	
16:30:00	331	11	3240	141	352	20	9	0	115	-	5	-	175
16:45:00	345	14	3383	143	375	23	10	1	120		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		4	7		
17:45:00	385	17	4003	144	458	20	11	0			7	-	
18:00:00	397	12	4141	138	470	12	11	0			7		
18:15:00	406	9	4296	155	489	19	11	0		5	7	-	
18:30:00	419	13	4407	111	507	18	12		145		7	-	
18:45:00	419	0	4407	0	507	0	12		-		7		
18:47:03	419	0	4407	0	507	0	12	0	145	0	7	0	

Add incremental for N, S, E, W

Interval		Passenge	er Cars - Ea	st Approa	ch			Truck	s - East Ap	proach				Cycli	ists - East	Approach			Pedes	trians	
Time	Le	eft	Th	ru	Ri	ght	L	eft	Th	ru	Rig	ght	Le	ft	Ti	nru	Ri	ight	East C	ross	1
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
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	1	1	1		0		0		0	0	0		1		i
7:30:00	31	10			13	4	1	0	1		0		0		1	1	0		2		i
7:45:00	41	10		7	21	8	2		2		0		0			0	-				i
8:00:00	56	15		4	24	3	2		2		0	0	0		1	0	0		3		
8:15:00	61	5	43			5	2		3		1	1	0		1		0		4		24
8:30:00	75	14				9	3		3		1		0				0		9		38
8:45:00	82	7	80	23	44 56	6	4		6		1	0	0		1		0		9		40
9:00:00 9:15:00	87 95	5	104 124	24 20		12	5 7		8		1	0	0		1				11		42
9:30:00	115	8 20		19	67 70	11	7		8		1		0		1				11 12		ł
9:45:00	125	10		21	75	5	8		8		3		0			0			16		i
10:00:00	134	9		15	83	ο ο	9		9		3		0								i
10:02:14	134	0		0	83	0	9		9		3		0		1	0			18		l
11:30:00	134	0		0	83	0	9		9		3		0			0			18		l
11:45:00	163	29		32	103	20	11		11		4	1	0								l
12:00:00	183	20		29	113	10	11		13		4		0		1	0			25		ł
12:15:00	216	33		36	136	23	12		13		4	0	0			0			29		l
12:30:00	246	30		35	151	15	12		13		4	0	0			0	_				l
12:45:00	270	24		32	162	11	13		13		4	0	0						31		l
13:00:00	288	18		41	177	15	14		14		4	0	0			0			34		i
13:15:00	300	12	426	42	190	13	15	1	14	. 0	4	0	0	0	1	0	0	) 0	38	4	l
13:30:00	319	19		33	207	17	15		14	. 0	4	0	0	0	1	0	0	) 0	39		l
13:30:50	319	0	459	0	207	0	15	0	14	. 0	4	0	0	0	1	0	0	) 0	39	0	l
15:30:00	319	0	459	0	207	0	15	0	14	- 0	4	0	0	0	1	0	0	) 0	39	0	ł
15:45:00	337	18	496	37	217	10	17	2	14	- 0	4	0	0	0	1	0	0	) 0	41	2	l
16:00:00	355	18	534	38	228	11	17	0	16	. 2	4	0	0	0	2	1	0	) 0	43	2	ł
16:15:00	378	23		45	244	16	17	0	16	0	4	0	0	0	3	1	0	) 0	45	2	İ
16:30:00	406	28	612	33	272	28	19	2	16	0	4	0	0	0	3	0	0	0	46	1	91
16:45:00	446	40	654	42	305	33	20	1	18	2	4	0	0	0	4	1	0	) 0	47	1	118
17:00:00	465	19	702	48	324	19	21	1	19	1	4		0	0	5	1	0	) 0	48	1	88
17:15:00	486	21	759	57	354	30	21	0	19	0	5	1	0	0	6	1	0	0	50	2	109
17:30:00	521	35		55	366	12	21				5		0				,		51		ł
17:45:00	544	23		49	385	19	21		22		5		0		6		0		51		l
18:00:00	565	21		47	402	17	21				5		0				, ,		٠.		l
18:15:00	593	28		53	410	8	21				5		0				-		54		l
18:30:00	617	24		35	421	11	21		25		5		0		6		0		55		l
18:45:00	617	0		0	421	0	21		25		5		0		6		,		55		l
18:47:03	617	0	998	0	421	0	21	0	25	0	5	0	0	0	6	0	0	) 0	55	0	
																					l

Interval		Passenge	er Cars - So	outh Appro	ach			Truck	s - South A	pproach				Cycl	ists - South	Approach	1		Pedest	rians	
Time	Le	eft	Th	ıru	Ri	ght	Le	eft	Th	ru	Ri	ght	Le	eft	Th	ıru	Ri	ght	South	Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	) C	0	0	
7:15:00	4	4	40	40		10	1	1	4	. 4	1	1	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	) (	1	0	
7:45:00	17	8				16	2	1	12	! 3	1	0	0	0	1	1	0	) (	1	0	
8:00:00	29	12	297	117		23	2	0	17	5	1	0	0	0	1	0	0	) (	2	1	
8:15:00	38	9	411	114	76	12	2	0	24		1		0	0	2		0	) (	2	0	142
8:30:00	54	16	526	115	101	25	4	2	26	2	2	1	0	0	2	0	0	) (	6	4	161
8:45:00	69	15	649	123	112	11	4	0	30	4	3	1	0	0	2	0	0	) (	6	0	154
9:00:00	91	22	774	125	129	17	8	4	35	5	3	0	0	0	2	0	0	) (	6	0	173
9:15:00	118	27	892	118		17	10	2	39	4	4	1	0	0	2	0	0	) (	10	4	
9:30:00	140	22	1001	109	159	13	11	1	43	4	5	1	0	0	2	0	0	) (	12	2	
9:45:00	156	16	1118	117		10	11	0	47	4	5	0	0	0	2	0	0	) (	12	0	
10:00:00	175	19		112	184	15	11	0	53	6	5	0	0	0	2	0	0	) (	12	0	
10:02:14	175	0	1230	0	184	0	11	0	53	0	5	0	0	0	2	0	0	) (	12	0	
11:30:00	175	0	1230	0	184	0	11	0	53	0	5	0	0	0	2	0	0	) (	12	0	
11:45:00	194	19	1370	140	193	9	12	1	58	5	8	3	0	0	2	0	0	) (	13	1	
12:00:00	219	25	1511	141	209	16	13	1	61	3	8	0	0	0	2	0	0	) (	17	4	
12:15:00	253	34	1648	137	215	6	15	2	66	5	8	0	0	0	2	0	0	) (	18	1	
12:30:00	284	31	1797	149	223	8	15	0	69	3	8	0	0	0	2	0	0	) (	19	1	
12:45:00	308	24	1932	135	235	12	16	1	70	1	8	0	0	0	2	0	0	) (	23	4	
13:00:00	333	25	2083	151	248	13	16	0	72	. 2	8	0	0	0	2	0	0	) (	25	2	
13:15:00	355	22	2234	151	258	10	16	0	76	4	10	2	0	0	2	0	0	) (	26	1	
13:30:00	386	31	2384	150	273	15	18	2	80	4	10	0	0	0	2	0	0	) (	26	0	
13:30:50	386	0	2384	0	273	0	18	0	80	0	10	0	0	0	2	0	0	) (	26	0	
15:30:00	386	0	2384	0	273	0	18	0	80	0	10	0	0	0	2	0	0	) (	26	0	
15:45:00	417	31	2531	147	283	10	18	0	85	5	10	0	0	0	2	0	0	) (	26	0	
16:00:00	457	40	2681	150	296	13	18	0	89	4	10	0	0	0	3	1	0	) (	29	3	
16:15:00	497	40	2849	168	302	6	18	0	94	. 5	10	0	0	0	3	0	0	) (	29	0	
16:30:00	544	47	2997	148	312	10	18	0	97	3	10	0	0	0	3	0	0	) (	31	2	208
16:45:00	588	44	3174	177	328	16	18	0	102	. 5	10	0	0	0	3	0	0	) (	33	2	242
17:00:00	629	41	3391	217	343	15	18	0	106	4	10	0	0	0	3	0	0	) (	34	1	277
17:15:00	668	39	3600	209		8	18	0	109		10		0		3		0		34	0	259
17:30:00	716	48		185		9	18	0	· ·		10		0	0	3	0	0	) (	35	1	
17:45:00	754	38		164		9	18	0	116	4	10	0	0	0	3	0	0	) (	37	2	
18:00:00	787	33		173		11	18	0	_		10		0	0	3		0	) (	37	0	
18:15:00	819	32	4288	166		14	18	0			10		0				0	) (	39	2	
18:30:00	847	28		171		8	18	0			10		0				0	) (	40	1	
18:45:00	847	0		0		0	18	0			10		0		3		0		40	0	
18:47:03	847	0		0		0	18	0			10		0	0			0		40	0	
			00		.,,_	Ů			1										1		
	l				1								1		1		1		1		I

Interval		Passenge	er Cars - W	est Approa	ach			Truck	s - West Ap	proach				Cycli	ists - West	Approach			Pedes	trians	
Time	Le	eft	Th	ru	Rig	ght	Le	eft	Th	ru	Ri	ght	Le	eft	Tr	ıru	Ri	ght	West 0	ross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	0	0	0	0	0	0	0	0	0	0	0	C	0	0	0		0		0	0	
7:15:00	16	16	16	16	19	19	0	0	1	1	0	C	0	0	0	(	0	) (	0	0	
7:30:00	26	10	27	11	49	30	0	0	2	! 1	0	C	0	0	1	1	1 0	) (	2	2	
7:45:00	43	17		27	84	35	0	0	3	1	2	2	0	0	1	(	0	) (	3	1	
8:00:00	60	17	70	16	111	27	0	0	3	0	2	C	0	0	1	(	0	) (	3	0	
8:15:00	79	19	83		146	35	1	1	4	. 1	2	C	0	0	1	(	0	) (	5	2	69
8:30:00	103	24	112	29	161	15	1	0	5	1	2	C	0	0	1	(	0	) (	6	1	69
8:45:00	127	24	137	25	184	23	1	0	5	0	2	C	0	0	1	(	0	) (	6	0	72
9:00:00	154	27	183	46	213	29	2	1	8	3	3	1	0	0	1	(	0	) (	7	1	107
9:15:00	180	26		31	245	32	2	0	9	1	3	C	0	0	1	(	0	) (	12	5	
9:30:00	195	15		27	264	19		2	10	1	3	C	0	0	1	(	0	) (		5	
9:45:00	215	20	267	26	287	23	4	0	10	0	3	C	0	0	1	(	0	) (	20	3	
10:00:00	239	24	295	28	306	19	5	1	13	3	3	C	0	0	1	(	0	) (	22	2	
10:02:14	239	0	295	0	306	0	5	0	13	0	3	C	0	0	1	(	0	) (	22	0	
11:30:00	239	0	295	0	306	0	5	0	13	0	3	C	0	0	1	(	0	) (	22	0	
11:45:00	271	32	319	24	330	24	5	0	14	. 1	6	3	0	0	1	(	0	) (	26	4	
12:00:00	307	36	351	32	365	35	6	1	14	. 0	6	C	0	0	1	C	0	) (	33	7	
12:15:00	343	36	378	27	395	30	6	0	16	2	6	C	0	0	1	C	0	) (	37	4	
12:30:00	384	41	403	25	424	29	6	0	16	0	7	1	0	0	1	C	0	) (	41	4	
12:45:00	416	32	443	40	449	25	6	0	16	0	8	1	0	0	1	C	0	) (	44	3	
13:00:00	440	24	491	48	479	30	6	0	16	0	8	C	0	0	1	C	0	) (	45	1	
13:15:00	478	38	528	37	514	35	6	0	16	0	8	C	0	0	1	C	0	) (	49	4	
13:30:00	513	35	551	23	552	38	6	0	17	1	8	C	0	0	1	C	0	) (	51	2	
13:30:50	513	0	551	0	552	0	6	0	17	. 0	8	C	0	0	1	C	0	) (	51	0	
15:30:00	513	0	551	0	552	0	6	0	17	. 0	8	C	0	0	1	C	0	) (	51	0	
15:45:00	542	29	589	38	596	44	6	0	19	2	9	1	1	1	1	C	0	) (	56	5	
16:00:00	572	30	624	35	624	28	6	0	20	1	10	1	1	0	1	C	0	) (	57	1	
16:15:00	604	32	656	32	656	32	8	2	22	. 2	10	C	1	0	1	(	0	) (	62	5	
16:30:00	629	25	684	28	690	34	8	0	22	. 0	10	C	1	0	1	C	0	) (	64	2	87
16:45:00	659	30	723		732	42	8	0	23	1	10	C	1	0	1	(	0	) (	66	2	112
17:00:00	689	30	752	29	763	31	8	0	25	2	11	1	1	0	1	(	0	) C	70	4	93
17:15:00	720	31	788	36	797	34	8	0	27	2	11	C	1	0	1	(	0	) C	73	3	103
17:30:00	758	38	822	34	843	46	9	1	28	1	11	C	1	0	2	1	1 0	) (	76	3	
17:45:00	800	42	851	29	887	44	9	0	30	2	11	C	1	0	2	(	0	) (	80	4	
18:00:00	824	24	880	29	924	37	9	0	31	1	11	C	1	0	2	(	0	) (	82	2	
18:15:00	859	35	907	27	958	34	9	0	32	! 1	12	. 1	1	0	2	(	0	) (	85	3	
18:30:00	890	31	930	23	989	31	9	0	33	1	12	C	1	0	2	(	0	) (	88	3	
18:45:00	890	0	930	0	989	0	9	0	33	0	12	C	1	0	2	(	0	) (	88	0	
18:47:03	890	0	930	0	989	0	9	0			12		1	0	2		0	) (		0	
																			1		
									l				L				1		1		

Total Volumes	Intersection PHF
311	0.96
358	
358	
353	
428	0.91
463	
502	
528	
	311 358 358 353 428 463 502

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

Interval		Passenge	er Cars - N	orth Appro	ach			Truck	s - North	Approach			
Time	Le	eft	Th	ru	Ri	ight	Le	eft	Т	hru	Ri	ght	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
8:00:00	0	0	583	145	12		0	0	2	0 7	0	0	155
8:15:00	2	2	762	179	14	2	0	0	2	6 6	0	0	189
8:30:00	2	0	944	182	16		0	0	3	1 5	1	1	190
8:45:00	3	1	1107	163	23	7	0	0	3	7 6	1	0	177
9:00:00	3	0	1250	143	27		0	0		2 5	1		
9:15:00	4	1	1415	165	34	7	0	0		8 6	1		
9:30:00	4	0	1550	135	37		0	0		4 6	2		
9:45:00	5	1	1686	136	44		0	0		1 7	2		
10:00:00	9	4	1818	132	44		0	0			2		
10:01:05	9	0	1818	0	44		0	0		8 0	2		
11:30:00	9	0	1818	0	44	-	0	0			2		
11:45:00	9	0	1970	152	50		0	0			2	0	
12:00:00	10	1	2118	148	69		0	0		5 4	2	0	
12:15:00	11	1	2287	169	80	11	0	0	8	0 5	4	2	
12:30:00	13	2	2453	166	91	11	0	0		3 3	5	1	
12:45:00	15	2	2616	163	100	9	0	0	_	7 4	6	1	
13:00:00	15	0	2792	176	110	10	0	0	9	5 8	6	0	
13:15:00	17	2	2967	175	125	15	0	0	10		6	0	
13:30:00	20	3	3131	164	135	10	0	0	10		6	0	
13:31:42	20	0	3131	0	135	0	0	0	10	3 0	6	0	
15:30:00	20	0	3131	0	135	0	0	0	10	3 0	6	0	
15:45:00	22	2	3294	163	141	6	0	0	10		6	0	
16:00:00	22	0	3438	144	152		0	0			6	0	
16:15:00	23	1	3597	159	174	22	0	0			6	0	
16:30:00	26	3	3756	159	190	16	0	0	12	2 3	6	0	181
16:45:00	27	1	3916	160	200	10	0	0	12	8 6	6	0	177
17:00:00	27	0	4084	168	217	17	0	0	13	1 3	6	0	188
17:15:00	29	2	4255	171	232	15	0	0	13	7 6	6	0	194
17:30:00	32	3	4407	152	250	18	0	0	14	2 5	6	0	
17:45:00	34	2	4569	162	263	13	0	0	14	4 2	6	0	
18:00:00	34	0	4708	139	272	9	0	0	14	7 3	6	0	
18:15:00	38	4	4885	177	283	11	0	0	15	1 4	6	0	
18:30:00	46	8	5011	126	296	13	0	0	15	6 5	6	0	
18:45:00	46	0	5011	0	296	0	0	0	15	6 0	6	0	
18:47:01	46	0	5011	0	296	0	0	0	15	6 0	6	0	

Add incremental for N, S, E, W

Interval		Passenge	er Cars - E	ast Approa	ich			Truck	s - East Ap	proach				Cycl	ists - East	Approach			Pedest	rians	
Time	Le	eft	Th	nru	Ri	ght	L	eft	Th	ıru	Ri	ght	Le	ft	Th	nru	Ri	ght	East C	ross	
-	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	0	0	0	C	0	0	0	C	0	) 0	0	0	0	0	0	0	0	) (	0	0	
7:15:00	0	0	0	C	1	1	0	C	C	0	0	0	0	0	0	0	C	) (	2	2	
7:30:00	2	2	0	C	2	1	0	C	0	0	0	0	0	0	0	0	0	) (	3	1	
7:45:00	3	1	0			0	0				0		0				0	-	3	0	
8:00:00	4	1	0		, ,	1	0				0		0		Ü		0		3	0	2
8:15:00	8	4	0		3	0	0		0		0		0		0		0		6	3	4
8:30:00	10	2	1		3	0	0		1		0		0		0		0		7	1	4
8:45:00	11	1	1		3	0	0		1		0		0		0		0		7	0	1
9:00:00	17	6			5	2	0				0		0				0		8	1	
9:15:00	20	3			9	4	0				0		0				0		11	3	
9:30:00	28	8				1	0				0		0		0		0		13		
9:45:00	32	4			11	1	0				0		0						16		
10:00:00	35	3				1	0				0		0				0		18		
10:01:05 11:30:00	35	0				0	0				0		0		0		0		18		
11:30:00	35					0	0	0	1		0		0				0		20		
12:00:00	45 48	10			14		1				0		0		0		0		20		
12:00:00	58 58	10			14	- 0	1				0		0						26	1	
12:15:00	63	5				 6	1				0		0				0		28	2	
12:30:00	74	11			29	- 0	1				0		0		0		0		33		
13:00:00	83	9			35	6	1				0		0							- 5	
13:15:00	91	8				2	1	0			0		0				0		44	- 5	
13:30:00	102	11			42		1		1		0		0		0		0		46	2	
13:31:42	102	0				0	1				0		0						46	0	
15:30:00	102	0				0	1				0		0				0		46	0	
15:45:00	108	6			44	2	1		1		0		0		0		0		47	1	
16:00:00	114	6				4	1	0	1	0	0		0							2	
16:15:00	121	7				2	1	C	1	0	0		0				O		51	2	
16:30:00	125	4	24		52	2	1	C	1	0	0	0	0		0		C	) (	55	4	10
16:45:00	130	5	26		52	0	1		1		0		0		0		0		60	5	7
17:00:00	137	7	28	2	57	5	1	C	1	0	0	0	2	2	0	0	0	) (	61	1	14
17:15:00	150	7 13	32		63	6	1	C	1	0	1	1	2		0	0	0	) (	63	2	24
17:30:00	161	11		1	67	4	1	C	1	0	1	0	2	0	0	0	0	) (	65	2	
17:45:00	171	10	36	3	69	2	1	C	1	0	1	0	2	0	0	0	0	) (	67	2	
18:00:00	182	11	38	2	70	1	1	C	1	0	1	0	2	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	) (	72	2	
18:30:00	193	6	42	2	72	2	2	C	1	0	1	0	2	0	0	0	C	) (	73	1	
18:45:00	193	0	42	C	72	0	2	C	1	0	1	0	2	0	0	0	C	) (	73	0	
18:47:01	193	0	42	C	72	0	2	C	1	0	1	0	2	0	0	0	0	) (	73	0	

Interval		Passenge	er Cars - So	outh Appro	ach			Truck	s - South A	pproach				Cycl	ists - Soutl	n Approacl	h		Pedest	trians	
Time	Le	eft	Th	ıru	Ri	ght	L	eft	Th	ru	Ri	ght	Le	eft	TI	nru	Ri	ight	South	Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	0	0	0	0	0	0	0	0	0	0	0	C	0	) 0	0	(	0	) (	0	0	
7:15:00	0	0	<u> </u>	67	4	4	0	0	4	4	0		1	1	0	(	) (	) (	0	0	
7:30:00	1	1		81	5		0				0		1		0		· ·	, ,		1	
7:45:00	4	3		91	6		0		12		0		1		1		1 C		1	0	
8:00:00	8	4	371		9		0		19		0		1		1		0 0		1	0	146
8:15:00	11	3	505				1		27		0		1		2		1 0		5	4	151
8:30:00	12	1	643				2		28		0		1		2		0 0		/	2	147
8:45:00	16	5	784 922		26		2		32		0		) 1		2				10		155
9:00:00 9:15:00	21 23	2		138 136					38 42		0		1		2		-				
9:30:00	25	2		131	57	9	2		42		0		1		2		-		16		
9:45:00	27	2		136									1		2					1	
10:00:00	36	9									0						-	-		2	
10:01:05	36	0			65		2		60		0		1		2		-	, ,	19		
11:30:00	36	0		0	65						0		1	0	2			) (			
11:45:00	46	10		188			2				0		1	0	2			) (		1	
12:00:00	55	9	1811	170	83	14	2	0	70	4	0		1	0	2			) (	20	0	
12:15:00	67	12	1980	169	97	14	2	0	74	4	0	C	1	0	2	. (	) (	) (		1	
12:30:00	77	10	2167	187	105	8	2	0	77	3	0		1	0	2		) (	) (	23	2	
12:45:00	87	10	2324	157	122	17	2	0	78	1	0	C	1	0	2		) (	) (	26	3	
13:00:00	98	11	2492	168	130	8	2	0	81	3	0		1	0	2		) (	) (	28	2	
13:15:00	106	8		182		14					0		1	0	_		-	) (		1	
13:30:00	122	16		169					٥.		1	1	1	0	2		) (	-	30	1	
13:31:42	122	0		0	160				0.				1		2		-		, 00	0	
15:30:00	122	0		0	160		2						1							0	
15:45:00	134	12					2		02		1		1		_		-		34	4	
16:00:00	141	7		171	178				٠.	2			'				-		, 00	1	
16:15:00	152	11							-	/	1		1		_		1 0			3	211
16:30:00 16:45:00	161 177	9		190 226	198 202		2		104		1		1		3				38	0	211
16:45:00	177	16 17		243	202		2		109 113		1		1		3		1 0		44	9	251
17:00:00	209	17		243	213				113		1		1		4				50	3	275
17:15:00	209	13		240	243				121	4	1		1		-				52	<u> </u>	271
17:45:00	237	15		195						5	1		1 1				-	1 0		- 2	
18:00:00	252	15		193						- 5	1		1				-			2	
18:15:00	261	9		181	287	21					1		1				1 1			2	
18:30:00	276	15		180	305						1		1					1 0		1	
18:45:00	276	0		.00	305						1		1		8		-			0	
18:47:01	276	0		0	305				139								-			0	
			1200				_		.00				·								
			ì		1		1		1		l		1		1		1				

Interval		Passeng	er Cars - W	Vest Appro	ach			Truck	s - West Ap	proach				Cycli	ists - West	Approach	1		Pedes	trians	
Time	L	eft	TI	hru	Ri	ght	L	eft	Th	ru	Rig	ght	Le	ft	Tř	nru	Ri	ight	West	Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	0	0	0	0	0	0	0	0	0	) 0	0	0	0	0	0	C	0	) (	0	0	
7:15:00	7	7	0	) 0	1	1	0	0	0	) 0	0	0	1	1	0	C	0	) (	0	0	
7:30:00	13	6	0	0	2	1	0		0		0	0	1		0		<b></b>		) 2	2	
7:45:00	20	7	1		6	4	0		0		0		2		0		-				
8:00:00	25		1		9		0		0		0		2		0		0		8		8
8:15:00	34	9	2		13	4	0		0		0		2		0		0				14
8:30:00 8:45:00	43 50	9	5		19 29	10	0		0		1 2		2		0						17
9:00:00	55	5			33	10	0				2		2						18		20
9:00:00	58	3	7		41	φ	0		0		2		3		0						
9:30:00	62		9	·	44	3	1	1	0		4	2	3		0						
9:45:00	70	8			50	6	1		0		4	- 0	3		0						
10:00:00	75	5			56	6	1	0	0		4	0	3		0						
10:01:05	75	0	11		56	0	1	0	0		4	0	3		0						
11:30:00	75	0	11	0	56	0	1	0	0	) 0	4	0	3	0	0	C	0	) (	) 46	0	
11:45:00	83	8	13	3 2	65	9	1	0	0	) 0	5	1	3	0	0	C	0	) (	58	12	
12:00:00	94	11	14	1	75	10	2	1	0	) 0	6	1	3	0	0	C	0	) (	65	7	
12:15:00	106	12	14	0	86	11	2	0	0	) 0	6	0	3	0	0	C	0	) (	78	13	
12:30:00	116	10				17	2				6	0	3		0		, ,		,		
12:45:00	130	14			112	9	2		0		7	1	3		0		, ,		, 00		
13:00:00	143	13			122	10	2				7	0	3				<b></b>		, , ,		
13:15:00	154	11			132	10	2		0		7	0	3		0		, ,				
13:30:00	172	18			140	8	2		0		7	0	3		0		<b></b>		106		
13:31:42	172	0			140	0	2		0		7	0	3		0		, ,		, 100		
15:30:00 15:45:00	172	0			140 150		2		0		7	0	3				,		106		
16:00:00	177 193	5 16			160	10 10	2		0		7	0	3		0		'				
16:15:00	200	7				15	2		0		8	1	3		0		<u> </u>	•			
16:30:00	211	11	23		188	13	2		0		8		3		0		1	`	144		26
16:45:00	223	12			203	15			0		8		3		0		1		157		28
17:00:00	233	10			216	13	2		0		8		3		0		1		167		25
17:15:00	246	13			239	23	2		0		8		3		0		) 1	(	182		39
17:30:00	257	11			260	21	2	0	0	) 0	8	0	3	0	0	C	) 1	(			
17:45:00	267	10			270	10	2		0		8	0	3		0		) 1	(			
18:00:00	276	9	39	) 5	284	14	2	0	0	0	8	0	3	0	0	C	) 1	(	217	13	
18:15:00	286	10	40	) 1	293	9	2		0	) 0	8	0	3	0	0	C	) 1	(			
18:30:00	295	9	41	1	302	9	2	0	0	) 0	8	0	3	0	0	C	) 1	(			
18:45:00	295	0			302	0	2		0		8	0	3		0		-				
18:47:01	295	0	41	0	302	0	2	0	0	0	8	0	3	0	0	C	) 1	(	233	0	

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	

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

Interval		Passenge	er Cars - N	orth Appro	ach			Truck	s - North A	pproach			
Time	L	eft	Th	ru	Ri	ght	L	eft	Th	ru	Ri	ght	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
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		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	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

Interval		Passenge	er Cars - Ea	ast Approa	ch			Truck	s - East Ap	proach				Cycli	ists - East	Approach			Pedes	trians	
Time	Le	eft	Th	ru	Ri	ght	L	eft	Th	nru	Rig	ght	Le	ft	Tř	nru	Ri	ight	East C	ross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
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	9	9	5	5	0	0	1	1 1	0	0	0	0	0	0	0	) 0	3	3	
7:30:00	11	3	13		11	6	0		1	-	0		0		0				4		
7:45:00	15	4	21	8	15	4	0	0	2		0		0		0		-		7		
8:00:00	30	15	29	8	22	7	1	1	2		1		0		0		,		11		
8:15:00	40	10	37	8	28	6	1		2		3		0		0		0		24		26
8:30:00	55		52			10	1		2		3		0		0		0		28		40
8:45:00	78		68	16		9	1	0	2		3		0		0		0		47		48
9:00:00	86	8	77	9		10	1	0	2		3		0		0		0		66		27
9:15:00	91	5	87	10		9	1	0	2		3		0			0			81		
9:30:00	96	5	95	8		5	1	0	2		3		0		1	1	1		87		
9:45:00	104	8	106	11		6	1	0	2		3		0	0	1	0	·		94		
10:00:00	113	9	116			14	1	0	2		3		0				·				
10:00:32	113	0	116	0		0	1	0	2		3		0	0	1	0		-	102		
11:30:00	113	0	116	0		0	1	0	2		3	0	0	0	1	0			102		
11:45:00	125	12	124	8	-	11	1	0	3		4	1	0		1		_		111		
12:00:00	139	14	133	9	117	15	1	0	3		4	0	0	0	3		2 2		119		
12:15:00	161	22	143	10		19	1	0	3		4	0	1	1	5				133		
12:30:00	177	16	157	14		15	1		4		4	0	1	0	5		_				
12:45:00	188	11	170	13		17	1		4		4	0	1	0	6		2		160		
13:00:00	201	13	180	10		12	2		4		4	0			7		2		166		
13:15:00 13:30:00	213 230	12 17	185 193	5 8	193 202	13	3 5		4		4	0	1	0	7				168 177		
13:30:00				0		0	5		4		4	0	1	0	7						
15:30:31	230 230	0	193 193	0	202	0	5		4		4	0	1	0	7				177 177		
15:30:00	242	12	205	12		11	5				4	0		0	7		_		185		
16:00:00	254	12	205	19		13	5		5		4	0	1	0	8		1 2		199		
16:00:00	266	12	244	20		16	5		5		4	0	1	0	9		2		204		40
16:30:00	283	17	262			18			6		4		2	1	9		2		204		48
16:45:00	203	14	283	21		17			6		4		2		10			2 0	214		54 52
17:00:00	310	13	300	17		12	5		6		4		2		10		2		219		52 42
17:00:00	325	15	324	24		24	5				4	0	2								42
17:13:00	336	11	337	13		15	5		6		4	0	3	1	10				225		
17:45:00	352	16	359	22		18	5		6		4	0 	3	0	10				233		
18:00:00	358	6	372			15	5				5	1	3	0							
18:15:00	369	11	399	27		10	5		7		5		4	1	10				247		
18:30:00	381	12	417	18		7	5		7		5		4	0	10		) 2		247		
18:45:00	381	0	417	0			5		7		5		4	0	10		_		247		
18:46:19	381	0	417	0	378	0	5		7		5		4	0	10				247		
10.40.19	301	U	417	U	3/0	0	"	- 0	· '	- 0	- 3	U	- 4	U	10		1	. 0	241	0	
																	1				

Interval		Passenge	er Cars - So	outh Appro	ach			Truck	s - South A	pproach				Cycl	ists - South	n Approacl	h		Pedes	trians	
Time	Le	eft	Th	ru	Ri	ght	L	eft	Thi	ru	Ri	ght	Le	eft	Ti	nru	Ri	ight	South	Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C	) (	) 0	0	0	
7:15:00	6	6	71	71	2	2	0	0	5	5	0		0		0		0	) 0	0	0	i
7:30:00	16	10		73	3	1	0		9		0		0		0				-	1	i
7:45:00	27	11		78		11					0		0		2				_	1	i
8:00:00	33	6		119	25	11			20		1		0		2					5	143
8:15:00	48	15		117	38	13	0		25		3		0		3			<del>-</del>	10	3	152
8:30:00	72	24		105		21			26		3		0		3				14	4	151
8:45:00 9:00:00	85 103	13		103	94 106	35	0		30 36		3		0 0		3				24	10	155
9:00:00	118	18 15		119 122	111	12 5	0				3		0		-				42	11	155
9:30:00	129	11		125		7	1	1	40		3		0 0		3					- /	i
9:45:00	147	18		123	123	5	1	0			3				3			1 0		2	i
10:00:00	163	16		115	129	6	1	0			3								_		l
10:00:32	163	0		113	129	0	1	0	59		3				3					0	l
11:30:00	163	0		0	129	0	1	0	59		3		0		3			1 0	_	0	l
11:45:00	178	15		167	141	12			62		5		2 0							10	l
12:00:00	191	13		153	147	6	3		66		5		) 0					1 0	_	5	l
12:15:00	211	20		154	154	7	3				5		0					1 0		4	l
12:30:00	231	20	1905	162	161	7	3				5		0				) 1	1 0	_	9	l
12:45:00	240	9		161	167	6					5		0				1	1 0		7	l
13:00:00	261	21	2226	160	172	5	3	0	77	3	5	0	0	0	4		) 1	1 0	98	10	l
13:15:00	276	15	2389	163	183	11	3	0	81	4	5	0	0	0	4		) 1	1 0	103	5	i
13:30:00	296	20	2559	170	193	10	3	0	83	2	5	0	0	0	5	1	1	1 0	110	7	l
13:30:31	296	0	2559	0	193	0	3	0	83	0	5	0	0	0	5	C	) 1	1 0	110	0	l
15:30:00	296	0	2559	0	193	0	3	0	83	0	5	0	0	0	5	C	) 1	1 0	110	0	l
15:45:00	310	14	2720	161	199	6	3	0	88	5	5	0	0	0	5	C	) 1	1 0	113	3	İ
16:00:00	325	15		167	208	9	3		90		5	0	0	0	5	C	) 1	I 0			ł
16:15:00	342	17		174	219	11			96		5		0		7		2 1	0	117	2	208
16:30:00	354	12		189	230	11			99	3	5		0		7		) 1	I 0	123	6	215
16:45:00	369	15		213	236	6	3		104	5	5		0	0	7		1	0	127	4	239
17:00:00	378	9	3700	237	250	14	3		108		5		0		8		1		130	3	264
17:15:00	395	17		237	255	5				5	6		0		-					3	
17:30:00	407	12		198	265	10	3			4	6		0				3 1			7	
17:45:00	418	11		182	272	7	3				6		0		. –		1 2		149	9	ı
18:00:00	430	12		175	280	8			.20		6		, ,				_		102	3	l
18:15:00	446	16		160	291	11		1	130	4	6		·							6	l
18:30:00	454	8		171	303	12		0		4	6		0						158	0	l
18:45:00	454	0	4823	0	303	0	4				6		0		12		_		158	0	
18:46:19	454	0	4823	0	303	0	4	0	134	0	6	0	0	0	12		) 2	2 0	158	0	

Interval		Passenge	er Cars - W	est Approa	ach			Truck	s - West Ap	proach				Cycli	ists - West	Approach			Pedes	trians	
Time	Le	eft	Th	ru	Ri	ght	L	eft	Th	ru	Rig	ght	Le	ft	Tř	nru	Ri	ght	West 0	Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Total Approach V
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		2		
7:30:00	3	3	18		-	1	0		0		0		0		0		-		11	-	
7:45:00	12	9	37	19		5	0		0		0		0	0	0		-				
8:00:00	20	8	58	21		8	0		0		0		1	1	0		0		29		
8:15:00	32	12	73			7	0		0		0		1	0	0		0		34		34
8:30:00	38	6	86			14			1		0		1		2		2 0		43		34
8:45:00	47	9	109	23		11	0		1		0		1	0	4		2 0		50		43
9:00:00	64	17	137	28		9	0		3		0		1	0	5		0		64		56
9:15:00	77	13	146	9		8	0		3		0		1		-		, ,				
9:30:00	83	6	156	10		11	1		3		2	2	1	0	6		0		87		
9:45:00	90	7	161	5	89	11	2		3		4	2	1	0	6		,		95	-	
10:00:00	95	5	166	5		10	2		3		4	0	1		-		0				
10:00:32	95	0	166	0	99	0	2		3		4	0	1	0	9		,		105		
11:30:00	95	0	166	0		0	2		3		4	0	1	0	9		0		105		
11:45:00	104	9	173	7	111	12	2	0	3		4	0	1		9		,				
12:00:00	111	7	183	10		9	4	2	3		4	0	1	0	10		0		129		
12:15:00	117	6	189	6	-	6	4	0	3		4	0	1	0	10		,		137		
12:30:00	126	9	195	6		7	4		3		4	0	1				, ,				
12:45:00	130	4	198	3	143	10	4		3		4	0	1	0	10		, ,		163		
13:00:00	139	9	207	9	150			0	3		6				10		,		185		
13:15:00 13:30:00	149 156	10 7	216 230	14	158 166	8	4	0	3		6	0	1	0	10 11		0		194 202		
			230	0		0	4				6	0	1	0							
13:30:31 15:30:00	156 156	0	230	0	166 166	0	4	0	3		6	0	1	0	11		,		202 202		
15:30:00	167	11	230	7	178	12	4	- 0	3		6	0			12				202		
16:00:00	173	6	247	10		12	4		3		6	0	1		12		0		206		
16:00:00	185	12	255	8		10	4		3		6		1		12		0 0		232		20
16:30:00	193	8	263	8		7	4		3		6		1	0	13		0		248		30
16:45:00	200	7	277	14		10	4		3		6		1	0	13		0		256		23
17:00:00	202	2	285	0	226	10	4		3		6		1	0	13		0		260		31 19
17:00:00	202	6	295	10		9	4		3		6		1	0							19
17:30:00	215	7	309	14		9	4		3		6	0	1	0	13		_		287		
17:45:00	220	5	317	8		Ω	4		3		6	0	1	0	13		) 2		304		
18:00:00	223	3	317	10		0	4	0	3		6	0	1								
18:15:00	223	4	338	11		Ω	4		3		6	0	1	0							
18:30:00	230	3	349	11		- 6	4	0	3		6	0	1	0	15		) 2		317		
18:45:00	230	0	349	0		0	4	0	3		6	0	1		15		_		317		
18:45:00	230	0	349	0	268	0	4		3		6	0	1	0	15		_		317		
10.40:19	230	U	349	U	208	U	4	U	3	, 0	0	U	1	U	15	U		. 0	317	U	

# **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)
Α	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
В	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 $\leq 20$
С	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<sup>(1)</sup>

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
В	Short traffic delays occur. Many drivers begin to feel somewhat restricted in terms of freedom of operation.	$> 10 \text{ and } \le 15$
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
Е	Very long traffic delays occur. Operations approach the capacity of the intersection.	$> 35 \text{ and} \le 50$
F	Saturation occurs, with vehicle demand exceeding the available capacity. Very long traffic delays occur.	> 50

<sup>(1)</sup> Highway Capacity Manual 2000.

## **APPENDIX**

# EXISTING INTERSECTION OPERATIONS

Existing <AM> 07-05-2021

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

	ၨ	<b>→</b>	•	•	<b>←</b>	•	4	†	<i>&gt;</i>	<b>/</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>*</b>	7	ሻ	f)		ሻ	44	7	ሻ	<b>^</b>	7
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	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			0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <AM>

Synchro 11 Report Page 1 Lanes, Volumes, Timings

Existing <AM> 07-05-2021

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

	۶	-	•	•	<b>—</b>	•	1	<b>†</b>	~	-	<b>↓</b>	4
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 Effct 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)	12.0	151.9	10.1	21	655.6		10.0	285.8	7.0		174.7	0.1
Turn Bay Length (m)	50.0	101.0	15.0	35.0	000.0		80.0	200.0	75.0	90.0	17 4.7	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												

Intersection Summary
Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.60

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <AM>

Synchro 11 Report Page 2 Lanes, Volumes, Timings

Existing <AM> 07-05-2021

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

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

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

<b>↑</b> øı	₩ Ø2 (R)	<b>₽</b> Ø4	
12 s	36 s	52 s	
<b>1</b> Ø6 (R) ■		<b>≯</b> <sub>Ø7</sub>	₩ Ø8
48 s		14 s	38 s

Queues

Existing <AM> 07-05-2021

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

	•	-	•	-	•	4	<b>†</b>	/	-	Ţ	4	
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	

Existing <AM> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

	۶	<b>→</b>	•	•	+	4	•	<b>†</b>	~	<b>/</b>	<b></b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>^</b>	7		<b>^</b>	7	*	44	7	ች	44	7
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	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
FIt 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

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <AM>

Synchro 11 Report Page 5 Lanes, Volumes, Timings 2: Yonge Street & Murray Drive/Edward Street Existing <AM> 07-05-2021

•	-	•	•	•	•	4	<b>†</b>	-	-	<b>↓</b>	1
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
7.0	10.0	10.0	10.0	10.0	10.0	7.0	40.0	40.0	40.0	40.0	40.0
10.0	36.0	36.0	36.0	36.0	36.0	10.0	46.5	46.5	46.5	46.5	46.5
11.0	48.0	48.0	37.0	37.0	37.0	11.0	52.0	52.0	41.0	41.0	41.0
11.0%	48.0%	48.0%	37.0%	37.0%	37.0%	11.0%	52.0%	52.0%	41.0%	41.0%	41.0%
8.0	42.0	42.0	31.0	31.0	31.0	8.0	45.5	45.5	34.5	34.5	34.5
3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.5	4.5	4.5	4.5	4.5
0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	Lag	Lag	Lead			Lag	Lag	Lag
			Yes	Yes	Yes						Yes
3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max
	7.0	7.0	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0
	23.0	23.0	23.0	23.0	23.0		18.0	18.0	18.0	18.0	18.0
	0	0	0	0	0		0	0	0	0	(
23.2	20.2	20.2	11.5	11.5	11.5	70.8	67.3	67.3	59.0	59.0	59.0
0.23	0.20	0.20	0.12	0.12	0.12	0.71	0.67	0.67	0.59	0.59	0.59
0.36	0.39	0.26	0.32	0.44	0.15	0.18	0.22	0.08	0.13	0.31	0.05
33.2	36.3	7.8	47.1	47.9	1.1	4.6	6.1	2.2	9.4	8.7	0.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33.2	36.3	7.8	47.1	47.9	1.1	4.6	6.1	2.2	9.4	8.7	0.1
С	D	Α	D	D	Α	Α	Α	Α	Α	Α	P
	27.0			36.9			5.5			8.2	
	С			D			Α			Α	
17.6	25.0	0.0	7.9	17.8	0.0	3.7	13.3	0.0	4.0	20.1	0.0
30.6	41.0	12.8	18.1	32.5	0.0	8.4	30.3	5.6	8.3	26.2	0.1
	73.6			347.6			100.4			304.9	
45.0		30.0	40.0		20.0	42.0		40.0	36.0		15.0
300	767	716	344	555	560	535	2336	1009	510	2047	902
0	0	0	0	0	0	0	0	0	0	0	(
0	0	0	0	0	0	0	0	0	0	0	(
0	0	0	0	0	0	0	0	0	0	0	(
0.36	0.19	0.15	0.12	0.16	0.07	0.17	0.22	0.08	0.13	0.31	0.05
Other											
d to phase	2:SBTL	and 6:NB	TL, Start	of Green							
rdinated											
3.2			Ir	ntersectio	n LOS: B						
3.2 tion 108.19	%				n LOS: B of Service	e G					
	EBL  7.0 10.0 11.0 11.0 8.0 3.0 0.0 0.0 3.0 Lead Yes 3.0 None  23.2 0.3 33.2 0.0 33.2 C  17.6 30.6 45.0 300 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TO 10.0 10.0 10.0 11.0 48.0 11.0 48.0 8.0 42.0 3.0 0.0 0.0 0.0 3.0 0.0 0.0 0.0 23.0 0.0 23.2 0.23 0.20 0.36 0.39 33.2 36.3 0.0 0.0 27.0 0 27.0 0 27.0 0 0 17.6 0 0 17.6 0 0 17.6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	EBL         EBT         EBR           7.0         10.0         10.0           10.0         36.0         36.0           11.0%         48.0%         48.0           11.0%         48.0%         48.0%           8.0         42.0         42.0           3.0         4.0         4.0           0.0         2.0         0.0           0.0         0.0         0.0           3.0         3.0         3.0           None         None         None           7.0         7.0         23.0           23.0         23.0         23.0           23.0         23.0         20.0           0.23         0.20         0.20           0.36         0.39         0.26           33.2         36.3         7.8           0.0         0.0         0.0           33.2         36.3         7.8           C         D         A           27.0         C           17.6         25.0         0.0           30.0         30.0         30.0           300         767         716           0         0         0<	The color of the	The color of the	EBL         EBT         EBR         WBL         WBT         WBR           7.0         10.0         36.0         36.0         36.0         36.0         36.0         36.0         36.0         36.0         36.0         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0%         37.0         31.0         31.0         31.0         31.0         31.0         31.0         31.0         31.0         31.0         31.0         31.0         31.0         31.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0         30.0	EBL         EBT         EBR         WBL         WBT         WBR         NBL           7.0         10.0         10.0         10.0         10.0         10.0         7.0           10.0         36.0         36.0         36.0         36.0         36.0         10.0           11.0         48.0         48.0%         37.0%         37.0%         37.0         11.0%           11.0         48.0%         48.0%         37.0%         37.0%         37.0         11.0%           8.0         42.0         42.0         31.0         31.0         31.0         80.0         31.0         31.0         30.0	The color of the	The color of the	The color	The color

Lanes, Volumes, Timings

Existing <AM> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street



Queues

Existing <AM> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

	۶	-	•	•	•	•	4	<b>†</b>	1	-	ļ	4
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

Existing <AM> 07-05-2021

3: Yonge Street & Brookland Ave/Private Access

Bane Group		۶	<b>→</b>	•	€	<b>←</b>	•	4	†	~	<b>/</b>	ţ	4
Traffic Volume (vph) 30 5 26 13 3 2 15 571 29 3 690 16   Future Volume (vph) 1900 1900 1900 1900 1900 1900 1900 190	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph) 30 5 26 13 3 2 15 571 29 3 690 16   Future Volume (vph) 1900 1900 1900 1900 1900 1900 1900 190	Lane Configurations		4	7		43-		ሻ	<b>∳</b> Љ		*	<b>↑</b> ₽	
Fulture Volume (vph)	Traffic Volume (vph)	30			13		2	15		29	3		16
Storage Length (m)	Future Volume (vph)	30	5	26	13	3	2	15	571	29	3	690	16
Storage Lanes	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Taper Length (m)	Storage Length (m)	0.0		12.0	0.0		0.0	15.0		0.0	15.0		0.0
Lane Util. Factor	Storage Lanes	0		1	0		0	1		0	1		0
Ped Bike Factor	Taper Length (m)	7.5			7.5			10.0			12.0		
Fit   Protected	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
Fit Protected	Ped Bike Factor		0.99	0.98		0.99		0.99	1.00		1.00	1.00	
Satd. Flow (prot)	Frt			0.850		0.986			0.993			0.997	
Fit Permitted	Flt Protected		0.959			0.964		0.950			0.950		
Satd. Flow (perm)	Satd. Flow (prot)	0	1822	1495	0	1711	0	1583	3448	0	1805	3455	0
Right Turn on Red	Flt Permitted		0.742			0.760		0.372			0.415		
Satd. Flow (RTOR)	Satd. Flow (perm)	0	1403	1462	0	1338	0	614	3448	0	785	3455	0
Link Speed (kh)         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           Confl. Peds. (#hr)         5         9         9         5         12         5         5         12           Peak Hour Factor         0.96	Right Turn on Red			Yes			Yes			Yes			Yes
Link Distance (m)	Satd. Flow (RTOR)			38		2			8			4	
Travel Time (s)	Link Speed (k/h)		40			20			50			50	
Confi. Peds. (#/hr)	Link Distance (m)		216.1			83.1			328.9			104.0	
Peak Hour Factor	Travel Time (s)		19.4			15.0			23.7			7.5	
Heavy Vehicles (%)	Confl. Peds. (#/hr)	5		9	9		5	12		5	5		12
Adj. Flow (vph)   31   5   27   14   3   2   16   595   30   3   719   17	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
Shared Lane Traffic (%)   Lane Group Flow (vph)   0 36 27 0 19 0 16 625 0 3 736 0	Heavy Vehicles (%)	0%	0%	8%	0%	34%	0%	14%	4%	0%	0%	4%	7%
Lane Group Flow (vph)	Adj. Flow (vph)	31	5	27	14	3	2	16	595	30	3	719	17
Enter Blocked Intersection	Shared Lane Traffic (%)												
Left   Left   Right   Left   Right   Left   Right   Left   Right   Left   Right   Left   Right   Left   Righ	Lane Group Flow (vph)	0	36	27	0	19	0	16	625	0	3	736	0
Median Width(m)	Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Link Offset(m)         0.0         0.0         0.0         0.0           Crosswalk Width(m)         4.8         4.8         4.8         4.8         4.8           Two way Left Turn Lane         Yes         Yes         Yes           Headway Factor         1.00	Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Crosswalk Width(m)         4.8         4.8         4.8         4.8         4.8         4.8         4.8         4.8         4.8         4.8         Yes         1.00         1.0	Median Width(m)		0.0	, i		0.0			3.6	, i		3.6	Ŭ
Two way Left Turn Lane   Headway Factor   1.00	Link Offset(m)		0.0			0.0			0.0			0.0	
Headway Factor	Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Turning Speed (k/h)         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         25         15         20         0	Two way Left Turn Lane								Yes			Yes	
Number of Detectors	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
Number of Detectors	Turning Speed (k/h)	25		15	25		15	25		15	25		15
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		1			0		0	0	
Trailing Detector (m)         0.0		Left	Thru	Right	Left			Left	Thru		Left	Thru	
Detector 1 Position(m)   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0   0.0	Leading Detector (m)	2.0	0.0		2.0	7.5		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		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		0.0	0.0	0.0	0.0	-1.5		0.0	0.0		0.0	0.0	
Detector 1 Type									0.6		2.0	0.6	
Detector 1 Channel		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	
Detector 1 Extend (s)         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	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)   0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type         Perm         NA         Perm         NA         Perm         NA         Perm         NA           Protected Phases         4         8         2         6           Permitted Phases         4         4         8         2         6           Detector Phase         4         4         4         8         2         2         6													
Protected Phases         4         8         2         6           Permitted Phases         4         4         8         2         6           Detector Phase         4         4         4         8         8         2         2         6         6													
Permitted Phases         4         4         8         2         6           Detector Phase         4         4         4         8         8         2         2         6         6											. 2		
Detector Phase 4 4 4 8 8 2 2 6 6		4	т.	4	8			2			6	- 0	
			4			8			2			6	
	Switch Phase	-										- 0	

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <AM> WSP

Synchro 11 Report Page 9

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

Existing <AM> 07-05-2021

	۶	-	•	•	-	4	4	<b>†</b>	<i>&gt;</i>	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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 Effct 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	0.22		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	
LOS		D	В		D		Α	Α		Α	Α	
Approach Delay		31.2			40.4			3.2			2.3	
Approach LOS		С			D			Α			Α	
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												
71.	her											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 76 (76%), Referenced	to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Coord	nated											
Maximum v/c Ratio: 0.26				I.	toroot'	100.4						
Intersection Signal Delay: 4.4	~ 70 co/			**	tersection							
Intersection Capacity Utilizatio Analysis Period (min) 15	11 / U.0%			IC	CU Level o	o service	# C					

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <AM> WSP

Synchro 11 Report Page 10

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

 62 s
 38 s

 06 (R)
 08

 62 s
 38 s

Queues Existing <AM>
3: Yonge Street & Brookland Ave/Private Access 07-05-2021

	-	$\rightarrow$	←	$\blacktriangleleft$	<b>†</b>	-	<b>↓</b>
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

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	1	<b>†</b>	/	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĵ.		. ነ	ĵ.			4			4	
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%

Analysis Period (min) 15

ICU Level of Service A

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

Existing <AM> 07-05-2021

	۶	-	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	1	<b>&gt;</b>	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	f.		ሻ	£			4			4	
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	В		Α		Α	Α						
Intersection Summary												
Delay			9.5									
Level of Service			Α									
Intersection Capacity Utiliza	tion		25.4%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

Existing <AM> 07-05-2021

	۶	-	$\rightarrow$	•	•	•	4	<b>†</b>	/	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ť	ĵ.			ĵ.				7		4	
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												
Frt					0.991				0.865		0.961	
Flt Protected	0.950										0.966	
Satd. Flow (prot)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Flt 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

		<b>→</b>	•	•	<b>←</b>	4	<u> </u>	†	<i>&gt;</i>	<b>\</b>	<del> </del>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	f)			1				1		4	
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)		110110			110110							
Upstream signal (m)					98							
pX, platoon unblocked	0.96				00		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				002			000	020	002	001	012	200
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)	7.1			7.1			7.1	0.0	0.2	7.1	0.0	0.2
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
		<b>55.0</b>	14/5.4		05.4		404	400	013	404	404	019
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	Α			В	В							
Approach Delay (s)	0.2		0.0	10.3	12.8							
Approach LOS				В	В							
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization	on		33.8%	IC	CU Level of	f Service			Α			
Analysis Period (min)			15									

Existing <AM> 07-05-2021

7: Yonge Street /Yonge Street & Easterly Access

	•	*	1	Ť	¥	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		7	*	<b>^</b>	<b>∱</b> β	
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						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizati	ion 30.4%			IC	CU 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

	۶	•	1	<b>†</b>	<b>↓</b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	ሻ	7	7	<b>^</b>	<b>↑</b> ↑				
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	С	Α	Α						
Approach Delay (s)	15.0		0.2			0.0			
Approach LOS	В								
Intersection Summary									
Average Delay			0.2						
Intersection Capacity Utilizati	ion		30.4%	IC	U Level o	of Service		Α	
Analysis Period (min)			15						
. , ,									

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

Existing <PM> 07-05-2021

	۶	<b>→</b>	•	•	<b>←</b>	•	1	†	~	/	<b>+</b>	-√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	, j	<b>^</b>	7	Ť	ĵ.		*	<b>^</b>	7	Ť	<b>†</b> †	7
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	
Confl. 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	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	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	5.0
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel					JI. LX			JI-LX			JI. LA	
- COUNTY CHAINION												

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <PM> WSP

Synchro 11 Report

Page 1

Lanes, Volumes, Timings

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

Existing <PM> 07-05-2021

	•	<b>→</b>	•	•	•	•	4	<b>†</b>	/	<b>&gt;</b>	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Pern
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		
Detector Phase	7	4	4	8	8		1	6	6	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.
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%	36.09
Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.
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)	110110	7.0	7.0	7.0	7.0		110110	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	0.11	0.11	0	(
Act Effct 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 C	Α.	D	D		В.	В	Α.	20.0 C	25.2 C	J. 1
Approach Delay	U	21.7	А	D	44.8		D	15.3	А	U	18.6	,
Approach LOS		C			D			В			В	
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)	42.1	151.9	10.0	23.9	655.6		39.1	285.8	5.0	19.2	174.7	22.3
Turn Bay Length (m)	50.0	131.9	15.0	35.0	000.0		80.0	200.0	75.0	90.0	174.7	40.0
Base Capacity (vph)	343	832	767	390	582		538	1925	851	220	1231	705
Starvation Cap Reductn	0	032	0	390	0		0	1925	001	0	1231	700
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	(
Storage Cap Reductn	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%), Reference		2:SBTL	and 6·NR	TI Start	of Green							
Natural Cycle: 90	o to pridoc	LIODIL	0.110	. L, Olait	J. 510011							
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.73	anutou											

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <PM> WSP

Synchro 11 Report Page 2 Lanes, Volumes, Timings

Existing <PM> 07-05-2021

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

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

ÿ1	₩ Ø4		
12 s 36 s	52 s		
<b>1</b> Ø6 (R) <b>■</b>	<b>≯</b> <sub>Ø7</sub>	<b>▼</b> Ø8	
48 s	14 s	38 s	

Queues

Existing <PM> 07-05-2021

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

	•	-	`	6	←	4	<b>†</b>	/	<b>&gt;</b>	Ţ	4	
			•	•		'		,		•		
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	

Existing <PM> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

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
Future Volume (vph)         130         145         154         117         211         95         172         803         48         40         635         88           Ideal Flow (vphpl)         1900         1800         150         150         160         100         100         100         1.00         1.00         1.00         1.00         1.00         1.00         1.00         1.00
Ideal Flow (vphpl)         1900         150         36.0         15.0         15.0         20.0         44.0         36.0         15.0         15.0         36.0         15.0         30.0         46.0         30.0         30.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         46.0         30.0         90.9         0.95
Storage Length (m)         45.0         30.0         40.0         20.0         42.0         40.0         36.0         15.0           Storage Lanes         1         0         0.96
Storage Lanes
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         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         0.950         0.950         0.850         0.950         0.850         0.950         0.950         0.950 </td
Lane Util. Factor         1.00         1.00         1.00         1.00         1.00         1.00         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         1.00         0.95         0.950         0.950         0.850
Ped Bike Factor         0.99         0.98         1.00         0.98         0.99         0.97         1.00         0.96           Fit         0.850         0.850         0.850         0.850         0.850         0.850           Fit Protected         0.950         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         0.331         0.331         1542         1845         1538         600         3539         1542         597         3505         1476 <td< td=""></td<>
Frt         0.850         0.850         0.850         0.850         0.850           Fit Protected         0.950         0.950         0.950         0.950         0.950           Satd. Flow (prot)         1787         1810         1593         1770         1845         1577         1810         3539         1589         1719         3505         1543           Fit Permitted         0.359         0.659         0.318         0.031         0.331         0.331         1543         597         3505         1476         1643         1538         600         3539         1542         597         3505         1476         1476         1641         1644
Fit Protected         0.950         1589         1719         3505         1543         1543         1567         1280         0.950         0.931         0.931         0.931         1543         1543         1500         0.931         0.931         0.931         1543         1543         1542         1845         1538         600         3539         1542         597         3505         1476         1476         1470<
Satd. Flow (prot)         1787         1810         1593         1770         1845         1577         1805         3539         1589         1719         3505         1543           Fit Permitted         0.359         0.659         0.659         0.318         0.331         0.331           Satd. Flow (perm)         670         1810         1567         1224         1845         1538         600         3539         1542         597         3505         1476           Right Turn on Red         Yes
Fit Permitted   0.359
Satd. Flow (perm)         670         1810         1567         1224         1845         1538         600         3539         1542         597         3505         1476           Right Turn on Red         Yes         Yes         Yes         Yes         Yes         Yes           Satd. Flow (RTOR)         164         104         65         50         98           Link Speed (k/h)         40         50         50         50         50           Link Distance (m)         97.6         371.6         124.4         328.9         23.7           Travel Time (s)         8.8         26.8         9.0         23.7         23.7           Confl. Peds. (#/hr)         13         4         4         13         12         5         5         12           Peak Hour Factor         0.94
Right Turn on Red         Yes         Yes         Yes         Yes         Yes         98           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
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
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         13         12         5         5         12           Peak Hour Factor         0.94
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         13         12         5         5         12           Peak Hour Factor         0.94
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
Confl. Peds. (#/hr)         13         4         4         4         13         12         5         5         12           Peak Hour Factor         0.94 <t< td=""></t<>
Peak Hour Factor         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
Bus Blockages (#/hr) 0 0 1 0 0 1 0 0 4 0 0 4
=======================================
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 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
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
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 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 0.0 0.0 0.0 0.0
Detector 1 Type CI+Ex CI
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.
Detector 1 Queue (s) 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.
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

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <PM> WSP

Synchro 11 Report Page 5 Lanes, Volumes, Timings
2: Yonge Street & Murray Drive/Edward Street

Existing <PM> 07-05-2021

	•	-	•	•	←	•	1	<b>†</b>	~	<b>&gt;</b>	<b>↓</b>	4
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 Effct 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	В	В	A
Approach Delay		20.3			39.3			8.1			13.8	
Approach LOS		С			D			A			В	
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)	02.0	73.6		00.1	347.6		10.0	100.4			304.9	
Turn Bay Length (m)	45.0	10.0	30.0	40.0	011.0	20.0	42.0	100.1	40.0	36.0	00 1.0	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%), Reference	d to phase	2:SBTL	and 6:NB	TL. Start	of Green							
Natural Cycle: 105												
Control Type: Actuated-Coo	rdinated											
Maximum v/c Ratio: 0.69												
Intersection Signal Delay: 1	6.7			lr	ntersection	LOS: B						
Intersection Capacity Utiliza		%			CU Level		e H					
Analysis Period (min) 15					LOTO!	0. 0011100						
m Volume for 95th percen												

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <PM> WSP

Synchro 11 Report Page 6 Lanes, Volumes, Timings

Existing <PM> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street



Queues

Existing <PM> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

	•	-	•	•	•	•	1	<b>†</b>		-	ţ	4
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 Summar

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

3: Yonge Street & Brookland Ave/Private Access

Existing <PM> 07-05-2021

	۶	<b>→</b>	•	•	<b>—</b>	•	1	<b>†</b>	~	<b>/</b>	<b>+</b>	-√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4		*	<b>↑</b> ↑		ሻ	<b>↑</b> ↑	
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	
Confl. 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	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												

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <PM> WSP

Synchro 11 Report

Page 9

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

Existing <PM> 07-05-2021

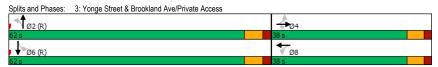
	•	<b>→</b>	•	•	•	•	4	<b>†</b>	1	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		40.0	40.0		40.0	40.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		46.5	46.5		46.5	46.5	
Total Split (s)	38.0	38.0	38.0	38.0	38.0		62.0	62.0		62.0	62.0	
Total 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 Effct 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		0.13	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	В		D		Α	Α		Α	Α	
Approach Delay		28.2			39.4			3.5			2.5	
Approach LOS		С			D			Α			Α	
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												
//	Other											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 69 (69%), Referenced	to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Coor	dinated											
Maximum v/c Ratio: 0.41												
Intersection Signal Delay: 5.9				-	ntersection							
Intersection Capacity Utilizati	ion 74.1%			I	CU Level	ot Service	e D					
Analysis Period (min) 15 m Volume for 95th percenti			d by upst									

Yonge Street & Murray Drive 11:18 am 04-26-2021 Existing <PM> WSP

Synchro 11 Report Page 10

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

Existing <PM> 07-05-2021



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

	-	$\rightarrow$	-	•	<b>†</b>	-	ļ	
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

	۶	<b>→</b>	$\rightarrow$	•	•	•		<b>†</b>		-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ť	1}		7	ĵ.			4			4	
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

	ၨ	-	•	•	<b>←</b>	•	•	<b>†</b>	~	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	î,		7	ĵ»			4			4	
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	В		В		Α	Α						
Intersection Summary												
Delay			13.1									
Level of Service			В									
Intersection Capacity Utilization	n		38.1%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

Existing <PM>

Mur	ray Dr	ive								07-0	){
•	-	•	•	<b>—</b>	•	1	<b>†</b>	~	/	ţ	
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
*	Λ.			Λ.				Ħ		<b>A</b>	_

		-	*	₹	-	_	7	ı		*	*	•
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	J.	f)			ĵ.				7		4	
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												
Frt					0.991				0.865		0.966	
Flt Protected	0.950										0.964	
Satd. Flow (prot)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Flt 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%
Analysis Period (min) 15

ICU Level of Service A

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

Existing <PM> 07-05-2021

	۶	-	•	•	-	•	4	<b>†</b>	-	<b>&gt;</b>	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.			ĥ				7		4	
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	948	502
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	345			422			856	869	422	855	849	324
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	Α			В	С							
Approach Delay (s)	0.2		0.0	10.9	21.7							
Approach LOS				В	С							
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utiliza	ation		36.7%	IC	CU Level o	of Service			Α			
Analysis Period (min)			15									

Existing <PM> 07-05-2021

7: Yonge Street /Yonge Street & Easterly Access

		•	٠,		•	-
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	7	ሻ	<b>^</b>	<b>↑</b> ₽	
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: C	Other					
Control Type: Unsignalized						
Intersection Capacity Utilizati	on 37.6%			IC	CU Level	of Service A
Analysis Period (min) 15						

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

Existing <PM> 07-05-2021

	۶	$\rightarrow$	4	<b>†</b>	<b>↓</b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	ሻ	7	Ť	<b>^</b>	<b>↑</b> 1>				
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	С	В	Α						
Approach Delay (s)	15.0		0.3			0.0			
Approach LOS	С								
Intersection Summary									
Average Delay			0.6						
Intersection Capacity Utilizati	ion		37.6%	IC	U Level o	of Service		Α	
Analysis Period (min)			15						

# **APPENDIX**

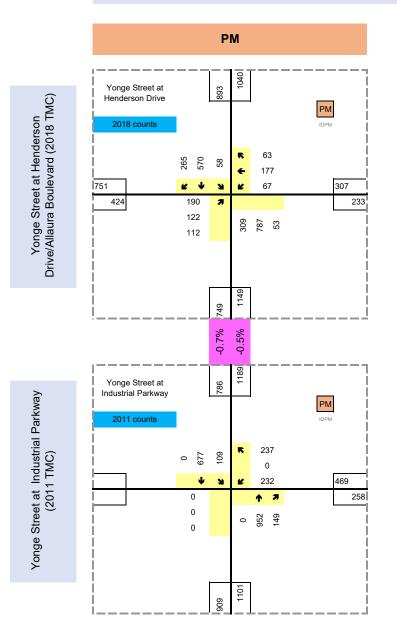
# TRAFFIC GROWTH RATE

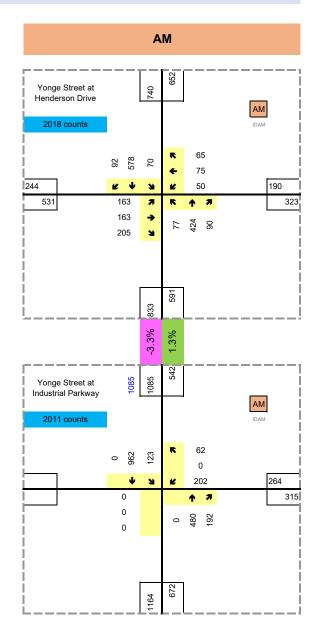
### Comparison TMCs between 2011 with 2018 Yonge Street at Henderson Drive/Allaura Boulevard (2018) & Yonge Street at Industrial Parkway (2011)

Tolige Street at Henderson Drive/Aliadra Bodievard (2016) & Tolige Street at Illidustrial Farkway (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)/		1.3%			-3.3%							
(2011 counts*(2018-2011))												

				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)/		-0.5%			-0.7%							
(2011 counts*(2018-2011))												

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





#### 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.

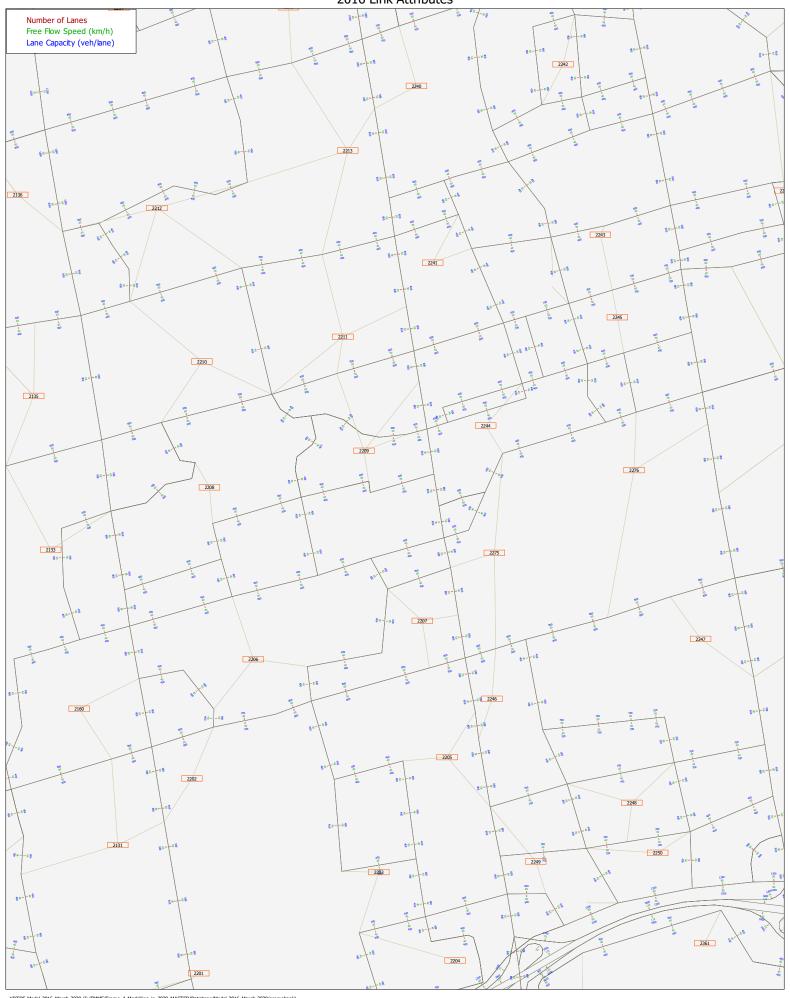
The population and employment data used in the model are projections, and should be used only for the purposes of studies on a regional context and for estimating transportation demands on regional roads.

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

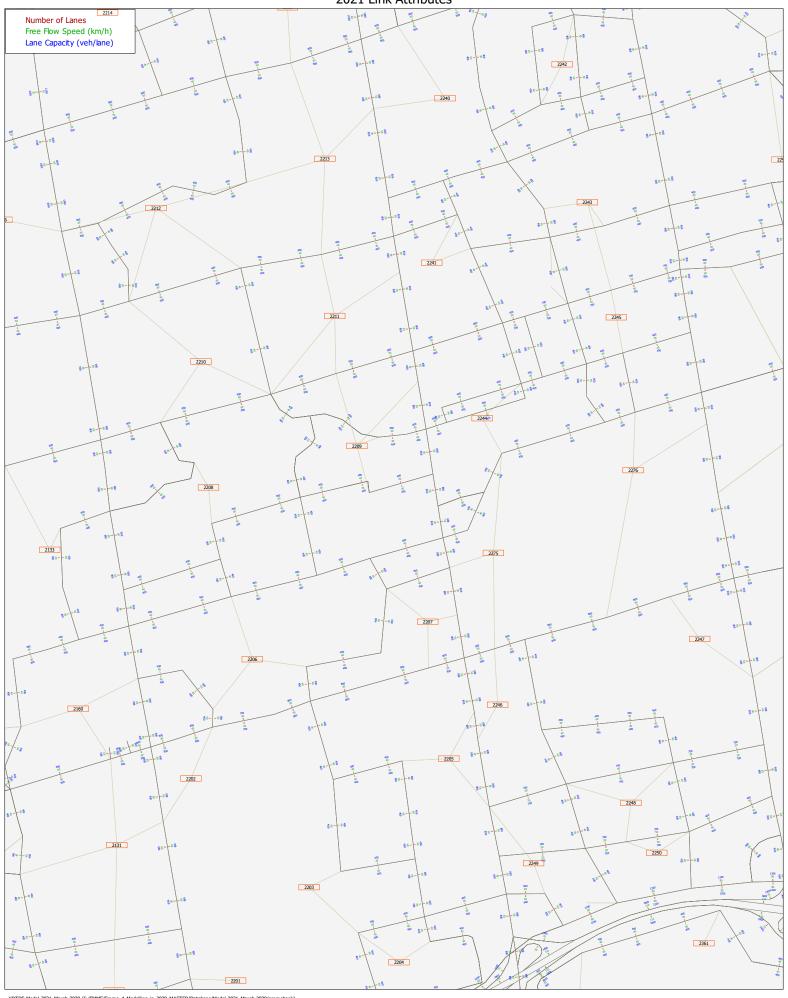
While efforts are made to see that the supplied information is accurate and up-to-date:

- 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.

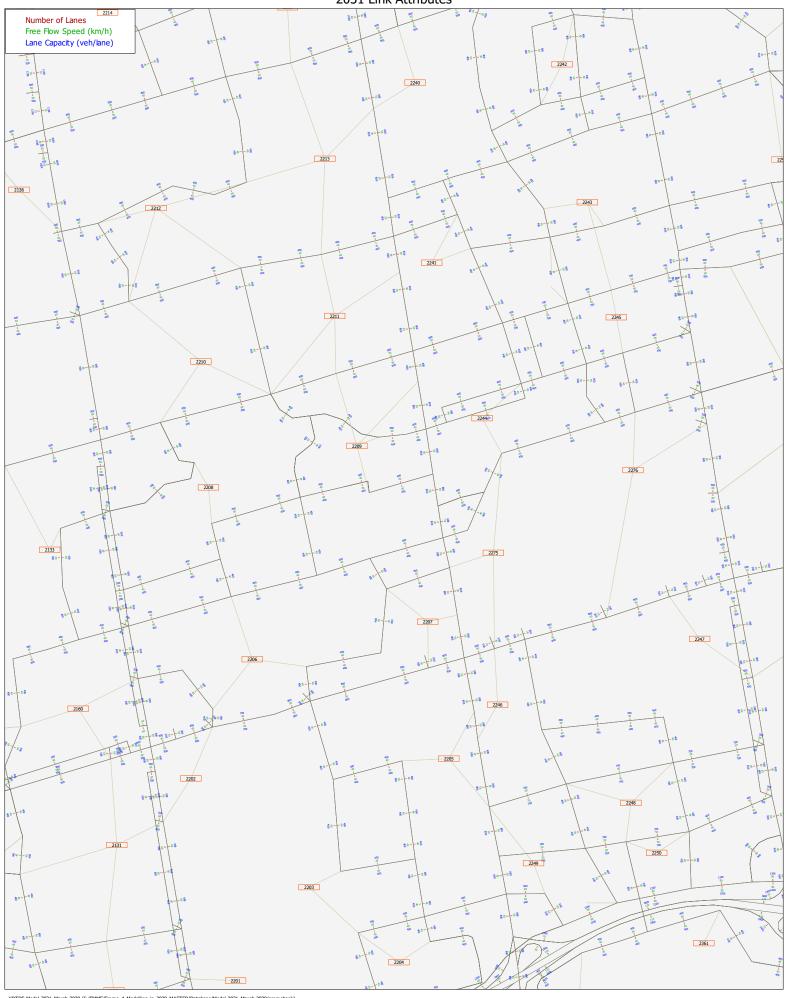
#### 2016 Link Attributes

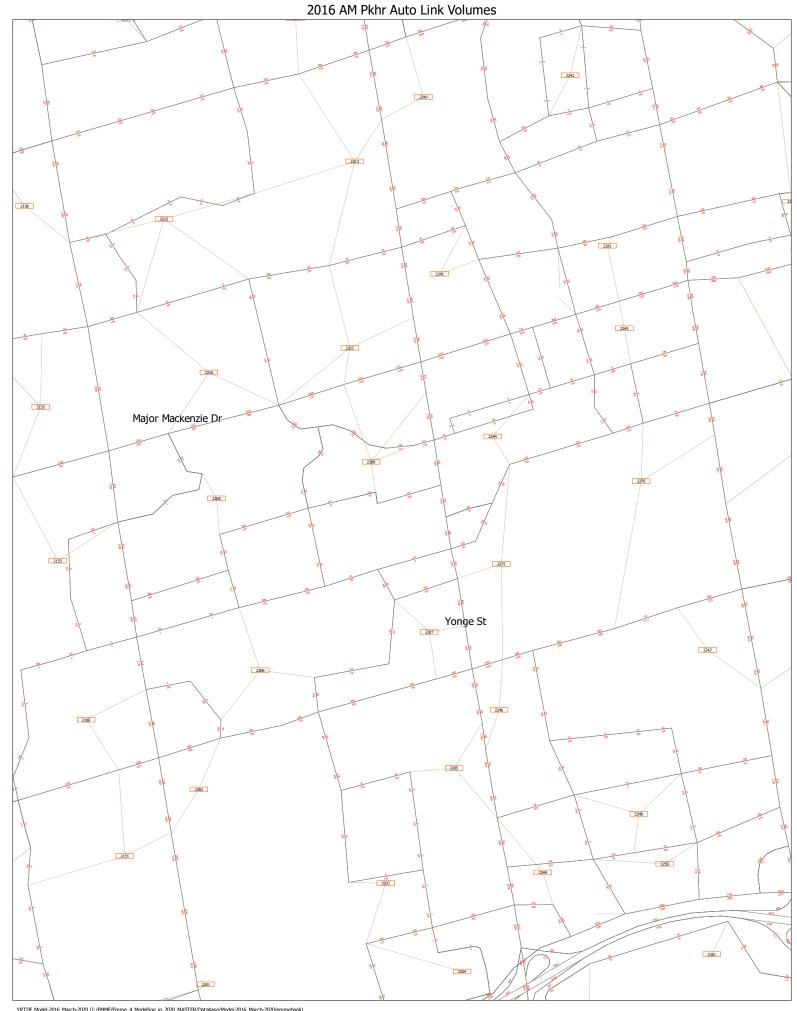


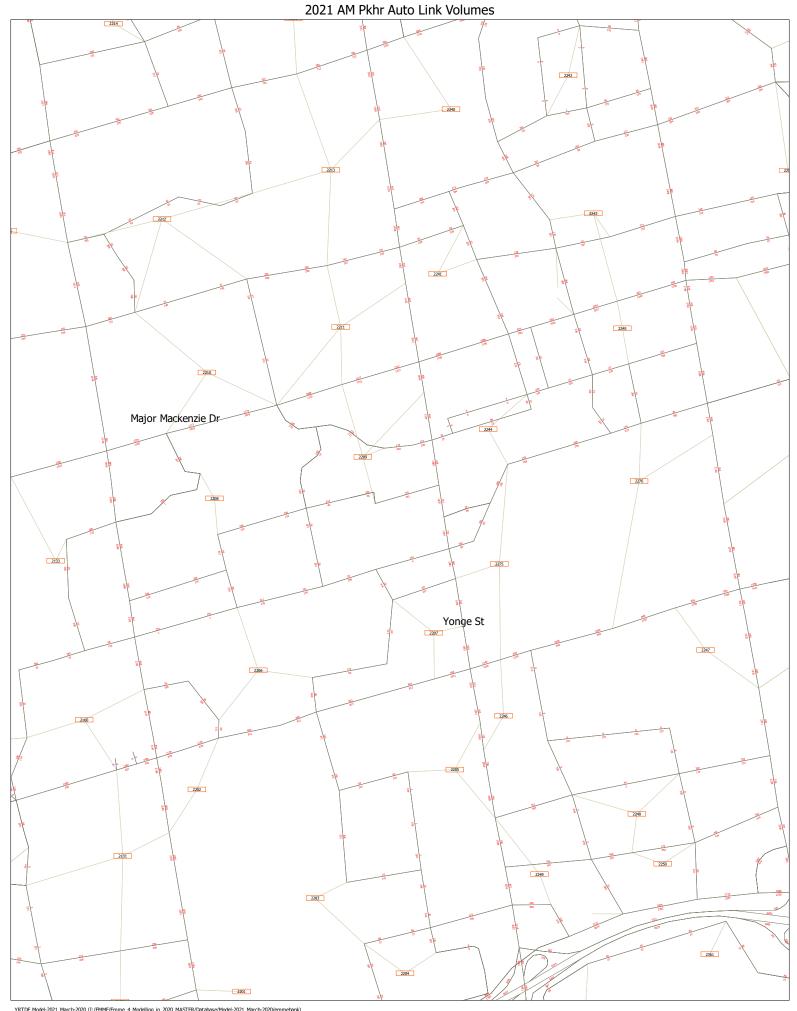
#### 2021 Link Attributes

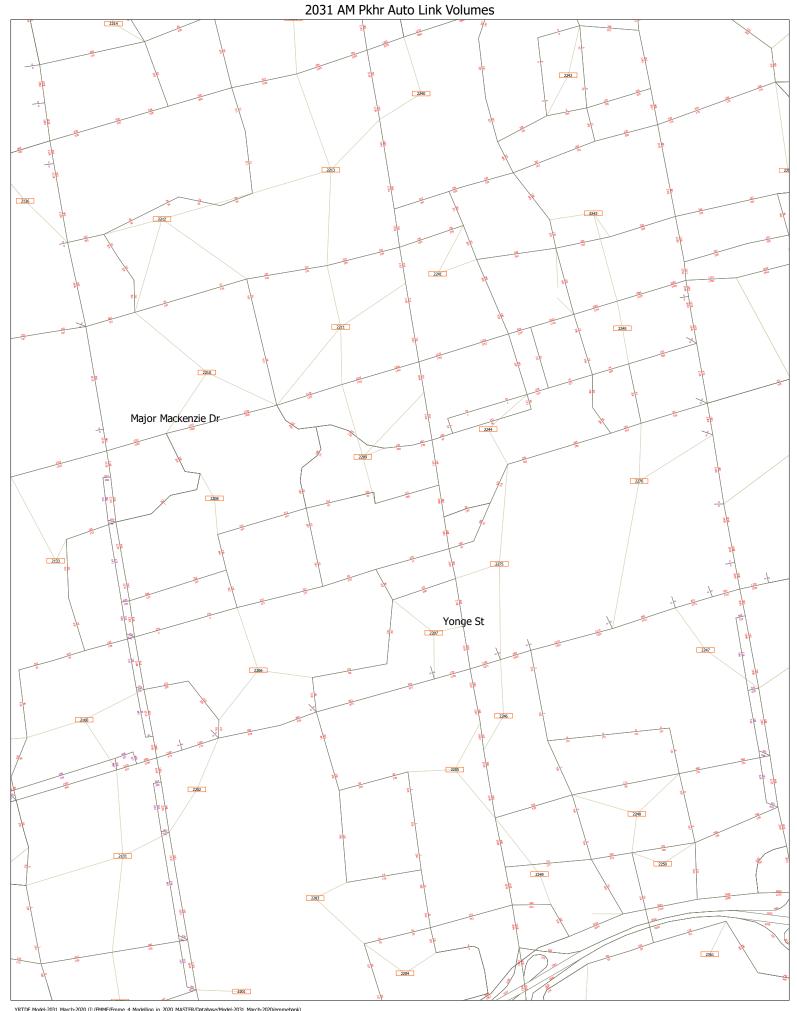


#### 2031 Link Attributes















# **APPENDIX**

FUTURE
BACKGROUND
DEVELOPMENTS

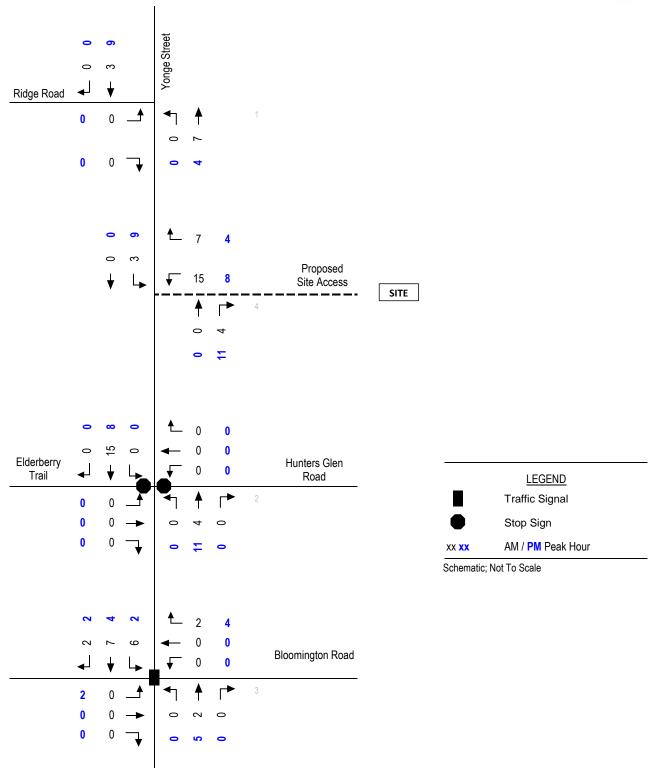




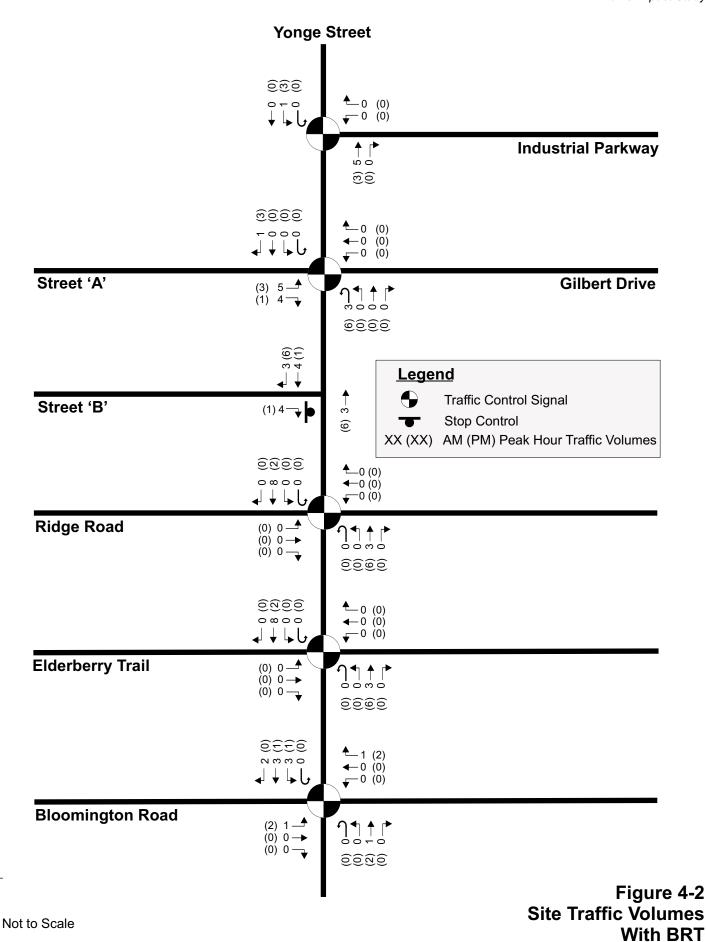
Proposed Residential Development 14029 Yonge Street, Aurora

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





Town of Aurora Traffic Impact Study





## **APPENDIX**

# FUTURE BACKGROUND INTERSECTION OPERATIONS

	۶	<b>→</b>	•	€	<b>←</b>	•	1	†	~	<b>/</b>	<b>+</b>	-√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	ሻ	<b>1</b>		*	<b>^</b>	7	ሻ	<b>^</b>	7
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	1.00	0.98	0.99	0.99	1.00	0.99	0.00	0.96	0.99	0.00	0.95
Frt	0.00		0.850	0.00	0.931		0.00		0.850	0.00		0.850
Flt Protected	0.950		0.000	0.950	0.001		0.950		0.000	0.950		0.000
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456	1000	1000	0.648	1000	U	0.349	0100	1000	0.469	0100	1000
Satd. Flow (perm)	823	1863	1563	1225	1656	0	644	3438	1496	884	3438	1500
Right Turn on Red	020	1000	Yes	1220	1000	Yes	044	0400	Yes	004	J-100	Yes
Satd. Flow (RTOR)			218		46	103			96			98
Link Speed (k/h)		50	210		40			50	30		50	30
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	12.7	7	7	01.2	16	16	22.3	8	8	14.5	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
	4%	2%	1%	0.94	6%	4%	2%	5%	4%	0.94	5%	2%
Heavy Vehicles (%)	4%	2%	176	0%	1	4%	2%	0	4%	0%	0	2%
Bus Blockages (#/hr)	173	173	218	53	80	69	82	499	96	74	651	
Adj. Flow (vph)	1/3	1/3	218	53	80	69	82	499	90	74	100	98
Shared Lane Traffic (%)	470	470	040		440	0	82	499	96	74	054	00
Lane Group Flow (vph)	173	173	218	53	149	-					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	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			0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel					n						A	

Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Background <AM>

Synchro 11 Report Page 1

Lanes, Volumes, Timings 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

Detector 2 Extend (s)		•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>&gt;</b>	<b>↓</b>	4
Turn Type	Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Protected Phases 7 4 4 8 8 1 6 6 2 2 Permitted Phases 4 4 4 8 8 6 6 6 6 2 Permitted Phases 7 4 4 8 8 8 1 6 6 6 2 Politich Phase 7 7 4 4 8 8 8 1 6 6 6 2 Politich Phase 8 7 7 4 4 8 8 8 1 6 6 6 2 Politich Phase 8 7 7 4 4 8 8 8 1 6 6 6 2 Politich Phase 8 7 7 4 4 8 8 8 1 6 6 6 2 Politich Phase 8 7 7 4 4 8 8 8 1 6 6 6 2 Politich Phase 8 7 7 8 7 8 8 8 1 6 6 6 2 Politich Phase 8 7 7 8 7 8 8 8 1 6 6 6 2 Politich Phase 8 7 7 8 7 8 8 8 1 6 6 6 2 Politich Phase 8 7 8 8 9 8 9 8 9 8 9 8 9 9 8 9 8 9 9 8 9	Detector 2 Extend (s)					0.0			0.0			0.0	
Protected Phases 7 4 4 8 8 1 6 2 Permitted Phases 4 4 4 8 8 8 1 6 6 6 2 2 Detector Phase 7 7 4 4 8 8 8 1 6 6 6 2 Detector Phase 7 7 4 4 8 8 8 1 6 6 6 2 Detector Phase 7 7 4 4 8 8 8 1 6 6 6 2 Switch Phase Williamum Initial (s) 7 0 10.0 10.0 10.0 10.0 7.0 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 36.1 36.1 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 36.1 36.1 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 36.1 36.1 36.1 36.1 36.1 36.1 36.1 36.1	Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Pern
Detector Phase   7	Protected Phases		4			8			6			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 20.0 10.0 10	Permitted Phases	4		4	8			6		6	2		
Minimum Initial (s)	Detector Phase	7	4	4	8	8		1	6	6	2	2	
Minimum Split (s)	Switch Phase												
Total Split (s)	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
Total Split (%)	Minimum Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.
Maximum Green (s) 11.0 46.0 46.0 32.0 32.0 9.0 41.5 41.5 29.5 29.5 29.6 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 4.5 4.5 4.5 4.5 4.5	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
Vellow Time (s)	Total Split (%)	14.0%	52.0%	52.0%	38.0%	38.0%		12.0%	48.0%	48.0%	36.0%	36.0%	36.09
All-Red Time (s)	Maximum Green (s)	11.0	46.0	46.0	32.0	32.0		9.0	41.5	41.5	29.5	29.5	29.
Lost Time Adjust (s)	Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.
Total Lost Time (s)   3.0   6.0   6.0   6.0   6.0   6.0   3.0   6.5	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
Lead Lag   Lead   Lag   Lag   Lead   Lag	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
Ves   Ves	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.
Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Recall Mode   None   None   None   None   None   None   C-Max   C-Ma	Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Ye
Walk Time (s)	Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0		3.0
Flash Dont Walk (s)	Recall Mode	None	None	None	None	None		None	C-Max	C-Max	C-Max	C-Max	C-Max
Pedestrian Calls (#hr)	Walk Time (s)		7.0	7.0	7.0	7.0			7.0	7.0	7.0	7.0	7.0
Act Effct Green (s)	Flash Dont Walk (s)		24.0	24.0	24.0	24.0			17.0	17.0	17.0	17.0	17.0
Actuated g/C Ratio 0.29 0.26 0.26 0.13 0.13 0.65 0.61 0.61 0.53 0.53 0.5    v/c Ratio 0.52 0.36 0.38 0.34 0.60 0.16 0.24 0.10 0.16 0.36 0.1    Control Delay 32.9 31.4 5.8 44.9 37.8 8.2 9.6 2.4 8.1 9.0 1.    Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Pedestrian Calls (#/hr)		_	-		-			-	_	0	_	(
## Ratio	Act Effct Green (s)			26.1	12.7			64.9	61.4	61.4		53.1	53.1
Control Delay 32.9 31.4 5.8 44.9 37.8 8.2 9.6 2.4 8.1 9.0 1.  Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Actuated g/C Ratio												0.53
Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.													0.12
Total Delay 32.9 31.4 5.8 44.9 37.8 8.2 9.6 2.4 8.1 9.0 1.  LOS C C A D D A A A A A A A A Approach Delay 22.0 39.7 8.4 8.0 Approach LOS C D A A A A A A A A A A A A A A A A A A A	Control Delay												1.5
LOS C C A D D A A A A A A A A A A A A A A A													0.0
Approach Delay 22.0 39.7 8.4 8.0  Approach LOS C D A A A  Intersection Summary  Area Type: Other  Cycle Length: 100  Actuated Cycle Length: 100  Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green  Natural Cycle: 90  Control Type: Actuated-Coordinated  Maximum vic 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													1.5
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:NBTL, Start of Green  Natural Cycle: 90  Control Type: Actuated-Coordinated  Maximum vic 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		С		Α	D			Α		Α	Α		F
Intersection Summary  Area Type: Other Cycle Length: 100 Actuated Cycle Length: 100 Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBTL, 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 Signal Delay: 14.4 Intersection Cycle: 90 Analysis Period (min) 15 Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd													
Area Type: Other  Cycle Length: 100  Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green  Natural Cycle: 90  Control Type: Actuated-Coordinated  Maximum v6: 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	Approach LOS		С			D			Α			Α	
Cycle Length: 100 Actuated Cycle Length: 100 Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBTL, 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	Intersection Summary												
Actuated Čycle Length: 100 Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green Natural Cycle: 90 Nontrol Type: Actuated-Coordinated Maximum v/c Ratio: 0.60 Intersection Signal Delay: 14.4 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	Area Type:	Other											
Offset: 24 (24%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green  Natural Cycle: 90  Control Type: Actuated-Coordinated  Maximum vic 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	Cycle Length: 100												
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													
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		nced to phase	2:SBTL	and 6:NB	TL, Start	of Green							
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													
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													
Intersection Capacity Utilization 80.6%  Analysis Period (min) 15  Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd													
Analysis Period (min) 15  Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd													
Splits and Phases: 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd					IC	CU Level o	of Service	e D					
	Analysis Period (min) 15												
	Splits and Phases: 1:	Yonge Street/	Yonge St	reet & He	enderson	Dr/Allaura	Blvd						
						- 4							

**₩**Ø8

Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Background <AM> WSP

Synchro 11 Report Page 2 3026 Future Background <AM> 07-05-2021

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

	•	<b>→</b>	$\rightarrow$	•	<b>←</b>	4	<b>†</b>	<i>&gt;</i>	<b>&gt;</b>	<b>↓</b>	4	
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> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

	•	<b>→</b>	•	•	+	4	•	†	~	<b>/</b>	<b>↓</b>	- ✓
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b>	7		<b>^</b>	7	*	44	7	*	<b>^</b>	7
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
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			0.352			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	J
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	Cl+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	. 0	. 0	4	. 0	1	6		. 0	2	. 0.111
Permitted Phases	8		8	4		4	6		6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Background <AM> WSP

3026 Future Background <AM>

07-05-2021

	٦	<b>→</b>	•	•	<b>—</b>	•	•	<b>†</b>	<u> </u>	<b>\</b>	<b>↓</b>	4
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	Α	Α
Approach Delay		25.7			36.9			6.8			9.0	
Approach LOS		С			D			Α			Α	

Intersection Summary Area Type: Cycle Length: 100

Actuated Cycle Length: 100

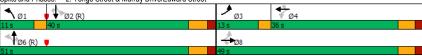
Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.44

Intersection Signal Delay: 13.4 Intersection Capacity Utilization 108.1% Analysis Period (min) 15

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



Intersection LOS: B

ICU Level of Service G

Queues

3026 Future Background <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	۶	-	•	•	•	•	4	<b>†</b>	-	<b>&gt;</b>	ļ	4
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

Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Background <AM>

Synchro 11 Report Page 5 Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Background <AM>

3026 Future Background <AM> 07-05-2021

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

3026 Future Background <AM> 07-05-2021

١	 -	

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	<i>&gt;</i>	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		લી	7		4		ሻ	ħβ		7	ħβ	
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	1100	•	0.760		0.357	0110	·	0.392	0.00	·
Satd. Flow (perm)	0	1403	1462	0	1338	0	590	3448	0	742	3455	0
Right Turn on Red	U	1700	Yes	U	1000	Yes	330	0770	Yes	172	0700	Yes
Satd. Flow (RTOR)			38		2	103		7	103		4	103
Link Speed (k/h)		40	50		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	
Confl. Peds. (#/hr)	5	13.4	9	9	3.0	5	12	20.1	5	5	7.5	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 (%)	0.96	0.96	8%	0.96	34%	0.96	14%	4%	0.96	0.96	4%	7%
Adj. Flow (vph)	31	0% 5	27	14	34%	2	14%	654	30	3	760	176
Shared Lane Traffic (%)	31	5	21	14	3	2	10	004	30	3	700	17
	0	36	27	0	19	0	16	684	0	3	777	0
Lane Group Flow (vph)	No		No			No			No	No.		
Enter Blocked Intersection	-	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	4.00	4.00	4.00	4.00	4.00	4.00	4.00	Yes	4.00	4.00	Yes	4.00
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		
5 5				•	0		^	^		•	•	

Yonge Street & Murray Drive	11:18 am 04-26-2021 3026 Future Background <am></am>	
WSP		

Detector Phase Switch Phase

Synchro	11	Report
		Page 7

	•	-	•	•	<b>←</b>	•	1	<b>†</b>	/	<b>&gt;</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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 Effct Green (s)		10.1	10.1		10.1		81.9	81.9		81.9	81.9	
Actuated q/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	В		D		Α	Α		A	A	
Approach Delay		31.2			40.4			3.3			2.3	
Approach LOS		С			D			Α			A	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10												
Offset: 76 (76%), Reference	ed to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.27												
Intersection Signal Delay: 4	1.4			lr	ntersection	LOS: A						
Intersection Capacity Utiliz	ation 70.6%			IC	CU Level o	f Service	C					
Analysis Period (min) 15												
Splits and Phases: 3: Yo	nge Street	& Brookla	nd Ave/P	rivate Acc	ess							
√ 02 (R)	-						\$ ø	4				
62 s							38 s					
Ø6 (R)							₹ø	8				
62.0							20.0					

3026 Future Background <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	$\rightarrow$	<b>←</b>	4	<b>†</b>	-	ţ	
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	

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

0

Left

0

3

Left Right

0.0

0.0

4.8

1.00

15

Lane Group Lane Configurations Traffic Volume (vph) 292 Future Volume (vph) 292 14 189 0 38 2 Ideal Flow (vphpl) 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 Storage Length (m) 25.0 30.0 0.0 0.0 0.0 0.0 0.0 0.0 Storage Lanes 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 Ped Bike Factor 0.877 0.955 Flt Protected 0.950 0.950 0.996 0.968 Satd. Flow (prot) 1770 1770 1627 1722 Flt Permitted 0.950 0.950 0.996 0.968 1627 Satd. Flow (perm) 1770 1770 1788 1722 50 Link Speed (k/h) 50 20 20 Link Distance (m) 100.7 49.5 81.7 50.6 Travel Time (s) 5.9 7.3 8.9 9.1 Confl. Peds. (#/hr) 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) 317 15 205 4 0 41 2 0 Shared Lane Traffic (%)

15 209

Left

25

No

Left Right

3.6

0.0

4.8

1.00

0

Intersection Summary Area Type: Other

Control Type: Unsignalized Intersection Capacity Utilization 25.4%

ICU Level of Service A

0

1.00

0 45

Left

25

Left Right

0.0

0.0

4.8

Analysis Period (min) 15

Lane Group Flow (vph)

Lane Alignment

Link Offset(m)

Sign Control

Median Width(m)

Crosswalk Width(m)

Turning Speed (k/h)

Two way Left Turn Lane Headway Factor

Enter Blocked Intersection

318

Left Right

3.6

0.0

4.8

1.00

1

Left

1.00

25

3026 Future Background <AM> 07-05-2021

	۶	-	•	•	•	•	1	<b>†</b>	<b>/</b>	-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĵ.		ሻ	ĵ.			4			4	
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	В		Α		Α	Α						
Intersection Summary												
Delay			9.5									
Level of Service			Α									
Intersection Capacity Utilizat	ion		25.4%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 3026 Future Background <AM>

07-05-2021

	•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>&gt;</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>1</b>			<b>1</b>				7		4	
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												
Frt					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
Flt 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

6: Northerly Acces	s & Mur	ray Dr	ive								07-0	15-2021
	٠	-	•	•	<b>←</b>	•	4	<b>†</b>	/	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĵ.			f)				7		4	
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	

i odootiidiio					U				
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	No	ne	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	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

p0 queue free %	99			100		1	100	100	99	98	100	1
cM capacity (veh/h)	1319			1189		4	104	400	679	404	404	8
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	Α			В	В							
Approach Delay (s)	0.2		0.0	10.3	12.8							
Approach LOS				D	D							

Approach LOS		В	В		
Intersection Summary					
Average Delay	0.4				
Intersection Capacity Utilization	33.8%	ICU L	evel of Service	Α	
Analysis Period (min)	15				

	٠	•	4	†	ļ	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	1	*	<b>^</b>	<b>∱</b> β	
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						
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	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					

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 31.6% ICU Level of Service A Analysis Period (min) 15

Lanes, Volumes, Timings

7: Yonge Street /Yonge Street & Easterly Access

	۶	•	1	1	<b>↓</b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	7	7	7	<b>^</b>	ħβ				
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)	0.0	0.0							
tF (s)	3.5	3.3	2.2						
p0 queue free %	97	99	98						
cM capacity (veh/h)	246	764	846						
	EB 1			ND 0	NDO	00.4	00.0		
Direction, Lane #		EB 2	NB 1	NB 2	NB 3	SB 1	SB 2		
Volume Total	8	7	13	388	388	553	291		
Volume Left	8	0	13	0	0	0	0		
Volume Right	0	7	0	0	0	0	15		
cSH	246	764	846	1700	1700	1700	1700		
Volume to Capacity	0.03	0.01	0.02	0.23	0.23	0.33	0.17		
Queue Length 95th (m)	0.8	0.2	0.4	0.0	0.0	0.0	0.0		
Control Delay (s)	20.1	9.8	9.3	0.0	0.0	0.0	0.0		
Lane LOS	С	Α	Α						
Approach Delay (s)	15.3		0.2			0.0			
Approach LOS	С								
Intersection Summary									
		0.2							
Intersection Capacity Utilization			31.6%	IC	CU Level o	of Service		Α	
Analysis Period (min)		15							

07-05-2021

	۶	<b>→</b>	•	•	<b>+</b>	4	•	†	~	<b>/</b>	<b>+</b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>*</b>	7	ሻ	<b>\$</b>		*	44	7	7	<b>^</b>	7
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		0.000
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	000	1010	Yes			Yes	• • • • • • • • • • • • • • • • • • • •	0000	Yes	000	0000	Yes
Satd. Flow (RTOR)			120		19				65			246
Link Speed (k/h)		50	.20		40			50	00		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)	11		20	20	01.12	11	18	22.0	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 (%)	201	101	120	12	100	00	002	000	O1	UL.	014	200
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)	Loit	3.6	rugiit	Loit	3.6	rugiit	Loit	3.6	rugiit	Loit	3.6	rugiit
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		1.0			1.0			1.0			1.0	
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	1.00	15	25	1.01	15	25	1.00	15	25	1.00	15
Number of Detectors	1	1	1	0	2	10	1	2	1	0	2	1
Detector Template				Left						Ŭ		
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	Cl+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OITEX	OITEX	OITEX	OITEX	OITEX		OITEX	OITEX	OITEX	OIILX	OIILX	OITEX
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	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Type  Detector 2 Channel					OHEX			OITEX			OI+EX	
DEIECIOI Z CHAIIIIEI												

Yonge Street & Murray Drive 11:18 am 04-26-2021 2026 Future Background <PM>

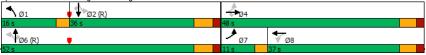
Synchro 11 Report Page 1

Detector 2 Extend (s)		•	-	•	•	•	•	4	<b>†</b>	_	-	<b>↓</b>	4
Tum Type	р	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	Extend (s)					0.0			0.0			0.0	
Permitted Phases	,	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Detector Phase   7	Phases		4			8			6			2	
Switch Phase  Minimum Initial (s)	Phases	4		4	8			6		6	2		2
Minimum Initial (s) 7.0 10.0 10.0 10.0 10.0 7.0 20.0 20.0 20.0 20.0 Minimum Split (s) 10.0 37.0 37.0 37.0 37.0 37.0 10.0 30.5 30.5 30.5 30.5 30.5 30.5 30.5 3	hase	7	4	4	8	8		1	6	6	2	2	2
Minimum Split (s) 10.0 37.0 37.0 37.0 37.0 10.0 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 Total Split (%) 11.0% 48.0% 48.0% 37.0% 37.0% 16.0% 52.0% 52.0% 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 Yellow Time (s) 3.0 4.0 4.0 4.0 4.0 3.0 4.5 4.5 4.5 4.5 4.4 All-Red Time (s) 0.0 2.0 2.0 2.0 2.0 0.0 0.0 2.0 2.0 2.0	ise												
Total Split (s)	nitial (s)	7.0	10.0	10.0	10.0	10.0		7.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	Split (s)	10.0	37.0	37.0	37.0	37.0		10.0	30.5	30.5	30.5	30.5	30.5
Maximum Green (s)         8.0         42.0         42.0         31.0         31.0         13.0         45.5         45.5         29.5         29           Yellow Time (s)         3.0         4.0         4.0         4.0         3.0         4.5         <	(s)	11.0	48.0	48.0	37.0	37.0		16.0	52.0	52.0	36.0	36.0	36.0
Yellow Time (s)	(%)	11.0%	48.0%	48.0%	37.0%	37.0%		16.0%	52.0%	52.0%	36.0%	36.0%	36.0%
All-Red Time (s)		8.0	42.0	42.0	31.0	31.0		13.0	45.5	45.5	29.5	29.5	29.5
Lost Time Adjust (s)	e (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.5
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 Lag Lead Lag Lag Lag Lead Lag Lag Lag Lead Lag Lag Lag Lag Lag Lag Lag Lag Lag Lag	ne (s)	0.0	2.0	2.0	2.0	2.0		0.0	2.0	2.0	2.0	2.0	2.0
Lead/Lag   Lead         Lag         Lag         Lag         Lead         Lag         Lag         Lead         Lag         Lag         Lead         Lag         Lag         Lead         Lag         Lag         Lead         Lag	Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Lead-Lag Optimize?         Yes	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 Optimize?         Yes	( )	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Recall Mode	Optimize?	Yes			Yes			Yes			Yes	Yes	Yes
Recall Mode   None   None   None   None   None   None   None   C-Max	tension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Flash Dont Walk (s)		None	None	None	None	None		None	C-Max	C-Max	C-Max	C-Max	C-Max
Pedestrian Calls (#hr)	(s)		7.0	7.0	7.0	7.0			7.0	7.0	7.0	7.0	7.0
Act Effet Green (s) 32.9 29.9 29.9 18.9 18.9 61.1 57.6 57.6 39.8 39 Actuated g/C Ratio 0.33 0.30 0.30 0.19 0.19 0.61 0.58 0.58 0.40 0.4 V/C Ratio 0.70 0.24 0.22 0.31 0.74 0.64 0.44 0.06 0.26 0.4 Control Delay 38.8 26.4 5.3 36.8 47.4 16.3 13.8 2.9 43.3 38 Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Walk (s)		24.0	24.0	24.0	24.0			17.0	17.0	17.0	17.0	17.0
Actuated g/C Ratio 0.33 0.30 0.30 0.19 0.19 0.61 0.58 0.58 0.40 0.4	Calls (#/hr)		0	0	0	0			0	0	0	0	0
v/c Ratio     0.70     0.24     0.22     0.31     0.74     0.64     0.44     0.06     0.26     0.4       Control Delay     38.8     26.4     5.3     36.8     47.4     16.3     13.8     2.9     43.3     38       Queue Delay     0.0 </td <td>reen (s)</td> <td>32.9</td> <td>29.9</td> <td>29.9</td> <td>18.9</td> <td>18.9</td> <td></td> <td>61.1</td> <td>57.6</td> <td>57.6</td> <td>39.8</td> <td>39.8</td> <td>39.8</td>	reen (s)	32.9	29.9	29.9	18.9	18.9		61.1	57.6	57.6	39.8	39.8	39.8
Control Delay 38.8 26.4 5.3 36.8 47.4 16.3 13.8 2.9 43.3 38 Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	/C Ratio	0.33	0.30	0.30	0.19	0.19		0.61	0.58	0.58	0.40	0.40	0.40
Queue Delay         0.0 <th< td=""><td></td><td>0.70</td><td>0.24</td><td>0.22</td><td>0.31</td><td>0.74</td><td></td><td>0.64</td><td>0.44</td><td>0.06</td><td>0.26</td><td>0.48</td><td>0.38</td></th<>		0.70	0.24	0.22	0.31	0.74		0.64	0.44	0.06	0.26	0.48	0.38
Total Delay 38.8 26.4 5.3 36.8 47.4 16.3 13.8 2.9 43.3 38 LOS D C A D D B B B A D Approach Delay 26.4 45.0 13.9 33 Approach LOS C D B B B A D B Approach LOS C D B B B A D B Approach LOS C D B B B A D B Approach LOS C D B B B A D B Approach LOS C D B B B A D B Approach LOS C D B B B B A D B Approach LOS C D B B B B A D B Approach LOS C D B B B B A D B Approach LOS C D B B B B A D B Approach LOS C D B B B B A D B B B B A D B B B B A D B B B B	lay	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 Approach Delay 26.4 45.0 13.9 33 Approach LOS C D B  Intersection Summary  Area Type: Other Cycle Length: 100 Actuated Cycle Length: 100 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.74 Intersection Signal Delay: 25.7 Intersection LOS: C	ay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Approach Delay 26.4 45.0 13.9 33 Approach LOS C D B  Intersection Summary  Area Type: Other  Cycle Length: 100  Actuated Cycle Length: 100  Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green  Natural Cycle: 90  Control Type: Actuated-Coordinated  Maximum v6: Ratio: 0.74  Intersection Signal Delay: 25.7 Intersection LOS: C	,	38.8	26.4	5.3	36.8	47.4		16.3	13.8	2.9	43.3	38.6	20.6
Approach LOS C D B  Intersection Summary  Area Type: Other Cycle Length: 100  Actuated Cycle Length: 100  Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green Natural Cycle: 90  Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.74  Intersection Signal Delay: 25.7  Intersection LOS: C		D	С	Α	D	D		В	В	Α	D	D	С
Area Type: Other Cycle Length: 100 Actuated Cycle Length: 100 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.74 Intersection Signal Delay: 25.7 Intersection LOS: C	Delay		26.4			45.0			13.9			33.8	
Area Type: Other Cycle Length: 100 Actuated Cycle Length: 100 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.74 Intersection Signal Delay: 25.7  Intersection LOS: C	_OS		С			D			В			С	
Cycle Length: 100 Actuated Cycle Length: 100 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated Maximum v6: Ratio: 0.74 Intersection Signal Delay: 25.7  Intersection LOS: C	n Summary												
Actuated Cycle Length: 100 Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.74 Intersection Signal Delay: 25.7 Intersection LOS: C		Other											
Offset: 83 (83%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green Natural Cycle: 90 Control Type: Actuated-Coordinated Maximum v6 Ratio: 0.74 Intersection Signal Delay: 25.7 Intersection LOS: C	th: 100												
Natural Cycle: 90 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.74 Intersection Signal Delay: 25.7 Intersection LOS: C	ycle Length: 100												
Natural Cycle: 90 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.74 Intersection Signal Delay: 25.7 Intersection LOS: C	83%), Reference	ed to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Maximum v/c Ratio: 0.74 Intersection Signal Delay: 25.7 Intersection LOS: C													
Intersection Signal Delay: 25.7 Intersection LOS: C	oe: Actuated-Coo	ordinated											
	/c Ratio: 0.74												
	n Signal Delay: 2	5.7			Ir	ntersection	LOS: C						
			)		10	CU Level	of Service	Ε					
Analysis Period (min) 15													

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

Lanes, Volumes, Timings

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



Yonge Street & Murray Drive 11:18 am 04-26-2021 2026 Future Background <PM> WSP

Synchro 11 Report Page 2 2026 Future Background <PM> 07-05-2021

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

	•	<b>→</b>	$\rightarrow$	•	<b>←</b>	4	<b>†</b>	~	<b>&gt;</b>	<b>↓</b>	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	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> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

	۶	-	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	~	<b>&gt;</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	7	<b>^</b>	7	ሻ	44	7	1	<b>^</b>	7
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	<b>J</b>		3.6	3 -		3.6	<b>J</b>		3.6	<b>J</b>
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	1.00	15	25	1.00	15	25		15	25	1.00	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	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX
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	риі+рt 3	NA 8	Fellil	Fellil	1NA 4	Felill	риі+рі 1	1NA 6	Fellill	Felill	2	reiill
Permitted Phases	ა 8	0	8	4	4	4	6	0	6	2	2	2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2
Detector Phase	3	ŏ	ŏ	4	4	4	1		Ö	2	2	2

Yonge Street & Murray Drive 11:18 am 04-26-2021 2026 Future Background <PM> WSP

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	۶	<b>→</b>	•	•	•	•	4	<b>†</b>	/	-	ţ	4
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	В	Α
Approach Delay		21.1			39.3			8.4			15.7	
Approach LOS		С			D			Α			В	

Intersection Summary Area Type: Cycle Length: 100

Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.69

Intersection Signal Delay: 17.3 Intersection Capacity Utilization 109.0% Analysis Period (min) 15

Intersection LOS: B ICU Level of Service H

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

	•	-	•	•	•	•	4	<b>†</b>	1	-	<b>↓</b>	4
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. 2026 Future Background <PM> 07-05-2021

3: Yonge Street & Brookland Ave/Private Access

	۶	<b>→</b>	•	€	+	•	•	†	~	<b>/</b>	<del> </del>	✓
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4		Ť	<b>↑</b> 1≽		ሻ	<b>↑</b> ↑	
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	. 00
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	
Confl. Peds. (#/hr)	4		14	14	0.0	4	53	20.1	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 (%)	0.31	0.51	0.51	0.51	0.51	7%	0.51	2%	0.51	0.51	3%	0.51
Adj. Flow (vph)	51	11	79	42	10	18	67	1090	51	7	811	66
Shared Lane Traffic (%)			10		10	10	01	1000	01		011	00
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	. ugut	20.0	0.0	rugiii	20.0	3.6	. ug.ii	20.0	3.6	· ug.u
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					1.0			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	1.00	15	25	1.00	15	25	1.00	15	25	1.00	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	01-23	O. LA	01 LX	O. LA	OI LX		O. LA	OI LX		OI - EX	OI LX	
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											•	

Yonge Street & Murray Drive 11:18 am 04-26-2021 2026 Future Background <PM> WSP

Synchro 11 Report Page 7 Lanes, Volumes, Timings

2026 Future Background <PM>

3: Yonge Street & Brookland Ave/Private Access

,
07-05-202

	۶	<b>→</b>	•	•	←	•	4	<b>†</b>	/	-	Ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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 Effct 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	В		D		Α	Α		Α	Α	
Approach Delay		28.2			39.4			4.1			2.5	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10												
Offset: 69 (69%), Referen	ced to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Co	oordinated											
Maximum v/c Ratio: 0.41												
Intersection Signal Delay:				Ir	ntersection	LOS: A						
Intersection Capacity Utiliz	zation 74.1%	)		10	CU Level of	of Service	e D					
Analysis Period (min) 15												
Splits and Phases: 3: Y	onge Street	& Brookla	nd Ave/P	rivate Aco	cess							
<b>+</b>							1 1					
Ø2 (R)							<del>↓</del> 0	4				
62 s							38 s					
Ø6 (R)							1 10	8				
c2 -							20 -	_				

3: Yonge Street & Brookland Ave/Private Access

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

07-05-2021

	-	•	<b>←</b>	1	<b>†</b>	-	<b>↓</b>	
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	

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

07-05-2021

	۶	<b>→</b>	*	•	<b>←</b>	4	1	†	1	<b>/</b>	<b>↓</b>	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĥ		, j	ĵ.			4			4	
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	Ť		0.0	, i		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

	۶	<b>→</b>	•	•	-	•		<b>†</b>	/	-	<b>↓</b>	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	1>		ሻ	ĵ.			4			4	
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	80.0	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	В		В		Α	Α						
Intersection Summary												
Delay			13.1									
Level of Service			В									
Intersection Capacity Utilizat	ion		38.1%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

	۶	-	•	•	<b>←</b>	•	4	†	1	<b>&gt;</b>	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	î,			£				7		4	
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												
Frt					0.991				0.865		0.966	
Flt Protected	0.950										0.964	
Satd. Flow (prot)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Flt 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	, j		3.6	J .		0.0	J .		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												
	Other											
Control Type: Unsignalized												

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

La	nes, Volu	umes, 1	Timings
7.	Yonge S	treet /Y	onge St

': Yonge Street /Yonge Street & Easterly Access							
	٠.	Yonge	Street	/Yonge	Street &	Fasterly	V Access
	٠	ronge	Cucci	, i ongc	Oli CCL G	Laston	y / 100033

	٠	•	4	<b>†</b>	ļ	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	7	ሻ	<b>^</b>	<b>ተ</b> ኈ	
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	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3505	3495	0
Flt 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	, again	20.0	3.6	3.6	. ug.ii
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane	4.0			1.0	1.0	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	1.00	1.00	15
Sign Control	Stop		20	Free	Free	10
· ·	Оюр			1100	1100	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	ation 39.2%			IC	CU Level	of Service
Analysis Period (min) 15						

	۶	<b>→</b>	•	•	<b>←</b>	4	1	†	~	1	<del> </del>	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ß			ĵ»				7		4	
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	948	502
vC1, stage 1 conf vol	0.0						000			002	0.0	002
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)								0.0	0.2		0.0	0.2
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				020			
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	Α			В	С							
Approach Delay (s)	0.2		0.0	10.9	21.7							
Approach LOS				В	С							
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utiliza	ation		36.7%	IC	CU Level o	f Service			Α			
Analysis Period (min)			15									

	۶	•	1	<b>†</b>	ļ	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	*	7	ሻ	<b>^</b>	<b>ተ</b> ኈ				
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				1010				
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)				NOTIC	INOTIC				
Upstream signal (m)				199	124				
pX, platoon unblocked	0.93	0.86	0.86	199	124				
vC, conflicting volume	1721	552	1089						
vC1, stage 1 conf vol	1/21	332	1009						
vC2, stage 2 conf vol									
vCu, unblocked vol	951	160	782						
	6.8	6.9	4.1						
tC, single (s)	0.0	6.9	4.1						
tC, 2 stage (s)	0.5	0.0	0.0						
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 2	NB 3	SB 1	SB 2		
Volume Total	26	32	35	574	574	699	374		
Volume Left	26	0	35	0	0	0	0		
Volume Right	0	32	0	0	0	0	25		
cSH	224	729	707	1700	1700	1700	1700		
Volume to Capacity	0.12	0.04	0.05	0.34	0.34	0.41	0.22		
Queue Length 95th (m)	3.1	1.1	1.2	0.0	0.0	0.0	0.0		
Control Delay (s)	23.1	10.2	10.4	0.0	0.0	0.0	0.0		
Lane LOS	С	В	В						
Approach Delay (s)	16.0		0.3			0.0			
Approach LOS	С								
Intersection Summary									
Average Delay			0.6						
Intersection Capacity Utiliza	tion		39.2%	IC	U Level c	of Service		A	
Analysis Period (min)			15						

	۶	<b>→</b>	•	•	+	•	•	†	~	<b>/</b>	<b>+</b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>†</b>	7	ሻ	f)		ሻ	<b>^</b>	7	ሻ	<b>^</b>	7
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	
Confl. Peds. (#/hr)	16		7	7	U	16	16	EE.O	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 (%)			2.0	00	00	00	02	001	00	• • •		00
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)	Loit	3.6	rugiit	Loit	3.6	rugin	Loit	3.6	rugiit	Loit	3.6	rugin
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		1.0			1.0			1.0			1.0	
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	1.00	15	25	1.01	15	25	1.00	1.00	25	1.00	1.00
Number of Detectors	1	1	1	0	2	10	1	2	1	0	2	1
Detector Template				Left			'			U		
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	Cl+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	Cl+Ex
Detector 1 Channel	CITLX	CITEX	CITLX	CITLX	CITLX		CITLX	CITLX	CITLX	CITLX	CITEX	CITLX
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
, , ,	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)					0.0 CI+Ex			0.0 CI+Ex			0.0 CI+Ex	
Detector 2 Type					CI+EX			CI+EX			CI+EX	
Detector 2 Channel												

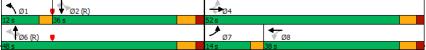
Yonge Street & Murray Drive 11:18 am 04-26-2021 3031 Future Background <AM>

Synchro 11 Report

Page 1

Lanes, Volumes, Timings
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

	•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>&gt;</b>	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Pern
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		
Detector Phase	7	4	4	8	8		1	6	6	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.
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.
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	C
Act Effct 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	С	С	Α	D	D		Α	Α	Α	Α	Α	F
Approach Delay		22.0			39.7			8.6			8.1	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10												
Offset: 24 (24%), Reference	ced to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.60												
Intersection Signal Delay:					ntersection							
Intersection Capacity Utiliz	ation 80.6%	)		10	CU Level of	of Service	e D					
Analysis Period (min) 15												
Splits and Phases: 1: Yo	onge Street/	Yonae St	reet & He	nderson	Dr/Allaura	Blvd						
<b>▲</b> (4).					- 1							



Yonge Street & Murray Drive 11:18 am 04-26-2021 3031 Future Background <AM> WSP

Synchro 11 Report Page 2 3031 Future Background <AM> 07-05-2021

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

	۶	-	•	•	•	1	<b>†</b>	-	-	<b>↓</b>	4	
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> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

	•	<b>→</b>	•	•	+	4	1	†	~	/	ţ	- ✓
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b>	7		<b>^</b>	7	ች	44	7	- 1	44	7
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	1000	1021	Yes	1112	1102	Yes	000	0471	Yes	100	0471	Yes
Satd. Flow (RTOR)			105			104			77			98
Link Speed (k/h)		40	100		50	101		50			50	00
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	0.0	8	8	20.0	7	7	0.0	7	7	20.1	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%	0.33	10%	4%	5%	0.33	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 (%)	101	1-10	100		01	-10	00	010		00	000	-10
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)	2011	3.6	rugin	2011	3.6	. ug.ic	Lon	3.6	rugin	2011	3.6	. ug.ii
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		1.0			1.0			1.0			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	1.00	15	25	1.00	1.01	25	1.00	15	25	1.00	1.02
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	Cl+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX
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
		NA	Perm	Perm	NA	Perm		NA	Perm	Perm	NA	Perm
Turn Type Protected Phases	pm+pt 3		Perm	remi	NA 4	Perm	pm+pt		remi	Permi	NA 2	rerm
		8	0		4	4	1 6	6	C	0	2	0
Permitted Phases	8	0	8	4		4		_	6	2	^	2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Yonge Street & Murray Drive 11:18 am 04-26-2021 3031 Future Background <AM> WSP

07-05-2021

Page 5

	۶	<b>→</b>	•	•	<b>←</b>	4	4	<b>†</b>	~	<b>\</b>	<b>+</b>	<b>√</b>
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	Α	Α
Approach Delay		25.7			36.9			7.3			9.1	
Approach LOS		С			D			Α			Α	

Intersection Summary Area Type: Cycle Length: 100 Actuated Cycle Length: 100

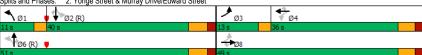
Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105 Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.44

Intersection Signal Delay: 13.4 Intersection Capacity Utilization 108.1% Analysis Period (min) 15

Intersection LOS: B ICU Level of Service G

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



Yonge Street & Murray Drive 11:18 am 04-26-2021 3031 Future Background <AM>

Queues

3031 Future Background <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	ᄼ	-	•	•	•	•	4	<b>†</b>	~	-	ļ	4
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

3031 Future Background <AM> 07-05-2021

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

3031 Future Background <AM> 07-05-2021

Yonge Street & Brookland Ave/Priva	ate Access
------------------------------------	------------

	•	-	•	•	•	•	4	<b>†</b>	~	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4		*	<b>†</b> }		ሻ	<b>†</b> }	
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	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	
Confl. 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												

Yonge Street & Murray Drive	11:18 am 04-26-2021 3031 Future Background <am></am>
WSP	

Synchro	11	Report
		Page 7

	•	-	•	•	•	•	4	<b>†</b>	-	<b>~</b>	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
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	0	
Act Effct 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		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	
LOS		70.0 D	В		D		Α.	Α.		2.0 A	2.5 A	
Approach Delay		31.2	D		40.4		А	3.4		А	2.3	
Approach LOS		C			D			Α			Α.	
Intersection Summary								,,			,,	
Area Type:	Other											
Cycle Length: 100	Outo											
Actuated Cycle Length: 100	0											
Offset: 76 (76%), Reference		2·NRTI	and 6:SB	TI Start	of Green							
Natural Cycle: 80	ou to pridoo	212.12.	ua 0.05	. E, Otait	. 0.00							
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.29	oramatoa											
Intersection Signal Delay: 4	1.3			lr	tersection	LOS: A						
Intersection Capacity Utiliza					CU Level		C					
Analysis Period (min) 15	uuon 10.070				JO LOVOI C	7 001 1100	, 0					
Splits and Phases: 3: Yo	nao Ctroot	0 Drooklo	nd Ava/D	rivata Aa	2000							
	nge Street	מואטטום	nu Ave/P	iivale ACC	JESS		1					
Ø2 (R)							<del>√</del> Ø	4				
028							38 S					
Ø6 (R)							₹ø	8				
62 s							38 s					

Lane Group
Lane Group Flow (vph)
v/c Ratio
Control Delay
Queue Delay
Total Delay

3031 Future Background <AM> 07-05-2021

3: Yonge Street & Brookland Ave/Private Access

-	•	<b>←</b>	1	<b>†</b>	-	ţ
EBT	EBR	WBT	NBL	NBT	SBL	SBT
36	27	19	16	733	3	816
0.25	0.15	0.14	0.03	0.26	0.01	0.29
46.3	11.1	40.4	2.7	3.4	2.0	2.2
0.0	0.0	0.0	0.0	0.0	0.0	0.1
46.3	11.1	40.4	2.7	3.4	2.0	2.3
6.9	0.0	3.2	1.0	24.0	0.1	16.2
17.0	6.1	10.4	m1.8	17.0	m0.3	17.8
192.1		30.6		304.9		80.0
	12.0		15.0		15.0	

0

0

0.01

2829

857

0

Storage Cap Reductn
Reduced v/c Ratio

Queue Length 50th (m)
Queue Length 95th (m)
Internal Link Dist (m)
Turn Bay Length (m)
Base Capacity (vph)

Starvation Cap Reductn

Spillback Cap Reductn

0

0

0.05

0

0

0.04

0

0

0.03

0

0.26

Lanes, Volumes, Timings 5: Mosaics Avenue & Murray Drive 3031 Future Background <AM> 07-05-2021

	۶	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.		٦	ĥ			4			4	
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	, i		3.6	Ť		0.0	, i		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												

Intersection Summary

Area Type:

Control Type: Unsignalized

Intersection Capacity Utilization 25.4%

ICU Level of Service A

Analysis Period (min) 15

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

aong.	ound	.,
	07-	05-2021

•	-	•	•	•	•	1	Ť		-	ţ	4
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
J.	ĵ.		J.	î»			4			4	
	Stop			Stop			Stop			Stop	
1	292	1	14	189	4	4	0	38	2	0	1
1	292	1		189	4	4	0	38	_	0	1
0.92	0.92	0.92		0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
1	317	1	15	205	4	4	0	41	2	0	1
EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
1	318	15	209	45	3						
1	0	15	0	4	2						
0	1	0	4	41	1						
5.3	4.9	5.4	4.9	4.7	5.2						
0.00	0.43	0.02	0.29	0.06	0.00						
664	729	649	713	690	613						
7.1	10.3	7.3	8.7	8.0	8.2						
10.3		8.6		8.0	8.2						
В		Α		Α	Α						
		9.5									
		Α									
on		25.4%	IC	U Level o	of Service			Α			
		15									
	1 1 0.92 1 EB 1 1 0 0.53 5.3 0.00 664 7.1 10.3 B	Stop 1 292 1 292 0.92 0.92 1 317  EB 1 EB 2 1 318 1 0 0 1 0.53 0.07 5.3 4.9 0.00 0.43 664 729 7.1 10.3 B	Stop  1 292 1 1 292 1 1 292 1 0.92 0.92 0.92 1 317 1  EB1 EB2 WB1 1 318 15 1 0 15 0 1 0 0.53 0.07 0.53 5.3 4.9 5.4 0.00 0.43 0.02 664 729 649 7.1 10.3 7.3 10.3 8.6 B A  9.5 A on 25.4%	Stop  1 292 1 14 1 292 1 14 0.92 0.92 0.92 0.92 1 317 1 15  EB 1 EB 2 WB 1 WB 2 1 318 15 209 1 0 15 0 0 1 0 4 0.53 0.07 0.53 0.09 5.3 4.9 5.4 4.9 0.00 0.43 0.02 0.29 664 729 649 713 7.1 10.3 7.3 8.7 10.3 8.6 B A  9.5 A on 25.4% IC	Stop Stop  1 292 1 14 189 1 292 1 14 189 0.92 0.92 0.92 0.92 1 317 1 15 205  EB1 EB2 WB1 WB2 NB1 1 318 15 209 45 1 0 15 0 4 0 1 0 4 41 0.53 0.07 0.53 0.09 -0.49 5.3 4.9 5.4 4.9 4.7 0.00 0.43 0.02 0.29 0.06 664 729 649 713 690 7.1 10.3 7.3 8.7 8.0 10.3 8.6 8.0 B A A  D STOP	Stop Stop Stop Stop Stop Stop Stop Stop	Stop Stop Stop Stop Stop Stop Stop Stop	Stop	Stop	Stop	Stop

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 3031 Future Background <AM> 07-05-2021

	۶	<b>→</b>	•	•	<b>←</b>	•	<b>1</b>	<b>†</b>	<b>/</b>	-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	₽			ĵ.				7		4	
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												
Frt					0.991				0.865		0.961	
Flt Protected	0.950										0.966	
Satd. Flow (prot)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Flt 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

Trown Orlong named a mitorocollori Capa	only many
6: Northerly Access & Murray Drive	

Lane Configurations		•	-	$\rightarrow$	•	<b>←</b>	•	<b>1</b>	<b>†</b>	<i>&gt;</i>	-	ļ	4
Traffic Volume (veh/h)	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Future Volume (Veh/h) 6 325 1 0 203 15 0 0 4 9 0 4 8 10 0 6 1	Lane Configurations	7	f)			ĥ				7		4	
Sign Control   Free	Traffic Volume (veh/h)	6	325	1	0			0	0	4	9	0	4
Grade 0,92 0,92 0,92 0,92 0,92 0,92 0,92 0,92	Future Volume (Veh/h)	6	325	1	0	203	15	0	0	4	9	0	4
Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92	Sign Control		Free			Free			Stop			Stop	
Hourly flow rate (vph) 7 353 1 0 221 16 0 0 4 10 0 4 Pedestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 8 7 Rediestrians 1.2 1.2 Represent Blockage 1.2 1.2 Represent Blockage 1 1 1 1 Right turn flare (veh) Median type None None Median storage veh) Upstream signal (m) 98 Rep Approach Color of Volume 244 362 608 620 362 607 612 236 Rediestrians 1.2 1.2 Rediestr	Grade		0%			0%			0%			0%	
Pedestrians	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
Lane Width (m) 3.6 3.6 3.6 Walking Speed (m/s) 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2	Hourly flow rate (vph)	7	353	1	0	221	16	0	0	4	10	0	4
Walking Speed (m/s)       1.2       3.5       4.0       3.3       3.5       4.0       3.3       3.5       4.0       3.3       3.5       4.0       3.3	Pedestrians								8			7	
Percent Blockage	Lane Width (m)								3.6			3.6	
Right turn flare (veh)  Median type  Median storage veh)  Upstream signal (m)  pX, platoon unblocked  0,96	Walking Speed (m/s)								1.2			1.2	
Median type         None         None         None           Median storage veh)         Upstream signal (m)         98           pX, platoon unblocked         0.96         <	Percent Blockage								1			1	
Median storage veh)         Upstream signal (m)         98           Dx, platoon unblocked         0.96         0.98         0.96         0.96         0.98         0	Right turn flare (veh)												
Upstream signal (m)   98   0.96   0	Median type		None			None							
pX, platoon unblocked 0.96 0.96 0.96 0.96 0.96 0.96 0.96 0.96	Median storage veh)												
VC, conflicting volume 244 362 608 620 362 607 612 236	Upstream signal (m)					98							
VC1, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC3, stage 2 conf vol VC3, stage 2 conf vol VC3, stage 2 conf vol VC4, unblocked vol 194 362 573 584 362 571 576 185 C6, single (s) 4.1 4.1 7.1 6.5 6.2 7.1 6.0 6.2 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1 8.1	pX, platoon unblocked	0.96						0.96	0.96		0.96	0.96	0.96
VCQ, stage 2 conf vol  VCQ, unblocked vol 194 362 573 584 362 571 576 185  CC, single (s) 4.1 4.1 7.1 6.5 6.2 7.1 6.5 6.2  CC, 2 stage (s)  IF (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  MC apacity (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 Right 0 1 16 4 4  CSH 1319 1700 1700 679 473  Volume Right 0.1 1.6 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 B  Approach Delay (s) 0.2 0.0 10.3 12.8  Approach LoS  B B I  Intersection Summary  Average Delay  Average Delay  Intersection Capacity Utilization 33.8% ICU Level of Service A	vC, conflicting volume	244			362			608	620	362	607	612	236
vCu, unblocked vol         194         362         573         584         362         571         576         185           CC, single (s)         4.1         4.1         7.1         6.5         6.2         7.1         6.5         6.2           CC, 2 stage (s)         UF (s)         Stage (s)           UF (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         SB 1         SB 1         SB 1         SB 1         SB 1         SB 2         SB 2         SB 2         SB 2         SB 2         SB 3<	vC1, stage 1 conf vol												
tC, single (s) 4.1 4.1 7.1 6.5 6.2 7.1 6.5 6.2 (C, 2 stage (s))  tC, 2 stage (s)  tF (s) 2.2 2.3.5 4.0 3.3 3.5 3.5 4.0 3.3 3.5	vC2, stage 2 conf vol												
IC, 2 stage (s)  IF (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 Right 7 0 0 0 10  Volume Right 0 1 16 4 4  SSH 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 B  Approach Delay (s) 0.2 0.0 10.3 12.8  Approach Delay (s) 8 B  Intersection Summary  Average Delay  Average Delay  Intersection Capacity Utilization 33.8% ICU Level of Service A	vCu, unblocked vol	194			362			573	584	362	571	576	185
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 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       10.3       12.8         Lane LOS       A       B       B       B         Approach Delay (s)       0.2       0.0       10.3       12.8         Approach LOS       B       B       B         Intersection Summary         Average Delay       0.4         Intersection Capacity Utiliza	tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
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  Approach Delay (s) 0.2 0.0 10.3 12.8  Approach LoS  Reference Refer	tC, 2 stage (s)												
Marcapacity (veh/h)   1319	tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
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         B           Approach Delay (s)         0.2         0.0         10.3         12.8           Approach LOS         B         B         B           Intersection Summary           Average Delay         0.4           Intersection Capacity Utilization         33.8%         ICU Level of Service         A	p0 queue free %	99			100			100	100	99	98	100	100
Volume Total         7         354         237         4         14           Volume Left         7         0         0         0         10           Volume Right         0         1         16         4         4           cSH         1319         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         B           Approach Delay (s)         0.2         0.0         10.3         12.8           Approach LOS         B         B         B           Intersection Summary         Average Delay         0.4           Intersection Capacity Utilization         33.8%         ICU Level of Service         A	cM capacity (veh/h)	1319			1189			404	400	679	404	404	819
Volume Left         7         0         0         0         10           Volume Right         0         1         16         4         4         4         est         est         1319         1700         679         473         est	Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
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         B           Approach Delay (s)         0.2         0.0         10.3         12.8           Approach LOS         B         B         B           Intersection Summary           Average Delay         0.4         Intersection Capacity Utilization         33.8%         ICU Level of Service         A	Volume Total	7	354	237	4	14							
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 Delay (s) B B  Intersection Summary  Average Delay 0.4  Intersection Capacity Utilization 33.8% ICU Level of Service A	Volume Left	7	0	0	0	10							
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	Volume Right	0	1	16	4	4							
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	cSH	1319	1700	1700	679	473							
Control Delay (s) 7.7 0.0 0.0 10.3 12.8  Lane LOS A B 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	Volume to Capacity	0.01	0.21	0.14	0.01	0.03							
Control Delay (s) 7.7 0.0 0.0 10.3 12.8  Lane LOS A B 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		0.1	0.0	0.0	0.1	0.7							
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		7.7	0.0	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	Lane LOS	Α			В	В							
Approach LOS         B         B           Intersection Summary         Average Delay         0.4           Intersection Capacity Utilization         33.8%         ICU Level of Service         A	Approach Delay (s)	0.2		0.0	10.3	12.8							
Average Delay 0.4 Intersection Capacity Utilization 33.8% ICU Level of Service A	Approach LOS				В	В							
Intersection Capacity Utilization 33.8% ICU Level of Service A	Intersection Summary												
Intersection Capacity Utilization 33.8% ICU Level of Service A	Average Delay			0.4									
		ation		33.8%	IC	CU Level	of Service			Α			
	Analysis Period (min)			15									

	۶	$\rightarrow$	4	<b>†</b>	ţ	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	7	- 1	<b>^</b>	<b>↑</b> ₽	
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						
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3438	3429	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	3438	3429	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	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	
<u> </u>				-	-	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.6%
Analysis Period (min) 15 ICU Level of Service A

Lanes, Volumes, Timings

7: Yonge Street /Yonge Street & Easterly Access

-	•	•	•	†	<b></b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	ሻ	7	7	<b>^</b>	<b>∱</b> }				
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		10	001	012				
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)				INOIIC	INOTIC				
Upstream signal (m)				199	124				
pX, platoon unblocked	0.92	0.89	0.89	199	124				
vC, conflicting volume	1338	460	903						
vC1, stage 1 conf vol	1000	400	303						
vC2, stage 2 conf vol									
vCu, unblocked vol	942	160	655						
tC, single (s)	6.8	6.9	4.1						
tC, Single (s)	0.0	0.9	4.1						
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	С	Α	Α						
Approach Delay (s)	15.8		0.1			0.0			
Approach LOS	С								
Intersection Summary									
Average Delay			0.2						
Intersection Capacity Utilizat	ion		32.6%	IC	U Level o	of Service		Α	
Analysis Period (min)			15						

	•	<b>→</b>	$\rightarrow$	•	<b>—</b>	•	4	<b>†</b>	<i>&gt;</i>	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b>	7	ሻ	f)		ሻ	<b>^</b>	7	ሻ	<b>^</b>	7
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	
Confl. 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	<b>J</b>		3.6	3 -		3.6	<b>J</b> .		3.6	3 -
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)				2.0	0.0			0.0			0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel					JX			JX			JX	

Yonge Street & Murray Drive 11:18 am 04-26-2021 2031 Future Background <PM>

Synchro 11 Report Page 1

Lanes, Volumes, Timings 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

	٠	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>&gt;</b>	<b>↓</b>	1
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
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	C
Act Effct 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	С	Α	D	D		В	В	Α	D	D	C
Approach Delay		26.4			45.0			14.3			35.6	
Approach LOS		С			D			В			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10	0											
Offset: 83 (83%), Reference	ed to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.74												
Intersection Signal Delay: 2	26.4			lr	tersection	LOS: C						
Intersection Capacity Utiliz	ation 87.9%			IC	CU Level o	of Service	Ε					
Analysis Period (min) 15												
Califo and Dhason: 1: Vo	nao Ctroot/	Vanga St	root 0 Ur	ndoroon	Dr/Allouro	Dlvd						
Splits and Phases: 1: Yo	onge Street/	runge St	eel a He	nuerson		ă.						
Nø1 ▼	Ø2 (R)					Ø4						
16 s 36 s					48 9							
< <b>₫</b>					1.2	•						

Yonge Street & Murray Drive 11:18 am 04-26-2021 2031 Future Background <PM> WSP

Synchro 11 Report Page 2

2031 Future Background <PM> 07-05-2021

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

	۶	<b>→</b>	$\rightarrow$	•	•	4	<b>†</b>	<i>&gt;</i>	<b>&gt;</b>	<b>↓</b>	4	
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> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

	۶	<b>→</b>	•	•	<b>←</b>	•	4	†	~	<b>&gt;</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>^</b>	7	7	<b>*</b>	7	7	<b>^</b>	7	7	<b>^</b>	7
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
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			0.265			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	00		50	00
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											Ť	i
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	Cl+Ex	Cl+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OI EX	O. Ex	0. Ex	0. Ex	0. Lx	0. Ex	O. LA	0. Ex	0. · Ex	OI LA	O. Ex	0. Ex
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	1 01111	1 01111	4	1 01111	1	6	1 01111	1 01111	2	1 01/11
Permitted Phases	8	3	8	4	7	4	6	3	6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2
Detector i mase	3	0	0		7			•	0		2	

Yonge Street & Murray Drive 11:18 am 04-26-2021 2031 Future Background <PM> WSP

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

Page 5

	٠	<b>→</b>	•	•	+	4	1	<b>†</b>	~	<b>/</b>	<b>↓</b>	4
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	В	Α
Approach Delay		21.1			39.3			8.4			16.0	
Approach LOS		С			D			Α			В	
Intersection Summary												

Area Type: Cycle Length: 100

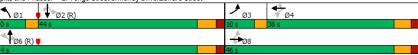
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.69

Intersection LOS: B Intersection Signal Delay: 17.2 Intersection Capacity Utilization 109.0% Analysis Period (min) 15 ICU Level of Service H

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

	•	-	•	•	←	•	1	<b>†</b>	1	-	ļ	4
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

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

2031 Future Background <PM> 07-05-2021

	۶	<b>→</b>	•	€	+	•	•	†	~	<b>/</b>	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ની	7		4		*	<b>↑</b> 1≽		ሻ	<b>↑</b> 1>	
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	
Confl. Peds. (#/hr)	4		14	14	0.0	4	53	20.1	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 (%)							· ·				0.0	
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)	Loit	0.0	rugiit	Lon	0.0	rugiit	Loit	3.6	rugiit	Loit	3.6	rugiic
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		1.0			1.0			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	1.00	15	25	1.00	15	25	1.00	15	25	1.00	15
Number of Detectors	1	0	0	1	1	10	0	0	10	0	0	10
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	CITLX	CITLX	CITLX	CITLX	CITLX		CITLX	CITLX		CITLX	CITEX	
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	renili	NA 4	renn	renil	NA 8		renn	NA 2		Feiill	1NA 6	
Protected Phases Permitted Phases	4	4	4	8	Ö		2			e	0	
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase	4	4	4	- 0	8					0	0	

Yonge Street & Murray Drive 11:18 am 04-26-2021 2031 Future Background <PM> WSP

Synchro 11 Report Page 7

Lanes, Volumes, Timings

2031 Future Background <PM> 07-05-2021

3: Yonge Street & Brookland Ave/Private Access

	•	-	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	~	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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 Effct 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		47.0 D	13.0 B		33.4 D		J.2	4.5 A		2.5 A	2.5 A	
Approach Delay		28.2	D		39.4			4.5		^	2.5	
Approach LOS		20.2 C			33.4 D			4.5 A			2.5 A	
PF		U			D			^				
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 100				- 0								
Offset: 69 (69%), Reference	ed to phase	2:NBTL	and 6:SB	IL, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.42												
Intersection Signal Delay: 6					tersection							
Intersection Capacity Utiliza	ation 74.1%			IC	CU Level of	of Service	D D					
Analysis Period (min) 15												
Splits and Phases: 3: You	nge Street	& Brookla	nd Ava/D	rivato Acc	2000							
opino anu riiases. 3. 10	nye oneet	מואטטום א	nu Ave/P	iivale ACC	,cs5		1 4					
Tø2 (R)							<del>€</del> ø	4				
62 s							38 s					
\							+					
▼ Ø6 (R)							₩ Ø	8				

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	•	<b>←</b>	1	<b>†</b>	-	<b>↓</b>	
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	

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

	•	-	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	1	-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ»		7	<b>f</b> >			4			4	
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

	۶	<b>→</b>	•	•	-	•		<b>†</b>	~	-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĵ.		ሻ	î,			4			4	
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	В		В		Α	Α						
Intersection Summary												
Delay			13.1									
Level of Service			В									
Intersection Capacity Utiliza	tion		38.1%	IC	U Level c	f Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 2031 Future Background <PM>

07-05-2021

	۶	-	•	•	<b>←</b>	•	4	<b>†</b>	~	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>1</b>			<b>1</b>				7		4	
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												
Frt					0.991				0.865		0.966	
Flt Protected	0.950										0.964	
Satd. Flow (prot)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Flt 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	Ť		3.6	Ť		0.0			0.0	Ĭ
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												

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 36.7%
Analysis Period (min) 15

Analysis Period (min) 15

2031 Future Background <PM> 07-05-2021

	۶	<b>→</b>	$\rightarrow$	•	←	•	4	<b>†</b>	1	-	ļ	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĵ.			ĵ»				7		4	
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	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			В	C							
Approach Delay (s)	0.2		0.0	10.9	21.7							
Approach LOS	· · ·			В	С							
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utiliza	tion		36.7%	IC	CU Level o	f Service			Α			
Analysis Period (min)			15									

	٠	•	4	†	<b>↓</b>	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	7	7	<b>^</b>	<b>†</b> }	
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						
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3505	3495	0
Flt 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 Utilizat	ion 40.7%			IC	CU Level	of Service
A 1 : D : 1/ : \45						

	۶	•	4	<b>†</b>	<b>↓</b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	Ť	7	ř	<b>†</b> †	<b>∱</b> }				
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)	0.0	0.0							
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 2	NB 3	SB 1	SB 2		
	26	32	35	604	604	751	401		
Volume Total									
Volume Left	26	0	35	0	0	0	0		
Volume Right	0	32	0	1700	1700	0	25		
cSH	210	719	662	1700	1700	1700	1700		
Volume to Capacity	0.12	0.04	0.05	0.36	0.36	0.44	0.24		
Queue Length 95th (m)	3.3	1.1	1.3	0.0	0.0	0.0	0.0		
Control Delay (s)	24.5	10.2	10.7	0.0	0.0	0.0	0.0		
Lane LOS	C	В	В						
Approach Delay (s)	16.6		0.3			0.0			
Approach LOS	С								
Intersection Summary									
Average Delay			0.5						
Intersection Capacity Utiliza	ation		40.7%	IC	CU Level of	of Service		Α	
Analysis Period (min)			15						

	۶	<b>→</b>	•	€	<b>←</b>	•	1	†	~	<b>/</b>	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>*</b>	7	ሻ	<b>1</b>		7	44	7	ሻ	<b>^</b>	7
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
Fit 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	
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	578	96	74	719	98
Shared Lane Traffic (%)			2.0	00	00	00	02	0.0	00		7.10	00
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)	2011	3.6	rugin	2010	3.6	. ug.it	20.0	3.6	rugin	20.0	3.6	. ug.i.
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		1.0			1.0			1.0			1.0	
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	1.00	15	25	1.01	1.00	25	1.00	1.00	25	1.00	1.00
Number of Detectors	1	1	1	0	2	10	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	Cl+Ex	Cl+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	CITEX	CITEX	CITEX	CITEX	CITEX		CITEX	CITEX	CITEX	CITEX	CITEX	CITEX
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
	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
Detector 2 Position(m)					0.0			0.0			0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												

Yonge Street & Murray Drive 11:18 am 04-26-2021 3036 Future Background <AM>

Synchro 11 Report

Page 1

Lanes, Volumes, Timings 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

	٠	-	•	•	<b>←</b>	•	4	<b>†</b>	/	-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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 Effct 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	С	С	Α	D	D		Α	Α	Α	Α	Α	Α
Approach Delay		22.0			39.7			8.8			8.2	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10												
Offset: 24 (24%), Reference	ced to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90												
Control Type: Actuated-Co	oordinated											
Maximum v/c Ratio: 0.60												
Intersection Signal Delay:					ntersection							
Intersection Capacity Utiliz	zation 80.6%			10	CU Level o	of Service	D D					
Analysis Period (min) 15												
Splits and Phases: 1: Ye	onge Street/	Yonge St	eet & He	nderson	Dr/Allaura	Blvd						



Yonge Street & Murray Drive 11:18 am 04-26-2021 3036 Future Background <AM> WSP

Synchro 11 Report Page 2 3036 Future Background <AM> 07-05-2021

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

Synchro 11 Report Page 3

	ၨ	<b>→</b>	$\rightarrow$	•	•	4	<b>†</b>	<i>&gt;</i>	-	ļ	✓	
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> 07-05-2021

2: Yonge Street & Murray Drive/Edward Street

Page 4

	϶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	~	<b>&gt;</b>	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	7	<b>^</b>	7	ሻ	44	7	1	<b>^</b>	7
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)	2011	3.6	i ugin	Lon	3.6	. ug.ic	Lon	3.6	· ug.ic	Lon	3.6	· ug···
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	1.00	15	25	1.00	15	25		15	25	1.00	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	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX
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	риі+рt 3	NA 8	Fellil	Fellil	1NA 4	Felill	риі+рі 1	1NA 6	Fellill	Felill	2	Femili
Permitted Phases	ა 8	0	8	4	4	4	6	0	6	2	2	2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2
Detector Priase	3	0	0	4	4	4	- 1	0	0	2	2	2

Yonge Street & Murray Drive 11:18 am 04-26-2021 3036 Future Background <AM> WSP

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	-	ţ	1
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	Α	Α
Approach Delay		25.7			36.9			7.9			9.2	
Approach LOS		С			D			Α			Α	

Intersection Summary Area Type: Cycle Length: 100

Actuated Cycle Length: 100 Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

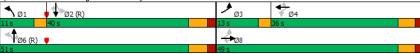
Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.44

Intersection Signal Delay: 13.5 Intersection Capacity Utilization 108.1% Analysis Period (min) 15

Intersection LOS: B ICU Level of Service G

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

	•	-	•	•	-	•	1	<b>†</b>		-	ţ	4
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	80.0	0.15	0.37	0.05

3036 Future Background <AM> 07-05-2021 Lanes, Volumes, Timings
3: Yonge Street & Brookland Ave/Private Access

3036 Future Background <AM> 07-05-2021

3: Yonge Street & Brookland Ave/Private Access

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	1	-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4		, N	<b>↑</b> ↑		7	ħβ	
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	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	
Confl. 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	<u> </u>		0.0			3.6	J .		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												

Yonge Street & Murray Drive	11:18 am 04-26-2021 3036 Future Background <am></am>
WSP	

Synchro 11 Report Page 7

	۶	-	•	•	•	•	4	<b>†</b>	1	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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 Effct 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	В		D		Α	Α		Α	Α	
Approach Delay		31.2			40.4			3.4			2.3	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10												
Offset: 76 (76%), Reference Natural Cycle: 80	ed to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.30												
Intersection Signal Delay: 4	1.3			lr	tersection	LOS: A						
Intersection Capacity Utiliz				IC	CU Level o	f Service	C					
Analysis Period (min) 15												
, , ,												
Splits and Phases: 3: Yo	nge Street	& Brookla	nd Ave/P	rivate Acc	cess		1 4					
Tø2 (R)							<del>√</del> v	4				
62 s							38 s					
							-	_				
Ø6 (R)							₩ Ø	8				
D / S							58 S					

3036 Future Background <AM> 07-05-2021

3: Yonge Street & Brookland Ave/Private Access

	-	•	•	1	1	-	ţ
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

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

	۶	<b>→</b>	•	•	<b>←</b>	•	4	†	/	<b>&gt;</b>	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.		, j	ĵ.			4			4	
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	
Internation Cummen												

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 25.4%
Analysis Period (min) 15

10.3

В

Capacity (veh/h)
Control Delay (s)
Approach Delay (s)
Approach LOS

3036 Future Background <AM>

	•	-	•	•	•	•	4	<b>†</b>	-	<b>/</b>	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	ĵ.		7	ĥ			4			4	
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						

8.2

Α

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

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 3036 Future Background <AM>

	ᄼ	-	•	•	•	•	4	<b>†</b>	-	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĥ			ĵ.				7		4	
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												
Frt					0.991				0.865		0.961	
Flt Protected	0.950										0.966	
Satd. Flow (prot)	1770	1827	0	0	1781	0	0	0	1611	0	1729	0
Flt 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	
Interception Comment												

Area Type:	Other	
Control Type: Unsignalized		
Intersection Capacity Utiliza	ation 33.8%	ICU Level of Service A

Analysis Period (min) 15

6. Northerly Acces	ccess & Mulray Drive									-		
	٠	-	•	•	-	•	1	<b>†</b>		-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations	*	f)			f.				7		4	
Traffic Volume (veh/h)	6	325	1	0	203	15	0	0	4	9	0	
Future Volume (Veh/h)	6	325	1	0	203	15	0	0	4	9	0	
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.9
Hourly flow rate (vph)	7	353	1	0	221	16	0	0	4	10	0	
Pedestrians								8			7	
ane 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	0.9
C, conflicting volume	244			362			608	620	362	607	612	23
C1, stage 1 conf vol	211			002			000	020	002	007	012	
vC2, stage 2 conf vol												
vCu, unblocked vol	194			362			573	584	362	571	576	18
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.
tC, 2 stage (s)	7.1			7.1			7.1	0.0	0.2	7.1	0.0	0.
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.
p0 queue free %	99			100			100	100	99	98	100	10
cM capacity (veh/h)	1319			1189			404	400	679	404	404	81
. , , ,							404	400	013	404	404	01
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							
SH	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	Α			В	В							
Approach Delay (s)	0.2		0.0	10.3	12.8							
Approach LOS				В	В							
ntersection Summary												
Average Delay			0.4									
Intersection Capacity Utiliza	tion		33.8%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

	۶	$\rightarrow$	4	<b>†</b>	<b>↓</b>	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	7	ሻ	<b>^</b>	<b>†</b> }	
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						
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3438	3433	0
Flt 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						
	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	ation 33.8%			IC	CU Level of	of Service A

Analysis Period (min) 15

	•	•	1	<b>†</b>	<b>↓</b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	ሻ	7	7	<b>†</b> †	<b>↑</b> ↑				
Traffic Volume (veh/h)	7	6	12	825	843	14			
Future Volume (Veh/h)	7	6	12	825	843	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	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	100					
vC, conflicting volume	1414	482	947						
vC1, stage 1 conf vol	1717	702	541						
vC2, stage 2 conf vol									
vCu, unblocked vol	974	160	685						
tC, single (s)	6.8	6.9	4.1						
tC, 2 stage (s)	0.0	0.5	7.1						
tF (s)	3.5	3.3	2.2						
00 queue free %	96	99	98						
cM capacity (veh/h)	222	750	791						
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2		
Volume Total	8	7	13	448	448	611	320		
Volume Left	8	0	13	0	0	0	0		
Volume Right	0	7	0	0	0	0	15		
cSH	222	750	791	1700	1700	1700	1700		
Volume to Capacity	0.04	0.01	0.02	0.26	0.26	0.36	0.19		
Queue Length 95th (m)	0.9	0.2	0.4	0.0	0.0	0.0	0.0		
Control Delay (s)	21.8	9.8	9.6	0.0	0.0	0.0	0.0		
Lane LOS	С	Α	Α						
Approach Delay (s)	16.2		0.1			0.0			
Approach LOS	С								
Intersection Summary									
Average Delay			0.2						
Intersection Capacity Utilizat	tion		33.8%	IC	CU Level o	of Service		Α	
Analysis Period (min)			15						

	•	<b>→</b>	•	•	<b>←</b>	•	•	†	<u> </u>	<b>\</b>	<b></b>	<b>√</b>
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b>	1	*	1		*	44	1	*	44	7
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	1300	15.0	35.0	1300	0.0	80.0	1300	75.0	90.0	1300	40.0
Storage Lanes	1		13.0	1		0.0	1		13.0	1		1
Taper Length (m)	35.0			30.0		U	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	1.00	0.97	0.98	0.99	1.00	0.99	0.90	0.95	0.99	0.95	0.94
Frt	0.99		0.850	0.90	0.960		0.99		0.850	0.99		0.850
	0.050		0.000	0.050	0.900		0.050		0.000	0.050		0.000
Flt Protected	0.950	1810	4577	0.950 1752	1780	0	0.950 1805	3505	1583	0.950	3505	4500
Satd. Flow (prot)	1805	1810	1577		1/80	U		3505	1583	1805	3505	1599
Flt Permitted	0.310	4040	4500	0.673	4700	•	0.225	0=0=	4.40=	0.289	0=0=	4500
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	
Confl. 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	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	OITEX	OITEX	OIILX	OITEX	OITEX		OITEX	OITEX	OITEX	OITEX	OITEX	OITEX
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
	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
Detector 2 Position(m)					0.0			0.0			0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												

Yonge Street & Murray Drive 11:18 am 04-26-2021 2036 Future Background <PM>

Synchro 11 Report

Page 1

Lanes, Volumes, Timings 1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

	•	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	<b>1</b>	<b>†</b>	/	-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Pern
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
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	C
Act Effct 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	С	Α	D	D		В	В	Α	D	D	C
Approach Delay		26.4			45.0			14.9			38.0	
Approach LOS		С			D			В			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 83 (83%), Reference	ed to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.74												
Intersection Signal Delay: 2				Ir	ntersection	LOS: C						
Intersection Capacity Utiliza	ation 89.1%			I	CU Level o	of Service	Ε					
Analysis Period (min) 15												
Splits and Phases: 1: Yo	nge Street/	Yonge St	reet & He	nderson	Dr/Allaura	Blvd						
4 1		J. 44				j.						
16 s 36 s	Ø2 (R)				48 5	104						
4.1.						<u>,                                     </u>	4					

Yonge Street & Murray Drive 11:18 am 04-26-2021 2036 Future Background <PM> WSP

Synchro 11 Report Page 2

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

07-05-2021

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	4	<b>†</b>	1	-	<b>↓</b>	4	
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	

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

	۶	<b>→</b>	•	•	<b>←</b>	•	1	†	~	<b>/</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>*</b>	7	ሻ	<b>*</b>	7	ሻ	<b>^</b>	7	ሻ	<b>^</b>	7
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	0.0		Yes			Yes	.02	- 200	Yes	3.3	2,500	Yes
Satd. Flow (RTOR)			164			104			65			98
Link Speed (k/h)		40			50			50	00		50	00
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	<b>J</b>		3.6	3 -		3.6	3 -		3.6	<b>J</b>
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	1.00	15	25		15	25		15
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template											Ť	i
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	J LA	5. · LX	5. · LX	3 LA	J X	5. · LX	5. · LX	5. · LX	5. · LA	5. · LX	5. · LX	J. L.
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	1 01111	1 01111	4	1 01111	1	6	1 01111	1 01111	2	1 01/11
Permitted Phases	8	3	8	4	т.	4	6	, ,	6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2
DOLOGIOI I HUGO	J	0	0	-	-	-		0	0			

Yonge Street & Murray Drive 11:18 am 04-26-2021 2036 Future Background <PM> WSP

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	۶	<b>→</b>	•	•	-	•	1	<b>†</b>	<i>&gt;</i>	<b>/</b>	ţ	4
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	В	Α
Approach Delay		21.1			39.3			8.4			16.4	
Approach LOS		С			D			Α			В	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

Cycle Length: 100 Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.69

Intersection LOS: B Intersection Signal Delay: 17.2 Intersection Capacity Utilization 109.0% Analysis Period (min) 15 ICU Level of Service H



Queues

2036 Future Background <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	•	-	•	•	•	•	1	<b>†</b>	1	-	ļ	4
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

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

	ᄼ	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>/</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4		7	<b>∱</b> }		"	<b>∱</b> }	
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	
Confl. 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	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		т.		- 0						- 3	- 3	

Yonge Street & Murray Drive 11:18 am 04-26-2021 2036 Future Background <PM> WSP

Synchro 11 Report Page 7 Lanes, Volumes, Timings 3: Yonge Street & Brookland Ave/Private Access 2036 Future Background <PM> 07-05-2021

	۶	<b>→</b>	•	•	<b>←</b>	•	4	†	/	-	<b></b>	1
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 Effct 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	В		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: 10	0											
Offset: 69 (69%), Reference Natural Cycle: 80	ced to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.44	oramatoa											
Intersection Signal Delay:	6.2			lr	ntersection	I OS: A						
Intersection Capacity Utiliz					CU Level		D O					
Analysis Period (min) 15				, iv	JO LOVOI (	)	, ,					
Splits and Phases: 3: Yo	onge Street	& Brookla	nd Ave/P	rivate Acc	229							
4	90 011001	~ 2100MB	/ 110/1	αιο / ιοι	,,,,,,		1 1					
Ø2 (R)							<del> </del>	4				
62 S							38 S					
Ø6 (R)							₩ ø	8				
62 s							38 s					

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	•	<b>←</b>	1	<b>†</b>	-	ţ
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
Interception Cummens							

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

Lanes, Volumes, Timings 5: Mosaics Avenue & Murray Drive 2036 Future Background <PM>

07-05-2021

	۶	<b>→</b>	•	•	<b>-</b>	•	4	†	<b>/</b>	<b>/</b>	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.		7	ĵ.			4			4	
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

2036 Future Background <PM> 07-05-2021

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	1	<b>†</b>	<b>/</b>	-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĵ.		ሻ	î,			4			4	
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	В		В		Α	Α						
Intersection Summary												
Delay			13.1									
Level of Service			В									
Intersection Capacity Utilizat	tion		38.1%	IC	U Level c	f Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 2036 Future Background <PM>

07-05-2021

	۶	<b>→</b>	•	•	<b>←</b>	•	1	†	<b>/</b>	<b>/</b>	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ť	1₃			ĵ.				7		4	
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												
Frt					0.991				0.865		0.966	
Flt Protected	0.950										0.964	
Satd. Flow (prot)	1770	1810	0	0	1829	0	0	0	1611	0	1735	0
Flt 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 Cummery												

Intersection Summary

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

6. Northerly Access	S & IVIUI	Tay Di	ive								01-0	J-202
	ၨ	<b>→</b>	•	1	<b>—</b>	•	4	†	<i>&gt;</i>	<b>\</b>	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	*	î,			î,				7		4	
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)		110110			140110							
Upstream signal (m)					98							
pX, platoon unblocked	0.85				30		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	313			422			333	304	422	332	340	302
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)	4.1			4.1			7.1	0.5	0.2	7.1	0.5	0.2
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
							225	240	020	225	241	000
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	Α			В	С							
Approach Delay (s)	0.2		0.0	10.9	21.7							
Approach LOS				В	С							
Intersection Summary												
Average Delay			1.4									
/ Wordgo Doldy												
Intersection Capacity Utilizat	tion		36.7%	IC	U Level o	f Service			Α			

	•	*	4	<b>†</b>	<b>↓</b>	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	7	7	<b>^</b>	<b>∱</b> }	
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						
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3505	3495	0
Flt 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	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	1.00	1.00	15
Sign Control	Stop			Free	Free	
-	этор			00		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	ation 42.3%			IC	CU Level of	of Service A
Analysis Period (min) 15						

Synchro 11 Report Page 13 Lanes, Volumes, Timings

7: Yonge Street /Yonge Street & Easterly Access

7. Tonge oncer/1		CCLA	Lasici	19 7100	033				
	۶	•	1	<b>†</b>	ţ	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	7	7	٦	<b>†</b> †	<b>↑</b> ↑				
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						
. , , ,				ND 0	NDO	OD 4	00.0		
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	В	В						
Approach Delay (s)	17.5		0.3			0.0			
Approach LOS	С								
Intersection Summary									
Average Delay			0.5						
Intersection Capacity Utiliza	ation		42.3%	IC	CU Level o	of Service		Α	
Analysis Period (min)			15						

## **APPENDIX**

## TTS & MULTI SHARE FACTOR



Hello Transportation Planning Thornhill

Database Index DMG TTS CCP Contact Logout

#### Filter Tutorial Here about the co

Trip Purpose

Code	Description
1	Home-Based Work
2	Home-based School
2 3 4	Home-based Discreti
4	Non Home-based

#### **TTS Cross Tabulation**

Cross Tabulation Q	uery Form - Irip -	2016 V1	.1	
Filter Variables				
2006 GTA zone of desti	Primary travel mode of t	. (0	optional) Table Attribute	
Group Attributes				
Row Grouping	Column Grouping	Table Gro	uping	
Grouping file: Choose File No file	chosen			
Filter Selection +				
2006 GTA zone of destination		In	2554,2561	
And				
Start time of trip		In	0630-0930	
And			Y	
Trip purpose		In	1, 2, 3,	
Output  Comma-delimited table Colu  Execute Query Select All	Save As		t to Select Load	Load
Fri May 14 2021 13:14:16 GMT-04		) - Run Time	2: 2743ms	
Cross Tabulation Query Form - T				
Row: 2006 GTA zone of destinati Column: Primary travel mode of				
Filters: 2006 GTA zone of destination - and Start time of trip - start_time and Trip purpose - trip_purp In 1, Trip 2016	e In 0630-0930			
Table:				
,Transit excluding GO rail,Cycl 2554,49,47,594,39,81,88,0,101 2561,143,0,1718,16,588,211,12,2		Auto passeng	ger,School bus,Taxi passe	enger,Walk
			Copyright 2014 Data Mana	agement Group   All Rights Reserved

**TTS Cross Tabulation** 

Cross Tabulation Query Form - Trip - 2016 v1.1 Row: 2006 GTA zone of origin - gta06\_orig Column: Primary travel mode of trip - mode\_prime

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,



Hello Transportation Planning Thornhill

Database Index DMG TTS CCP Contact Logout

Filter Tutorial Here about the o

Start Time of Trip

Code	Description
400 -	Total range - 4:00 a.
2800	3:39 a.m. the next d

Cross Tabulation Query Form - Trip -	2016 v1	.1
Filter Variables		
2006 GTA zone of origin Primary travel mode of t	. (0	Optional) Table Attribute
Group Attributes		
Row Grouping Column Grouping	Table Gro	uping
Grouping file: Choose File No file chosen		
Filter Selection +		
2006 GTA zone of origin	In	2554,2561
And		
☐ Start time of trip	In	0930-0630
And		
☐ Trip purpose	ln	1, 2, 3,
Add Delete  Output		
Comma-delimited table	r On Click	to Select Load Load
Eni May 14 2021 13:26:06 GMT-0400 (Eactorn Daylight Time	\ - Run Time	s. 2531mc

,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

Copyright 2014 Data Management Group | All Rights Reserved

Trip 2016 Table:

**TTS Cross Tabulation** 



Hello Transportation Planning Thornhill

Database Index DMG TTS CCP Contact Logout

1, 2, 3,

Filter Tutorial Here about the Open current page in new tab

Start Time of Trip

Code	Description
	Total range - 4:00 a.
2800	3:39 a.m. the next d

Cross Tabulation Query Form - 1	Γrip - 2016 v1	.1	
Filter Variables			
2006 GTA zone of desti Primary travel mo	ode of t	Optional) Table Attribute	
Group Attributes			
Row Grouping Column Grouping	Table Gro	uping	
Grouping file: Choose File No file chosen			
Filter Selection +			
2006 GTA zone of destination	In	2554,2561	
And			
Start time of trip	In	1530-1830	

Output

Trip purpose

Add Delete

And

Click to Select Load Load Execute Query Select All Save As

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

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

Copyright 2014 Data Management Group | All Rights Reserved



Hello Transportation Planning Thornhill

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.	(0	Optional) Table Attribute		
Group Attributes				
Row Grouping Column Grouping	Table Gro	puping		
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 Tim	e: 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 GO 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 o

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	
8301 - 8380	
8401 - 8405	Orangeville
8411 - 8417	Dufferin
8501 - 8532	Barrie
8551 - 8667	Simcoe
8681 - 8685	Orillia
8701 - 8717	Kawartha Lal
8801 - 8825	City of Peterb
8851 - 8855	Peterborough
8901 - 8949	Brantford
8950 - 8960	Brant
9001 - 9016	Northumberla
9017 - 9068	External
9800, 9998	External Und
9999	Unknown/Ret

AM\_IN

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

2006 GTA z 2561

Start time of trip - start\_time In 0630-0930

Trip purpose 2 3

Trip 2016 Table:

	Toronto contra Contra					Calcard Inc.	T	144-11-	
	Transit exclu Cycle		Auto driver	iviotorcycle	Auto passens	School bus	Taxi passeng	waik	
2554	49	47	594	39	81	88	0	101	
2561	143	0	1718	16	588	211	12	26	
	192	47	2312	55	669	299	12	127	37
	5%	1%	62%	1%	18%	8%	0%	3%	100

AM OUT

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

2006 GTA z 2561

and

Start time of trip - start\_time In 0930-0630

2 3 Trip purpose

Trip 2016 Table:

> Transit exclu Cycle Auto driver GO rail only Joint GO rail Motorcycle Auto passenę School bus Walk 9 0 291 143 141 1460 45 70 45 0 782 71 8 8 188 141 2242 53 13 9 362 78 101 3187 2% 0% 0% 11% 2% 4% 70% 6% 3% 100%

PM\_IN

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

2006 GTA z 2561

Start time of trip - start\_time In 1530-1830

Trip purpose 2 3

Trip 2016

	Transit exclu Cycle	A	Auto driver	GO rail only	Joint GO rail	Motorcycle	Auto passeng	School bus	Walk	
2554	37	47	2294	45	19	20	370	70	175	
2561	0	47	769	29	4	0	58	8	18	
	37	94	3063	74	23	20	428	78	193	4010
	1%	2%	76%	2%	1%	0%	11%	2%	5%	100%

M OUT

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

2006 GTA z 2561

Start time of trip - start\_time In 1530-1830

2 3 Trip purpose

Trip 2016 Table:

	Transit excl Cycle	А	uto driver	Motorcycle	Auto passeng	School bus	Walk	
2554	17	94	1499	0	131	107	134	
2561	98	8	1308	16	315	98	0	
	115	102	2807	16	446	205	134	3825
	3%	3%	73%	0%	12%	5%	4%	100%

Table : Mode Split	
(TTS Zone 2554,2561)	
24 1 14 11 11	

	Modal Split Percentage							
Primary Travel Mode	A.M. P	eak 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%
101111	20070	20070	20070	20070



Hello Transportation Planning Thornhill

Database Index DMG TTS CCP Contact Logout

Filter Tutorial Here about the co

Start Time of Trip

Code	Description
	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: Choose File No file chosen  Filter Selection +					
2006 GTA zone of destination	(In	2554,2561			
And					
Start time of trip	In	1530-1830			
And					
☐ Trip purpose of destination	In	Н			
Add Delete					
Output  Comma-delimited table Column format Expansion Factor	r On C	Click to Select Load Load			
Execute Query Select All Save As					
Fri May 14 2021 12:01:26 GMT-0400 (Eastern Daylight Time	) - Run 1	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:					

2206,89,0
2221,0,23
2231,0,8
22240,0,4
2244,37,0
2251,9,0
2253,18,0
2254,29,0
2264,0,8
2271,30,35
2272,0,10
2374,25,0
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
2555,010
2557,130,8
2558,104,0
2557,130,8
2558,104,0
2557,130,8
2558,104,0
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
2611,70,0

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

Copyright 2014 Data Management Group | All Rights Reserved



Hello Transportation Planning Thornhill

Database Index DMG TTS CCP Contact Logout

Filter Tutorial Here about the co

Start Time of Trip

Code	Description
400 -	Total range - 4:00 a
2800	3:39 a.m. the next of

TTS Cross Tabulation				
Cross Tabulation Query F	Form - Trip -	2016 v	/1.1	
Filter Variables				
2006 GTA zone of desti 2006	GTA zone of origin		(Optional) Table Attribute	
Group Attributes				
Row Grouping  Grouping file: Choose File No file chosen	Grouping	Table 0	Grouping	
Filter Selection +				
2006 GTA zone of origin	γ	In	2554,2561	
And				
Start time of trip		In	0630-0930	
And				
Trip purpose of origin	Υ	In	H	
Output  ● Comma-delimited table	,		lick to Select Load Load	
Fri May 14 2021 12:17:19 GMT-0400 (East		) - Run T	ime: 2481ms	
Cross Tabulation Query Form - Trip - 20 Row: 2006 GTA zone of destination - gta Column: 2006 GTA zone of origin - gta06	06_dest			
Filters: 2006 GTA zone of origin - gta06_orig In and Start time of trip - start_time In 0630 and Trip purpose of origin - purp_orig In H Trip 2016 Table:	1-0930			
,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 2385,17,0 2385,17,0 2389,49,0 2396,0,16 2406,30,0 2551,88,0 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 2602,0,21 2604,52,4 2601,15,8 2613,0,72 2617,54,0 2620,28,0 2621,32,72 2622,79,0 2623,65,12

Filter Tutorial Here about the co

Start Time of Trip

Code	Description
400 -	Total range - 4:00 a.
2800	3:39 a.m. the next d

Copyright 2014 Data Management Group | All Rights Reserved

#### **TTS Trip Distribution Summary**

In order to inform the trip assignment stage of the analysis, informaton about the general trip distribution is required to inform the analysis. The distribution represents the proportion of trips to and away from the site in any given direction. The following pages summarizes the general trip distribution results, which were calculated using Transportation Tomorrow Survey (TTS) 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.

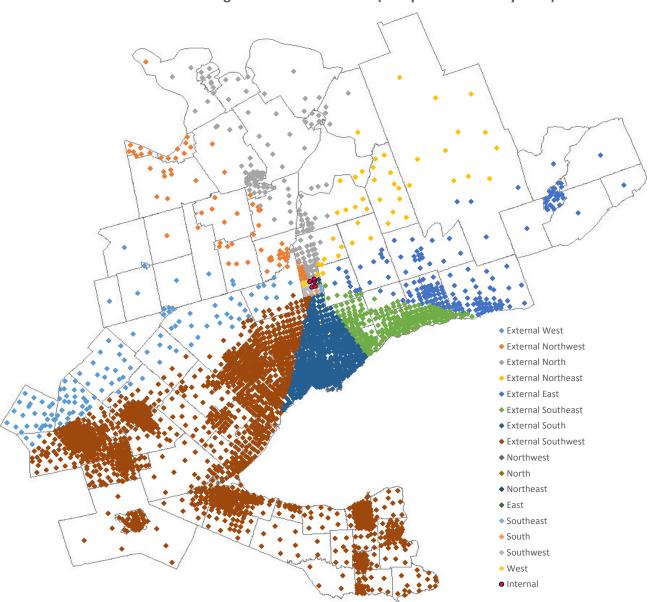
#### TTS Directional Distribution Summary: Wellington Street East and Mavrinac Boulevard

#### Notes:

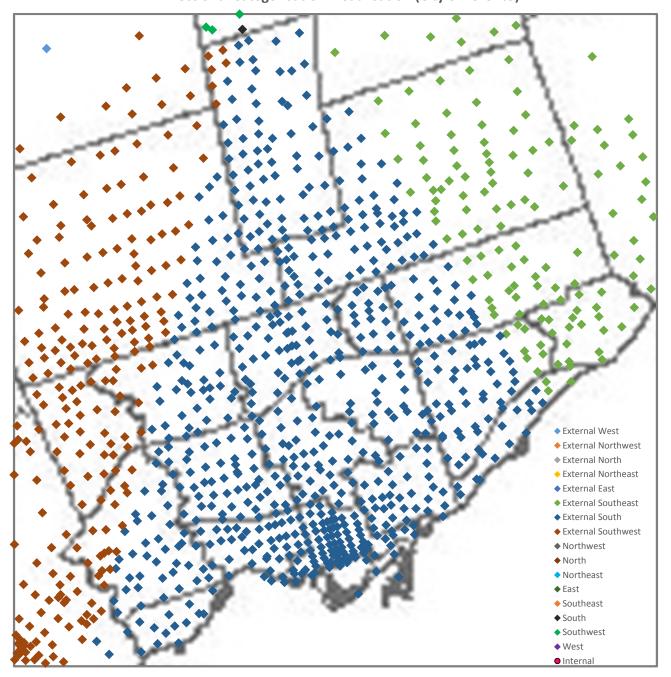
- 1. Directions determined based on centroid coordinates of destination/origin traffic analysis zones.
- 2. 'Internal' refers to trips made within the home planning district(s), while 'External' refers to trips made to areas outside of the home planning district(s).

				Internal								External								
	Time Period	Direction	NW	N	NE	E	SE :	S	SW	W	Total	NW	N	NE	E	SE	S	SW	W	Total
	A.M.	Inbound	0	0	0	0	0	0	189	167	356	17	52	0	0	0	39	59	0	167
Trips	A.IVI.	Outbound	0	0	76	57	0	0	1579	1164	2876	393	710	21	0	302	3067	926	0	5419
Trips	P.M.	Inbound	0	0	105	0	0	0	553	532	1190	456	674	47	20	349	3334	666	38	5584
	P.IVI.	Outbound	0	0	110	0	0	0	187	214	511	248	158	15	0	75	122	86	28	732
	A.M.	Inbound	0%	0%	0%	0%	0%	0%	22%	20%	42%	2%	6%	0%	0%	0%	5%	7%	0%	20%
Percentage		Outbound	0%	0%	1%	1%	0%	0%	16%	12%	29%	4%	7%	0%	0%	3%	31%	9%	0%	55%
reiceillage	P.M.	Inbound	0%	0%	1%	0%	0%	0%	7%	7%	15%	6%	8%	1%	0%	4%	42%	8%	0%	70%
	F.IVI.	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

	۶	<b>→</b>	•	•	←	•	Ť	<i>&gt;</i>	-	Ţ	4	
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

	۶	<b>→</b>	•	•	<b>←</b>	•	1	†	~	<b>/</b>	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>*</b>	7	7	<b>*</b>	7	7	<b>^</b>	7	Ť	<b>†</b> †	7
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	<b>J</b>		3.6	3 -		3.6	3 -		3.6	J .
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											Ť	·
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	Cl+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	O. LA	0. Ex	0. Ex	0. Ex	0. Ex	0. Ex	O. LA	0. Ex	0. · Ex	O. LA	OI EX	O. LA
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	1 01111	1 01111	4	1 01111	1	6	1 01111	1 01111	2	1 01/11
Permitted Phases	8	,	8	4	- T	4	6	3	6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2
Dotootoi i ilaoo		0		-	-							_

Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Total <AM> WSP

3026 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	-	ţ	1
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	Α	Α
Approach Delay		26.0			37.0			7.1			9.1	
Approach LOS		С			D			Α			Α	

Intersection Summary Area Type: Cycle Length: 100

Actuated Cycle Length: 100 Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

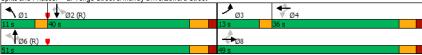
Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.44

Intersection Signal Delay: 13.7 Intersection Capacity Utilization 108.1% Analysis Period (min) 15

Intersection LOS: B ICU Level of Service G

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

	۶	<b>→</b>	•	•	<b>←</b>	•	1	<b>†</b>	-	-	ļ	4
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

3026 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

_	۶	-	•	•	-	*	1	<b>†</b>	<b>/</b>	-	ţ	4
Lane Group E	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4		ř	<b>↑</b> ₽		7	<b>↑</b> ↑	
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) 19	900	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		
	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	
Fit 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	
Confl. Peds. (#/hr)	5		9	9		5	12		5	5		12
	).96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
	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 L	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	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 L	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 Pe	erm	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												

Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Total <AM> WSP

Synchro 11 Report Page 7 Lanes, Volumes, Timings

3026 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

	•	-	•	•	-	*	1	<b>†</b>	/	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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 Effct 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		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	
LOS		D	В		D		Α	Α		Α	Α	
Approach Delay		31.2			40.4			3.3			2.3	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10												
Offset: 76 (76%), Reference	ed to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.28												
Intersection Signal Delay: 4					ntersection							
Intersection Capacity Utiliz	ation 70.6%			IC	CU Level of	of Service	e C					
Analysis Period (min) 15												
Splits and Phases: 3: Yo	nge Street	& Brookla	nd Ave/P	rivate Acc	cess							
√Tø2 (R)							4°0	4				

Queues

3026 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	•	•	1	<b>†</b>	-	ţ	
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	

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

	٠	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	/	<b>&gt;</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĵ.		۴	ĥ			4			4	
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	
Flt Protected	0.950			0.950				0.993			0.968	
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1633	0	0	1722	0
Flt 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	Ĭ
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												

Intersection Summary	
Area Type:	

Control Type: Unsignalized
Intersection Capacity Utilization 26.6%
Analysis Period (min) 15

ICU Level of Service A

3026 Future Total <AM>

Lanes, Volumes, Timings
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

	۶	<b>→</b>	•	€	<b>←</b>	•	1	†	~	<b>/</b>	<b>+</b>	-√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	ሻ	<b>1</b>		*	44	7	ሻ	<b>†</b> †	7
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	1.00	0.98	0.99	0.99	1.00	0.99	0.00	0.96	0.99	0.00	0.95
Frt	0.00		0.850	0.00	0.931		0.00		0.850	0.00		0.850
Flt Protected	0.950		0.000	0.950	0.001		0.950		0.000	0.950		0.000
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted	0.456	1000	1000	0.648	1000	U	0.327	0100	1000	0.462	0100	1000
Satd. Flow (perm)	823	1863	1563	1225	1656	0	604	3438	1496	871	3438	1500
Right Turn on Red	023	1003	Yes	1223	1000	Yes	004	J <del>4</del> J0	Yes	071	3430	Yes
Satd. Flow (RTOR)			218		46	165			96			98
Link Speed (k/h)		50	210		40			50	90		50	30
Link Distance (m)		175.9			679.6			309.8			198.7	
		175.9			61.2			22.3			14.3	
Travel Time (s)	16	12.7	7	7	01.2	16	16	22.3	8	8	14.3	16
Confl. Peds. (#/hr) Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.04	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	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)		2.0		2.0	0.0			0.0			0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel					SILLX			JI-LX			JI-LX	
Detector & Oriannier												

Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Total <AM>

Synchro 11 Report Page 1 Lanes, Volumes, Timings

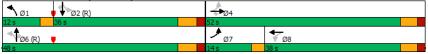
3026 Future Total <AM>

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

07-05-2021

	•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	-	<b>↓</b>	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Pern
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 Effct 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	С	С	Α	D	D		Α	Α	Α	Α	Α	Α
Approach Delay		22.1			39.7			8.5			8.5	
Approach LOS		С			D			Α			Α	
Intersection Summary												
	Other											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 24 (24%), Reference	ed to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90												
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.60												
Intersection Signal Delay: 1-	4.5			lr	ntersection	LOS: B						
Intersection Capacity Utiliza	tion 80.7%			IC	CU Level o	of Service	D D					
Analysis Period (min) 15												

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



Yonge Street & Murray Drive 11:18 am 04-26-2021 3026 Future Total <AM>WSP

Synchro 11 Report Page 2 3026 Future Total <AM>

	•	-	•	•	•	•	1	Ť		-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	f)		٦	ĵ.			4			4	
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	В		Α		Α	Α						
Intersection Summary												
Delay			9.5									
Level of Service			Α									
Intersection Capacity Utiliza	ition		26.6%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 3026 Future Total <AM> 07-05-2021

	•	-	$\rightarrow$	•	<b>←</b>	•	1	<b>†</b>	-	-	<b>↓</b>	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	f)			ĵ.				7		4	
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										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	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	Ť		3.6	Ť		0.0			0.0	Ĭ
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												

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 34.1%
Analysis Period (min) 15

ICU Level of Service A

Lane Configurations Traffic Volume (veh/h)
Future Volume (Veh/h)
Sign Control

Direction, Lane #

Grade

3026 Future Total <AM> 07-05-2021

۶	<b>→</b>	•	•	<b>—</b>	•	4	<b>†</b>	~	<b>/</b>	ţ	1
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
7	î»			ĵ.				7		4	
6	328	2	0	209	15	0	0	36	9	0	4
6	328	2	0	209	15	0	0	36	9	0	4
	Free			Free			Stop			Stop	
	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	0.97
Hourly flow rate (vph)	7	357	2	0	227	16	0	0	39	10	0	-
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

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	Α			В	В	
Approach Delay (s)	0.1		0.0	10.7	13.8	
Approach LOS				В	В	

EB1 EB2 WB1

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	34.1%	ICU Level of Service	Α	
Analysis Period (min)	15			

Lanes, Volumes, Timings

3026 Future Total <AM> 07-05-2021

7: Yonge Street /Yonge Street & Easterly Access

	۶	•	4	<b>†</b>	<b>↓</b>	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	7	ሻ	<b>^</b>	<b>∱</b> }	
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			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			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3438	3421	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	3438	3421	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)	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	J .
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						
	Other					
Alea Type.	0 1101					

ntersection Summary									
Area Type:	Other								
Control Type: Uns	signalized								
nteresetion Cons	oit / Hilimotion 20 40/	ICILI							

ICU Level of Service A

Analysis Period (min) 15

Movement Lane Configurations Traffic Volume (veh/h)	EBL 41 41	EBR	NBL	NBT					
	41	7		INDI	SBT	SBR			
Traffic Volume (veh/h)			Ť	<b>†</b> †	<b>↑</b> ↑				
	41	42	27	715	772	32			
Future Volume (Veh/h)		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)				7.0					
Upstream signal (m)				199	124				
pX, platoon unblocked	0.92	0.90	0.90	100	12-1				
vC, conflicting volume	1319	453	890						
vC1, stage 1 conf vol	1010	100	000						
vC2, stage 2 conf vol									
vCu, unblocked vol	949	155	643						
tC, single (s)	6.8	6.9	4.1						
tC, 2 stage (s)	0.0	0.0	7.1						
tF (s)	3.5	3.3	2.2						
p0 queue free %	80	94	96						
cM capacity (veh/h)	226	762	828						
				110.0	ND 0	00.4	00.0		
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	С	В	Α						
Approach Delay (s)	17.3		0.3			0.0			
Approach LOS	С								
Intersection Summary									
Average Delay			1.0						
Intersection Capacity Utilizat	ion		32.4%	IC	CU Level o	of Service		Α	
Analysis Period (min)			15						

Lanes, Volumes, Timings

2026 Future Total <PM>

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

07-05-2021

	۶	<b>→</b>	•	•	+	4	•	†	~	<b>/</b>	<b>+</b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>*</b>	7	ሻ	f)		*	44	7	7	<b>^</b>	7
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	
Confl. 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	9
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	0. Lx	O. LX	O. LA	0. LX	O. LX		OI LX	O. LX	0. LX	01-23	0. Ex	O. LA
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)	2.0			2.0	0.0			0.0	2.0		0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel					JI. LX			JI-LX			JI. LA	
DOTOGLOI Z OHAIIIIGI												

Yonge Street & Murray Drive 11:18 am 04-26-2021 2026 Future Total <PM> WSP

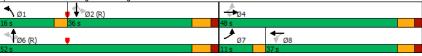
Synchro 11 Report Page 1 Lanes, Volumes, Timings

2026 Future Total <PM>

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

07-05-2021

	٠	-	•	•	<b>←</b>	•	1	<b>†</b>	/	-	<b>↓</b>	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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
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 Effct 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	С	Α	D	D		В	В	Α	D	D	С
Approach Delay		27.2			45.0			14.4			34.7	
Approach LOS		С			D			В			С	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10	00											
Offset: 83 (83%), Referen	ced to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90	·											
Control Type: Actuated-Co	oordinated											
Maximum v/c Ratio: 0.74												
Intersection Signal Delay:	26.1			lr	tersection	LOS: C						
Intersection Capacity Utiliz		)		IC	CU Level o	of Service	Ε					
Analysis Period (min) 15												
Splits and Phases: 1: Y	onge Street/	Yonge St	reet & Ha	nderson	Dr/Allaura	Blvd						
		i orige of	oot a H	110013011		A						
<b>↑</b> @1	Ø2 (B)				1 -	174						



Yonge Street & Murray Drive 11:18 am 04-26-2021 2026 Future Total <PM> WSP

Synchro 11 Report Page 2

Queues

2026 Future Total <PM>

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

07-05-2021

	ᄼ	-	•	•	•	4	<b>†</b>	-	-	<b>↓</b>	4	
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

	۶	<b>→</b>	•	•	<b>←</b>	•	1	†	~	<b>/</b>	<b>↓</b>	-√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b>	7		<b>^</b>	7	ች	<b>^</b>	7		<b>^</b>	7
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	010	1010	Yes	1222	1010	Yes	000	0000	Yes	000	0000	Yes
Satd. Flow (RTOR)			173			104			65			98
Link Speed (k/h)		40	170		50	101		50	00		50	00
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	0.0	4	4	20.0	13	12	0.0	5	5	20.1	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%	0.54	2%	0.54	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 (%)	100	100	170	120	221	101	101	021	01	-10	700	100
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)	Lon	3.6	rtigiit	Loit	3.6	rtigit	Loit	3.6	rtigitt	LOIL	3.6	ragni
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		4.0			4.0			4.0			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	1.00	1.01	25	1.00	1.01	25	1.00	1.02	25	1.00	1.02
Number of Detectors	1	1	1	1	1	1	1	0	1	1	0	1
Detector Template	'	'	'	'				U		'	U	-
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
	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 Size(m) Detector 1 Type	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX	CI+EX
	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 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)												
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

Yonge Street & Murray Drive 11:18 am 04-26-2021 2026 Future Total <PM> WSP

2026 Future Total <PM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>\</b>	<b>↓</b>	4
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	В	Α
Approach Delay		22.2			39.6			8.2			16.0	
Approach LOS		С			D			Α			В	

Intersection Summary Area Type: Cycle Length: 100 Other

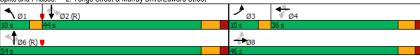
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.69

Intersection LOS: B Intersection Signal Delay: 17.5 Intersection Capacity Utilization 110.1% Analysis Period (min) 15 ICU Level of Service H

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

	•	-	•	•	←	•	1	<b>†</b>	1	-	ļ	4
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. 2026 Future Total <PM>

07-05-2021

	•	-	•	•	<b>←</b>	•	4	<b>†</b>	/	-	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		ની	7		4		ሻ	<b>†</b> 1>		ሻ	<b>↑</b> ↑	
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		(
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	(
Flt Permitted		0.792			0.780		0.299			0.224		
Satd. Flow (perm)	0	1499	1569	0	1386	0	553	3514	0	424	3438	(
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	
Confl. 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	(
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Righ
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												

Yonge Street & Murray Drive 11:18 am 04-26-2021 2026 Future Total <PM> WSP

Synchro 11 Report Page 7 Lanes, Volumes, Timings

2026 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

	۶	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	<b>/</b>	-	ţ	4
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 Effct 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	В		D		Α	A		Α	A	
Approach Delay		28.2			39.4			4.2			2.5	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100	_											
Actuated Cycle Length: 100												
Offset: 69 (69%), Reference	ed to phase	2:NBTL	and 6:SB	L, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.42												
Intersection Signal Delay: 6					tersection		_					
Intersection Capacity Utiliza Analysis Period (min) 15	ation 74.1%			IC	CU Level o	of Service	טפּ					
Analysis i enou (min) 15												
Splits and Phases: 3: Yo	nge Street 8	& Brookla	nd Ave/P	rivate Acc	ess							
√ 1 ø2 (R)							40	4				
62 s							38 s					
1							303					

Queues

2026 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	•	•	4	<b>†</b>	-	<b>↓</b>	
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	

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

	۶	<b>→</b>	$\rightarrow$	•	•	•	4	†	/	<b>&gt;</b>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	f.		7	<b>1</b>			4			4	
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
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			0.881			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
Flt 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
Heavy Vehicles (%)	2%	5%	2%	2%	3%	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
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

2026 Future Total <PM>

	•	-	•	•	<b>—</b>	•	1	<b>†</b>	/	-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>1</b>		ሻ	f)			4			4	
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	В		В		Α	Α						
Intersection Summary												
Delay			13.2									
Level of Service			В									
Intersection Capacity Utiliza	ition		38.1%	IC	CU Level	of Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 2026 Future Total <PM>

	۶	-	•	•	←	•	1	<b>†</b>	~	-	¥	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	7	f)			ĵ.				7		4	
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
Storage Lanes	1		0	0		0	0		1	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		0.966	
Flt Protected	0.950										0.964	
Satd. Flow (prot)	1770	1808	0	0	1829	0	0	0	1611	0	1735	- 1
Flt Permitted	0.950										0.964	
Satd. Flow (perm)	1770	1808	0	0	1829	0	0	0	1611	0	1735	- 1
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%	29
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	(
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	N
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Righ
Median Width(m)		3.6	, i		3.6	, i		0.0			0.0	Ŭ
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	
1												

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 37.0%
Analysis Period (min) 15

ICU Level of Service A

2026	Future	Total	<pm></pm>
		0.	7-05-2021

	•	-	$\rightarrow$	•	<b>←</b>	•	<b>1</b>	<b>†</b>	1	-	ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĵ.			ĵ»				7		4	
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			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	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	Α			В	D							
Approach Delay (s)	0.2		0.0	11.2	25.1							
Approach LOS				В	D							
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utiliza	ition		37.0%	IC	CU Level o	of Service			Α			
Analysis Period (min)			15									

7: Yonge Street /Yo		07-05-202°					
	۶	•	4	<b>†</b>	<b>↓</b>	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7	7	7	<b>^</b>	ħ₽		
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		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1770	1583	1770	3505	3472	0	
Flt 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	.,,,,	.,00	15	
Sign Control	Stop			Free	Free	. •	
•	этор			00	00		
Intersection Summary							
	Other						
Control Type: Unsignalized							
Intersection Capacity Utilizat	ion 47.2%			IC	CU Level of	of Service A	
Analysis Period (min) 15							

Synchro 11 Report Page 13 Lanes, Volumes, Timings

	•	•	4	<b>†</b>	<b>↓</b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	*	7	7	<b>†</b> †	<b>↑</b> ↑				
Traffic Volume (veh/h)	42	63	83	1070	973	70			
Future Volume (Veh/h)	42	63	83	1070	973	70			
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)	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	В	В.	0.0	0.0	0.0	0.0		
Approach Delay (s)	19.3		0.8			0.0			
Approach LOS	C		0.0			0.0			
Intersection Summary									
Average Delay			1.3						
Intersection Capacity Utiliza	ation		47.2%	IC	CU Level o	of Service		A	
Analysis Period (min)			15			5050			

Lanes, Volumes, Timings
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

	•	<b>→</b>	•	<b>√</b>	<b>←</b>	•	•	†	<u> </u>	<b>\</b>	<b></b>	<b>-</b>
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>†</b>	1	*	1		*	44	7	*	44	7
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	1300	15.0	35.0	1300	0.0	80.0	1300	75.0	90.0	1300	40.0
Storage Lanes	1		13.0	1		0.0	1		13.0	30.0		1
Taper Length (m)	35.0			30.0		U	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	1.00	0.98	0.99	0.99	1.00	0.99	0.93	0.96	0.99	0.95	0.95
Frt	0.99		0.850	0.55	0.931		0.99		0.850	0.99		0.850
Fit Protected	0.950		0.000	0.950	0.931		0.950		0.000	0.950		0.000
Satd. Flow (prot)	1736	1863	1593	1805	1656	0	1770	3438	1553	1805	3438	1583
Flt Permitted		1003	1593	0.648	1000	U	0.299	3430	1555	0.445	3430	1503
	0.456	4000	4500		4050	^		0.400	4400		0.400	4500
Satd. Flow (perm)	823	1863	1563	1225	1656	0	553	3438	1496	839	3438	1500
Right Turn on Red			Yes		40	Yes			Yes			Yes
Satd. Flow (RTOR)		=0	218		46			=0	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	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	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	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Type  Detector 2 Channel					OITLX			OITEX			OITEX	
Detector 2 Challie												

Yonge Street & Murray Drive 11:18 am 04-26-2021 3031 Future Total <AM>

Synchro 11 Report

Page 1

Lanes, Volumes, Timings

3031 Future Total <AM>

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

07-05-2021

	۶	-	•	•	<b>←</b>	•	4	<b>†</b>	-	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Pern
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	C
Act Effct 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	С	С	Α	D	D		Α	Α	Α	Α	В	A
Approach Delay		22.1			39.7			8.7			9.0	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 100	)											
Offset: 24 (24%), Reference	ed to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90												
Control Type: Actuated-Cod	ordinated											
Maximum v/c Ratio: 0.60												
Intersection Signal Delay: 1				Ir	ntersection	LOS: B						
Intersection Capacity Utiliza	ation 80.7%			10	CU Level o	f Service	e D					
Analysis Period (min) 15												

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



Yonge Street & Murray Drive 11:18 am 04-26-2021 3031 Future Total <AM> WSP

Synchro 11 Report Page 2

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

07-05-2021

	۶	<b>→</b>	•	•	<b>←</b>	4	†	-	-	ļ	4	
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

	•	-	•	•	<b>←</b>	•	1	1		-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	Ţ	<b>†</b>	7	7	<b>†</b> †	7	7	<b>^</b>	7
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	1.00	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	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	Cl+Ex
Detector 1 Channel	OI LX	31. LX	31. LX	31. LX	31. LX	31. LX	OI LX	31. LX	OI · LX	31. LX	JI. LX	OI - LX
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	I CIIII	I CIIII	4	I CIIII	pili+pi 1	6	I CIIII	I CIIII	2	I CIIII
Permitted Phases	8	0	8	4	4	4	6	0	6	2		2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2
Defector Fliase	3	0	0	4	4	4	- 1	0	0			

Yonge Street & Murray Drive 11:18 am 04-26-2021 3031 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	۶	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>&gt;</b>	ţ	4
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	Α	Α
Approach Delay		26.4			37.0			7.7			9.3	
Approach LOS		С			D			Α			Α	

Intersection Summary Area Type: 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% Analysis Period (min) 15 ICU Level of Service G

Splits and Phases: 2: Yonge Street & Murray Drive/Edward Street **≯** ø₃ **₽**Ø4 Queues

3031 Future Total <AM>

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	۶	<b>→</b>	•	•	<b>—</b>	•	4	<b>†</b>	/	-	ļ	4
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

3: Yonge Street & Brookland Ave/Private Access

	۶	-	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	1	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4		7	<b>∱</b> }		7	<b>∱</b> }	
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	
Confl. 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)	2011	0.0	. tigiit	20.0	0.0	. ug.it	2011	3.6	· ug.ic	20.0	3.6	. tigiit
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	OIILX	OITEX	OITEX	OITEX	OIILX		OITEX	OITEX		OITEX	OITEX	
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	i Cilli	4	I CIIII	i Cilli	8		I CIIII	2		I CIIII	6	
Permitted Phases	4	4	4	8	0		2			6	U	
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase	4	4	4	0	0					0	0	
OWIGHT HOSE												

Yonge Street & Murray Drive 11:18 am 04-26-2021 3031 Future Total <AM> WSP

Synchro 11 Report Page 7

Lanes, Volumes, Timings

3031 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

	•	<b>→</b>	$\rightarrow$	•	←	*	4	<b>†</b>	1	-	<b>↓</b>	4
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 Effct 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		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	
LOS		D	В		D		Α	Α		Α	Α	
Approach Delay		31.2			40.4			3.3			2.3	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10		0 N.D.T.										
Offset: 76 (76%), Reference	ed to phase	2:NBTL	and 6:SB	IL, Start	of Green							
Natural Cycle: 80 Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.30	ordinated											
Intersection Signal Delay:	4.2			le.	ntersection	100.1						
Intersection Capacity Utiliz					CU Level							
Analysis Period (min) 15	.au011 / 0.0%			I	JO LEVEI (	n Service						
, , ,												
	onge Street	& Brookla	nd Ave/P	rivate Acc	cess							

Queues

3031 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	•	•	1	<b>†</b>	-	ţ	
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	

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

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	†	/	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>1</b>		*	ĥ			4			4	
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	
Flt Protected	0.950			0.950				0.992			0.968	
Satd. Flow (prot)	1770	1827	0	1770	1788	0	0	1639	0	0	1722	0
Flt 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%
Analysis Period (min) 15 ICU Level of Service A

	•	-	•	•	•	•	1	<b>†</b>	~	<b>/</b>	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	f)		٦	ĵ.			4			4	
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	В		Α		Α	Α						
Intersection Summary												
Delay			9.5									
Level of Service			Α									
Intersection Capacity Utiliza	ition		28.3%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 3031 Future Total <AM>

	•	-	•	•	•	•	1	<b>†</b>	~	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	f)			ĥ				7		4	
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%
Analysis Period (min) 15

						07-	05-20
+	•	1	<b>†</b>	~	<b>/</b>	ţ	4

		-	*	*	•	_	7	- 1		*	*	*
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĵ.			₽				7		4	
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	Α			В	В							
Approach Delay (s)	0.1		0.0	10.9	14.5							
Approach LOS				В	В							
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utiliza	ation		34.5%	IC	CU Level of	Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings

3031 Future Total <AM> 07-05-2021

7: Yonge Street /Yonge Street & Easterly Access

	٠	•	4	†	ļ	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	7	*	<b>^</b>	<b>↑</b> ↑	
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						
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3438	3421	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1770	1583	1770	3438	3421	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	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		2011	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	1.0			1.5	1.0	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25	00		15
Sign Control	Stop	.5	20	Free	Free	.5
_	отор			. 100		
Intersection Summary						
Area Type:	Other					

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 34.4%
Analysis Period (min) 15

	٠	•	4	<b>†</b>	<b>↓</b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	7	7	, j	<b>†</b> †	<b>↑</b> β				
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								
ane Width (m)	3.6								
Walking Speed (m/s)	1.2								
Percent Blockage	1								
Right turn flare (veh)									
Median type				None	None				
Median storage veh)									
Jpstream signal (m)				199	124				
pX, platoon unblocked	0.91	0.89	0.89						
C, conflicting volume	1396	478	939						
C1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	983	157	677						
C, single (s)	6.8	6.9	4.1						
C, 2 stage (s)									
F (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		
/olume Total	70	72	28	418	418	592	331		
/olume Left	70	0	28	410	410	0	0		
	0	72	20	0	0	0	35		
/olume Right SH	214	753	797	1700	1700	1700	1700		
Volume to Capacity	0.33	0.10	0.04	0.25	0.25	0.35	0.19		
		2.5				0.0	0.19		
Queue Length 95th (m)	10.9		0.9	0.0	0.0				
Control Delay (s)	29.8 D	10.3 B	9.7	0.0	0.0	0.0	0.0		
Lane LOS		В	A			0.0			
Approach Delay (s)	19.9		0.3			0.0			
Approach LOS	С								
ntersection Summary									
Average Delay			1.6						
Intersection Capacity Utiliza	ation		34.4%	IC	CU Level of	of Service		Α	
Analysis Period (min)			15						

Lanes, Volumes, Timings
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

	۶	<b>→</b>	•	•	+	4	•	†	~	<b>/</b>	<b>+</b>	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>*</b>	7	ሻ	f)		ሻ	44	7	7	44	7
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		0.000
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	000	1010	Yes		1100	Yes	0	0000	Yes	020	0000	Yes
Satd. Flow (RTOR)			120		19				65			219
Link Speed (k/h)		50	.20		40			50	00		50	0
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)	11		20	20	01.2	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 (%)			.20		.00	00	002	1020	0.	02		200
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)	2010	3.6	rugin	2010	3.6	. ug.it	2011	3.6	· ug.ic	2010	3.6	. ug.n
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		1.0										
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	1.00	15	25		15	25	1.00	15	25	1.00	15
Number of Detectors	1	1	1	0	2	.0	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	Cl+Ex	CI+Ex	CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OITEX	OI LX	OITEX	OI · LX	OI LX		OI LX	OI-LX	OI · EX	OITEX	OITEX	OI LX
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	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel					OI-LX			OI-LA			OITEX	
DOTOGLOI Z OHAIIIIGI												

Yonge Street & Murray Drive 11:18 am 04-26-2021 2031 Future Total <PM> WSP

Synchro 11 Report Page 1

2031 Future Total <PM>

Lanes, Volumes, Timings
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

	٠	<b>→</b>	•	•	<b>←</b>	•	1	<b>†</b>	/	-	<b>↓</b>	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Pern
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		- :
Detector Phase	7	4	4	8	8		1	6	6	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.
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.
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.
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.
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	La
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	(
Act Effct Green (s)	32.9	29.9	29.9	18.9	18.9		61.1	57.6	57.6	38.1	38.1	38.
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	0.4
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	С	Α	D	D		В	В	Α	D	D	(
Approach Delay		27.5			45.0			14.9			36.9	
Approach LOS		С			D			В			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10												
Offset: 83 (83%), Reference	ced to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90												
Control Type: Actuated-Co	oordinated											
Maximum v/c Ratio: 0.74	07.4											
Intersection Signal Delay:					tersection		-					
Intersection Capacity Utiliz	cation 90.3%			IC	CU Level c	of Service	E					
Analysis Period (min) 15	anga Chrs -41	Vanas Ot	raak 0 !!-	ndoros-	Dr/Allay:	Dhad						
Splits and Phases: 1: Yo	onge Street/	runge St	ieet & He	nuerson	DI/Allaura	DIVQ						



Yonge Street & Murray Drive 11:18 am 04-26-2021 2031 Future Total <PM> WSP

Synchro 11 Report Page 2

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

07-05-2021

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	4	<b>†</b>	1	-	<b>↓</b>	4	
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	m26.3	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	

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

	۶	<b>→</b>	•	•	<b>←</b>	•	4	†	<i>&gt;</i>	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		<b>†</b>	7	7	<b>^</b>	7	1	44	7	7	<b>^</b>	7
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)	2011	3.6	. ug.ii	Lon	3.6	. ug.ic	2010	3.6	· ug.ic	2011	3.6	rugin
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	1.00	15	25	1.00	15	25	1.00	15	25	1.00	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	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	Cl+Ex	CI+Ex
Detector 1 Channel	CITEX	OITEX	OITEX	OI+LX	OITLX	OI+LX	OITEX	OITEX	OITEX	OITEX	OITEX	OI+LX
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
, ( )		NA	Perm		NA		pm+pt	NA	Perm		NA	Perm
Turn Type Protected Phases	pm+pt 3	NA 8	Pelifi	Perm	NA 4	Perm	pm+pt 1	NA 6	Penn	Perm	NA 2	Perm
	8	8	8	4	4	4	6	Ö	6	2	2	2
Permitted Phases		0		4		4		_	6		0	
Detector Phase	3	8	8	4	4	4	1	6	Ö	2	2	2

Yonge Street & Murray Drive 11:18 am 04-26-2021 2031 Future Total <PM> WSP

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

Page 5

	٠	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	-	ţ	4
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 Effct 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	С	С	Α	D	D	Α	В	Α	Α	В	В	Α
Approach Delay		22.7			39.7			8.2			16.9	
Approach LOS		С			D			Α			В	

Intersection Summary Area Type: Cycle Length: 100 Other

Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.69

Intersection LOS: B Intersection Signal Delay: 17.7 Intersection Capacity Utilization 110.5% Analysis Period (min) 15 ICU Level of Service H

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

	ၨ	-	•	•	•	•	4	<b>†</b>	1	-	ļ	4
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.

3: Yonge Street & E						_		_		$\overline{}$		)5-2021
	•	<b>→</b>	•	•	-	_	1	†	_	-	+	*
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4	7		4		ሻ	<b>∱</b> î≽		ሻ	<b>↑</b> ₽	
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	
Confl. 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	Ŭ		0.0			3.6	, i		3.6	Ŭ
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	CITLX	CITLX	CITLX	CITEX	CITLX		CITLX	CITLX		CITLX	CITLX	
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	FEIIII	NA 4	renn	remi	NA 8		remi	NA 2		Feiill	1NA 6	
	4	4		0	ŏ		0	2			Ö	
Permitted Phases	4	4	4	8	C		2	0		6	C	
Detector Phase	4	4	4	ď	8		2	2		6	6	
Switch Phase												

Yonge Street & Murray Drive 11:18 am 04-26-2021 2031 Future Total <PM>

Synchro 11 Report Page 7 Lanes, Volumes, Timings

2031 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

	۶	-	•	•	←	•	1	<b>†</b>	1	-	ţ	4
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 Effct 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	В		D		Α	Α		Α	Α	
Approach Delay		28.2			39.4			4.5			2.5	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10	0											
Offset: 69 (69%), Reference	ced to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.43												
Intersection Signal Delay:	6.0			Ir	ntersection	LOS: A						
Intersection Capacity Utiliz	zation 74.1%			10	CU Level o	of Service	e D					
Analysis Period (min) 15												

<del>√</del>104

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

Queues

2031 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	•	•	4	<b>†</b>	-	<b>↓</b>	
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	

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

	۶	-	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	/	-	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ĥ		۴	ĵ.			4			4	
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	
Flt Protected	0.950			0.950				0.994			0.963	
Satd. Flow (prot)	1770	1808	0	1770	1839	0	0	1633	0	0	1738	0
Flt 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%
Analysis Period (min) 15

0 1	utuic	lotai	ור	141-	
		07	-05	-2021	

	•	-	•	•	<b>←</b>	*	4	<b>†</b>		-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*5	î.		ሻ	ĵ.			4			4	
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	В		В		Α	Α						
Intersection Summary												
Delay			13.2									
Level of Service			В									
Intersection Capacity Utiliza	ition		38.1%	IC	U Level o	of Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 2031 Future Total <PM>

	•	-	•	•	•	•	1	<b>†</b>	~	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĵ.			ĥ				7		4	
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	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 37.7%
Analysis Period (min) 15

2031	Future	rotai	<pivi></pivi>
		07	7-05-2021

	•	-	•	1	-	•	1	Ť		-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	ĵ.			ĵ»				7		4	
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	Α			В	D							
Approach Delay (s)	0.2		0.0	11.3	27.0							
Approach LOS				В	D							
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utiliza	ition		37.7%	IC	U Level o	f Service			Α			
Analysis Period (min)			15									

7: Yonge Street /Yo		reet &	Easter	ly Acc	ess		07-05-2021
	۶	•	4	†	<b>↓</b>	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	٦	7	٦	<b>^</b>	<b>↑</b> β		
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							
Frt		0.850			0.989		
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1770	1583	1770	3505	3469	0	
Flt 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	1.00	1.00	15	
Sign Control	Stop			Free	Free		
	Сюр						
Intersection Summary							
	Other						
Control Type: Unsignalized							
Intersection Capacity Utilizat	ion 49.5%			IC	CU Level of	of Service A	
Analysis Period (min) 15							

Lanes, Volumes, Timings

	۶	•	4	<b>†</b>	ļ	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	*	7	7	<b>†</b> †	<b>∱</b> }				
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)				110110	110110				
Upstream signal (m)				199	124				
pX, platoon unblocked	0.91	0.83	0.83	133	124				
vC, conflicting volume	1996	629	1242						
vC1, stage 1 conf vol	1550	023	1272						
vC2, stage 2 conf vol									
vCu, unblocked vol	1068	135	876						
tC, single (s)	6.8	6.9	4.1						
tC, 2 stage (s)	0.0	0.5	7.1						
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	В	В						
Approach Delay (s)	18.0		0.8			0.0			
Approach LOS	С								
Intersection Summary									
Average Delay			1.1						
Intersection Capacity Utiliza	ation		49.5%	IC	U Level o	of Service		Α	
Analysis Period (min)			15						

Lanes, Volumes, Timings
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

1. Tonge Street/10	ilge ou	eel a	Hende		JI/Allat	ula Div	<u> </u>					
	•	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	<b>/</b>	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	<b>^</b>	7		î,		7	44	7	"	<b>^</b>	7
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	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			0.0	
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												

Yonge Street & Murray Drive 11:18 am 04-26-2021 3036 Future Total <AM>

Synchro 11 Report

Page 1

Lanes, Volumes, Timings

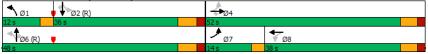
3036 Future Total <AM>

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

07-05-2021

	•	<b>→</b>	•	•	•	•	1	<b>†</b>	/	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Perr
Protected Phases	7	4			8		1	6			2	
Permitted Phases	4		4	8			6		6	2		
Detector Phase	7	4	4	8	8		1	6	6	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.
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.
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.5	4.5	4.5	4.5	4.
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.
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	(
Act Effct 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	С	С	Α	D	D		Α	Α	Α	Α	В	F
Approach Delay		22.1			39.7			8.9			9.1	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 24 (24%), Reference Natural Cycle: 90	ed to phase	2:SBTL	and 6:NB	TL, Start	of Green							
Control Type: Actuated-Co	ordinated											
Maximum v/c Ratio: 0.60	J. 41114104											
Intersection Signal Delay: 1	11			le	ntersection	108· B						
Intersection Capacity Utiliza					CU Level of		n n					
microcolium Capacity Utiliza	audii 00.7 /0			I	O FEAGL	" OCI AICE	, ,					

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



Yonge Street & Murray Drive 11:18 am 04-26-2021 3036 Future Total <AM> WSP

Synchro 11 Report Page 2

Queues

3036 Future Total <AM>

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

07-05-2021

	۶	-	•	•	<b>←</b>	4	<b>†</b>	~	-	<b>↓</b>	4	
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

	۶	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	†	<i>&gt;</i>	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>†</b>	7	7	<b>^</b>	7	1	44	7	7	<b>^</b>	7
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	<b>J</b>		3.6	3 -		3.6	<b>J</b>		3.6	<b>J</b>
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	1.00	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	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OIILX	OILLX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX	OITEX
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	рпі+рt 3	NA 8	renni	Fellil	1NA 4	Felill	pm+pt 1	1NA 6	Fellill	Femil	2	Feiill
Permitted Phases	8	0	8	4	4	4	6	0	6	2	2	2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2
Detector Phase	3	ð	Ö	4	4	4	- 1	0	0	2	2	2

Yonge Street & Murray Drive 11:18 am 04-26-2021 3036 Future Total <AM> WSP

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>&gt;</b>	ţ	4
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 Effct 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	С	С	Α	D	D	Α	Α	Α	Α	В	Α	Α
Approach Delay		26.4			37.0			8.3			9.4	
Approach LOS		С			D			Α			Α	

Intersection Summary Area Type: Cycle Length: 100

Actuated Cycle Length: 100 Offset: 92 (92%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

Natural Cycle: 105

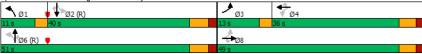
Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.45

Intersection Signal Delay: 14.0

Intersection LOS: B ICU Level of Service G

Intersection Capacity Utilization 108.1% 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

	ၨ	-	•	•	-	•	1	<b>†</b>	1	-	ļ	4
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

EBR

1900

12.0

1.00

0.98 0.850

1495

Yes

0.96

8%

27

No

Right

1.00

15

0

Right

0.0

0.0

0.0

2.0

0.0

0.0

Perm

CI+Ex

13

1900

0.0

0

7.5

1.00

0.96

0%

14

0

No

Left

1.00

25

1

Left

2.0

0.0

0.0

2.0

0.0

0.0

8

Perm

CI+Ex

3

1.00

0.99

0.986

0.964

1711

0.760

1338

20

54.6

9.8

0.96

34%

3

19

No

Left

0.0

0.0

4.8

1.00

7.5

-1.5

-1.5

9.0

0.0

0.0

NA

CI+Ex

2 15 823

1900

15.0

10.0

1.00

0.99

0.950

1583

0.320

530

12

0.96

14%

16 857

16 887

No

Left

1.00

0

Left Thru

0.0

0.0

0.0

2.0

0.0

0.0

0.0

2

Perm

CI+Ex CI+Ex

1900

0.0

1.00

Yes

0.96

2

0

No

Right

1.00

15 25

5 26

1900

1.00

0.99

0.959

1822

0.742

1403

40

216.1

19.4

0.96

0%

No

Left

0.0

0.0

4.8

1.00

Thru

0.0

0.0

0.0

0.6

0.0

0.0

NA

5 27

30

1900

0.0

7.5

1.00

0.96

0%

31

0 36

No

Left

1.00

25

Left

2.0

0.0

0.0

2.0

0.0

Perm

CI+Ex CI+Ex

Lane Group

Lane Configurations Traffic Volume (vph)

Future Volume (vph)

Ideal Flow (vphpl)

Storage Length (m)

Storage Lanes

Taper Length (m)

Lane Util. Factor

Ped Bike Factor

Satd. Flow (prot)

Satd. Flow (perm)

Right Turn on Red

Satd. Flow (RTOR) Link Speed (k/h)

Link Distance (m)

Confl. Peds. (#/hr)

Peak Hour Factor

Adj. Flow (vph)

Lane Alignment

Median Width(m)

Crosswalk Width(m)

Headway Factor

Turning Speed (k/h)

Number of Detectors

Leading Detector (m)

Trailing Detector (m)

Detector 1 Position(m)

Detector 1 Size(m)

Detector 1 Channel Detector 1 Extend (s)

Detector 1 Queue (s)

Detector 1 Delay (s)

Protected Phases

Permitted Phases

Detector Phase Switch Phase

Turn Type

Detector 1 Type

**Detector Template** 

Two way Left Turn Lane

Link Offset(m)

Heavy Vehicles (%)

Shared Lane Traffic (%)

Lane Group Flow (vph)

Enter Blocked Intersection

Travel Time (s)

Flt Protected

Flt Permitted

3036 Future Total <AM> 07-05-2021

> 3 828

> > 1900

0.95 0.95

1.00

3456

50

104.0

7.5

0.96

4%

880

No

Left Right

3.6

0.0

4.8

Yes

1.00

0

0.0

0.0

0.0

0.6

0.0

0.0

0.0

NA

CI+Ex

0.997

1900

15.0

12.0

1.00

1.00

0.950

0.318

1805

603

0.96

3 863

3

No

Left

1.00

25

Left Thru

0.0

0.0

0.0

2.0

0.0

0.0

6

Perm

CI+Ex

16

1900

0.0

Yes

0.96

7%

17

0

No

1.00

15

NBT

823

1900

0.95

1.00

0.995

3455

50

328.9

23.7

0.96

4%

No

Left Right

3.6

0.0

4.8

Yes

1.00

0

0.0

0.0

0.0

0.6

0.0

0.0

NA

2

29

1900

0.0

0.95

Yes

0.96

0%

30

0

No

1.00

15

and Ave/Private Access

3036 Future Total <AM>

Lanes, Volumes, Timings	
3: Yonge Street & Brookla	a

	•	-	•	•	•	•	1	Ť		-	¥
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
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 Effct 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		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
LOS		D	В		D		Α	Α		Α	Α
Approach Delay		31.2			40.4			3.3			2.3
Approach LOS		С			D			Α			Α
Intersection Summary											
Area Type:	Other										
Cycle Length: 100											
Actuated Cycle Length: 10											
Offset: 76 (76%), Reference	ced to phase	2:NBTL	and 6:SB	TL, Start	of Green						
Natural Cycle: 80											
Control Type: Actuated-Co	ordinated										
Maximum v/c Ratio: 0.31											
Intersection Signal Delay:					ntersection						
Intersection Capacity Utiliz	ation 70.6%			10	CU Level of	of Service	C				
Analysis Period (min) 15											
Splits and Phases: 3: Yo	onge Street	& Brookla	nd Ave/P	rivate Acc	cess						
Ø2 (R)	. <b>J</b> . 3						40	4			
1 102 (K)							÷ • 0	4			

₩ Ø8

Yonge Street & Murray Drive	11:18 am 04-26-2021	3036 Future	Total <am< th=""></am<>
WSP			

Ø6 (R)

Queues

3036 Future Total <AM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	$\rightarrow$	•	1	<b>†</b>	-	ţ
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

Lanes, Volumes, Timings 5: Mosaics Avenue & Murray Drive 3036 Future Total <AM> 07-05-2021

	•	<b>→</b>	$\rightarrow$	•	<b>←</b>	•	4	<b>†</b>	/	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>		ሻ	<b>1</b>			4			4	
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
Flt 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%
Analysis Period (min) 15

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

	•	-	•	•	•	•	1	Ť		-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	ĵ.		7	ĵ.			4			4	
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	В		Α		Α	Α						
Intersection Summary												
Delay			9.5									
Level of Service			Α									
Intersection Capacity Utiliza	ation		28.3%	IC	U Level	of Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 3036 Future Total <AM> 07-05-2021

	•	-	$\rightarrow$	•	<b>←</b>	•	1	<b>†</b>	-	-	<b>↓</b>	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	f)			ĵ.				7		4	
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	Ť		3.6	Ť		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%
Analysis Period (min) 15

030	г	ului	е	I Ola	<b>3</b> 1	< A	.IVI-	•
					07	-05-	2021	ı

	•	-	•	•	•	•	1	<b>†</b>	1	/	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	4			<b>f</b>				7		4	
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	Α			В	В							
Approach Delay (s)	0.1		0.0	10.9	14.5							
Approach LOS				В	В							
Intersection Summary												
Average Delay			1.4									
Intersection Capacity Utiliza	ation		34.5%	IC	CU Level o	f Service			Α			
Analysis Period (min)			15									

	•	*	1	<b>†</b>	<b></b>	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	7	ሻ	<b>^</b>	<b>†</b> }	
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						
Frt		0.850			0.995	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3438	3424	0
Flt 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	J .		3.6	3.6	J .
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	1.00	1.00	15
Sign Control	Stop	10	20	Free	Free	10
•	Сюр			1100	1100	
Intersection Summary	0.11					
	Other					
Control Type: Unsignalized						
Intersection Capacity Utiliza	ation 35.5%			IC	CU Level of	of Service i
Analysis Period (min) 15						

Yonge Street & Murray Drive 11:18 am 04-26-2021 3036 Future Total <AM>

Synchro 11 Report Page 13 Yonge Street & Murray Drive 11:18 am 04-26-2021 3036 Future Total <AM>

Lanes, Volumes, Timings

7: Yonge Street /Yonge Street & Easterly Access

	•	•	4	<b>†</b>	<b>↓</b>	4		
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
ane Configurations	Ť	7	7	<b>^</b>	<b>↑</b> 1>			
raffic Volume (veh/h)	64	66	26	828	858	32		
uture Volume (Veh/h)	64	66	26	828	858	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		
lourly flow rate (vph)	70	72	28	900	933	35		
edestrians	16							
ane Width (m)	3.6							
/alking Speed (m/s)	1.2							
ercent Blockage	1							
Right turn flare (veh)								
ledian type				None	None			
Median storage veh)								
lpstream signal (m)				199	124			
X, platoon unblocked	0.91	0.88	0.88	100				
C, conflicting volume	1472	500	984					
C1, stage 1 conf vol								
C2, stage 2 conf vol								
Cu, unblocked vol	1015	157	707					
c, single (s)	6.8	6.9	4.1					
c, 2 stage (s)	0.0	0.5	7.1					
(s)	3.5	3.3	2.2					
) queue free %	65	90	96					
M capacity (veh/h)	203	747	770					
rection, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	
olume Total	70	72	28	450	450	622	346	
olume Left	70	0	28	0	0	0	0	
olume Right	0	72	0	0	0	0	35	
SH	203	747	770	1700	1700	1700	1700	
olume to Capacity	0.35	0.10	0.04	0.26	0.26	0.37	0.20	
ueue 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	
ane LOS	D	В	Α					
pproach Delay (s)	20.9		0.3			0.0		
pproach LOS	С							
ntersection Summary								
verage Delay			1.6					
ntersection Capacity Utiliza	ation		35.5%	IC	U Level o	of Service		Α
Analysis Period (min)			15					
, ,								

Lanes, Volumes, Timings
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

07-05-2021

	۶	<b>→</b>	•	•	<b>—</b>	•	1	†	~	/	<b>+</b>	-√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	<b>^</b>	7	7	1₃		7	<b>^</b>	7	ሻ	<b>^</b>	7
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	
Confl. 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	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex		Cl+Ex	Cl+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	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	5.0
Detector 2 Size(m)					0.0			0.0			0.0	
Detector 2 Type					CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel					JI. LX			JI-LX			JI. LA	
- COUNTY CHAINION												

Yonge Street & Murray Drive 11:18 am 04-26-2021 2036 Future Total <PM> WSP

Synchro 11 Report Page 1

2036 Future Total <PM>

Lanes, Volumes, Timings
1: Yonge Street/Yonge Street & Henderson Dr/Allaura Blvd

 _	 	•		
	07	-05	-202	1

	•	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	<b>&gt;</b>	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	Perm	NA	Pern
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
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	(
Act Effct 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	С	Α	D	D		В	В	Α	D	D	(
Approach Delay		27.5			45.0			15.6			40.1	
Approach LOS		С			D			В			D	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 10	00											
Offset: 83 (83%), Referen		2:SBTL	and 6:NB	TL, Start	of Green							
Natural Cycle: 90	'											
Control Type: Actuated-Co	oordinated											
Maximum v/c Ratio: 0.74												
Intersection Signal Delay:	28.4			Ir	ntersection	LOS: C						
Intersection Capacity Utiliz					CU Level o							
Analysis Period (min) 15												
Splits and Phases: 1: Y	onge Street/	Yonge St	reet & He	nderson	Dr/Allaura	Blvd						
<b>↑</b> Ø1	Ø2 (R)	-			- 14	<u>.</u> 104						



Yonge Street & Murray Drive 11:18 am 04-26-2021 2036 Future Total <PM> WSP

Synchro 11 Report Page 2

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

07-05-2021

	٠	-	$\rightarrow$	•	←	4	<b>†</b>	/	<b>&gt;</b>	<b>↓</b>	4	
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	m24.9	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	

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

	۶	<b>→</b>	•	•	<b>—</b>	•	1	†	~	<b>/</b>	<b>↓</b>	-√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>^</b>	7		<b>^</b>	7	ች	44	7	ች	<b>^</b>	7
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	010	1010	Yes	1221	1010	Yes	001	0000	Yes	010	0000	Yes
Satd. Flow (RTOR)			172			104			65			98
Link Speed (k/h)		40	.,_		50	101		50	00		50	00
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	0.0	4	4	20.0	13	12	0.0	5	5	20.1	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%	0.54	2%	0.54	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 (%)	100	100	172	120	22-1	101	210	1000	01	-10	017	110
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)	2011	3.6	rugin	2011	3.6	. ug.ic	Lon	3.6	. ugut	Lon	3.6	. ug.ii
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		1.0			1.0			1.0			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	1.00	15	25	1.00	1.01	25	1.00	1.02	25	1.00	1.02
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	Cl+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX
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
		NA	Perm	Perm	NA	Perm		NA	Perm	Perm	NA	Perm
Turn Type Protected Phases	pm+pt 3		Perm	remi	NA 4	Perm	pm+pt		rerm	rerm	NA 2	rerm
	8	8	0		4	4	1 6	6	6	0	2	0
Permitted Phases		0	8	4		4		_		2	0	2
Detector Phase	3	8	8	4	4	4	1	6	6	2	2	2

Yonge Street & Murray Drive 11:18 am 04-26-2021 2036 Future Total <PM> WSP

2: Yonge Street & Murray Drive/Edward Street

07-05-2021

	٠	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	-	ţ	1
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 Effct 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	С	С	Α	D	D	Α	В	Α	Α	В	В	Α
Approach Delay		22.7			39.7			8.4			17.8	
Approach LOS		С			D			Α			В	

Intersection Summary Area Type: Cycle Length: 100 Other

Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green

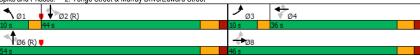
Natural Cycle: 105

Control Type: Actuated-Coordinated Maximum v/c Ratio: 0.69

Intersection Signal Delay: 17.9 Intersection Capacity Utilization 110.5% Analysis Period (min) 15

Intersection LOS: B ICU Level of Service H

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

	ᄼ	-	•	•	<b>—</b>	•	4	<b>†</b>	-	-	ļ	4
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.

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	۶	<b>→</b>	•	•	<b>—</b>	•	1	†	~	<b>/</b>	<b>↓</b>	-√
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ર્ન	7		4		7	<b>↑</b> ↑		7	<b>↑</b> ↑	
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	
Confl. 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							_					

Yonge Street & Murray Drive 11:18 am 04-26-2021 2036 Future Total <PM> WSP

Synchro 11 Report Page 7

Lanes, Volumes, Timings

2036 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

	۶	-	•	•	•	*	1	<b>†</b>	1	-	<b>↓</b>	4
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 Effct 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	В		D		Α	Α		Α	Α	
Approach Delay		29.2			39.4			5.0			2.5	
Approach LOS		С			D			Α			Α	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 69 (69%), Reference	ed to phase	2:NBTL	and 6:SB	TL, Start	of Green							
Natural Cycle: 80												
Control Type: Actuated-Coo	ordinated											
Maximum v/c Ratio: 0.45												
Intersection Signal Delay: 6					ntersection							
Intersection Capacity Utiliza	ation 74.1%			IC	CU Level o	of Service	e D					
Analysis Period (min) 15												
Splits and Phases: 3: You	nge Street 8	& Brookla	nd Ave/P	rivate Acc	cess							
¶ ø2 (R)							40	4				

Ø6 (R)

Queues

2036 Future Total <PM>

3: Yonge Street & Brookland Ave/Private Access

07-05-2021

	-	•	•	4	<b>†</b>	-	ţ	
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	

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

Lanes, Volumes, Timings 5: Mosaics Avenue & Murray Drive 2036 Future Total <PM> 07-05-2021

	۶	<b>→</b>	•	•	<b>←</b>	•	4	<b>†</b>	/	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	f.		7	<b>1</b>			4			4	
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
Flt 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%
Analysis Period (min) 15

	•	-	•	•	-	•	1	Ť	~	-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	٦	ĵ.		٦	f)			4			4	
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	В		В		Α	Α						
Intersection Summary												
Delay			13.2									
Level of Service			В									
Intersection Capacity Utiliza	ition		38.1%	IC	CU Level	of Service			Α			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Northerly Access & Murray Drive 2036 Future Total <PM>

	•	-	•	•	•	•	1	<b>†</b>	~	-	<b>↓</b>	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	£			<b>1</b>				7		4	
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	25		15	25		15
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 37.7%
Analysis Period (min) 15

2036	Future	ı otal	<pivi></pivi>
		07	-05-2021

	۶	-	•	•	←	•	1	<b>†</b>		-	ţ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	<b>1</b>			ĵ.				7		4	
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	Α			В	D							
Approach Delay (s)	0.2		0.0	11.3	27.0							
Approach LOS				В	D							
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utiliza	ition		37.7%	IC	CU Level o	f Service			Α			
Analysis Period (min)			15						- '`			
, a.a., o.o . oou (mm)			10									

Lanes, Volumes, Timings

2036 Future Total <PM> 07-05-2021

7: Yonge Street /Yonge Street & Easterly Access

	۶	•	•	<b>†</b>	<b></b>	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	7	ሻ	<b>^</b>	<b>↑</b> β	
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						
Frt		0.850			0.990	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3505	3472	0
Flt 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)	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						
	Other					
Control Type: Unsignalized	= 1.051					
Intersection Capacity Utilizat	ion 51.6%			IC	CU Level of	of Service A

Analysis Period (min) 15

	۶	•	4	<b>†</b>	<b>↓</b>	4			
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	7	7	, j	<b>†</b> †	<b>∱</b> }				
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 2	NB 3	SB 1	SB 2		
Volume Total	35	65	88	652	652	815	497		
Volume Left	35	00	88	002	002	0	0		
Volume Right	0	65	00	0	0	0	90		
cSH	155	726	583	1700	1700	1700	1700		
Volume to Capacity	0.23	0.09	0.15	0.38	0.38	0.48	0.29		
Queue Length 95th (m)	6.6	2.4	4.2	0.0	0.0	0.40	0.29		
Control Delay (s)	34.9	10.4	12.3	0.0	0.0	0.0	0.0		
Lane LOS	34.9 D	10.4 B	12.3 B	0.0	0.0	0.0	0.0		
Approach Delay (s)	19.0	ט	0.8			0.0			
Approach LOS	19.0 C		0.0			0.0			
••	U								
Intersection Summary			4.4						
Average Delay			1.1						
Intersection Capacity Utiliza	ation		51.6%	IC	CU Level o	of Service		A	
Analysis Period (min)			15						