Diamond Schmitt Architects Inc.

TRAFFIC OPERATIONS ASSESSMENT UPDATE

OAK VALLEY HEALTH HOPSITAL EXPANSION

4 Campbell Drive,
Township of Uxbridge

November 2025
25258

Disclaimer

This Report represents the work of LEA Consulting Ltd ("LEA"). This Report may not be relied upon for detailed implementation, or any other purpose not specifically identified within this Report. This Document is confidential and prepared solely for the use of In Diamond Schmitt Architects Inc. Neither LEA, its subconsultants nor their respective employees assume any liability for any reason, including, but not limited to, negligence, to any party other than Diamond Schmitt Architects Inc. for any information or representation herein.

LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON, L3R 9R9 Canada
T | 905 470 0015 F | 905 470 0030
WWW.LEA.CA

November 24, 2025

Reference Number: 25258

Allison Ramlakhan
Business Development Coordinator
Diamond Schmitt Architects
384 Adelaide Street West, Suite 100
Toronto, Ontario, Canada M5V 1R7

Dear Ms. Ramlakhan,

RE: Traffic Operations Assessment Update (November 2025)
Proposed Oak Valley Health Hospital Expansion
4 Campbell Drive, Township of Uxbridge

LEA Consulting Ltd. (LEA) is pleased to present our findings for our Traffic Operations Assessment (TOA) Update (November 2025) for the proposed Oak Valley Health Hospital Expansion at 4 Campbell Drive in the Township of Uxbridge. Our latest TOA was prepared and submitted in August 2025. In response to AECOM Canada LTD. comments received on September 29, 2025, LEA has prepared the following TOA Update, addressing the comments received.

Comments have been repeated below in blue italic, followed by LEA's responses. Comment numbers are based on the Comment Matrix.

TRAFFIC OPERATIONS ASSESSMENT COMMENTS:

Traffic Operations Assessment comments prepared by AECOM, September 29, 2025

TOA – Comment 1: *The existing hospital has 20 beds, and according to the information provided in Table 1-1 of the TOA report, the size of the existing hospital (including the "Uxbridge Medical" building) is 6,365 square meters (which is equivalent to 68,512 square feet). This is, whereas in Appendix "C" of the TOA report, the size of the existing hospital is reported at 82,930 square feet. The reported building size in Appendix "C" was used by the Consultant to estimate the existing auto trip generation rates. The Consultant should clarify which number is correct and make the necessary corrections to the report.*

LEA Response: Acknowledged. The existing site GFA has been updated to reflect the as-built conditions. As such, please review the updated TOA where the analysis accounts for an existing GFA of 71,472 f^2.

TOA – Comment 2: *In Section 4.1 of the TOA report, Table 4-1 shows the estimated number of auto trips by the expanded/redeveloped hospital during both the morning and afternoon peak hours of adjacent streets by using three different rates. The three rates are as follows: (1) the existing auto trip rates (per 1,000 square footage of GFA) of the existing hospital, (2) the auto trip rates per 1,000 square footage of GFA from ITE Trip Generation Manual for "Hospitals" Land Use Code #610, and (3) the auto trip rates per bed from ITE Trip Generation Manual for "Hospitals" Land Use Code #610.*

In Table 4-1, the third set of rates shown to estimate the number of auto trips by the new hospital is the auto trip rates per bed from the ITE Trip Generation Manual and the number of beds in the new hospital is reported to be 50. This is whereas elsewhere in the report, it is stated that the new hospital will have 32 beds plus an additional 50 AHF beds for a total of 82 beds, and the 50 AHF beds are to be placed within the proposed long-term care facility. Could the Consultant explain why the number of beds (of the new hospital) in Table 4-1 is shown to be 50 beds?

In addition, the TOA report should include a fourth set of auto trip generation rates based on the existing auto trip rates per bed (for the existing hospital) and use this fourth set of rates as well to estimate the number of auto trips by the expanded/redeveloped hospital (which would have a total of 82 beds as the summation of 32 beds and 50 AHF beds).

LEA Response: Acknowledged. Please review the Updated TOA as the trip generation mythology has been revised.

TOA – Comment 3: *As per the Terms of Reference included in Appendix "A" of the TOA report, the Consultant had identified three background developments. However, in Section 3.3 of the TOA report, only one of those three background developments has been mentioned and included in the traffic analysis. Could the Consultant please provide the reasons behind not including the other background developments?*

LEA Response: The reason behind not including the other background developments is due to those developments being deemed too far from the subject site. From the subject site, the approximate distance of *Denland Lane & Brock St East* is 1.72 km, and *Mason Homes* is 2.35 km away. It is LEA's opinion that both of these developments are located outside this influence area and therefore are not included in the analysis.

TOA – Comment 4: *In the updated TOA report, the Consultant provided the parking requirements based on both the Town of Ajax and the City of Oshawa. As per the Town of Ajax By-law 95-2003 – Office Consolidation, November 1, 2023, for a "Nursing Home" in all areas excluding Downtown Central Area Zones, the minimum required number of parking spaces is 1 space per 38 square meters of GFA. As per the information in Table 1-1 of the TOA report, the GFA for the proposed long-term care facility is 18,647 square meters. Accordingly, the minimum required number of parking spaces for the proposed long-term facility, as per the Town of Ajax, would be 491 spaces. This is whereas in Table 7-4 of the TOA report, it is stated that the required number of parking spaces for the proposed long-term care facility is 81. Table 7-4 must be updated accordingly.*

LEA Response: Acknowledged. The total GFA of the proposed Long-Term Care facility is 18,647m^2, consisting of 3,329 m^2 of Alternative Health Facility (AHF) GFA, which is intended to act as a patient recovery extension for the hospital use, providing an additional 50 beds, and the remaining 15,318 m^2 of GFA proposed within the Long-Term Care facility will be for the 192 Long-Term Care beds. Additional clarification is provided in the discrepancy in proposed uses in **Section 1** and **Section 7** of the report. The report has been updated to clarify the proposed use's respective GFA's. It is noted that the parking justification has been updated. Please review the Updated TOA.

TOA – Comment 5: *As per the Town of Ajax By-law, for a "Medical Building", the minimum required number of parking spaces is 1 space per 20 square meters of GFA. This is different from what is stated in Table 7-4 of the TOA report, which is 2 spaces per 100 square meters of GFA. Table 7-4 must be updated accordingly.*

LEA Response: It is noted that the parking justification has been updated. Please review the Updated TOA.

TOA – Comment 6: *The minimum parking requirements shown in the City of Oshawa's Zoning By-law 60-94 for a hospital are different from what is shown in Table 7-5 of the TOA report. Therefore, Table 7-5 must be updated accordingly.*

LEA Response: It is noted that the parking justification has been updated. Please review the Updated TOA.

TOA – Comment 7: *The Consultant should also provide some statistics regarding the utilization of the existing hospital's parking lot and the nearby road network on a typical weekday.*

LEA Response: Acknowledged. A parking utilization analysis based on existing demand design parameters is provided in **Section 7.2.1** of the attached TOA.

TOA – Comment 8: *The size of the Uxbridge Medical building in Table 7-1, Table 7-3, Table 7-4, and Table 7-5 is shown as 1,578 square meters of GFA, whereas in Table 1-1 and Table 7-7, the GFA of the noted building is shown as 2,431 square meters. The Consultant should clarify which number is correct and make the necessary corrections to the report.*

LEA Response: Acknowledged. It has been confirmed that the size of the existing Uxbridge Medical building is 2,431 m^2. The following TOA has been updated to reflect this change.

Traffic Operations Assessment comments prepared by the Township of Uxbridge, September 12, 2025

Traffic Operations Assessment Update, prepared by LEA, dated June 12, 2025 - ***Comment:*** *Please correct the Zoning parking requirements table to reflect the correct number of spaces required (486 spaces) (Table 7-1 Page 26) to be consistent with the submitted site statistics, which are correct.*

LEA Response: The parking calculations have been updated, where a total of 486 parking spaces are required.

ZBA 2025-07 Transportation Planning Region of Durham Comments, August 6, 2025

Traffic Operations Assessment Update, prepared by LEA, dated June 12, 2025 - ***Comment:*** *The Region has reviewed the proposed development from a Transportation Planning perspective and offer the following comments:*

The Site Plan does not indicate any cycling facilities on Toronto Street. Given that the Regional Cycling Plan identifies planned active transportation connections to be implemented along Toronto Street, adding the proposed cycling facilities in the Site Plan would help to improve and increase active transportation use within the site and to adjacent lands and amenities; and

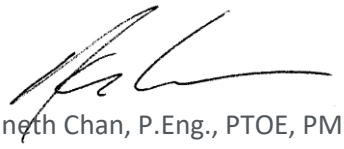
It is recommended that the applicant consider the addition of short term and long term, secure, bicycle parking facilities within the parking areas within the building and as part of the Site Plan. This can help encourage employees and visitors to use active modes and engage in multi-modal transpiration more frequently. Identifying bike parking facilities can help support Transportation Demand Management (TDM) and achievement of sustainable mode share targets for the Township of Uxbridge and the Region.

LEA Response: The site plan proposes bicycle parking facilities through various locations of the site. Discussions with Regional Staff confirmed that this comment has been addressed.

Please do not hesitate to contact the undersigned should you have any additional questions or concerns at (905) 470-0015.

Yours truly,

LEA CONSULTING LTD.



Kenneth Chan, P.Eng., PTOE, PMP
Senior Vice President,
Transportation Engineering and Planning

Encl. Traffic Operations Assessment Update – Oak Valley Health Hospital Expansion, 4 Campbell Drive, Township of Uxbridge (November 2025)

TABLE OF CONTENTS

1 Introduction 2
1.1 Development Proposal *2*
2 Existing Transportation Conditions 4
2.1 Road Network *4*
2.2 Existing Transit Network *5*
2.3 Existing Cycling Network *6*
2.4 Existing Pedestrian Network *7*
2.5 Traffic Data Collection *7*
2.6 Existing Traffic Volumes *8*
2.7 Police collision data *9*
3 Future Background Traffic Conditions 10
3.1 Future Road Network Improvements *10*
3.2 Corridor Growth *10*
3.3 Background Developments *11*
3.4 Future Background Traffic Volumes *11*
4 Site Trip Generation 13
4.1 Site Trip Generation *13*
5 Future Total Traffic Conditions 15
5.1 Future Total Traffic Volumes *15*
6 Intersection Capacity Analysis 17
6.1 Signalized Intersections *17*
6.1.1 Toronto Street South and Campbell Drive 17
6.2 Unsignalized Intersections *20*
6.2.1 Toronto Street South and Victoria Drive 20
6.2.2 Hospital North Driveway and Victoria Drive 21
6.2.3 Hospital Southwest Driveway and Campbell Drive 22
6.2.4 James Hill Court/Hospital Southeast Driveway and Campbell Drive 23
6.3 SimTraffic Queues *25*
6.4 Analysis Summary *26*

7 Parking and Loading Review 27
7.1 Vehicle Parking Review 27
7.1.1 Accessible Parking Requirements 27
7.2 Vehicle Parking Justification 28
7.2.1 Parking Utilization 28
7.2.1.1 Existing Parking Supply 28
7.2.1.2 Observed Weekday Utilization 28
7.2.1.3 Staffing Context 29
7.2.1.4 Parking Space Allocations 29
7.2.2 Vehicular Parking Justification Summary 29
7.3 Bicycle parking Review 29
7.4 Loading and Circulation Review 30
8 Transportation Demand Management 31
8.1 Cycling-Based Stratagies 31
8.2 Pedestrian-Based Stratagies 31
8.3 Transit-Based Stratagies 31
8.4 Parking and Travel-based Strategies 32
8.5 TDM Conclusions 32
9 Conclusions 34

LIST OF FIGURES

Figure 1-1: Subject Site 2
Figure 1-2: Proposed Site Plan 3
Figure 2-1: Existing Lane Configuration and Traffic Control 4
Figure 2-2: Existing Transit Network 5
Figure 2-3 Existing and Proposed Active Transportation Network 6
Figure 2-4: WalkScore Gradient Map 7
Figure 2-5: Existing Peak Hour Traffic Volumes 8
Figure 3-1: 2027 Future Background Traffic Volumes 11
Figure 3-2: 2032 Future Background Traffic Volumes 12

Figure 3-3: 2037 Future Background Traffic Volumes 12
Figure 4-1: Site Traffic Volumes 14
Figure 5-1: 2027 Future Total Traffic Volumes 15
Figure 5-2: 2032 Future Total Traffic Volumes 16
Figure 5-3: 2037 Future Total Traffic Volumes 16

LIST OF TABLES

Table 1-1: Proposed Site Statistics 3
Table 2-1 Traffic Data Collection 8
Table 3-1: ATR Volumes on Toronto Street South at Douglas Drive 10
Table 3-2: Background Developments 11
Table 4-1: Trip Generation Rates – Existing Use 13
Table 4-2: Comparison of Trip Generation Calculation Methodologies 13
Table 4-3: Total Site Vehicle Trip Generation 14
Table 6-1: Intersection Capacity Analysis - Toronto Street South & Campbell Drive (Existing & 2027) 17
Table 6-2: Intersection Capacity Analysis - Toronto Street South & Campbell Drive (2032 & 2037) 18
Table 6-3: Toronto Street South & Campbell Drive (Existing & 2027) Queues 18
Table 6-4: Toronto Street South & Campbell Drive (2032 & 2037) Queues 19
Table 6-5: Intersection Capacity Analysis - Toronto Street South & Victoria Drive (Existing & 2027) 20
Table 6-6: Intersection Capacity Analysis - Toronto Street South & Victoria Drive (2032 & 2037) 20
Table 6-7: Intersection Capacity Analysis - Hospital North Driveway & Victoria Drive (Existing & 2027) 21
Table 6-8: Intersection Capacity Analysis - Hospital North Driveway & Victoria Drive (2032 & 2037) 21
Table 6-9: Intersection Capacity Analysis - Hospital Southwest Driveway & Campbell Drive (Existing & 2027) 22

Table 6-10: Intersection Capacity Analysis - Hospital Southwest Driveway & Campbell Drive (2032 & 2037) 22

Table 6-11: Intersection Capacity Analysis - James Hill Court/Hospital Southeast Driveway & Campbell Drive (Existing & 2027) 23

Table 6-12: Intersection Capacity Analysis - James Hill Court/Hospital Southeast Driveway & Campbell (2032 & 2037) 24

Table 6-13: Toronto Street South and Campbell Drive (Existing & 2027) SimTraffic Results 25

Table 6-14: Toronto Street South and Campbell Drive (2032 & 2037) SimTraffic Results 25

Table 6-15: Toronto Street South and Victoria Drive (Existing & 2027) SimTraffic Results 25

Table 6-16: Toronto Street South and Campbell Drive (2032 & 2037) SimTraffic Results 26

Table 7-1: Vehicle Parking Requirements - Zoning By-law 81-19 27

Table 7-2: Accessible Parking Requirements 27

Table 7-3: Proposed Bicycle Parking Supply 30

Table 7-4: Loading Space Requirements (By-law 81-19) 30

Table 8-1: Transportation Demand Management Checklist 33

APPENDICES

APPENDIX A **Terms of Reference**

APPENDIX B **Traffic Data and Signal Timing Plans**

APPENDIX C **Trip Generation**

APPENDIX D **Background Developments**

APPENDIX E **Existing Intersection Capacity Analysis**

APPENDIX F **2027 Intersection Capacity Analysis**

APPENDIX G **2032 Intersection Capacity Analysis**

APPENDIX H **2037 Intersection Capacity Analysis**

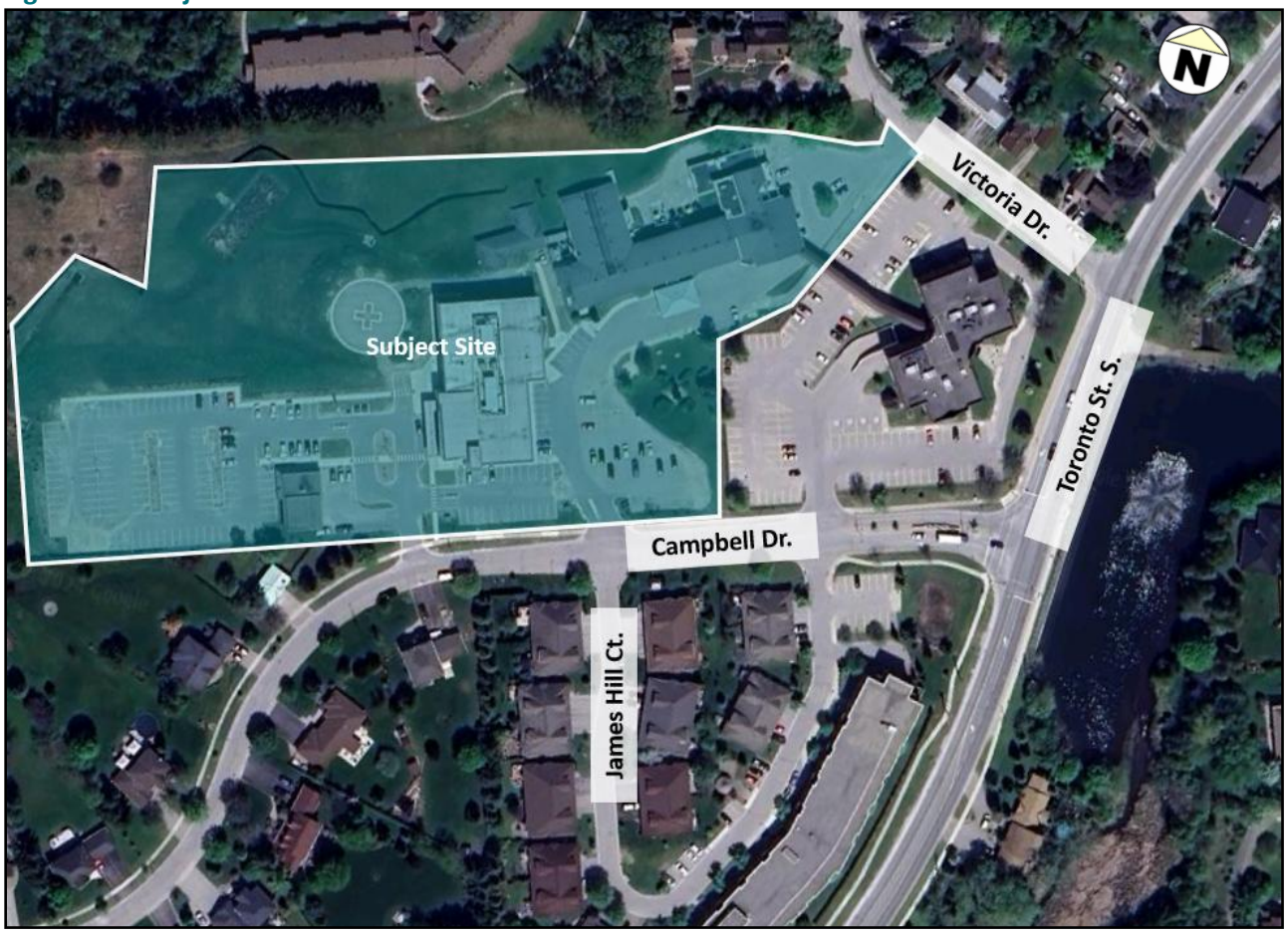
APPENDIX I **Functional Design Review**

1 INTRODUCTION

LEA Consulting Ltd. (LEA) has been retained by Diamond Schmitt Architects to undertake an Updated Traffic Operations Assessment (TOA) for the proposed Oak Valley Hospital expansion, located at 4 Campbell Drive in the Township of Uxbridge (herein referred to as the "subject site"). By way of background, LEA prepared an initial TOA dated September 2024. A subsequent TOA Update was completed in December 2024 as the development concept evolved to include a long-term care building. Since then, comments were received in March 2025, leading to this revised TOA Update to address comments received in the previous submission.

The subject site is located north of Campbell Drive and approximately 100m west of Toronto Street South, as shown in **Figure 1-1**.

Figure 1-1: Subject Site



Source: Google Maps, Accessed July 2024

1.1 DEVELOPMENT PROPOSAL

Based on the site plan received, the proposed development will relocate the existing Uxbridge Hospital towards the west side of the site. The existing hospital will be demolished and replaced by surface parking. A long-term care (LTC) facility located west of the proposed hospital is also proposed, which will provide both LTC beds and alternative health facility (AHF) beds. Of note, the AHF beds will be used to provide additional

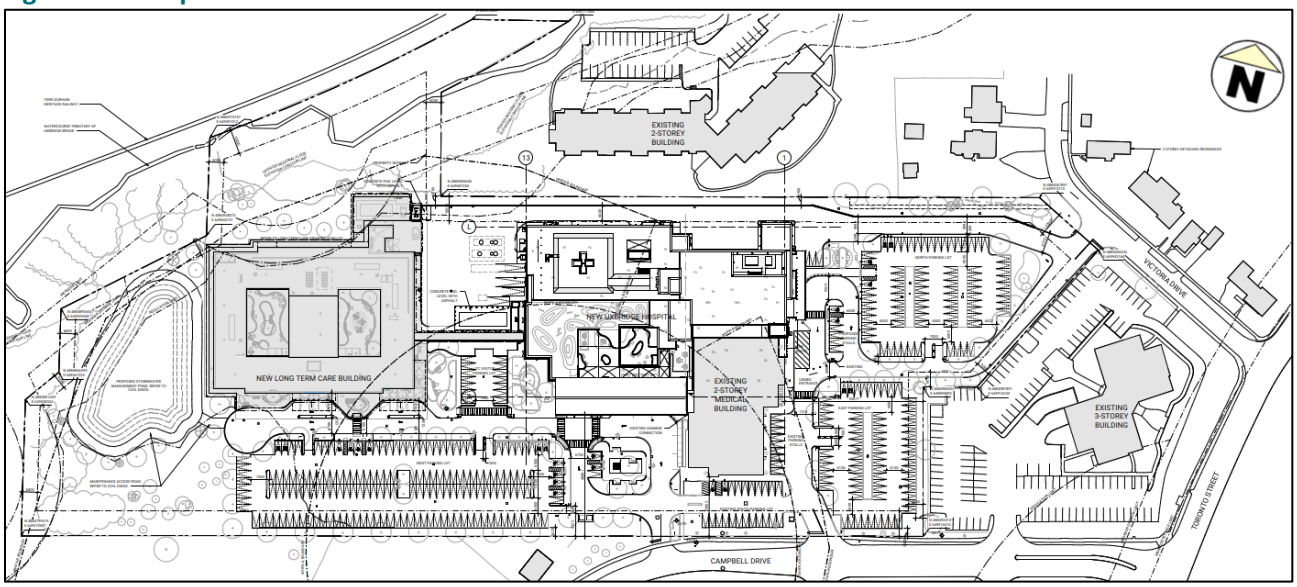
beds for patient recovery for the hospital use. Given that the AHF facility is intended to be an extension of the hospital use, the AHF facility will be analyzed in conjunction of the hospital use. The existing Uxbridge Medical building will remain unchanged.

The site statistics of the proposed expansion are presented in **Table 1-1**, and the proposed site plan is illustrated in **Figure 1-2.** Of note, no changes have been made to the proposed development since December 2024 TOA Update.

Table 1-1: Proposed Site Statistics

Land Use	Existing	Sept. 2024	Dec. 2024, Apr. & Nov 2025 (Current)
Uxbridge Medical	Total GFA ~ 2,431 m^2 (Medical – 1,578 m^2) (Other – 853 m^2)	-	-
Hospital	~ 3,934 m^2 (20 Beds)	~ 12,355 m^2 (32 Beds)	~ 8,274 m^2 (32 Beds)
Long-Term Care	-	192 LTC Beds	Total GFA ~ 18,647 m^2 (LTC - 15,318 m^2 & 192 Beds) (AHF - 3,329 m^2 & 50 Beds)

Figure 1-2: Proposed Site Plan



Source: Diamond Schmitt Architects, October 2025

The following TOA will undertake a review of the existing transportation context, applicable parking requirements, provide a transportation demand management plan (TDM), and forecast vehicle trip generation anticipated for the proposed land uses. The TOR shared to the Region is provided in **Appendix A**.

2 EXISTING TRANSPORTATION CONDITIONS

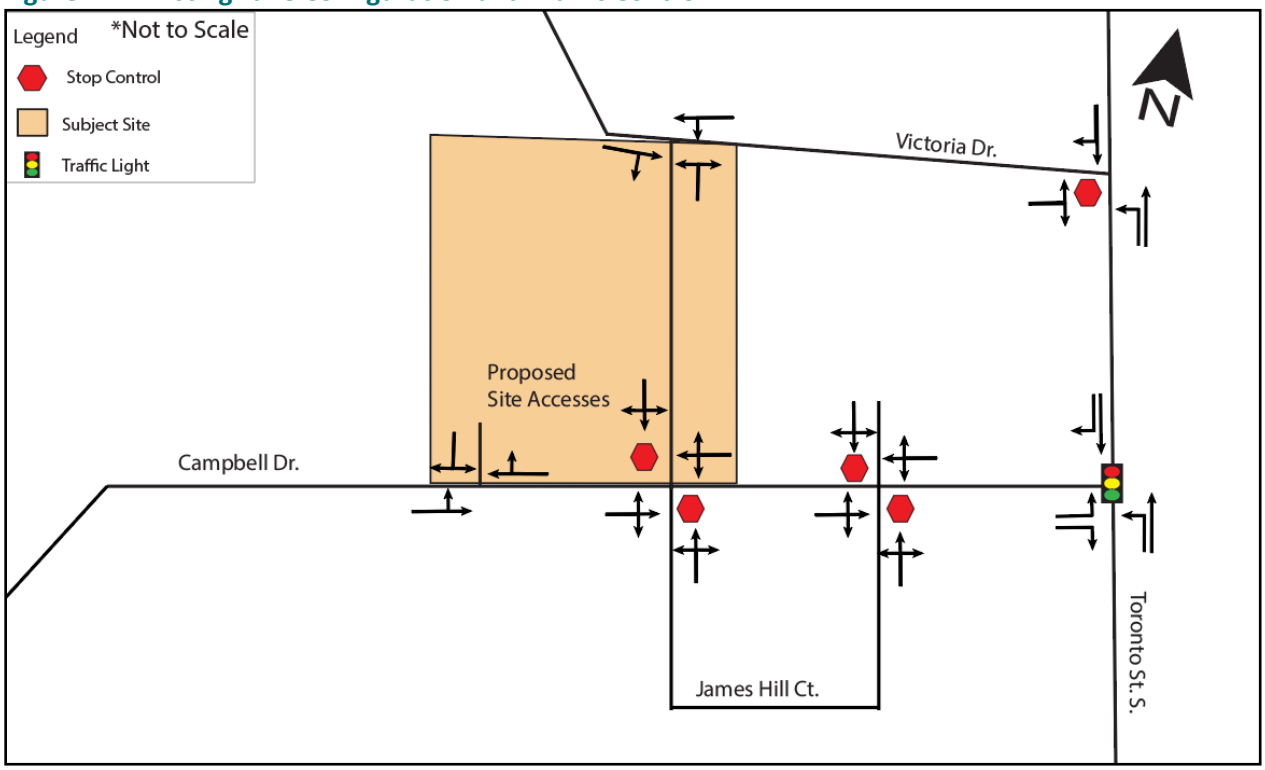
This section identifies and assesses the existing transportation conditions present in the study area, including the road, transit, cyclist, and pedestrian networks. The study area was determined by assessing the size of the proposed expansion and its anticipated transportation impacts. The study area includes the following existing intersections:

- James Hill Court/Hospital Southeast Driveway and Campbell Drive (Unsignalized);
- Hospital Southwest Driveway and Campbell Drive (Unsignalized);
- Hospital North Driveway and Victoria Drive (Unsignalized);
- Victoria Drive and Toronto Street South (Unsignalized); and,
- Campbell Drive and Toronto Street South (Signalized).

2.1 ROAD NETWORK

The following section provides a description and classification of the roadways within the study area that facilitate access to the subject site. **Figure 2-1** illustrates the existing lane configuration and traffic control.

Figure 2-1: Existing Lane Configuration and Traffic Control



Toronto Street South is a north-south Type "B" arterial road within the study area. Toronto Street South operates with a three-lane cross section (1 lanes per direction along with dedicated left or right turn lanes), with sidewalks provided along both sides of the street. The posted speed within the study area is 50 km/h. On-street parking is not permitted along Toronto Street South.

Campbell Drive is an east-west local road within the study area. Campbell Drive operates with a two-lane cross section (one lane per direction). Campbell Drive operates from Toronto Street South in the east towards Cemetery Road to the south before terminating. Campbell Drive has a posted speed limit of 40 km/h and on-street parking is not permitted within the study area.

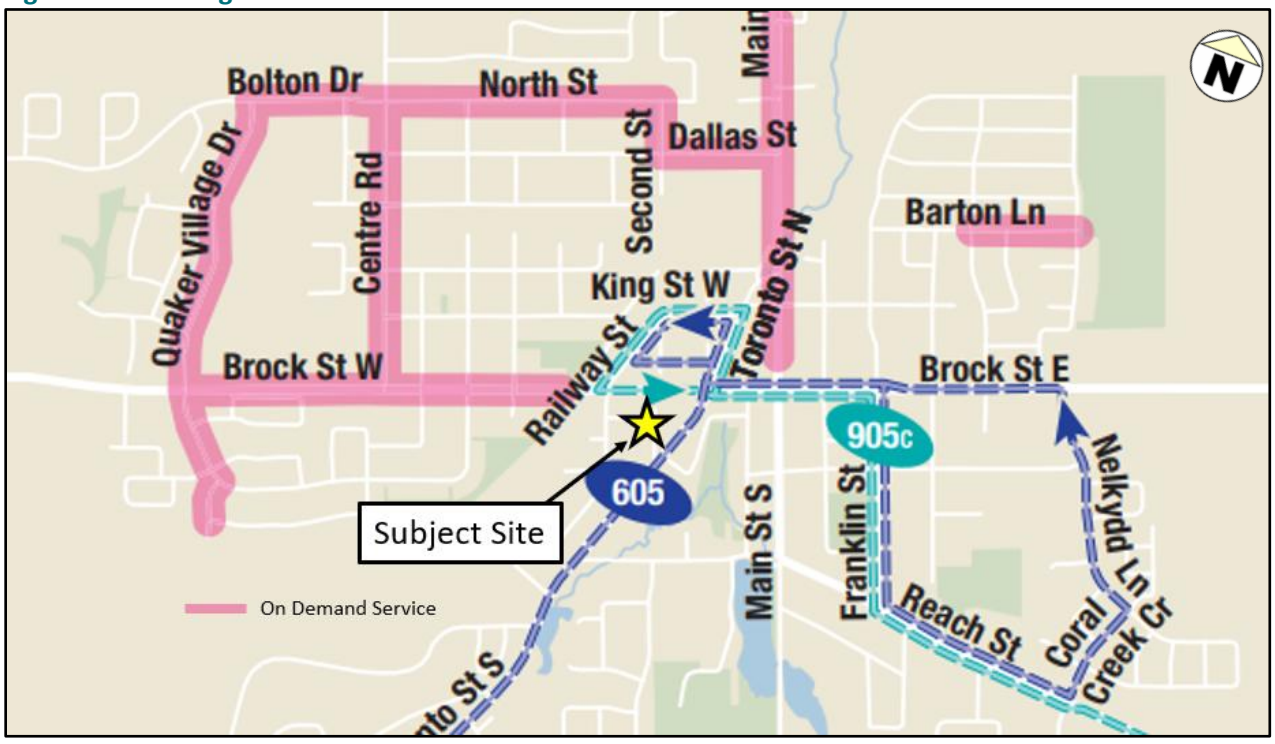
Victoria Drive is a north-south local road within the study area. Victoria Drive operates with a two-lane cross section (one lane per direction). Victoria Drive operates from Toronto Street South in the south towards Brock Street West before converting to Railway Street in the north. Victoria Drive has an assumed speed limit of 40 km/h and on-street parking is permitted during evenings and weekends on the north/east side of the street.

James Hill Court is a north-south private U-shaped road within the study area. James Hill Court operates with a two-lane cross section (one-lane in each direction) along Campbell Drive. James Hill Court has an assumed speed limit of 40 km/h and on-street parking is not permitted.

2.2 EXISTING TRANSIT NETWORK

The subject site is accessible by public transit serviced by Durham Region Transit (DRT) and GO Transit. The existing transit network within the study area is described below and illustrated in **Figure 2-2**.

Figure 2-2: Existing Transit Network



Source: Durham Region Transit, Accessed July 2024

DRT Route 605 is a bus route that operates between Welwood Drive and the area of Nelkydd Lane, generally in a north-south direction along Toronto Street South. The bus route operates with headways of 30 to 60 minutes on weekdays and weekends.

> *Access Locations:* Route 605 is accessible at the intersection of Toronto Street South and Campbell Drive (approximately a 3-minute walk or 200 meters).

GO Bus 70 Uxbridge/Mount Joy is a regional bus service operating from Railway/Albert Street in Uxbridge to Mount Joy GO Station, generally in a north-south direction. GO Bus 70 operates from 10:35 a.m. to 8:40 p.m. from Monday to Friday, and 9:35 a.m. to 7:40 p.m. on Saturdays and Sundays.

> *Access Locations:* GO Bus 70 is accessible at the intersection of Toronto Street South and Mill Street (approximately a 5-minute walk or 350 meters).

GO Bus 71 Stouffville is a regional bus service operating from Railway/Albert Street in Uxbridge to Union Station in Toronto, generally in a north-south direction. GO Bus 71 operates from 3:30 p.m. to 4:20 a.m. from Monday to Friday, and 5:45 a.m. to 4:20 a.m. on Saturdays and Sundays.

> *Access Locations:* GO Bus 71 is accessible at the intersection of Toronto Street South and Mill Street (approximately a 5-minute walk or 350 meters).

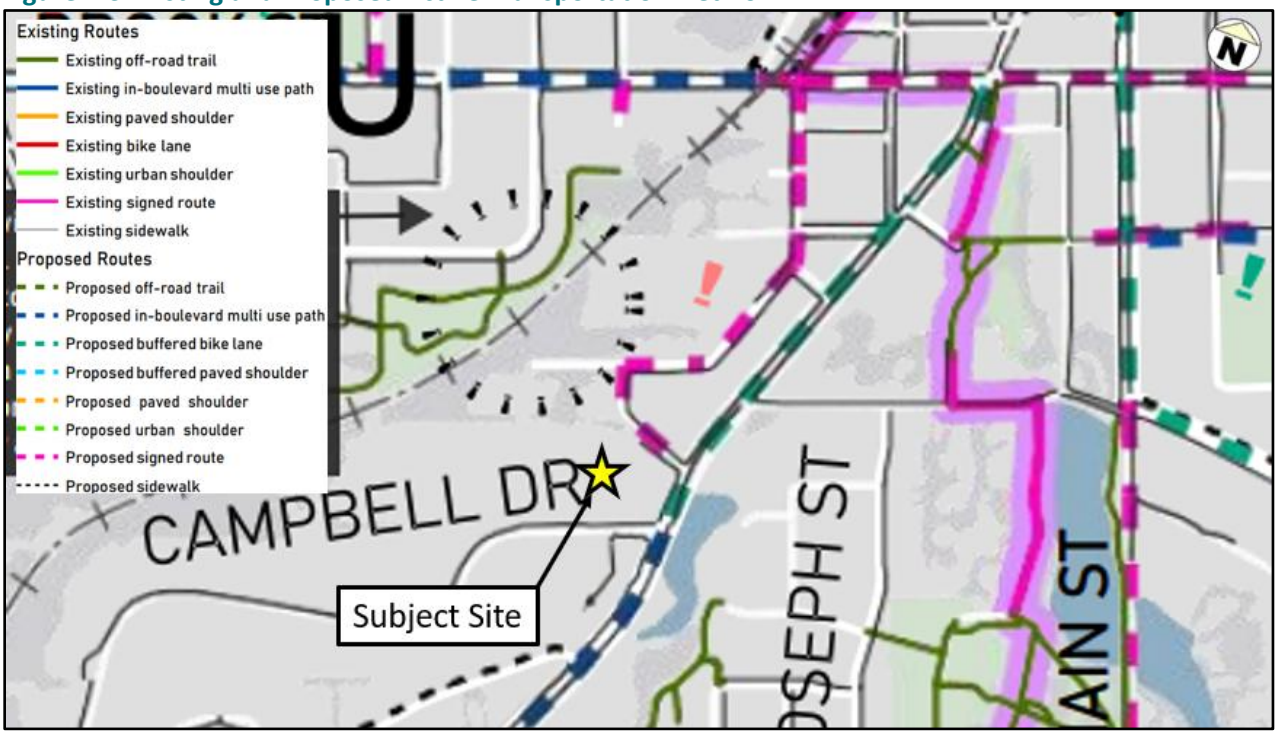
2.3 EXISTING CYCLING NETWORK

Cycling infrastructure in the area surrounding the site includes off-road trails along the South Balsam Trail and the Historic Rotary Trail. The site receives a BikeScore of 31/100, or "somewhat bikeable," when entered into the WalkScore application, indicating the area currently has minimal bike infrastructure.

As per the Township of Uxbridge Active Transportation Plan (ATP), cycling infrastructure is proposed along Toronto Street South, consisting of an in-boulevard multi-use path (MUP) and buffered bike lane. The Township ATP indicates several planned improvements to cycling infrastructure in the community that will improve bike access to/from the site and nearby neighbourhoods.

The existing and proposed active transportation network around the subject site is shown in **Figure 2-3**.

Figure 2-3 Existing and Proposed Active Transportation Network



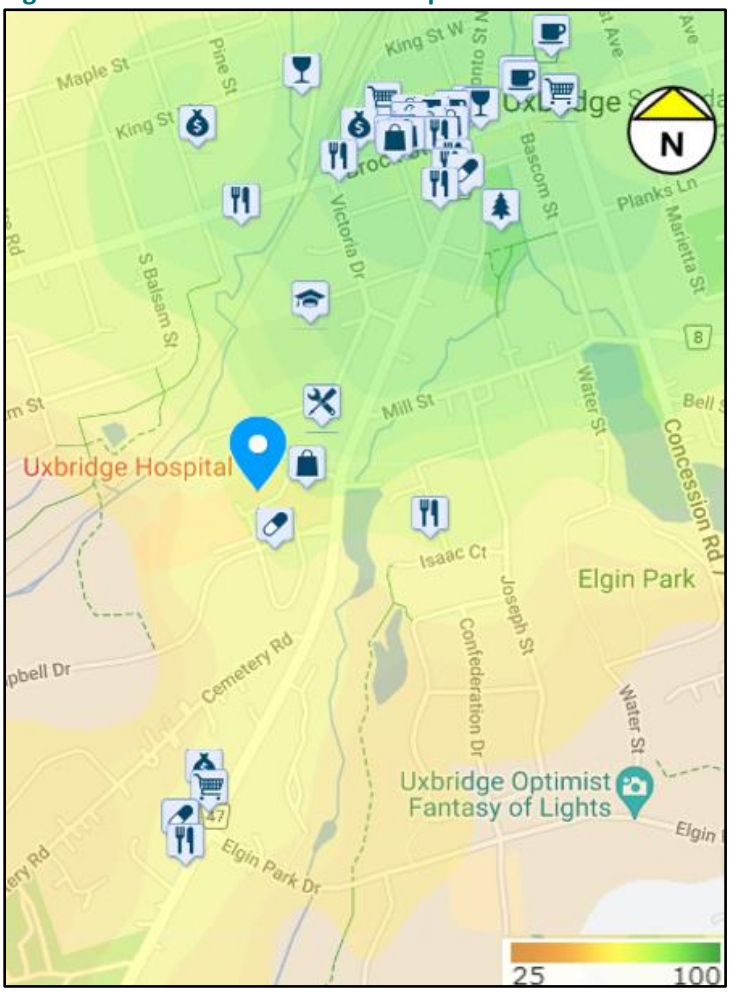
Source: Township of Uxbridge Active Transportation Plan, June 2021

2.4 EXISTING PEDESTRIAN NETWORK

Continuous sidewalks are present on both sides of Toronto Street South and on Victoria Drive leading to the hospital, while on Campbell Drive, sidewalks are only present on the north side. Landscaped buffer between sidewalks and the roadways provide additional protection for pedestrians. At the studied signalized intersection, crosswalks with protected pedestrian phases are present on all approaches.

The site receives a WalkScore of 61/100, or "Somewhat Walkable" when entered into the WalkScore application, indicating the area provides adequate infrastructure to accomplish some errands on foot. As shown in **Figure 2-4**, a 15-minute walk from the subject site could permit an individual to reach many services and amenities such as restaurants, grocery store, retail shops, and parks within Uxbridge's downtown area.

Figure 2-4: WalkScore Gradient Map



Source: WalkScore.com, Accessed July 2024

2.5 TRAFFIC DATA COLLECTION

Turning movement counts (TMCs) were used as the source of traffic data in the intersection capacity analysis. LEA collected traffic counts for the unsignalized intersections within the study area on Tuesday July 16th, 2024, during the weekday AM and PM peak periods between 7:30 to 9:30 AM and 4:00 to 6:00 PM, respectively.

Additionally, LEA recollected TMCs for the Toronto Street South & Victoria Drive intersection on Tuesday March 25th, 2025, based on comments received in the previous submission. Signal timing plans and TMC data for the signalized intersection of Toronto Street South and Campbell Drive were obtained from the Regional Municipality of Durham.

Table 2-1 summarizes the traffic data utilized in this study, with detailed TMCs and signal timing plans provided in **Appendix B**.

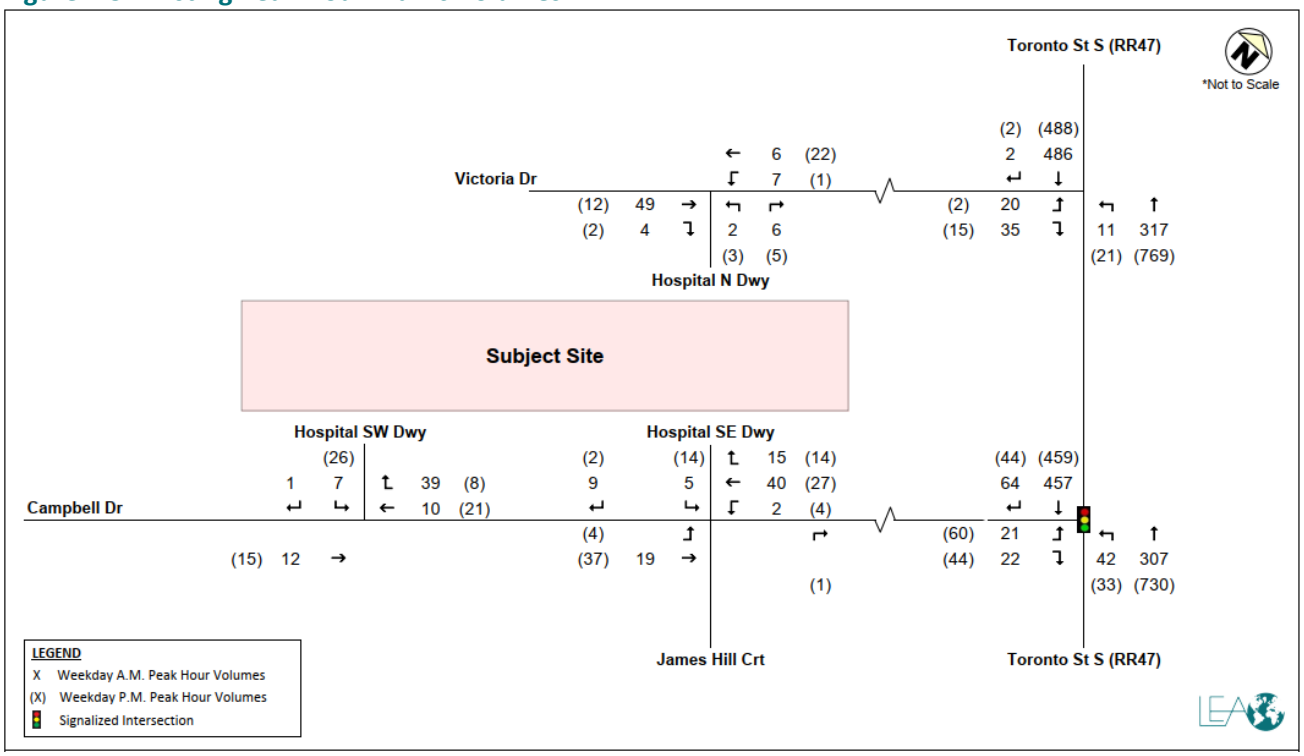
Table 2-1 Traffic Data Collection

Intersection	TMC Date	Source
Toronto Street South & Campbell Drive	Thursday September 21, 2023	Durham Region
Toronto Street South & Victoria Drive	Tuesday March 25, 2025	LEA
Hospital North Driveway & Victoria Drive	Tuesday July 16, 2024	
Hospital Southwest Driveway & Campbell Drive		
Hospital Southeast Driveway/James Hill Court Driveway & Campbell Drive		

2.6 EXISTING TRAFFIC VOLUMES

The existing traffic volumes in the study area during the weekday AM and PM peak hours are illustrated in **Figure 2-5**. Traffic volume balancing was conducted for the existing traffic volumes along Toronto Street South & Campbell Drive using historical ATR data from the Region of Durham.

Figure 2-5: Existing Peak Hour Traffic Volumes



2.7 POLICE COLLISION DATA

A vehicle collision review was conducted to assess the known incidents at Toronto Street South next to the subject site. A Freedom of Information (FOI) request was sent to the Durham Regional Police for vehicle collision data at Toronto St S at Campbell Dr and at Victoria Dr intersections. Data was sought as far back as 2015.

An earlier request for information was sent which only specified the number of incidents from January 2014 to December 2024. The data stated 11 incidents at Toronto St S at Campbell Dr intersection and 2 at Toronto St at Victoria Dr. The data suggested an average 1 incident per year at Toronto/Campbell and an incident on average every 5 years at Toronto/Victoria.

A subsequent requested asked to elaborate on each reported collision at Toronto St at Campbell Dr. between January 2015 to the end of 2024. The purpose of this request was to assess the severity of incidents and identify any trends. The data indicated the following:

A. 9 incidents over this time period for an average of 1 incident per year.

B. Most incidents were of property damage only while only 1 involved a fatal injury.

C. Two-thirds of the collisions occurred during the daylight.

D. Most incidents involved 2 vehicles.

E. It is presumed the primary cause of a collision is the motorist inattentiveness and or being unaware of the conditions permissive for safe driving but possibly exhibit assertive driving habits.

Overall, it can be concluded that the general area exhibits a minimal number of vehicle collisions and are minor in nature. The raw data is included in **Appendix B**.

3 FUTURE BACKGROUND TRAFFIC CONDITIONS

For the analysis of future background traffic conditions, this study considers an occupancy year of 2027 along with 5- and 10-year post-buildout years of 2032 and 2037 respectively. Future background conditions include traffic added to the network from background developments and general corridor growth. The future background conditions were used as a baseline for evaluating the impact of the proposed expansion.

3.1 FUTURE ROAD NETWORK IMPROVEMENTS

Based on a review of applicable plans and background developments within the study area, no changes to the future road network were identified. Therefore, the future background road network was assumed to remain consistent with the existing road network.

3.2 CORRIDOR GROWTH

Historical counts collected in 2022 and 2023 at the intersection of Toronto Street South and Douglas Road were used to derive corridor growth rates. While historical counts generally indicated negative growth, to be conservative a growth rate of 0.5% per year has been applied to movements along the Toronto Street South corridor in both directions. Corridor growth traffic volumes are provided in **Appendix D.**

Additionally, a review of MTO highway volumes was also conducted to compare Average Annual Daily Traffic (AADT), Summer Average Weekday Daily Traffic (SWADT) and Winter Average Daly Traffic (WADT). The closest MTO station is Highway 12 for the section between Highway 7 and Junction Highway 48. The MTO Provincial Highway Traffic Volumes 1988-2019, 2021 data was reviewed, and the data indicates the SAWDT is consistently higher than WADT. This indicates summer volumes are representative of peak road conditions. Detailed calculations are provided in **Appendix D.**

The weekday average from the ATR volumes on Toronto St S at Douglas Dr further supports a decline to street traffic over time as summarized in **Table 3-1**.

Table 3-1: ATR Volumes on Toronto Street South at Douglas Drive

Survey Dates	24 Hour Total				Weekday Average
June 15-16, 20, 2022	Wed.	Thurs.	Mon.	-	17134
	17309	17696	16397		
Aug 22-25, 2022	Mon.	Tues.	Wed.	Thurs.	16054
	15322	16319	16199	16377	
Sept 19-21, 2022	Mon.	Tues.	Wed.	-	15711
	15092	15872	16168		
April 17-19, 2023	Mon.	Tues.	Wed.	-	15522
	15042	15628	15895		
July 10-12, 2023	Mon.	Tues.	Wed.	-	16221
	16405	16173	16085		
Nov. 2, 6-7, 2023	Thurs.	Mon.	Tues.	-	16157
	16733	15974	15764		

In addition, as mentioned in **Section 2.6**, LEA recollected TMCs for the Toronto Street South & Victoria Drive intersection on Tuesday March 25th, 2025, based on comments received in the previous submission to account for school traffic.

3.3 BACKGROUND DEVELOPMENTS

One (1) background development was included in the future background analysis. The background development is summarized in **Table 3-2**. Excerpts from the study providing details of the background development trips are provided in **Appendix D**. It is noted that other background developments noted in the TOR phase were deemed irrelevant given the distance of those sites in relation to the subject site.

Table 3-2: Background Developments

#	Location	Proposed Development	Source of Traffic Volumes
1	179-181 Toronto Street South	10 residential units	TIS May 20, 2022, CGE Transportation Consulting (Review number of site tips generated and split traffic on Toronto St S based on two-way traffic flow on Toronto St south of Campbell Dr.)

3.4 FUTURE BACKGROUND TRAFFIC VOLUMES

Future background traffic volumes for the weekday AM and PM peak hours under the 2027, 2032, and 2037 horizon years are illustrated in **Figure 3-1, Figure 3-2**, and **Figure 3-3**, respectively.

Figure 3-1: 2027 Future Background Traffic Volumes

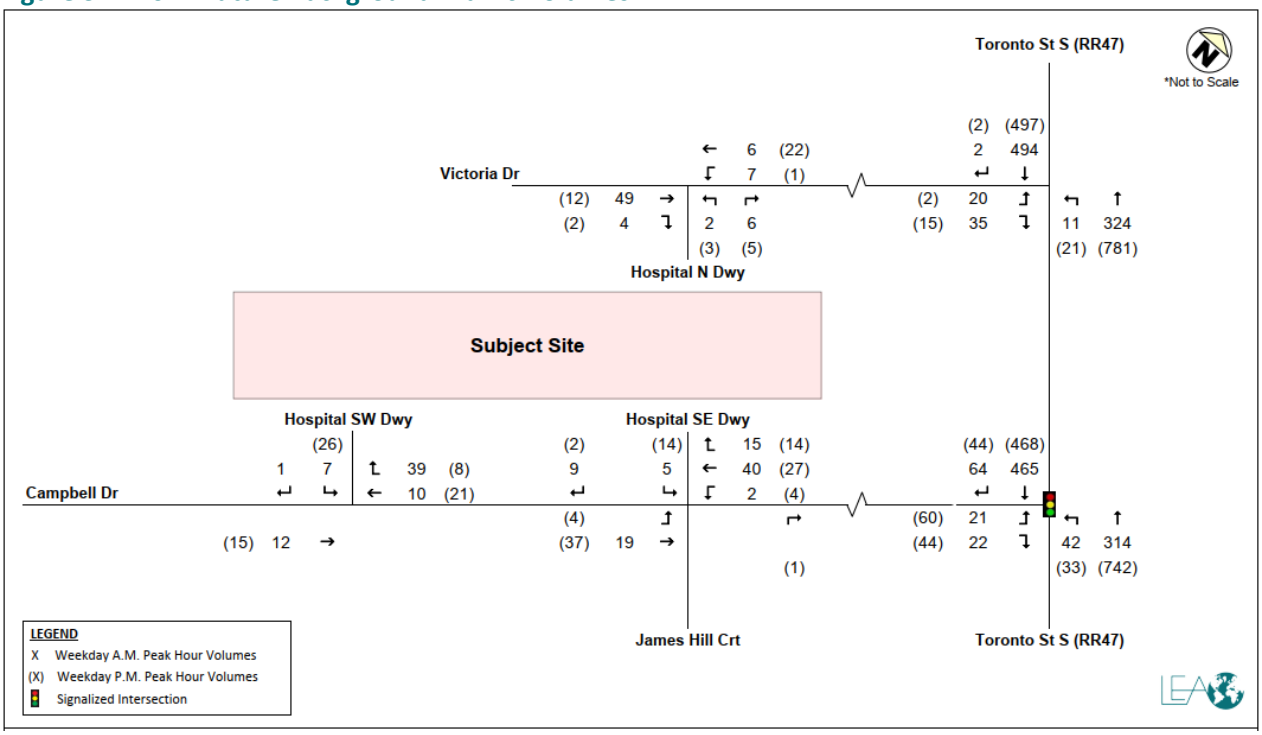


Figure 3-2: 2032 Future Background Traffic Volumes

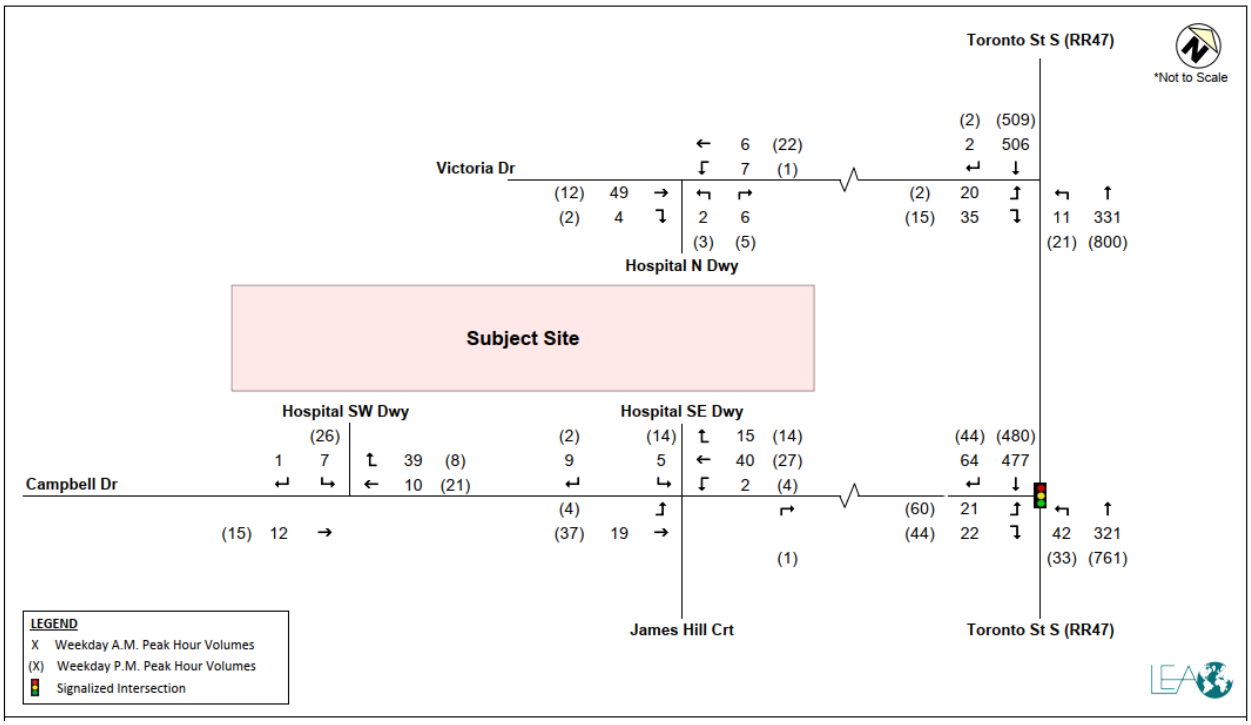
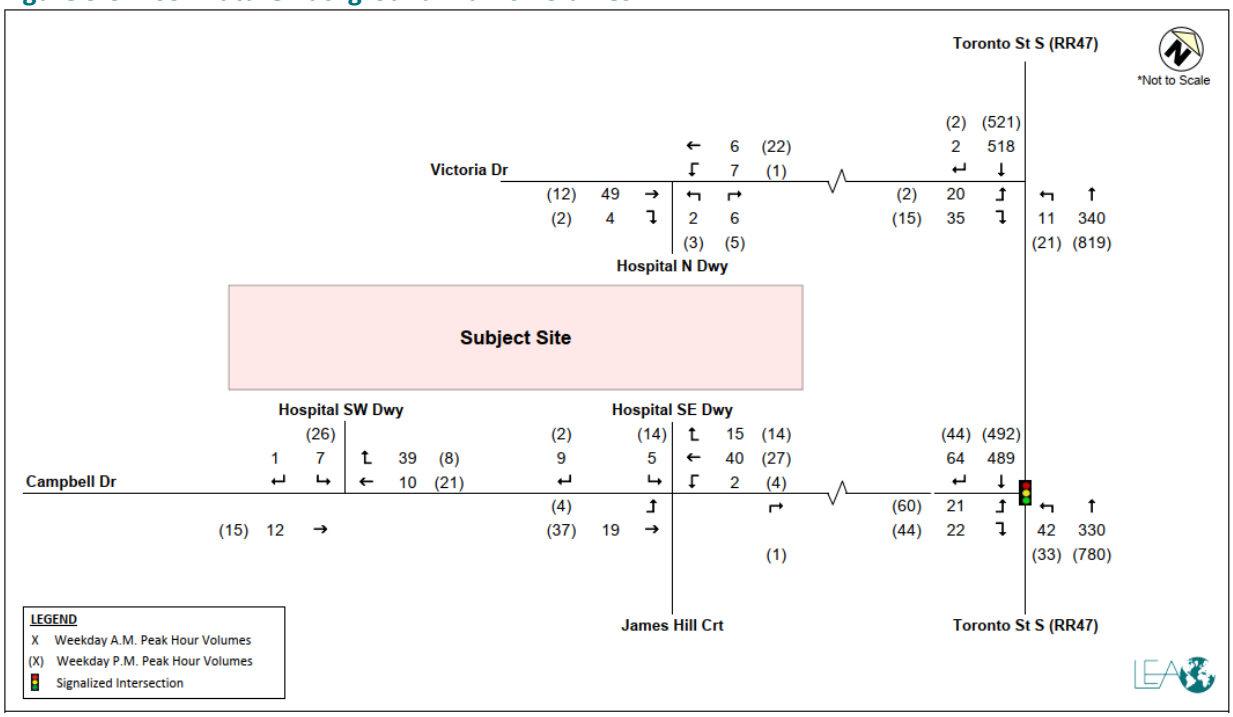


Figure 3-3: 2037 Future Background Traffic Volumes



4 SITE TRIP GENERATION

This section discusses forecasted trips associated with the proposed expansion. Vehicle access to the site will be accommodated via the existing site accesses: two (2) driveways along Cambell Drive and one (1) along Victoria Drive. All accesses permit full movements.

4.1 SITE TRIP GENERATION

Existing site trips were used to calculate the observed trip rates, which is summarized in **Table 4-1** below.

Table 4-1: Trip Generation Rates – Existing Use

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Hospital (Existing Trip generation rates) 71,472 ft^2	Auto Trip Rate (/1000 ft^2)	0.91	0.42	1.33	0.41	0.70	1.11
	Total Auto Trips	**65**	**30**	**95**	**29**	**50**	**79**

As requested by the reviewing comments, four (4) auto trip generation methodologies were considered when estimating the future total site trips. The following outlines each methodology:

1. The first methodology utilized the square footage of the new hospital and new long-term care facility and calculated the trips by using the existing trip generation rate for the hospital and AHF and used the rates outlined in ITE 11 LUC620 for the proposed long-term care facility (minus the AHF space).
2. The second methodology utilized the same square footage as noted above, and calculated the trips generated using the rates outlined in ITE LUC610-Hospital and ITE LUC620-Nursing Home, respectively. This methodology was not used as it resulted in lower site trips generated.
3. The third methodology utilized the total number of beds. The trip rate was estimated using the number of site trips observed divided by the existing number of hospital beds. This methodology is not representative for the Long-Term Care facility and was not utilized.
4. The fourth methodology utilized the total number of beds using the rates found in ITE. The number of existing trips estimated was less than those observed in the TMC counts, and was therefore not used.

A comparison of the various trip generation methodologies is shown below in **Table 4-2.**

Table 4-2: Comparison of Trip Generation Calculation Methodologies

Total Site Trips	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Methodology 1: Square footage using existing hospital rate and ITE rate for nursing home	206	86	292	102	162	264
Methodology 2: Square footage using ITE rates for both hospital and nursing home	152	62	215	85	142	227
Methodology 3: Total number of beds, using the existing rate	286	131	417	129	222	351
Methodology 4: Total number of beds, using the rates in ITE	125	49	174	56	111	166

The existing trip rates were used to estimate the future trips for the net new hospital space. For the proposed long-term care facility, ITE 11 LUC620 was applied given remoteness of location. Of note, the proposed AHF beds within the long-term care building have been added to proposed hospital trip generation given the use of AHF beds will be housed in the LTC building. Additionally, based on comments received on the previous submission, Long Term Care facility trip generation has been conducted using proposed floor space. **Table 4-3** summarizes the predicted vehicle trip generation.

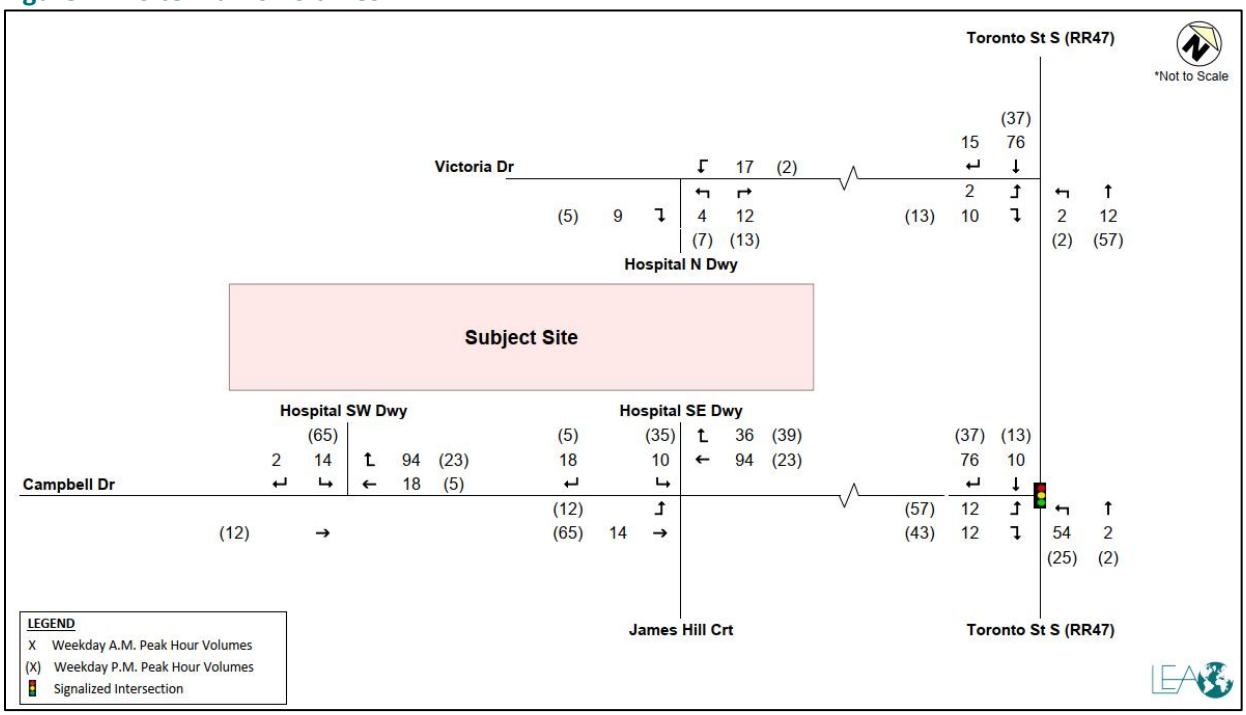
Table 4-3: Total Site Vehicle Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
New Hospital 79,589 ft^2	Auto Trip Rate (/1000 ft^2)	0.91	0.42	1.33	0.41	0.70	1.11
	Total Auto Trips	72	34	106	33	55	88
Long Term Care (ITE11 LUC620 Nursing Home – 164,882 ft^2	Auto Trip Rate (/1000 ft^2)	0.42	0.13	0.55	0.24	0.35	0.59
	Total Auto Trips	69	22	91	40	57	97
Net New Site Trips		**141**	**56**	**197**	**73**	**112**	**185**
Existing Site Trips		65	30	95	29	50	79
Total Future Site Trips		**206**	**86**	**292**	**102**	**162**	**264**

The proposed expansion is predicted to generate a net increase of 197 two-way vehicle trips (141 inbound and 56 outbound) during the weekday AM peak hour and net increase of 185 two-way vehicle trips (73 inbound and 112 outbound) during the weekday PM peak hour. This results in a projected total of 292 two-way vehicle trips (206 inbound, 86 outbound) and 264 two-way vehicle trips (102 inbound, 162 outbound) during the AM and PM peak hour, respectively.

Total site traffic volumes during the weekday AM and PM peak hours are illustrated in **Figure 4-1.**

Figure 4-1: Site Traffic Volumes



5 FUTURE TOTAL TRAFFIC CONDITIONS

Future total traffic conditions include the addition of site trips to future background volumes.

5.1 FUTURE TOTAL TRAFFIC VOLUMES

Future total traffic volumes for the weekday AM and PM peak hours during the 2027, 2032, and 2037 horizon year are illustrated in **Figure 5-1**, **Figure 5-2**, and **Figure 5-3**, respectively.

Figure 5-1: 2027 Future Total Traffic Volumes

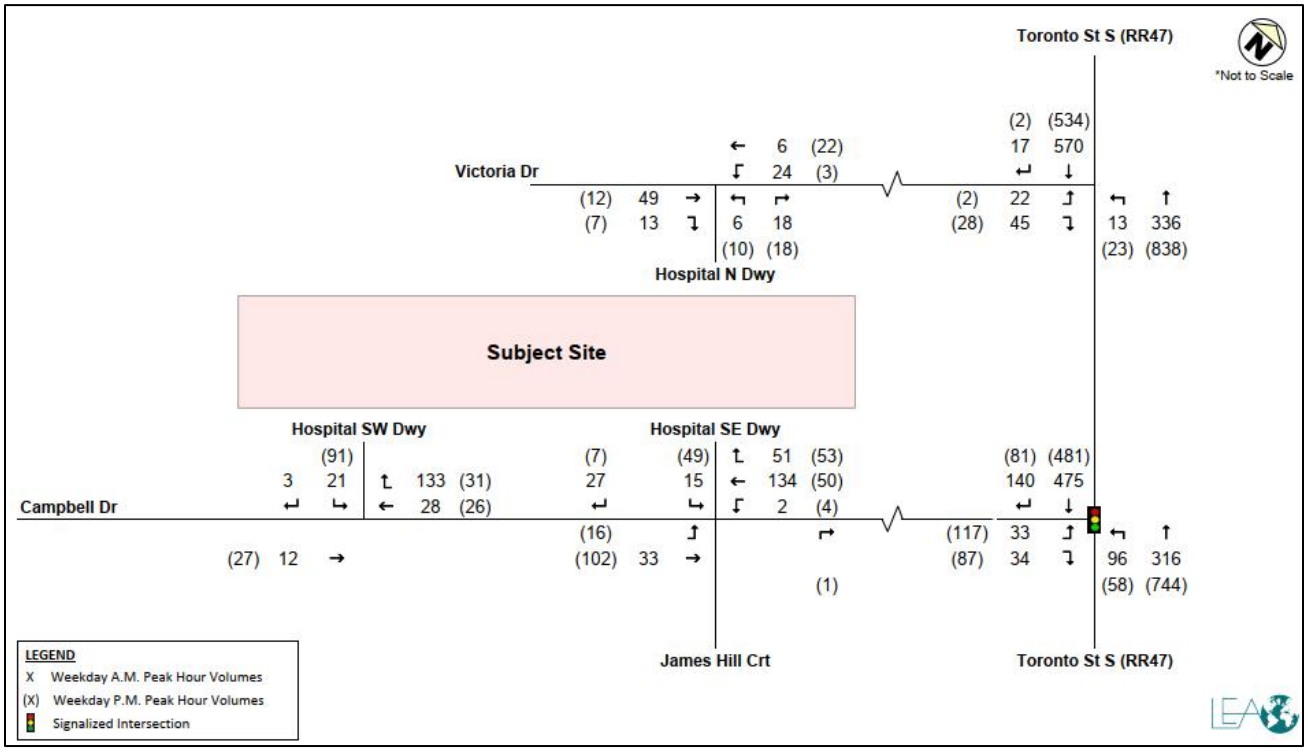


Figure 5-2: 2032 Future Total Traffic Volumes

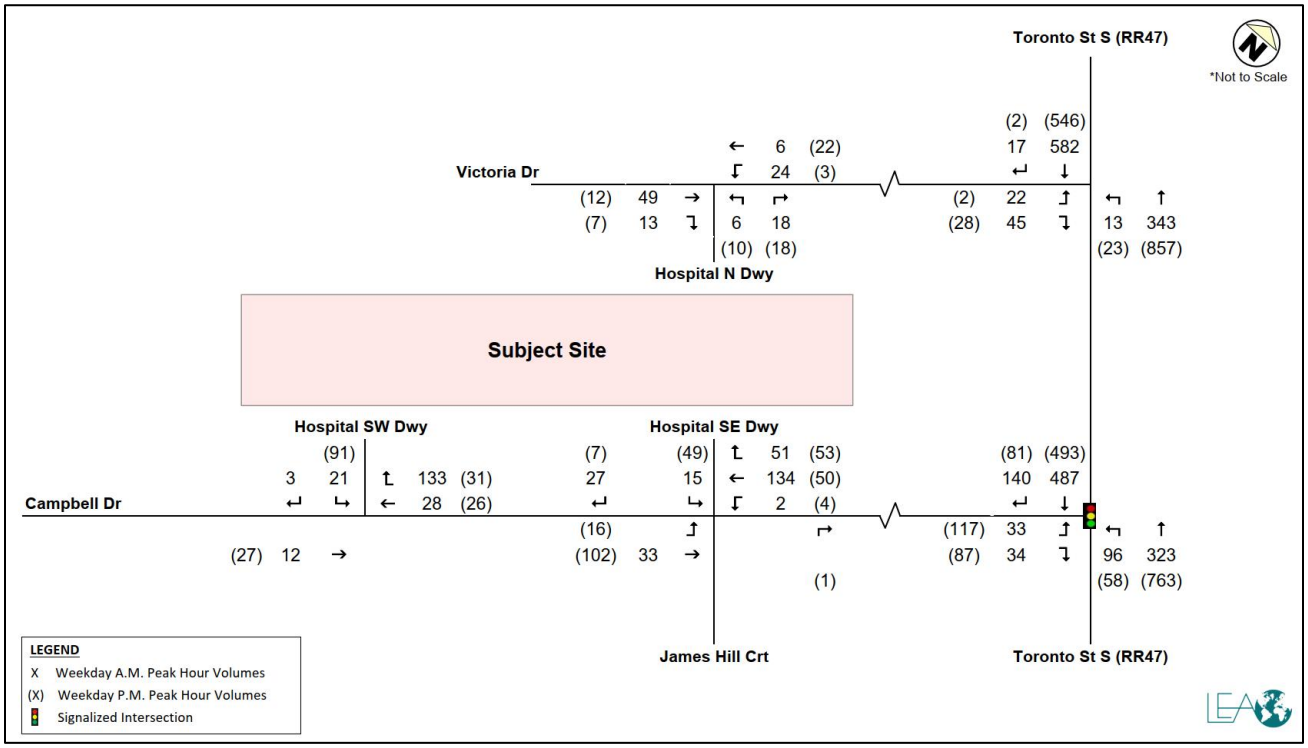
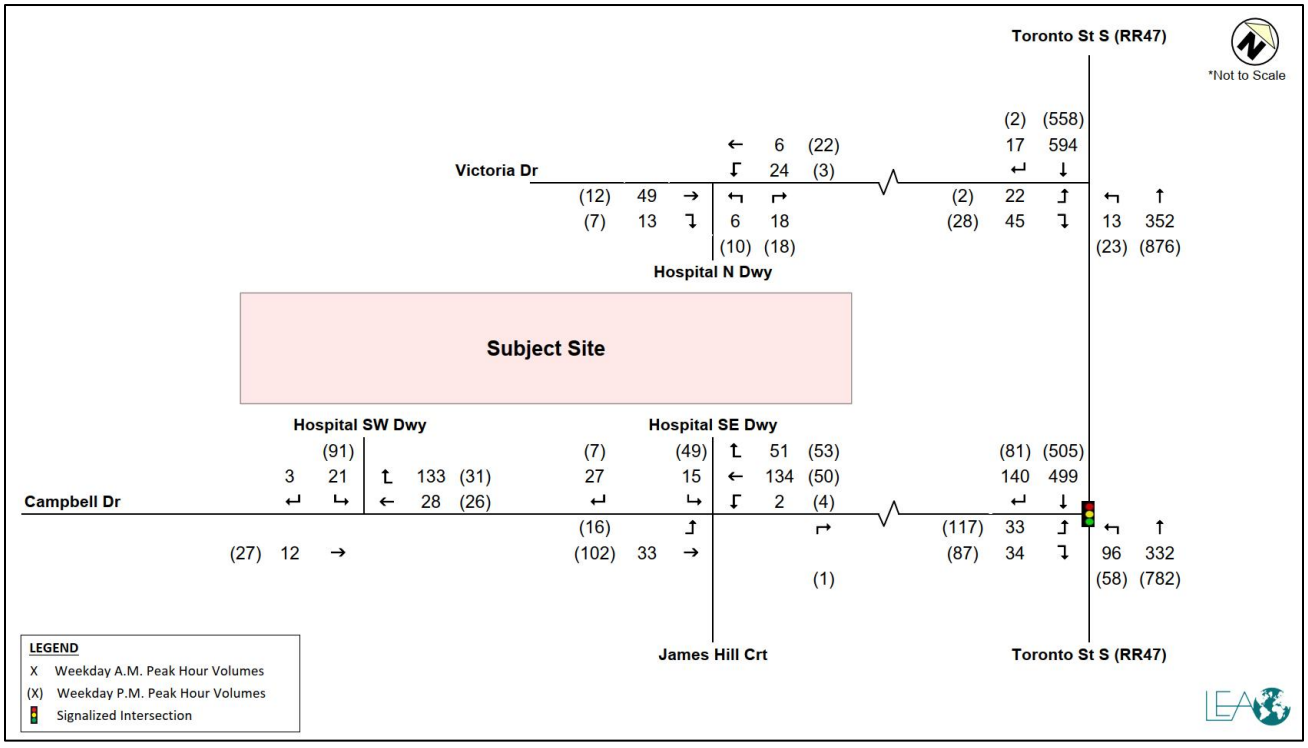


Figure 5-3: 2037 Future Total Traffic Volumes



6 INTERSECTION CAPACITY ANALYSIS

The intersection capacity analysis was undertaken using Synchro 12.0, which is based on the Highway Capacity Manual (2000) methodology and adhering to Durham Region's Traffic Impact Study Guidelines (October 2011). Peak Hour Factors (PHF) under existing conditions for all intersections were calculated based on available traffic counts. Key movements of interest are those with a Level of Service (LOS) E or worse or a Volume-to-Capacity (V/C) ratio greater than 0.85 for through and right movements and a V/C greater than 0.9 for dedicated left-turn movements.

The sections below outline a comparison of the capacity analysis results under existing, future background and future total conditions. Detailed capacity results are provided in the following appendices:

- **Appendix E:** Existing Intersection Capacity Analysis;
- **Appendix F:** 2027 Intersection Capacity Analysis;
- **Appendix G:** 2032 Intersection Capacity Analysis; and,
- **Appendix H:** 2037 Intersection Capacity Analysis.

6.1 SIGNALIZED INTERSECTIONS

The results for the studied signalized intersections under each traffic scenario during the weekday AM and PM peak hours are summarized in the sections below.

6.1.1 Toronto Street South and Campbell Drive

The intersection capacity analysis results at Toronto Street South and Campbell Drive during the AM and PM peak hours are summarized in **Table 6-1** and

Table 6-2, while the queue analysis is summarized in **Table 6-3** and **Table 6-4.**

Table 6-1: Intersection Capacity Analysis - Toronto Street South & Campbell Drive (Existing & 2027)

Mvmt	Existing Conditions (2023)			Future Background (2027)			Future Total (2027)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour									
Overall	-	0.35	B (11)	-	0.35	B (11)	-	0.37	B (11)
EBL	21	0.05	C (22)	21	0.05	C (22)	33	0.08	C (23)
EBR	22	0.02	C (22)	22	0.02	C (22)	34	0.03	C (22)
NBL	42	0.12	A (8)	42	0.13	A (8)	96	0.28	A (9)
NBT	307	0.33	A (9)	314	0.34	A (9)	316	0.34	A (9)
SBT	457	0.48	B (12)	465	0.49	B (12)	475	0.50	B (12)
SBR	64	0.07	A (8)	64	0.07	A (8)	140	0.14	A (8)
PM Peak Hour									
Overall	-	0.52	C (21)	-	0.52	C (21)	-	0.56	C (20)
EBL	60	0.10	B (16)	60	0.10	B (17)	117	0.19	B (18)
EBR	44	0.03	B (16)	44	0.03	B (16)	87	0.06	B (16)
NBL	33	0.11	B (12)	33	0.11	B (12)	58	0.19	B (12)
NBT	730	0.85	C (26)	742	0.85	C (26)	744	0.85	C (26)
SBT	459	0.53	B (15)	468	0.54	B (15)	481	0.55	B (15)
SBR	44	0.05	B (11)	44	0.05	B (11)	81	0.08	B (11)

Table 6-2: Intersection Capacity Analysis - Toronto Street South & Campbell Drive (2032 & 2037)

Mvmt	Future Background (2032)			Future Total (2032)			Future Background (2037)			Future Total (2037)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour												
Overall	-	0.36	B (11)	-	0.37	B (11)	-	0.37	B (11)	-	0.38	B (11)
EBL	21	0.05	C (22)	33	0.08	C (23)	21	0.05	C (22)	33	0.08	C (23)
EBR	22	0.02	C (22)	34	0.03	C (22)	22	0.02	C (22)	34	0.03	C (22)
NBL	42	0.13	A (8)	96	0.28	A (9)	42	0.13	A (8)	96	0.29	A (9)
NBT	321	0.35	A (9)	323	0.35	A (9)	330	0.36	A (9)	332	0.36	A (9)
SBT	477	0.50	B (12)	487	0.51	B (12)	489	0.52	B (12)	499	0.52	B (12)
SBR	64	0.07	A (8)	140	0.14	A (8)	64	0.07	A (8)	140	0.14	A (8)
PM Peak Hour												
Overall	-	0.54	C (21)	-	0.57	C (20)	-	0.55	C (21)	-	0.58	C (21)
EBL	60	0.10	B (17)	117	0.19	B (18)	60	0.10	B (18)	117	0.19	B (18)
EBR	44	0.03	B (17)	87	0.06	B (17)	44	0.03	B (17)	87	0.06	B (17)
NBL	33	0.11	B (11)	58	0.19	B (12)	33	0.11	B (11)	58	0.19	B (12)
NBT	761	0.86	C (27)	763	0.86	C (26)	780	0.87	C (27)	782	0.87	C (27)
SBT	480	0.54	B (15)	493	0.56	B (15)	492	0.55	B (15)	505	0.56	B (15)
SBR	44	0.05	B (11)	81	0.08	B (11)	44	0.05	B (10)	81	0.08	B (11)

Table 6-3: Toronto Street South & Campbell Drive (Existing & 2027) Queues

AM		Existing Traffic		Future Background (2027)		Future Total (2027)	
Mvmt	Storage	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue
EBL	30	3	8	3	8	5	12
EBR	0	0	6	0	6	0	7
NBL	30	3	9	3	9	8	18
NBT	0	27	44	28	45	28	45
SBT	0	45	69	46	70	47	72
SBR	15	2	8	2	8	5	13
PM		Existing Traffic		Future Background (2027)		Future Total (2027)	
Mvmt	Storage	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue
EBL	30	7	16	7	16	13	27
EBR	0	0	7	0	7	0	10
NBL	30	3	7	3	7	5	11
NBT	0	97	133	98	137	97	135
SBT	0	49	67	49	69	50	71
SBR	15	1	6	1	6	3	9

Table 6-4: Toronto Street South & Campbell Drive (2032 & 2037) Queues

AM		Future Background (2032)		Future Total (2032)		Future Background (2037)		Future Total (2037)	
Mvmt	Storage	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue
EBL	30	3	8	5	12	3	8	5	12
EBR	0	0	6	0	7	0	6	0	7
NBL	30	3	9	8	18	3	9	8	19
NBT	0	29	46	29	46	30	48	30	48
SBT	0	47	73	48	74	49	75	50	76
SBR	15	2	8	5	13	2	8	5	13
PM		Future Background (2032)		Future Total (2032)		Future Background (2037)		Future Total (2037)	
Mvmt	Storage	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue	50th Queue	95th Queue
EBL	30	7	16	13	27	7	16	14	27
EBR	0	0	7	0	10	0	7	0	10
NBL	30	3	7	5	11	3	7	5	11
NBT	0	100	144	99	141	102	150	101	148
SBT	0	49	71	51	73	50	74	52	75
SBR	15	2	6	3	9	2	6	3	9

Existing Conditions: Under existing conditions, the intersection operates well during both weekday peak hours. During the PM peak period, the northbound through movement operates with a V/C of 0.86 while experiencing acceptable delays and LOS C. No intersection modifications are recommended. All other movements operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes.

Future Background Conditions: Under future background conditions, the intersection is expected to generally operate similar to existing conditions with acceptable increases in V/C ratios and delay. No major constraints are noted.

Future Total Conditions: Under future total conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. As such, no intersection modifications are recommended.

6.2 UNSIGNALIZED INTERSECTIONS

The results for the unsignalized intersections under each traffic scenario during the weekday AM and PM peak hours are summarized in the sections below.

6.2.1 Toronto Street South and Victoria Drive

The intersection capacity analysis results at Toronto Street South and Victoria Drive during the AM and PM peak hours are summarized in **Table 6-5** and **Table 6-6.**

Table 6-5: Intersection Capacity Analysis - Toronto Street South & Victoria Drive (Existing & 2027)

Mvmt	Existing Conditions			Future Background (2027)			Future Total (2027)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hours									
Overall	-	-	- (1)	-	-	- (1)	-	-	- (2)
NBL	11	0.01	A (0)	11	0.01	A (0)	13	0.02	A (0)
NBTR	317	0.00	(0)	324	0.00	(0)	336	0.00	(0)
EBLR	55	0.20	C (0)	55	0.21	C (0)	67	0.28	C (0)
SBT	486	0.00	(0)	494	0.00	(0)	570	0.00	(0)
SBR	2	0.00	(0)	2	0.00	(0)	17	0.00	(0)
PM Peak Hour									
Overall	-	-	- (0)	-	-	- (0)	-	-	- (0)
NBL	21	0.02	A (0)	21	0.02	A (0)	23	0.02	A (0)
NBTR	769	0.00	(0)	781	0.00	(0)	838	0.00	(0)
EBLR	17	0.04	B (0)	17	0.04	B (0)	30	0.07	B (0)
SBT	488	0.00	(0)	497	0.00	(0)	534	0.00	(0)
SBR	2	0.00	(0)	2	0.00	(0)	2	0.00	(0)

Table 6-6: Intersection Capacity Analysis - Toronto Street South & Victoria Drive (2032 & 2037)

Mvmt	Future Background (2032)			Future Total (2032)			Future Background (2037)			Future Total (2037)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour												
Overall	-	-	- (1)	-	-	- (2)	-	-	- (1)	-	-	- (2)
NBL	11	0.01	A (0)	13	0.02	A (0)	11	0.01	A (0)	13	0.02	A (0)
NBTR	331	0.00	(0)	343	0.00	(0)	340	0.00	(0)	352	0.00	(0)
EBLR	55	0.21	C (0)	67	0.29	C (0)	55	0.22	C (0)	67	0.30	C (0)
SBT	506	0.00	(0)	582	0.00	(0)	518	0.00	(0)	594	0.00	(0)
SBR	2	0.00	(0)	17	0.00	(0)	2	0.00	(0)	17	0.00	(0)
PM Peak Hour												
Overall	-	-	- (0)	-	-	- (0)	-	-	- (0)	-	-	- (0)
NBL	21	0.02	A (0)	23	0.02	A (0)	21	0.02	A (0)	23	0.03	A (0)
NBTR	800	0.00	(0)	857	0.00	(0)	819	0.00	(0)	876	0.00	(0)
EBLR	17	0.05	B (0)	30	0.08	B (0)	17	0.05	B (0)	30	0.08	B (0)
SBT	509	0.00	(0)	546	0.00	(0)	521	0.00	(0)	558	0.00	(0)
SBR	2	0.00	(0)	2	0.00	(0)	2	0.00	(0)	2	0.00	(0)

Existing & Future Conditions: Under existing and future conditions, the intersection of Toronto Street South and Victoria Drive operates well, with no capacity, delay, or queueing issues identified during both weekday peak hours.

6.2.2 Hospital North Driveway and Victoria Drive

The intersection capacity analysis results at Hospital North Driveway and Victoria Drive during the AM and PM peak hours are summarized in **Table 6-7** and **Table 6-8.**

Table 6-7: Intersection Capacity Analysis - Hospital North Driveway & Victoria Drive (Existing & 2027)

Mvmt	Existing Conditions			Future Background (2027)			Future Total (2027)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour									
Overall	-	-	- (2)	-	-	- (2)	-	-	- (3)
NBLR	8	0.01	A (0)	8	0.01	A (0)	24	0.04	A (0)
EBT	49	0.00	(0)	49	0.00	(0)	49	0.00	(0)
EBR	4	0.00	(0)	4	0.00	(0)	13	0.00	(0)
WBL	7	0.01	A (0)	7	0.01	A (0)	24	0.02	A (0)
WBT	6	0.00	A (0)	6	0.00	A (0)	6	0.00	A (0)
PM Peak Hour									
Overall	-	-	- (2)	-	-	- (2)	-	-	- (4)
NBLR	8	0.01	A (0)	8	0.01	A (0)	28	0.04	A (0)
EBT	12	0.00	(0)	12	0.00	(0)	12	0.00	(0)
EBR	2	0.00	(0)	2	0.00	(0)	7	0.00	(0)
WBL	1	0.00	A (0)	1	0.00	A (0)	3	0.00	A (0)
WBT	22	0.00	A (0)	22	0.00	A (0)	22	0.00	A (0)

Table 6-8: Intersection Capacity Analysis - Hospital North Driveway & Victoria Drive (2032 & 2037)

Mvmt	Future Background (2032)			Future Total (2032)			Future Background (2037)			Future Total (2037)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour												
Overall	-	-	- (2)	-	-	- (3)	-	-	- (2)	-	-	- (3)
NBLR	8	0.01	A (0)	24	0.04	A (0)	8	0.01	A (0)	24	0.04	A (0)
EBT	49	0.00	(0)	49	0.00	(0)	49	0.00	(0)	49	0.00	(0)
EBR	4	0.00	(0)	13	0.00	(0)	4	0.00	(0)	13	0.00	(0)
WBL	7	0.01	A (0)	24	0.02	A (0)	7	0.01	A (0)	24	0.02	A (0)
WBT	6	0.00	A (0)	6	0.00	A (0)	6	0.00	A (0)	6	0.00	A (0)
PM Peak Hour												
Overall	-	-	- (2)	-	-	- (4)	-	-	- (2)	-	-	- (4)
NBLR	8	0.01	A (0)	28	0.04	A (0)	8	0.01	A (0)	28	0.04	A (0)
EBT	12	0.00	(0)	12	0.00	(0)	12	0.00	(0)	12	0.00	(0)
EBR	2	0.00	(0)	7	0.00	(0)	2	0.00	(0)	7	0.00	(0)
WBL	1	0.00	A (0)	3	0.00	A (0)	1	0.00	A (0)	3	0.00	A (0)
WBT	22	0.00	A (0)	22	0.00	A (0)	22	0.00	A (0)	22	0.00	A (0)

Existing & Future Conditions: Under existing and future conditions, the intersection of Hospital North Driveway and Victoria Drive operates well, with no capacity, delay, or queueing issues identified during both weekday peak hours.

6.2.3 Hospital Southwest Driveway and Campbell Drive

The intersection capacity analysis results at Hospital Southwest Driveway and Campbell Driveduring the AM and PM peak hours are summarized in **Table 6-9** and **Table 6-10.**

Table 6-9: Intersection Capacity Analysis - Hospital Southwest Driveway & Campbell Drive (Existing & 2027)

Mvmt	Existing Conditions			Future Background (2027)			Future Total (2027)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour									
Overall	-	-	- (1)	-	-	- (1)	-	-	- (1)
EBL	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)
EBT	12	0.00	(0)	12	0.00	(0)	12	0.00	(0)
WBT	10	0.00	(0)	10	0.00	(0)	28	0.00	(0)
WBR	39	0.00	(0)	39	0.00	(0)	133	0.00	(0)
SBLR	8	0.01	A (0)	8	0.01	A (0)	24	0.04	A (0)
PM Peak Hour									
Overall	-	-	- (3)	-	-	- (3)	-	-	- (5)
EBL	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)
EBT	15	0.00	(0)	15	0.00	(0)	27	0.00	(0)
WBT	21	0.00	(0)	21	0.00	(0)	26	0.00	(0)
WBR	8	0.00	(0)	8	0.00	(0)	31	0.00	(0)
SBLR	26	0.04	A (0)	26	0.04	A (0)	91	0.13	A (0)

Table 6-10: Intersection Capacity Analysis - Hospital Southwest Driveway & Campbell Drive (2032 & 2037)

Mvmt	Future Background (2032)			Future Total (2032)			Future Background (2037)			Future Total (2037)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour												
Overall	-	-	- (1)	-	-	- (1)	-	-	- (1)	-	-	- (1)
EBL	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)
EBT	12	0.00	(0)	12	0.00	(0)	12	0.00	(0)	12	0.00	(0)
WBT	10	0.00	(0)	28	0.00	(0)	10	0.00	(0)	28	0.00	(0)
WBR	39	0.00	(0)	133	0.00	(0)	39	0.00	(0)	133	0.00	(0)
SBLR	8	0.01	A (0)	24	0.04	A (0)	8	0.01	A (0)	24	0.04	A (0)
PM Peak Hour												
Overall	-	-	- (3)	-	-	- (5)	-	-	- (3)	-	-	- (5)
EBL	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)
EBT	15	0.00	(0)	27	0.00	(0)	15	0.00	(0)	27	0.00	(0)
WBT	21	0.00	(0)	26	0.00	(0)	21	0.00	(0)	26	0.00	(0)
WBR	8	0.00	(0)	31	0.00	(0)	8	0.00	(0)	31	0.00	(0)
SBLR	26	0.04	A (0)	91	0.13	A (0)	26	0.04	A (0)	91	0.13	A (0)

Existing & Future Conditions: Under existing and future conditions, the intersection of Hospital Southwest Driveway and Campbell Drive operates well, with no capacity, delay, or queueing issues identified during both weekday peak hours.

6.2.4 James Hill Court/Hospital Southeast Driveway and Campbell Drive

The intersection capacity analysis results at James Hill Court/Hospital Southeast Driveway and Campbell Drive during the AM and PM peak hours are summarized in **Table 6-11** and **Table 6-12.**

Table 6-11: Intersection Capacity Analysis - James Hill Court/Hospital Southeast Driveway & Campbell Drive (Existing & 2027)

Mvmt	Existing Conditions			Future Background (2027)			Future Total (2027)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour									
Overall	-	-	- (2)	-	-	- (2)	-	-	- (2)
NBLTR	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)
EBL	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)
EBT	19	0.00	(0)	19	0.00	(0)	33	0.00	(0)
EBR	0	0.00	(0)	0	0.00	(0)	0	0.00	(0)
WBL	2	0.00	A (0)	2	0.00	A (0)	2	0.00	A (0)
WBT	40	0.00	A (0)	40	0.00	A (0)	134	0.00	A (0)
WBR	15	0.00	(0)	15	0.00	(0)	51	0.00	(0)
SBLTR	14	0.02	A (0)	14	0.02	A (0)	42	0.07	B (0)
PM	Existing Conditions			Future Background (2027)			Future Total (2027)		
Mvmt	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
Overall	-	-	- (2)	-	-	- (2)	-	-	- (3)
NBLTR	1	0.00	A (0)	1	0.00	A (0)	1	0.00	A (0)
EBL	4	0.00	A (0)	4	0.00	A (0)	16	0.01	A (0)
EBT	37	0.00	A (0)	37	0.00	A (0)	102	0.00	A (0)
EBR	0	0.00	(0)	0	0.00	(0)	0	0.00	(0)
WBL	4	0.00	A (0)	4	0.00	A (0)	4	0.00	A (0)
WBT	27	0.00	A (0)	27	0.00	A (0)	50	0.00	A (0)
WBR	14	0.00	(0)	14	0.00	(0)	53	0.00	(0)
SBLTR	16	0.02	A (0)	16	0.02	A (0)	56	0.10	B (0)

Table 6-12: Intersection Capacity Analysis - James Hill Court/Hospital Southeast Driveway & Campbell (2032 & 2037)

Mvmt	Future Background (2032)			Future Total (2032)			Future Background (2037)			Future Total (2037)		
	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)	Vol	V/C	Delay (LOS)
AM Peak Hour												
Overall	-	-	- (2)	-	-	- (2)	-	-	- (2)	-	-	- (2)
NBLTR	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)
EBL	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)	0	0.00	A (0)
EBT	19	0.00	(0)	33	0.00	(0)	19	0.00	(0)	33	0.00	(0)
EBR	0	0.00	(0)	0	0.00	(0)	0	0.00	(0)	0	0.00	(0)
WBL	2	0.00	A (0)	2	0.00	A (0)	2	0.00	A (0)	2	0.00	A (0)
WBT	40	0.00	A (0)	134	0.00	A (0)	40	0.00	A (0)	134	0.00	A (0)
WBR	15	0.00	(0)	51	0.00	(0)	15	0.00	(0)	51	0.00	(0)
SBLTR	14	0.02	A (0)	42	0.07	B (0)	14	0.02	A (0)	42	0.07	B (0)
PM Peak Hour												
Overall	-	-	- (2)	-	-	- (3)	-	-	- (2)	-	-	- (3)
NBLTR	1	0.00	A (0)	1	0.00	A (0)	1	0.00	A (0)	1	0.00	A (0)
EBL	4	0.00	A (0)	16	0.01	A (0)	4	0.00	A (0)	16	0.01	A (0)
EBT	37	0.00	A (0)	102	0.00	A (0)	37	0.00	A (0)	102	0.00	A (0)
EBR	0	0.00	(0)	0	0.00	(0)	0	0.00	(0)	0	0.00	(0)
WBL	4	0.00	A (0)	4	0.00	A (0)	4	0.00	A (0)	4	0.00	A (0)
WBT	27	0.00	A (0)	50	0.00	A (0)	27	0.00	A (0)	50	0.00	A (0)
WBR	14	0.00	(0)	53	0.00	(0)	14	0.00	(0)	53	0.00	(0)
SBLTR	16	0.02	A (0)	56	0.10	B (0)	16	0.02	A (0)	56	0.10	B (0)

Existing & Future Conditions: Under existing and future conditions, the intersection of James Hill Court/Hospital Southeast Driveway and Campbell operates well, with no capacity, delay, or queueing issues identified during both weekday peak hours.

6.3 SIMTRAFFIC QUEUES

A SimTraffic Analysis was conducted with the following calibration setting:

- 30 minute seeding time
- 1 hour analysis
- 5 simulation runs

Resultant queues for the Toronto Street South and Campbell Drive intersection are summarized in **Table 6-13** and **Table 6-14,** while queues for the Toronto Street South and Victoria Drive intersection are summarized in **Table 6-15** and **Table 6-16** below.

Table 6-13: Toronto Street South and Campbell Drive (Existing & 2027) SimTraffic Results

Mvmt	Stg (m)	Existing Traffic				Future Background 2027				Future Total 2027			
		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
EBL	30	5	15	9	23	4	14	8	21	6	18	15	**35**
EBR	149	4	18	6	17	4	16	6	21	5	14	10	23
NBL	30	7	19	11	**65**	8	**30**	12	**57**	16	**41**	24	**65**
NBT	618	23	52	86	152	25	55	92	162	25	55	92	180
SBT	88	39	74	47	79	37	73	47	80	39	77	47	80
SBR	15	8	**51**	8	**43**	8	**50**	7	**55**	13	**52**	12	**65**

Table 6-14: Toronto Street South and Campbell Drive (2032 & 2037) SimTraffic Results

Mvmt	Stg (m)	Future Background 2032				Future Total 2032				Future Background 2037				Future Total 2037			
		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
EBL	30	5	17	8	21	7	19	14	30	5	16	9	23	7	19	14	**32**
EBR	149	4	17	6	21	6	17	10	21	4	14	7	20	6	20	10	27
NBL	30	8	25	12	**55**	15	**32**	22	**65**	8	22	13	**65**	16	**38**	23	**65**
NBT	618	25	56	95	176	23	48	97	183	26	57	102	190	24	52	104	188
SBT	88	42	78	47	80	39	75	47	80	42	80	48	80	39	76	48	79
SBR	15	9	**48**	6	**45**	15	**64**	10	**54**	10	**55**	8	**47**	14	**53**	15	**65**

Table 6-15: Toronto Street South and Victoria Drive (Existing & 2027) SimTraffic Results

Mvmt	Stg (m)	Existing Traffic				Future Background 2027				Future Total 2027			
		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
EBLR	86	10	27	3	17	10	25	4	15	11	24	6	13
NBL	15	1	7	3	13	1	12	3	12	2	12	2	9
SBTR	681	1	20	1	20	0	12	2	30	2	36	2	33

Table 6-16: Toronto Street South and Campbell Drive (2032 & 2037) SimTraffic Results

Mvmt	Stg (m)	Future Background 2032				Future Total 2032				Future Background 2037				Future Total 2037			
		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour		Weekday AM Peak Hour		Weekday PM Peak Hour	
		Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max	Avg	Max
EBLR	86	10	26	5	12	11	24	6	12	11	30	4	13	11	23	3	21
NBL	15	1	10	3	13	2	11	3	12	2	15	3	10	2	12	3	10
SBTR	681	3	36	1	27	2	35	1	29	1	23	3	48	1	19	2	30

Based on the Simtraffic results, the maximum southbound queues at Toronto Street South and Campbell Drive are anticipated to reach Victoria Street, while the average queue are not anticipated to extend short of Victora Street. There may be some minor moments during the peak minutes of the peak hour where the NBL from Toronto Street to Victoria Street is partially obstructed, but these moments are expected to be temporary and do not have a noticeable impact on the projected queues or delays associated with the NBL movement.

The updated TMCs collected at the Toronto Street and Victoria Drive intersection along with the subsequent analysis indicate that southbound traffic queues from Toronto Street and Campbell Drive extend short of the Toronto Street and Victoria Drive intersection. To reinforce the need for southbound vehicles to avoid blocking traffic at Toronto/Victoria, LEA recommends painted pavement markings to denote where no vehicles are permitted to block the intersection. Accompanying signage with "DO NOT BLOCK INTERSECTION" should be added for both directions on Toronto Street South. These measures aim to ensure clear access to and from Victoria Street and the hospital for emergency vehicles.

6.4 ANALYSIS SUMMARY

The analysis results indicate that the proposed hospital expansion is expected to have an acceptable impact on road network operations in the surrounding area. No intersection modifications are required within the study area.

7 PARKING AND LOADING REVIEW

This section will review the applicable vehicle and bicycle parking standards for the subject site.

7.1 VEHICLE PARKING REVIEW

The parking requirements contained in By-Law 81-19, as amended, apply to subject site. **Table 7-1** details the applicable parking requirements for the proposed hospital.

Table 7-1: Vehicle Parking Requirements - Zoning By-law 81-19

Land Use	Units	Zoning By-law 81-19		Proposed Supply
		Parking Rate	Parking Spaces	
Hospital (Proposed)	32 Beds 8,274m^2 of GFA	The greater of 1 Space/2 beds OR per 38 m^2 of GFA	306	375
Long-Term Care (Proposed)	50 AHF Beds 3,329 m^2 of GFA			
	192 LTC Beds 15,318 m^2 of GFA	1 space/4 beds	48	
Uxbridge Medical (Existing)	11 Doctors 24 Exam Rooms	5 spaces/practitioner, plus 1 Space/examination room exceeding 5 such rooms per office	74	
	657 m^2 of Office GFA	1 spaces/ 20 m^2 of GFA	33	
	921 m^2 of Hospital GFA	1 spaces/ 38 m^2 of GFA	25	
		Total	486	375

As detailed in **Table 7-1**, a minimum of 486 parking spaces are required based on the proposed GFA of the hospital expansion and LTC building addition. The proposed parking supply of 375 spaces results in a shortfall of 111 parking spaces. As such, the **Section 7.2** will provide justification to support the proposed parking supply.

7.1.1 Accessible Parking Requirements

The Township of Uxbridge By-Law 2013-184, as amended, requires accessible parking spaces for all new developments. The required accessible parking requirements and proposed supply are detailed in **Table 7-2.**

Table 7-2: Accessible Parking Requirements

Total Parking	Zoning By-law 2013-184	
	Required Rate	Proposed Accessible Parking
375	Between 201 to 400 parking spaces requires *a minimum of 5* accessible parking spaces	14 Spaces

The proposed hospital is required to provide a minimum of five (5) accessible parking space as per the latest requirements. The proposed expansion proposes a total of 14 accessible parking spaces, exceeding the by-law requirement.

7.2 VEHICLE PARKING JUSTIFICATION

The following section will provide justification to support the proposed parking supply using existing parking utilization trends to support the proposed parking supply. It is noted that due to site constraints, providing additional parking on-site is not feasible.

7.2.1 Parking Utilization

As the proposed parking supply does not meet the requirements as illustrated above, an assessment of the existing hospital parking utilization was undertaken using data provided by *Oak Valley Health*. Whilst the proposed parking supply does not meet the requirements of the Township of Uxbridge's Zoning Bylaw due to site limitations, the following data provides support based on the existing hospital parking utilization, which is based on the design parameters specified by the existing hospital's usage.

7.2.1.1 Existing Parking Supply

The subject site currently provides a total of 258 parking spaces distributed across three primary areas:

- West Lot: 141 spaces
- South Lot: 22 spaces
- East Lot & Miscellaneous: 95 spaces

Of these, 153 spaces were constructed with the UxMed building to satisfy zoning requirements. The west and south lots are controlled-access facilities primarily serving hospital and UxMed staff, while the east lot accommodates short-term and barrier-free parking.

7.2.1.2 Observed Weekday Utilization

Oak Valley Health conducted a utilization study based on gate access data and on-site observations. Key findings include:

- **Staff Parking:** Approximately 75 spaces occupied during peak daytime hours by hospital and UxMed staff, volunteers, and physicians. This is based on a total of 179 daytime and 48 nighttime staff on site.
- **Visitor Parking:** An average of 70–90 visitors per day, with peak occupancy of 30 spaces at any given time and an average stay of one hour.
- **Seasonal Adjustment:** Winter operations reduce available capacity by approximately 10 spaces due to snow storage.
- **Total Peak Demand:** Including staff and visitors, peak utilization was approximately 115 spaces, plus 10 spaces for barrier-free and short-term stalls, resulting in a total of 125 spaces.

This observed demand is significantly lower than the zoning requirement for the UxMed building alone, indicating that existing hospital demand is modest relative to by-law standards. Based on relative usage, the existing hospital accounts for 40–50 spaces of this total, with the remainder attributed to UxMed operations.

7.2.1.3 Staffing Context

Current daytime staffing across all site components totals 179 staff (hospital: 89, LTC: 60, UxMed: 30), with 48 staff during nighttime hours. Peak parking demand aligns with daytime shifts, consistent with observed utilization patterns.

7.2.1.4 Parking Space Allocations

A review of operational metrics and observed utilization indicates that a reasonable parking allocation for the redeveloped site would be approximately 273 spaces, distributed as follows:

- **UxMed** – 75 spaces
- **New Hospital** – 100 spaces
- **Long-Term Care** – 98 spaces

This allocation is based on several assumptions:

- Approximately 60% of the existing parking demand (125 spaces) is attributable to the UxMed building and is expected to remain stable
- Hospital parking demand will increase in line with staff and workload growth projections that informed the redevelopment program
- Long-Term Care parking demand reflects historic metrics provided by the LTC operator, which typically allocate 0.4 spaces per resident room or bed to accommodate staff and visitor needs.

The proposed parking supply of 375 spaces exceeds this calculated requirement by 102 spaces, representing a surplus of approximately 30%. This additional capacity provides flexibility to accommodate projected increases in hospital staffing, evolving operational conditions, and unforeseen growth over the long term. The surplus also ensures that peak demand periods, such as staff shift changes and high visitor volumes, can be managed without creating operational constraints or impacting accessibility. Therefore, based on the existing demand profile provided by *Oak Valley Health,* the proposed parking is deemed sufficient.

7.2.2 Vehicular Parking Justification Summary

As detailed above, the proposed parking supply of 375 vehicular spaces is appropriate given the existing parking utilization design parameters provided by *Oak Valley Health* illustrates that the existing parking supply is utilized significantly lower than the zoning requirement. As noted above, site constraints have limited the number of parking spaces feasible on site, and if additional parking spaces are required for the site to meet by-law requirements, this may result in a reduction in the proposed facilities. Based on Given these results, it is LEA's opinion that the proposed parking supply is sufficient for the proposed hospital expansion.

7.3 BICYCLE PARKING REVIEW

While The Township of Uxbridge By-laws 81-19 and 2013-184 do not specify bicycle parking requirements, a total of 40 bicycle parking spaces are currently proposed for the site to accommodate both employees and visitors, in accordance to LEED V4 guidelines. Per LEED guidelines, a minimum of 2.5% of all peak visitors must be provided for short-term bicycle parking, and at least 5% of regular building occupants must be required for

long-term bicycle parking. Based on a peak estimate of 300 Visitors and 180 employees, it is estimated that 7 short-term and 9 long-term bicycle parking spaces will be required to satisfy LEED requirements.

The proposed bicycle parking supply is summarized in **Table 7-3** and will support cycling as a travel alternative to and from the site. The proposed bicycle parking will also contribute towards an overall TDM strategy for the site that will be further developed through the submission process.

Table 7-3: Proposed Bicycle Parking Supply

Land Use	Beds / GFA	Bicycle Parking Rate	Proposed Bicycle Parking Spaces
Hospital	32 Beds	1.25 spaces/bed	40

The proposed bicycle parking spaces will be located at-grade, within 60 m of building entrances to provide convenient access for employees and visitors, satisfying LEED requirements.

7.4 LOADING AND CIRCULATION REVIEW

The applicable loading requirements under By-law 81-19 were reviewed and applied to the proposed hospital and long-term care building, as detailed in **Table 7-4.**

Table 7-4: Loading Space Requirements (By-law 81-19)

Land Use	GFA m^2	Uxbridge ZBL 81-19		
		Required Rate	Required	Proposed Supply
Hospital	8,274	1 space required for institutional buildings with a GFA of 2,300m^2 to 11,600 m^2	1	4
Uxbridge Medical (Existing)	2,431		1	1
Long-Term Care	18,647	0 spaces for nursing, aged, retirement or senior citizen housing	0	2
Total		-	2	7

As per By-law 81-19, the proposed hospital is required to provide a total of one (1) loading space, whilst the long-term care facility does not require any loading spaces given the intended use. Per the latest site plan, a total of four (4) loading spaces are proposed for the hospital and one (2) loading spaces are proposed for the long-term care facility, meeting and exceeding the requirements. The existing Uxbridge Medical building provides one (1) loading space, meeting the requirements as well.

A functional review of the site was completed to confirm that loading and fire services can safely circulate within the site. The lay-bys on the east side of the circular driveway were also reviewed for vehicular functionality. The swept path drawings are available in **Appendix I.**

8 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a set of initiatives and policies to reduce traffic demand by influencing travel behavior. Effective TDM measures can reduce vehicle usage and encourage people to engage in more sustainable transportation modes including public transit and shared rides, as well as active transportation, such as walking and cycling. The TDM opportunities and proposed TDM measures are described in the following sections.

8.1 CYCLING-BASED STRATAGIES

Provision of bicycle parking supply on-site

The proposed hospital will include 40 bicycle parking spaces consisting of both short-term and long-term spaces. Bicycle parking spaces will be located in highly accessible, weather protected locations, near the building entrances.

Provision of showers and change facilities on-site

The proposed hospital will provide shower and change facilities to accommodate cycling as a viable mode of transportation.

Promote and increase cycling awareness

Provide information packages to encourage cycling as a viable opportunity of active transportation. This should include educating employees on the health and environmental benefits of cycling, as well as providing maps of the cycling network and available infrastructure in the surrounding area. The applicant should provide the information packages and communications to be distributed to future employees.

8.2 PEDESTRIAN-BASED STRATAGIES

Safe and attractive walkways linking building entrances with public sidewalks

The proposed pedestrian entrances to the hospital will have sidewalks and pathways that directly connect to the internal driveways and external roadways. The existing sidewalk along the north side of Campbell Drive will connect to an internal sidewalk which will lead pedestrians towards the main entrance of the hospital. These connections to existing streets will provide convenient access for pedestrians, transit users, and cyclists.

Enhanced pedestrian amenities on-site

The site will incorporate enhanced pedestrian amenities on-site, including additional landscaping, and lighting. These features will improve the overall wayfinding experience and provide additional safety measures through higher visibility.

8.3 TRANSIT-BASED STRATAGIES

Enhanced walking routes between main building entrances and transit stops

As mentioned in **Section 2.2**, the hospital is served by existing bus routes operated DRT and GO Transit. Existing sidewalks provided along Campbell Drive and Victoria Drive allow for direct connections to the current transit stops along Toronto Street South. Accessibility to transit will help reduce automobile travel in the area. It should also be noted that there are ongoing discussions with DRT to provide a DSR on-site, as illustrated in

DWG 008 of **Appendix J**. While details are yet to be confirmed, this transit stop is proposed to stop at the entrance of the hospital, allowing for improved access to the hospital.

Weather-protected waiting areas

Weather-protected transit stops are provided by DRT at the existing transit stops along Toronto Street South. This amenity will benefit users and increase the attractiveness of travelling to the site via transit.

Presto Cards with pre-loaded value shall be provided to employees

As Presto becomes a dominant form of payment for transit throughout the Greater Toronto Area, it is recommended that Presto Cards with a pre-loaded value be provided to employees of the hospital to encourage use of the transit services in their community. This provides an opportunity for employees to experience the benefits of using transit and induce transit behaviour to new users.

Transit information and travel planning resources on-site and adjacent to bus stops

For hospital employees to take advantage of the transit services surrounding the subject site (DRT & GO Transit), it is recommended that information packages and communications be provided to increase transit awareness and multi-modal transport by encouraging active transportation and different travel demand management programs. The information packages should contain public transit information such as route maps and timetables.

8.4 PARKING AND TRAVEL-BASED STRATEGIES

Enforced paid public parking

Paid parking for visitors reduces parking demand and discourages auto use. Parking fees should be priced higher than a two-way transit fare, making non-auto modes a more cost-effective option. A single trip adult fare for DRT using Presto costs $3.60. As per the Victoria Transport Policy Institute paper on Transportation Elasticities, the introduction of a $6 parking fee was associated with a 21% decline in the share of commuting trips by private vehicle (Todd Litman, "Understanding Transport Demands and Elasticities", 2017).

Smart Commute Durham

Smart Commute Durham is an online forum that promotes healthy and sustainable travel options for commuters within the GTHA. Different modes of transportation such as carpooling, cycling, walking and public transportation are included within the Smart Commute program. It is recommended that Uxbridge Hospital register as a participating workplace with Smart Commute to provide employees with carpooling opportunities, leading to a reduction in SOVs.

8.5 TDM CONCLUSIONS

The goal of the above recommendations is to create a development that reduces single occupant vehicle trips and utilizes the multi-modal transportation infrastructure available to tenants to create a healthier, happier, and more efficient community. The Transportation Demand Management checklist is presented in **Table 8-1.**

Table 8-1: Transportation Demand Management Checklist

TDM Category	TDM Measure	Cost
Cycling	Provide bicycle parking supply on-site	Included in Site Plan
	Provide showers on-site	
	Provide information packages to employees	To be confirmed
Pedestrian	Walkway linkages between building entrances and sidewalks	Included in Site Plan
	Provide enhanced on-site amenities that would encourage walking and pedestrian activity	
Transit	Connection to transit networks through enhanced walking routes and weather-protected waiting areas	
	Weather protected waiting areas	Existing
	Communication strategy and transit information provision	To be confirmed
	Presto Cards for Employees	
Parking and Travel	Provision of paid parking	Existing
	Smart Commute program	To be confirmed

9 CONCLUSIONS

- The proposed expansion will relocate the existing hospital on site to accommodate a total of 32 beds and 8,274m^2 of GFA. A long-term care (LTC) facility is also proposed, including a total of 192 LTC and 50 alternative health facility (AHF) beds. The existing Uxbridge Medical building will remain unchanged. The proposal contains 385 parking spaces at-grade. Site accesses will remain unchanged from existing conditions.
- The subject site is approximately 200 meters of DRT and GO Transit bus services along Toronto Street South. There are ongoing discussions with DRT for an additional transit stop on-site, which is proposed at the main entrance of the hospital.
- The subject site is in an area which is accessible to the existing cycling and pedestrian network. The surrounding cycling network offers access to/from the subject site. The study area provides a adequate pedestrian network with convenient access to a wide range of retail, restaurants, institutions, services, and recreational uses within convenient walking distance.
- The proposed expansion is predicted to generate a net increase of 197 two-way vehicle trips (141 inbound and 56 outbound) during the weekday AM peak hour and net increase of 185 two-way vehicle trips (73 inbound and 112 outbound) during the weekday PM peak hour. This results in a projected total of 292 two-way vehicle trips (206 inbound, 86 outbound) and 264 two-way vehicle trips (102 inbound, 162 outbound) during the AM and PM peak hour, respectively.
- Under existing and future conditions, the signalized intersection of Toronto Street South and Campbell Drive is operating well during both weekday peak hours. During the PM peak period, the northbound through movement operates with a V/C of 0.85 while experiencing acceptable delays and LOS C. No intersection modifications are recommended. All other movements operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes.
- The intersection capacity analysis results indicate that the proposed hospital is expected to have an acceptable impact on road network operations in the surrounding area.
- The proposed vehicle parking supply of 375 spaces is a shortfall of Zoning By-law 81-19 requirements by 111 spaces. Based on a review of the existing parking utilization design parameters, the proposed parking supply is deemed sufficient and is anticipated to meet the parking demand.
- As per By-law 81-19, the proposed hospital is required to provide a total of one (1) loading space, whilst the LTC facility does not require any loading spaces. a total of four (4) loading spaces are proposed for the hospital and one (2) loading spaces are proposed for the long-term care facility, meeting and exceeding the requirements. The existing Uxbridge Medical building provides one (1) loading space, meeting the requirements as well.
- A number of TDM measures have been recommended to reduce single-occupant vehicle trips and encourage alternate means of travel including pedestrian connections, provision of Presto Cards and bicycle parking. A total of 40 bicycle parking will be provided.

APPENDIX A

Terms of Reference

LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON, L3R 9R9 Canada
T | 905 470 0015 F | 905 470 0030
WWW.LEA.CA

July 23, 2024

Reference Number: 24138.00.200

Doug Robertson
Project Manager - Transportation Infrastructure
Regional Municipality of Durham, Works Department
605 Rossland Road East, Level 5
PO Box 623, Whitby, ON L1N 6A3
Email: Doug.Robertson@Durham.ca

RE: Terms of Reference – Proposed Uxbridge Redevelopment

Dear Mr. Robertson:

We wish to confirm the following work plan for a Transportation Impact Study (TIS) for a replacement of the Oak Valley Hospital at 4 Campbell Dr, Uxbridge. The lands are situated on the northwest corner of Toronto St S and Campbell Dr. The site location is illustrated below in Figure 1.

Figure 1: Site Location



Based on the information provided to us, it is our understanding that the redevelopment is to replace the north building. The existing building contain 20 beds with an approximate size of 42,350 sq. ft. with a 2,680 sq. ft. EMS area. The replacement proposes to house 32 beds with an approximate size of 140,000 sq. ft.

The following work plan is informed by the requirements set out by *The Regional Municipality of Durham Traffic Impact Study Guidelines* dated October 2011.

STUDY AREA & TRAFFIC DATA

LEA will review the existing conditions of the surrounding area, including the existing road network (lane configuration and turning restrictions), pedestrian and cycling network, and transit network.

The study will assess the weekday AM and PM peak hours. The proposed study area will include the analysis of the following intersections:

- Toronto Street S (RR47) and Campbell Drive (Signalized);
- Toronto Street S (RR47) and Victoria Dr (Unsignalized);
- Hospital North Driveway at Victoria Drive (Unsignalized);
- West Driveway and Campbell Drive (Unsignalized); and
- South Driveway at Campbell Drive (Unsignalized).

LEA will use the most recent turning movement count (TMC) data available for the study area intersections.

TRAFFIC ASSESSMENT & STUDY HORIZON YEAR

The study will analyze weekday AM and PM peak hour traffic operations. Synchro version 12 will be used to assess intersection operations based on the HCM 2000 methodology during the peak hours. Three proposed planning horizons for analysis is 2029 (include: opening day, five (5) years and 10 years from the opening date).

BACKGROUND TRAFFIC

General Corridor Growth Rate: LEA will consult with the review agencies on assumptions for general corridor growth rate, LEA will consult with the Region on assumptions for general corridor growth rates and/or historical intersection AADT data will be reviewed of intersections in the study area to determine corridor growth rates.

Road Network Improvements: LEA will note any road network improvements identified within the study area and account for any traffic diversions associated with these improvements within our analysis.

Background Development Traffic: LEA will consult with the review agencies on background development to be considered within the study. The following background developments have been identified:

- 179-181 Toronto Street South –10 Residential Dwelling units;
- Maple Bridge Subdivision (Phase 2) – 154 single detached dwelling units and 82 townhouse units;
- Northeast corner of Denland Lane and Brock Street East – 70 Townhouses, 12 semi-bungalow and 86 apartment units and 449.82 m^2.

Should no TIS be available, Trip generation will be based on ITE Trip Generation Manual 11th Edition will be applied to the proposed development. Trips from the proposed development will be assigned to the road network based on the local modal split and trip distribution based on observations of traffic patterns, and existing turn permissions/prohibitions.

TRIP GENERATION, DISTRIBUTION, & ASSIGNMENT

Trip generation will be estimated using subject site trip generation. The general trip distribution will be based on a review of existing traffic patterns. Trip assignment will be completed accordingly to reflect the configuration of site accesses, turning restrictions, and logical routings.

FUTURE TRAFFIC SCENARIOS

Future background and future total analyses for the intersections within the study area will be conducted for 2029.

REMEDIAL MEASURES

Any movements at the studied intersections that exceed a V/C ratio of 1.00 under future total conditions will be identified. If remedial actions such as signal optimization are unsuccessful, this will also be identified. If remedial measures are to be employed, a scenario will be provided demonstrating the change in intersection operations.

PARKING & LOADING

The site is currently subject to Corporation of the Township of the Township of Uxbridge Schedule A1 and A2, CF-1 (Community Facility Zone). If a shortfall in parking or loading is proposed, LEA will conduct a parking justification study to assess the appropriateness of the parking supply for the development. Loading requirements will be reviewed to ensure that the zoning by-law requirements are met.

TRANSPORTATION DEMAND MANAGEMENT

A TDM plan will be prepared and provide recommendations to promote alternate modes of travel.

Should you have any comments with our assumptions or have any concerns, please contact the undersigned at (905) 470-0015 x322 (JDoran@LEA.ca).

Yours truly,

LEA CONSULTING LTD.

Joseph Doran, B. Eng., E.I.T.
Project Coordinator

:ak

APPENDIX B

Traffic Data & Signal Timing Plan

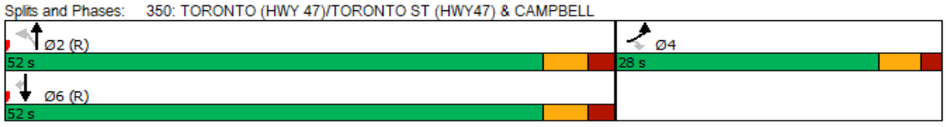
INTERSECTION SIGNAL TIMING REPORT

Location	Toronto St. and Campbell Dr.				
Date	2024-07-23	**C&E No.**	59999254	**Prepared by**	M. Patel
Prepared for	Lea Consulting				

AM Peak (6:00-9:00)

Phase Number	2	4	6
Movement	NBTL	EBL	SBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	C-Max
Maximum Split (s)	52	28	52
Maximum Split (%)	65.0%	35.0%	65.0%
Minimum Split (s)	32.2	23.5	32.2
Yellow Time (s)	3.9	3.6	3.9
All-Red Time (s)	2.3	1.9	2.3
Minimum Initial (s)	20	8	20
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	7	7	7
Flash Dont Walk (s)	19	11	19
Intersection Summary			
Cycle Length			80
Control Type			Actuated-Coordinated
Natural Cycle			60
Offset: 72.8 (91%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			

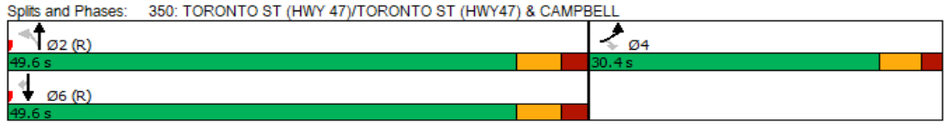
Splits and Phases: 350: TORONTO (HWY 47)/TORONTO ST (HWY47) & CAMPBELL



PM Peak (15:00-20:00)

Phase Number	2	4	6
Movement	NBTL	EBL	SBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	C-Max
Maximum Split (s)	49.6	30.4	49.6
Maximum Split (%)	62.0%	38.0%	62.0%
Minimum Split (s)	32.2	23.5	32.2
Yellow Time (s)	3.9	3.6	3.9
All-Red Time (s)	2.3	1.9	2.3
Minimum Initial (s)	20	8	20
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	7	7	7
Flash Dont Walk (s)	19	11	19
Intersection Summary			
Cycle Length			80
Control Type			Actuated-Coordinated
Natural Cycle			60
Offset: 45.6 (57%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			

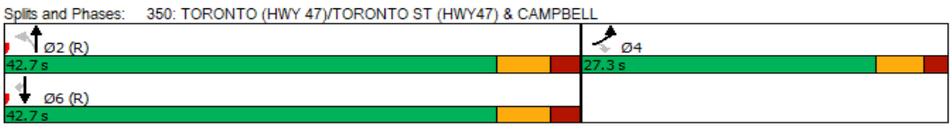
Splits and Phases: 350: TORONTO ST (HWY 47)/TORONTO ST (HWY47) & CAMPBELL



Weekend Peak (9:00-19:00)

Phase Number	2	4	6
Movement	NBTL	EBL	SBT
Lead/Lag			
Lead-Lag Optimize			
Recall Mode	C-Max	None	C-Max
Maximum Split (s)	42.7	27.3	42.7
Maximum Split (%)	61.0%	39.0%	61.0%
Minimum Split (s)	32.2	23.5	32.2
Yellow Time (s)	3.9	3.6	3.9
All-Red Time (s)	2.3	1.9	2.3
Minimum Initial (s)	20	8	20
Vehicle Extension (s)	3	3	3
Minimum Gap (s)	3	3	3
Time Before Reduce (s)	0	0	0
Time To Reduce (s)	0	0	0
Walk Time (s)	7	7	7
Flash Dont Walk (s)	19	11	19
Intersection Summary			
Cycle Length			70
Control Type			Actuated-Coordinated
Natural Cycle			60
Offset: 25.9 (37%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			

Splits and Phases: 350: TORONTO (HWY 47)/TORONTO ST (HWY47) & CAMPBELL



**Please note a concerted effort has been made to ensure the accuracy and completeness of the data provided, however, inadvertent errors or omissions can still occur. Please bring any errors or omissions to the Region's attention.*

TURNING MOVEMENT COUNT

Project #: 24138.00.200.02

Source: Durham Region TMC
Date: Thurs. Sept. 21, 2023

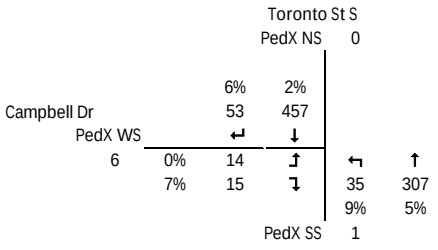
N/S Street: Toronto St S (RR47)
E/W Street: Campbell Dr

Municipality: Uxbridge
Province: Ontario

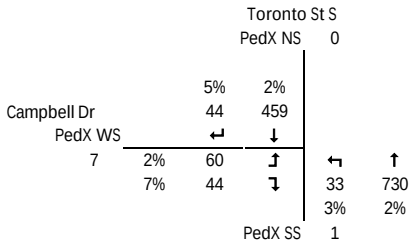
	Southbound							Northbound							Eastbound							Total Vehicles			Total	
	Cars		Trucks		Heavies		PedX	Cars		Trucks		Heavies		PedX	Cars		Trucks		Heavies		PedX					
	Thru	Right	Thru	Right	Thru	Right		Left	Thru'	Left	Thru'	Left	Thru'		Left	Right	Left	Right	Left	Right		SB	NB	EB	All	Hourly
7:00	104	6	10	0	0	0	0	2	30	0	2	0	0	0	0	2	0	1	0	0	0	120	34	3	157	
7:15	88	1	1	0	0	0	0	3	40	0	4	0	0	0	1	3	1	0	0	0	0	142	47	5	194	
7:30	89	5	2	0	0	0	0	2	41	0	4	0	0	0	4	4	0	0	0	0	0	151	47	8	206	
7:45	118	7	5	0	0	0	0	6	60	1	2	0	0	0	1	5	0	0	0	0	1	205	69	6	280	837
8:00	124	16	3	1	0	0	0	8	81	1	5	0	0	0	5	2	0	0	0	0	2	246	95	7	348	1028
8:15	105	14	1	1	0	0	0	8	62	1	7	0	0	0	4	2	0	0	0	0	0	121	78	6	205	1039
8:30	99	13	2	1	0	0	0	10	88	0	2	0	0	1	4	5	0	1	0	0	3	115	100	10	225	1058 <-- Peak Hour
8:45	111	21	2	0	0	0	0	6	75	0	4	0	0	0	5	9	0	0	0	0	1	134	85	14	233	1011
16:00	89	9	4	0	0	0	0	10	147	1	5	0	0	0	17	10	0	1	0	0	0	102	163	28	293	
16:15	116	13	5	0	0	0	0	10	152	1	1	0	0	0	25	16	1	0	0	0	0	134	164	42	340	
16:30	106	6	1	0	0	0	0	5	182	1	3	0	0	0	16	11	0	1	0	0	2	113	191	28	332	
16:45	118	12	2	1	0	0	0	11	174	0	3	0	0	0	11	5	0	0	0	0	3	133	188	16	337	1302
17:00	106	12	4	0	0	0	0	12	179	0	5	0	0	1	17	14	1	1	0	0	1	122	196	33	351	1360
17:15	121	12	1	1	0	0	0	4	182	0	2	0	0	0	15	11	0	1	0	0	1	135	188	27	350	1370 <-- Peak Hour
17:30	85	9	2	0	0	0	0	8	167	1	1	0	0	2	12	17	0	0	0	0	0	96	177	29	302	1340
17:45	124	8	0	0	0	0	0	4	158	0	3	0	0	0	12	4	0	0	0	0	0	132	165	16	313	1316
AM Peak	446	50	11	3	0	0	0	32	291	3	16	0	0	1	14	14	0	1	0	0	6					
HV	11	3						3	16						0	1										
Total	457	53						35	307						14	15										
HV%	2%	6%						9%	5%						0%	7%										
PM Peak	451	42	8	2	0	0	0	32	717	1	13	0	0	1	59	41	1	3	0	0	7					
HV	8	2						1	13						1	3										
Total	459	44						33	730						60	44										
HV%	2%	5%						3%	2%						2%	7%										

Notes: Data provide by intersection approach.
North Approach = Soutbound, South Approach, West Approach = Eastbound.

AM Peak



PM Peak



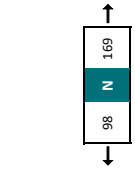
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : James Hill Court & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24246

Turning Movement Count - James Hill Court & Campbell Drive

	2 Campbell Drive Southbound						Campbell Drive Westbound						James Hill Court Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:30	0	0	0	0	1	0	0	0	5	6	1	11	0	0	0	2	0	2	0	0	5	0	0	5	18
7:45	0	1	0	0	2	1	0	2	13	15	2	30	0	0	0	1	0	1	0	0	3	0	0	3	35
Hourly Total	0	1	0	0	3	1	0	3	28	24	3	55	0	0	0	4	0	4	0	0	15	0	0	15	75
8:00	0	2	0	1	0	3	0	0	7	10	0	17	0	0	0	2	0	2	0	0	4	0	0	4	26
8:15	0	1	0	0	0	1	0	0	13	10	0	23	0	0	0	3	0	3	0	0	8	0	0	8	35
8:30	0	1	0	1	0	2	0	0	15	11	1	26	0	0	0	1	0	1	0	1	5	0	0	7	36
8:45	0	6	0	0	0	6	0	1	21	18	2	40	0	0	0	4	1	4	0	0	6	0	1	6	56
Hourly Total	0	10	0	2	0	12	0	1	56	49	3	106	0	0	0	10	1	10	0	2	23	0	1	25	153
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	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
Hourly Total	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
* Break *																									
16:00	0	11	0	1	0	12	0	1	10	5	2	16	0	0	0	4	1	4	0	0	17	0	0	17	49
16:15	0	8	0	0	1	8	0	6	9	8	0	23	0	0	0	5	0	5	0	1	15	0	0	16	52
16:30	0	13	0	1	0	14	0	3	9	4	1	16	0	0	0	1	0	1	0	0	11	1	0	12	43
16:45	0	9	0	3	0	12	0	1	7	11	0	19	0	0	0	1	1	1	0	0	7	0	0	7	39
Hourly Total	0	41	0	5	1	46	0	11	35	28	3	74	0	0	0	11	2	11	0	1	50	1	0	52	183
17:00	0	17	0	1	0	18	0	3	14	1	0	18	0	0	0	2	0	2	0	0	15	0	0	15	53
17:15	0	9	0	0	0	9	0	2	10	7	0	19	0	0	0	0	0	0	0	0	13	0	0	13	41
17:30	0	7	0	0	1	7	0	2	11	3	0	16	0	0	0	3	0	3	0	0	8	0	0	8	34
17:45	0	5	0	0	0	5	1	1	8	8	0	18	0	0	0	3	0	3	0	2	15	0	0	17	43
Hourly Total	0	38	0	1	1	39	1	8	43	19	0	71	0	0	0	8	0	8	0	2	51	0	0	53	171
Grand Total	0	90	0	8	5	98	1	23	162	120	9	306	0	0	0	33	3	33	0	5	139	1	1	145	582
Approach %	0.0%	91.8%	0.0%	8.2%	-	-	0.3%	7.5%	52.9%	39.2%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	3.4%	95.9%	0.7%	-	-	-
Total %	0.0%	15.5%	0.0%	1.4%	-	16.8%	0.2%	4.0%	27.8%	20.6%	-	52.6%	0.0%	0.0%	0.0%	5.7%	-	5.7%	0.0%	0.9%	23.9%	0.2%	-	24.9%	-
Lights	0	90	0	8	-	98	1	23	158	120	-	302	0	0	0	33	-	33	0	5	134	1	-	140	573
% Lights	-	100.0%	-	100.0%	-	100.0%	100.0%	100.0%	97.5%	100.0%	-	98.7%	-	-	-	100.0%	-	100.0%	-	100.0%	96.4%	100.0%	-	96.6%	98.5%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	-	-	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	0.0%
Trucks	-	0	0	0	-	0	-	0	4	0	-	4	-	0	0	0	-	0	-	0	5	0	-	5	9
% Trucks	-	0.0%	-	-	-	0.0%	-	0.0%	2.5%	0.0%	-	1.3%	-	-	-	0.0%	-	0.0%	-	0.0%	3.6%	0.0%	-	3.4%	1.5%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	5	-	-	-	-	-	9	-	-	-	-	-	3	-	-	-	-	-	1	-	18

Legend
← ###(#.##%) Total(Heavy %)



	Peds	Right	Thru	Left	U-Turn
	5	8	0	90	0
		(0.00%)	(0.00%)	(0.00%)	

2 Campbell Drive

Peds	9		
Right	162	(0.00%)	
Thru	162	(2.47%)	
Left	23	(0.00%)	
U-Turn	1		



Campbell Drive



0	U-Turn	
(0.00%)	7	Left
(3.60%)	139	Thru
(0.00%)	1	Right
	1	Peds

U-Turn	Left	Thru	Right	Peds
0	0	0	33	3
	(0.00%)	(0.00%)	(0.00%)	

James Hill Court

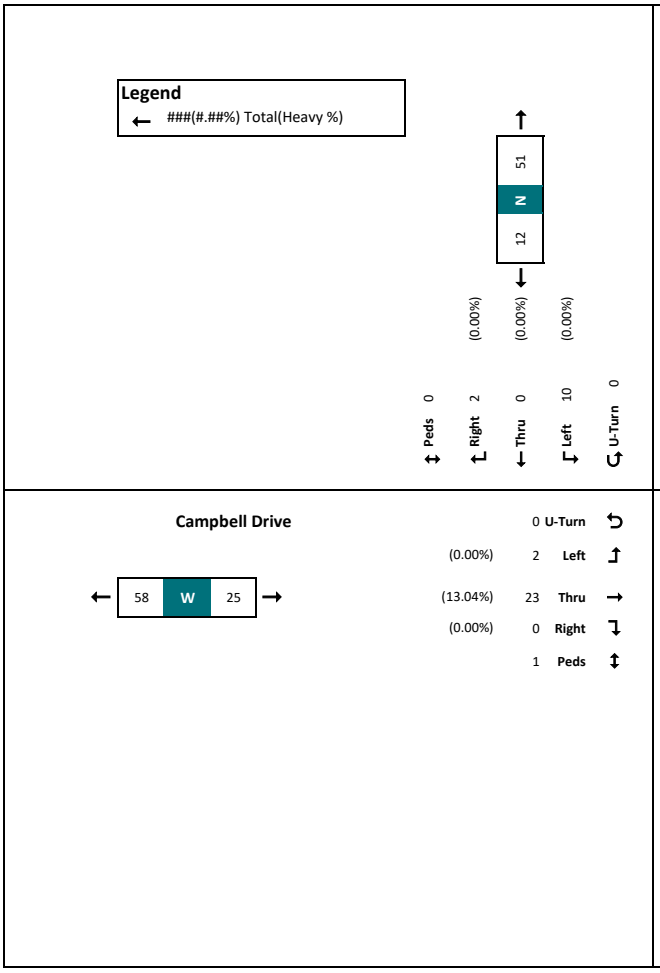


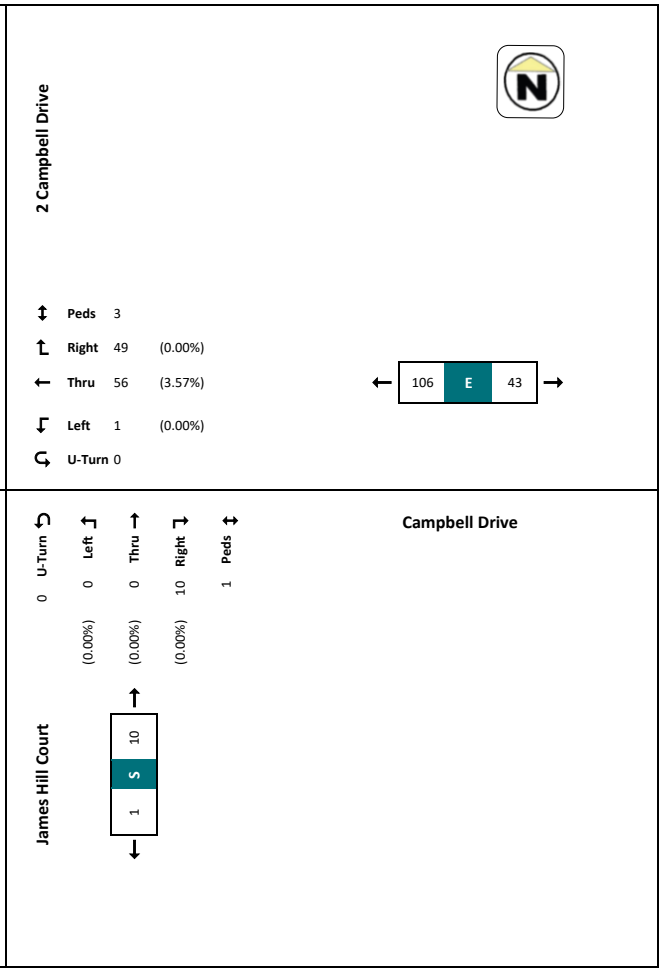
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : James Hill Court & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24246

AM Peak Hour - James Hill Court & Campbell Drive

	2 Campbell Drive Southbound						Campbell Drive Westbound						James Hill Court Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
8:00	0	2	0	1	0	3	0	0	7	10	0	17	0	0	0	2	0	2	0	0	4	0	0	4	26
8:15	0	1	0	0	0	1	0	0	13	10	0	23	0	0	0	3	0	3	0	0	8	0	0	8	35
8:30	0	1	0	1	0	2	0	0	15	11	1	26	0	0	0	1	0	1	0	2	5	0	0	7	36
8:45	0	6	0	0	0	6	0	1	21	18	2	40	0	0	0	4	1	4	0	0	6	0	1	6	56
Hourly Total	0	10	0	2	0	12	0	1	56	49	3	106	0	0	0	10	1	10	0	2	23	0	1	25	153
Approach %	0.0%	83.3%	0.0%	16.7%	-	-	0.0%	0.9%	52.8%	46.2%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	8.0%	92.0%	0.0%	-	-	-
Total %	0.0%	6.5%	0.0%	1.3%	-	7.8%	0.0%	0.7%	36.6%	32.0%	-	69.3%	0.0%	0.0%	0.0%	6.5%	-	6.5%	0.0%	1.3%	15.0%	0.0%	-	16.3%	-
PHF	0	0.42	0	0.5	-	0.5	0	0.25	0.67	0.68	-	0.66	0	0	0	0.63	-	0.63	0	0.25	0.72	0	-	0.78	0.68
Lights	0	10	0	2	-	12	0	1	54	49	-	104	0	0	0	10	-	10	0	2	20	0	-	22	148
% Lights	-	100.0%	-	100.0%	-	100.0%	-	100.0%	96.4%	100.0%	-	98.1%	-	-	-	100.0%	-	100.0%	-	100.0%	87.0%	-	-	88.0%	96.7%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	-	-	0.0%	-	0.0%	-	0.0%	0.0%	-	-	0.0%	0.0%
Trucks	-	0	0	0	-	0	-	0	2	0	-	2	-	0	0	0	-	0	-	0	3	0	-	3	5
% Trucks	-	0.0%	-	0.0%	-	0.0%	-	0.0%	3.6%	0.0%	-	1.9%	-	-	-	0.0%	-	0.0%	-	0.0%	13.0%	-	-	12.0%	3.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	1	-	4



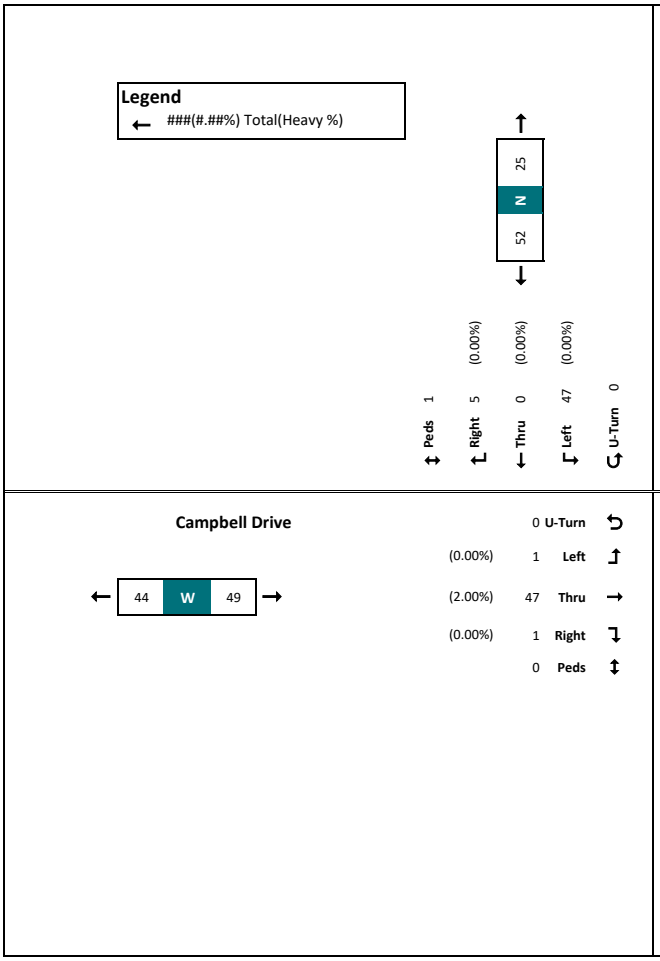


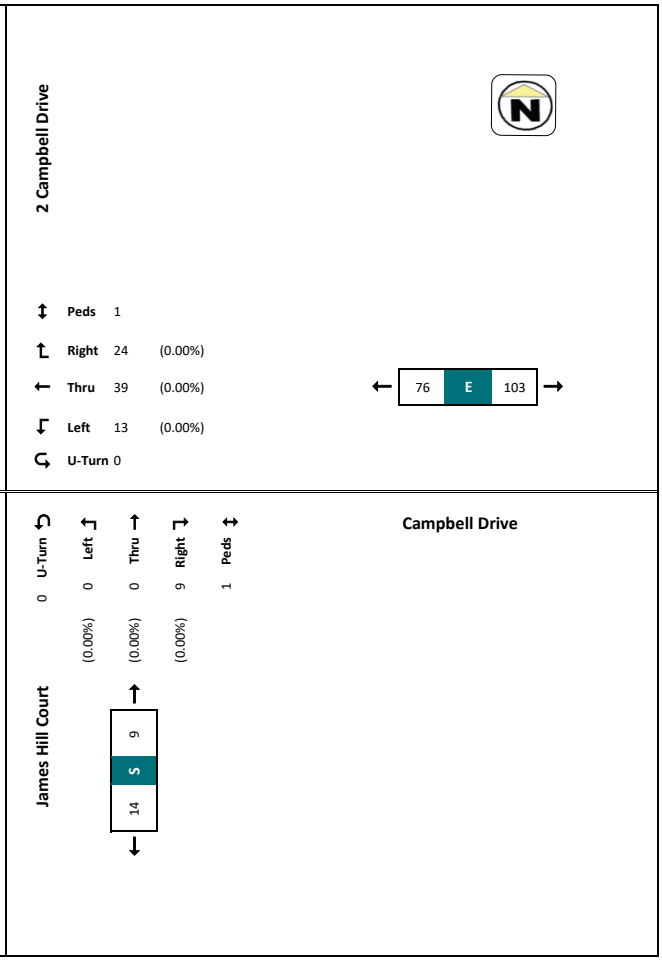
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : James Hill Court & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24246

PM Peak Hour - James Hill Court & Campbell Drive

	2 Campbell Drive Southbound						Campbell Drive Westbound						James Hill Court Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
16:15	0	8	0	0	1	8	0	6	9	8	0	23	0	0	0	5	0	5	0	1	15	0	0	16	52
16:30	0	13	0	1	0	14	0	3	9	4	1	16	0	0	0	1	0	1	0	0	11	1	0	12	43
16:45	0	9	0	3	0	12	0	1	7	11	0	19	0	0	0	1	1	1	0	0	7	0	0	7	39
17:00	0	17	0	1	0	18	0	3	14	1	0	18	0	0	0	2	0	2	0	0	15	0	0	15	53
Hourly Total	0	47	0	5	1	52	0	13	39	24	1	76	0	0	0	9	1	9	0	1	48	1	0	50	187
Approach %	0.0%	90.4%	0.0%	9.6%	-	-	0.0%	17.1%	51.3%	31.6%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	2.0%	96.0%	2.0%	-	-	-
Total %	0.0%	25.1%	0.0%	2.7%	-	27.8%	0.0%	8.5%	25.5%	12.8%	-	40.6%	0.0%	0.0%	0.0%	5.9%	-	4.8%	0.0%	0.7%	31.4%	0.7%	-	26.7%	-
PHF	0	0.69	0	0.42	-	0.72	0	0.54	0.7	0.55	-	0.83	0	0	0	0.45	-	0.45	0	0.25	0.8	0.25	-	0.78	0.88
Lights	0	47	0	5	-	52	0	13	38	24	-	75	0	0	0	9	-	9	0	1	47	1	-	49	185
% Lights	-	100.0%	-	100.0%	-	100.0%	-	100.0%	97.4%	100.0%	-	98.7%	-	-	-	100.0%	-	100.0%	-	100.0%	97.9%	100.0%	-	98.0%	98.9%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	-	-	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	0.0%
Trucks	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	-	0	1	0	-	1	2
% Trucks	-	0.0%	-	0.0%	-	0.0%	-	0.0%	2.6%	0.0%	-	1.3%	-	-	-	0.0%	-	0.0%	-	0.0%	2.1%	0.0%	-	2.0%	1.1%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	1



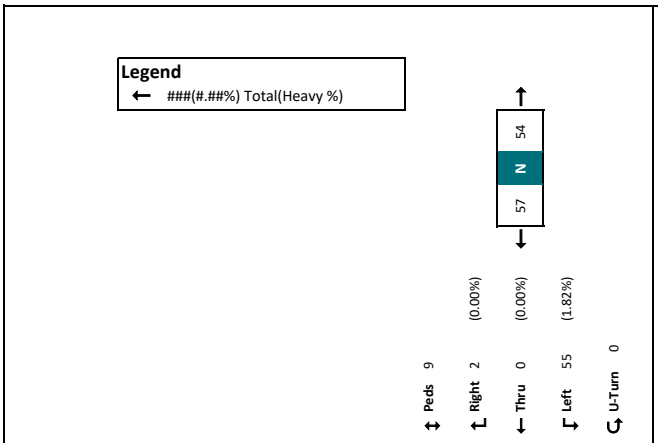


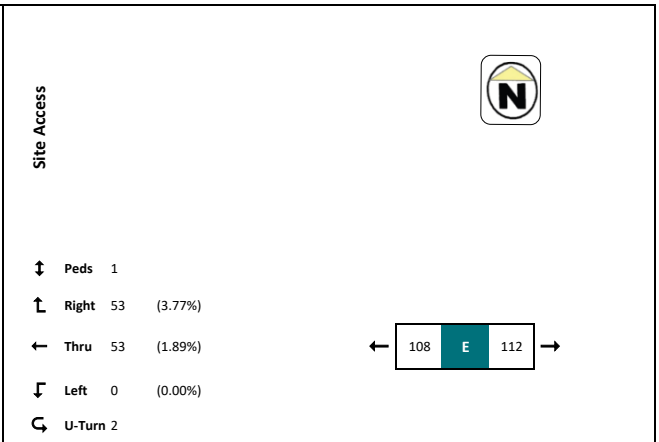
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

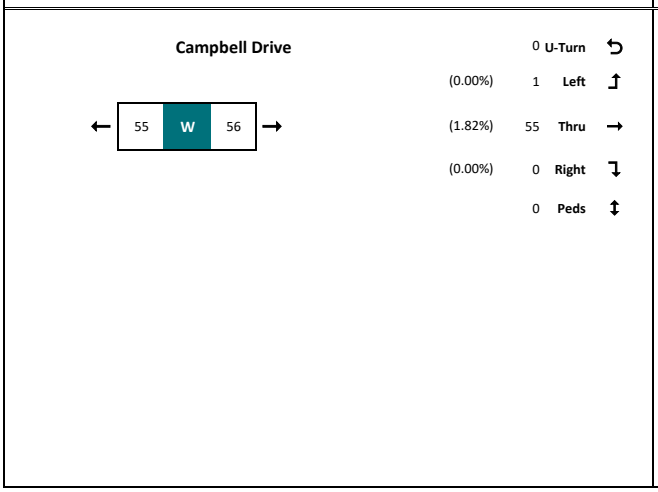
Intersection : Site Access & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24247

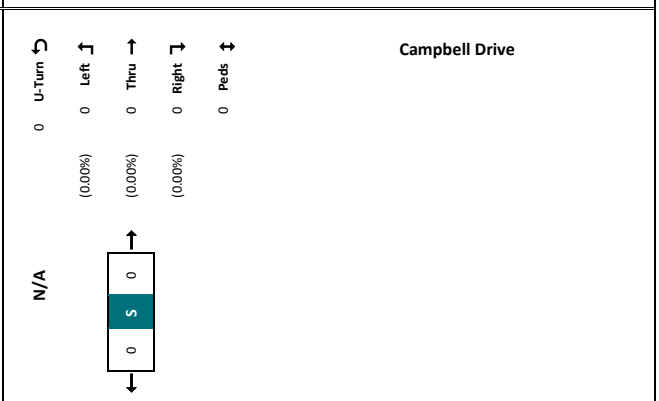
Turning Movement Count - Site Access & Campbell Drive

	Site Access Southbound						Campbell Drive Westbound						N/A Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:30	0	1	0	0	1	1	0	0	1	4	0	5	0	0	0	0	0	0	0	0	3	0	0	3	9
7:45	0	0	0	0	1	0	0	0	2	11	0	13	0	0	0	0	0	0	0	0	1	0	0	1	14
Hourly Total	0	4	0	0	4	4	0	0	6	22	0	28	0	0	0	0	0	0	0	0	6	0	0	6	38
8:00	0	1	0	1	0	2	0	0	2	6	0	8	0	0	0	0	0	0	0	0	3	0	0	3	13
8:15	0	3	0	0	0	3	0	0	0	9	0	9	0	0	0	0	0	0	0	0	3	0	0	3	15
8:30	0	1	0	0	0	1	0	0	4	11	0	15	0	0	0	0	0	0	0	0	2	0	0	2	18
8:45	0	2	0	0	2	2	0	0	4	13	0	17	0	0	0	0	0	0	0	0	4	0	0	4	23
Hourly Total	0	7	0	1	2	8	0	0	10	39	0	49	0	0	0	0	0	0	0	0	12	0	0	12	69
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	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
Hourly Total	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
* Break *																									
16:00	0	6	0	1	1	7	1	0	3	1	0	5	0	0	0	0	0	0	0	1	9	0	0	10	22
16:15	0	6	0	0	0	6	0	0	4	2	0	6	0	0	0	0	0	0	0	0	5	0	0	5	17
16:30	0	6	0	0	2	6	0	0	5	0	1	5	0	0	0	0	0	0	0	0	3	0	0	3	14
16:45	0	2	0	0	0	2	1	0	5	4	0	10	0	0	0	0	0	0	0	0	5	0	0	5	17
Hourly Total	0	20	0	1	3	21	2	0	17	7	1	26	0	0	0	0	0	0	0	1	22	0	0	23	70
17:00	0	12	0	0	0	12	0	0	7	2	0	9	0	0	0	0	0	0	0	0	2	0	0	2	23
17:15	0	5	0	0	0	5	0	0	6	2	0	8	0	0	0	0	0	0	0	0	4	0	0	4	17
17:30	0	2	0	0	0	2	0	0	5	2	0	7	0	0	0	0	0	0	0	0	5	0	0	5	14
17:45	0	5	0	0	0	5	0	0	2	5	0	7	0	0	0	0	0	0	0	0	4	0	0	4	16
Hourly Total	0	24	0	0	0	24	0	0	20	11	0	31	0	0	0	0	0	0	0	0	15	0	0	15	70
Grand Total	0	55	0	2	9	57	2	0	53	79	1	134	0	0	0	0	0	0	0	1	55	0	0	56	247
Approach %	0.0%	96.5%	0.0%	3.5%	-	-	1.5%	0.0%	39.6%	59.0%	-	-	-	-	-	-	-	-	0.0%	1.8%	98.2%	0.0%	-	-	-
Total %	0.0%	22.3%	0.0%	0.8%	-	23.1%	0.8%	0.0%	21.5%	32.0%	-	54.3%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.4%	22.3%	0.0%	-	22.7%	-
Lights	0	54	0	2	-	56	2	0	52	77	-	131	0	0	0	0	-	0	0	1	54	0	-	55	242
% Lights	-	98.2%	-	100.0%	-	98.2%	100.0%	-	98.1%	97.5%	-	97.8%	-	-	-	-	-	-	-	100.0%	98.2%	-	-	98.2%	98.0%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	-	-	-	-	-	-	-	0.0%	0.0%	-	-	0.0%	0.0%
Trucks	-	1	0	0	-	1	-	0	1	2	-	3	-	0	0	0	-	0	-	0	1	0	-	1	5
% Trucks	-	1.8%	-	-	-	1.8%	-	-	1.9%	2.5%	-	2.2%	-	-	-	-	-	-	-	0.0%	1.8%	-	-	1.8%	2.0%
Bicycles	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	0	0	1
Pedestrians	-	-	-	-	9	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	10







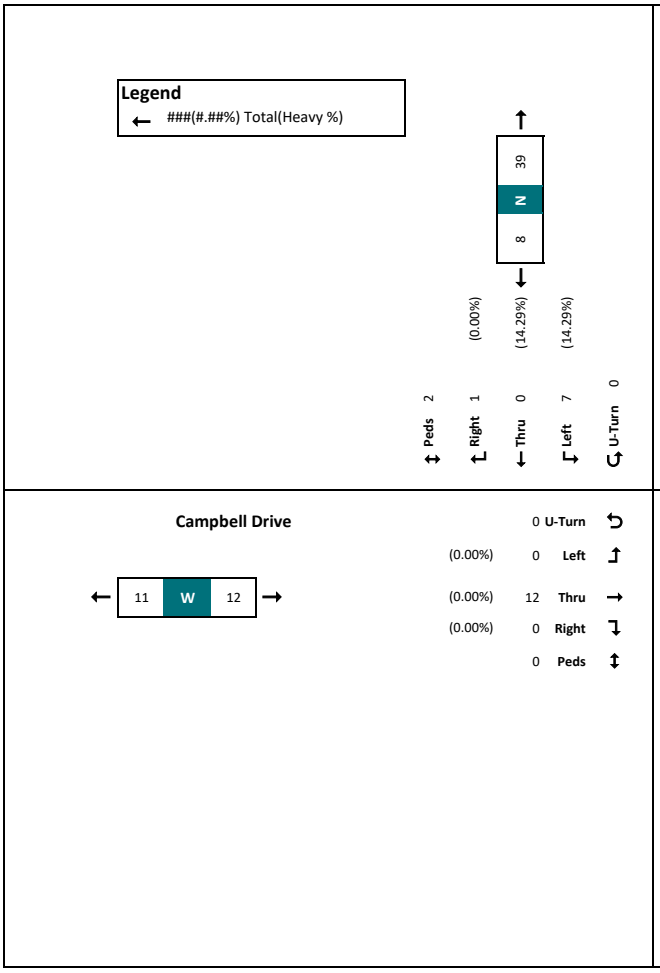


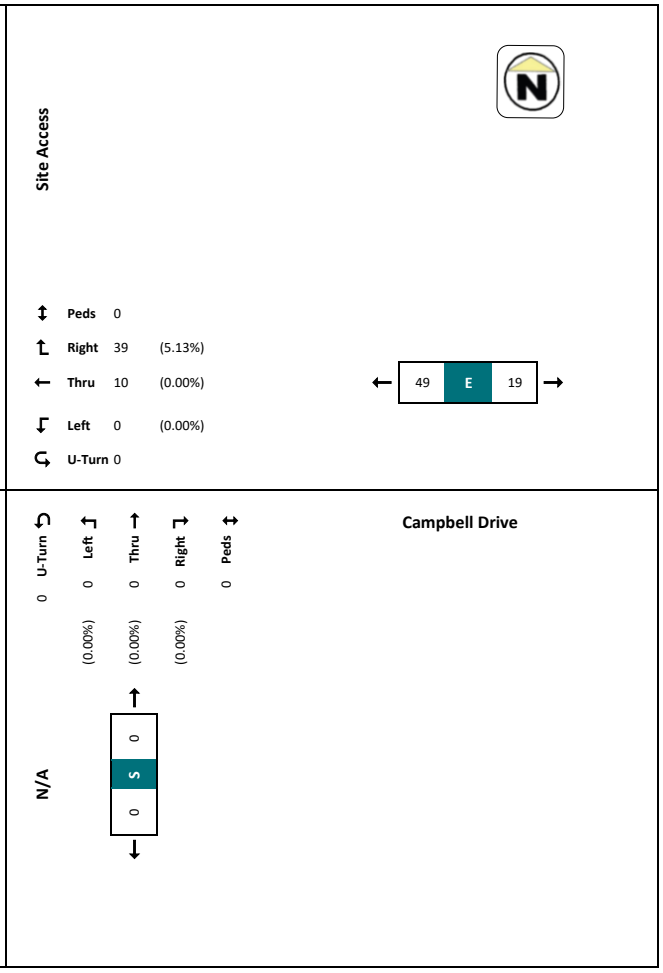
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Site Access & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24247

AM Peak Hour - Site Access & Campbell Drive

	Site Access Southbound						Campbell Drive Westbound						N/A Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
8:00	0	1	0	1	0	2	0	0	2	6	0	8	0	0	0	0	0	0	0	0	3	0	0	3	13
8:15	0	3	0	0	0	3	0	0	0	9	0	9	0	0	0	0	0	0	0	0	3	0	0	3	15
8:30	0	1	0	0	0	1	0	0	4	11	0	15	0	0	0	0	0	0	0	0	2	0	0	2	18
8:45	0	2	0	0	2	2	0	0	4	13	0	17	0	0	0	0	0	0	0	0	4	0	0	4	23
Hourly Total	0	7	0	1	2	8	0	0	10	39	0	49	0	0	0	0	0	0	0	0	12	0	0	12	69
Approach %	0.0%	87.5%	0.0%	12.5%	-	-	0.0%	0.0%	20.4%	79.6%	-	-							0.0%	0.0%	100.0%	0.0%	-		-
Total %	0.0%	10.1%	0.0%	1.4%	-	11.6%	0.0%	0.0%	14.5%	56.5%	-	71.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	17.4%	0.0%	-	17.4%	-
PHF	0	0.58	0	0.25	-	0.67	0	0	0.63	0.75	-	0.72	0	0	0	0	-	0	0	0	0.75	0	-	0.75	0.75
Lights	0	6	0	1	-	7	0	0	10	37	-	47	0	0	0	0	-	0	0	0	12	0	-	12	66
% Lights	-	85.7%	-	100.0%	-	87.5%	-	-	100.0%	94.9%	-	95.9%	-	-	-	-	-	-	-	-	100.0%	-	-	100.0%	95.7%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	-	-	-	-	-	-	-	-	0.0%	-	-	0.0%	0.0%
Trucks	-	1	0	0	-	1	-	0	0	2	-	2	-	0	0	0	-	0	-	0	0	0	-	0	3
% Trucks	-	14.3%	-	0.0%	-	12.5%	-	-	0.0%	5.1%	-	4.1%	-	-	-	-	-	-	-	-	0.0%	-	-	0.0%	4.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	2



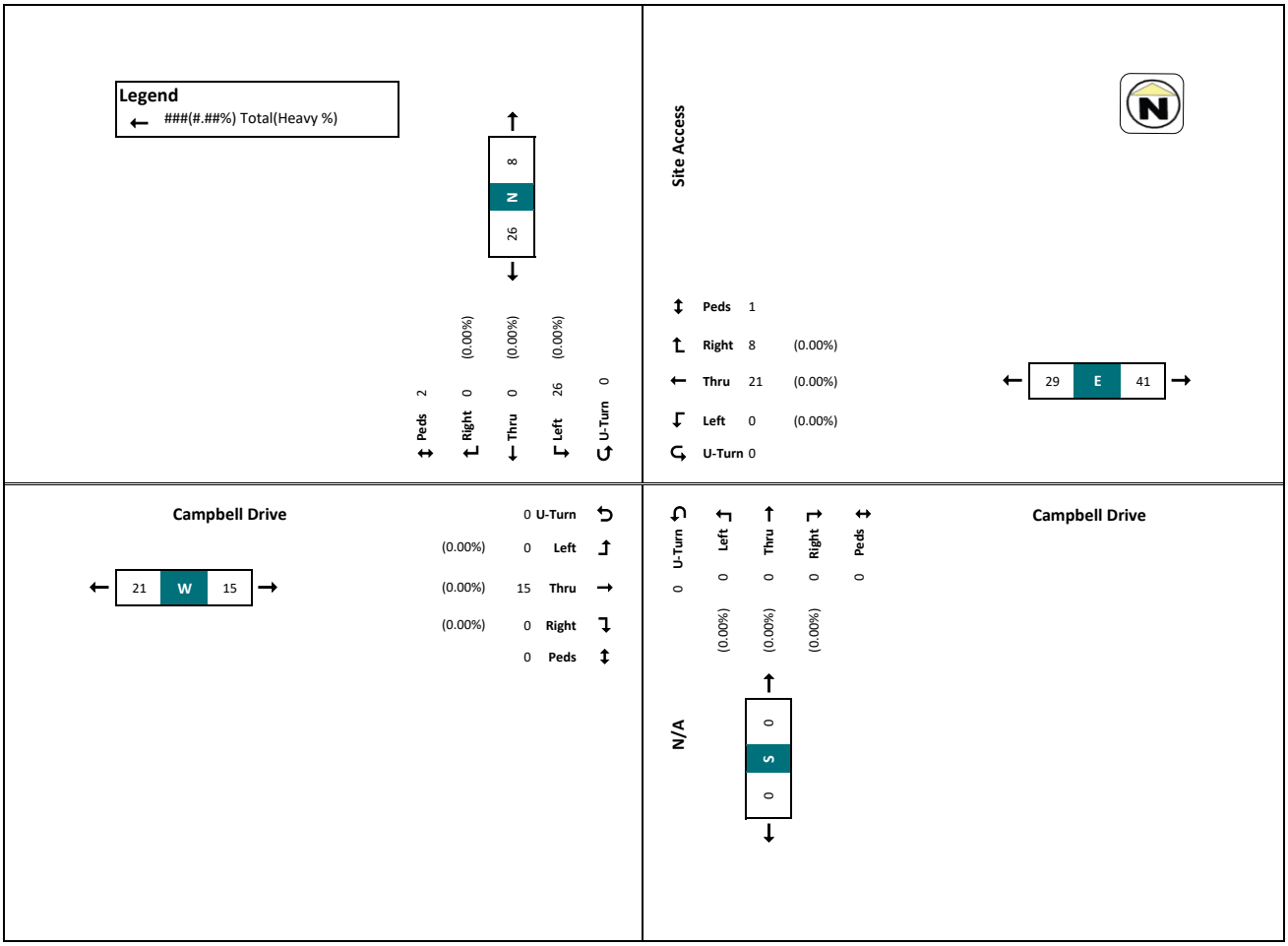


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Site Access & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24247

PM Peak Hour - Site Access & Campbell Drive

	Site Access Southbound						Campbell Drive Westbound						N/A Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
16:15	0	6	0	0	0	6	0	0	4	2	0	6	0	0	0	0	0	0	0	0	5	0	0	5	17
16:30	0	6	0	0	2	6	0	0	5	0	1	5	0	0	0	0	0	0	0	0	3	0	0	3	14
16:45	0	2	0	0	0	2	1	0	5	4	0	10	0	0	0	0	0	0	0	0	5	0	0	5	17
17:00	0	12	0	0	0	12	0	0	7	2	0	9	0	0	0	0	0	0	0	0	2	0	0	2	23
Hourly Total	0	26	0	0	2	26	1	0	21	8	1	30	0	0	0	0	0	0	0	0	15	0	0	15	71
Approach %	0.0%	100.0%	0.0%	0.0%	-	-	3.3%	0.0%	70.0%	26.7%	-	-	-	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	-	-	-
Total %	0.0%	36.6%	0.0%	0.0%	-	36.6%	1.4%	0.0%	30.4%	11.3%	-	42.3%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	21.7%	0.0%	-	21.1%	-
PHF	0	0.54	0	0	-	0.54	0.25	0	0.75	0.5	-	0.75	0	0	0	0	-	0	0	0	0.75	0	-	0.75	0.77
Lights	0	26	0	0	-	26	1	0	20	8	-	29	0	0	0	0	-	0	0	0	15	0	-	15	70
% Lights	-	100.0%	-	-	-	100.0%	-	-	95.2%	100.0%	-	96.7%	-	-	-	-	-	-	-	-	100.0%	-	-	100.0%	98.6%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	-	-	0.0%	-	-	0.0%	0.0%	-	0.0%	-	-	-	-	-	-	-	-	0.0%	-	-	0.0%	0.0%
Trucks	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	-	0	0	0	-	0	1
% Trucks	-	0.0%	-	-	-	0.0%	-	-	4.8%	0.0%	-	3.3%	-	-	-	-	-	-	-	-	0.0%	-	-	0.0%	1.4%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	3



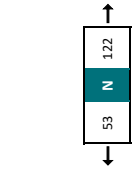
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : James Hill Court & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24248

Turning Movement Count - James Hill Court & Campbell Drive

	James Hill Court Southbound						Campbell Drive Westbound						James Hill Court Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:30	0	0	0	0	1	0	0	0	5	0	0	5	0	0	0	1	0	1	0	0	4	0	0	4	10
7:45	0	1	0	0	2	1	0	0	13	1	0	14	0	0	0	1	0	1	0	0	1	0	0	1	17
Hourly Total	0	3	0	2	3	5	0	0	26	3	0	29	0	0	0	2	0	2	0	0	10	0	2	10	46
8:00	0	0	0	1	0	1	0	0	7	3	0	10	0	0	0	0	0	0	0	0	4	0	0	4	15
8:15	0	2	0	1	0	3	0	1	8	1	0	10	0	0	0	0	0	0	0	0	6	0	0	6	19
8:30	0	1	0	4	0	7	1	1	11	4	0	17	0	0	0	0	0	0	0	0	3	0	0	3	27
8:45	0	0	0	3	2	3	0	0	14	7	0	21	0	0	0	0	0	0	0	0	6	0	1	6	30
Hourly Total	0	5	0	9	2	14	1	2	40	15	0	58	0	0	0	0	0	0	0	0	19	0	1	19	91
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	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
Hourly Total	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
* Break *																									
16:00	0	1	0	0	1	1	0	3	4	3	1	10	0	0	0	1	0	1	0	0	15	0	0	15	27
16:15	0	7	0	1	0	8	0	1	5	4	0	10	0	0	0	0	0	0	0	0	11	0	0	11	29
16:30	0	3	0	0	0	3	0	1	5	4	0	10	0	0	0	1	0	1	0	2	7	0	2	9	23
16:45	0	2	0	1	0	3	0	0	8	2	0	10	0	0	0	0	0	0	0	2	5	0	0	7	20
Hourly Total	0	13	0	2	1	15	0	5	22	13	1	40	0	0	0	2	0	2	0	4	38	0	2	42	99
17:00	0	2	0	0	0	2	0	2	9	4	0	15	0	0	0	0	0	0	0	0	14	0	0	14	31
17:15	0	5	0	2	0	7	0	0	6	4	0	10	0	0	0	1	0	1	0	1	8	0	0	9	27
17:30	0	2	0	0	0	2	0	1	7	3	0	11	0	0	0	0	0	0	0	2	5	0	0	7	20
17:45	0	6	0	2	0	8	0	0	5	5	0	10	0	0	0	2	0	2	0	0	9	0	1	9	29
Hourly Total	0	15	0	4	0	19	0	3	27	16	0	46	0	0	0	3	0	3	0	3	36	0	1	39	107
Grand Total	0	36	0	17	6	53	1	10	115	47	1	173	0	0	0	7	0	7	0	7	103	0	6	110	343
Approach %	0.0%	67.9%	0.0%	32.1%	-	-	0.6%	5.8%	66.5%	27.2%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	6.4%	93.6%	0.0%	-	-	-
Total %	0.0%	10.5%	0.0%	5.0%	-	15.5%	0.3%	2.9%	33.5%	13.7%	-	50.4%	0.0%	0.0%	0.0%	2.0%	-	2.0%	0.0%	2.0%	30.0%	0.0%	-	32.1%	-
Lights	0	35	0	16	-	51	1	10	113	47	-	171	0	0	0	7	-	7	0	6	102	0	-	108	337
% Lights	-	97.2%	-	94.1%	-	96.2%	100.0%	100.0%	98.3%	100.0%	-	98.8%	-	-	-	100.0%	-	100.0%	-	85.7%	99.0%	-	-	98.2%	98.3%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	-	-	0.0%	-	0.0%	-	0.0%	0.0%	-	-	0.0%	0.0%
Trucks	-	1	0	1	-	2	-	0	2	0	-	2	-	0	0	0	-	0	-	1	1	0	-	2	6
% Trucks	-	2.8%	-	-	-	3.8%	-	0.0%	1.7%	0.0%	-	1.2%	-	-	-	0.0%	-	0.0%	-	14.3%	1.0%	-	-	1.8%	1.7%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	6	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	6	-	13

Legend
← ###(#.##%) Total(Heavy %)



	Peds	Right	Thru	Left	U-Turn
	6	17	0	36	0
		(5.88%)	(0.00%)	(2.78%)	

James Hill Court



Peds	1		
Right	115	(0.00%)	
Thru	115	(1.74%)	
Left	10	(0.00%)	
U-Turn	1		



Campbell Drive



0	U-Turn	
(14.29%)	7	Left
(0.97%)	103	Thru
(0.00%)	0	Right
	6	Peds

U-Turn	Left	Thru	Right	Peds
0	0	0	7	0
	(0.00%)	(0.00%)	(0.00%)	

James Hill Court



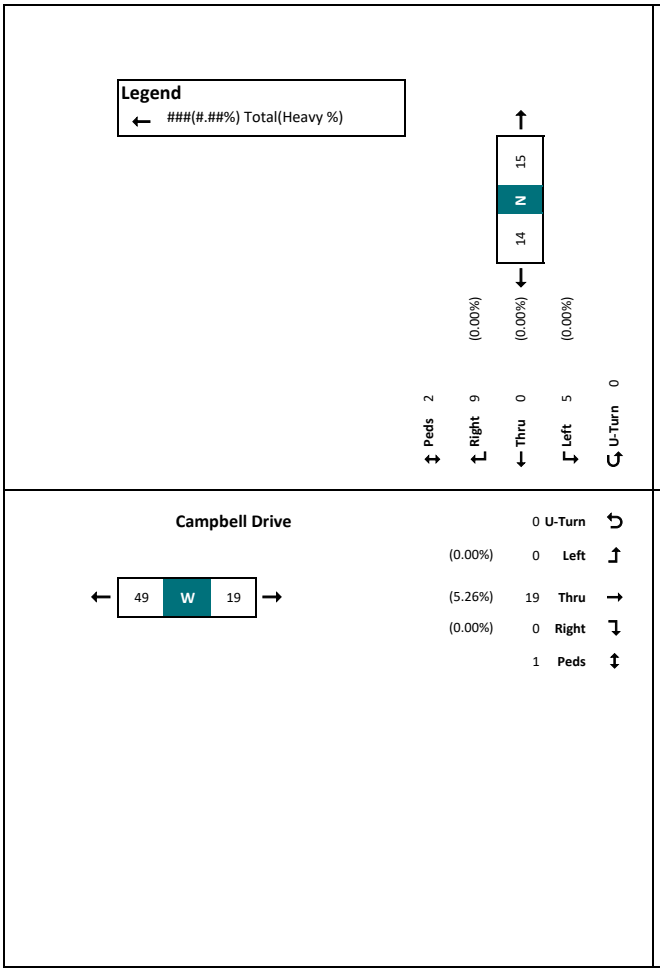
Campbell Drive

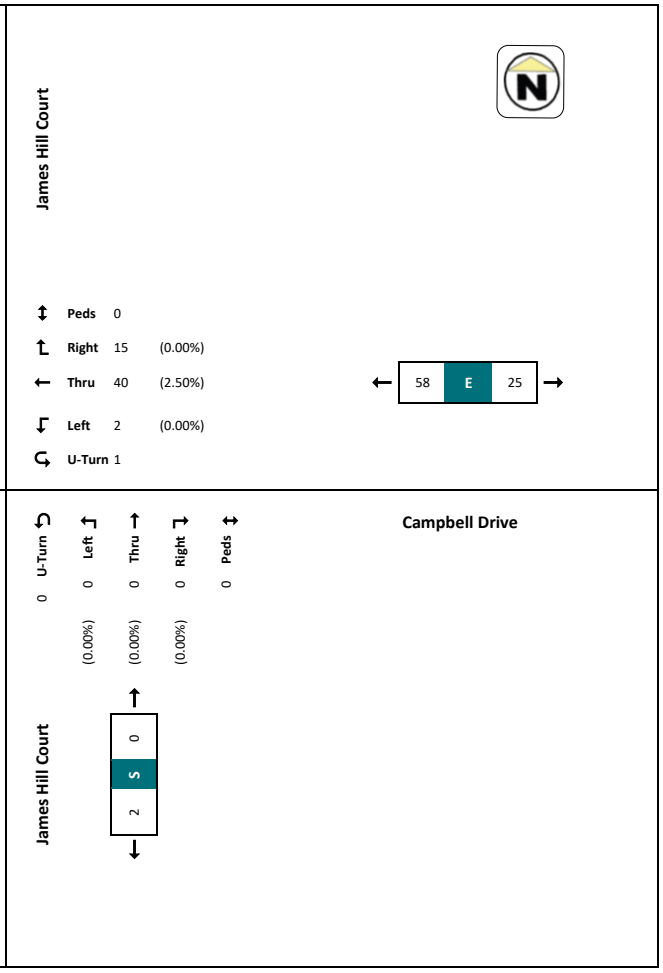
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : James Hill Court & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24248

AM Peak Hour - James Hill Court & Campbell Drive

	James Hill Court Southbound						Campbell Drive Westbound						James Hill Court Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
8:00	0	0	0	1	0	1	0	0	7	3	0	10	0	0	0	0	0	0	0	0	4	0	0	4	15
8:15	0	2	0	1	0	3	0	1	8	1	0	10	0	0	0	0	0	0	0	0	6	0	0	6	19
8:30	0	3	0	4	0	7	1	1	11	4	0	17	0	0	0	0	0	0	0	0	3	0	0	3	27
8:45	0	0	0	3	2	3	0	0	14	7	0	21	0	0	0	0	0	0	0	0	6	0	1	6	30
Hourly Total	0	5	0	9	2	14	1	2	40	15	0	58	0	0	0	0	0	0	0	0	19	0	1	19	91
Approach %	0.0%	35.7%	0.0%	64.3%	-	-	1.7%	3.4%	69.0%	25.9%	-	-	-	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	-	-	-
Total %	0.0%	5.5%	0.0%	9.9%	-	15.4%	1.1%	2.2%	44.0%	16.5%	-	63.7%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	0.0%	20.9%	0.0%	-	20.9%	-
PHF	0	0.42	0	0.56	-	0.5	0.25	0.5	0.71	0.54	-	0.69	0	0	0	0	-	0	0	0	0.79	0	-	0.79	0.76
Lights	0	5	0	8	-	13	1	2	39	15	-	57	0	0	0	0	-	0	0	0	18	0	-	18	88
% Lights	-	100.0%	-	88.9%	-	92.9%	-	100.0%	97.5%	100.0%	-	98.3%	-	-	-	-	-	-	-	-	94.7%	-	-	94.7%	96.7%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	-	-	-	-	-	-	-	0.0%	-	-	0.0%	0.0%
Trucks	-	0	0	1	-	1	-	0	1	0	-	1	-	0	0	0	-	0	-	0	1	0	-	1	3
% Trucks	-	0.0%	-	11.1%	-	7.1%	-	0.0%	2.5%	0.0%	-	1.7%	-	-	-	-	-	-	-	-	5.3%	-	-	5.3%	3.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	3



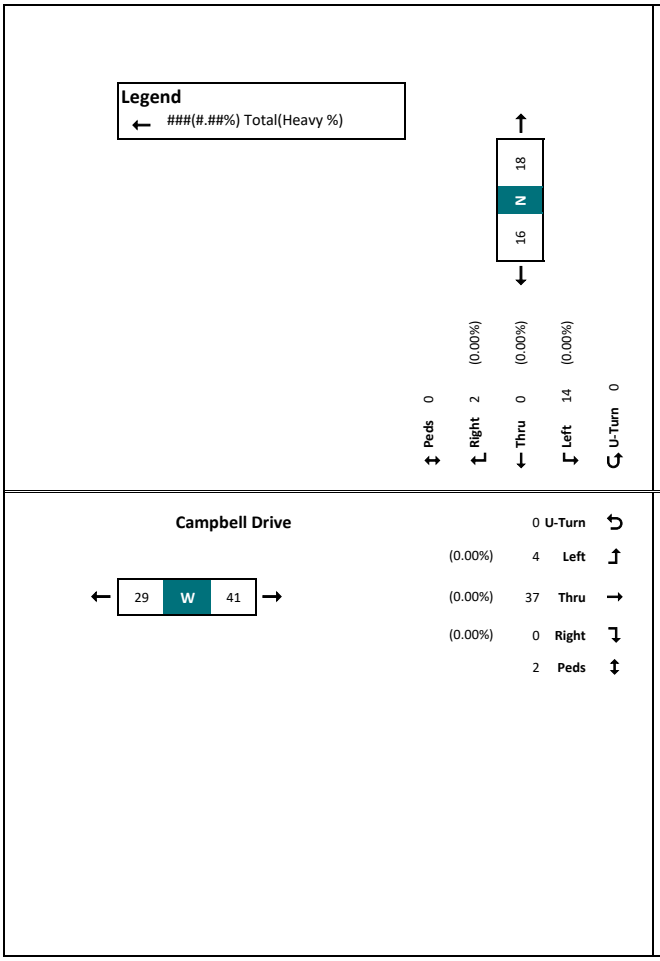


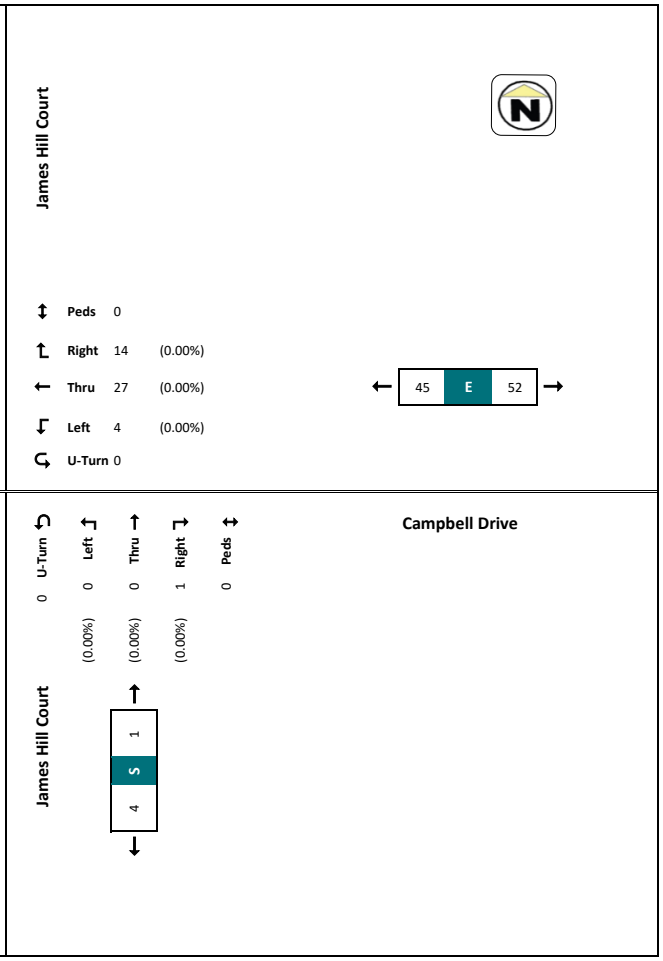
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : James Hill Court & Campbell Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24248

PM Peak Hour - James Hill Court & Campbell Drive

	James Hill Court Southbound						Campbell Drive Westbound						James Hill Court Northbound						Campbell Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
16:15	0	7	0	1	0	8	0	1	5	4	0	10	0	0	0	0	0	0	0	0	11	0	0	11	29
16:30	0	3	0	0	0	3	0	1	5	4	0	10	0	0	0	1	0	1	0	2	7	0	2	9	23
16:45	0	2	0	1	0	3	0	0	8	2	0	10	0	0	0	0	0	0	0	2	5	0	0	7	20
17:00	0	2	0	0	0	2	0	2	9	4	0	15	0	0	0	0	0	0	0	0	14	0	0	14	31
Hourly Total	0	14	0	2	0	16	0	4	27	14	0	45	0	0	0	1	0	1	0	4	37	0	2	41	103
Approach %	0.0%	87.5%	0.0%	12.5%	-	-	0.0%	8.9%	60.0%	31.1%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	9.8%	90.2%	0.0%	-	-	-
Total %	0.0%	13.6%	0.0%	1.9%	-	15.5%	0.0%	4.4%	29.7%	13.6%	-	43.7%	0.0%	0.0%	0.0%	1.1%	-	1.0%	0.0%	4.4%	40.7%	0.0%	-	39.8%	-
PHF	0	0.5	0	0.5	-	0.5	0	0.5	0.75	0.88	-	0.75	0	0	0	0.25	-	0.25	0	0.5	0.66	0	-	0.73	0.83
Lights	0	14	0	2	-	16	0	4	26	14	-	44	0	0	0	1	-	1	0	4	37	0	-	41	102
% Lights	-	100.0%	-	100.0%	-	100.0%	-	100.0%	96.3%	100.0%	-	97.8%	-	-	-	100.0%	-	100.0%	-	100.0%	100.0%	-	-	100.0%	99.0%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	0.0%	-	0.0%	-	0.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	-	-	0.0%	-	0.0%	-	0.0%	0.0%	-	-	0.0%	0.0%
Trucks	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	-	0	0	0	-	0	1
% Trucks	-	0.0%	-	0.0%	-	0.0%	-	0.0%	3.7%	0.0%	-	2.2%	-	-	-	0.0%	-	0.0%	-	0.0%	0.0%	-	-	0.0%	1.0%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0



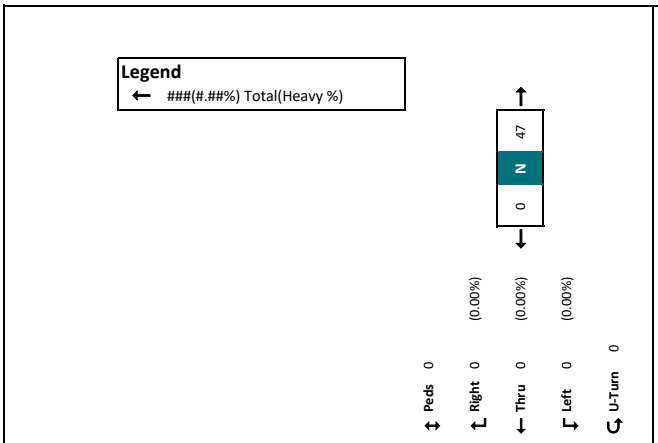


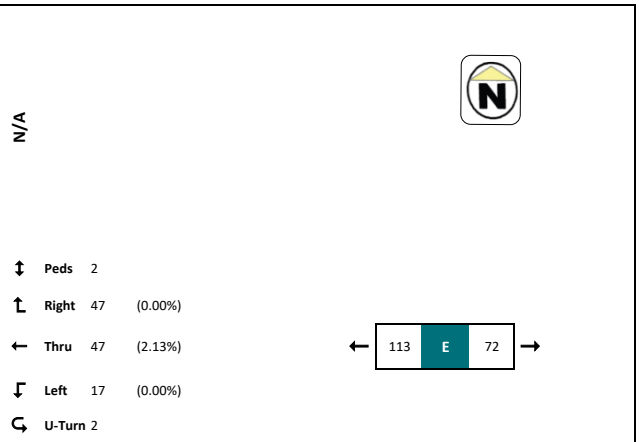
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

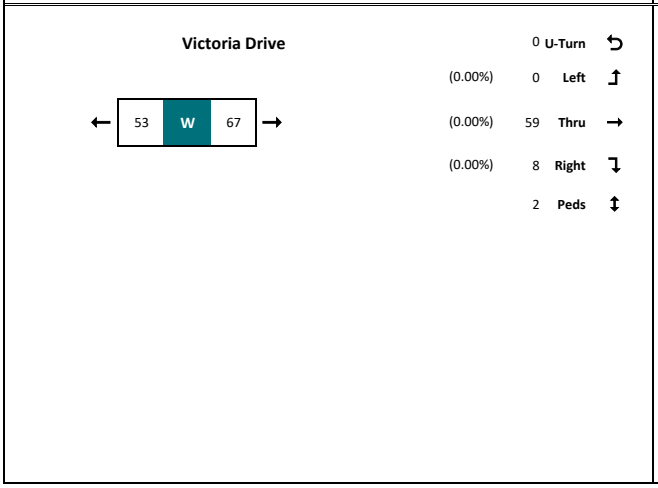
Intersection : Site Access & Victoria Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24249

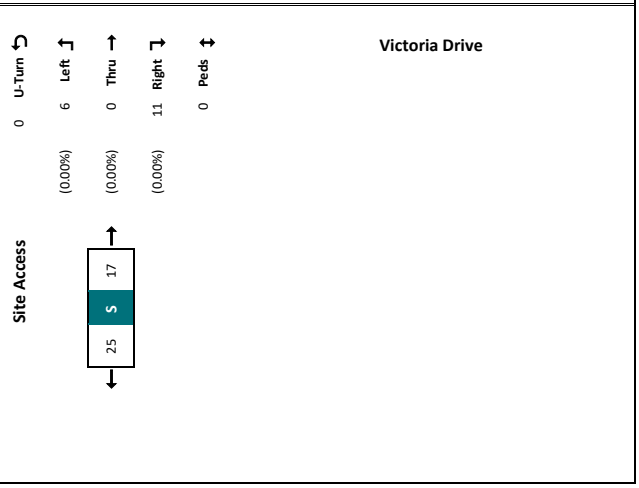
Turning Movement Count - Site Access & Victoria Drive

	N/A Southbound						Victoria Drive Westbound						Site Access Northbound						Victoria Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:30	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	0	3	0	0	3	5
7:45	0	0	0	0	0	0	0	4	1	0	0	5	0	0	0	0	0	0	0	0	9	0	0	9	14
Hourly Total	0	0	0	0	0	0	0	6	3	0	0	9	0	1	0	0	0	1	0	0	15	0	0	15	25
8:00	0	0	0	0	0	0	0	1	2	0	0	3	0	1	0	1	0	2	0	0	2	0	0	2	7
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	0	0	3	4
8:30	0	0	0	0	0	0	0	3	3	0	1	6	0	1	0	1	0	2	0	0	6	3	0	9	17
8:45	0	0	0	0	0	0	0	3	2	0	0	5	0	0	0	3	0	3	0	0	7	1	0	8	16
Hourly Total	0	0	0	0	0	0	0	7	7	0	1	14	0	2	0	6	0	8	0	0	18	4	0	22	44
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	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
Hourly Total	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
* Break *																									
16:00	0	0	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	0	0	3	0	0	3	9
16:15	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	1	0	1	0	0	4	2	1	6	14
16:30	0	0	0	0	0	0	0	0	6	0	1	6	0	2	0	0	0	2	0	0	4	0	0	4	12
16:45	0	0	0	0	0	0	1	1	1	0	0	3	0	1	0	2	0	3	0	0	2	0	1	2	8
Hourly Total	0	0	0	0	0	0	1	2	19	0	1	22	0	3	0	3	0	6	0	0	13	2	2	15	43
17:00	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	2	0	2	0	0	2	0	0	2	7
17:15	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	5	1	0	6	10
17:30	0	0	0	0	0	0	1	0	8	0	0	9	0	0	0	0	0	0	0	0	4	0	0	4	13
17:45	0	0	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	0	2	1	0	3	8
Hourly Total	0	0	0	0	0	0	1	2	18	0	0	21	0	0	0	2	0	2	0	0	13	2	0	15	38
Grand Total	0	0	0	0	0	0	2	17	47	0	2	66	0	6	0	11	0	17	0	0	59	8	2	67	150
Approach %	-	-	-	-	-	-	3.0%	25.8%	71.2%	0.0%	-	-	0.0%	35.3%	0.0%	64.7%	-	-	0.0%	0.0%	88.1%	11.9%	-	-	-
Total %	0.0%	0.0%	0.0%	0.0%	-	0.0%	1.3%	11.3%	31.3%	0.0%	-	44.0%	0.0%	4.0%	0.0%	7.3%	-	11.3%	0.0%	0.0%	39.3%	5.3%	-	44.7%	-
Lights	0	0	0	0	-	0	2	17	46	0	-	65	0	6	0	11	-	17	0	0	59	8	-	67	149
% Lights	-	-	-	-	-	-	100.0%	100.0%	97.9%	-	-	98.5%	-	100.0%	-	100.0%	-	100.0%	-	-	100.0%	100.0%	-	100.0%	99.3%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	-	-	-	-	-	-	0.0%	0.0%	-	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	0.0%
Trucks	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	-	0	0	0	-	0	1
% Trucks	-	-	-	-	-	-	-	0.0%	2.1%	-	-	1.5%	-	0.0%	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	0.7%
Bicycles	-	-	-	-	1	1	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	5	5	8
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	-	4







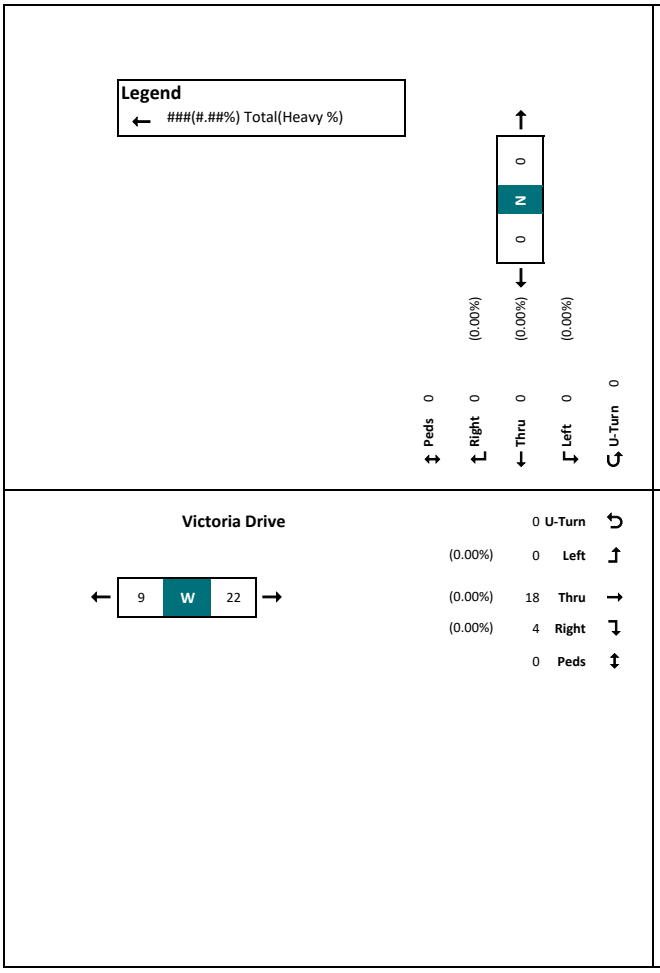


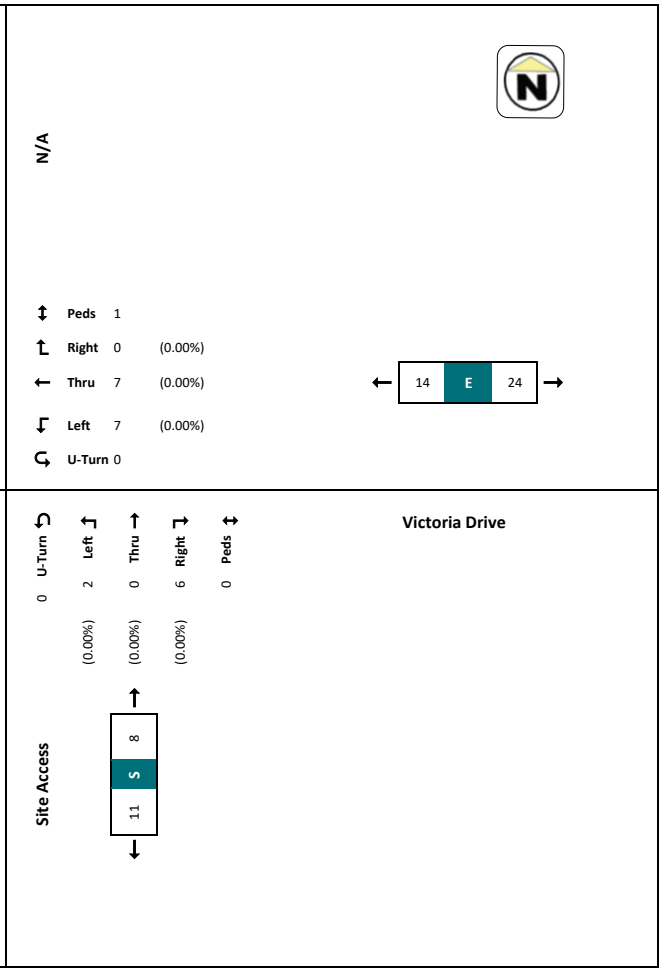
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Site Access & Victoria Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24249

AM Peak Hour - Site Access & Victoria Drive

	N/A Southbound						Victoria Drive Westbound						Site Access Northbound						Victoria Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
8:00	0	0	0	0	0	0	0	1	2	0	0	3	0	1	0	1	0	2	0	0	2	0	0	2	7
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3	0	0	3	4
8:30	0	0	0	0	0	0	0	3	3	0	1	6	0	1	0	1	0	2	0	0	6	3	0	9	17
8:45	0	0	0	0	0	0	0	3	2	0	0	5	0	0	0	3	0	3	0	0	7	1	0	8	16
Hourly Total	0	0	0	0	0	0	0	7	7	0	1	14	0	2	0	6	0	8	0	0	18	4	0	22	44
Approach %	-	-	-	-	-	-	0.0%	50.0%	50.0%	0.0%	-	-	0.0%	25.0%	0.0%	75.0%	-	-	0.0%	0.0%	81.8%	18.2%	-	-	-
Total %	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	15.9%	15.9%	0.0%	-	31.8%	0.0%	4.5%	0.0%	13.6%	-	18.2%	0.0%	0.0%	40.9%	9.1%	-	50.0%	-
PHF	0	0	0	0	-	0	0	0.58	0.58	0	-	0.58	0	0.5	0	0.5	-	0.67	0	0	0.64	0.33	-	0.61	0.65
Lights	0	0	0	0	-	0	0	7	7	0	-	14	0	2	0	6	-	8	0	0	18	4	-	22	44
% Lights	-	-	-	-	-	-	-	100.0%	100.0%	-	-	100.0%	-	100.0%	-	100.0%	-	100.0%	-	-	100.0%	100.0%	-	100.0%	100.0%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	-	-	-	-	-	-	0.0%	0.0%	-	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	0.0%
Trucks	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Trucks	-	-	-	-	-	-	-	0.0%	0.0%	-	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	0.0%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	1



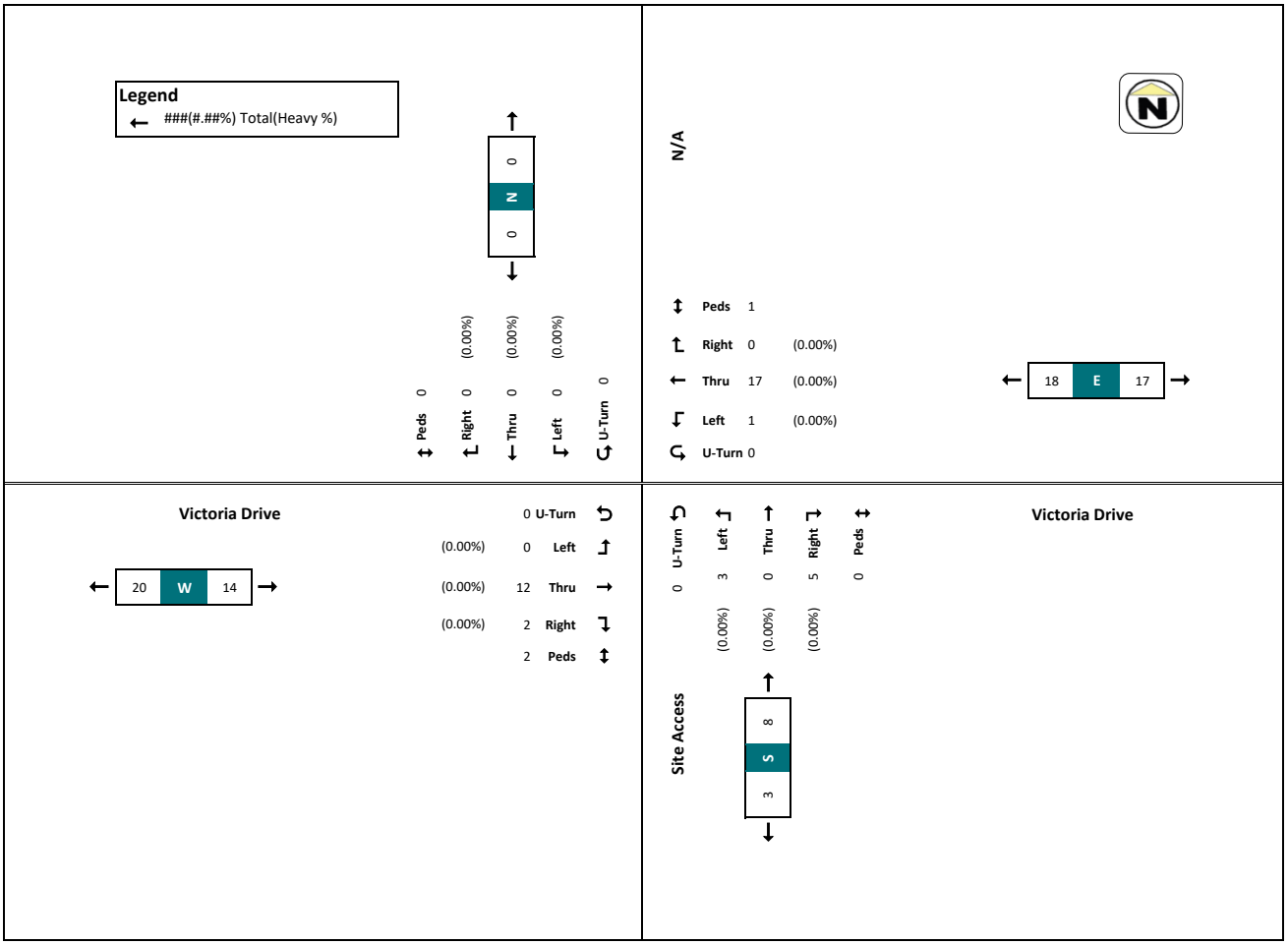


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Site Access & Victoria Drive
Survey Date : July 16, 2024
Project No. : 24138
Count ID : 24249

PM Peak Hour - Site Access & Victoria Drive

	N/A Southbound						Victoria Drive Westbound						Site Access Northbound						Victoria Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
16:15	0	0	0	0	0	0	0	0	7	0	0	7	0	0	0	1	0	1	0	0	4	2	1	6	14
16:30	0	0	0	0	0	0	0	0	6	0	1	6	0	2	0	0	0	2	0	0	4	0	0	4	12
16:45	0	0	0	0	0	0	1	1	1	0	0	3	0	1	0	2	0	3	0	0	2	0	1	2	8
17:00	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	2	0	2	0	0	2	0	0	2	7
Hourly Total	0	0	0	0	0	0	1	1	17	0	1	19	0	3	0	5	0	8	0	0	12	2	2	14	41
Approach %	-	-	-	-	-	-	5.3%	5.3%	89.5%	0.0%	-	-	0.0%	37.5%	0.0%	62.5%	-	-	0.0%	0.0%	85.7%	14.3%	-	-	-
Total %	0.0%	0.0%	0.0%	0.0%	-	0.0%	2.3%	2.3%	38.6%	0.0%	-	46.3%	0.0%	6.8%	0.0%	11.4%	-	19.5%	0.0%	0.0%	27.3%	4.5%	-	34.1%	-
PHF	0	0	0	0	-	0	0.25	0.25	0.61	0	-	0.68	0	0.38	0	0.63	-	0.67	0	0	0.75	0.25	-	0.58	0.73
Lights	0	0	0	0	-	0	1	1	17	0	-	19	0	3	0	5	-	8	0	0	12	2	-	14	41
% Lights	-	-	-	-	-	-	-	100.0%	100.0%	-	-	100.0%	-	100.0%	-	100.0%	-	100.0%	-	-	100.0%	100.0%	-	100.0%	100.0%
Buses	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Buses	-	-	-	-	-	-	-	0.0%	0.0%	-	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	0.0%
Trucks	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	-	0	0	0	-	0	0
% Trucks	-	-	-	-	-	-	-	0.0%	0.0%	-	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	-	0.0%	0.0%	-	0.0%	0.0%
Bicycles	-	-	-	-	1	1	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	3	3	6
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	1

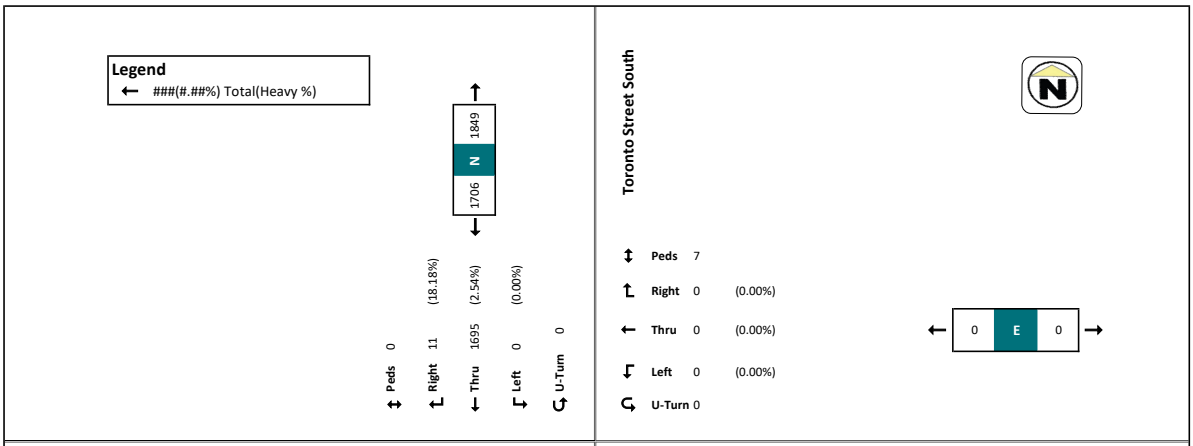


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Toronto Street South & Victoria Drive
Survey Date : March 25, 2025
Project No. : 25258
Count ID : 25100

Turning Movement Count - Toronto Street South & Victoria Drive

	Toronto Street South Southbound						N/A Westbound						Toronto Street South Northbound						Victoria Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
7:00	0	0	97	0	0	97	0	0	0	0	0	0	0	0	24	0	0	24	0	1	0	1	0	2	123
7:15	0	0	94	0	0	94	0	0	0	0	0	0	0	2	32	0	0	34	0	0	0	3	0	3	131
7:30	0	0	118	1	0	119	0	0	0	0	0	0	0	4	57	0	0	61	0	1	0	4	0	5	185
7:45	0	0	142	0	0	142	0	0	0	0	1	0	0	4	76	0	0	80	0	3	0	0	0	3	225
Hourly Total	0	0	451	1	0	452	0	0	0	0	1	0	0	10	189	0	0	199	0	5	0	8	0	13	664
8:00	0	0	113	0	0	113	0	0	0	0	1	0	0	2	66	0	0	68	0	1	0	3	0	4	185
8:15	0	0	113	1	0	114	0	0	0	0	0	0	0	0	71	0	0	71	0	0	0	8	1	8	193
8:30	0	0	118	0	0	118	0	0	0	0	1	0	0	4	51	0	0	55	0	1	0	5	2	6	179
8:45	0	0	122	1	0	123	0	0	0	0	1	0	0	5	84	0	0	89	0	18	0	19	0	37	249
Hourly Total	0	0	466	2	0	468	0	0	0	0	3	0	0	11	272	0	0	283	0	20	0	35	3	55	806
* Break *																									
16:00	0	0	102	1	0	103	0	0	0	0	0	0	0	4	198	0	0	202	0	2	0	3	0	5	310
16:15	0	0	108	1	0	109	0	0	0	0	2	0	0	6	155	0	0	161	0	0	0	1	0	1	271
16:30	0	0	100	0	0	100	0	0	0	0	1	0	0	6	180	0	0	186	0	0	0	5	0	5	291
16:45	0	0	106	0	0	106	0	0	0	0	0	0	0	5	174	0	0	179	0	0	0	6	0	6	291
Hourly Total	0	0	416	2	0	418	0	0	0	0	3	0	0	21	707	0	0	728	0	2	0	15	0	17	1163
17:00	0	0	107	3	0	110	0	0	0	0	0	0	0	3	168	0	0	171	0	0	0	7	0	7	288
17:15	0	0	97	1	0	98	0	0	0	0	0	0	0	5	184	0	0	189	0	0	0	2	0	2	289
17:30	0	0	73	0	0	73	0	0	0	0	0	0	0	4	155	0	0	159	0	0	0	4	0	4	236
17:45	0	0	85	2	0	87	0	0	0	0	0	0	0	3	147	0	0	150	0	0	0	1	0	1	238
Hourly Total	0	0	362	6	0	368	0	0	0	0	0	0	0	15	654	0	0	669	0	0	0	14	0	14	1051
Grand Total	0	0	1695	11	0	1706	0	0	0	0	7	0	0	57	1822	0	0	1879	0	27	0	72	3	99	3684
Approach %	0.0%	0.0%	99.4%	0.6%	-	-	-	-	-	-	-	-	0.0%	3.0%	97.0%	0.0%	-	-	0.0%	27.3%	0.0%	72.7%	-	-	-
Total %	0.0%	0.0%	46.0%	0.3%	-	46.3%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	1.5%	49.5%	0.0%	-	51.0%	0.0%	0.7%	0.0%	2.0%	-	2.7%	-
Lights	0	0	1652	9	-	1661	0	0	0	0	-	0	0	55	1784	0	-	1839	0	18	0	71	-	89	3589
% Lights	-	-	97.5%	81.8%	-	97.4%	-	-	-	-	-	-	-	96.5%	97.9%	-	-	97.9%	-	66.7%	-	98.6%	-	89.9%	97.4%
Buses	-	0	16	0	-	16	-	0	0	0	-	0	-	0	15	0	-	15	-	8	0	0	-	8	39
% Buses	-	-	0.9%	0.0%	-	0.9%	-	-	-	-	-	-	-	0.0%	0.8%	-	-	0.8%	-	29.6%	-	0.0%	-	8.1%	1.1%
Trucks	-	0	27	2	-	29	-	0	0	0	-	0	-	2	23	0	-	25	-	1	0	1	-	2	56
% Trucks	-	-	1.6%	-	-	1.7%	-	-	-	-	-	-	-	3.5%	1.3%	-	-	1.3%	-	3.7%	-	1.4%	-	2.0%	1.5%
Bicycles	-	-	-	-	0	0	-	-	-	-	4	4	-	-	-	-	0	0	-	-	-	-	7	7	11
Pedestrians	-	-	-	-	0	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	3	-	10

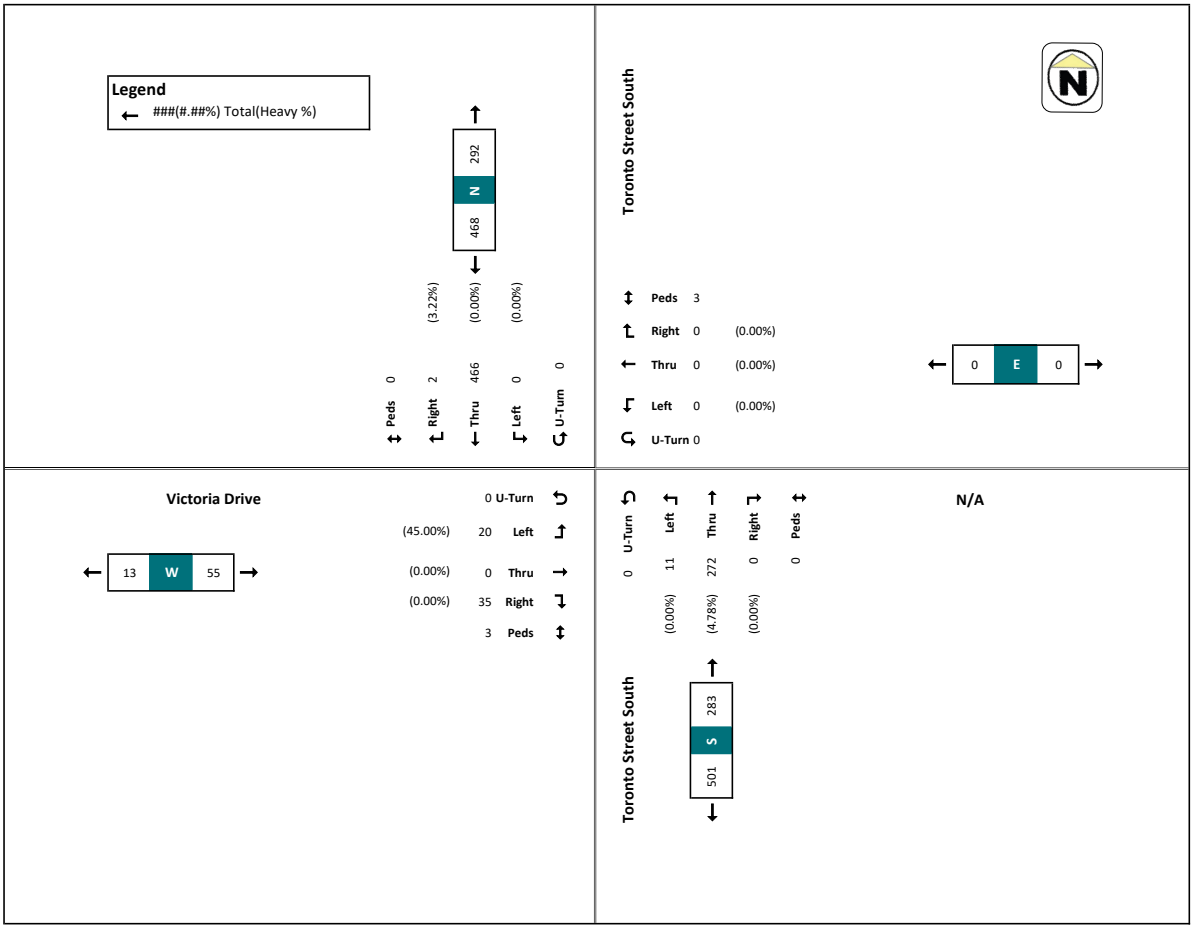


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Toronto Street South & Victoria Drive
Survey Date : March 25, 2025
Project No. : 25258
Count ID : 25100

AM Peak Hour - Toronto Street South & Victoria Drive

	Toronto Street South Southbound						N/A Westbound						Toronto Street South Northbound						Victoria Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
8:00	0	0	113	0	0	113	0	0	0	0	1	0	0	2	66	0	0	68	0	1	0	3	0	4	185
8:15	0	0	113	1	0	114	0	0	0	0	0	0	0	0	71	0	0	71	0	0	0	8	1	8	193
8:30	0	0	118	0	0	118	0	0	0	0	1	0	0	4	51	0	0	55	0	1	0	5	2	6	179
8:45	0	0	122	1	0	123	0	0	0	0	1	0	0	5	84	0	0	89	0	18	0	19	0	37	249
Hourly Total	0	0	466	2	0	468	0	0	0	0	3	0	0	11	272	0	0	283	0	20	0	35	3	55	806
Approach %	0.0%	0.0%	99.6%	0.4%	-	-	-	-	-	-	-	-	0.0%	3.9%	96.1%	0.0%	-	-	0.0%	36.4%	0.0%	63.6%	-	-	-
Total %	0.0%	0.0%	57.8%	0.2%	-	58.1%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	1.4%	33.7%	0.0%	-	35.1%	0.0%	2.5%	0.0%	4.3%	-	6.8%	-
PHF	0	0	0.95	0.5	-	0.95	0	0	0	0	-	0	0	0.55	0.81	0	-	0.79	0	0.28	0	0.46	-	0.37	0.81
Lights	0	0	451	2	-	453	0	0	0	0	-	0	0	11	259	0	-	270	0	11	0	35	-	46	769
% Lights	-	-	96.8%	100.0%	-	96.8%	-	-	-	-	-	-	-	100.0%	95.2%	-	-	95.4%	-	55.0%	-	100.0%	-	83.6%	95.4%
Buses	-	0	4	0	-	4	-	0	0	0	-	0	-	0	5	0	-	5	-	8	0	0	-	8	17
% Buses	-	-	0.9%	0.0%	-	0.9%	-	-	-	-	-	-	-	0.0%	1.8%	-	-	1.8%	-	40.0%	-	0.0%	-	14.5%	2.1%
Trucks	-	0	11	0	-	11	-	0	0	0	-	0	-	0	8	0	-	8	-	1	0	0	-	1	20
% Trucks	-	-	2.4%	0.0%	-	2.4%	-	-	-	-	-	-	-	0.0%	2.9%	-	-	2.8%	-	5.0%	-	0.0%	-	1.8%	2.5%
Bicycles	-	-	-	-	0	0	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	0	0	2
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	3	-	6

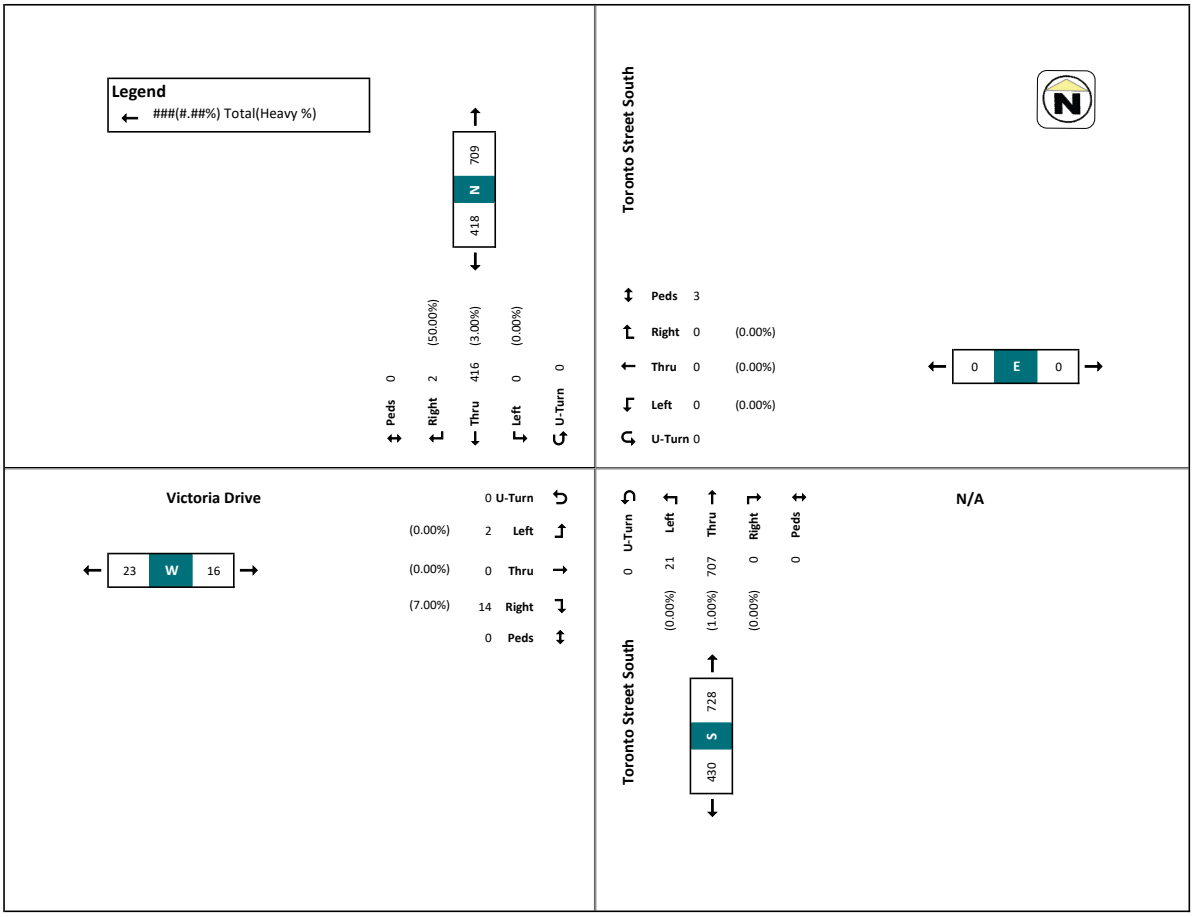


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Toronto Street South & Victoria Drive
Survey Date : March 25, 2025
Project No. : 25258
Count ID : 25100

PM Peak Hour - Toronto Street South & Victoria Drive

	Toronto Street South Southbound						N/A Westbound						Toronto Street South Northbound						Victoria Drive Eastbound						
Start Time	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Grand Total
16:00	0	0	102	1	0	103	0	0	0	0	0	0	0	4	198	0	0	202	0	2	0	3	0	5	310
16:15	0	0	108	1	0	109	0	0	0	0	2	0	0	6	155	0	0	161	0	0	0	1	0	1	271
16:30	0	0	100	0	0	100	0	0	0	0	1	0	0	6	180	0	0	186	0	0	0	5	0	5	291
16:45	0	0	106	0	0	106	0	0	0	0	0	0	0	5	174	0	0	179	0	0	0	6	0	6	291
Hourly Total	0	0	416	2	0	418	0	0	0	0	3	0	0	21	707	0	0	728	0	2	0	15	0	17	1163
Approach %	0.0%	0.0%	99.5%	0.5%	-	-	-	-	-	-	-	-	0.0%	2.9%	97.1%	0.0%	-	-	0.0%	11.8%	0.0%	88.2%	-	-	-
Total %	0.0%	0.0%	35.8%	0.2%	-	35.9%	0.0%	0.0%	0.0%	0.0%	-	0.0%	0.0%	2.6%	87.7%	0.0%	-	62.6%	0.0%	0.2%	0.0%	1.9%	-	1.5%	-
PHF	0	0	0.96	0.5	-	0.96	0	0	0	0	-	0	0	0.88	0.89	0	-	0.9	0	0.25	0	0.63	-	0.71	0.94
Lights	0	0	404	1	-	405	0	0	0	0	-	0	0	21	701	0	-	722	0	2	0	14	-	16	1143
% Lights	-	-	97.1%	50.0%	-	96.9%	-	-	-	-	-	-	-	100.0%	99.2%	-	-	99.2%	-	100.0%	-	93.3%	-	94.1%	98.3%
Buses	-	0	4	0	-	4	-	0	0	0	-	0	-	0	2	0	-	2	-	0	0	0	-	0	6
% Buses	-	-	1.0%	0.0%	-	1.0%	-	-	-	-	-	-	-	0.0%	0.3%	-	-	0.3%	-	0.0%	-	0.0%	-	0.0%	0.5%
Trucks	-	0	7	1	-	8	-	0	0	0	-	0	-	0	4	0	-	4	-	0	0	1	-	1	13
% Trucks	-	-	1.7%	50.0%	-	1.9%	-	-	-	-	-	-	-	0.0%	0.6%	-	-	0.5%	-	0.0%	-	6.7%	-	5.9%	1.1%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	5	5	5
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0



APPENDIX C

Trip Generation Calculations

TURNING MOVEMENT COUNT

Project #: 24138.00.200.02

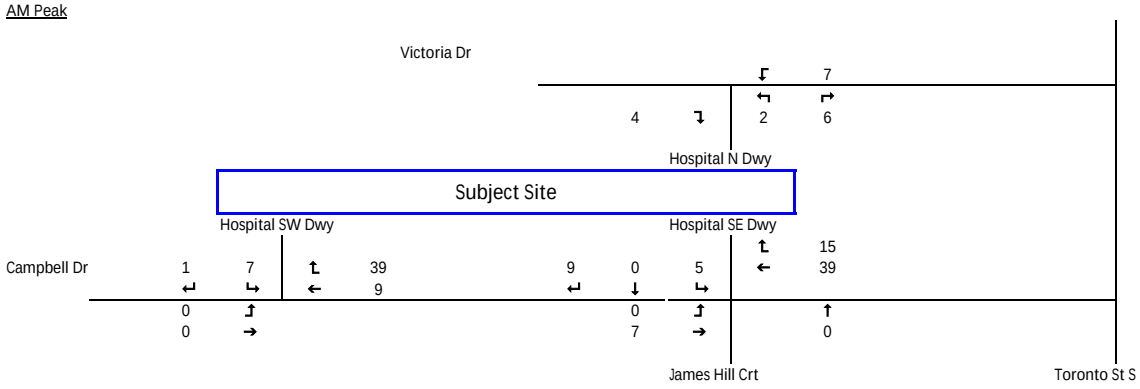
Source:	LEA	N/S Street:	Hospital Site Dwys (3)	Municipality:	Uxbridge	
Date:	Thurs. Sept. 21, 2023	E/W Street:	Victoria Dr & Campbell Dr	Province:	Ontario	

Time Start	North Dwy+Victoria Dr				Southwest Dwy+Campbell Dr				Southeast Dwy/James Hill Crt + Campbell Dr						Total				
	In		Out		In		Out		In			Out			In	Out	All	Hourly	
	Left	Right	Left	Right	Left	Right	Left	Right	Left	Thru'	Right	Left	Thru'	Right					
7:00	0	0	0	0	0	4	1	0	0	0	2	1	0	1	6	3	9		
7:15	1	0	0	0	0	3	2	0	0	0	0	1	0	1	4	4	8		
7:30	1	0	1	0	0	4	1	0	0	0	0	0	0	0	5	2	7		
7:45	4	0	0	0	0	11	0	0	0	0	1	1	0	0	16	1	17	41	
8:00	1	0	1	1	0	6	1	1	0	0	3	0	0	1	10	5	15	47	
8:15	0	0	0	1	0	9	3	0	0	0	1	2	0	1	10	7	17	56	
8:30	3	3	1	1	0	11	1	0	0	0	4	3	0	4	21	10	31	80	
8:45	3	1	0	3	0	13	2	0	0	0	7	0	0	3	24	8	32	95	<-- Peak Hour
16:00	1	0	0	0	1	1	6	1	0	0	3	1	0	0	6	8	14		
16:15	0	2	0	1	0	2	6	0	0	0	4	7	0	1	8	15	23		
16:30	0	0	2	0	0	0	6	0	2	0	4	3	0	0	6	11	17		
16:45	1	0	1	2	0	4	2	0	2	0	2	2	0	1	9	8	17	71	
17:00	0	0	0	2	0	2	12	0	0	0	4	2	0	0	6	16	22	79	
17:15	1	1	0	0	0	2	5	0	1	0	4	5	0	2	9	12	21	77	
17:30	0	0	0	0	0	2	2	0	2	0	3	2	0	0	7	4	11	71	
17:45	1	1	0	0	0	5	5	0	0	0	5	6	0	2	12	13	25	79	<-- Peak Hour
Total	17	8	6	11	1	79	55	2	7	0	47	36	0	17	159	127	286	343	
AM Peak	7	4	2	6	0	39	7	1	0	0	15	5	0	9	65	30	95		
PM Peak	1	2	3	5	0	8	26	0	4	0	14	14	0	2	29	50	79		

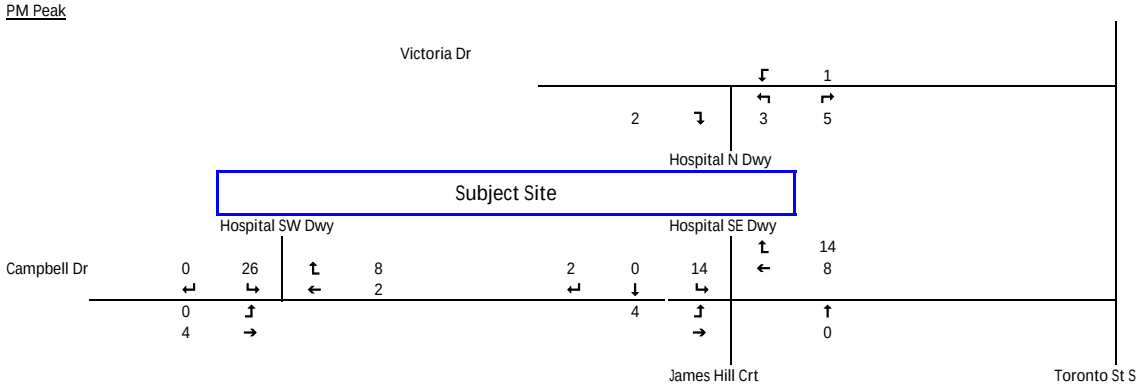
Notes: Subject site has a total building size of 71,472 sf (Hopsital: 42,625 sf, UxMed: 26,167 sf and EMS 2,680 sf)

Peak Hour	Two-way Site Trips			Trip Rate		
	In	Out	Total	In	Out	Total
AM	65	30	95	0.91	0.42	1.33
PM	29	50	79	0.41	0.70	1.11

AM Peak



PM Peak



Trip Generation Methodology (by Size)

Existing survey Corrected sizes

Parameter	Size	AM Peak			AM Peak		
		In	Out	Total	In	Out	Total
Existing rate (survey)	71,472	*0.91*	*0.42*	*1.33*	*0.41*	*0.70*	*1.11*
Hospital (Existing site trips		65	30	95	29	50	79
A Hospital (Net Addition)	43,789	40	18	58	18	31	49
B AHF area	35,800	33	15	48	15	25	40
ITE11 LUC620 Nursing Home Rate		*0.42*	*0.13*	*0.55*	*0.24*	*0.35*	*0.59*
C Long Term Care (LTC)*	200,715	84	26	110	48	70	118
Total Net New		**157**	**59**	**216**	**81**	**126**	**207**
	79,589						
Change from march 2025		9	4	13	4	8	12
Hospital addition (A+B)		73	33	106	33	56	89

Simplified (No AHF separation) Corrected sizes — Applied for analyses

Parameter	Size	AM Peak			AM Peak		
		In	Out	Total	In	Out	Total
Existing rate (survey)	*71,472*	*0.91*	*0.42*	*1.33*	*0.41*	*0.70*	*1.11*
Hospital (Existing site trips		65	30	95	29	50	79
Hospital (Net Addition)	79,589	72	34	106	33	55	88
ITE11 LUC620 Nursing Home Rate		*0.42*	*0.13*	*0.55*	*0.24*	*0.35*	*0.59*
Long Term Care (LTC)	164,882	69	22	91	40	57	97
Total Net New		**141**	**56**	**197**	**73**	**112**	**185**
Existing Site Trips		**65**	**30**	**95**	**29**	**50**	**79**
Total all		**206**	**86**	**292**	**102**	**162**	**264**

79,589

ITE

Parameter	Size	AM Peak			AM Peak		
		In	Out	Total	In	Out	Total
ITE11 LUC610 Hospital Rate		*0.55*	*0.27*	*0.82*	*0.3*	*0.56*	*0.86*
Hospital [Existing] (A)	71,472	39	19	59	21	40	61
Hospital [Net addition] (B)	43,789	24	12	36	13	25	38
AHF area (C)	35,800	20	9	29	11	20	31
ITE11 LUC620 Nursing Home Rate		*0.42*	*0.13*	*0.55*	*0.24*	*0.35*	*0.59*
Long Term Care [+AHF] (D)	164,882	69	22	91	40	57	97
Total (A+B+C)		**113**	**43**	**156**	**64**	**102**	**166**
	Nov-25	-35	-12	-47	-13	-16	-29
Hopsital addition only		44	21	65	24	45	69
LTC		69	22	91	40	57	97
		113	43	156	64	102	166

Trip Generation	AM Peak			AM Peak		
	In	Out	Total	In	Out	Total
April 2025	148	55	203	77	118	195
November 2025	157	59	216	81	126	207
Net Difference	**9**	**4**	**13**	**4**	**8**	**12**

Net new	AM Peak			AM Peak		
	In	Out	Total	In	Out	Total
sf (ex Hospital rate, ITE nursing)	157	59	216	81	126	207
sf (ITE rates)	113	43	156	64	102	166
Beds (Ex rate) *- n/a for LTC	221	101	322	100	172	272
Beds (ITE) ** - existing trips < TMC	99	39	138	45	88	132

Summary (by size)

	AM Peak			AM Peak		
	In	Out	Total	In	Out	Total
Existing Survey	157	59	216	81	126	207
ITE	113	43	156	64	102	166

Summary (number of beds)

	AM Peak			AM Peak		
	In	Out	Total	In	Out	Total
Existing Survey	286	131	417	129	222	351
ITE	125	49	174	56	111	166

Trip rates compilation

	AM Peak			AM Peak		
	In	Out	Total	In	Out	Total
Size						
Hospital (Survey)	0.91	0.42	1.33	0.41	0.7	1.11
Hospital (ITE)	0.55	0.27	0.82	0.3	0.56	0.86
Long Term care (ITE)	0.42	0.13	0.55	0.24	0.35	0.59
Beds						
Hospital (Survey)	3.25	1.50	4.75	1.45	2.5	3.95
Hospital (ITE)	1.29	0.5	1.79	0.56	1.13	1.69
Long Term care (ITE)	0.10	0.04	0.14	0.05	0.09	0.14

New Hospital Site Trips

Travel Mode	Modal Split	AM Peak			AM Peak		
		In	Out	Total	In	Out	Total
Person	100%	89	42	131	41	68	109
Auto Driver	81%	72	34	106	33	55	88
Auto Passenger	17%	15	7	22	7	12	19
Transit	2%	2	1	3	1	1	2
Walk	0%	0	0	0	0	0	0
Cycle	0%	0	0	0	0	0	0
Total		**89**	**42**	**131**	**41**	**68**	**109**
Check		0	0	0	0	0	0

New Long Term Care Site Trips

Travel Mode	Modal Split	AM Peak			AM Peak		
		In	Out	Total	In	Out	Total
Person	100%	85	27	112	49	71	120
Auto Driver	81%	69	22	91	40	57	97
Auto Passenger	17%	14	5	19	8	13	21
Transit	2%	2	0	2	1	1	2
Walk	0%	0	0	0	0	0	0
Cycle	0%	0	0	0	0	0	0
Total		**85**	**27**	**112**	**49**	**71**	**120**
Check		0	0	0	0	0	0

Total New Site Trips

Travel Mode	Modal Split	AM Peak			AM Peak		
		In	Out	Total	In	Out	Total
Person	100%	174	69	243	90	139	229
Auto Driver	0%	141	56	197	73	112	185
Auto Passenger	0%	29	12	41	15	25	40
Transit	0%	4	1	5	2	2	4
Walk	0%	0	0	0	0	0	0
Cycle	0%	0	0	0	0	0	0

Trip Generation Methodology (Number of Beds)

Existing survey

Parameter	Beds	AM Peak			AM Peak		
		In	Out	Total	In	Out	Total
Existing rate (20 beds)	*20*	*3.25*	*1.50*	*4.75*	*1.45*	*2.50*	*3.95*
Hospital (Existing)	20	65	30	95	29	50	79
Hospital (Future)	12	39	18	57	17	30	47
Advanced Health Facility	50	163	75	238	73	125	198
Long Term Care (ITE)	192	19	8	27	10	17	27
Total	**274**	**286**	**131**	**417**	**129**	**222**	**351**

* - rate is not applicable for land use

Net new	221	101	322	100	172	272
Net change	64	42	106	19	46	65

	sm	sf
AHF	3329	35833

ITE

Parameter	Beds	AM Peak			AM Peak		
		In	Out	Total	In	Out	Total
ITE11 LUC610 Hospital Rate		*1.29*	*0.5*	*1.79*	*0.56*	*1.13*	*1.69*
Hospital [Existing] (A)	20	26	10	36	11	23	34
Hospital [Future] (B)	12	15	6	21	7	14	20
AHF (C)	50	65	25	90	28	57	85
ITE11 LUC620 Nursing Home Rate		*0.10*	*0.04*	*0.14*	*0.05*	*0.09*	*0.14*
Long Term Care (DC)	192	19	8	27	10	17	27
Total (A+B+C+D)		**125**	**49**	**174**	**56**	**111**	**166**
Net New		**99**	**39**	**138**	**45**	**88**	**132**
Net Difference (Square footage vs beds)		**58**	**20**	**78**	**36**	**38**	**75**

Trip Generation	AM Peak			AM Peak		
	In	Out	Total	In	Out	Total
April 2025	221	101	322	100	172	272
November 2025	99	39	138	45	88	132
Net Difference	**-122**	**-62**	**-184**	**-55**	**-84**	**-140**

March 2025 Review

	AM Peak			AM Peak		
	In	Out	Total	In	Out	Total
Net New	148	55	203	77	118	195
Existing	65	30	95	29	50	79
Total	**213**	**85**	**298**	**106**	**168**	**274**

The above assumes the existing hospital (North building) and new size of 45,348 and 128,678 sf; respectively.
The net addiitonal hospital space applied was 80,500 sf.

Net new addition comparison

Analysis Period	AM Peak			AM Peak		
	In	Out	Total	In	Out	Total
March 2025	148	55	203	77	118	195
Current (November 2025)	157	59	216	81	126	207
Net Diference (+/-)	**9**	**4**	**13**	**4**	**8**	**12**

ITE (by size)	93	34	127	53	82	135
Existing Survey (by beds)	254	221	101	322	100	172

12.07
1.42

Existing Hospital

			Size	
Building	Grnd FA (sm)	Floors	**sm**	**sf**
Hospital	2240	1.768	3,960	42,625
UxMed	1782	1.364	2,431	26,167
EMS	249	1	249	2,680
Total Existing	**4,271**		**6,640**	**71,472**

Future Hospital

			sm	**sf**
Hospital			8,274	89,061
UxMed			2,431	26,167
			10,705	**115,228**
LTC (F)			18,647	200,715
Total Future (E+F)			**29,352**	**315,942**

UXMed	2,431	26,167
New hospital	8,274	89,061
LTC	18,647	200,715

46,436	29,352	315,943
0		
-2,680		
43,756		

Missing south building size to calculate correct size and trip generation rate.
Need to confirm all bilding size

Just simply subtract addition vs existing for net increase (for hospital).

LTC	18647
Hopsital	10705
	29352

2240	2	4480	
1782	2	3564	
249	1	249	
		8293	89265

Kristin Speth <KSpeth@dsai.ca>
To Anatole Kung
You forwarded this message on 2025-11-12 12:01 PM.

External Sender

Hi Anatole,

I was in a meeting when you called.

Here are the GFA's that I sent to Kenneth earlier.
Here are the GFA's

The existing site:
EMS: 249sm
Existing Hospital: +/-3960sm
UxMed: 2431sm

Final Site:
Uxmed: 2431sm
New Hospital: 8274sm
LTC: 18647sm

Kristin Speth (she/her/hers)
Architect

Diamond Schmitt Architects
t: 416 862 8800 x276

From: Kristin Speth <KSpeth@dsai.ca>
Sent: Wednesday, November 12, 2025 8:35:47 AM
To: Kenneth Chan <KChan@lea.ca>; Matthew Smith <msmith@dsai.ca>
Subject: RE: 231022 251110 - Uxbridge Hospital - outstanding deliverables

External Sender

Hi Kenneth,

Here are the numbers you are looking for. If I missed anything, please let me know and I will get it to you ASAP.

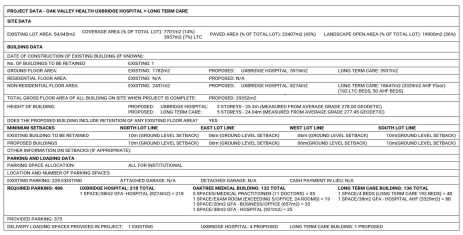
Ground Floor Area

The existing site:
EMS: 249sm
Existing Hospital: 2240sm
UxMed: 1782sm

Final Site:
Uxmed: 1782sm
New Hospital: 5919sm
LTC: 3937sm

Kristin Speth (she/her/hers)
Architect

Diamond Schmitt Architects
t: 416 862 8800 x276



PROJECT DATA - OAK VALLEY HEALTH UXBRIDGE HOSPITAL + LONG TERM CARE

SITE DATA

EXISTING LOT AREA: 54,945m2	COVERAGE AREA (% OF TOTAL LOT): 7701m2 (14%) 3937m2 (7%) LTC	PAVED AREA (% OF TOTAL LOT): 23407m2 (43%)	LANDSCAPE OPEN AREA (% OF TOTAL LOT): 19900m2 (36%)

BUILDING DATA

DATE OF CONSTRUCTION OF EXISTING BUILDING (IF KNOWN):				
No. OF BUILDINGS TO BE RETAINED:	EXISTING: 1			
GROUND FLOOR AREA:	EXISTING: 1782m2	PROPOSED: UXBRIDGE HOSPITAL: 5919m2	LONG TERM CARE: 3937m2	
RESIDENTIAL FLOOR AREA:	EXISTING: N/A	PROPOSED: N/A		
NON RESIDENTIAL FLOOR AREA:	EXISTING: 3851m2	PROPOSED: UXBRIDGE HOSPITAL: 15746m2	LONG TERM CARE: 18647m2 (3329m2 AHP Floor) (102 LTC BEDS, 93 AHP BEDS)	
TOTAL GROSS FLOOR AREA OF ALL BUILDING ON SITE WHEN PROJECT IS COMPLETE:		PROPOSED: 29352m2		
HEIGHT OF BUILDING:	PROPOSED: UXBRIDGE HOSPITAL: 2 STOREYS - 25.3m (MEASURED FROM AVERAGE GRADE 278.00 GEODETIC) PROPOSED: LONG TERM CARE: 5 STOREYS - 24.04m (MEASURED FROM AVERAGE GRADE 277.45 GEODETIC)			
DOES THE PROPOSED BUILDING INCLUDE RETENTION OF ANY EXISTING FLOOR AREA?	YES			

MINIMUM SETBACKS:	**NORTH LOT LINE**	**EAST LOT LINE**	**WEST LOT LINE**	**SOUTH LOT LINE**
EXISTING BUILDING TO BE RETAINED	10m (GROUND LEVEL SETBACK)	0km (GROUND LEVEL SETBACK)	84m (GROUND LEVEL SETBACK)	10m(GROUND LEVEL SETBACK)
PROPOSED BUILDING	10m (GROUND LEVEL SETBACK)	0km (GROUND LEVEL SETBACK)	50m(GROUND LEVEL SETBACK)	10m(GROUND LEVEL SETBACK)

OTHER INFORMATION ON SETBACKS (IF APPROPRIATE):

PARKING AND LOADING DATA

PARKING SPACE ALLOCATION:	ALL FOR INSTITUTIONAL		
LOCATION AND NUMBER OF PARKING SPACES:			
EXISTING PARKING: 224 EXISTING	ATTACHED GARAGE: N/A	DETACHED GARAGE: N/A	CASH PAYMENT IN LIEU: N/A
REQUIRED PARKING: 466	**UXBRIDGE HOSPITAL: 319 TOTAL** 1 SPACE/38M2 GFA - HOSPITAL (627M2) = 216 1 SPACE/38M2 GFA - HOSPITAL (597M2) = 16

MODAL SPLIT CALCULATIONS

Subject Site is in TTS Zone 1318

DISCRETIONARY

Fri Jul 26 2024 10:16:02 GMT-0400 (Eastern Daylight Time) - Run Time: 3016ms

Cross Tabulation Query Form - Trip - 2016

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

Filters:
(2006 GTA zone of destination - gta06_dest In 1317-1318, and
Start time of trip - start_time 700-1900, and
Primary travel mode of trip - mode_prime In B,C,D,G,J,M,O,P,S,T,U,W, and
Regional municipality of household - region_hhld In 3)

Trip 2016
ROW : gta06_dest
COLUMN : mode_prime

gta06_dest	mode_prime	total
1317	D	296
1317	M	21
1317	P	72
1318	D	622
1318	P	123
1318	S	22

Raw Data

Zone of Origin	Mode	Total
1317	D	296
1317	M	21
1317	P	72
1318	D	622
1318	P	123
1318	S	22
	Total	1,156

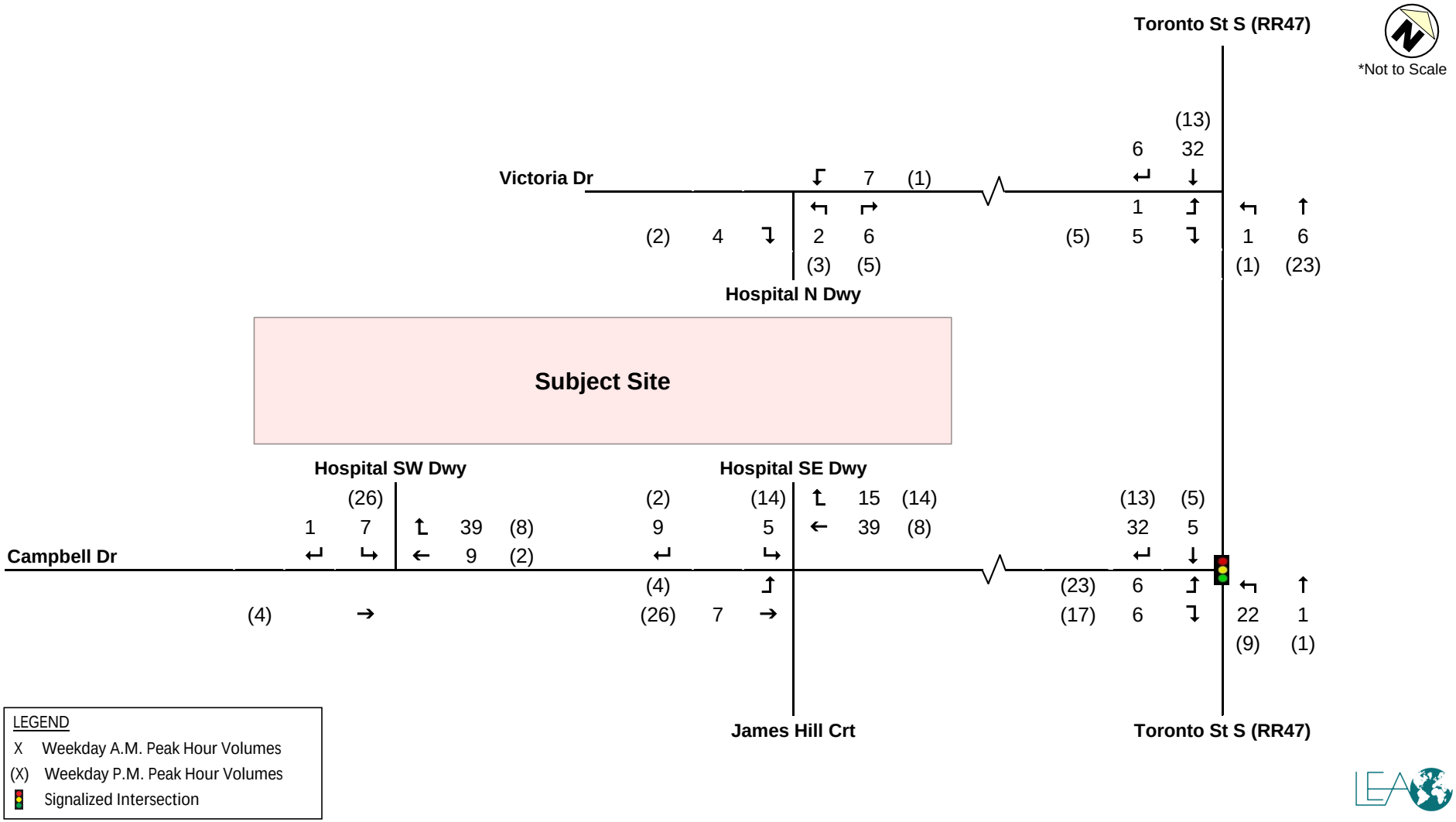
Sorted

Zone of Origin	Mode	Total
1317	D	296
1318	D	622
1317	M	21
1317	P	72
1318	P	123
1318	S	22
	Total	1,156

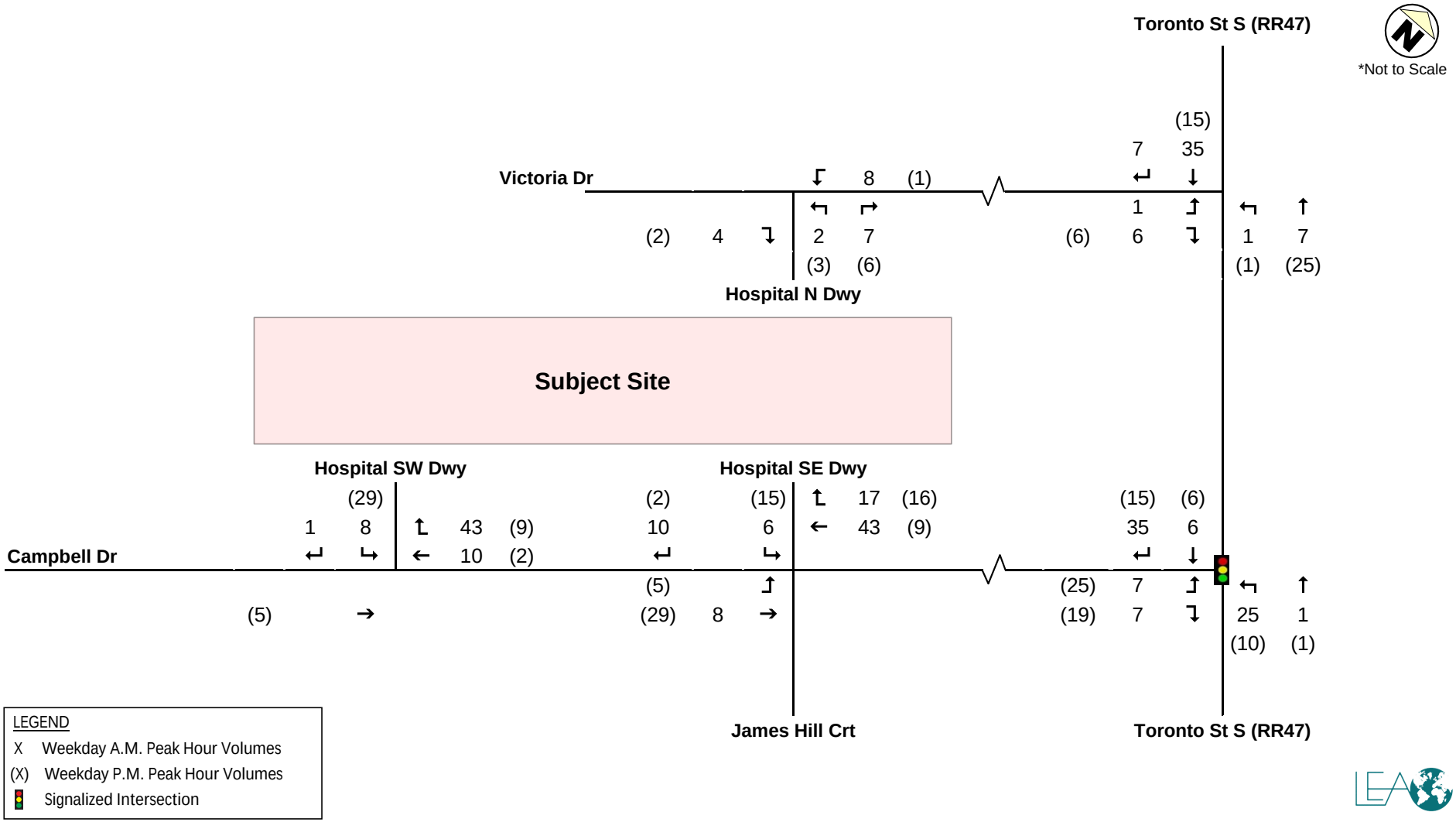
Summary

Travel Mode	TTS Code	Value	Percent
Auto Driver	D+M	939	81%
Auto Passenger	P+T+U	195	17%
Transit	B+G+J+S	22	2%
Walk	W	0	0%
Cycle	C	0	0%
Other	O	0	0%
Total		1,156	100%

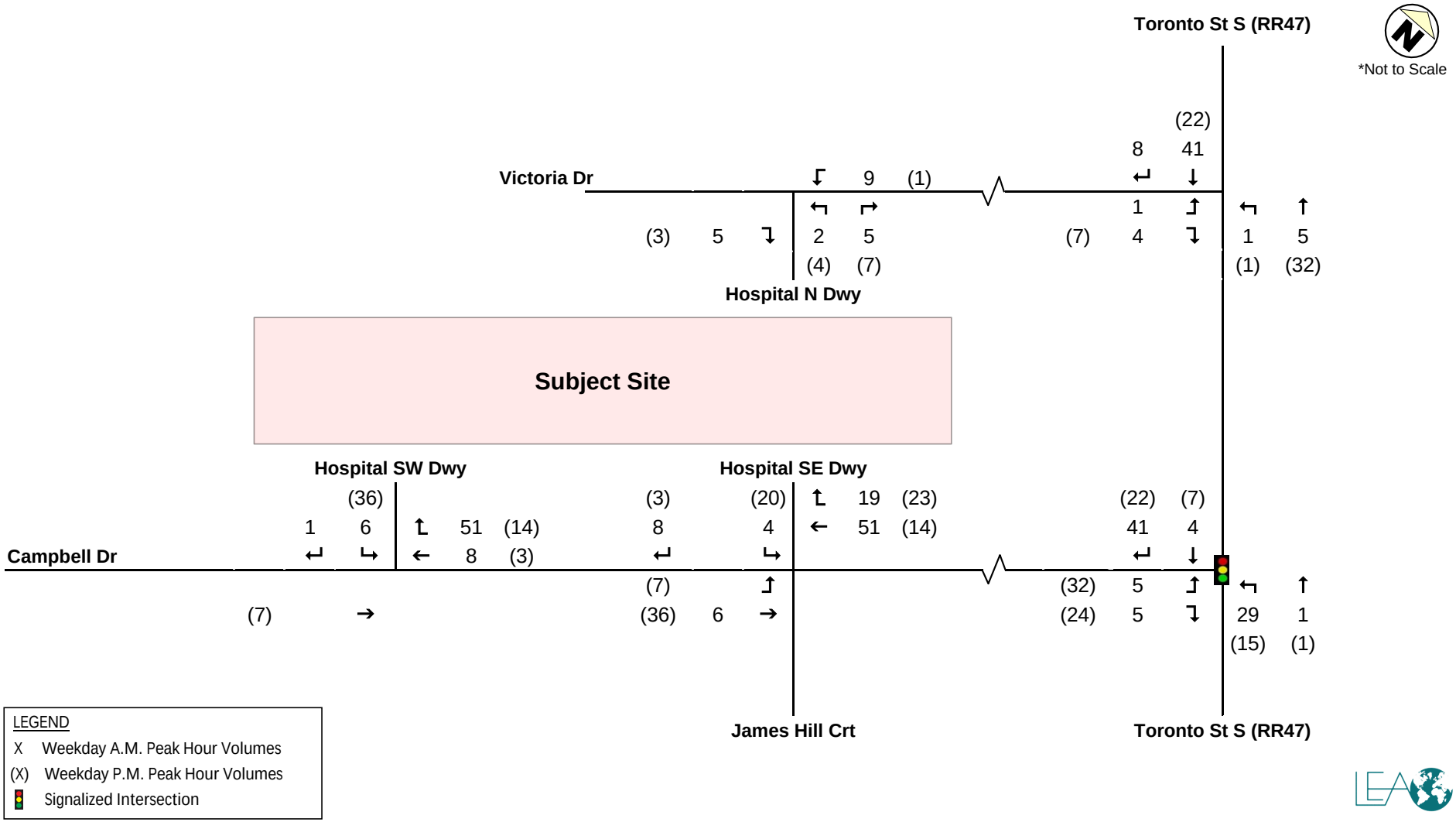
Site Traffic Volume Figures



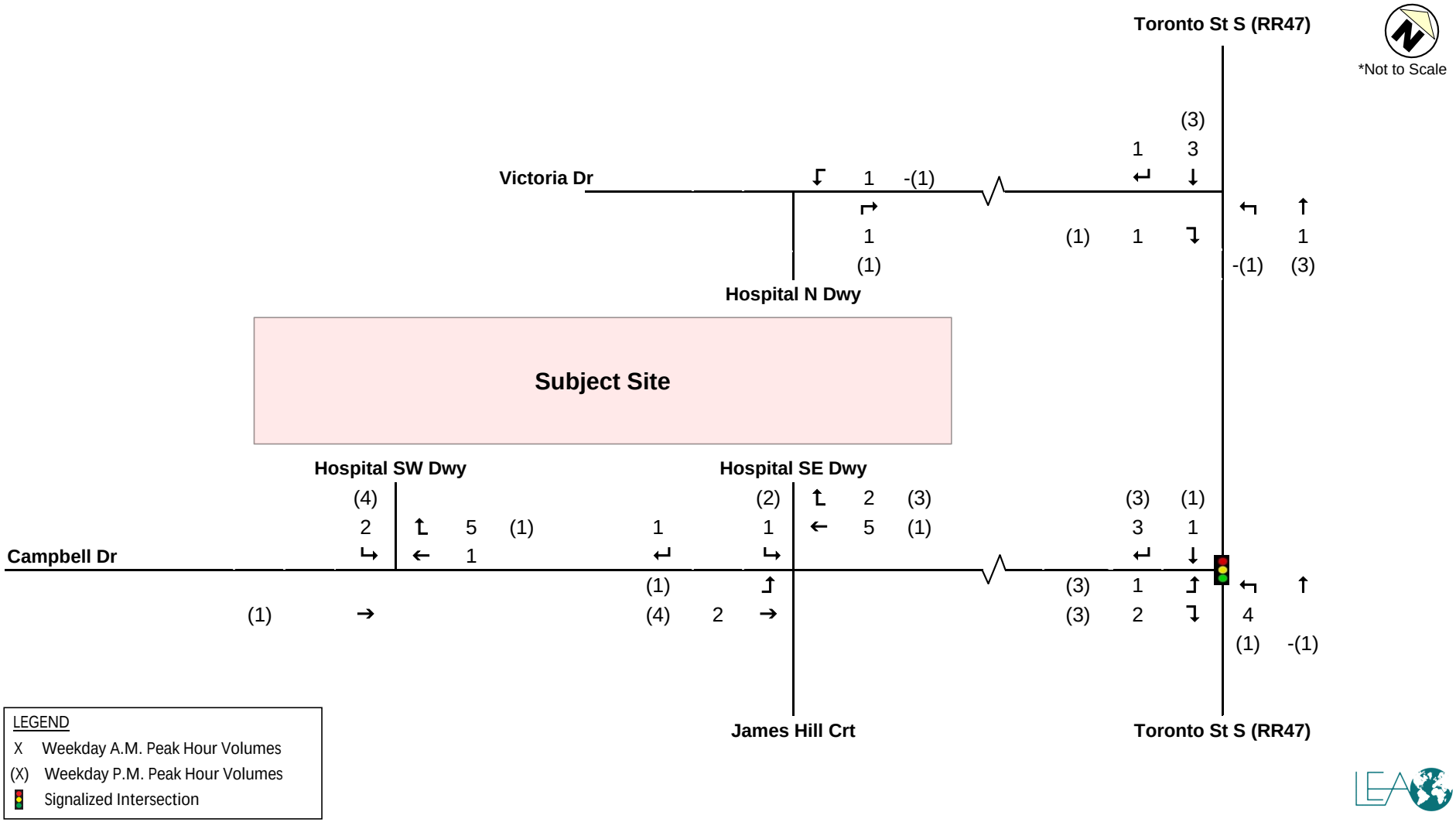
EXISTING HOSPITAL SITE TRAFIC
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)



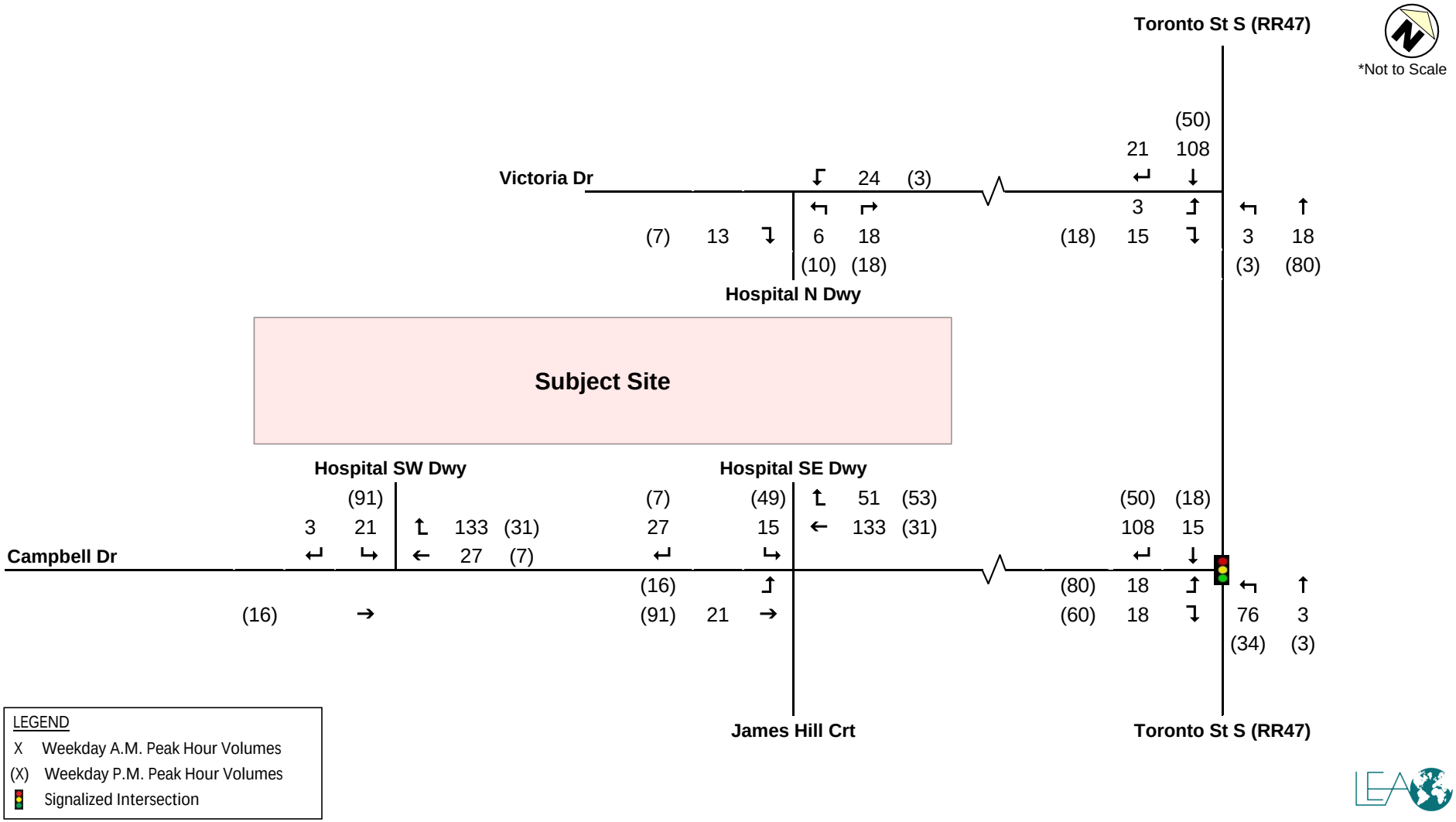
NEW HOSPITAL SITE TRAFFIC
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)



LONG TERM CARE SITE TRAFFIC
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)



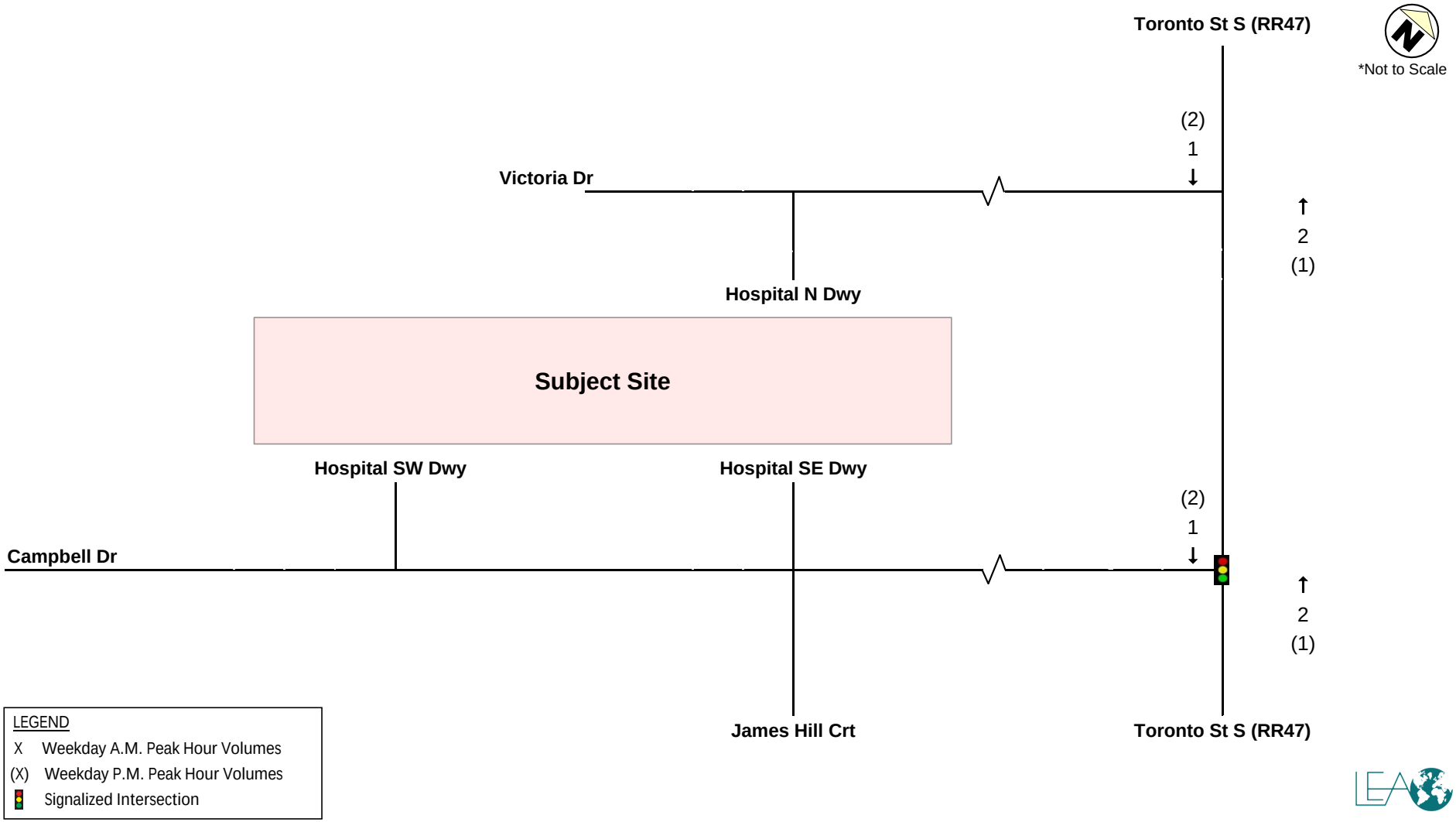
NET DIFFERENCE (November 2025 vs March 2025)
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)



FUTURE TOTAL SITE TRAFFIC
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)

APPENDIX D

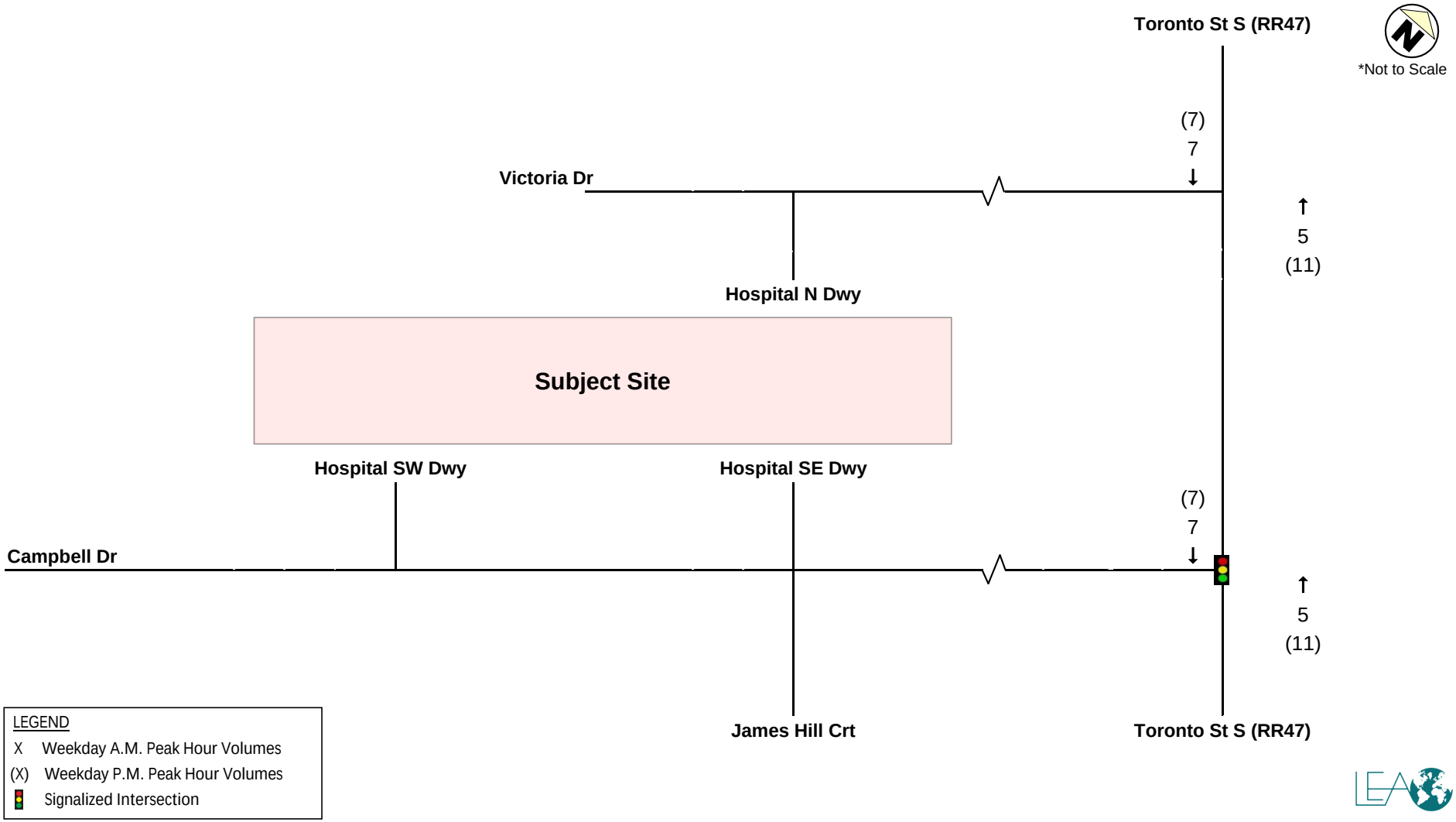
Background Developments



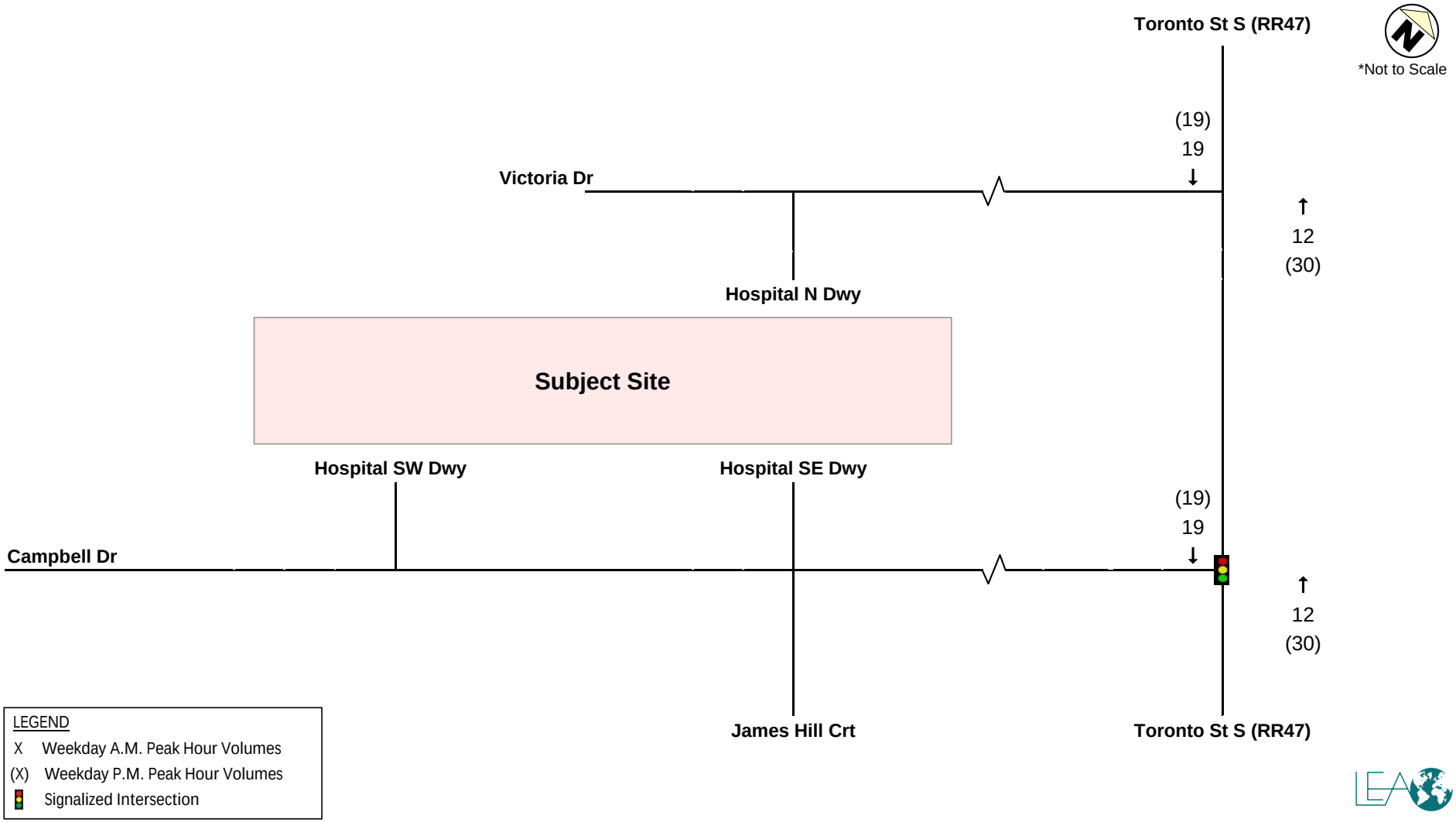
179-181 TORONTO ST SITE TRAFFIC
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)

F:\25258\Traffic\November 2025 Review\TMD\[25258_TMD_November 2025.xlsx]EXFBFT

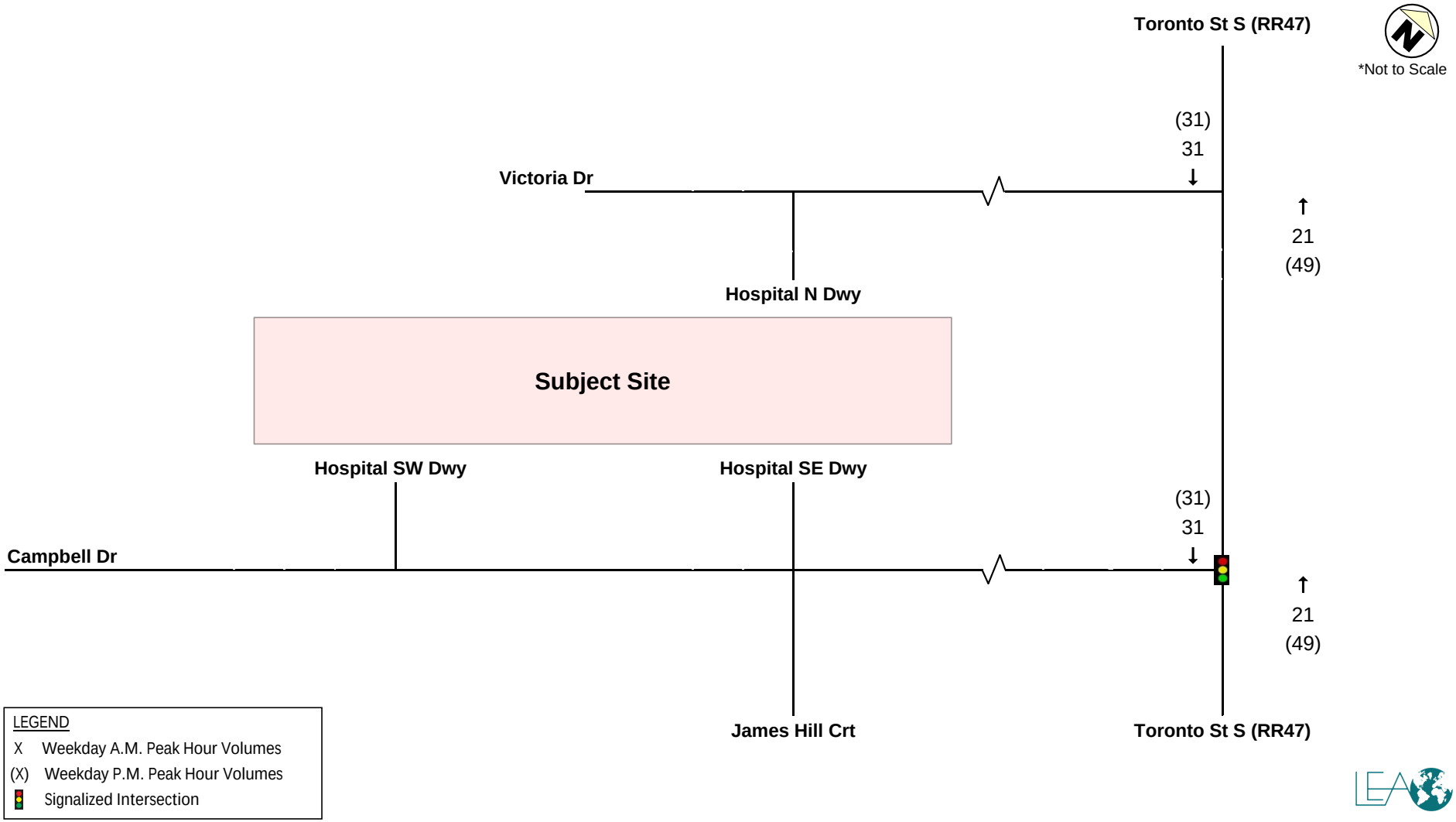
Corridor Growth



CORRIDOR GROWTH (2027)
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)



CORRIDOR GROWTH (2032)
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)



CORRIDOR GROWTH (2037)
OVH Proposed Site Intensification Plan
4 Campbell Dr (Uxbridge)

MTO Highway 12 Volumes between Highway 7 and Highway 48

Pages 369-370 (Pdf p 380-381)

Hwy No	Hwy. Type	Location Description	Year	SAWDT	WADT
12	KING	N JCT HWY 7	1988	5850	4250
			1989	5900	4350
			1990	6000	4450
			1991	5950	4450
			1992	5850	4500
			1993	7600	3250
			1994	8200	3500
			1995	8200	3400
			1996	5600	4250
			1997	6800	5150
			1998	6900	5150
			1999	6950	5250
			2000	7850	6000
			2001	7650	5850
			2002	7850	6050
			2003	7550	5800
			2004	7800	5950
			2005	7600	5950
			2006	7800	6050
			2007	8350	5850
			2008	8800	6300
			2009	7950	6200
			2010	8350	6500
			2011	9100	6650
			2012	9150	6750
			2013	10100	6800
			2014	10000	6950
			2015	9700	7050
			2016	9850	7150
			2017	9950	7700
			2018	10100	7750
			2019	10300	7900
			2020	10500	8150

ATR VOLUMES REVIEW

Toronto ST (RHWY 47) 100 m S of Douglas Rd

Station 7403

Start Date	End Date	24 Hour Total							Avg Day	Percentage Change	Percentage Change Overall (2022-2023)
June 14, 2022	June 20, 2022	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.	16548	-	-0.06
		17307	17309	17696	18051	15314	13774	16397			
Aug 19, 2022	Aug 25, 2022	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.	15282	-8%	
		16649	13817	12286	15322	16319	16199	16377			
Sept 15, 2022	Sept 21, 2022	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	15520	2%	
		16697	17119	14892	12792	15092	15872	16168			
April 13, 2023	April 19, 2023	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	15396	-1%	
		16777	16808	14922	12691	15042	15628	15895			
July 6, 2023	July 12, 2023	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	Wed.	15143	-2%	
		16712	16423	12782	11463	16405	16173	16085			
Nov. 1, 2023	Nov. 7, 2023	Wed.	Thurs.	Fri.	Sat.	Sun.	Mon.	Tues.	15516	2%	
		15834	16733	16729	14680	12923	15974	15764			

APPENDIX E

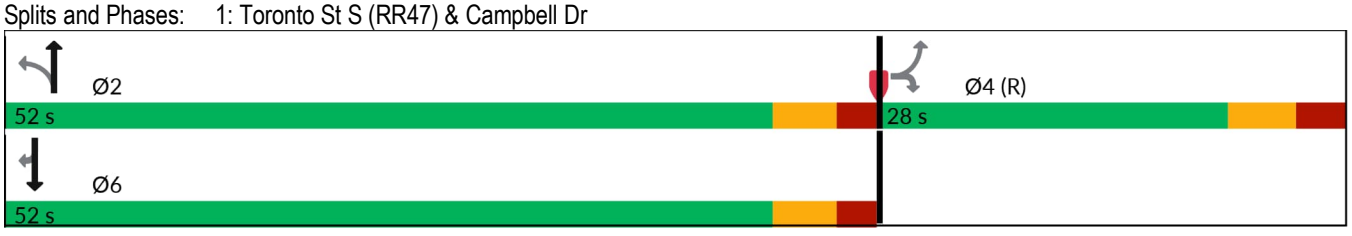
Existing Intersection Capacity Analysis

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	22	42	307	457	64
Future Volume (vph)	21	22	42	307	457	64
Lane Group Flow (vph)	23	24	47	341	508	71
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	25.0	25.0	42.2	42.2	42.2	42.2
Total Split (s)	28.0	28.0	52.0	52.0	52.0	52.0
Total Split (%)	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	4.0	4.0	3.9	3.9	3.9	3.9
All-Red Time (s)	3.0	3.0	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	Max	Max
v/c Ratio	0.05	0.06	0.12	0.33	0.48	0.09
Control Delay (s/veh)	22.6	9.9	8.9	10.2	12.0	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.6	9.9	8.9	10.2	12.0	4.3
Queue Length 50th (m)	2.8	0.0	3.4	27.4	44.6	1.9
Queue Length 95th (m)	8.4	5.9	8.9	43.9	68.7	7.5
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	452	387	381	1024	1054	829
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.06	0.12	0.33	0.48	0.09

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 24 (30%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	22	42	307	457	64
Future Volume (vph)	21	22	42	307	457	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1725	1410	1578	1789	1842	1417
Flt Permitted	0.95	1.00	0.40	1.00	1.00	1.00
Satd. Flow (perm)	1725	1410	666	1789	1842	1417
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	24	47	341	508	71
RTOR Reduction (vph)	0	18	0	0	0	18
Lane Group Flow (vph)	23	6	47	341	508	53
Confl. Peds. (#/hr)		1	6			6
Heavy Vehicles (%)	0%	7%	9%	5%	2%	6%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	21.0	21.0	45.8	45.8	45.8	45.8
Effective Green, g (s)	21.0	21.0	45.8	45.8	45.8	45.8
Actuated g/C Ratio	0.26	0.26	0.57	0.57	0.57	0.57
Clearance Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	452	370	381	1024	1054	811
v/s Ratio Prot				0.19	c0.28	
v/s Ratio Perm	c0.01	0.00	0.07			0.04
v/c Ratio	0.05	0.02	0.12	0.33	0.48	0.07
Uniform Delay, d1	22.1	21.9	7.9	9.0	10.1	7.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.1	0.2	1.6	0.2
Delay (s)	22.3	21.9	8.0	9.2	11.7	7.7
Level of Service	C	C	A	A	B	A
Approach Delay (s/veh)	22.1			9.1	11.2	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	35	11	317	486	2
Future Vol, veh/h	20	35	11	317	486	2
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	45	0	0	5	26	0
Mvmt Flow	25	43	14	391	600	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1023	604	605	0	-	0
Stage 1	604	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.85	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.85	-	-	-	-	-
Critical Hdwy Stg 2	5.85	-	-	-	-	-
Follow-up Hdwy	3.905	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	218	502	983	-	-	-
Stage 1	471	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	215	501	981	-	-	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	581	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.3	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	981	-	338	-	-
HCM Lane V/C Ratio	0.014	-	0.201	-	-
HCM Ctrl Dly (s/v)	8.7	-	18.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0	-	0.7	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	4	7	6	2	6
Future Vol, veh/h	49	4	7	6	2	6
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	6	11	9	3	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	81	0	109	79
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	31	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1529	-	893	987
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	997	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	887	986
Mov Cap-2 Maneuver	-	-	-	-	887	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	959	-	-	1529	-
HCM Lane V/C Ratio	0.013	-	-	0.007	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	10	39	7	1
Future Vol, veh/h	0	12	10	39	7	1
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	5	14	0
Mvmt Flow	0	16	13	52	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	67	0	-	0	57	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.2	-	-	-	3.626	3.3
Pot Cap-1 Maneuver	1547	-	-	-	921	1036
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	977	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1545	-	-	-	920	1035
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1545	-	-	-	933
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Ctrl Dly (s/v)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	19	0	2	40	15	0	0	0	5	0	9
Future Vol, veh/h	0	19	0	2	40	15	0	0	0	5	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	5	0	0	3	0	0	0	0	0	0	11
Mvmt Flow	0	25	0	3	53	20	0	0	0	7	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	25	0	0	100	104	26	95	94	63
Stage 1	-	-	-	-	-	-	25	25	-	69	69	-
Stage 2	-	-	-	-	-	-	75	79	-	26	25	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1540	-	-	1603	-	-	886	790	1056	893	800	977
Stage 1	-	-	-	-	-	-	998	878	-	946	841	-
Stage 2	-	-	-	-	-	-	939	833	-	997	878	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1540	-	-	1603	-	-	874	788	1055	891	798	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	874	788	-	891	798	-
Stage 1	-	-	-	-	-	-	998	878	-	946	839	-
Stage 2	-	-	-	-	-	-	926	831	-	996	878	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0.3	0	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1540	-	-	1603	-	-	944
HCM Lane V/C Ratio	-	-	-	-	0.002	-	-	0.02
HCM Ctrl Dly (s/v)	0	0	-	-	7.3	0	-	8.9
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q (veh)	-	0	-	-	0	-	-	0.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	44	33	730	459	44
Future Volume (vph)	60	44	33	730	459	44
Lane Group Flow (vph)	61	45	34	745	468	45
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	23.5	23.5	42.2	42.2	42.2	42.2
Total Split (s)	30.4	30.4	49.6	49.6	49.6	49.6
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.9	3.9
All-Red Time (s)	1.9	1.9	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	None	None
v/c Ratio	0.10	0.08	0.11	0.85	0.53	0.06
Control Delay (s/veh)	19.2	7.0	10.6	28.0	16.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.2	7.0	10.6	28.0	16.4	5.4
Queue Length 50th (m)	6.5	0.0	2.8	96.8	48.6	1.4
Queue Length 95th (m)	15.8	7.4	7.0	132.9	67.2	6.0
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	637	559	366	999	999	787
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.08	0.09	0.75	0.47	0.06

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 28 (35%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	44	33	730	459	44
Future Volume (vph)	60	44	33	730	459	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1691	1410	1669	1842	1842	1429
Flt Permitted	0.95	1.00	0.38	1.00	1.00	1.00
Satd. Flow (perm)	1691	1410	676	1842	1842	1429
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	45	34	745	468	45
RTOR Reduction (vph)	0	28	0	0	0	14
Lane Group Flow (vph)	61	17	34	745	468	31
Confl. Peds. (#/hr)		1	7			7
Heavy Vehicles (%)	2%	7%	3%	2%	2%	5%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	30.1	30.1	38.2	38.2	38.2	38.2
Effective Green, g (s)	30.1	30.1	38.2	38.2	38.2	38.2
Actuated g/C Ratio	0.38	0.38	0.48	0.48	0.48	0.48
Clearance Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	636	530	322	879	879	682
v/s Ratio Prot				c0.40	0.25	
v/s Ratio Perm	c0.04	0.01	0.05			0.02
v/c Ratio	0.10	0.03	0.11	0.85	0.53	0.05
Uniform Delay, d1	16.1	15.8	11.5	18.3	14.6	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.1	7.6	0.6	0.0
Delay (s)	16.4	15.9	11.6	26.0	15.3	11.2
Level of Service	B	B	B	C	B	B
Approach Delay (s/veh)	16.2			25.3	14.9	
Approach LOS	B			C	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	15	21	769	488	2
Future Vol, veh/h	2	15	21	769	488	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	7	0	1	3	50
Mvmt Flow	2	16	22	818	519	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1382	520	521	0	-	0
Stage 1	520	-	-	-	-	-
Stage 2	862	-	-	-	-	-
Critical Hdwy	6.4	6.27	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.363	2.2	-	-	-
Pot Cap-1 Maneuver	160	546	1056	-	-	-
Stage 1	601	-	-	-	-	-
Stage 2	417	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	157	546	1056	-	-	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	588	-	-	-	-	-
Stage 2	417	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.9	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1056	-	423	-	-
HCM Lane V/C Ratio	0.021	-	0.043	-	-
HCM Ctrl Dly (s/v)	8.5	-	13.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	2	1	22	3	5
Future Vol, veh/h	12	2	1	22	3	5
Conflicting Peds, #/hr	0	0	0	0	5	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	3	1	31	4	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	57	23
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1609	-	955	1060
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	990	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1609	-	950	1057
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.3	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1014	-	-	1609	-
HCM Lane V/C Ratio	0.011	-	-	0.001	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	21	8	26	0
Future Vol, veh/h	0	15	21	8	26	0
Conflicting Peds, #/hr	2	0	0	2	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	20	28	11	34	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	41	0	-	0	57	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1581	-	-	-	955	1042
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1579	-	-	-	953	1041
Mov Cap-2 Maneuver	-	-	-	-	953	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	1006	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1579	-	-	-	953
HCM Lane V/C Ratio	-	-	-	-	0.036
HCM Ctrl Dly (s/v)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Future Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	5	45	0	5	33	17	0	0	1	17	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	45	0	0	108	115	45	108	107	42
Stage 1	-	-	-	-	-	-	55	55	-	52	52	-
Stage 2	-	-	-	-	-	-	53	60	-	56	55	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1570	-	-	1576	-	-	876	779	1031	876	787	1034
Stage 1	-	-	-	-	-	-	962	853	-	966	856	-
Stage 2	-	-	-	-	-	-	965	849	-	961	853	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1570	-	-	1576	-	-	870	774	1031	871	782	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	870	774	-	871	782	-
Stage 1	-	-	-	-	-	-	959	850	-	963	853	-
Stage 2	-	-	-	-	-	-	960	846	-	957	850	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.7	0.6	8.5	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1031	1570	-	-	1576	-	-	889
HCM Lane V/C Ratio	0.001	0.003	-	-	0.003	-	-	0.022
HCM Ctrl Dly (s/v)	8.5	7.3	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.1

Existing - SimTraffic

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1039	1076	1125	1038	1049	1066
Vehs Exited	1044	1069	1129	1037	1054	1066
Starting Vehs	34	28	36	31	32	30
Ending Vehs	29	35	32	32	27	28
Travel Distance (km)	1152	1182	1265	1164	1140	1181
Travel Time (hr)	30.1	30.7	33.1	30.4	30.2	30.9
Total Delay (hr)	4.2	4.2	4.7	4.3	4.4	4.4
Total Stops	473	484	498	451	503	481
Fuel Used (l)	88.1	91.4	97.6	89.7	88.9	91.1

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:45
End Time	8:45
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1039	1076	1125	1038	1049	1066
Vehs Exited	1044	1069	1129	1037	1054	1066
Starting Vehs	34	28	36	31	32	30
Ending Vehs	29	35	32	32	27	28
Travel Distance (km)	1152	1182	1265	1164	1140	1181
Travel Time (hr)	30.1	30.7	33.1	30.4	30.2	30.9
Total Delay (hr)	4.2	4.2	4.7	4.3	4.4	4.4
Total Stops	473	484	498	451	503	481
Fuel Used (l)	88.1	91.4	97.6	89.7	88.9	91.1

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Denied Del/Veh (s)	1.8	0.2	1.6	0.3	0.9	2.0	0.8
Total Delay (hr)	0.1	0.0	0.2	0.8	1.3	0.1	2.5
Total Del/Veh (s)	23.8	6.3	18.8	9.4	8.0	3.0	8.8

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.5	0.4	0.3
Total Delay (hr)	0.1	0.0	0.1	0.0	0.1	0.4	0.0	0.6
Total Del/Veh (s)	11.7	0.1	6.1	4.3	1.1	3.1	5.2	2.6

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.1	1.8	0.2	4.5	2.3	0.5

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.2	0.1	3.5	3.4	0.5

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBT	WBL	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.4	2.4	0.6	0.5	4.6	2.7	0.9

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	1.0
Total Delay (hr)	4.1
Total Del/Veh (s)	13.4

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	9.4	52.9	0.6	42	42	9.1
Victoria Dr	2	1.1	9.6	0.1	33	33	1.1
Total		10.4	62.5	0.7	41	41	10.2

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	42	9.4	42	9.6	43	8.6	42
Victoria Dr	33	1.0	33	1.1	33	1.1	32
Total	41	10.4	41	10.7	41	9.7	40

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.1	63.7	0.7	39	39	2.8
Campbell Dr	1	7.9	15.5	0.1	22	21	8.3
Total		11.0	79.2	0.8	36	36	11.1

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	3.2	38	3.3	39	2.9	39
Campbell Dr	22	7.9	23	7.2	22	7.7	21
Total	36	11.0	36	10.6	36	10.6	35

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	15.4	17.6	19.3	52.4	74.1	50.1
Average Queue (m)	4.9	4.2	7.2	22.7	38.9	8.1
95th Queue (m)	12.9	13.2	17.0	42.7	67.9	25.6
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					2	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)				3	24	1
Queuing Penalty (veh)				1	15	3

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	27.4	7.4	20.0
Average Queue (m)	10.1	1.1	1.4
95th Queue (m)	20.8	6.0	10.9
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	1.8	8.7
Average Queue (m)	0.1	2.0
95th Queue (m)	1.3	7.9
Link Distance (m)	69.9	29.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	17.4
Average Queue (m)	2.6
95th Queue (m)	10.6
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	SB
Directions Served	LTR
Maximum Queue (m)	18.4
Average Queue (m)	4.0
95th Queue (m)	12.8
Link Distance (m)	40.6
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 21

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	45.8	21.0	45.8
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	Max
Avg. Green (s)	45.8	21.0	45.8
g/C Ratio	0.57	0.26	0.57
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	0	9

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:00	4:00	4:00	4:00	4:00	4:00
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1444	1442	1363	1427	1443	1423
Vehs Exited	1447	1436	1376	1436	1450	1428
Starting Vehs	52	55	54	52	54	52
Ending Vehs	49	61	41	43	47	47
Travel Distance (km)	1855	1860	1750	1841	1839	1829
Travel Time (hr)	51.9	52.4	49.0	51.8	51.1	51.2
Total Delay (hr)	11.3	11.9	10.8	11.6	11.1	11.3
Total Stops	929	991	926	1005	970	964
Fuel Used (l)	143.3	143.5	134.8	141.7	141.0	140.9

Interval #0 Information Seeding

Start Time	4:00
End Time	4:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1444	1442	1363	1427	1443	1423
Vehs Exited	1447	1436	1376	1436	1450	1428
Starting Vehs	52	55	54	52	54	52
Ending Vehs	49	61	41	43	47	47
Travel Distance (km)	1855	1860	1750	1841	1839	1829
Travel Time (hr)	51.9	52.4	49.0	51.8	51.1	51.2
Total Delay (hr)	11.3	11.9	10.8	11.6	11.1	11.3
Total Stops	929	991	926	1005	970	964
Fuel Used (l)	143.3	143.5	134.8	141.7	141.0	140.9

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	2.0	0.2	1.5	0.7	0.1	0.0	0.5
Total Delay (hr)	0.3	0.1	0.3	5.5	2.0	0.1	8.3
Total Del/Veh (s)	18.5	6.5	35.9	26.2	15.5	3.9	21.1

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.4	0.3	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.9
Total Del/Veh (s)	31.0	0.0	6.6	4.7	1.7	3.1	4.2	2.4

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.0	2.3	0.3	3.1	2.4	0.7

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.1	0.1	3.8	1.5

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.6	0.5	1.8	0.7	0.7	3.1	3.6	2.4	1.0

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.7
Total Delay (hr)	11.1
Total Del/Veh (s)	27.0

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	26.2	70.0	0.6	32	33	24.6
Victoria Dr	2	1.8	10.5	0.1	30	30	1.8
Total		28.0	80.5	0.7	32	32	26.3

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	31	27.6	32	26.1	31	27.7	33
Victoria Dr	30	1.9	31	1.8	30	1.8	30
Total	31	29.5	32	27.9	31	29.5	32

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.1	63.7	0.7	39	39	3.3
Campbell Dr	1	15.5	23.8	0.1	13	13	16.4
Total		18.6	87.5	0.8	32	32	19.7

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	3.2	38	3.0	39	2.8	39
Campbell Dr	13	15.8	14	15.2	14	14.6	13
Total	32	19.0	32	18.2	32	17.4	32

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	23.1	17.3	64.8	151.6	78.8	43.2
Average Queue (m)	8.9	5.9	11.4	85.6	47.1	8.2
95th Queue (m)	19.1	15.2	39.0	136.3	76.4	30.2
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					4	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)	0		0	33	33	0
Queuing Penalty (veh)	0		0	11	15	1

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	16.7	13.0	20.0
Average Queue (m)	3.4	2.5	0.8
95th Queue (m)	11.8	9.7	8.1
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	NB
Directions Served	LR
Maximum Queue (m)	8.7
Average Queue (m)	1.7
95th Queue (m)	7.4
Link Distance (m)	29.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	12.0
Average Queue (m)	6.0
95th Queue (m)	13.1
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (m)	6.8	10.2
Average Queue (m)	0.3	3.7
95th Queue (m)	3.0	10.8
Link Distance (m)	90.0	40.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 32

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	43.4	24.9	43.4
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	None
Avg. Green (s)	37.9	30.4	37.9
g/C Ratio	0.47	0.38	0.47
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	44	100	44
Cycles with Peds (%)	0	0	16

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

APPENDIX F

2027 Intersection Capacity Analysis

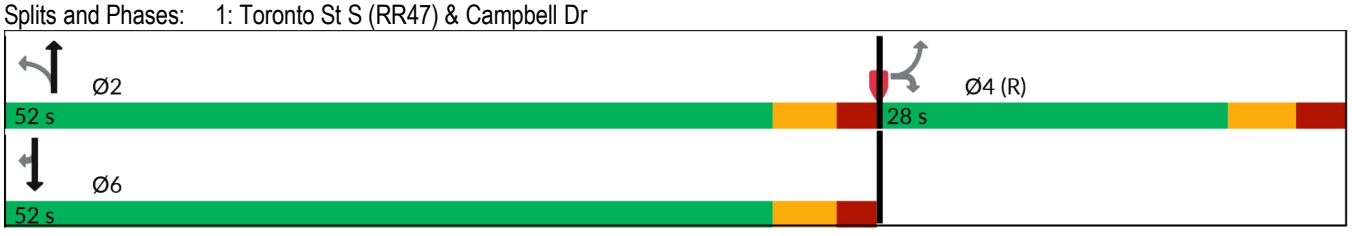
Future Background

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	22	42	314	465	64
Future Volume (vph)	21	22	42	314	465	64
Lane Group Flow (vph)	23	24	47	349	517	71
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	25.0	25.0	42.2	42.2	42.2	42.2
Total Split (s)	28.0	28.0	52.0	52.0	52.0	52.0
Total Split (%)	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	4.0	4.0	3.9	3.9	3.9	3.9
All-Red Time (s)	3.0	3.0	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	Max	Max
v/c Ratio	0.05	0.06	0.13	0.34	0.49	0.09
Control Delay (s/veh)	22.6	9.9	9.0	10.3	12.2	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.6	9.9	9.0	10.3	12.2	4.3
Queue Length 50th (m)	2.8	0.0	3.4	28.2	45.7	1.9
Queue Length 95th (m)	8.4	5.9	8.9	45.1	70.3	7.5
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	452	387	374	1024	1054	829
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.06	0.13	0.34	0.49	0.09

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 24 (30%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	22	42	314	465	64
Future Volume (vph)	21	22	42	314	465	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1725	1410	1578	1789	1842	1417
Flt Permitted	0.95	1.00	0.39	1.00	1.00	1.00
Satd. Flow (perm)	1725	1410	655	1789	1842	1417
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	24	47	349	517	71
RTOR Reduction (vph)	0	18	0	0	0	18
Lane Group Flow (vph)	23	6	47	349	517	53
Confl. Peds. (#/hr)		1	6			6
Heavy Vehicles (%)	0%	7%	9%	5%	2%	6%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	21.0	21.0	45.8	45.8	45.8	45.8
Effective Green, g (s)	21.0	21.0	45.8	45.8	45.8	45.8
Actuated g/C Ratio	0.26	0.26	0.57	0.57	0.57	0.57
Clearance Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	452	370	374	1024	1054	811
v/s Ratio Prot				0.20	c0.28	
v/s Ratio Perm	c0.01	0.00	0.07			0.04
v/c Ratio	0.05	0.02	0.13	0.34	0.49	0.07
Uniform Delay, d1	22.1	21.9	7.9	9.1	10.2	7.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.2	0.2	1.6	0.2
Delay (s)	22.3	21.9	8.0	9.3	11.8	7.7
Level of Service	C	C	A	A	B	A
Approach Delay (s/veh)	22.1			9.1	11.3	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	35	11	324	494	2
Future Vol, veh/h	20	35	11	324	494	2
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	45	0	0	5	26	0
Mvmt Flow	25	43	14	400	610	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1042	614	615	0	-	0
Stage 1	614	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Critical Hdwy	6.85	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.85	-	-	-	-	-
Critical Hdwy Stg 2	5.85	-	-	-	-	-
Follow-up Hdwy	3.905	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	212	496	974	-	-	-
Stage 1	466	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	209	495	972	-	-	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	575	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	18.7	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	972	-	331	-	-
HCM Lane V/C Ratio	0.014	-	0.205	-	-
HCM Ctrl Dly (s/v)	8.8	-	18.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	4	7	6	2	6
Future Vol, veh/h	49	4	7	6	2	6
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	6	11	9	3	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	81	0	109	79
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	31	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1529	-	893	987
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	997	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	887	986
Mov Cap-2 Maneuver	-	-	-	-	887	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	959	-	-	1529	-
HCM Lane V/C Ratio	0.013	-	-	0.007	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	10	39	7	1
Future Vol, veh/h	0	12	10	39	7	1
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	5	14	0
Mvmt Flow	0	16	13	52	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	67	0	-	0	57	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.2	-	-	-	3.626	3.3
Pot Cap-1 Maneuver	1547	-	-	-	921	1036
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	977	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1545	-	-	-	920	1035
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1545	-	-	-	933
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Ctrl Dly (s/v)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	19	0	2	40	15	0	0	0	5	0	9
Future Vol, veh/h	0	19	0	2	40	15	0	0	0	5	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	5	0	0	3	0	0	0	0	0	0	11
Mvmt Flow	0	25	0	3	53	20	0	0	0	7	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	25	0	0	100	104	26	95	94	63
Stage 1	-	-	-	-	-	-	25	25	-	69	69	-
Stage 2	-	-	-	-	-	-	75	79	-	26	25	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1540	-	-	1603	-	-	886	790	1056	893	800	977
Stage 1	-	-	-	-	-	-	998	878	-	946	841	-
Stage 2	-	-	-	-	-	-	939	833	-	997	878	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1540	-	-	1603	-	-	874	788	1055	891	798	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	874	788	-	891	798	-
Stage 1	-	-	-	-	-	-	998	878	-	946	839	-
Stage 2	-	-	-	-	-	-	926	831	-	996	878	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0.3	0	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1540	-	-	1603	-	-	944
HCM Lane V/C Ratio	-	-	-	-	0.002	-	-	0.02
HCM Ctrl Dly (s/v)	0	0	-	-	7.3	0	-	8.9
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q (veh)	-	0	-	-	0	-	-	0.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	44	33	742	468	44
Future Volume (vph)	60	44	33	742	468	44
Lane Group Flow (vph)	61	45	34	757	478	45
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	23.5	23.5	42.2	42.2	42.2	42.2
Total Split (s)	30.4	30.4	49.6	49.6	49.6	49.6
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.9	3.9
All-Red Time (s)	1.9	1.9	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	None	None
v/c Ratio	0.10	0.08	0.11	0.85	0.54	0.06
Control Delay (s/veh)	19.4	7.0	10.5	28.3	16.3	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.4	7.0	10.5	28.3	16.3	5.3
Queue Length 50th (m)	6.6	0.0	2.8	98.0	49.2	1.4
Queue Length 95th (m)	15.8	7.4	7.0	137.0	68.9	6.0
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	629	553	360	999	999	787
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.08	0.09	0.76	0.48	0.06

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 28 (35%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	44	33	742	468	44
Future Volume (vph)	60	44	33	742	468	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1691	1410	1669	1842	1842	1429
Flt Permitted	0.95	1.00	0.38	1.00	1.00	1.00
Satd. Flow (perm)	1691	1410	664	1842	1842	1429
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	45	34	757	478	45
RTOR Reduction (vph)	0	28	0	0	0	14
Lane Group Flow (vph)	61	17	34	757	478	31
Confl. Peds. (#/hr)		1	7			7
Heavy Vehicles (%)	2%	7%	3%	2%	2%	5%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	29.8	29.8	38.5	38.5	38.5	38.5
Effective Green, g (s)	29.8	29.8	38.5	38.5	38.5	38.5
Actuated g/C Ratio	0.37	0.37	0.48	0.48	0.48	0.48
Clearance Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	629	525	319	886	886	687
v/s Ratio Prot				c0.41	0.26	
v/s Ratio Perm	c0.04	0.01	0.05			0.02
v/c Ratio	0.10	0.03	0.11	0.85	0.54	0.05
Uniform Delay, d1	16.3	15.9	11.3	18.3	14.5	11.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.1	8.1	0.6	0.0
Delay (s)	16.6	16.1	11.5	26.3	15.2	11.0
Level of Service	B	B	B	C	B	B
Approach Delay (s/veh)	16.4			25.7	14.8	
Approach LOS	B			C	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	15	21	781	497	2
Future Vol, veh/h	2	15	21	781	497	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	7	0	1	3	50
Mvmt Flow	2	16	22	831	529	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1405	530	531	0	-	0
Stage 1	530	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Critical Hdwy	6.4	6.27	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.363	2.2	-	-	-
Pot Cap-1 Maneuver	155	539	1047	-	-	-
Stage 1	594	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	152	539	1047	-	-	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	582	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.1	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1047	-	415	-	-
HCM Lane V/C Ratio	0.021	-	0.044	-	-
HCM Ctrl Dly (s/v)	8.5	-	14.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	2	1	22	3	5
Future Vol, veh/h	12	2	1	22	3	5
Conflicting Peds, #/hr	0	0	0	0	5	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	3	1	31	4	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	57	23
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1609	-	955	1060
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	990	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1609	-	950	1057
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.3	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1014	-	-	1609	-
HCM Lane V/C Ratio	0.011	-	-	0.001	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	21	8	26	0
Future Vol, veh/h	0	15	21	8	26	0
Conflicting Peds, #/hr	2	0	0	2	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	20	28	11	34	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	41	0	-	0	57	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1581	-	-	-	955	1042
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1579	-	-	-	953	1041
Mov Cap-2 Maneuver	-	-	-	-	953	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	1006	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1579	-	-	-	953
HCM Lane V/C Ratio	-	-	-	-	0.036
HCM Ctrl Dly (s/v)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Future Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	5	45	0	5	33	17	0	0	1	17	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	45	0	0	108	115	45	108	107	42
Stage 1	-	-	-	-	-	-	55	55	-	52	52	-
Stage 2	-	-	-	-	-	-	53	60	-	56	55	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1570	-	-	1576	-	-	876	779	1031	876	787	1034
Stage 1	-	-	-	-	-	-	962	853	-	966	856	-
Stage 2	-	-	-	-	-	-	965	849	-	961	853	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1570	-	-	1576	-	-	870	774	1031	871	782	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	870	774	-	871	782	-
Stage 1	-	-	-	-	-	-	959	850	-	963	853	-
Stage 2	-	-	-	-	-	-	960	846	-	957	850	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.7	0.6	8.5	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1031	1570	-	-	1576	-	-	889
HCM Lane V/C Ratio	0.001	0.003	-	-	0.003	-	-	0.022
HCM Ctrl Dly (s/v)	8.5	7.3	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.1

Future Background SimTraffic

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1079	1099	1065	1056	1028	1064
Vehs Exited	1080	1082	1066	1070	1032	1066
Starting Vehs	30	13	31	40	31	28
Ending Vehs	29	30	30	26	27	27
Travel Distance (km)	1198	1216	1193	1194	1147	1190
Travel Time (hr)	31.4	32.3	31.0	31.0	29.9	31.1
Total Delay (hr)	4.5	5.0	4.2	4.2	4.1	4.4
Total Stops	471	555	462	476	459	487
Fuel Used (l)	91.5	92.9	90.5	91.0	87.0	90.6

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:45
End Time	8:45
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1079	1099	1065	1056	1028	1064
Vehs Exited	1080	1082	1066	1070	1032	1066
Starting Vehs	30	13	31	40	31	28
Ending Vehs	29	30	30	26	27	27
Travel Distance (km)	1198	1216	1193	1194	1147	1190
Travel Time (hr)	31.4	32.3	31.0	31.0	29.9	31.1
Total Delay (hr)	4.5	5.0	4.2	4.2	4.1	4.4
Total Stops	471	555	462	476	459	487
Fuel Used (l)	91.5	92.9	90.5	91.0	87.0	90.6

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Denied Del/Veh (s)	1.9	0.0	1.8	0.3	0.8	1.5	0.7
Total Delay (hr)	0.1	0.0	0.2	0.9	1.3	0.1	2.6
Total Del/Veh (s)	21.6	5.6	19.9	10.1	8.0	2.8	9.0

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.5	0.7	0.3
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1	0.4	0.0	0.7
Total Del/Veh (s)	8.9	0.1	5.7	5.0	1.1	3.2	3.8	2.7

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.0	1.9	0.3	2.8	2.4	0.6

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.3	0.1	3.9	2.1	0.6

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBT	WBL	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.4	1.1	0.6	0.6	3.3	2.5	0.8

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	1.0
Total Delay (hr)	4.1
Total Del/Veh (s)	13.6

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	10.1	53.7	0.6	42	42	9.8
Victoria Dr	2	1.1	9.7	0.1	33	33	1.1
Total		11.2	63.4	0.7	40	40	10.8

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	41	11.1	42	9.4	42	10.1	42
Victoria Dr	32	1.2	33	1.1	32	1.1	33
Total	40	12.3	41	10.4	40	11.2	40

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.2	63.9	0.7	39	39	3.2
Campbell Dr	1	7.8	15.4	0.1	22	22	7.9
Total		11.1	79.2	0.8	36	36	11.2

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	38	3.4	39	3.2	39	3.3	39
Campbell Dr	20	9.1	22	7.4	23	7.0	22
Total	35	12.5	36	10.6	36	10.3	36

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	14.5	16.3	31.1	54.5	72.0	40.6
Average Queue (m)	3.9	4.1	8.2	25.3	36.4	6.4
95th Queue (m)	11.4	12.8	21.5	46.4	60.4	21.3
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)			0	4	24	0
Queuing Penalty (veh)			1	2	16	1

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	25.0	11.7	12.0
Average Queue (m)	10.2	1.4	0.4
95th Queue (m)	20.8	7.3	8.5
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	NB
Directions Served	LR
Maximum Queue (m)	8.7
Average Queue (m)	2.2
95th Queue (m)	8.4
Link Distance (m)	29.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	13.0
Average Queue (m)	2.3
95th Queue (m)	9.6
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	SB
Directions Served	LTR
Maximum Queue (m)	13.0
Average Queue (m)	3.1
95th Queue (m)	10.8
Link Distance (m)	40.6
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 20

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	45.8	21.0	45.8
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	Max
Avg. Green (s)	45.8	21.0	45.8
g/C Ratio	0.57	0.26	0.57
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	0	9

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:00	4:00	4:00	4:00	4:00	4:00
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1425	1444	1369	1428	1456	1425
Vehs Exited	1436	1441	1384	1427	1462	1431
Starting Vehs	65	55	54	52	54	55
Ending Vehs	54	58	39	53	48	49
Travel Distance (km)	1830	1868	1755	1840	1860	1831
Travel Time (hr)	51.2	51.5	49.4	51.9	52.3	51.2
Total Delay (hr)	11.1	10.9	11.1	11.7	11.7	11.3
Total Stops	918	930	969	1022	998	967
Fuel Used (l)	140.8	143.9	136.1	142.3	142.8	141.2

Interval #0 Information Seeding

Start Time	4:00
End Time	4:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1425	1444	1369	1428	1456	1425
Vehs Exited	1436	1441	1384	1427	1462	1431
Starting Vehs	65	55	54	52	54	55
Ending Vehs	54	58	39	53	48	49
Travel Distance (km)	1830	1868	1755	1840	1860	1831
Travel Time (hr)	51.2	51.5	49.4	51.9	52.3	51.2
Total Delay (hr)	11.1	10.9	11.1	11.7	11.7	11.3
Total Stops	918	930	969	1022	998	967
Fuel Used (l)	140.8	143.9	136.1	142.3	142.8	141.2

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.2
Denied Del/Veh (s)	2.1	0.2	1.6	0.7	0.1	0.1	0.5
Total Delay (hr)	0.3	0.1	0.3	5.6	1.9	0.0	8.3
Total Del/Veh (s)	18.3	6.3	33.0	26.6	14.7	3.6	21.0

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.1	0.4	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.9
Total Del/Veh (s)	17.1	0.1	5.1	5.3	1.8	3.0	2.6	2.4

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.0	1.2	0.4	2.9	2.1	0.6

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.1	0.0	3.8	1.5

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.4	1.8	0.7	0.7	3.1	3.9	2.4	1.1

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.7
Total Delay (hr)	11.0
Total Del/Veh (s)	26.8

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	26.6	70.5	0.6	32	33	24.8
Victoria Dr	2	1.8	10.6	0.1	30	30	1.8
Total		28.4	81.1	0.7	32	32	26.5

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	33	24.1	32	27.4	31	29.0	31
Victoria Dr	30	1.9	30	1.9	30	1.8	30
Total	33	26.0	31	29.2	31	30.8	31

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.0	63.5	0.7	39	39	3.4
Campbell Dr	1	14.6	22.8	0.1	14	13	16.4
Total		17.7	86.4	0.8	32	32	19.8

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	2.9	39	3.0	39	2.7	39
Campbell Dr	14	14.4	14	13.8	14	14.0	14
Total	32	17.3	32	16.8	32	16.7	32

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	23.4	17.6	64.8	149.8	79.6	45.1
Average Queue (m)	9.2	5.8	11.3	84.8	45.3	7.5
95th Queue (m)	19.7	14.8	39.9	134.3	74.2	28.3
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					4	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)	0		0	34	32	0
Queuing Penalty (veh)	0		0	11	14	1

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	19.5	12.6	18.3
Average Queue (m)	4.4	2.8	1.1
95th Queue (m)	13.3	10.4	9.3
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	NB
Directions Served	LR
Maximum Queue (m)	8.7
Average Queue (m)	2.1
95th Queue (m)	8.1
Link Distance (m)	29.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	12.0
Average Queue (m)	5.9
95th Queue (m)	13.0
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	3.6	6.8	10.2
Average Queue (m)	0.1	0.3	3.7
95th Queue (m)	1.8	3.1	10.8
Link Distance (m)	41.0	90.0	40.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 32

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	43.4	24.9	43.4
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	None
Avg. Green (s)	38.1	30.1	38.1
g/C Ratio	0.48	0.38	0.48
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	47	100	47
Cycles with Peds (%)	0	2	16

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

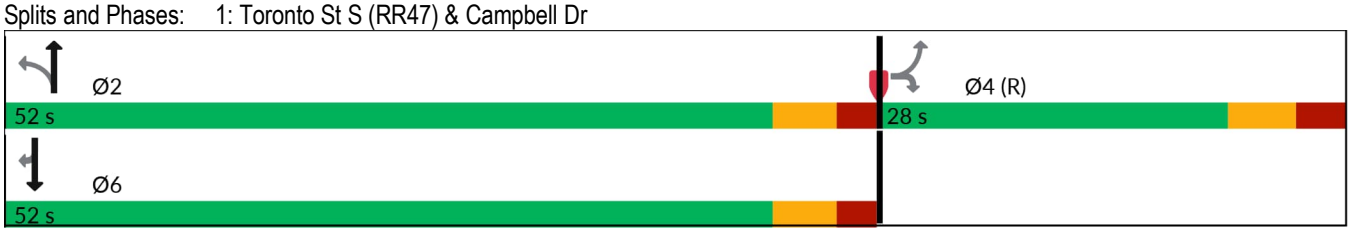
Future Total

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	34	96	316	475	140
Future Volume (vph)	33	34	96	316	475	140
Lane Group Flow (vph)	37	38	107	351	528	156
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	25.0	25.0	42.2	42.2	42.2	42.2
Total Split (s)	28.0	28.0	52.0	52.0	52.0	52.0
Total Split (%)	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	4.0	4.0	3.9	3.9	3.9	3.9
All-Red Time (s)	3.0	3.0	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	Max	Max
v/c Ratio	0.08	0.09	0.28	0.34	0.50	0.18
Control Delay (s/veh)	22.9	8.6	11.1	10.2	12.2	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.9	8.6	11.1	10.2	12.2	4.3
Queue Length 50th (m)	4.5	0.0	8.2	28.1	46.5	4.5
Queue Length 95th (m)	11.7	7.2	18.0	44.8	71.6	12.7
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	452	408	388	1034	1064	881
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.09	0.28	0.34	0.50	0.18

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 24 (30%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	34	96	316	475	140
Future Volume (vph)	33	34	96	316	475	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1725	1451	1670	1807	1860	1473
Flt Permitted	0.95	1.00	0.39	1.00	1.00	1.00
Satd. Flow (perm)	1725	1451	679	1807	1860	1473
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	37	38	107	351	528	156
RTOR Reduction (vph)	0	28	0	0	0	38
Lane Group Flow (vph)	37	10	107	351	528	118
Confl. Peds. (#/hr)		1	6			6
Heavy Vehicles (%)	0%	4%	3%	4%	1%	2%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	21.0	21.0	45.8	45.8	45.8	45.8
Effective Green, g (s)	21.0	21.0	45.8	45.8	45.8	45.8
Actuated g/C Ratio	0.26	0.26	0.57	0.57	0.57	0.57
Clearance Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	452	380	388	1034	1064	843
v/s Ratio Prot				0.19	c0.28	
v/s Ratio Perm	c0.02	0.01	0.16			0.08
v/c Ratio	0.08	0.03	0.28	0.34	0.50	0.14
Uniform Delay, d1	22.2	21.9	8.7	9.1	10.2	7.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.4	0.2	1.7	0.3
Delay (s)	22.6	22.0	9.1	9.3	11.9	8.3
Level of Service	C	C	A	A	B	A
Approach Delay (s/veh)	22.3			9.2	11.1	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	45	13	336	570	17
Future Vol, veh/h	22	45	13	336	570	17
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	40	0	0	4	22	0
Mvmt Flow	27	56	16	415	704	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1165	718	728	0	-	0
Stage 1	718	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.8	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.86	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	181	432	885	-	-	-
Stage 1	421	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	177	431	883	-	-	-
Mov Cap-2 Maneuver	177	-	-	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	571	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	22	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	883	-	293	-	-
HCM Lane V/C Ratio	0.018	-	0.282	-	-
HCM Ctrl Dly (s/v)	9.2	-	22	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.1	-	1.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	13	24	6	6	18
Future Vol, veh/h	49	13	24	6	6	18
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	20	37	9	9	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	95	0	168	86
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1512	-	827	978
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1512	-	806	977
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	921	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	6	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	928	-	-	1512	-
HCM Lane V/C Ratio	0.04	-	-	0.024	-
HCM Ctrl Dly (s/v)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	28	133	21	3
Future Vol, veh/h	0	12	28	133	21	3
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	1	4	0
Mvmt Flow	0	16	37	177	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	216	0	-	0	144	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.44	6.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.2	-	-	-	3.536	3.3
Pot Cap-1 Maneuver	1366	-	-	-	844	927
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1364	-	-	-	843	926
Mov Cap-2 Maneuver	-	-	-	-	843	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	1002	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1364	-	-	-	853
HCM Lane V/C Ratio	-	-	-	-	0.038
HCM Ctrl Dly (s/v)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	33	0	2	134	51	0	0	0	15	0	27
Future Vol, veh/h	0	33	0	2	134	51	0	0	0	15	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	2	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	44	0	3	179	68	0	0	0	20	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	44	0	0	281	297	45	264	263	213
Stage 1	-	-	-	-	-	-	44	44	-	219	219	-
Stage 2	-	-	-	-	-	-	237	253	-	45	44	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	1331	-	-	1577	-	-	675	618	1031	693	646	825
Stage 1	-	-	-	-	-	-	975	862	-	788	726	-
Stage 2	-	-	-	-	-	-	771	701	-	974	862	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1331	-	-	1577	-	-	645	617	1030	692	645	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	645	617	-	692	645	-
Stage 1	-	-	-	-	-	-	975	862	-	788	725	-
Stage 2	-	-	-	-	-	-	736	700	-	973	862	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0.1	0	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1331	-	-	1577	-	-	772
HCM Lane V/C Ratio	-	-	-	-	0.002	-	-	0.073
HCM Ctrl Dly (s/v)	0	0	-	-	7.3	0	-	10
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q (veh)	-	0	-	-	0	-	-	0.2

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	87	58	744	481	81
Future Volume (vph)	117	87	58	744	481	81
Lane Group Flow (vph)	119	89	59	759	491	83
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	41.5	41.5	42.2	42.2	42.2	42.2
Total Split (s)	30.4	30.4	49.6	49.6	49.6	49.6
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.9	3.9
All-Red Time (s)	1.9	1.9	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	None	None
v/c Ratio	0.19	0.15	0.19	0.85	0.55	0.11
Control Delay (s/veh)	19.9	5.6	11.9	27.8	16.6	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.9	5.6	11.9	27.8	16.6	5.2
Queue Length 50th (m)	13.2	0.0	4.9	96.8	50.4	2.7
Queue Length 95th (m)	27.0	10.1	11.1	135.0	70.5	8.9
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	637	602	355	1009	1009	819
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.15	0.17	0.75	0.49	0.10

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 28 (35%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	87	58	744	481	81
Future Volume (vph)	117	87	58	744	481	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1708	1465	1702	1860	1860	1471
Flt Permitted	0.95	1.00	0.37	1.00	1.00	1.00
Satd. Flow (perm)	1708	1465	656	1860	1860	1471
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	119	89	59	759	491	83
RTOR Reduction (vph)	0	56	0	0	0	25
Lane Group Flow (vph)	119	33	59	759	491	58
Confl. Peds. (#/hr)		1	7			7
Heavy Vehicles (%)	1%	3%	1%	1%	1%	2%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	29.8	29.8	38.5	38.5	38.5	38.5
Effective Green, g (s)	29.8	29.8	38.5	38.5	38.5	38.5
Actuated g/C Ratio	0.37	0.37	0.48	0.48	0.48	0.48
Clearance Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	636	545	315	895	895	707
v/s Ratio Prot				c0.41	0.26	
v/s Ratio Perm	c0.07	0.02	0.09			0.04
v/c Ratio	0.19	0.06	0.19	0.85	0.55	0.08
Uniform Delay, d1	16.9	16.1	11.8	18.2	14.6	11.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.3	7.5	0.7	0.1
Delay (s)	17.6	16.3	12.1	25.7	15.3	11.3
Level of Service	B	B	B	C	B	B
Approach Delay (s/veh)	17.0			24.7	14.7	
Approach LOS	B			C	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	28	23	838	534	2
Future Vol, veh/h	2	28	23	838	534	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	0	0	2	50
Mvmt Flow	2	30	24	891	568	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1508	569	570	0	-	0
Stage 1	569	-	-	-	-	-
Stage 2	939	-	-	-	-	-
Critical Hdwy	6.4	6.23	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	2.2	-	-	-
Pot Cap-1 Maneuver	134	520	1013	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	131	520	1013	-	-	-
Mov Cap-2 Maneuver	131	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	384	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1013	-	434	-	-
HCM Lane V/C Ratio	0.024	-	0.074	-	-
HCM Ctrl Dly (s/v)	8.6	-	14	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	7	3	22	10	18
Future Vol, veh/h	12	7	3	22	10	18
Conflicting Peds, #/hr	0	0	0	0	5	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	10	4	31	14	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	27	0	66	26
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	44	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1600	-	944	1056
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	984	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1600	-	937	1053
Mov Cap-2 Maneuver	-	-	-	-	937	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.9	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1008	-	-	1600	-
HCM Lane V/C Ratio	0.039	-	-	0.003	-
HCM Ctrl Dly (s/v)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	26	31	91	0
Future Vol, veh/h	0	27	26	31	91	0
Conflicting Peds, #/hr	2	0	0	2	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	36	34	41	120	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	94	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1535	-	-	-	911	1015
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	991	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1533	-	-	-	909	1014
Mov Cap-2 Maneuver	-	-	-	-	909	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1533	-	-	-	909
HCM Lane V/C Ratio	-	-	-	-	0.132
HCM Ctrl Dly (s/v)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	16	102	0	4	50	53	0	0	1	49	0	7
Future Vol, veh/h	16	102	0	4	50	53	0	0	1	49	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	19	123	0	5	60	64	0	0	1	59	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	124	0	0	123	0	0	267	295	123	264	263	92
Stage 1	-	-	-	-	-	-	161	161	-	102	102	-
Stage 2	-	-	-	-	-	-	106	134	-	162	161	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1475	-	-	1477	-	-	690	620	933	693	646	971
Stage 1	-	-	-	-	-	-	846	769	-	909	815	-
Stage 2	-	-	-	-	-	-	905	789	-	845	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1475	-	-	1477	-	-	675	609	933	683	634	971
Mov Cap-2 Maneuver	-	-	-	-	-	-	675	609	-	683	634	-
Stage 1	-	-	-	-	-	-	834	758	-	896	812	-
Stage 2	-	-	-	-	-	-	894	786	-	832	758	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1	0.3	8.9	10.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	933	1475	-	-	1477	-	-	709
HCM Lane V/C Ratio	0.001	0.013	-	-	0.003	-	-	0.095
HCM Ctrl Dly (s/v)	8.9	7.5	0	-	7.4	0	-	10.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.3

Future Total SimTraffic

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1259	1301	1301	1266	1333	1292
Vehs Exited	1251	1296	1294	1259	1327	1287
Starting Vehs	34	28	31	27	28	29
Ending Vehs	42	33	38	34	34	34
Travel Distance (km)	1303	1370	1382	1349	1422	1365
Travel Time (hr)	35.0	37.2	37.0	36.2	38.3	36.7
Total Delay (hr)	5.2	5.9	5.5	5.3	5.8	5.5
Total Stops	670	670	679	656	671	669
Fuel Used (l)	101.9	107.6	107.5	105.2	109.9	106.4

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:45
End Time	8:45
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1259	1301	1301	1266	1333	1292
Vehs Exited	1251	1296	1294	1259	1327	1287
Starting Vehs	34	28	31	27	28	29
Ending Vehs	42	33	38	34	34	34
Travel Distance (km)	1303	1370	1382	1349	1422	1365
Travel Time (hr)	35.0	37.2	37.0	36.2	38.3	36.7
Total Delay (hr)	5.2	5.9	5.5	5.3	5.8	5.5
Total Stops	670	670	679	656	671	669
Fuel Used (l)	101.9	107.6	107.5	105.2	109.9	106.4

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.3
Denied Del/Veh (s)	1.1	0.1	1.6	0.4	0.7	1.4	0.8
Total Delay (hr)	0.2	0.1	0.7	0.9	1.3	0.1	3.2
Total Del/Veh (s)	21.7	5.5	23.5	10.5	7.9	3.2	9.7

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.6	0.5	0.3
Total Delay (hr)	0.1	0.0	0.1	0.0	0.1	0.6	0.0	0.9
Total Del/Veh (s)	10.5	0.2	6.2	7.0	1.1	3.8	4.2	3.1

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.0	1.9	0.5	3.4	2.4	1.0

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.8	0.4	3.8	2.2	0.8

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBT	WBL	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	2.2	0.9	0.7	4.5	3.0	1.2

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.0
Total Delay (hr)	5.2
Total Del/Veh (s)	14.1

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	10.5	54.1	0.6	41	42	10.5
Victoria Dr	2	1.1	9.7	0.1	33	33	1.1
Total		11.6	63.8	0.7	40	40	11.6

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	42	10.1	41	10.5	41	10.5	41
Victoria Dr	33	1.0	33	1.0	33	1.1	32
Total	40	11.2	40	11.6	40	11.5	39

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.8	64.5	0.7	38	38	3.5
Campbell Dr	1	7.8	15.3	0.1	22	22	8.0
Total		11.6	79.7	0.8	35	35	11.5

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	38	4.0	38	4.0	39	3.5	38
Campbell Dr	21	8.5	21	8.2	22	7.3	23
Total	35	12.5	35	12.2	36	10.7	35

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	18.4	14.2	40.6	55.1	77.1	52.2
Average Queue (m)	6.1	4.6	15.8	25.0	38.9	12.7
95th Queue (m)	15.2	12.5	30.0	47.2	68.5	33.8
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					2	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)	0		1	4	24	1
Queuing Penalty (veh)	0		4	4	34	7

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	24.0	11.8	36.1
Average Queue (m)	10.2	1.7	1.8
95th Queue (m)	19.6	7.9	14.3
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	9.0	13.2
Average Queue (m)	0.5	4.4
95th Queue (m)	4.0	12.1
Link Distance (m)	69.9	29.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	WB	SB
Directions Served	TR	LR
Maximum Queue (m)	1.8	13.5
Average Queue (m)	0.1	5.5
95th Queue (m)	1.3	13.1
Link Distance (m)	41.0	52.8
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	SB
Directions Served	LTR
Maximum Queue (m)	16.6
Average Queue (m)	7.4
95th Queue (m)	14.2
Link Distance (m)	40.6
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 51

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	45.8	21.0	45.8
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	Max
Avg. Green (s)	45.8	21.0	45.8
g/C Ratio	0.57	0.26	0.57
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	2	11

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:00	4:00	4:00	4:00	4:00	4:00
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1629	1659	1594	1590	1632	1617
Vehs Exited	1637	1654	1616	1600	1620	1624
Starting Vehs	63	56	77	67	62	64
Ending Vehs	55	61	55	57	74	58
Travel Distance (km)	1994	2021	1965	1966	2010	1991
Travel Time (hr)	57.9	57.3	57.1	55.5	57.4	57.0
Total Delay (hr)	14.0	12.8	13.6	12.2	13.1	13.1
Total Stops	1333	1257	1321	1145	1267	1262
Fuel Used (l)	157.5	159.0	154.6	152.5	156.4	156.0

Interval #0 Information Seeding

Start Time	4:00
End Time	4:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1629	1659	1594	1590	1632	1617
Vehs Exited	1637	1654	1616	1600	1620	1624
Starting Vehs	63	56	77	67	62	64
Ending Vehs	55	61	55	57	74	58
Travel Distance (km)	1994	2021	1965	1966	2010	1991
Travel Time (hr)	57.9	57.3	57.1	55.5	57.4	57.0
Total Delay (hr)	14.0	12.8	13.6	12.2	13.1	13.1
Total Stops	1333	1257	1321	1145	1267	1262
Fuel Used (l)	157.5	159.0	154.6	152.5	156.4	156.0

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	1.2	0.2	1.6	0.8	0.0	0.1	0.5
Total Delay (hr)	0.6	0.1	0.7	5.9	2.1	0.1	9.6
Total Del/Veh (s)	18.9	6.0	40.7	28.1	15.7	3.9	21.8

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.4	0.3	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.5	0.0	1.0
Total Del/Veh (s)	22.8	0.1	5.7	4.5	1.7	3.3	3.0	2.4

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.0	1.6	0.3	3.6	2.4	1.3

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	0.4	0.2	4.2	2.3

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Total Del/Veh (s)	2.1	0.6	2.6	1.0	0.9	2.5	4.3	3.2	1.5

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.7
Total Delay (hr)	12.8
Total Del/Veh (s)	27.4

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	28.1	71.9	0.6	31	30	31.4
Victoria Dr	2	1.8	10.5	0.1	30	30	1.8
Total		30.0	82.4	0.7	31	30	33.2

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	33	25.3	31	30.1	32	25.5	31
Victoria Dr	30	1.8	30	1.8	30	1.8	30
Total	32	27.2	31	31.8	32	27.3	31

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.3	64.1	0.7	39	39	3.3
Campbell Dr	1	15.6	23.8	0.1	13	13	16.3
Total		19.0	87.9	0.8	32	31	19.6

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	3.0	38	4.0	38	3.0	39
Campbell Dr	14	15.0	13	17.0	14	14.6	13
Total	32	18.1	31	20.9	32	17.6	32

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	34.8	23.4	64.8	179.9	79.7	65.0
Average Queue (m)	14.9	10.0	24.0	91.5	47.2	12.0
95th Queue (m)	28.4	19.9	62.3	158.0	77.4	39.3
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					7	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)	1	0	1	34	34	1
Queuing Penalty (veh)	0	0	9	20	27	3

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	13.2	9.3	32.6
Average Queue (m)	6.3	2.3	2.2
95th Queue (m)	13.8	8.9	14.9
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	NB
Directions Served	LR
Maximum Queue (m)	12.0
Average Queue (m)	5.6
95th Queue (m)	13.0
Link Distance (m)	29.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	17.9
Average Queue (m)	9.6
95th Queue (m)	14.3
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	8.9	8.6	6.8	15.8
Average Queue (m)	0.7	0.4	0.3	7.9
95th Queue (m)	4.6	3.6	2.8	14.2
Link Distance (m)	41.0	126.5	90.0	40.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 67

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	43.4	24.9	43.4
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	None
Avg. Green (s)	38.0	30.4	38.0
g/C Ratio	0.47	0.38	0.47
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	51	100	51
Cycles with Peds (%)	0	2	11

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

APPENDIX G

2032 Intersection Capacity Analysis

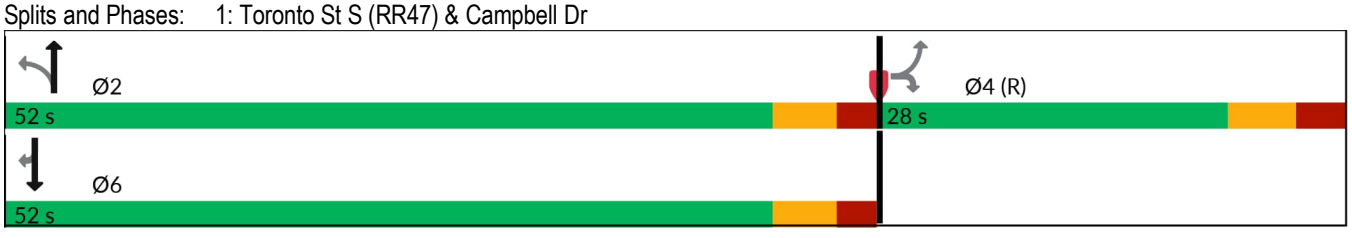
Future Background

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	22	42	321	477	64
Future Volume (vph)	21	22	42	321	477	64
Lane Group Flow (vph)	23	24	47	357	530	71
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	25.0	25.0	42.2	42.2	42.2	42.2
Total Split (s)	28.0	28.0	52.0	52.0	52.0	52.0
Total Split (%)	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	4.0	4.0	3.9	3.9	3.9	3.9
All-Red Time (s)	3.0	3.0	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	Max	Max
v/c Ratio	0.05	0.06	0.13	0.35	0.50	0.09
Control Delay (s/veh)	22.6	9.9	9.0	10.3	12.4	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.6	9.9	9.0	10.3	12.4	4.4
Queue Length 50th (m)	2.8	0.0	3.4	29.0	47.4	2.0
Queue Length 95th (m)	8.4	5.9	9.0	46.2	72.8	7.6
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	452	387	365	1024	1054	828
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.06	0.13	0.35	0.50	0.09

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 24 (30%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	22	42	321	477	64
Future Volume (vph)	21	22	42	321	477	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1725	1410	1578	1789	1842	1417
Flt Permitted	0.95	1.00	0.38	1.00	1.00	1.00
Satd. Flow (perm)	1725	1410	639	1789	1842	1417
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	24	47	357	530	71
RTOR Reduction (vph)	0	18	0	0	0	18
Lane Group Flow (vph)	23	6	47	357	530	53
Confl. Peds. (#/hr)		1	6			6
Heavy Vehicles (%)	0%	7%	9%	5%	2%	6%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	21.0	21.0	45.8	45.8	45.8	45.8
Effective Green, g (s)	21.0	21.0	45.8	45.8	45.8	45.8
Actuated g/C Ratio	0.26	0.26	0.57	0.57	0.57	0.57
Clearance Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	452	370	365	1024	1054	811
v/s Ratio Prot				0.20	c0.29	
v/s Ratio Perm	c0.01	0.00	0.07			0.04
v/c Ratio	0.05	0.02	0.13	0.35	0.50	0.07
Uniform Delay, d1	22.1	21.9	7.9	9.1	10.3	7.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.2	0.2	1.7	0.2
Delay (s)	22.3	21.9	8.1	9.3	12.0	7.8
Level of Service	C	C	A	A	B	A
Approach Delay (s/veh)	22.1			9.2	11.5	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	35	11	331	506	2
Future Vol, veh/h	20	35	11	331	506	2
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	45	0	0	5	26	0
Mvmt Flow	25	43	14	409	625	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1066	629	630	0	-	0
Stage 1	629	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Critical Hdwy	6.85	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.85	-	-	-	-	-
Critical Hdwy Stg 2	5.85	-	-	-	-	-
Follow-up Hdwy	3.905	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	205	486	962	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	569	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	202	485	960	-	-	-
Mov Cap-2 Maneuver	202	-	-	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	569	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.2	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	960	-	321	-	-
HCM Lane V/C Ratio	0.014	-	0.212	-	-
HCM Ctrl Dly (s/v)	8.8	-	19.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	4	7	6	2	6
Future Vol, veh/h	49	4	7	6	2	6
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	6	11	9	3	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	81	0	109	79
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	31	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1529	-	893	987
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	997	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	887	986
Mov Cap-2 Maneuver	-	-	-	-	887	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	959	-	-	1529	-
HCM Lane V/C Ratio	0.013	-	-	0.007	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	10	39	7	1
Future Vol, veh/h	0	12	10	39	7	1
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	5	14	0
Mvmt Flow	0	16	13	52	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	67	0	-	0	57	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.2	-	-	-	3.626	3.3
Pot Cap-1 Maneuver	1547	-	-	-	921	1036
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	977	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1545	-	-	-	920	1035
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1545	-	-	-	933
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Ctrl Dly (s/v)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	19	0	2	40	15	0	0	0	5	0	9
Future Vol, veh/h	0	19	0	2	40	15	0	0	0	5	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	5	0	0	3	0	0	0	0	0	0	11
Mvmt Flow	0	25	0	3	53	20	0	0	0	7	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	25	0	0	100	104	26	95	94	63
Stage 1	-	-	-	-	-	-	25	25	-	69	69	-
Stage 2	-	-	-	-	-	-	75	79	-	26	25	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1540	-	-	1603	-	-	886	790	1056	893	800	977
Stage 1	-	-	-	-	-	-	998	878	-	946	841	-
Stage 2	-	-	-	-	-	-	939	833	-	997	878	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1540	-	-	1603	-	-	874	788	1055	891	798	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	874	788	-	891	798	-
Stage 1	-	-	-	-	-	-	998	878	-	946	839	-
Stage 2	-	-	-	-	-	-	926	831	-	996	878	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0.3	0	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1540	-	-	1603	-	-	944
HCM Lane V/C Ratio	-	-	-	-	0.002	-	-	0.02
HCM Ctrl Dly (s/v)	0	0	-	-	7.3	0	-	8.9
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q (veh)	-	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Future Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	5	45	0	5	33	17	0	0	1	17	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	45	0	0	108	115	45	108	107	42
Stage 1	-	-	-	-	-	-	55	55	-	52	52	-
Stage 2	-	-	-	-	-	-	53	60	-	56	55	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1570	-	-	1576	-	-	876	779	1031	876	787	1034
Stage 1	-	-	-	-	-	-	962	853	-	966	856	-
Stage 2	-	-	-	-	-	-	965	849	-	961	853	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1570	-	-	1576	-	-	870	774	1031	871	782	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	870	774	-	871	782	-
Stage 1	-	-	-	-	-	-	959	850	-	963	853	-
Stage 2	-	-	-	-	-	-	960	846	-	957	850	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.7	0.6	8.5	9.1
HCM LOS			A	A

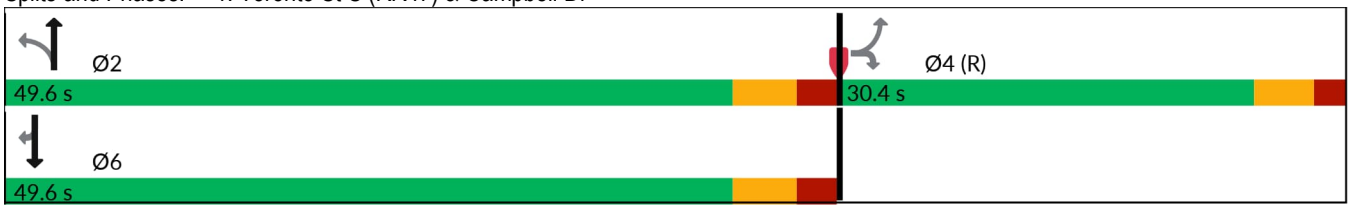
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1031	1570	-	-	1576	-	-	889
HCM Lane V/C Ratio	0.001	0.003	-	-	0.003	-	-	0.022
HCM Ctrl Dly (s/v)	8.5	7.3	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	44	33	761	480	44
Future Volume (vph)	60	44	33	761	480	44
Lane Group Flow (vph)	61	45	34	777	490	45
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	23.5	23.5	42.2	42.2	42.2	42.2
Total Split (s)	30.4	30.4	49.6	49.6	49.6	49.6
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.9	3.9
All-Red Time (s)	1.9	1.9	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	None	None
v/c Ratio	0.10	0.08	0.11	0.86	0.54	0.06
Control Delay (s/veh)	19.6	7.1	10.3	28.6	16.1	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.6	7.1	10.3	28.6	16.1	5.4
Queue Length 50th (m)	6.7	0.0	2.7	99.6	49.4	1.5
Queue Length 95th (m)	15.8	7.4	7.1	143.7	71.1	6.1
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	615	542	355	999	999	787
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.08	0.10	0.78	0.49	0.06

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 28 (35%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	44	33	761	480	44
Future Volume (vph)	60	44	33	761	480	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1691	1410	1669	1842	1842	1429
Flt Permitted	0.95	1.00	0.37	1.00	1.00	1.00
Satd. Flow (perm)	1691	1410	655	1842	1842	1429
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	45	34	777	490	45
RTOR Reduction (vph)	0	29	0	0	0	13
Lane Group Flow (vph)	61	16	34	777	490	32
Confl. Peds. (#/hr)		1	7			7
Heavy Vehicles (%)	2%	7%	3%	2%	2%	5%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	29.1	29.1	39.2	39.2	39.2	39.2
Effective Green, g (s)	29.1	29.1	39.2	39.2	39.2	39.2
Actuated g/C Ratio	0.36	0.36	0.49	0.49	0.49	0.49
Clearance Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	615	512	320	902	902	700
v/s Ratio Prot				c0.42	0.27	
v/s Ratio Perm	c0.04	0.01	0.05			0.02
v/c Ratio	0.10	0.03	0.11	0.86	0.54	0.05
Uniform Delay, d1	16.8	16.4	11.0	18.0	14.2	10.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.1	8.5	0.7	0.0
Delay (s)	17.1	16.5	11.1	26.5	14.8	10.7
Level of Service	B	B	B	C	B	B
Approach Delay (s/veh)	16.9			25.8	14.5	
Approach LOS	B			C	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	15	21	800	509	2
Future Vol, veh/h	2	15	21	800	509	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	7	0	1	3	50
Mvmt Flow	2	16	22	851	541	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1437	542	543	0	-	0
Stage 1	542	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.4	6.27	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.363	2.2	-	-	-
Pot Cap-1 Maneuver	148	531	1036	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	402	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	145	531	1036	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	402	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.3	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1036	-	404	-	-
HCM Lane V/C Ratio	0.022	-	0.045	-	-
HCM Ctrl Dly (s/v)	8.6	-	14.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	2	1	22	3	5
Future Vol, veh/h	12	2	1	22	3	5
Conflicting Peds, #/hr	0	0	0	0	5	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	3	1	31	4	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	57	23
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1609	-	955	1060
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	990	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1609	-	950	1057
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.3	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1014	-	-	1609	-
HCM Lane V/C Ratio	0.011	-	-	0.001	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	21	8	26	0
Future Vol, veh/h	0	15	21	8	26	0
Conflicting Peds, #/hr	2	0	0	2	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	20	28	11	34	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	41	0	-	0	57	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1581	-	-	-	955	1042
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1579	-	-	-	953	1041
Mov Cap-2 Maneuver	-	-	-	-	953	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	1006	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1579	-	-	-	953
HCM Lane V/C Ratio	-	-	-	-	0.036
HCM Ctrl Dly (s/v)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Future Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	5	45	0	5	33	17	0	0	1	17	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	45	0	0	108	115	45	108	107	42
Stage 1	-	-	-	-	-	-	55	55	-	52	52	-
Stage 2	-	-	-	-	-	-	53	60	-	56	55	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1570	-	-	1576	-	-	876	779	1031	876	787	1034
Stage 1	-	-	-	-	-	-	962	853	-	966	856	-
Stage 2	-	-	-	-	-	-	965	849	-	961	853	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1570	-	-	1576	-	-	870	774	1031	871	782	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	870	774	-	871	782	-
Stage 1	-	-	-	-	-	-	959	850	-	963	853	-
Stage 2	-	-	-	-	-	-	960	846	-	957	850	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.7	0.6	8.5	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1031	1570	-	-	1576	-	-	889
HCM Lane V/C Ratio	0.001	0.003	-	-	0.003	-	-	0.022
HCM Ctrl Dly (s/v)	8.5	7.3	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.1

Future Background SimTraffic

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1072	1133	1197	1095	1141	1128
Vehs Exited	1087	1121	1200	1091	1142	1126
Starting Vehs	44	27	33	27	32	32
Ending Vehs	29	39	30	31	31	30
Travel Distance (km)	1207	1234	1326	1220	1257	1249
Travel Time (hr)	31.4	32.1	35.1	31.7	33.5	32.8
Total Delay (hr)	4.4	4.4	5.3	4.5	5.1	4.7
Total Stops	479	491	570	494	531	512
Fuel Used (l)	91.1	94.6	102.2	94.0	97.6	95.9

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:45
End Time	8:45
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1072	1133	1197	1095	1141	1128
Vehs Exited	1087	1121	1200	1091	1142	1126
Starting Vehs	44	27	33	27	32	32
Ending Vehs	29	39	30	31	31	30
Travel Distance (km)	1207	1234	1326	1220	1257	1249
Travel Time (hr)	31.4	32.1	35.1	31.7	33.5	32.8
Total Delay (hr)	4.4	4.4	5.3	4.5	5.1	4.7
Total Stops	479	491	570	494	531	512
Fuel Used (l)	91.1	94.6	102.2	94.0	97.6	95.9

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Denied Del/Veh (s)	1.8	0.1	1.7	0.3	0.9	1.7	0.8
Total Delay (hr)	0.1	0.0	0.2	0.9	1.3	0.1	2.7
Total Del/Veh (s)	25.8	6.0	20.2	10.0	7.9	2.9	9.0

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.5	0.2	0.3
Total Delay (hr)	0.1	0.0	0.1	0.0	0.1	0.5	0.0	0.7
Total Del/Veh (s)	10.3	0.1	6.9	5.4	1.1	3.3	4.2	2.8

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.2	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.1	2.2	0.4	3.1	2.2	0.5

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.2	0.1	3.8	2.7	0.6

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBT	WBL	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.4	2.6	0.6	0.6	4.4	2.6	0.9

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	1.0
Total Delay (hr)	4.4
Total Del/Veh (s)	13.7

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	10.0	53.5	0.6	42	42	9.2
Victoria Dr	2	1.1	9.7	0.1	33	33	1.1
Total		11.1	63.3	0.7	40	41	10.2

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	42	9.7	42	10.3	42	9.6	41
Victoria Dr	33	1.1	33	1.1	33	1.1	32
Total	40	10.8	40	11.4	41	10.7	39

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.3	63.8	0.7	39	39	2.9
Campbell Dr	1	7.8	15.3	0.1	22	22	7.9
Total		11.1	79.1	0.8	36	36	10.9

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	3.1	38	4.0	39	3.3	39
Campbell Dr	24	6.9	22	7.8	22	8.0	21
Total	36	10.0	35	11.8	36	11.3	35

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	15.8	15.7	26.3	56.6	77.7	51.6
Average Queue (m)	4.5	3.7	7.8	25.0	40.9	9.1
95th Queue (m)	12.6	11.9	18.9	46.7	71.6	29.7
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					3	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)			0	4	24	1
Queuing Penalty (veh)			1	2	16	3

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	25.8	9.7	34.4
Average Queue (m)	10.1	1.4	2.8
95th Queue (m)	19.7	7.0	22.1
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	1.7	10.1
Average Queue (m)	0.1	2.0
95th Queue (m)	1.2	8.2
Link Distance (m)	69.9	29.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	15.2
Average Queue (m)	2.8
95th Queue (m)	10.6
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	SB
Directions Served	LTR
Maximum Queue (m)	14.2
Average Queue (m)	3.8
95th Queue (m)	11.8
Link Distance (m)	40.6
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 24

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	45.8	21.0	45.8
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	Max
Avg. Green (s)	45.8	21.0	45.8
g/C Ratio	0.57	0.26	0.57
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	0	11

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:00	4:00	4:00	4:00	4:00	4:00
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1423	1513	1405	1452	1492	1456
Vehs Exited	1423	1498	1423	1439	1477	1452
Starting Vehs	65	55	56	50	57	56
Ending Vehs	65	70	38	63	72	60
Travel Distance (km)	1835	1959	1818	1857	1914	1876
Travel Time (hr)	51.3	55.5	51.0	52.5	56.6	53.4
Total Delay (hr)	11.1	12.9	11.4	11.7	14.9	12.4
Total Stops	928	1053	977	1016	1203	1036
Fuel Used (l)	140.7	151.4	141.0	143.6	148.7	145.1

Interval #0 Information Seeding

Start Time	4:00
End Time	4:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1423	1513	1405	1452	1492	1456
Vehs Exited	1423	1498	1423	1439	1477	1452
Starting Vehs	65	55	56	50	57	56
Ending Vehs	65	70	38	63	72	60
Travel Distance (km)	1835	1959	1818	1857	1914	1876
Travel Time (hr)	51.3	55.5	51.0	52.5	56.6	53.4
Total Delay (hr)	11.1	12.9	11.4	11.7	14.9	12.4
Total Stops	928	1053	977	1016	1203	1036
Fuel Used (l)	140.7	151.4	141.0	143.6	148.7	145.1

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	1.9	0.2	1.6	0.7	0.0	0.0	0.5
Total Delay (hr)	0.3	0.1	0.3	6.4	2.1	0.0	9.2
Total Del/Veh (s)	18.0	6.7	38.0	29.6	15.1	3.7	22.9

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.4	0.3	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.9
Total Del/Veh (s)	18.3	0.1	6.1	5.5	1.8	3.1	3.0	2.4

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.0	1.5	0.4	4.5	2.2	0.7

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.1	0.0	3.8	1.5

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.8	0.4	2.3	0.7	0.6	2.5	3.7	2.1	1.0

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.7
Total Delay (hr)	12.1
Total Del/Veh (s)	28.8

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	29.6	73.6	0.6	31	33	24.5
Victoria Dr	2	1.9	10.6	0.1	30	30	1.8
Total		31.5	84.2	0.7	30	33	26.3

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	30	29.9	32	27.1	31	27.1	27
Victoria Dr	30	1.9	30	1.9	30	1.9	30
Total	30	31.9	31	29.0	31	29.0	27

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.1	63.5	0.7	39	39	3.1
Campbell Dr	1	15.0	23.3	0.1	14	13	16.0
Total		18.1	86.7	0.8	32	32	19.1

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	3.1	39	3.0	39	2.8	39
Campbell Dr	14	14.0	14	14.4	14	15.1	13
Total	33	17.1	32	17.3	32	17.9	32

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	21.0	21.3	54.9	176.4	79.9	44.7
Average Queue (m)	8.4	5.8	11.2	94.1	46.6	6.2
95th Queue (m)	18.4	15.7	38.7	163.8	73.6	22.1
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					5	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)	0	0	0	36	35	0
Queuing Penalty (veh)	0	0	0	12	15	1

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	12.0	12.8	27.4
Average Queue (m)	4.4	2.8	1.3
95th Queue (m)	12.1	10.0	10.8
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	NB
Directions Served	LR
Maximum Queue (m)	8.7
Average Queue (m)	2.2
95th Queue (m)	8.3
Link Distance (m)	29.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	10.6
Average Queue (m)	5.7
95th Queue (m)	12.8
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	3.6	1.8	5.2	10.3
Average Queue (m)	0.1	0.1	0.3	3.7
95th Queue (m)	1.8	1.3	2.8	10.8
Link Distance (m)	41.0	126.5	90.0	40.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 34

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	43.4	24.9	43.4
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	None
Avg. Green (s)	38.2	30.2	38.2
g/C Ratio	0.48	0.38	0.48
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	49	100	49
Cycles with Peds (%)	0	2	13

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

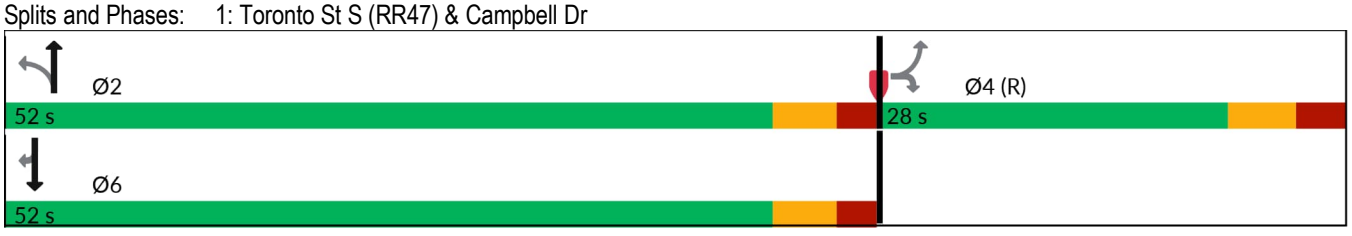
Future Total

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	34	96	323	487	140
Future Volume (vph)	33	34	96	323	487	140
Lane Group Flow (vph)	37	38	107	359	541	156
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	25.0	25.0	42.2	42.2	42.2	42.2
Total Split (s)	28.0	28.0	52.0	52.0	52.0	52.0
Total Split (%)	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	4.0	4.0	3.9	3.9	3.9	3.9
All-Red Time (s)	3.0	3.0	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	Max	Max
v/c Ratio	0.08	0.09	0.28	0.35	0.51	0.18
Control Delay (s/veh)	22.9	8.6	11.2	10.3	12.4	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.9	8.6	11.2	10.3	12.4	4.4
Queue Length 50th (m)	4.5	0.0	8.2	28.8	48.3	4.6
Queue Length 95th (m)	11.7	7.2	18.2	46.0	73.8	12.9
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	452	408	379	1034	1064	880
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.09	0.28	0.35	0.51	0.18

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 24 (30%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	34	96	323	487	140
Future Volume (vph)	33	34	96	323	487	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1725	1451	1670	1807	1860	1473
Flt Permitted	0.95	1.00	0.38	1.00	1.00	1.00
Satd. Flow (perm)	1725	1451	662	1807	1860	1473
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	37	38	107	359	541	156
RTOR Reduction (vph)	0	28	0	0	0	37
Lane Group Flow (vph)	37	10	107	359	541	119
Confl. Peds. (#/hr)		1	6			6
Heavy Vehicles (%)	0%	4%	3%	4%	1%	2%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	21.0	21.0	45.8	45.8	45.8	45.8
Effective Green, g (s)	21.0	21.0	45.8	45.8	45.8	45.8
Actuated g/C Ratio	0.26	0.26	0.57	0.57	0.57	0.57
Clearance Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	452	380	378	1034	1064	843
v/s Ratio Prot				0.20	c0.29	
v/s Ratio Perm	c0.02	0.01	0.16			0.08
v/c Ratio	0.08	0.03	0.28	0.35	0.51	0.14
Uniform Delay, d1	22.2	21.9	8.7	9.1	10.3	8.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.4	0.2	1.7	0.3
Delay (s)	22.6	22.0	9.1	9.3	12.0	8.3
Level of Service	C	C	A	A	B	A
Approach Delay (s/veh)	22.3			9.3	11.2	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	45	13	343	582	17
Future Vol, veh/h	22	45	13	343	582	17
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	40	0	0	4	22	0
Mvmt Flow	27	56	16	423	719	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1188	733	743	0	-	0
Stage 1	733	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.8	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.86	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	175	424	873	-	-	-
Stage 1	413	-	-	-	-	-
Stage 2	566	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	172	423	871	-	-	-
Mov Cap-2 Maneuver	172	-	-	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	566	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	22.6	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	871	-	286	-	-
HCM Lane V/C Ratio	0.018	-	0.289	-	-
HCM Ctrl Dly (s/v)	9.2	-	22.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.1	-	1.2	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	13	24	6	6	18
Future Vol, veh/h	49	13	24	6	6	18
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	20	37	9	9	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	95	0	168	86
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1512	-	827	978
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1512	-	806	977
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	921	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	6	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	928	-	-	1512	-
HCM Lane V/C Ratio	0.04	-	-	0.024	-
HCM Ctrl Dly (s/v)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	28	133	21	3
Future Vol, veh/h	0	12	28	133	21	3
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	1	4	0
Mvmt Flow	0	16	37	177	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	216	0	-	0	144	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.44	6.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.2	-	-	-	3.536	3.3
Pot Cap-1 Maneuver	1366	-	-	-	844	927
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1364	-	-	-	843	926
Mov Cap-2 Maneuver	-	-	-	-	843	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	1002	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1364	-	-	-	853
HCM Lane V/C Ratio	-	-	-	-	0.038
HCM Ctrl Dly (s/v)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	33	0	2	134	51	0	0	0	15	0	27
Future Vol, veh/h	0	33	0	2	134	51	0	0	0	15	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	2	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	44	0	3	179	68	0	0	0	20	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	44	0	0	281	297	45	264	263	213
Stage 1	-	-	-	-	-	-	44	44	-	219	219	-
Stage 2	-	-	-	-	-	-	237	253	-	45	44	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	1331	-	-	1577	-	-	675	618	1031	693	646	825
Stage 1	-	-	-	-	-	-	975	862	-	788	726	-
Stage 2	-	-	-	-	-	-	771	701	-	974	862	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1331	-	-	1577	-	-	645	617	1030	692	645	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	645	617	-	692	645	-
Stage 1	-	-	-	-	-	-	975	862	-	788	725	-
Stage 2	-	-	-	-	-	-	736	700	-	973	862	-

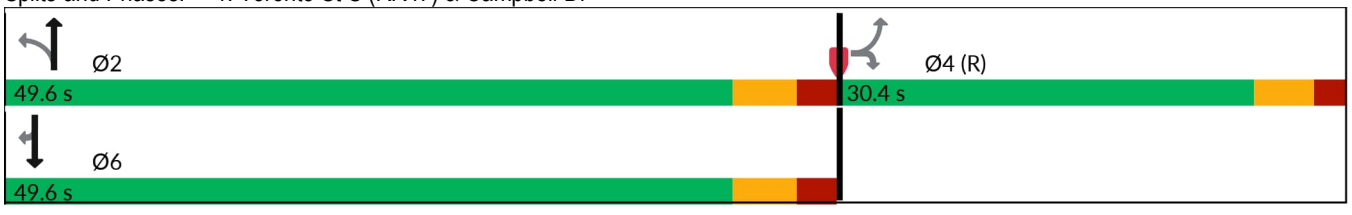
Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0.1	0	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1331	-	-	1577	-	-	772
HCM Lane V/C Ratio	-	-	-	-	0.002	-	-	0.073
HCM Ctrl Dly (s/v)	0	0	-	-	7.3	0	-	10
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q (veh)	-	0	-	-	0	-	-	0.2

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	87	58	763	493	81
Future Volume (vph)	117	87	58	763	493	81
Lane Group Flow (vph)	119	89	59	779	503	83
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	23.5	23.5	42.2	42.2	42.2	42.2
Total Split (s)	30.4	30.4	49.6	49.6	49.6	49.6
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.9	3.9
All-Red Time (s)	1.9	1.9	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	None	None
v/c Ratio	0.19	0.15	0.19	0.86	0.55	0.11
Control Delay (s/veh)	20.2	5.6	11.7	28.3	16.4	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.2	5.6	11.7	28.3	16.4	5.2
Queue Length 50th (m)	13.4	0.0	4.8	99.1	51.0	2.8
Queue Length 95th (m)	27.0	10.1	11.2	141.3	72.6	9.0
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	625	592	349	1009	1009	819
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.15	0.17	0.77	0.50	0.10

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 28 (35%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	87	58	763	493	81
Future Volume (vph)	117	87	58	763	493	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1708	1465	1702	1860	1860	1471
Flt Permitted	0.95	1.00	0.36	1.00	1.00	1.00
Satd. Flow (perm)	1708	1465	644	1860	1860	1471
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	119	89	59	779	503	83
RTOR Reduction (vph)	0	56	0	0	0	24
Lane Group Flow (vph)	119	33	59	779	503	59
Confl. Peds. (#/hr)		1	7			7
Heavy Vehicles (%)	1%	3%	1%	1%	1%	2%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	29.3	29.3	39.0	39.0	39.0	39.0
Effective Green, g (s)	29.3	29.3	39.0	39.0	39.0	39.0
Actuated g/C Ratio	0.37	0.37	0.49	0.49	0.49	0.49
Clearance Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	625	536	313	906	906	717
v/s Ratio Prot				c0.42	0.27	
v/s Ratio Perm	c0.07	0.02	0.09			0.04
v/c Ratio	0.19	0.06	0.19	0.86	0.56	0.08
Uniform Delay, d1	17.3	16.4	11.6	18.1	14.4	10.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.3	8.2	0.7	0.0
Delay (s)	17.9	16.6	11.9	26.3	15.1	11.0
Level of Service	B	B	B	C	B	B
Approach Delay (s/veh)	17.4			25.3	14.6	
Approach LOS	B			C	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	28	23	857	546	2
Future Vol, veh/h	2	28	23	857	546	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	0	0	2	50
Mvmt Flow	2	30	24	912	581	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1542	582	583	0	-	0
Stage 1	582	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Critical Hdwy	6.4	6.23	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	2.2	-	-	-
Pot Cap-1 Maneuver	128	511	1001	-	-	-
Stage 1	563	-	-	-	-	-
Stage 2	375	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	125	511	1001	-	-	-
Mov Cap-2 Maneuver	125	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	375	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.2	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1001	-	424	-	-
HCM Lane V/C Ratio	0.024	-	0.075	-	-
HCM Ctrl Dly (s/v)	8.7	-	14.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	7	3	22	10	18
Future Vol, veh/h	12	7	3	22	10	18
Conflicting Peds, #/hr	0	0	0	0	5	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	10	4	31	14	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	27	0	66	26
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	44	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1600	-	944	1056
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	984	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1600	-	937	1053
Mov Cap-2 Maneuver	-	-	-	-	937	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.9	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1008	-	-	1600	-
HCM Lane V/C Ratio	0.039	-	-	0.003	-
HCM Ctrl Dly (s/v)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	26	31	91	0
Future Vol, veh/h	0	27	26	31	91	0
Conflicting Peds, #/hr	2	0	0	2	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	36	34	41	120	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	94	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1535	-	-	-	911	1015
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	991	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1533	-	-	-	909	1014
Mov Cap-2 Maneuver	-	-	-	-	909	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1533	-	-	-	909
HCM Lane V/C Ratio	-	-	-	-	0.132
HCM Ctrl Dly (s/v)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	102	0	4	50	53	0	0	1	49	0	7
Future Vol, veh/h	16	102	0	4	50	53	0	0	1	49	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	19	123	0	5	60	64	0	0	1	59	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	124	0	0	123	0	0	267	295	123	264	263	92
Stage 1	-	-	-	-	-	-	161	161	-	102	102	-
Stage 2	-	-	-	-	-	-	106	134	-	162	161	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1475	-	-	1477	-	-	690	620	933	693	646	971
Stage 1	-	-	-	-	-	-	846	769	-	909	815	-
Stage 2	-	-	-	-	-	-	905	789	-	845	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1475	-	-	1477	-	-	675	609	933	683	634	971
Mov Cap-2 Maneuver	-	-	-	-	-	-	675	609	-	683	634	-
Stage 1	-	-	-	-	-	-	834	758	-	896	812	-
Stage 2	-	-	-	-	-	-	894	786	-	832	758	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1	0.3	8.9	10.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	933	1475	-	-	1477	-	-	709
HCM Lane V/C Ratio	0.001	0.013	-	-	0.003	-	-	0.095
HCM Ctrl Dly (s/v)	8.9	7.5	0	-	7.4	0	-	10.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.3

Future Total SimTraffic

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1312	1271	1329	1327	1335	1314
Vehs Exited	1305	1272	1352	1336	1345	1324
Starting Vehs	32	31	55	37	42	38
Ending Vehs	39	30	32	28	32	31
Travel Distance (km)	1387	1346	1408	1414	1435	1398
Travel Time (hr)	37.5	36.1	38.1	38.0	38.8	37.7
Total Delay (hr)	5.6	5.2	5.8	5.7	6.0	5.7
Total Stops	668	609	690	667	698	666
Fuel Used (l)	109.0	105.5	109.5	110.1	112.2	109.3

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:45
End Time	8:45
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1312	1271	1329	1327	1335	1314
Vehs Exited	1305	1272	1352	1336	1345	1324
Starting Vehs	32	31	55	37	42	38
Ending Vehs	39	30	32	28	32	31
Travel Distance (km)	1387	1346	1408	1414	1435	1398
Travel Time (hr)	37.5	36.1	38.1	38.0	38.8	37.7
Total Delay (hr)	5.6	5.2	5.8	5.7	6.0	5.7
Total Stops	668	609	690	667	698	666
Fuel Used (l)	109.0	105.5	109.5	110.1	112.2	109.3

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.3
Denied Del/Veh (s)	1.4	0.0	1.4	0.4	0.7	1.7	0.8
Total Delay (hr)	0.2	0.1	0.7	0.8	1.3	0.1	3.2
Total Del/Veh (s)	25.6	6.6	24.8	9.6	7.7	3.3	9.5

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.6	0.8	0.4
Total Delay (hr)	0.1	0.0	0.1	0.0	0.1	0.7	0.0	0.9
Total Del/Veh (s)	11.5	0.2	8.0	5.5	1.0	4.0	4.0	3.3

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.0	1.8	0.2	4.0	2.5	1.1

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.7	0.3	3.8	2.8	0.8

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBT	WBL	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	2.3	0.9	0.7	5.0	3.0	1.2

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.0
Total Delay (hr)	5.3
Total Del/Veh (s)	14.0

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	9.6	53.1	0.6	42	42	10.3
Victoria Dr	2	1.1	9.7	0.1	33	33	1.1
Total		10.7	62.8	0.7	41	40	11.5

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	42	10.1	44	8.5	42	9.9	42
Victoria Dr	32	1.1	33	1.0	33	1.1	33
Total	40	11.2	42	9.5	40	11.0	41

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	4.0	64.7	0.7	38	38	4.0
Campbell Dr	1	7.6	15.1	0.1	22	22	7.4
Total		11.5	79.8	0.8	35	35	11.4

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	38	4.1	38	4.2	39	3.3	38
Campbell Dr	25	6.1	21	8.2	21	8.3	22
Total	36	10.1	35	12.4	35	11.5	35

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	19.4	16.9	32.1	48.4	74.8	64.2
Average Queue (m)	6.8	5.5	15.4	22.7	39.1	14.8
95th Queue (m)	16.2	14.3	28.0	42.5	67.6	39.8
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					2	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)			1	3	23	2
Queuing Penalty (veh)			2	3	32	7

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	23.8	10.5	34.9
Average Queue (m)	10.7	1.8	1.6
95th Queue (m)	19.8	8.0	15.0
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	7.2	11.5
Average Queue (m)	0.3	4.8
95th Queue (m)	3.0	12.2
Link Distance (m)	69.9	29.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	16.7
Average Queue (m)	5.6
95th Queue (m)	13.8
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (m)	4.4	14.9
Average Queue (m)	0.1	7.2
95th Queue (m)	3.1	14.2
Link Distance (m)	126.5	40.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 48

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	45.8	21.0	45.8
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	Max
Avg. Green (s)	45.8	21.0	45.8
g/C Ratio	0.57	0.26	0.57
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	2	14

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:00	4:00	4:00	4:00	4:00	4:00
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1685	1665	1639	1642	1667	1659
Vehs Exited	1694	1664	1668	1653	1681	1673
Starting Vehs	66	66	81	65	65	66
Ending Vehs	57	67	52	54	51	55
Travel Distance (km)	2062	2034	2025	2036	2067	2045
Travel Time (hr)	59.5	57.0	60.1	57.7	59.6	58.8
Total Delay (hr)	14.2	12.3	15.3	13.1	14.2	13.8
Total Stops	1335	1198	1432	1244	1330	1310
Fuel Used (l)	161.4	159.3	160.4	157.2	161.1	159.9

Interval #0 Information Seeding

Start Time	4:00
End Time	4:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1685	1665	1639	1642	1667	1659
Vehs Exited	1694	1664	1668	1653	1681	1673
Starting Vehs	66	66	81	65	65	66
Ending Vehs	57	67	52	54	51	55
Travel Distance (km)	2062	2034	2025	2036	2067	2045
Travel Time (hr)	59.5	57.0	60.1	57.7	59.6	58.8
Total Delay (hr)	14.2	12.3	15.3	13.1	14.2	13.8
Total Stops	1335	1198	1432	1244	1330	1310
Fuel Used (l)	161.4	159.3	160.4	157.2	161.1	159.9

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.3
Denied Del/Veh (s)	1.3	0.2	1.7	0.8	0.0	0.1	0.6
Total Delay (hr)	0.6	0.2	0.8	6.6	2.0	0.1	10.2
Total Del/Veh (s)	20.1	6.4	40.7	29.7	14.9	3.8	22.5

2: Toronto St S (RR47)/Toronto St S & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.4	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.5	0.0	1.0
Total Del/Veh (s)	12.0	0.1	5.4	5.1	1.7	3.3	2.2	2.4

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.0	1.8	0.4	3.7	2.3	1.3

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	0.3	0.1	4.2	2.3

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Total Del/Veh (s)	2.5	0.6	2.4	1.0	0.9	1.9	4.3	2.9	1.5

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.8
Total Delay (hr)	13.5
Total Del/Veh (s)	28.0

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	29.7	73.4	0.6	31	30	31.0
Victoria Dr	2	1.8	10.6	0.1	30	30	1.9
Total		31.5	84.0	0.7	31	30	32.8

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	33	23.9	29	35.4	32	27.4	30
Victoria Dr	30	1.9	30	1.8	30	1.8	30
Total	33	25.8	29	37.2	31	29.2	30

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	14.9	23.1	0.1	14	14	14.7
Total		14.9	23.1	0.1	14	14	14.7

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	14	14.1	13	15.9	14	15.0	14
Total	14	14.1	13	15.9	14	15.0	14

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	29.7	21.0	64.8	183.4	79.6	54.4
Average Queue (m)	14.4	10.0	22.4	97.1	46.5	10.0
95th Queue (m)	28.0	19.0	59.2	168.1	75.6	31.8
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					5	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)	1	0	0	36	33	1
Queuing Penalty (veh)	0	0	2	21	27	3

Intersection: 2: Toronto St S (RR47)/Toronto St S & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	11.8	12.0	28.9
Average Queue (m)	6.3	2.6	1.3
95th Queue (m)	13.6	9.7	12.0
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	1.8	13.4
Average Queue (m)	0.1	5.7
95th Queue (m)	1.3	13.4
Link Distance (m)	69.9	29.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	17.9
Average Queue (m)	9.2
95th Queue (m)	14.7
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	11.7	5.5	6.8	16.1
Average Queue (m)	0.8	0.2	0.2	8.0
95th Queue (m)	5.4	2.5	2.5	13.9
Link Distance (m)	41.0	126.5	90.0	40.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 59

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	43.4	24.9	43.4
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	None
Avg. Green (s)	39.0	29.3	39.0
g/C Ratio	0.49	0.37	0.49
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	56	100	56
Cycles with Peds (%)	0	2	11

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

APPENDIX H

2037 Intersection Capacity Analysis

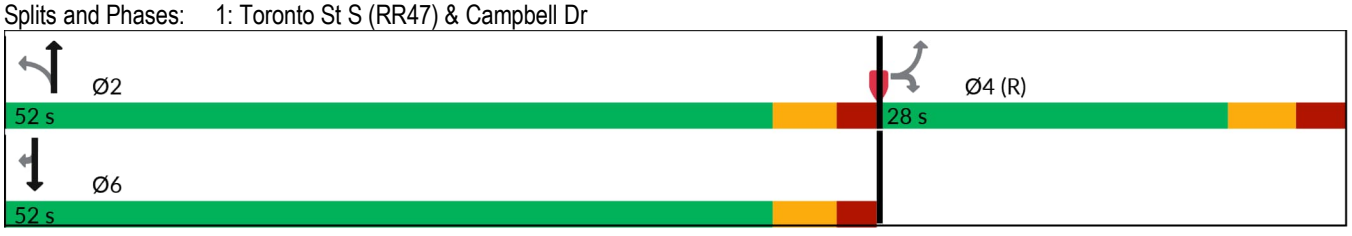
Future Background

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	22	42	330	489	64
Future Volume (vph)	21	22	42	330	489	64
Lane Group Flow (vph)	23	24	47	367	543	71
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	25.0	25.0	42.2	42.2	42.2	42.2
Total Split (s)	28.0	28.0	52.0	52.0	52.0	52.0
Total Split (%)	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	4.0	4.0	3.9	3.9	3.9	3.9
All-Red Time (s)	3.0	3.0	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	Max	Max
v/c Ratio	0.05	0.06	0.13	0.36	0.52	0.09
Control Delay (s/veh)	22.6	9.9	9.1	10.4	12.6	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.6	9.9	9.1	10.4	12.6	4.5
Queue Length 50th (m)	2.8	0.0	3.4	30.0	48.9	2.1
Queue Length 95th (m)	8.4	5.9	9.0	47.7	75.2	7.7
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	452	387	356	1024	1054	828
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.06	0.13	0.36	0.52	0.09

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 24 (30%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	22	42	330	489	64
Future Volume (vph)	21	22	42	330	489	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1725	1410	1578	1789	1842	1417
Flt Permitted	0.95	1.00	0.38	1.00	1.00	1.00
Satd. Flow (perm)	1725	1410	623	1789	1842	1417
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	23	24	47	367	543	71
RTOR Reduction (vph)	0	18	0	0	0	17
Lane Group Flow (vph)	23	6	47	367	543	54
Confl. Peds. (#/hr)		1	6			6
Heavy Vehicles (%)	0%	7%	9%	5%	2%	6%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	21.0	21.0	45.8	45.8	45.8	45.8
Effective Green, g (s)	21.0	21.0	45.8	45.8	45.8	45.8
Actuated g/C Ratio	0.26	0.26	0.57	0.57	0.57	0.57
Clearance Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	452	370	356	1024	1054	811
v/s Ratio Prot				0.21	c0.29	
v/s Ratio Perm	c0.01	0.00	0.08			0.04
v/c Ratio	0.05	0.02	0.13	0.36	0.52	0.07
Uniform Delay, d1	22.1	21.9	7.9	9.2	10.4	7.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.1	0.2	0.2	1.8	0.2
Delay (s)	22.3	21.9	8.1	9.4	12.2	7.8
Level of Service	C	C	A	A	B	A
Approach Delay (s/veh)	22.1			9.3	11.7	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	35	11	340	518	2
Future Vol, veh/h	20	35	11	340	518	2
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	45	0	0	5	26	0
Mvmt Flow	25	43	14	420	640	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1092	644	645	0	-	0
Stage 1	644	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.85	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.85	-	-	-	-	-
Critical Hdwy Stg 2	5.85	-	-	-	-	-
Follow-up Hdwy	3.905	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	197	476	950	-	-	-
Stage 1	450	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	194	475	948	-	-	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	442	-	-	-	-	-
Stage 2	562	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	19.8	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	948	-	311	-	-
HCM Lane V/C Ratio	0.014	-	0.218	-	-
HCM Ctrl Dly (s/v)	8.9	-	19.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0	-	0.8	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	4	7	6	2	6
Future Vol, veh/h	49	4	7	6	2	6
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	6	11	9	3	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	81	0	109	79
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	31	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1529	-	893	987
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	997	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1529	-	887	986
Mov Cap-2 Maneuver	-	-	-	-	887	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	4	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	959	-	-	1529	-
HCM Lane V/C Ratio	0.013	-	-	0.007	-
HCM Ctrl Dly (s/v)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	10	39	7	1
Future Vol, veh/h	0	12	10	39	7	1
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	5	14	0
Mvmt Flow	0	16	13	52	9	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	67	0	-	0	57	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.54	6.2
Critical Hdwy Stg 1	-	-	-	-	5.54	-
Critical Hdwy Stg 2	-	-	-	-	5.54	-
Follow-up Hdwy	2.2	-	-	-	3.626	3.3
Pot Cap-1 Maneuver	1547	-	-	-	921	1036
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	977	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1545	-	-	-	920	1035
Mov Cap-2 Maneuver	-	-	-	-	920	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1545	-	-	-	933
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Ctrl Dly (s/v)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	19	0	2	40	15	0	0	0	5	0	9
Future Vol, veh/h	0	19	0	2	40	15	0	0	0	5	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	5	0	0	3	0	0	0	0	0	0	11
Mvmt Flow	0	25	0	3	53	20	0	0	0	7	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	73	0	0	25	0	0	100	104	26	95	94	63
Stage 1	-	-	-	-	-	-	25	25	-	69	69	-
Stage 2	-	-	-	-	-	-	75	79	-	26	25	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1540	-	-	1603	-	-	886	790	1056	893	800	977
Stage 1	-	-	-	-	-	-	998	878	-	946	841	-
Stage 2	-	-	-	-	-	-	939	833	-	997	878	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1540	-	-	1603	-	-	874	788	1055	891	798	977
Mov Cap-2 Maneuver	-	-	-	-	-	-	874	788	-	891	798	-
Stage 1	-	-	-	-	-	-	998	878	-	946	839	-
Stage 2	-	-	-	-	-	-	926	831	-	996	878	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0.3	0	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1540	-	-	1603	-	-	944
HCM Lane V/C Ratio	-	-	-	-	0.002	-	-	0.02
HCM Ctrl Dly (s/v)	0	0	-	-	7.3	0	-	8.9
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q (veh)	-	0	-	-	0	-	-	0.1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	44	33	780	492	44
Future Volume (vph)	60	44	33	780	492	44
Lane Group Flow (vph)	61	45	34	796	502	45
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	23.5	23.5	42.2	42.2	42.2	42.2
Total Split (s)	30.4	30.4	49.6	49.6	49.6	49.6
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.9	3.9
All-Red Time (s)	1.9	1.9	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	None	None
v/c Ratio	0.10	0.08	0.11	0.87	0.55	0.06
Control Delay (s/veh)	19.8	7.1	10.2	29.3	16.0	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.8	7.1	10.2	29.3	16.0	5.4
Queue Length 50th (m)	6.8	0.0	2.6	101.8	50.2	1.5
Queue Length 95th (m)	15.8	7.4	7.1	149.9	73.5	6.1
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	605	533	348	999	999	786
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.08	0.10	0.80	0.50	0.06

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 28 (35%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	60	44	33	780	492	44
Future Volume (vph)	60	44	33	780	492	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1691	1410	1669	1842	1842	1429
Flt Permitted	0.95	1.00	0.37	1.00	1.00	1.00
Satd. Flow (perm)	1691	1410	643	1842	1842	1429
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	45	34	796	502	45
RTOR Reduction (vph)	0	29	0	0	0	13
Lane Group Flow (vph)	61	16	34	796	502	32
Confl. Peds. (#/hr)		1	7			7
Heavy Vehicles (%)	2%	7%	3%	2%	2%	5%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	28.6	28.6	39.7	39.7	39.7	39.7
Effective Green, g (s)	28.6	28.6	39.7	39.7	39.7	39.7
Actuated g/C Ratio	0.36	0.36	0.50	0.50	0.50	0.50
Clearance Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	604	504	319	914	914	709
v/s Ratio Prot				c0.43	0.27	
v/s Ratio Perm	c0.04	0.01	0.05			0.02
v/c Ratio	0.10	0.03	0.11	0.87	0.55	0.05
Uniform Delay, d1	17.1	16.7	10.7	17.9	14.0	10.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	0.1	9.1	0.7	0.0
Delay (s)	17.5	16.8	10.9	27.0	14.6	10.4
Level of Service	B	B	B	C	B	B
Approach Delay (s/veh)	17.2			26.3	14.3	
Approach LOS	B			C	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	15	21	819	521	2
Future Vol, veh/h	2	15	21	819	521	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	7	0	1	3	50
Mvmt Flow	2	16	22	871	554	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1470	555	556	0	-	0
Stage 1	555	-	-	-	-	-
Stage 2	915	-	-	-	-	-
Critical Hdwy	6.4	6.27	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.363	2.2	-	-	-
Pot Cap-1 Maneuver	142	522	1025	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	394	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	139	522	1025	-	-	-
Mov Cap-2 Maneuver	139	-	-	-	-	-
Stage 1	567	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.6	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1025	-	394	-	-
HCM Lane V/C Ratio	0.022	-	0.046	-	-
HCM Ctrl Dly (s/v)	8.6	-	14.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	2	1	22	3	5
Future Vol, veh/h	12	2	1	22	3	5
Conflicting Peds, #/hr	0	0	0	0	5	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	3	1	31	4	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	57	23
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1609	-	955	1060
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	990	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1609	-	950	1057
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.3	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1014	-	-	1609	-
HCM Lane V/C Ratio	0.011	-	-	0.001	-
HCM Ctrl Dly (s/v)	8.6	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	15	21	8	26	0
Future Vol, veh/h	0	15	21	8	26	0
Conflicting Peds, #/hr	2	0	0	2	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	20	28	11	34	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	41	0	-	0	57	36
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1581	-	-	-	955	1042
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1579	-	-	-	953	1041
Mov Cap-2 Maneuver	-	-	-	-	953	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	1006	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1579	-	-	-	953
HCM Lane V/C Ratio	-	-	-	-	0.036
HCM Ctrl Dly (s/v)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Future Vol, veh/h	4	37	0	4	27	14	0	0	1	14	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	4	0	0	0	0	0	0	0
Mvmt Flow	5	45	0	5	33	17	0	0	1	17	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	50	0	0	45	0	0	108	115	45	108	107	42
Stage 1	-	-	-	-	-	-	55	55	-	52	52	-
Stage 2	-	-	-	-	-	-	53	60	-	56	55	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1570	-	-	1576	-	-	876	779	1031	876	787	1034
Stage 1	-	-	-	-	-	-	962	853	-	966	856	-
Stage 2	-	-	-	-	-	-	965	849	-	961	853	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1570	-	-	1576	-	-	870	774	1031	871	782	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	870	774	-	871	782	-
Stage 1	-	-	-	-	-	-	959	850	-	963	853	-
Stage 2	-	-	-	-	-	-	960	846	-	957	850	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.7	0.6	8.5	9.1
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1031	1570	-	-	1576	-	-	889
HCM Lane V/C Ratio	0.001	0.003	-	-	0.003	-	-	0.022
HCM Ctrl Dly (s/v)	8.5	7.3	0	-	7.3	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.1

Future Background SimTraffic

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1081	1159	1116	1120	1116	1118
Vehs Exited	1079	1151	1112	1125	1119	1118
Starting Vehs	35	21	27	36	33	27
Ending Vehs	37	29	31	31	30	31
Travel Distance (km)	1214	1299	1236	1266	1250	1253
Travel Time (hr)	31.7	34.4	32.0	33.3	32.6	32.8
Total Delay (hr)	4.5	5.3	4.5	4.8	4.7	4.8
Total Stops	481	542	491	509	501	504
Fuel Used (l)	92.7	99.8	94.1	96.9	95.3	95.7

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:45
End Time	8:45
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1081	1159	1116	1120	1116	1118
Vehs Exited	1079	1151	1112	1125	1119	1118
Starting Vehs	35	21	27	36	33	27
Ending Vehs	37	29	31	31	30	31
Travel Distance (km)	1214	1299	1236	1266	1250	1253
Travel Time (hr)	31.7	34.4	32.0	33.3	32.6	32.8
Total Delay (hr)	4.5	5.3	4.5	4.8	4.7	4.8
Total Stops	481	542	491	509	501	504
Fuel Used (l)	92.7	99.8	94.1	96.9	95.3	95.7

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Denied Del/Veh (s)	2.1	0.1	1.8	0.3	0.9	2.1	0.8
Total Delay (hr)	0.1	0.0	0.2	1.0	1.3	0.1	2.8
Total Del/Veh (s)	24.6	5.7	22.0	10.1	8.1	2.8	9.1

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.5	0.6	0.3
Total Delay (hr)	0.1	0.0	0.1	0.0	0.1	0.5	0.0	0.7
Total Del/Veh (s)	12.1	0.2	6.4	4.9	1.1	3.4	5.0	2.8

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.1	2.2	0.4	4.4	2.1	0.5

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.2	0.1	3.6	2.0	0.6

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBT	WBL	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3	2.4	0.6	0.6	4.2	2.5	0.8

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	1.0
Total Delay (hr)	4.5
Total Del/Veh (s)	14.0

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	10.1	53.7	0.6	42	41	10.5
Victoria Dr	2	1.1	9.7	0.1	33	32	1.2
Total		11.2	63.5	0.7	40	40	11.6

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	41	10.4	42	9.6	41	10.4	42
Victoria Dr	32	1.2	33	1.1	33	1.1	33
Total	40	11.6	41	10.7	40	11.5	40

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.4	63.7	0.7	39	39	3.6
Campbell Dr	1	7.9	15.5	0.1	22	22	7.5
Total		11.2	79.2	0.8	36	36	11.0

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	3.2	39	3.2	39	3.7	39
Campbell Dr	21	8.7	23	7.4	22	7.8	22
Total	35	11.9	36	10.7	35	11.5	36

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	15.9	13.7	30.8	56.7	76.9	59.8
Average Queue (m)	4.5	4.3	8.3	26.1	39.7	8.5
95th Queue (m)	12.7	13.0	22.5	47.5	67.4	28.9
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					1	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)			0	5	24	0
Queuing Penalty (veh)			1	2	15	1

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	30.1	13.0	14.5
Average Queue (m)	10.5	1.7	0.9
95th Queue (m)	22.2	8.0	7.4
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	3.7	8.7
Average Queue (m)	0.1	1.9
95th Queue (m)	1.9	7.9
Link Distance (m)	69.9	29.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	10.1
Average Queue (m)	2.2
95th Queue (m)	8.6
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (m)	1.8	11.2
Average Queue (m)	0.1	3.2
95th Queue (m)	1.3	10.3
Link Distance (m)	126.5	40.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 21

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	45.8	21.0	45.8
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	Max
Avg. Green (s)	45.8	21.0	45.8
g/C Ratio	0.57	0.26	0.57
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	0	11

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:00	4:00	4:00	4:00	4:00	4:00
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1454	1534	1430	1466	1539	1483
Vehs Exited	1454	1551	1444	1450	1515	1483
Starting Vehs	65	70	56	44	55	58
Ending Vehs	65	53	42	60	79	57
Travel Distance (km)	1878	2004	1850	1875	1959	1913
Travel Time (hr)	53.0	57.2	52.8	54.6	56.8	54.9
Total Delay (hr)	11.9	13.6	12.4	13.5	14.0	13.1
Total Stops	993	1121	1044	1123	1149	1084
Fuel Used (l)	145.0	156.7	144.2	146.8	151.9	148.9

Interval #0 Information Seeding

Start Time	4:00
End Time	4:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1454	1534	1430	1466	1539	1483
Vehs Exited	1454	1551	1444	1450	1515	1483
Starting Vehs	65	70	56	44	55	58
Ending Vehs	65	53	42	60	79	57
Travel Distance (km)	1878	2004	1850	1875	1959	1913
Travel Time (hr)	53.0	57.2	52.8	54.6	56.8	54.9
Total Delay (hr)	11.9	13.6	12.4	13.5	14.0	13.1
Total Stops	993	1121	1044	1123	1149	1084
Fuel Used (l)	145.0	156.7	144.2	146.8	151.9	148.9

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.2
Denied Del/Veh (s)	1.9	0.1	1.6	0.8	0.1	0.1	0.6
Total Delay (hr)	0.3	0.1	0.4	6.9	2.1	0.1	9.8
Total Del/Veh (s)	17.5	7.2	43.9	31.3	15.1	3.8	23.9

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.5	0.3	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.5	0.0	1.0
Total Del/Veh (s)	24.3	0.1	5.7	5.2	1.8	3.5	3.3	2.6

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.0	1.3	0.4	3.8	2.2	0.6

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.1	0.1	3.9	1.4

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0		0.1	0.2	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.9	0.4	2.2	0.7	0.6		3.6	2.5	1.0

Total Network Performance

Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.8
Total Delay (hr)	12.8
Total Del/Veh (s)	29.9

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	31.3	75.4	0.6	30	32	25.8
Victoria Dr	2	1.9	10.6	0.1	30	30	1.8
Total		33.1	86.0	0.7	30	32	27.6

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	30	31.9	30	30.9	29	33.4	29
Victoria Dr	30	2.0	30	1.9	30	1.9	30
Total	30	33.9	30	32.8	29	35.3	29

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.5	63.8	0.7	39	39	3.4
Campbell Dr	1	15.1	23.3	0.1	14	13	17.0
Total		18.5	87.1	0.8	32	32	20.4

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	3.3	38	4.1	38	3.2	38
Campbell Dr	15	13.3	14	14.8	13	16.0	14
Total	33	16.6	32	18.9	31	19.3	32

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	23.2	19.8	64.8	189.6	80.0	46.7
Average Queue (m)	8.8	6.6	13.0	101.8	47.8	7.6
95th Queue (m)	19.1	16.5	44.0	169.1	76.5	28.9
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					6	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)	0			36	34	0
Queuing Penalty (veh)	0			12	15	2

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	13.4	10.4	48.4
Average Queue (m)	4.0	2.8	3.2
95th Queue (m)	11.9	9.8	23.2
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	NB
Directions Served	LR
Maximum Queue (m)	8.8
Average Queue (m)	1.8
95th Queue (m)	7.6
Link Distance (m)	29.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	9.0
Average Queue (m)	5.2
95th Queue (m)	12.3
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	1.8	3.4	10.3
Average Queue (m)	0.1	0.1	3.6
95th Queue (m)	1.3	1.7	10.7
Link Distance (m)	41.0	90.0	40.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 36

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	43.4	24.9	43.4
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	None
Avg. Green (s)	38.7	29.7	38.7
g/C Ratio	0.48	0.37	0.48
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	58	100	58
Cycles with Peds (%)	0	0	11

Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

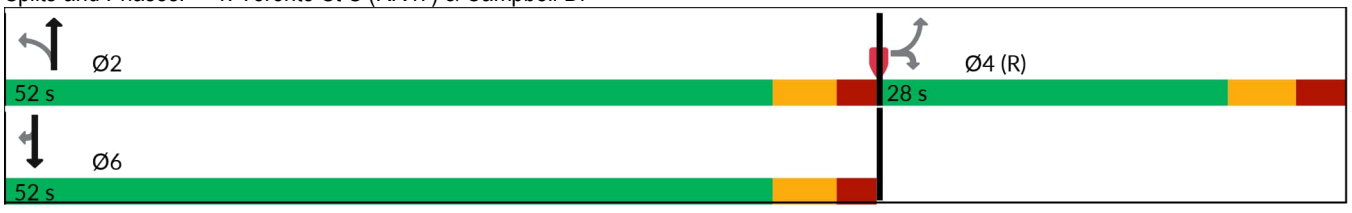
Future Total

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	34	96	332	499	140
Future Volume (vph)	33	34	96	332	499	140
Lane Group Flow (vph)	37	38	107	369	554	156
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	25.0	25.0	42.2	42.2	42.2	42.2
Total Split (s)	28.0	28.0	52.0	52.0	52.0	52.0
Total Split (%)	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	4.0	4.0	3.9	3.9	3.9	3.9
All-Red Time (s)	3.0	3.0	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	Max	Max
v/c Ratio	0.08	0.09	0.29	0.36	0.52	0.18
Control Delay (s/veh)	22.9	8.6	11.4	10.4	12.6	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.9	8.6	11.4	10.4	12.6	4.5
Queue Length 50th (m)	4.5	0.0	8.2	29.9	49.9	4.8
Queue Length 95th (m)	11.7	7.2	18.5	47.5	76.4	13.1
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	452	408	369	1034	1064	879
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.09	0.29	0.36	0.52	0.18

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 24 (30%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	34	96	332	499	140
Future Volume (vph)	33	34	96	332	499	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1725	1451	1670	1807	1860	1473
Flt Permitted	0.95	1.00	0.37	1.00	1.00	1.00
Satd. Flow (perm)	1725	1451	645	1807	1860	1473
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	37	38	107	369	554	156
RTOR Reduction (vph)	0	28	0	0	0	36
Lane Group Flow (vph)	37	10	107	369	554	120
Confl. Peds. (#/hr)		1	6			6
Heavy Vehicles (%)	0%	4%	3%	4%	1%	2%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	21.0	21.0	45.8	45.8	45.8	45.8
Effective Green, g (s)	21.0	21.0	45.8	45.8	45.8	45.8
Actuated g/C Ratio	0.26	0.26	0.57	0.57	0.57	0.57
Clearance Time (s)	7.0	7.0	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	452	380	369	1034	1064	843
v/s Ratio Prot				0.20	c0.30	
v/s Ratio Perm	c0.02	0.01	0.17			0.08
v/c Ratio	0.08	0.03	0.29	0.36	0.52	0.14
Uniform Delay, d1	22.2	21.9	8.8	9.2	10.4	8.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.1	0.4	0.2	1.8	0.4
Delay (s)	22.6	22.0	9.2	9.4	12.2	8.3
Level of Service	C	C	A	A	B	A
Approach Delay (s/veh)	22.3			9.4	11.4	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	45	13	352	594	17
Future Vol, veh/h	22	45	13	352	594	17
Conflicting Peds, #/hr	0	0	3	0	0	3
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	40	0	0	4	22	0
Mvmt Flow	27	56	16	435	733	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1214	747	757	0	-	0
Stage 1	747	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Critical Hdwy	6.8	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.86	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	168	416	863	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	164	415	861	-	-	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	398	-	-	-	-	-
Stage 2	559	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	23.5	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	861	-	276	-	-
HCM Lane V/C Ratio	0.019	-	0.3	-	-
HCM Ctrl Dly (s/v)	9.3	-	23.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.1	-	1.2	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	13	24	6	6	18
Future Vol, veh/h	49	13	24	6	6	18
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	65	65	65	65	65	65
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	75	20	37	9	9	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	95	0	168	86
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	83	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1512	-	827	978
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	945	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1512	-	806	977
Mov Cap-2 Maneuver	-	-	-	-	806	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	921	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	6	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	928	-	-	1512	-
HCM Lane V/C Ratio	0.04	-	-	0.024	-
HCM Ctrl Dly (s/v)	9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	28	133	21	3
Future Vol, veh/h	0	12	28	133	21	3
Conflicting Peds, #/hr	2	0	0	2	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	1	4	0
Mvmt Flow	0	16	37	177	28	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	216	0	-	0	144	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	16	-
Critical Hdwy	4.1	-	-	-	6.44	6.2
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	2.2	-	-	-	3.536	3.3
Pot Cap-1 Maneuver	1366	-	-	-	844	927
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	1002	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1364	-	-	-	843	926
Mov Cap-2 Maneuver	-	-	-	-	843	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	1002	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1364	-	-	-	853
HCM Lane V/C Ratio	-	-	-	-	0.038
HCM Ctrl Dly (s/v)	0	-	-	-	9.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	33	0	2	134	51	0	0	0	15	0	27
Future Vol, veh/h	0	33	0	2	134	51	0	0	0	15	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	75	75	75	75	75	75	75	75	75
Heavy Vehicles, %	0	2	0	0	0	0	0	0	0	0	0	3
Mvmt Flow	0	44	0	3	179	68	0	0	0	20	0	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	44	0	0	281	297	45	264	263	213
Stage 1	-	-	-	-	-	-	44	44	-	219	219	-
Stage 2	-	-	-	-	-	-	237	253	-	45	44	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.327
Pot Cap-1 Maneuver	1331	-	-	1577	-	-	675	618	1031	693	646	825
Stage 1	-	-	-	-	-	-	975	862	-	788	726	-
Stage 2	-	-	-	-	-	-	771	701	-	974	862	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1331	-	-	1577	-	-	645	617	1030	692	645	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	645	617	-	692	645	-
Stage 1	-	-	-	-	-	-	975	862	-	788	725	-
Stage 2	-	-	-	-	-	-	736	700	-	973	862	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0	0.1	0	10
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1331	-	-	1577	-	-	772
HCM Lane V/C Ratio	-	-	-	-	0.002	-	-	0.073
HCM Ctrl Dly (s/v)	0	0	-	-	7.3	0	-	10
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q (veh)	-	0	-	-	0	-	-	0.2

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	87	58	782	505	81
Future Volume (vph)	117	87	58	782	505	81
Lane Group Flow (vph)	119	89	59	798	515	83
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	20.0	20.0	20.0	20.0
Minimum Split (s)	23.5	23.5	42.2	42.2	42.2	42.2
Total Split (s)	30.4	30.4	49.6	49.6	49.6	49.6
Total Split (%)	38.0%	38.0%	62.0%	62.0%	62.0%	62.0%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.9	3.9
All-Red Time (s)	1.9	1.9	2.3	2.3	2.3	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None	None	None	None
v/c Ratio	0.19	0.15	0.19	0.87	0.56	0.11
Control Delay (s/veh)	20.5	5.7	11.6	28.8	16.2	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.5	5.7	11.6	28.8	16.2	5.3
Queue Length 50th (m)	13.6	0.0	4.7	101.0	51.5	2.8
Queue Length 95th (m)	27.0	10.1	11.2	147.9	75.0	9.0
Internal Link Dist (m)	124.6			593.6	63.9	
Turn Bay Length (m)	30.0		30.0			15.0
Base Capacity (vph)	613	583	343	1009	1009	819
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.15	0.17	0.79	0.51	0.10

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 28 (35%), Referenced to phase 4:EBL and 8:, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated

Splits and Phases: 1: Toronto St S (RR47) & Campbell Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	87	58	782	505	81
Future Volume (vph)	117	87	58	782	505	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.2	3.2	3.2	3.5	3.5	3.2
Total Lost time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1708	1465	1702	1860	1860	1471
Flt Permitted	0.95	1.00	0.35	1.00	1.00	1.00
Satd. Flow (perm)	1708	1465	634	1860	1860	1471
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	119	89	59	798	515	83
RTOR Reduction (vph)	0	57	0	0	0	23
Lane Group Flow (vph)	119	32	59	798	515	60
Confl. Peds. (#/hr)		1	7			7
Heavy Vehicles (%)	1%	3%	1%	1%	1%	2%
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	28.7	28.7	39.6	39.6	39.6	39.6
Effective Green, g (s)	28.7	28.7	39.6	39.6	39.6	39.6
Actuated g/C Ratio	0.36	0.36	0.50	0.50	0.50	0.50
Clearance Time (s)	5.5	5.5	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	612	525	313	920	920	728
v/s Ratio Prot				c0.43	0.28	
v/s Ratio Perm	c0.07	0.02	0.09			0.04
v/c Ratio	0.19	0.06	0.19	0.87	0.56	0.08
Uniform Delay, d1	17.7	16.8	11.3	17.9	14.1	10.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.3	8.7	0.7	0.0
Delay (s)	18.4	17.0	11.5	26.5	14.9	10.7
Level of Service	B	B	B	C	B	B
Approach Delay (s/veh)	17.8			25.5	14.3	
Approach LOS	B			C	B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	72.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	28	23	876	558	2
Future Vol, veh/h	2	28	23	876	558	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	15	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	0	0	2	50
Mvmt Flow	2	30	24	932	594	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1575	595	596	0	-	0
Stage 1	595	-	-	-	-	-
Stage 2	980	-	-	-	-	-
Critical Hdwy	6.4	6.23	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	2.2	-	-	-
Pot Cap-1 Maneuver	122	502	990	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	119	502	990	-	-	-
Mov Cap-2 Maneuver	119	-	-	-	-	-
Stage 1	542	-	-	-	-	-
Stage 2	367	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	14.4	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	990	-	413	-	-
HCM Lane V/C Ratio	0.025	-	0.077	-	-
HCM Ctrl Dly (s/v)	8.7	-	14.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	12	7	3	22	10	18
Future Vol, veh/h	12	7	3	22	10	18
Conflicting Peds, #/hr	0	0	0	0	5	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	17	10	4	31	14	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	27	0	66	26
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	44	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1600	-	944	1056
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	984	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1600	-	937	1053
Mov Cap-2 Maneuver	-	-	-	-	937	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	977	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0	0.9	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1008	-	-	1600	-
HCM Lane V/C Ratio	0.039	-	-	0.003	-
HCM Ctrl Dly (s/v)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q (veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	26	31	91	0
Future Vol, veh/h	0	27	26	31	91	0
Conflicting Peds, #/hr	2	0	0	2	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	36	34	41	120	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	94	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1535	-	-	-	911	1015
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	991	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1533	-	-	-	909	1014
Mov Cap-2 Maneuver	-	-	-	-	909	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1533	-	-	-	909
HCM Lane V/C Ratio	-	-	-	-	0.132
HCM Ctrl Dly (s/v)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q (veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	102	0	4	50	53	0	0	1	49	0	7
Future Vol, veh/h	16	102	0	4	50	53	0	0	1	49	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	0	2	0	0	0	0	0	0	0
Mvmt Flow	19	123	0	5	60	64	0	0	1	59	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	124	0	0	123	0	0	267	295	123	264	263	92
Stage 1	-	-	-	-	-	-	161	161	-	102	102	-
Stage 2	-	-	-	-	-	-	106	134	-	162	161	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1475	-	-	1477	-	-	690	620	933	693	646	971
Stage 1	-	-	-	-	-	-	846	769	-	909	815	-
Stage 2	-	-	-	-	-	-	905	789	-	845	769	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1475	-	-	1477	-	-	675	609	933	683	634	971
Mov Cap-2 Maneuver	-	-	-	-	-	-	675	609	-	683	634	-
Stage 1	-	-	-	-	-	-	834	758	-	896	812	-
Stage 2	-	-	-	-	-	-	894	786	-	832	758	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1	0.3	8.9	10.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	933	1475	-	-	1477	-	-	709
HCM Lane V/C Ratio	0.001	0.013	-	-	0.003	-	-	0.095
HCM Ctrl Dly (s/v)	8.9	7.5	0	-	7.4	0	-	10.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q (veh)	0	0	-	-	0	-	-	0.3

Future Total SimTraffic

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	7:15	7:15	7:15	7:15	7:15	7:15
End Time	8:45	8:45	8:45	8:45	8:45	8:45
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1335	1336	1391	1365	1345	1352
Vehs Exited	1330	1338	1413	1371	1355	1362
Starting Vehs	33	33	55	37	42	39
Ending Vehs	38	31	33	31	32	31
Travel Distance (km)	1410	1430	1483	1455	1443	1444
Travel Time (hr)	38.2	38.7	40.3	38.9	39.1	39.0
Total Delay (hr)	5.8	5.9	6.4	5.8	6.0	6.0
Total Stops	666	672	704	680	691	682
Fuel Used (l)	110.4	112.0	115.8	112.9	112.5	112.7

Interval #0 Information Seeding

Start Time	7:15
End Time	7:45
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:45
End Time	8:45
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1335	1336	1391	1365	1345	1352
Vehs Exited	1330	1338	1413	1371	1355	1362
Starting Vehs	33	33	55	37	42	39
Ending Vehs	38	31	33	31	32	31
Travel Distance (km)	1410	1430	1483	1455	1443	1444
Travel Time (hr)	38.2	38.7	40.3	38.9	39.1	39.0
Total Delay (hr)	5.8	5.9	6.4	5.8	6.0	6.0
Total Stops	666	672	704	680	691	682
Fuel Used (l)	110.4	112.0	115.8	112.9	112.5	112.7

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1	0.3
Denied Del/Veh (s)	1.5	0.0	1.5	0.4	0.8	1.6	0.9
Total Delay (hr)	0.2	0.1	0.7	0.9	1.4	0.1	3.4
Total Del/Veh (s)	25.7	6.6	25.7	9.8	7.8	3.4	9.6

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.7	0.8	0.4
Total Delay (hr)	0.1	0.0	0.1	0.0	0.1	0.7	0.0	1.0
Total Del/Veh (s)	13.1	0.2	8.9	6.2	1.1	4.0	3.8	3.4

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.0	2.0	0.2	3.5	2.4	1.0

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.1	0.6	0.4	3.8	2.5	0.8

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBT	WBL	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	0.5	2.2	0.9	0.8	4.6	2.8	1.2

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	1.1
Total Delay (hr)	5.5
Total Del/Veh (s)	14.3

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	9.8	53.3	0.6	42	42	10.1
Victoria Dr	2	1.1	9.7	0.1	33	33	1.1
Total		10.9	63.0	0.7	41	40	11.1

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	41	10.3	43	9.4	42	9.4	42
Victoria Dr	32	1.1	33	1.0	33	1.1	33
Total	40	11.4	41	10.5	41	10.5	40

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	4.0	64.8	0.7	38	38	3.9
Campbell Dr	1	7.6	15.3	0.1	22	23	6.9
Total		11.6	80.1	0.8	35	35	10.8

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	38	4.0	38	4.3	39	3.7	38
Campbell Dr	22	7.3	21	8.2	22	7.8	22
Total	35	11.2	35	12.5	35	11.5	35

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	18.7	20.3	38.2	51.8	76.3	52.8
Average Queue (m)	6.7	5.7	16.1	23.8	39.1	13.9
95th Queue (m)	16.3	15.1	29.9	45.8	65.8	35.5
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					1	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)		0	1	4	24	2
Queuing Penalty (veh)		0	3	3	34	9

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	23.2	11.7	19.4
Average Queue (m)	10.9	1.8	0.9
95th Queue (m)	20.2	8.1	9.7
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	7.4	13.0
Average Queue (m)	0.5	4.5
95th Queue (m)	4.1	12.1
Link Distance (m)	69.9	29.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	15.6
Average Queue (m)	5.5
95th Queue (m)	14.1
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	WB	SB
Directions Served	LTR	LTR
Maximum Queue (m)	1.8	15.7
Average Queue (m)	0.1	7.4
95th Queue (m)	1.3	14.5
Link Distance (m)	126.5	40.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 50

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	45.8	21.0	45.8
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	Max
Avg. Green (s)	45.8	21.0	45.8
g/C Ratio	0.57	0.26	0.57
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	100	100	100
Cycles with Peds (%)	0	2	11

Controller Summary
Average Cycle Length (s): 80.0
Number of Complete Cycles : 44

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:00	4:00	4:00	4:00	4:00	4:00
End Time	5:30	5:30	5:30	5:30	5:30	5:30
Total Time (min)	90	90	90	90	90	90
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	1690	1724	1681	1662	1684	1688
Vehs Exited	1703	1722	1699	1686	1699	1700
Starting Vehs	76	69	81	78	69	72
Ending Vehs	63	71	63	54	54	58
Travel Distance (km)	2096	2133	2084	2065	2092	2094
Travel Time (hr)	59.7	61.7	62.4	59.3	60.2	60.7
Total Delay (hr)	13.5	14.8	16.6	13.9	14.2	14.6
Total Stops	1250	1366	1517	1275	1337	1348
Fuel Used (l)	163.7	168.3	166.0	160.5	162.9	164.3

Interval #0 Information Seeding

Start Time	4:00
End Time	4:30
Total Time (min)	30

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	4:30
End Time	5:30
Total Time (min)	60

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1690	1724	1681	1662	1684	1688
Vehs Exited	1703	1722	1699	1686	1699	1700
Starting Vehs	76	69	81	78	69	72
Ending Vehs	63	71	63	54	54	58
Travel Distance (km)	2096	2133	2084	2065	2092	2094
Travel Time (hr)	59.7	61.7	62.4	59.3	60.2	60.7
Total Delay (hr)	13.5	14.8	16.6	13.9	14.2	14.6
Total Stops	1250	1366	1517	1275	1337	1348
Fuel Used (l)	163.7	168.3	166.0	160.5	162.9	164.3

1: Toronto St S (RR47) & Campbell Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.2	0.0	0.0	0.3
Denied Del/Veh (s)	1.2	0.2	1.8	0.9	0.0	0.1	0.6
Total Delay (hr)	0.6	0.2	0.7	7.2	2.1	0.1	10.8
Total Del/Veh (s)	19.4	7.3	42.5	31.4	14.9	4.0	23.4

2: Toronto St S (RR47) & Victoria Dr Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.1	0.5	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.5	0.0	1.1
Total Del/Veh (s)	21.0	0.1	6.6	5.3	1.7	3.5	1.0	2.5

3: Hospital N Dwy & Victoria Dr Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.0	1.5	0.5	3.4	2.3	1.3

4: Campbell Dr & Hospital SW Dwy Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	0.2	0.1	4.0	2.2

5: James Hill Ct./Hospital SE Dwy & Campbell Dr Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Total Del/Veh (s)	2.3	0.6	2.8	0.8	0.8	2.5	4.3	2.9	1.4

Total Network Performance

Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.8
Total Delay (hr)	14.2
Total Del/Veh (s)	29.1

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Campbell Dr	1	31.4	75.1	0.6	30	32	26.1
Victoria Dr	2	1.9	10.6	0.1	30	30	1.9
Total		33.3	85.7	0.7	30	32	28.0

Arterial Level of Service: NB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Campbell Dr	30	31.9	27	38.7	31	29.5	30
Victoria Dr	30	1.9	30	1.9	30	1.9	30
Total	30	33.8	28	40.6	31	31.4	30

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (km)	Arterial Speed	Run 1 Speed	Run 1 Delay
Victoria Dr	2	3.5	64.3	0.7	38	38	4.1
Campbell Dr	1	14.9	23.1	0.1	14	13	15.3
Total		18.4	87.4	0.8	32	31	19.4

Arterial Level of Service: SB Toronto St S (RR47)

Cross Street	Run 2 Speed	Run 2 Delay	Run 3 Speed	Run 3 Delay	Run 4 Speed	Run 4 Delay	Run 5 Speed
Victoria Dr	39	3.2	39	3.4	38	3.5	39
Campbell Dr	15	13.3	13	16.3	14	14.9	14
Total	33	16.5	31	19.7	32	18.4	32

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (m)	31.9	26.9	64.8	188.0	78.9	64.6
Average Queue (m)	14.4	10.1	22.8	104.2	48.0	14.6
95th Queue (m)	26.4	20.6	60.1	175.9	78.8	46.5
Link Distance (m)		126.5		604.2	75.6	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					7	
Storage Bay Dist (m)	30.0		30.0			15.0
Storage Blk Time (%)	0	0	0	36	33	1
Queuing Penalty (veh)	0	0	1	21	26	3

Intersection: 2: Toronto St S (RR47) & Victoria Dr

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	21.1	10.3	30.1
Average Queue (m)	6.3	3.2	2.0
95th Queue (m)	15.7	10.5	13.5
Link Distance (m)	69.9		671.0
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		15.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 3: Hospital N Dwy & Victoria Dr

Movement	NB
Directions Served	LR
Maximum Queue (m)	13.2
Average Queue (m)	5.9
95th Queue (m)	13.4
Link Distance (m)	29.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Campbell Dr & Hospital SW Dwy

Movement	SB
Directions Served	LR
Maximum Queue (m)	17.6
Average Queue (m)	9.1
95th Queue (m)	14.3
Link Distance (m)	52.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: James Hill Ct./Hospital SE Dwy & Campbell Dr

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	9.0	1.7	6.8	15.8
Average Queue (m)	0.7	0.1	0.3	7.9
95th Queue (m)	4.5	1.2	2.8	13.8
Link Distance (m)	41.0	126.5	90.0	40.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 60

Intersection: 1: Toronto St S (RR47) & Campbell Dr

Phase	2	4	6
Movement(s) Served	NBTL	EBL	SBT
Maximum Green (s)	43.4	24.9	43.4
Minimum Green (s)	20.0	7.0	20.0
Recall	None	C-Max	None
Avg. Green (s)	39.5	28.8	39.5
g/C Ratio	0.49	0.36	0.49
Cycles Skipped (%)	0	0	0
Cycles @ Minimum (%)	0	0	0
Cycles Maxed Out (%)	60	100	60
Cycles with Peds (%)	0	2	9

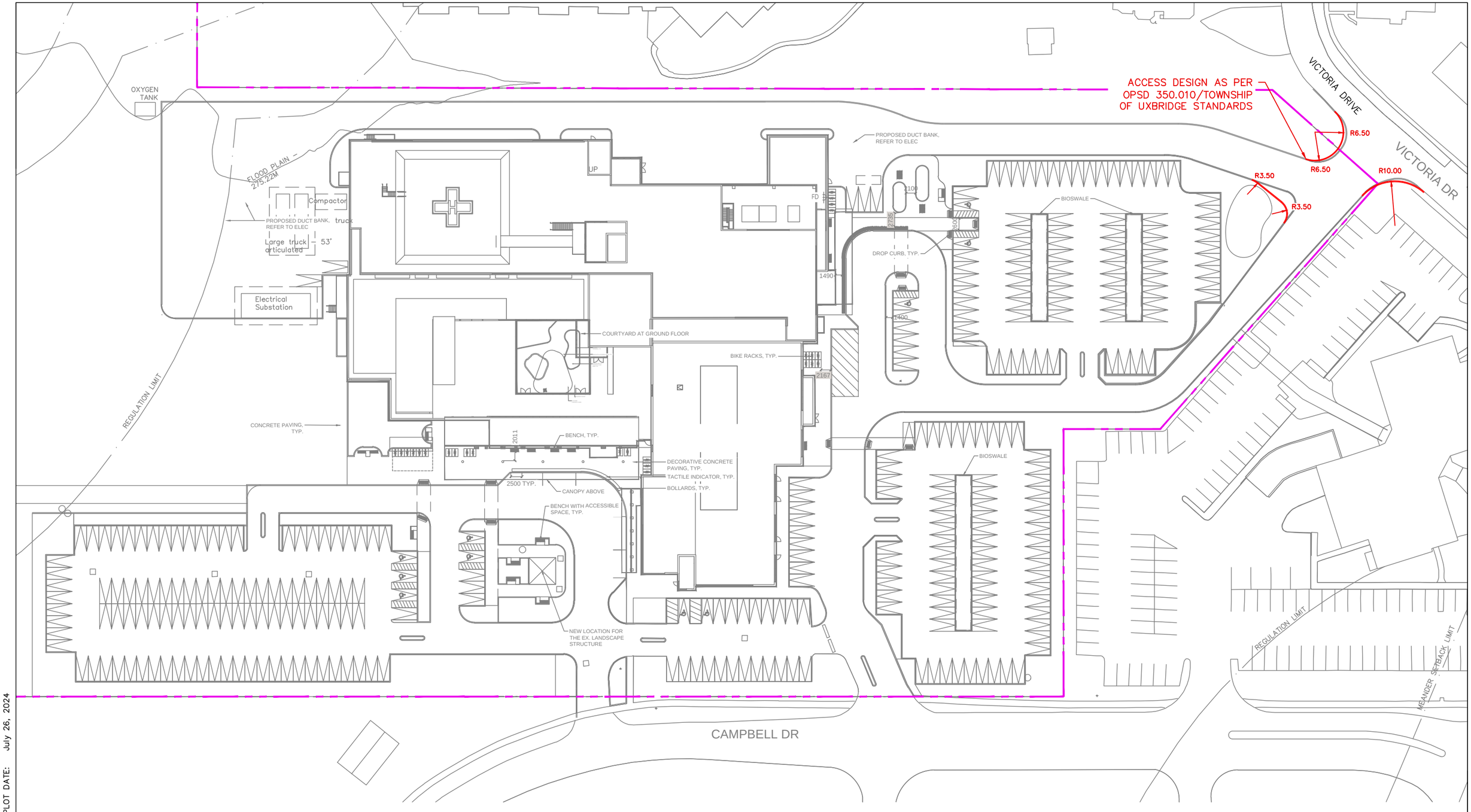
Controller Summary
Average Cycle Length (s): 80.0

Number of Complete Cycles : 44

APPENDIX I

Functional Design Review

Hospital
Functional Design Review



DRAWN BY: C.T. PLOT DATE: July 26, 2024

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 24138

Date JUL 26, 2024

DRAFT
FOR DISCUSSION

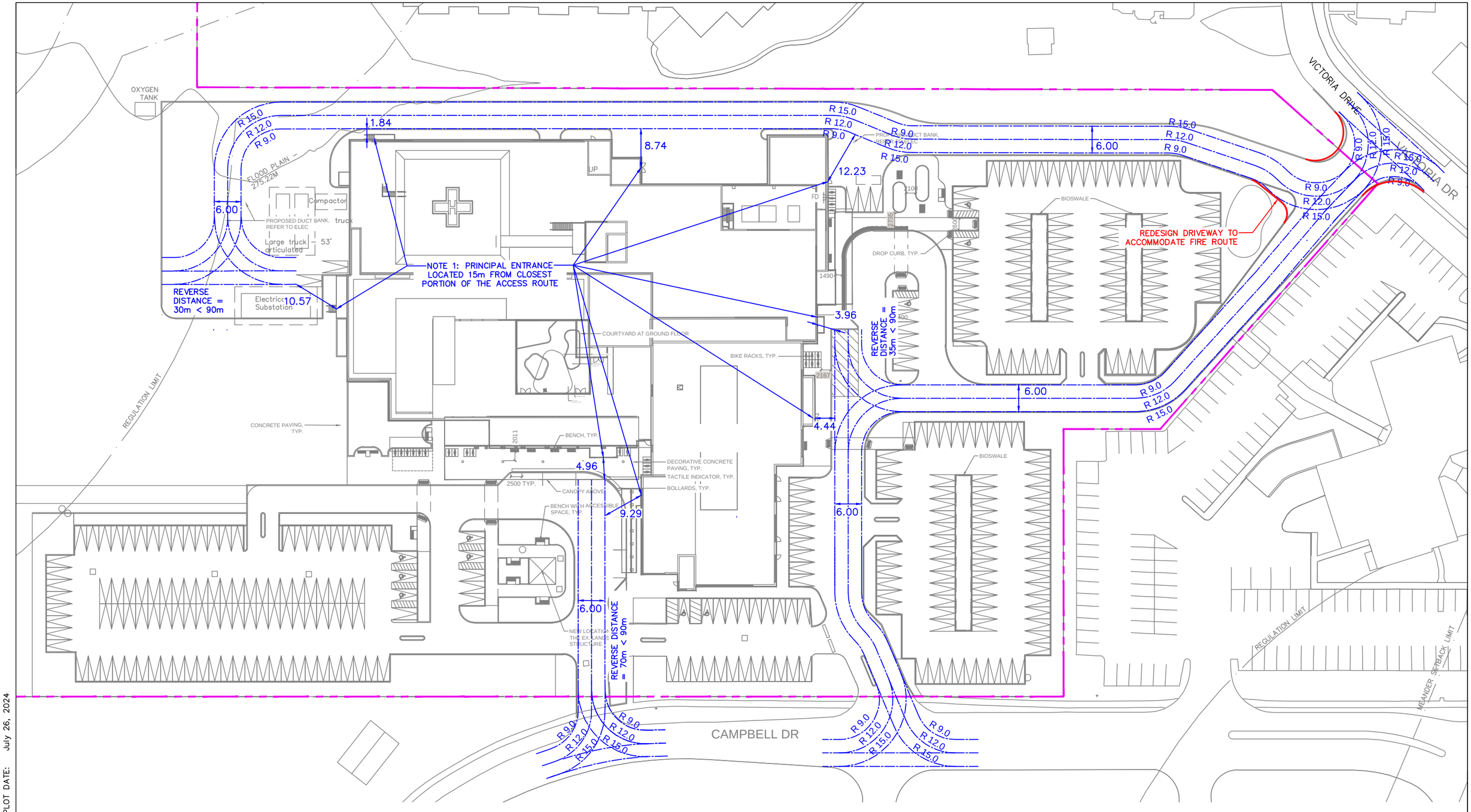
4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

8 0 8 16 24m
1:800

ACCESS REVIEW
GROUND FLOOR

Drawing No. 001

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten



DRAWN BY: C.T. PLOT DATE: July 26, 2024

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 24138

Date JUL 26, 2024

DRAFT
FOR DISCUSSION

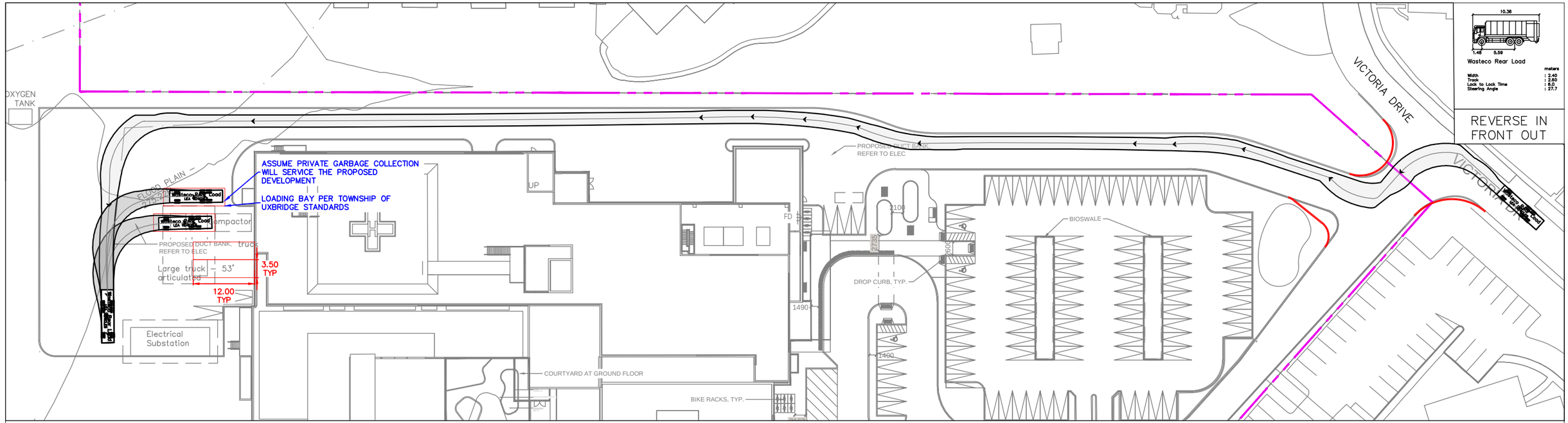
4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

8 0 8 16 24m
1:800

FIRE ROUTE

Drawing No. 006

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten



ENTRY PATH

EXIT PATH

PLOT DATE: July 26, 2024

DRAWN BY: C.T.

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 24138

Date JUL 26, 2024

DRAFT
FOR DISCUSSION

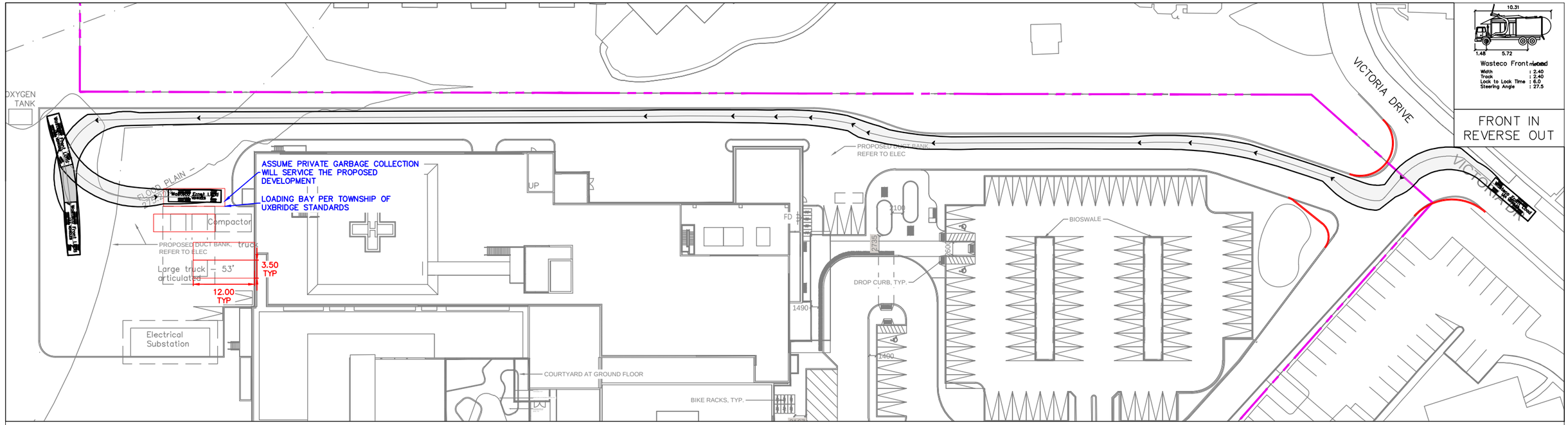
4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

7 0 7 14 21m
1: 700

PROPOSED DEVELOPMENT
REAR PACKER GARBAGE TRUCK ENTRY AND EXIT PATHS

Drawing No. 003

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten



DRAWN BY: C.T. PLOT DATE: July 26, 2024

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 24138

Date JUL 26, 2024

DRAFT
FOR DISCUSSION

4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

7 0 7 14 21m
1: 700

PROPOSED DEVELOPMENT
FRONT LOADER GARBAGE TRUCK ENTRY AND EXIT PATHS

Drawing No. 003

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten



ENTRY PATH

EXIT PATH

DRAWN BY: C.T. PLOT DATE: July 26, 2024

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 24138

Date JUL 26, 2024

DRAFT
FOR DISCUSSION

4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

7 0 7 14 21m
1: 700

PROPOSED DEVELOPMENT
WB-15 TRUCK
ENTRY AND EXIT PATHS

Drawing No. 005

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten



ENTRY PATH

EXIT PATH

DRAWN BY: C.T. PLOT DATE: July 26, 2024

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 24138

Date JUL 26, 2024

DRAFT
FOR DISCUSSION

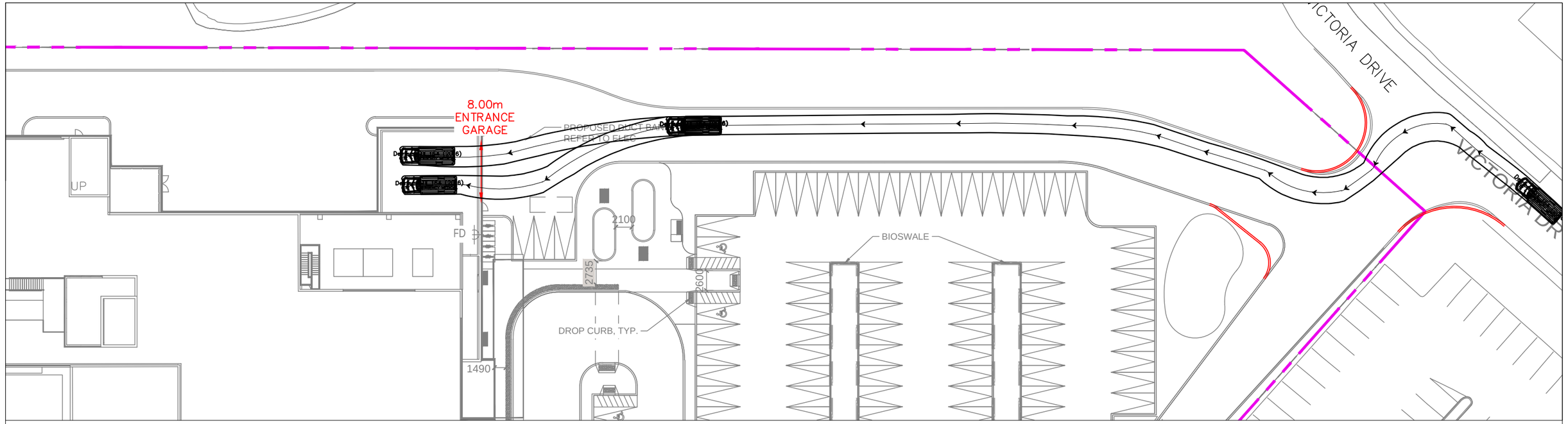
4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

7 0 7 14 21m
1: 700

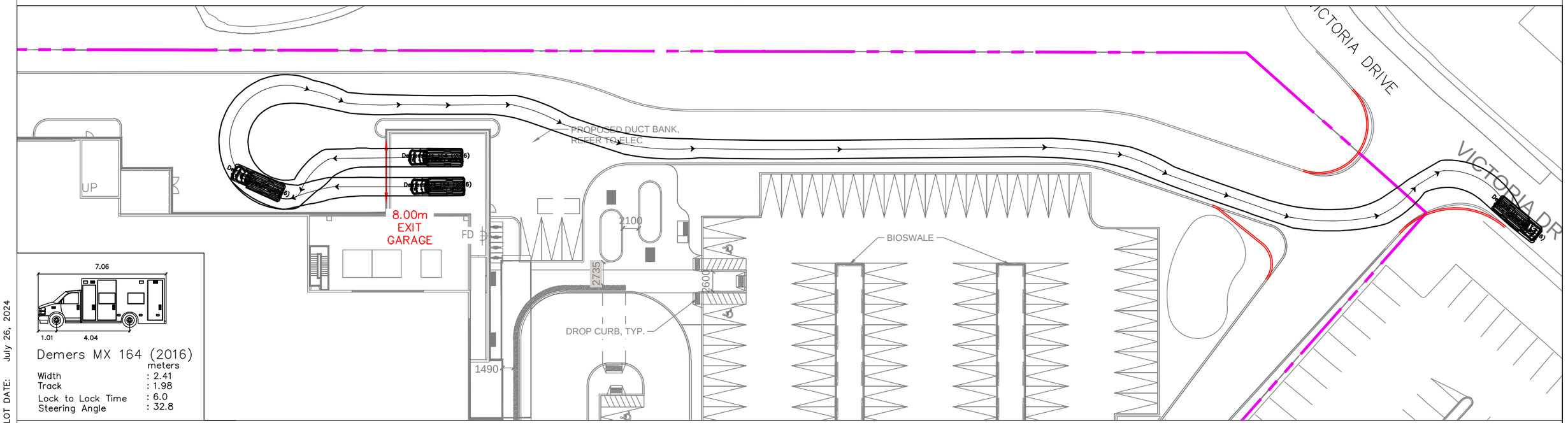
PROPOSED DEVELOPMENT
WB–20 TRUCK
ENTRY AND EXIT PATHS

Drawing No. 006

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten



ENTRY PATH



Demers MX 164 (2016)

	meters
Width	: 2.41
Track	: 1.98
Lock to Lock Time	: 6.0
Steering Angle	: 32.8

EXIT PATH

PLOT DATE: July 26, 2024

DRAWN BY: C.T.

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 24138

Date JUL 26, 2024

DRAFT
FOR DISCUSSION

4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

5 0 5 10 15m
1:500

AMBULANCE
ENTRY/EXIT PATHS

Drawing No. 007

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten

MODIFY CURB

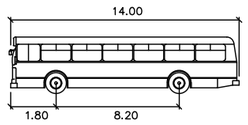
NEW LOCATION FOR
THE EX. LANDSCAPE
STRUCTURE

REMOVE CENTER ISLAND

CAMPBELL DR

I–BUS
TAC–2017 (CA)

I–BUS
TAC–2017 (CA)



I–BUS
meters

Width	: 2.40
Track	: 2.40
Lock to Lock Time	: 6.0
Steering Angle	: 39.3

PLOT DATE: July 26, 2024

DRAWN BY: C.T.

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No.
24138

Date
JUL 26, 2024

DRAFT
FOR DISCUSSION

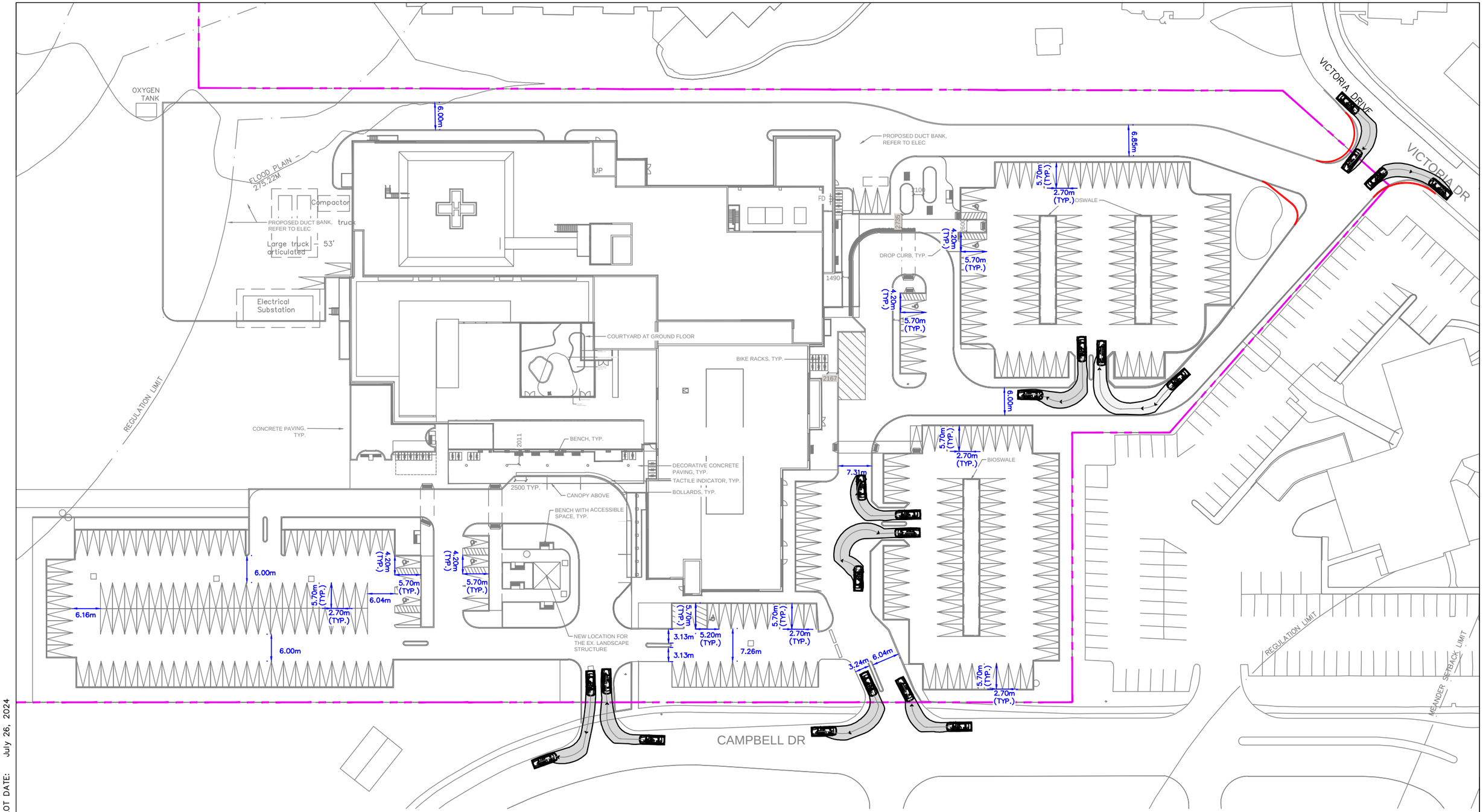
4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

3 0 3 6 9m
1: 300

DURHAM REGION TRANSIT BUS ENTRANCE AND EXIT

Drawing No.
008

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten



DRAWN BY: C.T. PLOT DATE: July 26, 2024

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 24138

Date JUL 26, 2024

DRAFT
FOR DISCUSSION

4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

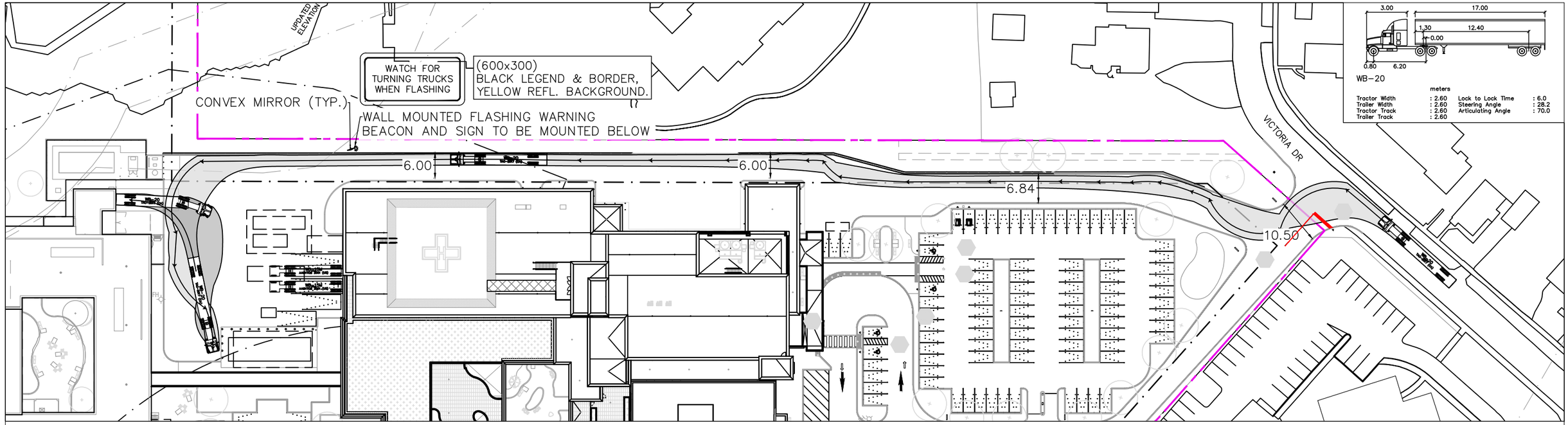
8 0 8 16 24m
1:800

PARKING ANALYSIS GROUND FLOOR

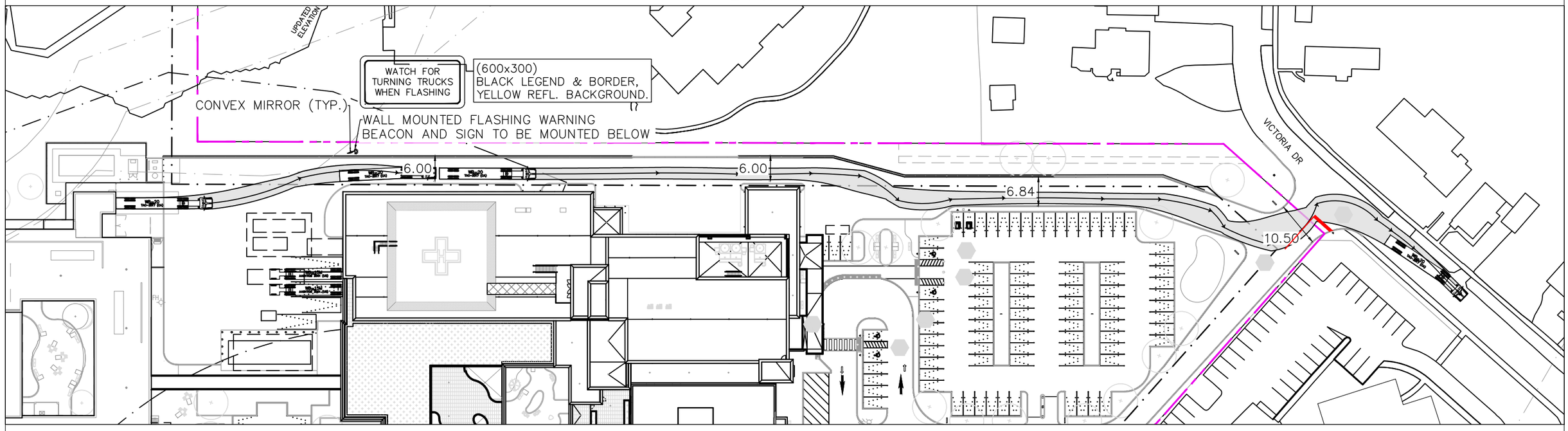
Drawing No. 009

DRAWING NAME: C:\Users\CTzumerkas\AppData\Local\Ten

Long-Term Care
Functional Design Review



ENTRY PATH



EXIT PATH

PLOT DATE: June 12, 2025

DRAWN BY: H.S.

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 25258

Date JUN 12, 2025

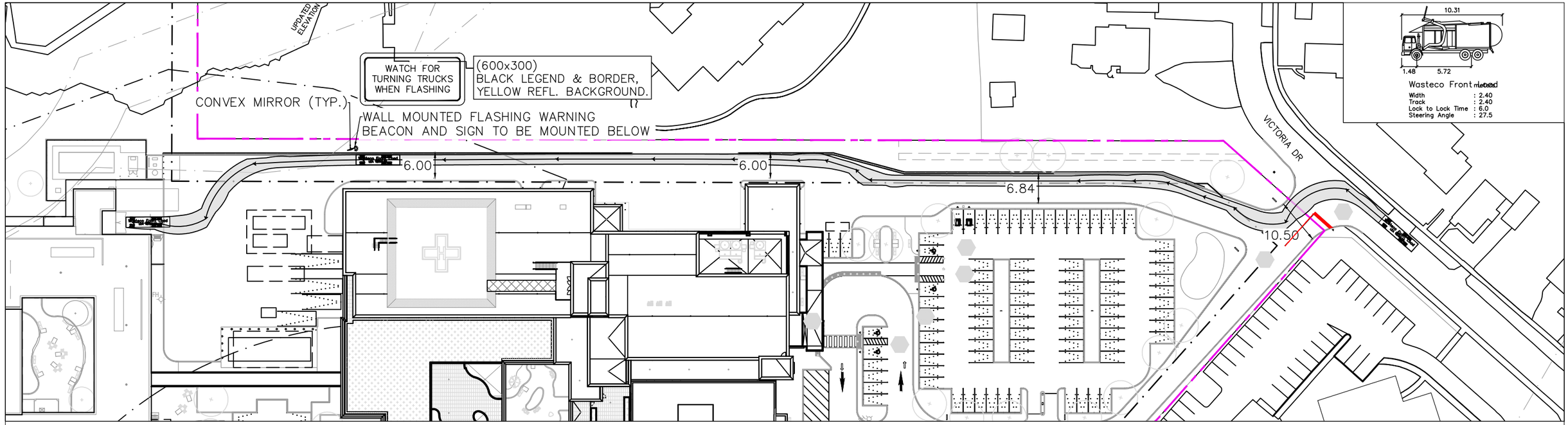
4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

9 0 9 18 27m
1:900

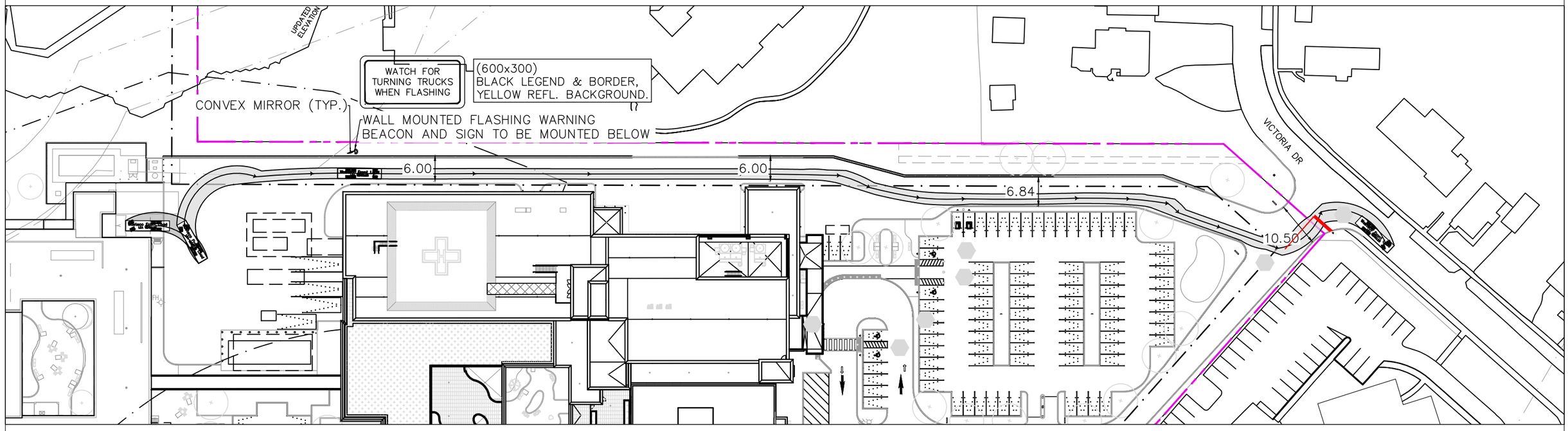
LTC DEVELOPMENT
WB-20 TRUCK
ENTRY AND EXIT PATHS

Drawing No. 008

DRAWING NAME: F:\25258\Drafting\25258WF005.dwg



ENTRY PATH



EXIT PATH

PLOT DATE: June 12, 2025

DRAWN BY: H.S.

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 25258

Date JUN 12, 2025

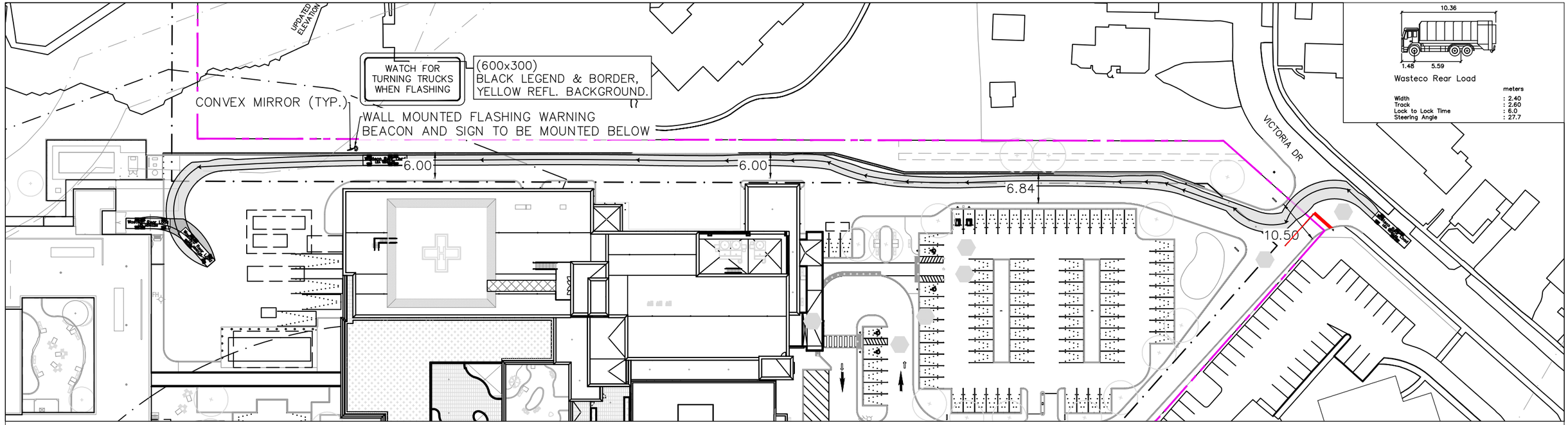
4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

9 0 9 18 27m
1:900

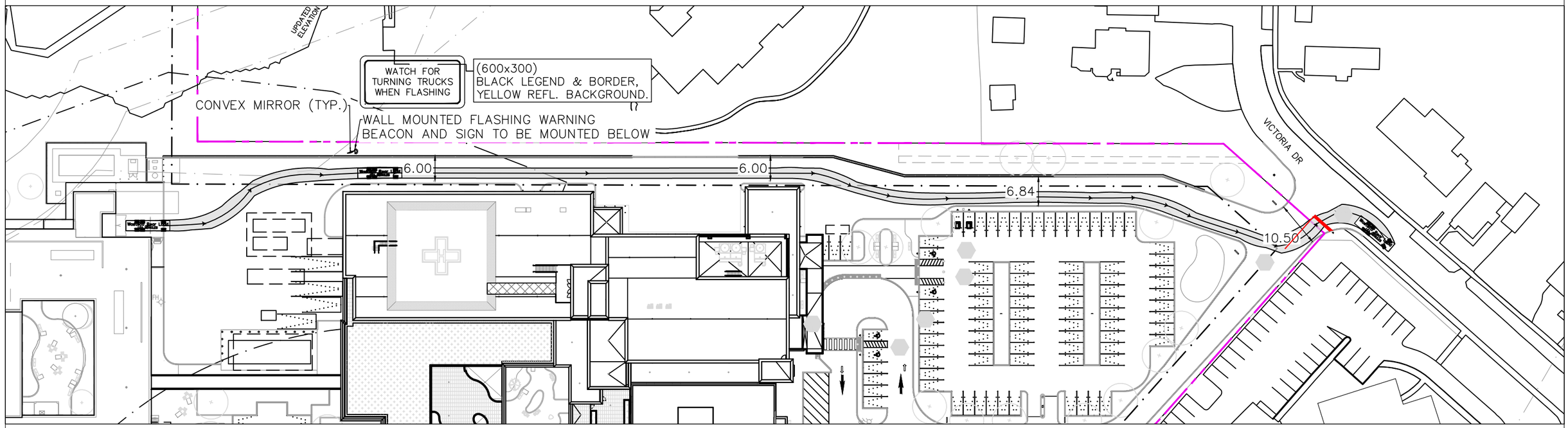
LTC DEVELOPMENT
WASTECO FRONT GARBAGE TRUCK ENTRY AND EXIT PATHS

Drawing No. 009

DRAWING NAME: F:\25258\Drafting\25258WF005.dwg



ENTRY PATH



EXIT PATH

PLOT DATE: June 12, 2025

DRAWN BY: H.S.

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 25258

Date JUN 12, 2025

4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

9 0 9 18 27m
1:900

LTC DEVELOPMENT
WASTECO REAR GARBAGE TRUCK ENTRY AND EXIT PATHS

Drawing No. 010

DRAWING NAME: F:\25258\Drafting\25258WF005.dwg

NOTE: CROSSWALK PAVEMENT MARKING AS PER DETAIL A AND ACCESSIBILITY PAVEMENT MARKING AS PER DETAIL B

UPDATED REGIONAL FLOOD ELEVATION CONTOUR LINE

UPDATED REGIONAL FLOOD ELEVATION CONTOUR LINE

VICTORIA DR

CAMPBELL DR

10.00m

10.00m

1.00m

1.00m

REGULATION LIMIT

MEANDER SETBACK LIMIT

MEANDER SETBACK LIMIT

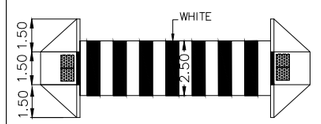
PAVEMENT MARKING & SIGNAGE	
1	SOLID WHITE, 60cm
2	SOLID YELLOW, 10cm
3	SOLID WHITE, 10cm
4	SYMBOL AS SHOWN (TYP.)
5	HATCHING AS SHOWN (TYP.)
X	SIGN NUMBER
	POLE MOUNTED SIGN
	PAINTED ARROW
	PICK-UP/DROP-OFF AREA

SIGN	LOCATION	QUANTITY REQUIRED	COLOURS
STOP	1	3	Ra-1 (600x600) LEGEND & BORDER – WHITE REFL. BACKGROUND – RED REFL.
FIRE ACCESS ROUTE	2	23	(300x450) BLACK LEGEND & BORDER, RED REFL. ANNULAR BAND AND INTERDICTORY STROKE, WHITE REFL. BACKGROUND.
LOADING ZONE	3	1	(300x450) RED REFL. INTERDICTORY SYMBOL, BLACK LEGEND & BORDER, WHITE REFL. BACKGROUND.
BY PERMIT ONLY	4	16	Rb-93 DISABLE PARKING PERMIT SIGN (30X45cm)
DROP-OFF AREA MAX. 5 MINUTES WAITING	5	6	(300x450) BLACK LEGEND & BORDER, WHITE REFL. BACKGROUND.
STOP FOR PEDESTRIANS	6	8	Wc-7 (750x750) BLACK SYMBOL & BORDER, YELLOW REFL. BACKGROUND.
	7	0	Rb-51 (300x300) RED REFL. INTERDICTORY SYMBOL BLACK LEGEND, RED BORDER WHITE REFL. BACKGROUND
VAN ACCESSIBLE	8	0	BLACK LEGEND & BORDER, WHITE REFL. BACKGROUND.
ELECTRIC VEHICLE CHARGING	9	8	WHITE REFL. SYMBOL & BORDER GREEN REFL. BACKGROUND
	10	1	Rb-12 NO LEFT TURN SIGN (60X60cm)
WRONG WAY	11	5	Rb-20 DO NOT ENTER/WRONG WAY SIGN (60X120cm)
	12	1	Rb-21 ONE-WAY SIGN (30X90cm)

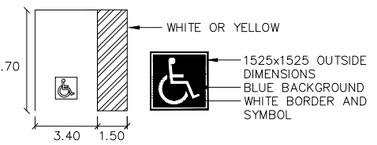
NOTES:

- ALL SIGNS ARE STEEL POST-MOUNTED, UNLESS OTHERWISE INDICATED.
- UNDERSIDES OF ALL SIGNS TO BE LOCATED MIN. 2.0m ABOVE TOP OF PAVEMENT OR TOP OF SIDEWALK UNLESS STATED OTHERWISE. ALL SIGNS ARE PER "ONTARIO TRAFFIC MANUAL", LATEST EDITION.
- ALL PAVEMENT MARKINGS SHALL BE MADE IN ACCORDANCE WITH ONTARIO TRAFFIC MANUAL, BOOK 5 AND 11.

DETAIL A – CROSSWALK DESIGN AS PER TAC GUIDELINES



DETAIL B – PAVEMENT MARKING DETAIL (AS PER AODA)



DRAWN BY: H.B. PLOT DATE: July 09, 2025

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 25258

Date JUN 12, 2025

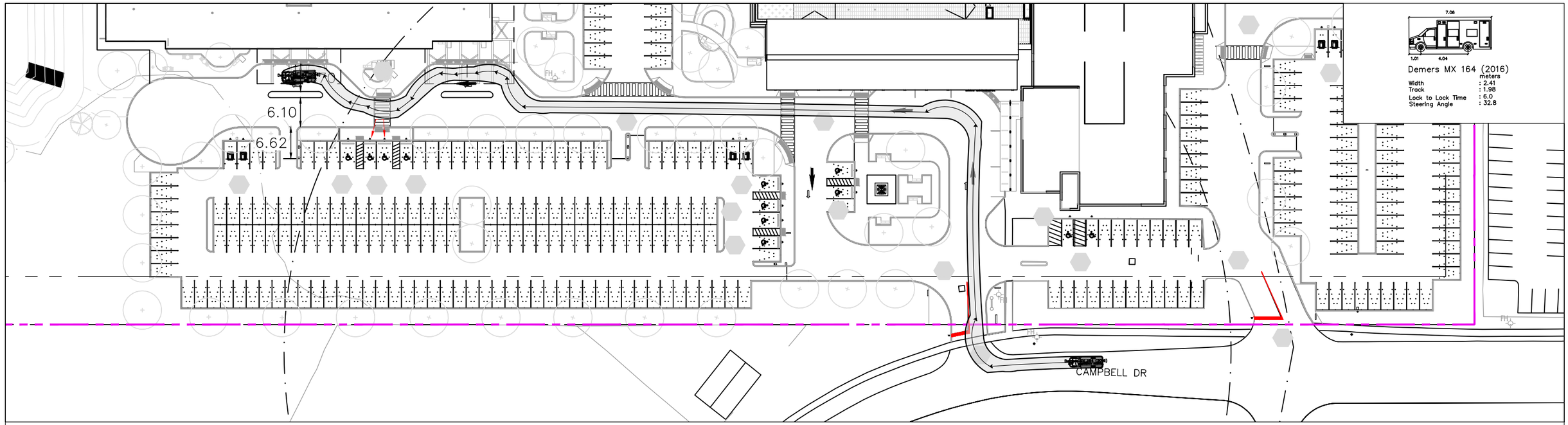
4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

12 0 12 24 36m
1:1200

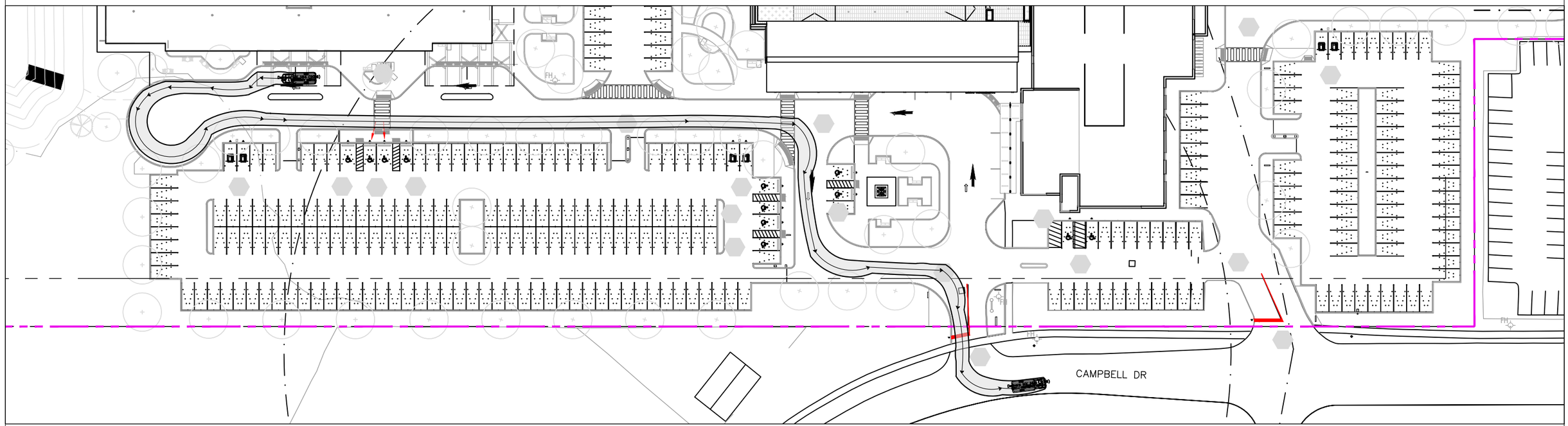
OAK VALLEY HEALTH CAMPUS
PAVEMENT MARKING & SIGNAGE PLAN

Drawing No. 011

DRAWING NAME: F:\25258\Drafting\25258WF005.dwg



ENTRY PATH



EXIT PATH

DRAWN BY: H.S. PLOT DATE: June 12, 2025

LEA Consulting Ltd.
Consulting Engineers and Planners
www.LEA.ca

Project No. 25258

Date JUN 12, 2025

4 CAMPBELL DRIVE
UXBRIDGE ONTARIO

9 0 9 18 27m
1:900

LTC DEVELOPMENT AMBULANCE ENTRY AND EXIT PATHS

Drawing No. 012

DRAWING NAME: F:\25258\Drafting\25258WF005.dwg

Traffic Operations Assessment Update
Proposed Hospital Expansion
4 Campbell Drive, Uxbridge
25258