CRW 1 LP and CRW 2 LP

TRANSPORTATION IMPACT & PARKING STUDY

PROPOSED MIXED-USE DEVELOPMENT

2077, 2105, 2087 and 2097
Royal Windsor Drive,
City of Mississauga

October 2024

23137

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October 2nd, 2024

Reference Number: 23137

Ms. Veronica Jarvis
CRW 1 LP and CRW 2 LP
c/o Slate Asset Management
121 King St W, Suite 200
Toronto, ON M5H 3T9

Dear Ms. Jarvis,

RE: Transportation Impact Study
Proposed Mixed-Use Development
2077, 2105, 2087, and 2097 Royal Windsor Drive, City of Mississauga

LEA Consulting Ltd. is pleased to present the findings of our Updated Transportation Impact Study for the proposed mixed-use development located at 2077, 2105, 2087, and 2097 Royal Windsor Drive in the City of Mississauga. This transportation study has been prepared for CRW 2 LP and CRW 2 LP in support of the Zoning By-law Application for the subject site. This report concludes that the traffic associated with the proposed development does not present any significant impact to traffic conditions in the surrounding area.

1 CHANGES TO THE PROPOSED DEVELOPMENT

LEA previously submitted a TIS for the proposed development dated December 2022. Since then, changes to the development scheme have been proposed, as well as a revised road network, as illustrated in Figure 1-3. A comparison of the changes to the site statistics is provided in Table 1 below.

Table 1: Changes to the Site Statistics

Land Use	2022 Submission	2024 Submission (Current)	Difference
	Number of Units / GFA		
Residential	1,237 units	1,419 units	+ 182 units
Retail	1,978 m^2	1,343 m^2	- 635 m^2

In comparison to the previous submission dated 2022, the proposed development scheme contemplates an additional 182 residential units and a decrease in 635 m^2 of retail. The Updated TIS assesses the change in the site statistics as well as the updated road network.

2 COMMENT RESPONSE

Comments were provided by the City of Mississauga in May 2023, with responses detailed below.

Transportation Comment 1: *A. Applicable Planning Policy and Transportation Context:*

Staff advise that the recently updated parking requirements for off-street parking, Zoning By-Law 0117-2022, that came into effect June 8, 2022, is supportive of provincial and municipal land use and transportation

policies. The updated rates were derived from the Parking Regulations Study (PRS) which undertook a review of off-street parking rates throughout the City, including the Clarkson area. These developed rates for Precinct 2 were carefully tailored to Mississauga's context as well as current needs and are intended to support development appropriately, including sites that are served by existing or future planned transit.

LEA Response: It is noted that based on Bill 185 amendments to the Planning Act, as the subject site is located within the Clarkson Transit Station Area, no minimum parking requirements apply. Please refer to Section 7 of the Updated TIS for details on the proposed parking supply.

Transportation Comment 2: *[FUTURE ROAD NETWORK] The Owner is advised that public roads are to be designed to City standards. Any deviation from a City of Mississauga standard is subject to a comprehensive review and approval process by City staff and all affected external agencies. Based on the current proposal, the following will be required: (i) As deviations from a City standard are being proposed, the applicant shall discuss the non-standard proposal with staff which may include additional technical and supporting documentation. (ii) Provide Functional Road Designs, including intersections to confirm future road network configuration and geometrics. (iii) Additional plans may be requested to confirm feasibility of a proposed road network.*

LEA Response: Acknowledged. Please see Appendix G for details regarding the functional design review.

Transportation Comment 3: *B. Precedent Parking Demand:*

A satisfactory residential proxy survey was not included in this submission.

Staff require the Applicant undertake a satisfactory Parking Utilization Study (PUS) with appropriate proxy sites in Mississauga, per the City's Parking Terms of Reference, to justify the requested visitor parking rate, as the parking reduction is greater than 10% from the existing Zoning By-law 0225-2007, as amended new parking rates for Precinct 2. Before undertaking proxy surveys, please contact staff to discuss scope.

Staff advise the Applicant that each development application is reviewed based on its own merit. If the Applicant wishes to reference precedent applications, supporting justification outlining similarities is required.

LEA Response: Acknowledged. With the passage of Bill 185, the parking rates are deemed to be sufficient for sites within MTSAs. See parking justification in Section 7.

Transportation Comment 4: *Staff Recommendation:*

The proposed reduced residential and visitor parking rates are not supportive of the Parking Regulations Study recommendations as outlined in the existing City of Mississauga Zoning By-Law 0225-2007, as amended, for Parking Precinct 2 (By-law 0117-2022, June 8, 2022). Additionally, the parking justification submitted by the Applicant is not satisfactory as the required satisfactory Parking Utilization Study (Proxy Survey) was not undertaken. For these reasons Staff do not support the proposed parking rates in this instance.

Should the Applicant wish to pursue a reduction in the residential and visitor parking rates, the submission of a satisfactory Parking Utilization Study (PUS) is required. The consultant should confirm the survey

methodology with staff prior to conducting parking surveys. Details can be reviewed in the Citys Parking Terms of Reference for parking justification requirements.

The following Parking Precinct 2 parking rates are recommended:

0.9 spaces/residential condominium apartment unit

0.20 spaces/residential condominium apartment unit for visitors

3.0 spaces/100 m2 retail

Should the Applicant wish to propose a shared parking arrangement between the non-residential uses of the subject site, a shared parking arrangement is applicable for the calculation of required visitor/non-residential parking in accordance with the following: the greater of visitor spaces/unit or parking required for all non-residential uses, except restaurant over 220 m2 GFA non residential.

Restaurant over 220 m2 GFA non residential shall not be included in the above shared parking arrangement and shall be provided in accordance with applicable regulations contained in Table 3.1.2.2 of City of Mississaugas Zoning By-law.

All required parking spaces must be accessible to all users participating in the shared parking arrangement and may not be reserved for a particular use or occupant.

LEA Response: Acknowledged. With the passage of Bill 185, the parking rates are deemed to be sufficient for sites within MTSAs. See parking justification in Section 7.

Transportation Comment 5: *[TRAFFIC IMPACT STUDY] A Traffic Impact Study prepared by LEA Consulting Ltd. dated December 12, 2022 was submitted in support of the proposed development. Based on the information provided to date, staff provide the following comments: (A) SECTION 1.1 PROPOSED DEVELOPMENT. This section would not support vehicular access to Royal Windsor Drive of the proposed road referenced as Private Road with Metrolinx Access Easement. The analysis should be revised accordingly. (B) SECTION 2.5 TRAFFIC DATA COLLECTION. As City is not fully accepting new post-pandemic counts, sensitivity analysis for traffic counts done in 2022 would be required. (C) SECTION 3.1 CORRIDOR GROWTH. As there was increase in number of approved warehouse/logistics companies in the area over the last 5 years, the additional truck traffic projection evaluating would be required. (D) SECTION 3.2 BACKGROUND DEVELOPMENTS. The following developments should be included: (i) 1035 Southdown Road, SP 20-1; (ii) 980 Southdown Road, SP 23-5.(E) SECTION 4.3. Clarification is required how trips from 1018-2057 Royal Windsor have been incorporated into the analysis. (F) TABLE 5-3. Please include additional rational for results for AM peak EBR movement.(G) ADDITIONAL COMMENTS: (i) Include Service Vehicles Access and Circulation Section (AutoTurn Swept-Path Analysis). (ii) A cross reference with Clarkson GO MTSA Study in terms of road network should be included. (iii) The TIS shall include a section in the report to address Community Impacts. This section shall include summary statements outlining the resulting traffic increases to the critical streets, movements and intersections. Comments or concerns from the community through future public meetings and engagements that are related to traffic shall also be addressed in this section. (iv) Please include completed Certification Form found at Appendix A, City of Mississauga TIS Guidelines: https://www.mississauga.ca/wp-content/uploads/2023/03/Mississauga-Transportation-Impact-Study-Guidelines.pdf*

LEA Response: Acknowledged. The development scheme has been revised based on a new road network configuration. A sensitivity analysis was conducted for the counts collected in 2022. Updated traffic counts were collected on Thursday, September 19th, 2024. The volumes collected in 2024 were similar to the volumes collected in 2022. Nevertheless, in order to use the most up-to-date counts, the volumes from 2024 were used as the existing volumes and carried forward in the analysis. The additional background developments have been incorporated into the analysis, as detailed in Section 3.2.

Transportation Comment 6: *[SITE ACCESS PRIVATE PROPERTY] (a) The Owner is advised that vehicular access of internal road named 'Private Road with Metrolinx Access Easement' to Royal Windsor Drive will not be supported by this section. Alternatively, a pedestrian connection could be supported; (b) The Owner shall ensure the following is provided for all proposed access points: (a) Sufficient sight lines such that views are not obstructed (street trees, retaining walls, noise walls etc.); (c) A sufficient clear throat length within the driveway access to ensure the roadway and internal driveway can operate efficiently; (d) A sufficient corner clearance from the roadway to the access points.*

LEA Response: Acknowledged. It is noted that a revised road network is proposed based on the latest development scheme. Please refer to Appendix G for details regarding the proposed road network.

Transportation Comment 7: *[CYCLING FACILITIES] The Owner will be required to provide accessible and secure short term (outdoor) and long term (indoor) bicycle storage facilities on site. The Site Plan shall be revised to identify the cycling facility locations and to specify the facility detail(s), including quantity of spaces proposed for each. The following rates are to be used: (a) Apartment Mississauga - A minimum of 0.60 long term spaces and 0.05 (6 spaces min.) short term spaces per residential unit. (b) Retail (Per 100 sq.m. GFA of retail area) Mississauga A minimum of 0.10 long term spaces and 0.20 short term spaces.*

LEA Response: Acknowledged. Please see Section 7.

Transportation Comment 8: *[INTERNAL SITE CIRCULATION - PRIVATE PROPERTY] (a) Turning movement diagrams will be required to depict the internal site circulation. (b) Detailed turning movements are to be provided for ingress and egress through all access point(s) for the site. (c) Additional provisions to aid in the safety and operation of these features may be required. (d) Confirmation from Fire and Emergency Services that the internal road is acceptable from an emergency response perspective. (e) Confirmation from the Region of Peel that the internal road is acceptable from a waste collection perspective.*

LEA Response: Acknowledged. Please refer to Appendix G.

Transportation Comment 9: *Additional Comments:*

Staff note that per City of Mississauga Zoning By-law 0225-2007, as amended, that a minimum required number of Electric Vehicle Ready parking spaces will need to be provided. The associated rates for these are noted in Table 3.1.1.12, Minimum Required Number of Electric Vehicle Ready Parking Spaces, of the updated Zoning By-law.

Staff request that discrepancies regarding the proposed non-residential use GFAs noted in the Site Statistics, Transportation Impact and Parking Study, and Planning Justification Report be addressed to ensure consistency and that the correct parking needs are determined and verified.

Staff request that discrepancies regarding the overall proposed number of parking spaces to be provided noted in the Site Statistics, Underground Parking Plans, and Transportation Impact and Parking Study be addressed to ensure consistency and that the correct parking needs are determined and verified.

LEA Response: Acknowledged. Please see Section 7.

Transportation Comment 10: *[AGREEMENT CLAUSES AND CONDITIONS] The Owner is advised of the following: (i) Warning Clauses and notice provisions as determined will be provided as the development review progresses and included in the Development Agreement. (ii) Any additional conditions as determined will be provided as the development review progresses and included in the Development Agreement.*

LEA Response: Acknowledged.

2.1.1 Design

Design Comment 5: *Changemark #01*

3.2.5.6. Fire access route to have 12 m turning radius. All turning radii serving the access route are to be shown on the drawing.

LEA Response: Acknowledged. The Functional Design Review has been updated and illustrates the turning radii. Please refer to Appendix F.

Design Comment 6: *Changemark #02*

3.2.5.4. Fire access route to be shown on drawing.

LEA Response: Acknowledged. The Functional Design Review has been updated and illustrates the Fire Access Route. Please refer to Appendix G.

Please do not hesitate to contact the undersigned should you have any additional questions or concerns.

Yours truly,

LEA CONSULTING LTD.

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

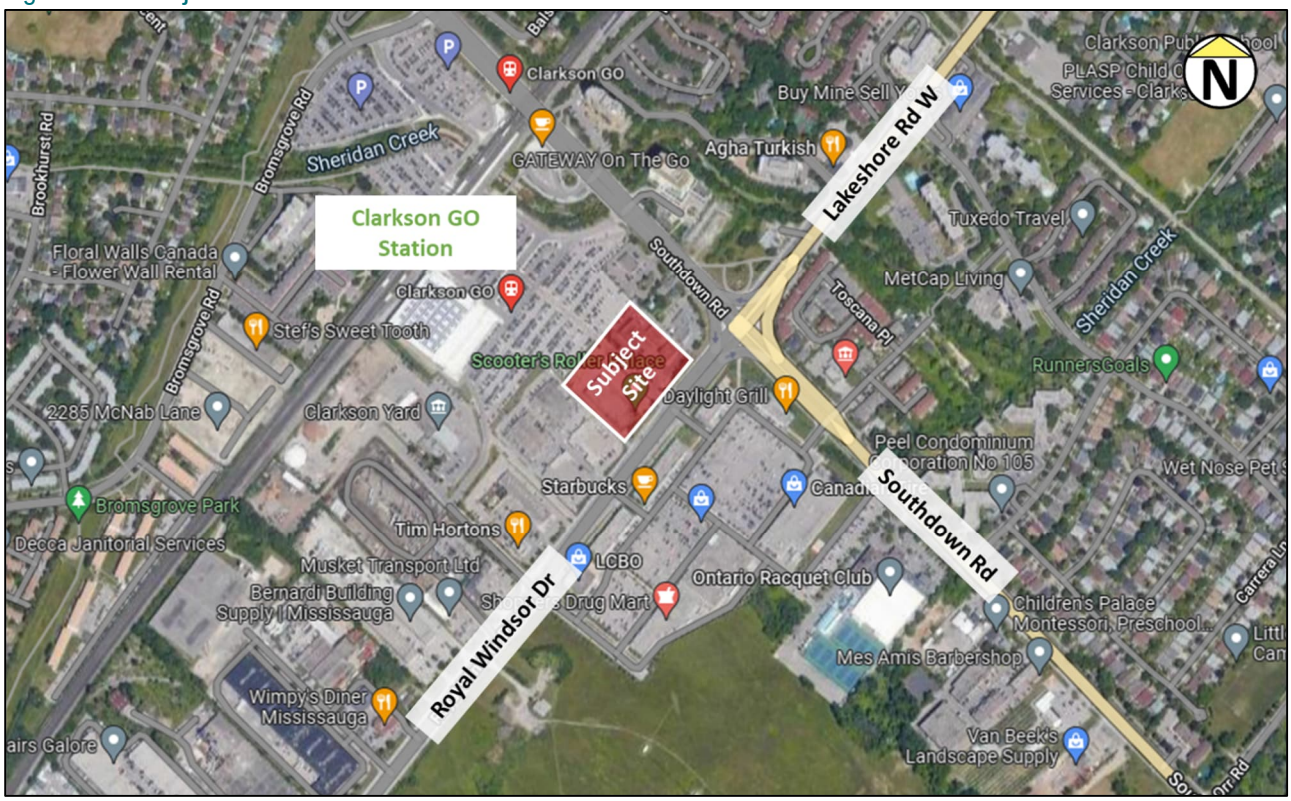
Jocelyn Wallen, P.Eng.
Assistant Manager, Transportation Planning & Engineering

Encl. Transportation Impact and Parking Study – 2077, 2105, 2087, and 2097 Royal Windsor Drive, Proposed Mixed-Use Development, City of Mississauga (October 2024)

1 INTRODUCTION

LEA Consulting Ltd (LEA) has been retained by CRW 1 LP and CRW 2 LP to undertake a Transportation Impact Study (TIS) in support of the Zoning By-law Amendment (ZBA) application for the proposed mixed-use development. The proposed development is located at 2077, 2105, 2087 and 2097 Royal Windsor Drive, along the north side of Royal Windsor Drive and approximately 60 m west of Southdown Road in the City of Mississauga (herein referred to as the "subject site"). The subject site is illustrated in Figure 1-1.

Figure 1-1: Subject Site Location

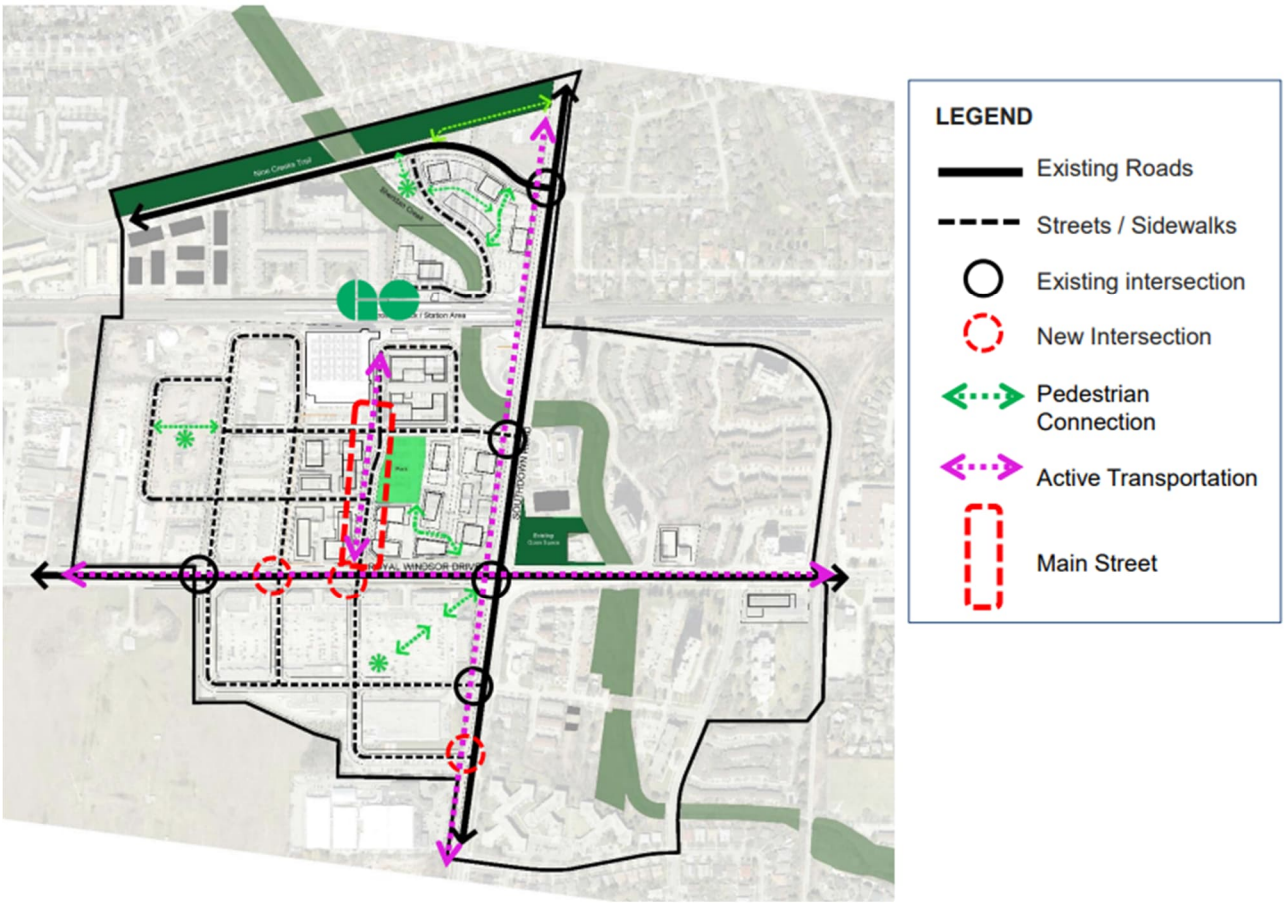


Source: Google Maps, Retrieved December 2022

The subject site is currently occupied by a commercial plaza containing a mixture of retail, restaurant, entertainment, and service-based uses. The subject site is located within proximity of Clarkson GO Station on the Lakeshore West GO Train Line and is an MTSA. The subject site is thus located within the Clarkson Transit Station Area Study, which is being undertaken by the City of Mississauga to provide a planning framework to guide future development within the area and to leverage planned transit improvements being implemented through electrification and two-way all-day, 15-minute train service along the Lakeshore West route.

It is noted that the City of Mississauga has a Clarkson GO Major Transit Station Area Study, which was initiated in 2018. The draft master plan and draft concept plan for the study area was presented in a public meeting in November 2023, which details the proposed road network for the study area. Surrounding the subject site, the existing road connecting to the Clarkson GO Station (with an existing easement with Metrolinx) is proposed to be relocated to the western edge of the subject site. This is aligned with the proposed future road network shown in the Clarkson GO MTSA Study. The proposed road network from the Clarkson GO MTSA Study is illustrated in Figure 1-2.

Figure 1-2: Concept Plan for Clarkson GO MTSA Study



Source: City of Mississauga, November 2023

1.1 PROPOSED DEVELOPMENT

The proposed development will consist of two blocks: the West Block and the East Block. Each block includes two residential towers ranging from 23-storeys to 28-storeys and connected by a shared podium. A total of 1,419 dwelling units and 1,343 m^2 retail GFA is proposed. A total of 654 parking spaces will be provided across five (4) level of underground parking for the West Block and three (3) levels for the East Block. The site statistics per development block are outlined in Table 1-1.

Table 1-1: Site Statistics

Use		West Block Units/GFA (m^2)	East Block Units/GFA (m^2)	Development Total Units/GFA (m^2)
Residential	Bachelor	30	30	60
	1-Bedroom	444	392	836
	2-Bedroom	200	183	383
	3-Bedroom	61	63	124
	Live-Work	3	13	16
Total		**738**	**681**	**1419**

Retail	710	301	1011
Live Work	54	278	332
Total	**764**	**579**	**1343**

Access to the subject site will be provided via two unsignalized, full movement accesses. Additionally, the site can also be accessed through Clarkson GO Station at the Southdown Road and Clarkson GO Access/Private Driveway intersection. The proposed site plan is shown in Figure 1-3. The future site connections are summarized as follow:

- Two (2) unsignalized, full movement accesses off Royal Windsor Drive;
- The site can also be accessed through Clarkson GO Station (Southdown Road and Clarkson GO Access/Private Driveway intersection) and proposed private road.

Figure 1-3: Proposed Site Plan

It is noted that the ultimate phasing of the access off Royal Windsor Drive would seek to dedicate the access to a public road.

2 EXISTING TRANSPORTATION CONDITIONS

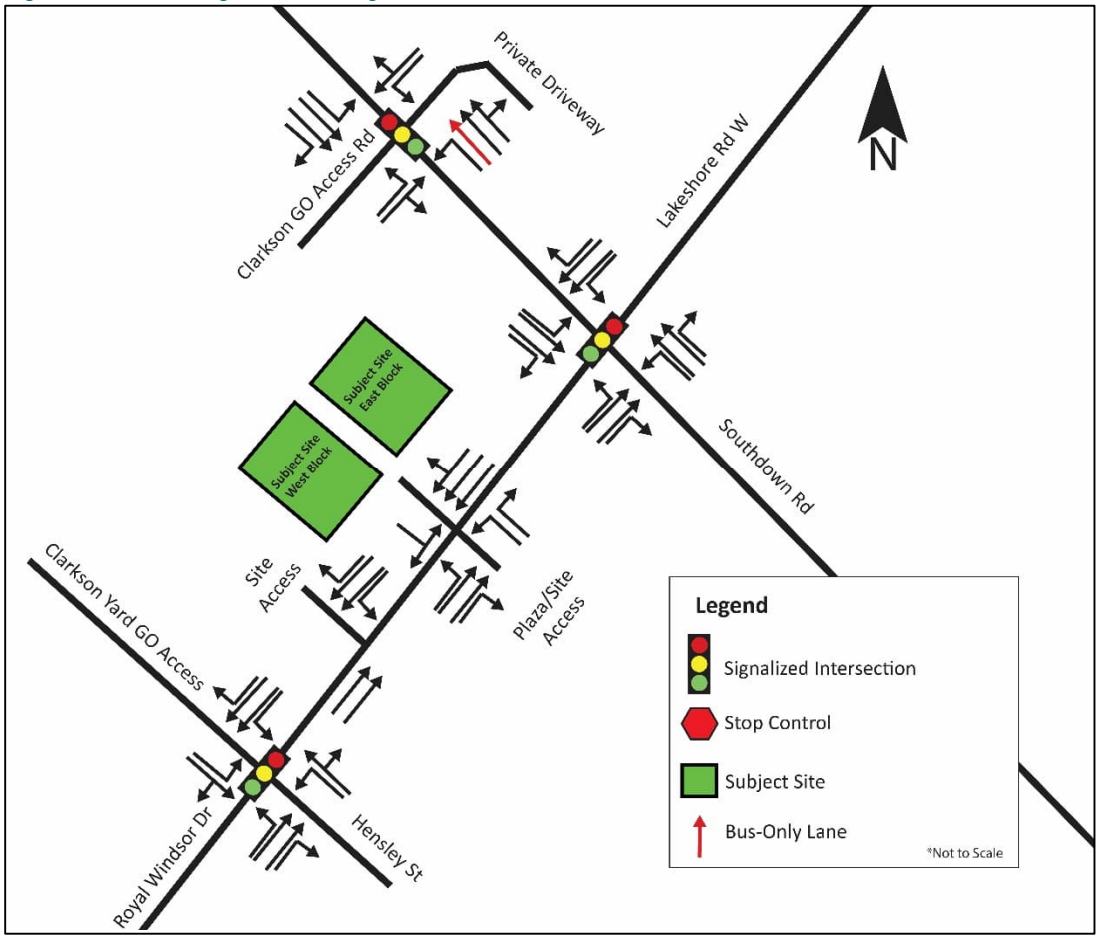
This section identifies and assesses the existing transportation conditions within the study area, including the road, transit, cycling, and pedestrian networks. The study area was determined by assessing the size of the proposed development and its anticipated transportation impact, and through consultation with City staff, which is documented in Appendix A. The existing study area includes the following intersections:

- Southdown Road & Clarkson GO Access/Private Driveway (Signalized);
- Southdown Road & Royal Windsor Drive/Lakeshore Road West (Signalized);
- Royal Windsor Drive & Plaza Access/Site Access/Metrolinx Easement (Unsignalized);
- Royal Windsor Drive and Site Access (Unsignalized); and
- Royal Windsor Drive and Clarkson Yard GO Access/Hensley Street (Signalized).

2.1 ROAD NETWORK

The following section provides a description and classification of the roadways within the study area. Figure 2-1 illustrates the existing lane configuration.

Figure 2-1: Existing Lane Configurations



Royal Windsor Drive/Lakeshore Road West is an urban east-west arterial road with a six (6) lane cross section (three in the westbound direction, two in the eastbound direction, one central left turning lane) in the vicinity of the site. It operates under the jurisdiction of the City of Mississauga, with a posted speed limit of 50 km/h. Pedestrian facility are found on both sides of the road.

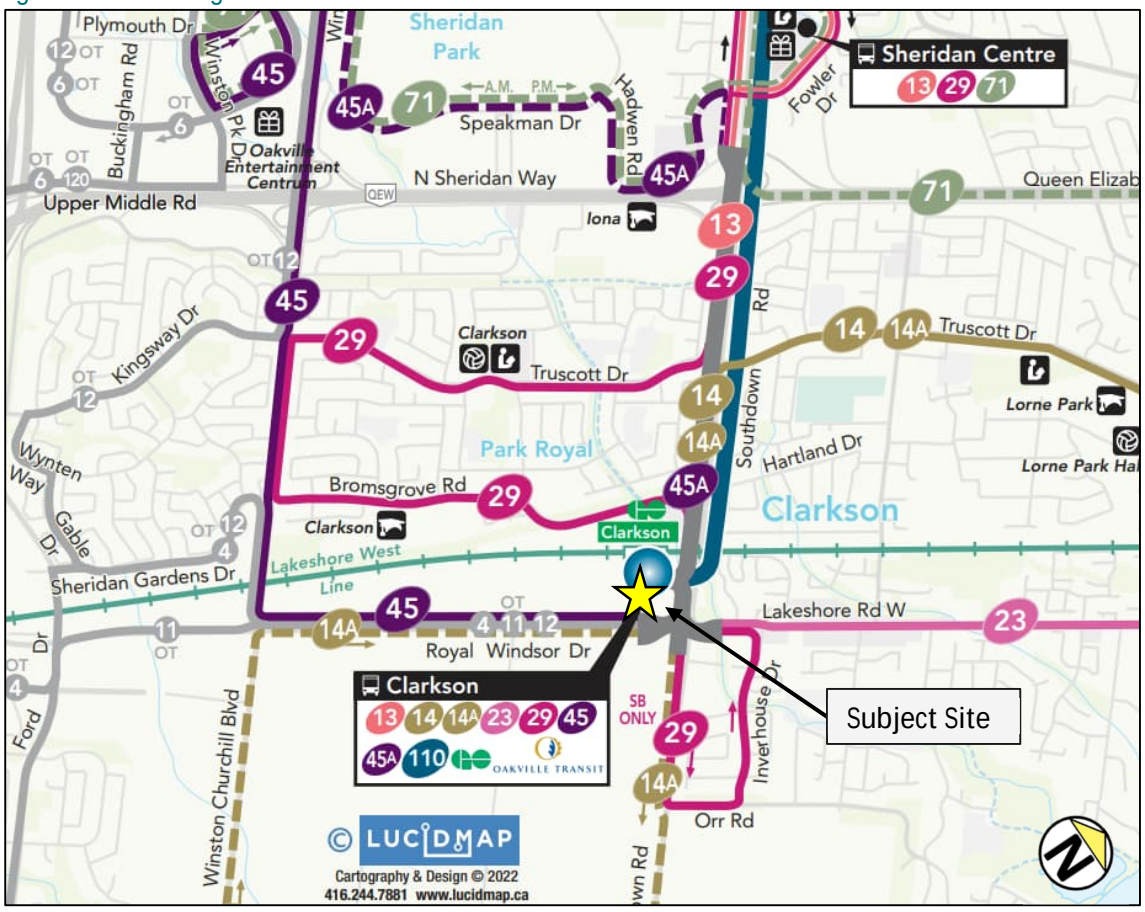
Southdown Road is an urban north-south arterial road with a five (5) lane cross section with two lanes in each direction. It operates under the jurisdiction of the City of Mississauga, with a posted speed limit of 50km/h. Pedestrian facility are found on both sides of the road within the study area.

2.2 EXISTING TRANSIT NETWORK

The City of Mississauga is well connected by local transit operating within the City, as well as regional transit options that provide service between Mississauga and other areas of the GTA. The site is well-situated to take advantage of these services, with multiple Miway bus routes located near the site. In addition, the site's proximity to Clarkson GO Station provides regional connections via both rail and surface transit routes.

Having access to a wide range of transit routes and options allows for future residents, visitors and employees of the subject site to leverage nearby transit service and investments and opt for travel that is not auto-dependent. Figure 2-2 shows the existing transit network in proximity to the subject site, with service details provided below.

Figure 2-2: Existing Transit Network



Retrieved from City of Mississauga, September 2022

2.2.1 Existing GO Transit Service

Lakeshore West GO departs from Clarkson GO station in Mississauga to Union Station in Toronto, with services provided everyday of the week. Service to Union station operates with a thirty minute headway from 5 am to 11 pm during weekdays, and with an hour headway during the weekends.

Access Location: Lakeshore West GO is located at Clarkson GO train station, which is approximately 500 m from the centre of the subject site (equivalent to a 6 minute walk).

2.2.2 Existing Mi-Way Transit Service

MiWay Route 29 is a bus route the operates generally in the North South direction, connecting the site with Erin Mills. The route operates with a 30 minute headway all day everyday from 5am – 1am. The route is operated by the City of Mississauga.

Access Location: MiWay Route 29 is located near the Clarkson GO train station, which is approximately 500 m from the centre of the subject site (equivalent to a 6 minute walk).

MiWay Route 14 is a bus route the operates generally in an East West direction, connecting the site with Port Credit GO. The route operates with a 20 minute headway, all day everyday 6am – 10pm. The route is operated by the City of Mississauga.

Access Location: MiWay Route 14 is located near the Clarkson GO train station, which is approximately 500 m from the centre of the subject site (equivalent to a 6 minute walk).

MiWay Route 45 is a bus route the operates generally in the North South direction, connecting the site with Meadowvale Town Centre. The route operates with a 20 minute headway from 5am – 1am during weekdays. As well as a weekend service with a 30 minute headway from 6:30 am to 9pm. The route is operated by the City of Mississauga.

Access Location: MiWay Route 29 is located at the intersection of Royal Windsor Drive, just west of Southdown Road, which is approximately 200 m from the centre of the subject site (equivalent to a 2 minute walk).

MiWay Route 23 is a bus route the operates generally in the North South direction, connecting the site with Long Branch GO. The route operates with a 20 minute headway from 12 am to 12 am all day everyday. The route is operated by the City of Mississauga.

Access Location: MiWay Route 23 is located near the Clarkson GO train station, which is approximately 500 m from the centre of the subject site (equivalent to a 6 minute walk).

MiWay Route 13 is a bus route the operates generally in an East West direction, connecting the site with Meadowvale Town Centre. The route operates with a 20 minute headway from 12 am to 12 am all day everyday. The route is operated by the City of Mississauga.

Access Location: MiWay Route 13 is located near the Clarkson GO train station, which is approximately 500 m from the centre of the subject site (equivalent to a 6 minute walk).

MiWay Route 45 is a bus route the operates generally in the North South direction, connecting the site with Meadowvale town centre and Winston Churchill Station. The route operates with a 20 minute headway from 4am to 11pm during weekdays. As well as a weekend service with a 30 minute headway from 6:30 am to 9pm. The route is operated by the City of Mississauga.

Access Location: MiWay Route 45 is located near the Clarkson GO train station, which is located approximately 500 m from the centre of the subject site (equivalent to a 6 minute walk).

MiWay Route 110 is a bus route the operates generally in an North South direction, connecting the site with UofT Mississauga, South Common Centre Bus terminals, Erin Mills station, and Mississauga City centre Transit. The route operates with a 15 minute headway from 5 am to 11 am all day everyday. The route is operated by the City of Mississauga.

Access Location: MiWay Route 110 is located near the Clarkson GO train station, which is located approximately 500 m from the centre of the subject site (equivalent to a 6 minute walk).

2.2.3 Existing Oakville Transit Service

Oakville Transit Bus Route 4 is a bus route the operates generally in theEast West direction, connecting the site with Oakville GO and Bronte GO. The route operates with a 30 minute headway during weekdays from 6am – 11pm. As well as a weekend service with an hour headway from 6am to 6pm. The route is operated by Oakville Transit.

Access Location: Oakville Transit Route 4 is accessible at 2165 Royal Windsor Dr, just west of Hensley St, which is located approximately 200 m away from the centre of the site.

Oakville Transit Bus Route 12 is a bus route the operates generally in the North South direction, connecting the site with neighbourhood of Erin Mils. The route operates with a 30 minute headway during weekday peak hours. The route is operated by Oakville Transit.

Access Location: Oakville Transit Route 12 is accessible at 2165 Royal Windsor Dr, just west of Hensley St, which is located approximately 200 m away from the centre of the site.

Oakville Transit Bus Route 11 is a bus route the operates generally in theEast West direction, connecting the site with Oakville GO. The route operates with an hour headway al day every day from 6am – 9pm. The route is operated by Oakville Transit.

Access Location: Oakville Transit Route 11 is accessible at 2165 Royal Windsor Dr, just west of Hensley St, which is located approximately 200 m away from the centre of the site.

GO Bus Route 18C is a bus route the operates generally in the east west direction, connecting the site with Oakville GO, Appleby GO, Bronte GO, Burlington GO, downtown Hamilton. The route operates with three times per day at 2am, 3am, and 6am. The route is operated under the authority of Metrolinx.

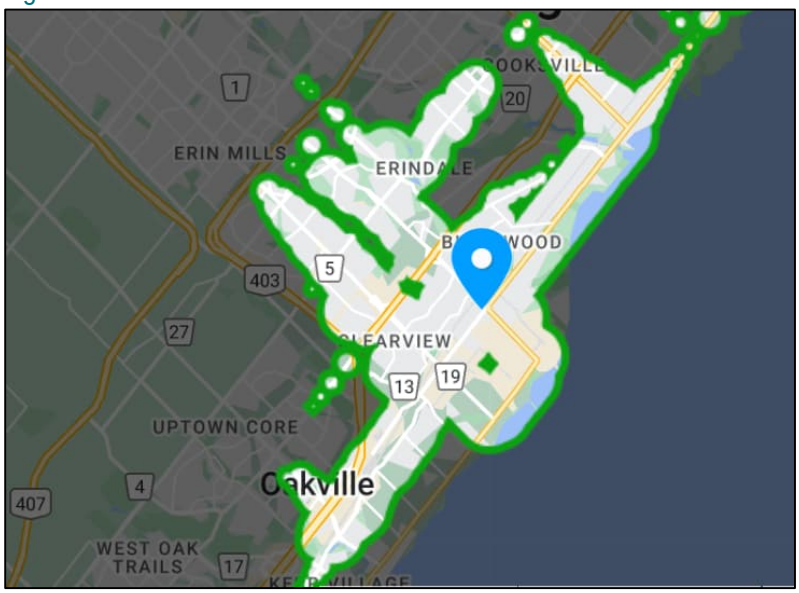
Access Location: GO Bus Route 18C is located at Clarkson GO train station, which is approximately 500 m from the centre of the subject site (equivalent to a 6 minute walk).

2.2.4 Existing 30-Minute Transit Reach

The subject site has a Transit Score© of 58 (out of 100), a measure of transit access based on service characteristics such as frequency and stop distance. A score of 58 indicates that the area has "Good Transit" access and that the use of transit is convenient for some trips.

Figure 2-3 depicts the area accessible by transit within 30 minutes of the subject site; notable areas that can be reached within 30 minutes include parts of the downtown Mississauga core, University of Toronto Mississauga Campus, and many areas of the GTA such as Etobicoke and Oakville.

Figure 2-3: Transit Travel Area - 30 Minutes

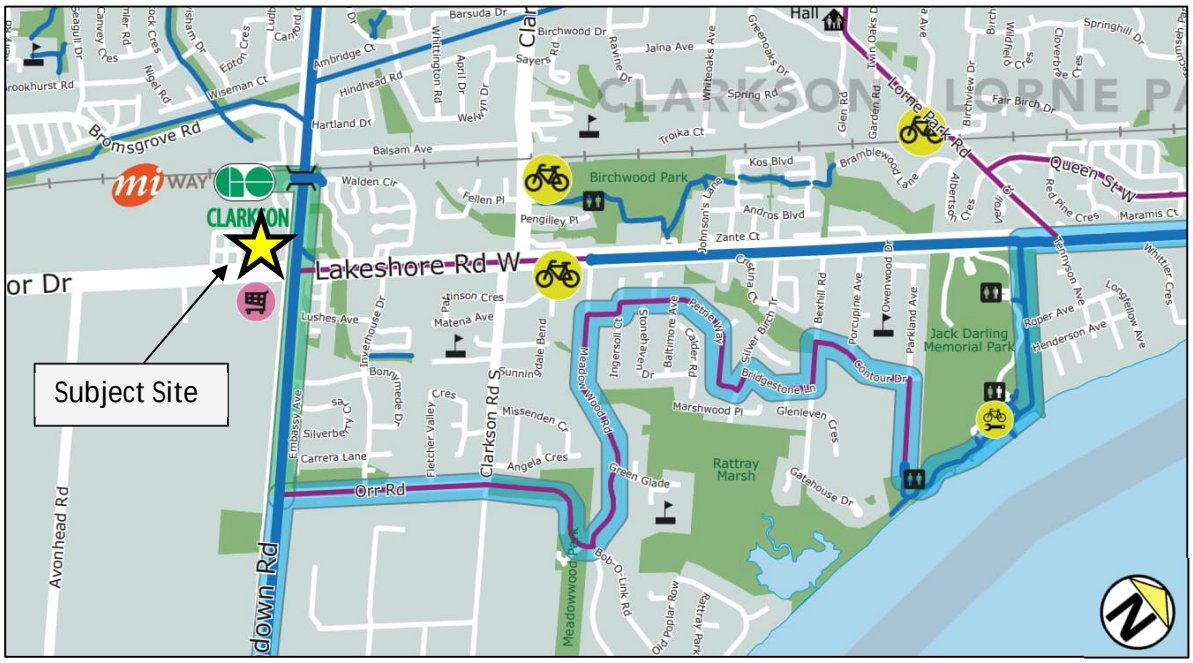


Source: WalkScore©, Retrieved October 2022

2.3 EXISTING CYCLING NETWORK

Existing cycling infrastructure are found within close proximity of the subject site. Figure 2-4 shows the cycling network in the surrounding area. Cycle paths are provided along Southdown Road in the north and southbound directions, connecting the site to the east-west cycling corridor on Lakeshore Road West, which forms a part of the Waterfront trail that connects to Oakville and Downtown Toronto.

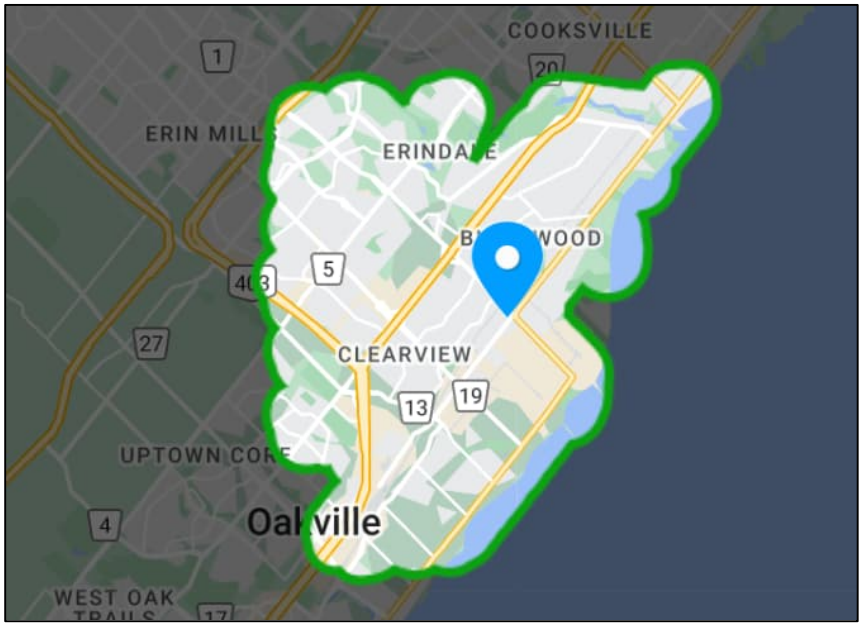
Figure 2-4: Existing Cycling Network



Source: City of Mississauga, Retrieved October 2022

The study area currently has a Bike Score© of 69 (out of 100), which places the site in a relatively bikeable area due to the provision of adjacent separated cycling facilities and flat terrain. As well as its close approximately to the Lakeshore trail. Figure 2-5 depicts the area accessible by cycling within 30 minutes, including the entirety of parts of Oakville and the neighborhood of Erin Mills in Mississauga.

Figure 2-5: Cycling Travel Area - 30 Minutes



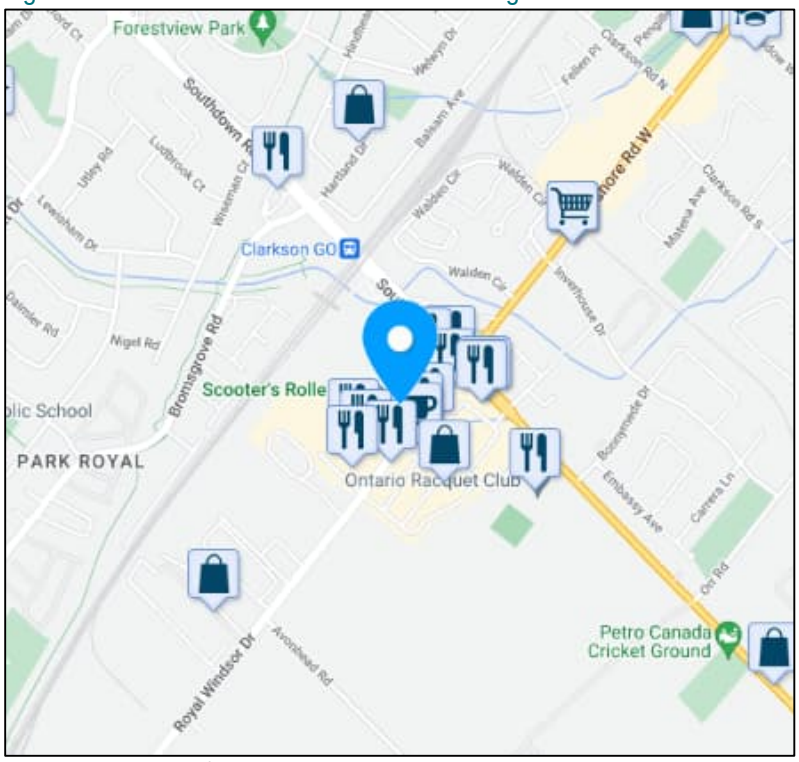
Source: WalkScore©, Retrieved October 2022

2.4 EXISTING PEDESTRIAN NETWORK

The area within the vicinity of the site is well developed in terms of pedestrian infrastructure. At the signalized intersection of Lakeshore Road West and Southdown Road, there are sidewalks at the corners to enable the pedestrian crosswalks. Sidewalks extend on both sides of Royal Windsor Drive and Southdown Road in the vicinity of the site.

The area surrounding the site is primarily industrial to the west and south, and suburban residential to the north and east. The subject site has a WalkScore© of 58 (out of 100), a measure that assesses the number and type of amenities that can be accessed within a reasonable walking distance. A score of 58 classifies the area as "Somewhat Walkable" and indicates that some daily errands do not require the use of a vehicle. Figure 2-6 depicts the range of amenities accessible as a pedestrian from the subject site. Amenities such as retail and dining establishments can be found along Royal Windsor Dr, located in close vicinity of the site.

Figure 2-6: Local Amenities within Walking Distance



Source: WalkScore©, Retrieved October 2022

2.5 TRAFFIC DATA COLLECTION

Turning movement counts (TMCs) were used as the source of traffic data in the intersection capacity analysis. Traffic counts were obtained through surveys undertaken by LEA Consulting and City of Mississauga. Signal timing plans (STPs) at the signalized intersections were obtained from the City of Mississauga. Table 2-1 summarizes the traffic data utilized in this study, with detailed TMCs and signal timing plans provided in Appendix B.

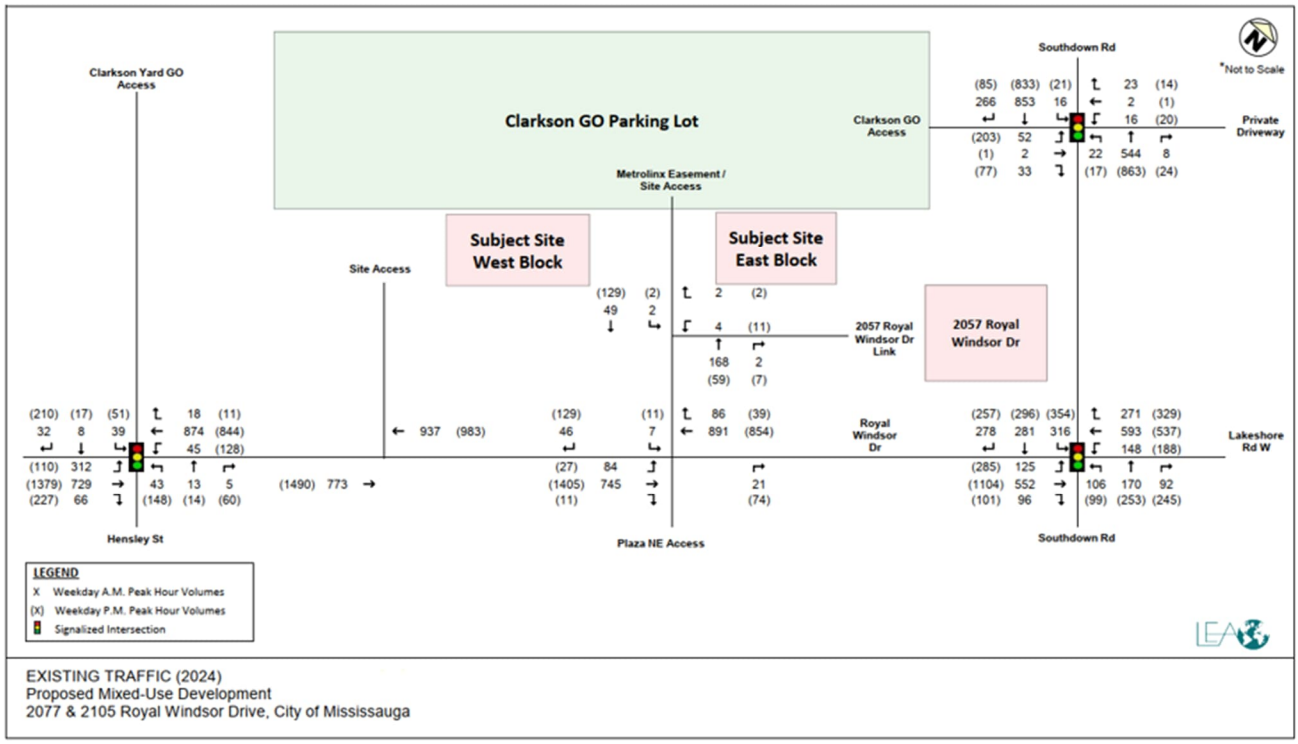
Table 2-1: Traffic Data Collection

Intersection	TMC Date	Source
Southdown Road and Clarkson GO Access/Private Driveway	Thursday, September 19, 2024	LEA
Royal Windsor Drive/Lakeshore Road West and Southdown Road		
Royal Windsor Drive and Site Access /Metrolinx access to Clarkson GO Parking lot		
Royal Windsor Drive and West Site Access (Future Metrolinx Access Road)		
Clarkson Yard GO Access/Hensley Street and Royal Windsor 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 2-7.

Figure 2-7: Existing Peak Hour Traffic Volumes



3 FUTURE BACKGROUND TRAFFIC CONDITIONS

For the analysis of future background traffic conditions, this study considers a three-year horizon to the estimated full build-out year of 2027. Future background traffic includes the traffic added to the network from other future developments within the surrounding study area, corridor growth, as well as all planned infrastructure improvements within the study area. The future background conditions will be used as the baseline for evaluating the impact of the proposed development.

3.1 CORRIDOR GROWTH

Based on corridor growth rates provided by the City of Mississauga, the following growth rate was applied during the traffic analysis of the site, as shown in Table 3-1.

Table 3-1: Expected Corridor Growth on Adjacent Arterial Roads

Corridor	AM	PM
Royal Windsor Drive EB	1.00%	1.50%
Royal Windsor Drive WB	1.50%	1.00%
Southdown Road NB	0.00%	0.00%
Southdown Road SB	0.00%	0.00%

Detailed information for the growth rate is provided in Appendix C.

3.2 BACKGROUND DEVELOPMENTS

Three (3) background development was identified within the immediate study area. The background development traffic volumes were extracted from their respective traffic studies and were subsequently assigned to the study area road network. The site statistics for each background development is summarized in Table 3-2.

Table 3-2: Background Developments

#	Location	Proposed Development	Source of Traffic Volumes
1	551 Avonhead Road	78,344 m^2 of industrial GFA	TIS dated June 2021 GHD
2	930 Southdown Rd	23,205.52 m2 (Net Increase 1,576.62 m2)	BA Transportation Brief – May 4, 2023
3	1035 Southdown Road	464 Units (ITE10 LUC232)	BA Trip Generation Summary September 30, 2020

3.3 FUTURE TRANSPORTATION CONTEXT

For the analysis of future background traffic conditions, this study considers future transportation background in order to fully understand the transportation context in the local area. It is worth noting that that there are no significant road expansion plans outlined in City of Mississauga's Transportation Master Plan.

3.3.1 Future Transit Context

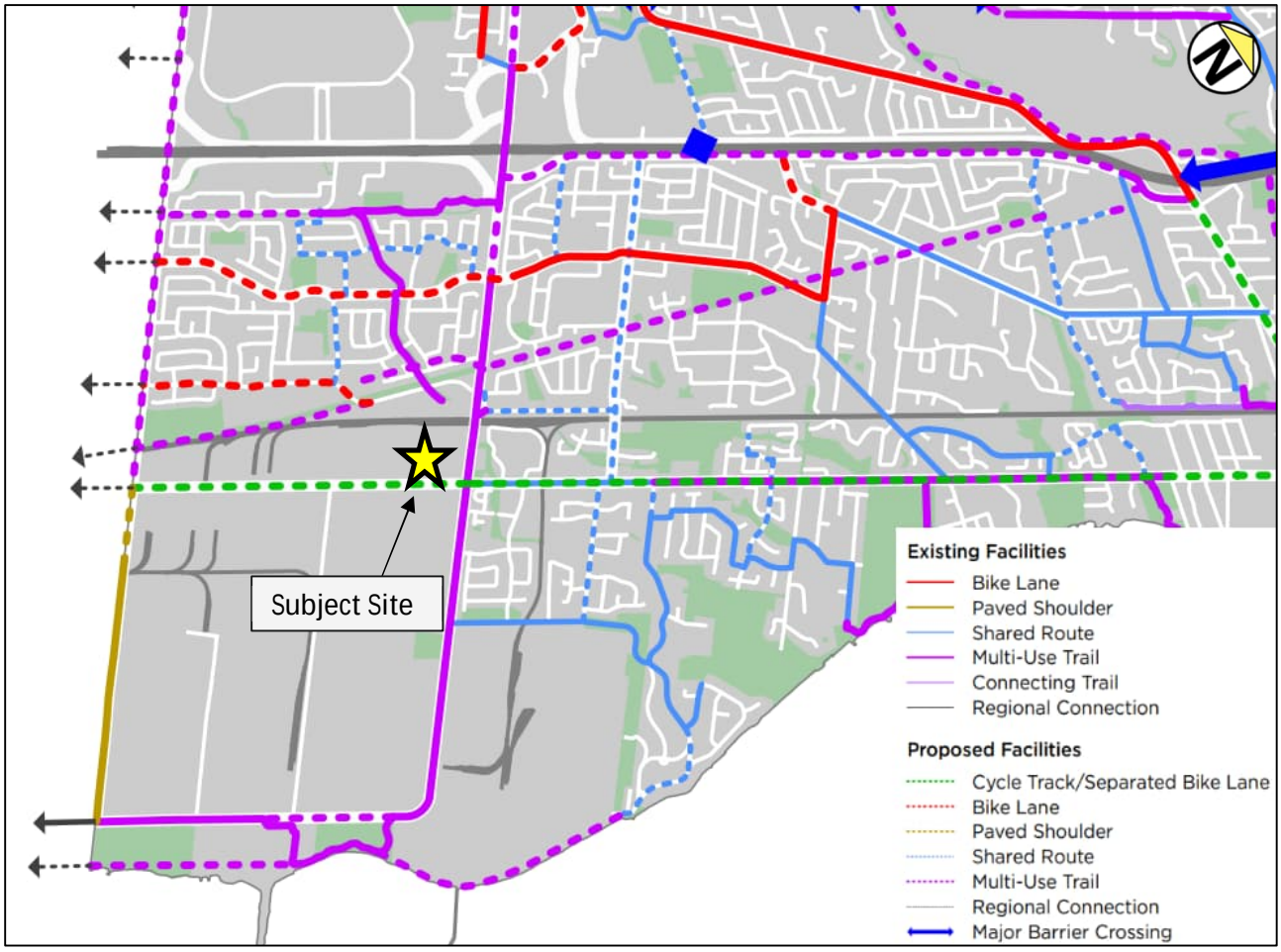
As part of Metrolinx's GO Expansion Program, the Milton Line will offer up to 30% more trips and 15-minute rush hour service, in addition to upgraded stations. This will further improve transit accessibility for the subject site and provide convenient weekday travel to the Toronto downtown core. The Cooksville GO Station will also provide connections to the future Hurontario LRT line.

3.3.2 Future Active Transportation Context

The City of Mississauga completed a *Cycling Master Plan* in 2018, was subsequently endorsed and ratified by Mississauga City Council in June and July 2018, respectively. The proposed cycling network in the Mississauga *Cycling Master Plan* is illustrated in Figure 3-1.

The proposed cycling network in the vicinity of the site includes bike lanes along Royal Windsor Drive, which will connect with existing multi-use paths and trails surrounding the neighbourhood. The Master Plan does not specify an implementation timeline but contemplates overall completion within twenty years. When implemented, the site will have improved cycling connectivity to surrounding neighbourhoods.

Figure 3-1: Proposed Cycling Network Improvements

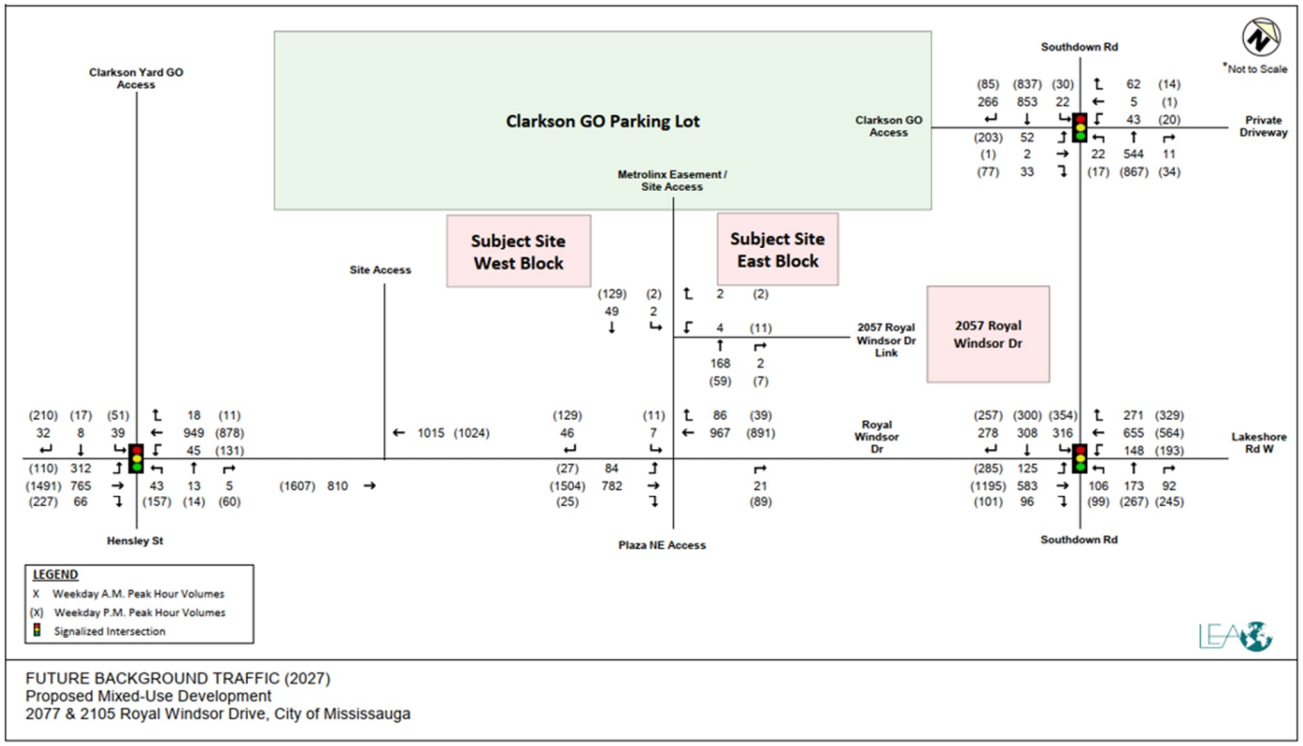


Source: City of Mississauga, Last Updated: 2019

3.4 FUTURE BACKGROUND TRAFFIC VOLUMES

Future background conditions were determined by incorporating corridor growth for a three-year horizon and background development traffic to the existing traffic volumes. The results for the studied intersections are summarized in Figure 3-2.

Figure 3-2: Future (2027) Background Peak Hour Traffic Volumes



FUTURE BACKGROUND TRAFFIC (2027)
Proposed Mixed-Use Development
2077 & 2105 Royal Windsor Drive, City of Mississauga

4 SITE-GENERATED TRAFFIC

The proposed redevelopment includes the construction of four (4) residential towers with ground floor retail to be completed in two (2) blocks. The towers will include a total of 1,419 residential units and 1,343 m^2 of retail GFA. The proposed development will replace the existing commercial plaza and entertainment uses on-site. Access to the subject site will be provided via two (2) unsignalized, full movement accesses off Royal Windsor Drive. Additionally, the site can also be accessed through Clarkson GO Station at the Southdown Road and Clarkson GO Access/Private Driveway intersection.

The sections below discuss the calculation, distribution, and assignment of site-generated single-occupant vehicle (SOV) trips.

4.1 MODAL SPLIT & MULTI-MODAL TRIP GENERATION

To determine the modal split of the proposed development, 2016 Transportation Tomorrow Survey (TTS) was used. The parameters used to estimate the modal split were trip modes for apartment/condominium dwelling types that were home based trips during peak periods, located in proximity to the study area. The zones evaluated included zones 3614, 3623, 3639, 3640, 3644, 3645, 3879, and 4023. Table 4-1 presents the mode split percentages based on the averages from each zone, with further details contained in Appendix D.

Table 4-1: Modal Split Summary

Land Use	Description	Modal Split	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
Proposed Residential	**External Person Trips**	**100%**	**127**	**250**	**377**	**242**	**199**	**441**
	Auto Driver Trips	54%	69	135	204	131	108	239
	Passenger Trip	7%	9	17	26	17	14	31
	Transit Trips	27%	34	68	102	65	53	118
	Pedestrian trips	10%	13	25	38	24	20	44
	Cycling Trips	2%	2	5	7	5	3	8
Proposed Retail Primary + Pass-by	**External Person Trips**	**100%**	**17**	**13**	**30**	**44**	**35**	**79**
	Auto Driver Trips	64%	11	9	20	28	22	50
	Passenger Trip	11%	2	1	3	4	4	8
	Transit Trips	17%	3	3	6	7	7	14
	Pedestrian trips	7%	1	1	2	3	3	6
	Cycling Trips	1%	0	0	0	0	1	1
Existing to Remove (Retail Primary + Auto Services Primary + Restaurant Primary + Pass by)	**External Person Trips**	**100%**	**12**	**8**	**20**	**62**	**60**	**122**
	Auto Driver Trips	64%	8	5	13	40	39	79
	Passenger Trip	11%	2	1	3	7	7	14
	Transit Trips	17%	2	2	4	11	10	21
	Pedestrian trips	7%	0	0	0	4	4	8
	Cycling Trips	1%	0	0	0	0	0	0
Net Multi-Modal Trips (Proposed Minus Existing to Remove)	**External Person Trips**	**-**	**132**	**255**	**387**	**224**	**174**	**398**
	Auto Driver Trips	-	72	139	211	119	91	210
	Passenger Trip	-	9	17	26	14	11	25
	Transit Trips	-	35	69	104	61	50	111

	Pedestrian trips	-	14	26	40	23	19	42
	Cycling Trips	-	2	5	7	5	4	9

The results indicate that residents in the area rely on the automobile transportation mode. However, 46% of trips made are using alternative modes of transportation, which indicates that the multi-modal transit networks in the vicinity of the area provides residents with accessible sustainable travel modes, thereby reducing auto dependency in the future.

In addition, the proposed development is projected to further encourage transit use in the area. The site is currently occupied by low density retail and entertainment uses. The replacement of these uses by higher density, mixed-use residential and retail will help to facilitate future commuter connections throughout Mississauga as well as to/from neighbouring municipalities such as Oakville and Toronto, further improving transit use and connectivity in the area.

4.2 TRIP GENERATION METHODOLOGY

Trip generation was estimated using baseline trip rates from the *ITE Trip Generation Manual 11th Edition*.

4.2.1 Baseline Trip Generation

The baseline trip rates were used to determine new trips associated with the proposed residential and retail uses, as well as trips associated with the existing uses on-site to be removed. The baseline trips were determined through the following steps:

- Proposed residential use: the average rates for ITE LUC 222 Multifamily Housing (High-Rise) in General Urban/Suburban, Close to Rail Transit Setting, were used.
- Proposed retail use: the average rates for ITE LUC 822 Strip Retail Plaza (<40k) in General Urban/Suburban setting were used.
- Existing retail use: the average rates for ITE LUC 822 Strip Retail Plaza (<40k) in General Urban/Suburban setting were used.
- Existing auto services: the average rates for ITE LUC 943 Automobile Parts and Service Center in General Urban/Suburban setting were used.
- Existing restaurant use: the average rates for ITE LUC 934 Fast-Food Restaurant with Drive-Thru in General Urban/Suburban setting were used.
  Since the restaurant currently located on site is not open during weekday AM peak period, no AM trips were calculated for existing restaurant use. As such, no restaurant trips were removed from the AM peak period in future conditions. It is also worth noting that a 70% ITE trip rate was applied for the following reasons:
  - Other fast-food chains are more likely to be used as ITE trip survey locations
  - Harvey's is associated with a longer turnover time in comparison with other fast-food chains

4.2.2 Person-Trip Conversion

A conversion to person trips was subsequently undertaken for the proposed and existing uses where the ITE auto trip rates were used in place of person trip rates. The following steps were undertaken:

- Proposed residential use: based on an assumed auto split of 95% and average vehicle occupancy for ITE LUC 220 per ITE Trip Generation Handbook, 3rd edition.
- Proposed and existing retail use: based on an assumed auto split of 95% and average vehicle occupancy for ITE LUC 820 per ITE Trip Generation Handbook, 3rd edition.
- Existing auto services: based on an assumed auto split of 95%.
- Existing restaurant use: based on an assumed auto split of 95% and average vehicle occupancy for ITE LUC 934 per ITE Trip Generation Handbook, 3rd edition.

4.2.3 Site Interaction Trip Reduction:

Since the proposed development will be mixed-use, it was assumed that some trips would be taken between the proposed residential and retail uses within the site, thus these trips wouldn't be added to the external network. Internal trip reduction was applied between the proposed residential and retail uses following the methodology outlined in the *ITE Trip Generation Handbook, 3rd Edition*.

4.2.4 Pass-by Retail Trips:

As the site currently features a number of existing uses, pass-by traffic was calculated through the following considerations:

- No pass-by trips were assumed for the retail and auto services trips as the *ITE Trip Generation Manual, 11th Edition's List of Land Uses with Vehicle Pass-By Rates and Data* does not include the aforementioned land uses.
- A 55% pass-by rate was applied to restaurant trips for the PM peak period as per the *ITE Trip Generation Manual, 11th Edition's List of Land Uses with Vehicle Pass-By Rates and Data.*

4.3 EXISTING SITE TRIPS TO BE REMOVED

For the purpose of the analysis, the existing site traffic was removed from the road network in the study area as these uses will be replaced by the new residential and retail site traffic volumes. The removed existing site traffic volumes are illustrated in Table 4-2.

Table 4-2: Existing Subject Site Trip Generation – Proposed Uses

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
ITE LUC 822 - Strip Retail Plaza <40k 3,800 ft²	Auto Trip Rate (/1000 ft²)	1.42	0.94	2.36	3.30	3.30	6.59
	Total Auto Trips	5	4	9	13	12	25
	Adjusted Person Trips	6	5	11	17	15	32
	Site Interaction	0	0	0	0	0	0
	Total External Trips	**6**	**5**	**11**	**17**	**15**	**32**
	External Auto Trips (64%)	**4**	**3**	**7**	**11**	**10**	**21**
	Pass-By	0	0	0	0	0	0
	Primary External Auto Trips	**4**	**3**	**7**	**11**	**10**	**21**
ITE LUC 943 - Automobile Parts and Service Center 4,500 ft²	Auto Trip Rate (/1000 ft²)	1.38	0.53	1.91	0.80	1.26	2.06
	Total Auto Trips	6	3	9	4	5	9
	Adjusted Person Trips	6	3	9	4	5	9
	Site Interaction	0	0	0	0	0	0
	Total External Trips	**6**	**3**	**9**	**4**	**5**	**9**
	External Auto Trips (64%)	**4**	**2**	**6**	**3**	**3**	**6**
	Pass-By	0	0	0	0	0	0
	Primary External Auto Trips	**4**	**2**	**6**	**3**	**3**	**6**
ITE LUC 934 - Fast-Food Restaurant with Drive-Thru 2,600 ft²	Auto Trip Rate (/1000 ft²)	0.00	0.00	0.00	12.02	11.10	23.12
	Total Auto Trips	0	0	0	31	29	60
	Adjusted Person Trips	0	0	0	41	40	81
	Site Interaction	0	0	0	0	0	0
	Total External Trips	**0**	**0**	**0**	**41**	**40**	**81**
	External Auto Trips (64%)	**0**	**0**	**0**	**26**	**26**	**52**
	Pass-By	0	0	0	14	14	28
	Primary External Auto Trips	**0**	**0**	**0**	**12**	**12**	**24**
Total Existing Site Auto Trips		**8**	**5**	**13**	**40**	**39**	**79**

The existing retail spaces located on site is generating a total of 13 vehicle trips (8 inbound and 5 outbound) in the AM peak hour and 79 vehicle trips (40 inbound and 39 outbound) in the PM peak hour.

4.4 PROPOSED SITE TRIP GENERATION

The site trip generation for the proposed development is outlined in Table 4-3. For the purposes of calculating site-generated trips, the site statistics were rounded up to the nearest 5 units for residential and the nearest 1,000 square foot for retail GFA.

Table 4-3: Subject Site Trip Generation – Proposed Uses

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Residential ITE LUC 222 – Multifamily Housing (High-Rise) West Block – 740 Units	Auto Trip Rate (/unit)	0.08	0.15	0.23	0.15	0.11	0.26
	Total Auto Trips	56	114	170	109	83	192
	Adjusted Person Trips	67	131	198	132	106	238
	Site Interaction	-1	-2	-3	-6	-3	-9
	Total External Trips	**66**	**129**	**195**	**126**	**103**	**229**
	External Auto Trips (54%)	**36**	**70**	**106**	**68**	**56**	**124**
Residential ITE LUC 222 – Multifamily Housing (High-Rise) East Block – 685 Units	Auto Trip Rate (/unit)	0.08	0.15	0.23	0.15	0.11	0.26
	Total Auto Trips	52	106	158	101	77	178
	Adjusted Person Trips	62	122	184	122	98	220
	Site Interaction	-1	-1	-2	-6	-2	-8
	Total External Trips	**61**	**121**	**182**	**116**	**96**	**212**
	External Auto Trips (54%)	**33**	**65**	**98**	**63**	**62**	**115**
Total New Residential Site Auto Trips		**69**	**135**	**204**	**131**	**108**	**239**
ITE LUC 822 - Strip Retail Plaza <40k West Block – 8, 000 ft^2	Auto Trip Rate (/1000 ft^2)	1.42	0.94	2.36	3.30	3.30	6.59
	Total Auto Trips	11	8	19	27	26	53
	Adjusted Person Trips	14	10	24	34	32	66
	Site Interaction	-2	-1	-3	-3	-8	-11
	Total External Trips	**12**	**9**	**21**	**31**	**24**	**55**
	External Auto Trips (64%)	**8**	**6**	**14**	**20**	**15**	**35**
	Pass-By	0	0	0	0	0	0
	Primary External Auto Trips	**8**	**6**	**14**	**20**	**15**	**35**
ITE LUC 822 - Strip Retail Plaza <40k East Block – 3,700 ft^2	Auto Trip Rate (/1000 ft^2)	1.42	0.94	2.36	3.30	3.30	6.59
	Total Auto Trips	5	4	9	13	12	25
	Adjusted Person Trips	6	5	11	17	15	32
	Site Interaction	-1	-1	-2	-2	-4	-6
	Total External Trips	**5**	**4**	**9**	**13**	**11**	**24**
	External Auto Trips (64%)	**3**	**3**	**6**	**8**	**7**	**15**
	Pass-By	0	0	0	0	0	0
	Primary External Auto Trips	**3**	**3**	**6**	**8**	**7**	**15**
Total New Retail Site Auto Trips		**11**	**9**	**20**	**28**	**22**	**50**
Total New Site Auto Trips		**80**	**144**	**224**	**159**	**130**	**289**

The proposed development is project to generate a total of 224 vehicle trips (80 inbound and 144 outbound) in the AM peak hour and 289 vehicle trips (159 inbound and 130 outbound) in the PM peak hour.

4.5 NET FUTURE SITE TRIP GENERATION

As noted in Section 1, this study considers a three-year horizon to the year 2027 as the proposed redevelopment includes residential use. It is expected that by 2027, the construction for both residential towers as well as on-site retail spaces would be completed. As such, existing retail services located on site would be removed. A summary of the net anticipated site vehicle trip is summarized in Table 4-4.

Table 4-4: Net Subject Site Trip Generation

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Total Residential	69	135	204	131	108	239
Net Retail	7	6	13	17	12	29
Total Auto Service	-4	-2	-6	-3	-3	-6
Total Restaurant	0	0	0	-12	-12	-24
Total Pass-by	0	0	0	-14	-14	-28
Net Site Auto Trips	**72**	**139**	**211**	**119**	**91**	**210**

The proposed development is anticipated to generate a net total of 211 vehicle trips (72 inbound and 139 outbound) in the AM peak hour and 210 vehicle trips (119 inbound and 91 outbound) in the PM peak hour when accounting for the removal of existing site trips.

4.6 TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution and assignment of site traffic was developed based on Transportation Tomorrow Survey (TTS) 2016 data. The destination of home-based trips generated during the weekday AM and PM peak periods by the traffic zones where the subject site is located was used to determine the directional trip distribution. The trips were assigned based on the most logical routing considering the site access location. For retail use, inbound and outbound distribution was based on PM due to limited data in the AM. Table 4-5 below summarizes the assumed residential trip assignment for this study. The details of the TTS data are contained in Appendix C.

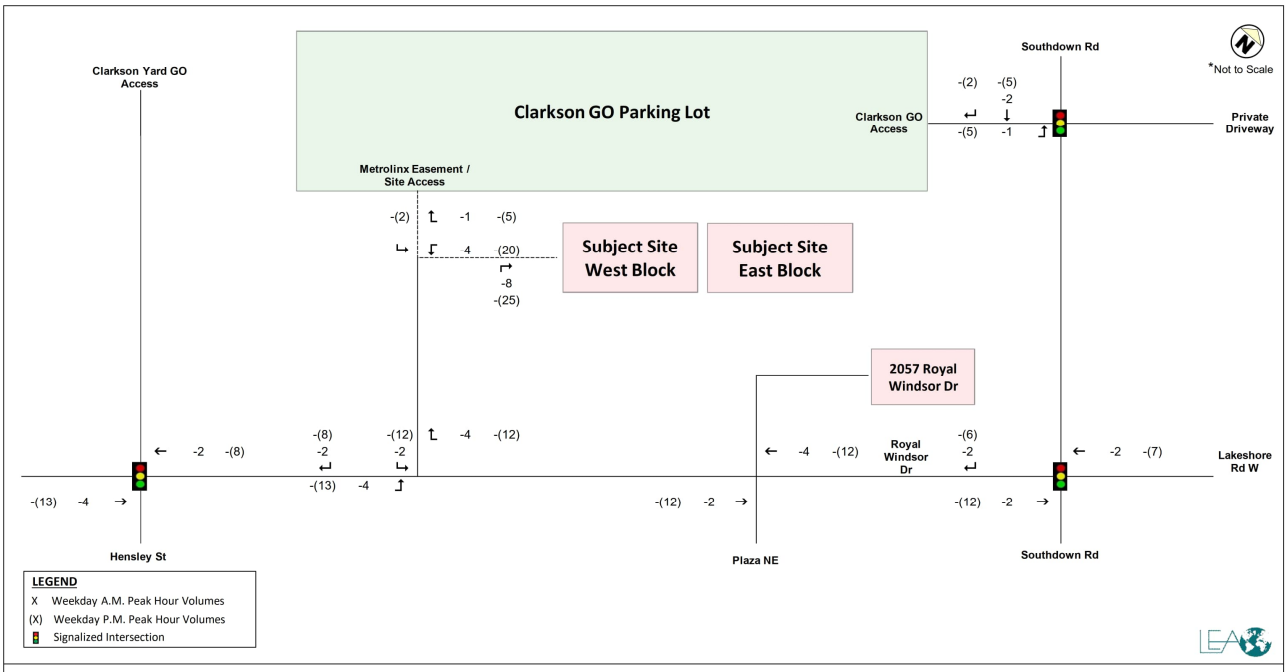
Table 4-5: Trip Distribution

Direction From/ To	Expected Route	Residential Weekday AM/PM		Retail Weekday AM/PM	
		In	Out	In	Out
N	Southdown Road and EW Corridors	11%	14%	15%	13%
	Highway 403 & Highway 410 via Southdown Road	4%	3%	1%	-
	QEW and Highway 427 via Southdown Road	2%	2%	-	-
	Royal Windsor Drive and Winston Churchill Boulevard	10%	11%	14%	16%
S	Southdown Road and EW Corridors	3%	3%	1%	-
E	Highway 403 via Southdown Road	15%	13%	2%	--
	QEW via Southdown Road	9%	7%	6%	6%
	QEW, Gardiner & DVP via Southdown Road	1%	1%	-	-
	QEW and Highway 427 via Southdown Road	5%	5%	-	1%
	QEW, Highway 427 & Highway 401 via Southdown Road	2%	1%	-	-
	QEW, Highway 427, Highway 401 & Highway 400/404 via Southdown Road	3%	3%	-	-
	Lakeshore Road West and NS Corridors	9%	9%	27%	46%
W	Royal Windsor Drive and NS Corridors	6%	6%	1%	-
	Highway 403 via Royal Windsor Drive & Winston Churchill Boulevard	17%	19%	33%	18%
	Highway 403 & Highway 410 via Royal Windsor Drive & Winston Churchill Boulevard	3%	3%	-	-
	TOTAL	100%	100%	100%	100%

4.7 SITE TRIPS ON THE ROAD NETWORK

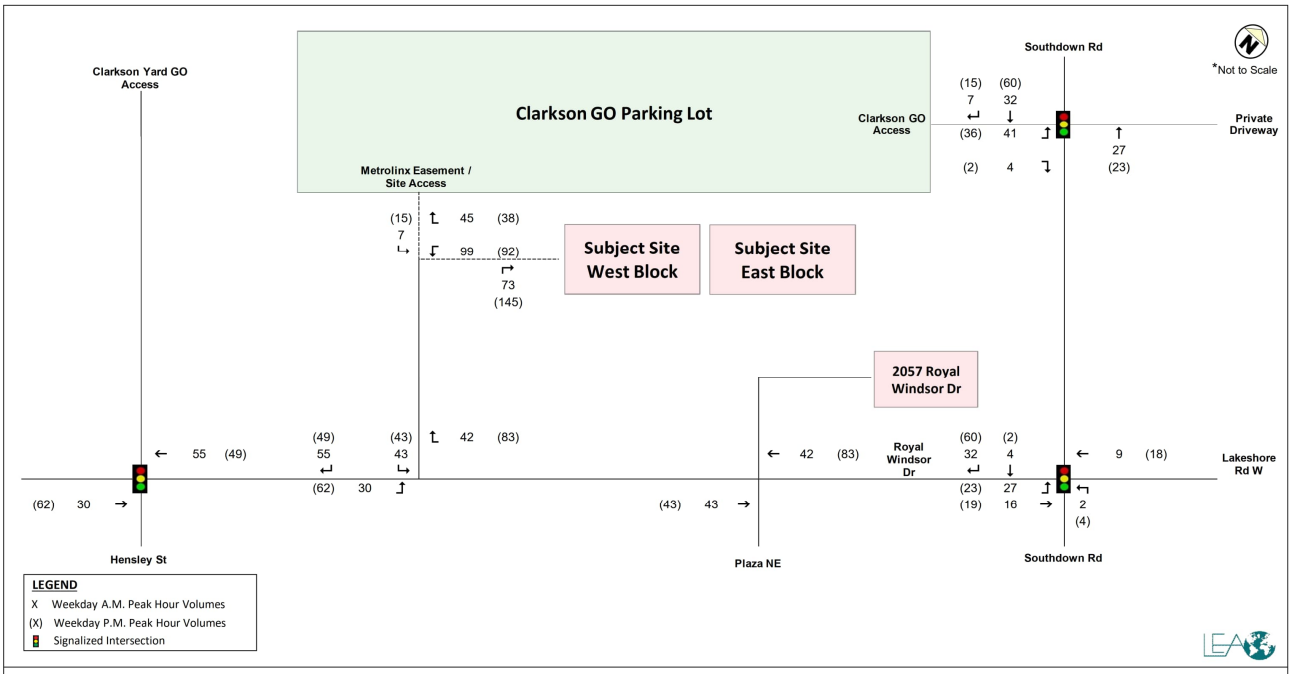
The existing site trips to be removed, site trips associated with the proposed uses, and overall net site trips to be generated for the peak hours are illustrated in Figure 4-1, Figure 4-2, and Figure 4-3, respectively.

Figure 4-1: Existing Peak Hour Site Traffic to be Removed



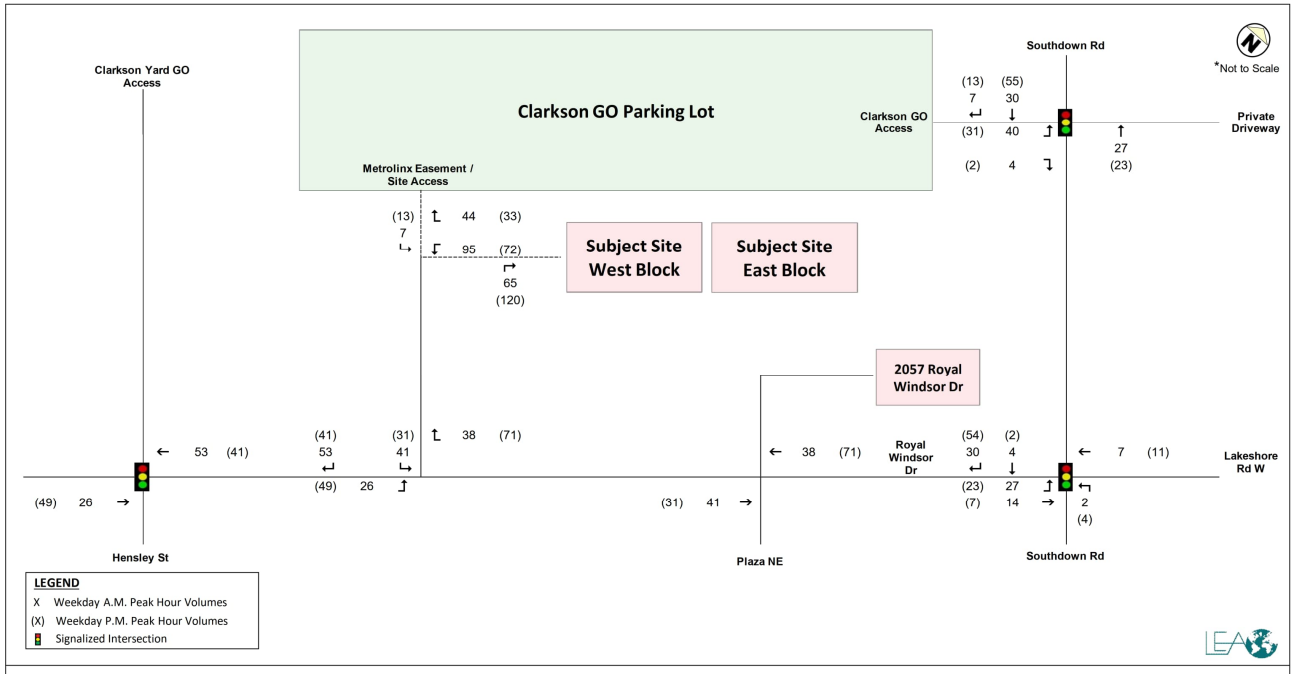
TOTAL EXISTING SITE TRAFFIC TO REMOVE
Proposed Mixed-Use Development
2077 & 2105 Royal Windsor Drive, City of Mississauga

Figure 4-2: Proposed Peak Hour Site Traffic



TOTAL NEW SITE TRAFFIC
Proposed Mixed-Use Development
2077 & 2105 Royal Windsor Drive, City of Mississauga

Figure 4-3: Net Peak Hour Site Traffic

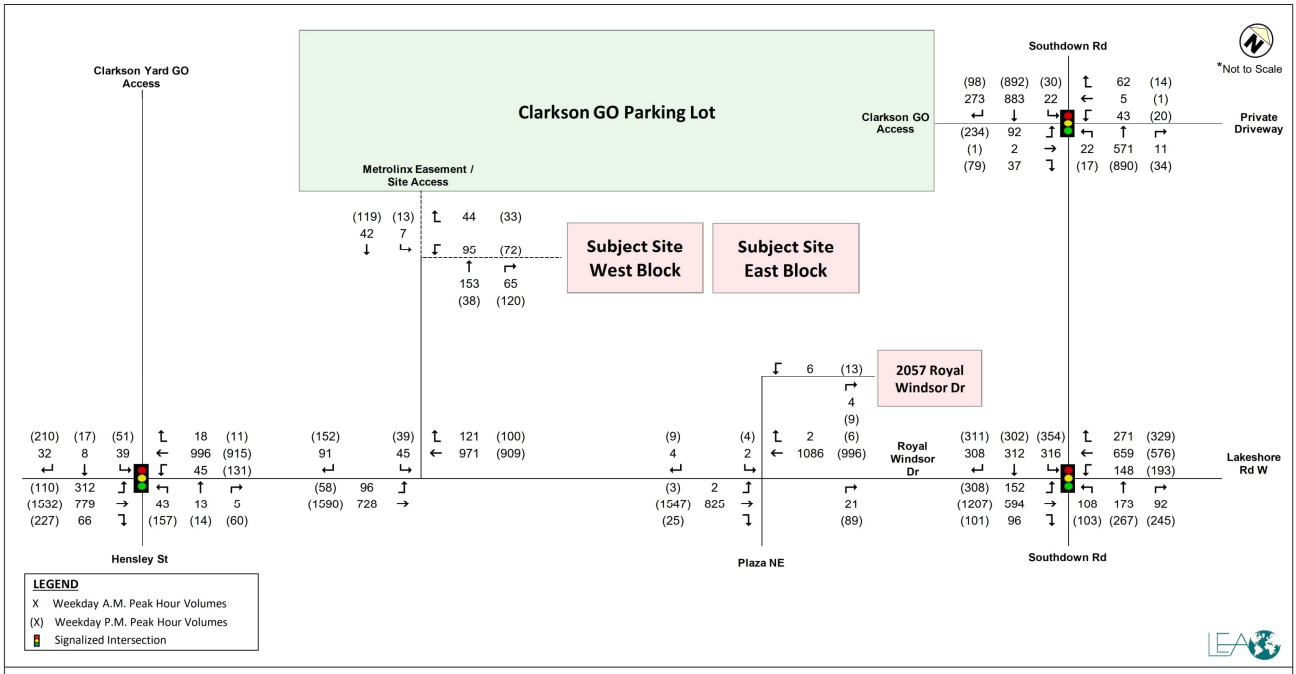


NET TOTAL SITE TRAFFIC
Proposed Mixed-Use Development
2077 & 2105 Royal Windsor Drive, City of Mississauga

4.8 FUTURE TOTAL TRAFFIC VOLUMES

Future total transportation conditions include future background volumes, in addition to the site trips generated by the proposed development. The future total traffic volumes for the AM and PM peak hours are illustrated in Figure 4-4.

Figure 4-4: Future Total Peak Hour Traffic Volumes



FUTURE TOTAL TRAFFIC (2027)
Proposed Mixed-Use Development
2077 & 2105 Royal Windsor Drive, City of Mississauga

5 INTERSECTION CAPACITY ANALYSIS RESULTS

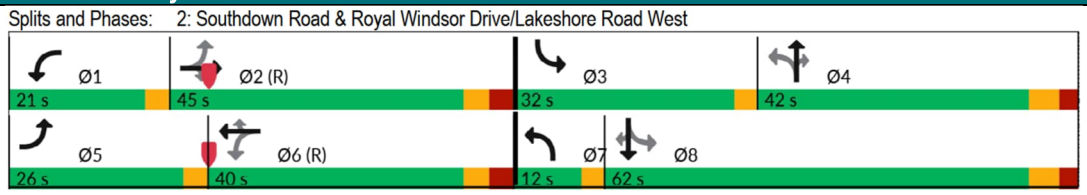
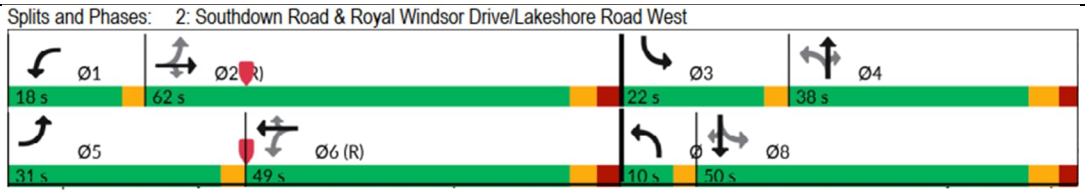
The following sections provide an analysis of the intersection operations under existing, future background, and future total scenarios. The intersection capacity analysis for the study area was undertaken using Synchro version 11.0, which is based on the Highway Capacity Manual 2000 methodology. Critical movements are defined as movements with level-of-service (LOS) E or worse or volume-to-capacity (v/c) ratio greater than 0.85 for through and right-turn movements and v/c greater than 0.90 for left-turn movements.

5.1 SYNCHRO MODEL INPUTS

Existing Conditions: Signal timing plans were obtained from the City of Mississauga for the signalized intersections in the study area. A Lost time adjustment of -1.00 was made for the EBL movement at Southdown Road & Clarkson GO Access during the PM peak as v/c > 1.00.

Future Background and Future Total Conditions: Due to capacity constraints observed during the PM peak hour in the future background scenario (due to corridor growth), signal timing optimization is recommended for the future scenarios at Royal Windsor Drive/Lakeshore Road West & Southdown Road interchanges during the PM peak hour. The optimized signal timing plans compared to the existing signal timing plans are summarized in Table 5-1. Where possible, the existing cycle length was maintained.

Table 5-1: Summary of Signal Timing Plan Optimization Undertaken for Future Conditions

Royal Windsor Drive/Lakeshore Road West & Southdown Road	
Existing – PM Peak Period	
Future Optimized – PM Peak Period	

A signal warrant analysis was conducted for the Future Metrolinx Easement & Royal Windsor Dr. It was determined that a signal is warranted for Justification 1 (minimum vehicle requirement) at the intersection in the future with the added site traffic. However, intersection capacity results below show acceptable performance at the unsignalized intersections. Therefore, no sensitivity analysis was conducted with a signal at the aforementioned intersection. Detailed signal warrant analysis results are provided in Appendix F.

5.2 SIGNALIZED INTERSECTION CAPACITY ANALYSIS

The intersection capacity analysis was conducted under existing, future background, as well as future total conditions during the weekday AM and PM peak hours, where the results for the each of the studied signalized intersections are summarized in Table 5-2, to Table 5-5. Detailed capacity results are provided in Appendix E.

Table 5-2: Intersection Capacity Analysis – Southdown Road & Clarkson GO Access/Private Drive

AM PEAK HOUR	Existing				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th
Overall	**-**	**0.36**	**A (9)**	**-**	**-**	**0.36**	**B (11)**	**-**	**-**	**0.41**	**B (13)**	**-**
EBL	52	0.57	71(E)	30	52	0.60	74(E)	30	92	0.66	70(E)	45
EBTR	35	0.04	61(E)	12	35	0.04	61(E)	12	39	0.04	56(E)	12
WBL	16	0.18	62(E)	13	43	0.48	67(E)	26	43	0.30	58(E)	24
WBTR	25	0.03	61(E)	10	67	0.08	61(E)	17	67	0.07	56(E)	16
NBL	**22**	**0.37**	**84(F)**	**16**	**22**	**0.37**	**84(F)**	**17**	**22**	**0.37**	**87(F)**	**15**
NBTR	552	0.22	1(A)	11	555	0.22	1(A)	10	582	0.24	2(A)	14
SBL	16	0.03	4(A)	4	22	0.04	4(A)	5	22	0.04	5(A)	6
SBT	853	0.34	5(A)	64	853	0.34	5(A)	64	883	0.37	8(A)	78
SBR	266	0.17	5(A)	9	266	0.17	5(A)	9	273	0.18	6(A)	10
PM PEAK HOUR	**Existing**				**Future Background 2027**				**Future Total 2027**			
Mvmt	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th
Overall	**-**	**0.53**	**B (20)**	**-**	**-**	**0.53**	**C (20)**	**-**	**-**	**0.58**	**C (22)**	**-**
EBL	203	0.79	66(E)	86	203	0.79	66(E)	86	234	0.84	E (69)	101
EBTR	78	0.06	45(D)	13	78	0.06	45(D)	13	80	0.06	D (43)	13
WBL	20	0.09	46(D)	12	20	0.09	46(D)	12	20	0.08	D (44)	12
WBTR	15	0.01	45(D)	6	15	0.01	45(D)	6	15	0.01	D (43)	6
NBL	17	0.31	76(E)	10	17	0.31	72(E)	12	17	0.31	E (73)	12
NBTR	887	0.41	13(B)	105	901	0.41	13(B)	125	924	0.44	B (15)	126
SBL	21	0.07	10(A)	8	30	0.10	10(B)	11	30	0.11	B (12)	11
SBT	833	0.43	13(B)	104	837	0.43	13(B)	105	892	0.47	B (15)	114
SBR	85	0.08	10(A)	8	85	0.08	10(A)	8	98	0.09	B (11)	9

Existing Conditions: Under existing weekday AM and PM peak hour conditions, the intersection is operating within capacity. The 95th percentile queue lengths for most movements are indicated to be accommodated within the available storage, with the exception of the eastbound left movement in the PM hour. No further intersection changes are recommended.

Future Background Conditions: Under future background weekday AM and PM peak hour conditions, the intersection is expected to continue operating with minimal changes to operations compared to existing.

Future Total Conditions: Under future total weekday AM and PM peak hour conditions, the intersection is expected to continue operating similarly to future background. No operational constraints was identified with the added site traffic.

Table 5-3: Intersection Capacity Analysis – Royal Windsor Drive/Lakeshore Road West & Southdown Road

AM PEAK HOUR	Existing				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th
Overall	**-**	**0.36**	**A (9)**	**-**	**-**	**0.36**	**B (11)**	**-**	**-**	**0.41**	**B (13)**	**-**
EBL	125	0.51	C (71)	28	125	0.48	C (27)	28	152	0.64	C (33)	35
EBT	552	0.51	D (61)	92	583	0.54	D (37)	98	594	0.55	D (37)	100
EBR	96	0.08	C (62)	7	96	0.08	B (20)	8	96	0.08	C (20)	7
WBL	148	0.51	C (61)	44	148	0.54	C (33)	44	148	0.55	C (35)	44
WBT	593	0.58	D (84)	107	655	0.63	D (45)	118	659	0.67	D (47)	120
WBR	271	0.19	D (1)	23	271	0.19	D (37)	23	271	0.19	D (39)	23
NBL	106	0.28	C (4)	28	106	0.28	C (28)	28	108	0.29	C (29)	28
NBT	170	0.18	C (5)	31	173	0.16	C (34)	31	173	0.18	C (35)	32
NBR	92	0.07	C (5)	9	92	0.07	C (33)	9	92	0.07	C (33)	9
SBL	316	0.54	C (34)	81	316	0.54	C (24)	76	316	0.54	C (27)	97
SBT	281	0.22	C (27)	39	308	0.22	C (26)	41	312	0.24	C (30)	53
SBR	278	0.21	C (36)	19	278	0.21	C (25)	16	308	0.23	E (61)	36
PM PEAK HOUR	**Existing**				**Future Background 2027**				**Future Total 2027**			
Mvmt	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th
Overall	**-**	**0.84**	**E (72)**	**-**	**-**	**0.88**	**E (59)**	**-**	**-**	**0.88**	**E (61)**	**-**
EBL	285	0.81	E (64)	120	285	0.67	D (45)	111	308	0.72	D (47)	117
EBT	**1104**	**1.10**	**F (123)**	**263**	1195	0.87	E (68)	228	1207	0.88	E (68)	230
EBR	**101**	**0.09**	**F (119)**	**28**	**101**	**0.08**	**F (104)**	**24**	**101**	**0.08**	**F (101)**	**23**
WBL	188	0.82	E (55)	73	193	0.90	E (73)	90	193	0.90	E (73)	91
WBT	537	0.60	D (49)	99	564	0.44	C (35)	93	576	0.47	D (36)	97
WBR	329	0.23	D (42)	27	329	0.23	C (32)	23	329	0.23	C (33)	24
NBL	99	0.28	C (32)	27	99	0.33	D (40)	32	103	0.37	D (40)	34
NBT	253	0.27	D (39)	47	267	0.36	D (47)	51	267	0.36	D (47)	51
NBR	245	0.17	D (38)	23	245	0.21	D (46)	30	245	0.21	D (46)	30
SBL	354	0.63	C (31)	122	354	0.83	D (51)	139	354	0.83	D (50)	140
SBT	296	0.23	C (30)	52	300	0.30	D (37)	57	302	0.31	D (36)	58
SBR	257	0.19	F (135)	66	257	0.20	F (154)	68	311	0.23	F (174)	83

Existing Conditions: Under existing weekday AM peak hour conditions, the intersection is operating within capacity. For the PM peak hour conditions, the intersection generally operates well except for the EBT movement which operates at practical capacity. This is a result of a high through volumes not being able to progress through the intersection with the available green time.

Future Background Conditions: Under future background, weekday AM peak hour conditions is expected to continue operate with minimal changes to operations compared to existing. Signal timing optimization was implemented for the PM peak hour and improvement in capacity are expected for the eastbound through movement. The westbound left and southbound left movements are expected to approach capacity.

Future Total Conditions: Under future total weekday AM and PM peak hour conditions, the intersection is expected to continue operating similarly to future background. The v/c ratios, delay, and queue lengths for most movements during both peak hours indicate acceptable changes with the added site traffic compared to future background conditions. No additional constraints were identified because of the added site traffic.

Table 5-4: Intersection Capacity Analysis – Royal Windsor Drive/ Drive & Hensley Street/Clarkson Yard GO Access

AM PEAK HOUR	Existing				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th
Overall	**-**	**0.61**	**A (8)**	**-**	**-**	**0.65**	**A (8)**	**-**	**-**	**0.64**	**A (9)**	**-**
EBL	312	0.60	A (5)	23	312	0.65	A (6)	23	312	0.64	A (7)	23
EBT	729	0.29	A (5)	46	765	0.31	A (5)	48	779	0.31	A (5)	49
EBR	66	0.05	A (3)	5	66	0.05	A (3)	5	66	0.05	A (3)	5
WBL	45	0.08	A (2)	3	45	0.09	A (2)	3	45	0.09	A (3)	3
WBT	874	0.36	A (4)	31	949	0.39	A (4)	32	996	0.42	A (5)	44
WBR	18	0.01	A (5)	0	18	0.01	A (5)	0	18	0.01	A (6)	0
NBL	43	0.54	E (70)	26	43	0.54	E (70)	26	43	0.54	E (70)	26
NBTR	18	0.12	E (62)	12	18	0.12	E (62)	12	18	0.12	E (62)	12
SBL	39	0.51	E (68)	24	39	0.47	E (67)	24	39	0.51	E (68)	24
SBTR	40	0.10	E (62)	14	40	0.10	E (62)	14	40	0.10	E (62)	14
PM PEAK HOUR	**Existing**				**Future Background 2027**				**Future Total 2027**			
Mvmt	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th	Vol	V/C	LOS & Delay	Queue 95th
Overall	**-**	**0.78**	**C (28)**	**-**	**-**	**0.83**	**C (28)**	**-**	**-**	**0.85**	**C (29)**	**-**
EBL	110	0.35	B (19)	43	110	0.37	B (19)	36	110	0.38	B (20)	37
EBT	1379	0.72	C (24)	239	1491	0.78	C (26)	230	1532	0.80	C (27)	242
EBR	227	0.24	B (15)	50	227	0.25	B (16)	42	227	0.25	B (16)	42
WBL	128	0.56	E (56)	42	131	0.72	E (74)	53	131	0.75	F (81)	58
WBT	844	0.36	A (6)	46	878	0.38	A (6)	40	915	0.40	A (6)	47
WBR	11	0.01	A (3)	0	11	0.01	A (4)	0	11	0.01	A (6)	0
NBL	**148**	**1.05**	**F (144)**	**79**	**157**	**0.98**	**F (118)**	**90**	**157**	**0.98**	**F (118)**	**90**
NBTR	74	0.08	D (45)	16	74	0.08	D (43)	17	74	0.08	D (43)	17
SBL	51	0.20	D (46)	23	51	0.19	D (44)	25	51	0.19	D (44)	25
SBTR	227	0.43	D (49)	53	227	0.36	D (47)	50	227	0.39	D (47)	53

Existing Conditions: Under existing weekday AM and PM peak hour conditions, the intersection is operating within capacity. During the PM peak hour, the northbound left movement operate at practical capacity. and have some delays that are slightly longer than the signal timing plan split for the associated phases. The 95th percentile queue lengths for all movements are indicated to be accommodated within the available storage. No further intersection changes are recommended.

Future Background Conditions: Under future background weekday AM and PM peak hour conditions, the intersection is expected to continue operating with minimal changes to operations compared to existing.

Future Total Conditions: Under future total weekday AM and PM peak hour conditions, the intersection is expected to continue operating similarly to future background. The v/c ratios, delay, and queue lengths for most movements during both peak hours indicate acceptable changes with the added site traffic compared to future background conditions. No additional constraints were identified because of the added site traffic.

5.3 UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS

The intersection capacity analysis was conducted under existing, future background, as well as future total conditions during the weekday AM and PM peak hours, where the results for the each of the studied unsignalized intersections are summarized in Table 5-5 to Table 5-8. Detailed capacity results are provided in Appendix E.

Table 5-5: Unsignalized Intersection Capacity Analysis – Royal Windsor Drive & Plaza Access/Site Access/Metrolinx Easement

AM PEAK HOUR	Existing Traffic				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue
EBLT	92	0.11	A (3)	3	92	0.11	A (3)	3	2	0.00	A (0)	0
NBR	23	0.03	B (11)	1	23	0.03	B (11)	1	23	0.04	B (11)	1
SBL	8	0.02	C (16)	1	8	0.03	C (17)	1	2	0.01	C (16)	0
SBR	51	0.05	A (9)	1	51	0.05	A (9)	1	4	0.00	A (9)	0
PM Peak Hour	Existing Traffic				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue
EBLT	30	0.03	A (1)	1	30	0.04	A (1)	1	3	0.00	A (0)	0
NBR	83	0.11	B (10)	3	100	0.15	B (11)	4	100	0.15	B (11)	4
SBL	12	0.03	B (15)	1	12	0.03	C (16)	1	4	0.01	C (17)	0
SBR	145	0.15	A (9)	4	145	0.15	A (9)	4	10	0.01	A (9)	0

Table 5-6: Unsignalized Intersection Capacity Analysis – Royal Windsor Drive & Site Access

AM PEAK HOUR	Existing Traffic				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue
EBLT	430	0.25	0 (0)	0	450	0.26	0 (0)	0	107	0.14	A (4)	4
SBLR	0	0	A (0)	0	0	0.00	A (0)	0	151	0.25	B (13)	8
PM Peak Hour	Existing Traffic				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue
EBLT	784	0.46	0 (0)	0	846	0.50	0 (0)	0	61	0.08	A (2)	2
SBLR	0	0.00	A (0)	0	0	0.00	A (0)	0	201	0.28	B (12)	9

Table 5-7: Future Metrolinx Access & Site Access

AM PEAK HOUR	Existing Traffic				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue
WBLR	0	0.00	0 (0)	0	0	0.00	0 (0)	0	156	0.21	B (11)	6
NBTR	0	0.00	0 (0)	0	0	0.00	0 (0)	0	245	0.14	0 (0)	0
SBLT	2	0.00	A (0)	0	2	0.00	A (0)	0	0	0.00	0 (0)	0
PM Peak Hour	Existing Traffic				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue
WBLR	0	0.00	0 (0)	0	0	0.00	0 (0)	0	108	0.14	B (10)	4
NBTR	0	0.00	0 (0)	0	0	0.00	0 (0)	0	163	0.10	0 (0)	0
SBLT	2	0.00	A (0)	0	2	0.00	A (0)	0	0	0.00	0 (0)	0

Table 5-8: Site Access/Metrolinx Easement & 2057 Royal Windsor Dr Access

AM PEAK HOUR	Existing Traffic				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue
WBLR	6	0.01	A (10)	0	6	0.01	A (10)	0				
NBTR	189	0.11	0 (0)	0	189	0.11	0 (0)	0			-	
SBLT	2	0.00	A (0)	0	2	0.00	A (0)	0				
PM Peak Hour	Existing Traffic				Future Background 2027				Future Total 2027			
Mvmt	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue	Vol	V/C	LOS & Delay	95th Queue
WBLR	14	0.02	A (10)	0	14	0.02	A (10)	0				
NBTR	69	0.04	0 (0)	0	69	0.04	0 (0)	0			-	
SBLT	2	0.00	A (0)	0	2	0.00	A (0)	0				

Existing and Future Background Conditions: Under weekday AM and PM peak hour conditions, all movements at the unsignalized intersections within the study area are expected to operate within capacity with acceptable LOS C or better.

Future Total Conditions: Under weekday AM and PM peak hour conditions, movements at the proposed site accesses are expected to operate well within capacity with v/c ratios below 1.00, minimal delay with acceptable LOS of C or better, and minimal queuing that is not expected to interfere with operations of nearby study intersections. No constraints were identified as a result of the added site trips.

5.4 COMMUNITY IMPACTS

Based on the analysis conducted, traffic generated by the proposed redevelopment is expected to be accommodated by the surrounding road network. Minimal impacts to the community are anticipated. Given the relocation of the easement to Metrolinx to the west side of the site, this aligns the proposed road network to the road network proposed in the Clarkson GO MTSA Study, and improves the spacing of the driveway to the intersection of Royal Windsor Drive/Lakeshore Road West and Southdown Road.

6 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) is a set of strategies which works towards a more efficient transportation network by influencing travel behavior. Effective TDM measures can reduce vehicle usage and encourage people to engage in more sustainable methods of travel. To encourage the continuation of the existing travel behavior, a comprehensive transportation management plan, including the parking reduction is recommended for the proposed development. This section provides the comprehensive TDM plan for the proposed development.

The densification of the area within the Clarkson Transit Station Area provides several opportunities to incorporate TDM measures for the subject site to promote alternative modes of transportation. Potential TDM strategies and opportunities are detailed in the following sections to reduce the auto-dependency of residents and visitors of the subject development and encourage more sustainable travel habits.

6.1 PEDESTRIAN-BASED RECOMMENDED STRATEGIES

Building entrances should be oriented close to the street with direct connections to the pedestrian pathways.

Many pedestrian entrances will be provided to access the building on the subject site. These proposed pedestrian entrances provide access to MiWay bus routes on Royal Windsor Drive, which are located less than 100 m from the furthest entrance, as well as access to Clarkson GO Station, which is located approximately 350 m from the nearest and 700 m from the furthest entrance.

The provision of a fine-grid network for pedestrians will increase accessibility and connectivity.

The pedestrian network expands with the internal walkways proposed on-site, which establishes a fine-grid network for pedestrians' ease of use. The accessibility and connectivity of the subject stie significantly improves the pedestrian network compared to existing conditions and will support pedestrian permeability and walkability throughout the Clarkson Transit Station Area.

The pedestrian network should be provided with an enhanced landscape that would encourage walking.

The proposed redevelopment will identify opportunities to provide walkways with enhanced landscaping, which would improve the comfort and attractiveness of the pedestrian environment. The site plan will support an enjoyable pedestrian environment, which will encourage the use of active transportation modes.

6.2 CYCLING-BASED RECOMMENDED STRATEGIES

The proposed development should provide short- and long-term bicycle parking.

The subject development will provide a minimum of 704 bicycle parking spaces to support and encourage active transportation. The short-term spaces should be in highly visible and convenient areas close to the building entrances for visitors. Long-term bicycle parking should be provided in secure and weather protected locations, including storage rooms, bicycle lockers and underground parking areas.

Promote and increase cycling awareness.

Provide information packages to encourage cycling as a viable opportunity of active transportation. This could include educating residents 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 consider providing information packages and communications to be distributed to future tenants of the building.

Provide an on-site ancillary facility to support cyclists.

It is recommended that an on-site bicycle repair area where residents can repair bicycles and obtain up-to-date information be considered as the plan develops. The repair area should be located close to the bicycle parking area, which would allow for residents to do regular maintenance activities on their bicycles.

6.3 TRANSIT-BASED RECOMMENDED STRATEGIES

Connection to transit network.

The first and last mile of the trip focuses on the user's experience to/from the door of their origin/destination. The site design establishes the most direct connection to Clarkson GO and transit stops on Royal Windsor Drive, which provides a wide range of transit routes within a 10-minute walking distance, where residents will have a convenient access to various GO, Oakville Transit, and MiWay routes.

6.4 PARKING DEMAND MANAGEMENT STRATEGIES

The automobile reliance be reduced through reduction in parking supply.

A parking reduction is recommended for the subject site to avoid oversupply of parking and to better align with the City's, Region's and Province's objectives of reducing auto-dependency and to encourage alternative travel modes. This is especially relevant given the site's existing travel behavior, proximity to the transit stops on Royal Windsor Drive and Clarkson GO Station, as well as wealth of accessibility to various transit routes.

A shared parking supply between the residential visitor and retail use will also improve the efficiency of parking on-site by accommodating demand experiencing different peak times in a shared supply.

Unbundling the cost of parking.

It is recommended that the cost of parking be "unbundled" from the cost of new dwelling units by selling or renting parking spaces separately from units themselves. The provision of unbundled parking will help to reduce parking demand within the residential component of the proposed development.

7 PARKING AND LOADING REVIEW

The following sections will provide a review of the applicable parking requirements and proposed parking supply with respect to vehicle, bicycle, accessibility, and EVSE requirements. A Transportation Demand Management (TDM) Plan has also been prepared (Section 6) for the subject site to support the proposed parking strategy and the accommodation of travel by non-single-occupant vehicle modes to and from the subject site. Following will be a review of the applicable loading standards for the site and a confirmation of the proposed supply and site functionality with respect to loading and passenger vehicle circulation.

7.1 VEHICLE PARKING REVIEW

As the subject site is located within the Clarkson Transit Station Area, no minimum parking rates apply under Bill 185 amendments to the PA. The proposed rates and corresponding supply, are summarized in Table 7-1.

Table 7-1: Parking Requirements and Proposed Supply

Use	Units/GFA	Bill 185 (2024)		Proposed Parking Rates & Supply	
		Minimum Rate	Spaces	Proposed Rate	Spaces
Phase 1 - West Block					
Bachelor	30 Units	n/a	n/a	0.39	287
1-Bed	444 Units				
2-Bed	200 Units				
3-Bed	61 Units				
Live Work	3 Units				
Total Residential Parking				**0.39**	**287**
Visitors	738 Units	n/a	n/a	0.02	15
Retail	764 m^2	n/a	n/a	0.01	6
Total Non- Residential Parking				**0.03**	**21**
Total Proposed Parking				**0.42**	**308**
Phase 2 - East Block					
Bachelor	30 Units	n/a	n/a	0.48	328
1-Bed	392 Units				
2-Bed	183 Units				
3-Bed	63 Units				
Live Work	13 Units				
Total Residential Parking				**0.48**	**328**
Visitors	681 Units	n/a	n/a	0.02	12
Retail	579 m^2	n/a	n/a	0.01	6
Total Non- Residential Parking				**0.03**	**18**
Total Proposed Parking				**0.51**	**346**
Total Development Proposed Parking					**654**

The subject site is proposing a parking supply of 308 spaces at a rate of 0.42 spaces/unit for the West Block and 346 spaces at a rate of 0.51 spaces/unit for the East Block.

7.2 PARKING JUSTIFICATION

To assess the appropriateness of the proposed parking rates and supply, the following section will review the planning context.

7.2.1 Bill 185: Changes to the Ontario Planning At (1990) Regarding Major Transit Station Areas

The Planning Act (PA) is provincial legislation that outlines the rules and regulations for land use planning within the Province of Ontario. The purpose of the PA is to ensure that the planning process is equitable and accessible and can be done in a timely manner as well as promote sustainable economic development, provide a planning system based on provincial policy, integrate provincial interests in order to be consistent and conform with the Provincial Policy Statement, promote inter-disciplinary co-operation and coordination, and to recognize the decision making authority and accountability of the municipality planning.

On June 6, 2024, Bill 185 received royal assent to amend the Ontario Planning Act to add Section 16 and to further amend Section 34 of the PA to remove a municipality's ability to require minimum vehicular parking (except for bicycle parking) in protected Major Transit Station Area's (MTSA). The amended sections are as follows:

- *Section 16(22): No official plan may contain any policy that has the effect of requiring an owner or occupant of a building or structure to provide and maintain parking facilities, other than parking facilities for bicycles, on land that is not part of a highway and that is located within,*
  - *(a) a protected major transit station area identified in accordance with subsection (15) or (16);*
  - *(b) an area delineated in the official plan of the municipality surrounding and including an existing or planned higher order transit station or stop, within which area the official plan policies identify the minimum number of residents and jobs, collectively, per hectare that are planned to be accommodated, but only if those policies are required to be included in the official plan to conform with a provincial plan or be consistent with a policy statement issued under subsection 3 (1); or*
  - *(c) any other area prescribed for the purposes of this clause. 2024, c. 16, Sched. 12, s. 2.*
- *Section 16(23): A policy in an official plan is of no effect to the extent that it contravenes subsection (22). 2024, c. 16, Sched. 12, s. 2.*
- *Section (16)24: No official plan may contain any policy that has the effect of requiring an owner or occupant of a building or structure to provide and maintain parking facilities, other than parking facilities for bicycles, containing more than the prescribed number of parking spaces on land that is not part of a highway and that is located within an area prescribed for the purposes of this subsection, and if a policy does so, the official plan is deemed to be amended to be consistent with this subsection. 2024, c. 16, Sched. 12, s. 2.*
- *Section 34(1.1): Despite paragraph 6 of subsection (1), a zoning by-law may not require an owner or occupant of a building or structure to provide and maintain parking facilities, other than parking facilities for bicycles, on land that is not part of a highway and that is located within,*
  - *(a) a protected major transit station identified in accordance with subsection 16 (15) or (16);*

- *(b) an area delineated in the official plan of the municipality surrounding and including an existing or planned higher order transit station or stop, within which area the official plan policies identify the minimum number of residents and jobs, collectively, per hectare that are planned to be accommodated, but only if those policies are required to be included in the official plan to conform with a provincial plan or be consistent with a policy statement issued under subsection 3 (1); or*
- *(c) any other area prescribed for the purposes of clause 16 (22) (c). 2024, c. 16, Sched. 12, s. 5 (2).*

- *Section 34(1.3): Despite paragraph 6 of subsection (1), a zoning by-law may not require an owner or occupant of a building or structure to provide and maintain parking facilities, other than parking facilities for bicycles, containing more than the number of parking spaces prescribed for the purposes of subsection 16 (24) on land that is not part of a highway and that is located within an area prescribed for the purposes of that subsection, and if a by-law does so, the by-law is deemed to be amended to be consistent with this subsection. 2024, c. 16, Sched. 12, s. 5 (2).*

As the subject site is located within the adjacent areas of the MTSA Clarkson GO, no minimum parking rates apply under Bill 185 amendments to the PA, and the proposed supply should be considered acceptable.

7.3 BICYCLE PARKING REVIEW

The City of Mississauga's Zoning By-law 0225-2007 was amended on June 8, 2022, by By-law 0118-2022 to include bicycle parking regulations based on the City's Bicycle Parking Regulations Study. A summary of the application of the recommended and proposed bicycle parking rates for the proposed development is provided in Table 7-2.

Table 7-2: Bicycle Parking Requirements and Proposed Supply

Land Use	Units / GFA ($m^{2)}$	Zoning By-law 0225-2007		Proposed Supply
		Minimum Rate	Spaces	Spaces
Phase 1 - West Block				
Residential long-term	738	0.6 spaces / unit	443	502
Residential short-term		0.05 spaces / unit	37	
Retail long-term	764	0.15 spaces / 100 m^2	1	
Retail short-term		0.20 spaces / 100 m^2	2	
		Total	**482**	**502**
Phase 2 - East Block				
Residential long-term	681	0.6 spaces / unit	409	500
Residential short-term		0.05 spaces / unit	34	
Retail long-term	579	0.15 spaces / 100 m^2	1	
Retail short-term		0.20 spaces / 100 m^2	1	
		Total	**387**	**500**
		Development Total	**869**	**1002**

The minimum required bicycle parking spaces required by Zoning By-law 0225-2007 is 482 spaces and 387 spaces for the West Block and East Block respectively. The proposed development proposes to provide a total of 1002 bicycle parking spaces which satisfies the minimum requirements of the Zoning By-law.

7.4 LOADING REVIEW

Based on the City of Mississauga By-law 0225-2007, one (1) loading space is required per building containing a minimum of 30 dwelling units and one (1) loading space for the proposed retail use on-site. Table 7-3 summarizes the loading requirements.

Table 7-3: Zoning By-law Loading Requirements

Use	Size	Zoning By-law 0225-2007		Proposed Supply
		Loading Rate	Loading Spaces Required	
Residential	West Block	> 30 units	2	2
	East Block	> 30 units	2	2
Retail	West Block	> 250 m^2 and < 2,350 m^2	1	1
	East Block	> 250 m^2 and < 2,350 m^2	1	1
		Total	**6**	**6**

A total of six (6) loading spaces are proposed for the development overall, including two (3) spaces per block to accommodate retail and residential loading requirements simultaneously.

A functional design review is provided in Appendix G.

7.5 ACCESSIBLE PARKING REVIEW

A summary of the recommended and proposed accessible parking rates for the proposed development is provided in Table 7-3 based on City of Mississauga By-law 0225-2007.

Table 7-4: Zoning By-law Accessibility Parking Requirements

Land Use	Proposed Parking Spaces	Minimum Number of Required Accessible Parking		Proposed Supply
		Rate	Spaces	
Phase 1 - West Block				
Residential	287	2.0 spaces plus 2% of the total	8	8
		Total Residential Parking	**8**	**8**
Visitor	15	4% of the total	1	1
Retail	6		0	
		Total Non - Residential Parking	**1**	**1**
Phase 2 - East Block				
Residential	328	2.0 spaces plus 2% of the total	9	9
		Total Residential Parking	**9**	**9**
Visitor	12	4% of the total	0	0
Retail	6		0	
		Total Non - Residential Parking	**0**	**0**
		Development Total	**18**	**18**

As Bill 185 eliminates parking minimums, the total number of proposed parking spaces for each use was assessed to establish the required number of accessible parking spaces. According to City of Mississauga By-law 0225-2007, a minimum of 18 accessible parking spaces is required. The proposed development includes 18 accessible parking spaces, meeting the necessary standards.

7.6 EVSE PARKING REVIEW

A summary of the recommended and proposed Electric Vehicle Ready Parking rates for the proposed development is provided in Table 7-5 based on City of Mississauga By-law 0225-2007.

Table 7-5: Zoning By-law EV Parking Requirements

Land Use	Minimum Number of Required EV Parking		Proposed Supply
	Rate	Spaces	
Phase 1 - West Block			
Residential	20% of the total required parking spaces	57	57
Visitor	10% of the total required parking spaces	2	2
Total West Block Parking		**59**	**59**
Phase 2 - East Block			
Residential	20% of the total required parking spaces	66	66
Visitor	10% of the total required parking spaces	1	1
Total East Block Parking		**67**	**67**
Development Total		**126**	**126**

With the elimination of parking minimums under Bill 185, the total proposed parking spaces for each use were evaluated to determine the necessary number of accessible parking spaces. The proposed development proposes a EVSE Parking supply of 126 spaces, meeting the City of Mississauga By-Law minimums.

8 CONCLUSION

- The proposed development will consist of two blocks: the West Block and the East Block. Each block includes two residential towers ranging from 23-storeys to 28-storeys and connected by a shared podium. A total of 1,419 dwelling units and 1,343 m^2 retail GFA is proposed. A total of 654 parking spaces will be provided across five (4) level of underground parking for the West Block and three (3) levels for the East Block.
- Access to the subject site will be provided via two (2) unsignalized, full movement accesses off Royal Windsor Drive. Additionally, the site can also be accessed through Clarkson GO Station at the Southdown Road and Clarkson GO Access/Private Driveway intersection.
- The proposed development is located within the Clarkson Transit Station Area and is within a 5-minute walking distance of the station. Under existing conditions, the subject site has good connections to both local surface transit and regional rail transit service operated by Metrolinx/GO Transit, MiWay Transit, and Oakville Transit, providing direct transit connections within the City of Mississauga and adjacent municipalities.
- The site's existing transit accessibility is expected to be improved through the implementation of 15-minute headways and two-way all-day service along the Lakeshore West Line, which will further support local and regional transit connections to and from the site.
- With respect to active transportation, the subject site has access to existing cycling facilities along Southdown Road and Lakeshore Boulevard West, east of Southdown Road, providing connections to the City's cycling network. An extension of cycling west along Lakeshore Boulevard will further improve active transportation connections to and from the site. The site plan has also been designed to improve pedestrian walkability and permeability, which is expected to further improve as additional development of the Clarkson Transit Station Area continues.
- Under existing conditions, all interchanges and signalized and unsignalized intersections are operating within capacity and at acceptable levels of service overall, with select movements at the signalized intersections operating with capacity constraints associated with relatively high levels of delay at some intersections approaching capacity. However, the 95th percentile queue lengths for most signalized intersections movements are indicated to be accommodated within the available storage.
- Under future background, optimization of signal timing plans was required to address capacity constraints otherwise observed. With the optimized signal timings, the critical movements identified are now operating at acceptable levels of service (LOS < 1.00), with no critical movements identified. The optimized signal timing plan will be carried forward to the future total scenario, which is expected to continue operating similar to future background conditions. No additional constraints were identified because of the added site traffic.
- The proposed development is anticipated to generate a net total of 211 vehicle trips (72 inbound and 139 outbound) in the AM peak hour and 210 vehicle trips (119 inbound and 91 outbound) in the PM peak hour when accounting for the existing site trips to be removed from the network.

- A robust set of TDM measures have been recommended for consideration to support and facilitate the necessary change in travel behaviour sought for the area and reduce single-occupant vehicle trips to/from the proposed development. Recommended measures include the provision of bicycle parking facilities, pedestrian connections, direct active transportation connections to active transportation facilities and transit, and the promotion of multi-modal travel alternatives. Furthermore, the transit stops adjacent to the site will give future residents and visitors an opportunity to shift their preferred mode choice to transit.
- In total, 654 parking spaces are proposed for the development. The proposed bicycle parking supply satisfies minimum requirements from the City of Mississauga Zoning By-law.
- Six (6) loading spaces will be provided on the subject site, including two (3) per block, which will meet the needs of the proposed development.

APPENDIX A

Terms of Reference

From: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>
Sent: September 19, 2022 10:53 AM
To: Jocelyn Lee
Cc: Trans Projects
Subject: RE: Terms of Reference - DARC 22-226 W2: 2077 & 2105 Royal Windsor Drive

External Sender

Good morning Jocelyn,

I apologize for the delay, please proceed with the TIS but please be advised that additional comments might be forthcoming in regards of ROPA and MTSA. Please find additional comments for original TOR below in blue. Please don't hesitate to contact me if you have any additional questions.

Thank you,

Kate (Jekaterina) Vassilyev
Traffic Planning Technologist
T 905-615-3200 ext.8171
kate.vassilyev@mississauga.ca

City of Mississauga | Transportation and Works Department,
Infrustructure Planning Division

Please consider the environment before printing.

From: Jocelyn Lee <JLee@lea.ca>
Sent: Wednesday, September 14, 2022 4:30 PM
To: Kate Vassilyev <Kate.Vassilyev@mississauga.ca>
Subject: RE: Terms of Reference - DARC 22-226 W2: 2077 & 2105 Royal Windsor Drive

Hi Kate,

Just wanted to check in on the email below.

Thanks,
Jocelyn Lee, EIT, B.Eng., B.A.
Project Coordinator
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor | Markham, ON | L3R 9R9
T: 905-470-0015 ext. 374 E: jlee@lea.ca W: www.LEA.ca

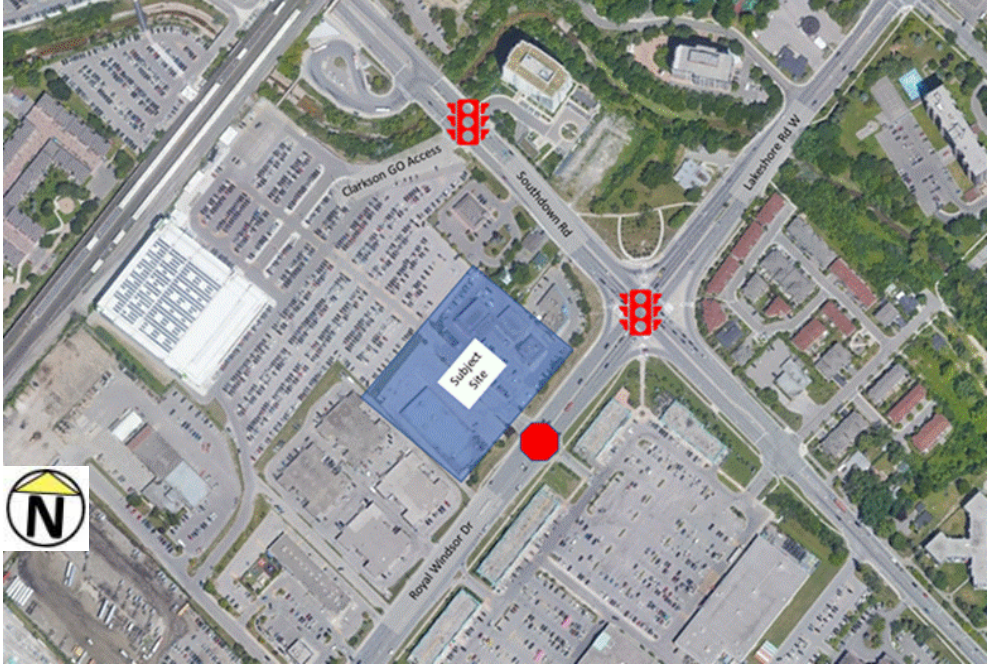
From: Jocelyn Lee
Sent: August 2, 2022 10:23 AM
To: 'kate.vassilyev@mississauga.ca' <kate.vassilyev@mississauga.ca>
Subject: Terms of Reference - DARC 22-226 W2: 2077 & 2105 Royal Windsor Drive

Good morning,

Please see below the work plan for a Transportation Impact Study (TIS) for the proposed mixed-use development located at 2077 & 2105 Royal Windsor Drive, illustrated in Figure 1, in the City of Mississauga. The development proposal consists of four (4) residential buildings with approximately 1,167 units total and retail at grade.

To support the Official Plan Amendment and Zoning By-law Amendment submission for the proposed development, LEA will prepare a TIS, which will include an assessment of the development's impact on traffic operations as well as its parking and loading provisions. The TIS will conform to the City of Mississauga Traffic Impact Study Guidelines.

Figure 1: Subject Site



Proposed Development

It is our understanding that the proposed development consists of four (4) buildings with approximately 1,167 residential units and some ground floor retail space.

Study Area & Traffic Data

The TIA will assess the weekday AM and PM peak periods (7:00-9:00 a.m. and 4:00-6:00 p.m.). The current preference in terms of TMC is to obtain existing counts from the City's staff or other TIS. Please be advised if new post pandemic traffic movement counts will be conducted the additional sensitivity analysis would be required. The proposed study area will include the analysis of the following intersections:

- Royal Windsor Drive and Southdown Road (Signalized);
- Royal Windsor Drive and Access to 2077 and 2015 Royal Windsor Drive (Unsignalized); and
- Southdown Road and Clarkson GO Parking Lot Access/Private Driveway (Signalized).
- Include Royal Windsor Drive and Clarkson Yard/Go Access (Signalized).

Turning movement counts at the above intersections will be within the last 2 years.

Traffic Assessment and Study Horizon Year

The study will focus on weekday AM and PM peak hour traffic operations. Synchro will be used to assess intersection operations during the peak hours. The horizon year of 2027 will be assessed in this TIA for a 5-year horizon.

Background Traffic

General Corridor Growth Rate – Please provide the annual growth rate that should be applied for the major roads in the study area (Royal Windsor Drive and Southdown Road) Please contact Tyler Xuereb, Transportation Planning Analyst, tyler.xuereb@mississauga.ca, ext. 4783.

Road Network Improvements – LEA will investigate and account for any anticipated road improvement (e.g. road widening) in the study area within the five (5) year study horizon

Background Development Traffic – Please provide TIS's or trips generated for any background developments in the study area that should be included in the TIS. For the background development applications please refer to http://www.mississauga.ca/portal/residents/developmentinformation

Trip Generation, Distribution and Assignment

The trip generation of the proposed development will be calculated based on Institute of Transportation Engineering (ITE) Trip Generation Manual 11th Edition.

The general trip distribution utilized will be based on 2016 Transportation Tomorrow Survey (TTS) data.

Traffic Operation Analysis

The traffic operation analysis for signalized and unsignalized intersections will be undertaken using Synchro, utilizing the methodology of the 2010 Highway Capacity Manual and input parameter values as suggested with the Regional Guidelines for Using Synchro Version 11.

Future Traffic Scenarios

Future background and future total analysis for the aforementioned intersections within the study area will be over the horizon year of 2027.

Parking Study

LEA will consult with the City's Parking Services to confirm the terms of reference regarding the parking study.

Safety Analysis

It is assumed that the intersections and roadways in the vicinity of the subject site do not have any identified safety problems. As such, collision data and

sightlines will not need to be reviewed as part of the TIS.

Transportation Demand Management (TDM) Plan

A Transportation Demand Management (TDM) Plan will be developed to reduce the dependency of single-occupancy vehicular trips to and from the subject site. The TDM plan will review pedestrian, cyclist, and transit infrastructure and recommend key programming to encourage alternative modes of travel for the subject site.

Include Community Impact Section

Include a section for Community Impacts. Any traffic related impacts on the existing community and comments from the public through the planning approvals process shall be addressed in this section.

Please let me know if you have any comments or concerns with our assumptions.

Thanks,

Jocelyn Lee, EIT, B.Eng., B.A.
Project Coordinator
LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor | Markham, ON | L3R 9R9
T: 905-470-0015 ext. 374 E: jlee@lea.ca W: www.LEA.ca

Please note I will be out of the office starting Friday, July 22 returning Tuesday, August 2

APPENDIX B

Traffic Data & Signal Timing Plan

Intelight 0403

Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4
Phase Description*	String				
Walk	Sec	0	10	0	10
Ped Clear	Sec	0	18	0	23
Min Green	Sec	5	8	0	8
Passage	Sec	2.0	3.0	0.0	5.0
Maximum 1	Sec	10	33	0	40
Maximum 2	Sec	10	33	0	40
Yellow Change	Sec	3.0	4.0	3.0	3.5
Red Clearance	Sec	0.0	2.5	0.0	3.0
Red Revert	Sec	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0
Time Before Reduction	Sec	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0
Time To Reduce	Sec	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	other	phaseNotOn
[P2] Options	Bit	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase 13:Actuated Rest In Walk
[P2] Ring	Ring	1	1	0	1
[P2] Concurrency	Phase (,)	(5,6)	(5,6)	()	(8)
Coordination - Pattern 1-32	**Units**	**1**	**2**	**3**	**4**
Cycle Time	Sec	140	65	140	0
Offset	Sec	136	25	26	0
Split	Split	1	2	3	0
Sequence	Sequence	1	1	1	0
Phase Parameter Table*	Number	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive
Coordination - Splits	**Units**	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**
Split 1 - Mode	Enum	phaseOmitted	none	none	none
Split 1 - Time	Sec	0	100	0	40
Split 1 - Coord	Enum	False	True	False	False
Split 1 - Coord Phase Options*	Bit				
Split 2 - Mode	Enum	none	none	none	none

Split 2 - Time	Sec	10	35	0	20
Split 2 - Coord	Enum	False	True	False	False
Split 2 - Coord Phase Options*	Bit		0: Reference Point		
Split 3 - Mode	Enum	none	none	none	none
Split 3 - Time	Sec	17	71	0	52
Split 3 - Coord	Enum	False	True	False	False
Split 3 - Coord Phase Options*	Bit		0: Reference Point		
Time Base - Schedule 1-16	**Units**	**1**	**2**	**3**	**4**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------
Day of Week	Bit	-MTWTF-	S------	------S	---W---
Day of Month	Bit	12345678901234567890123456789012345678901	12345678901234567890123456789012345678901	12345678901234567890123456789012345678901	1------------------------------
Day Plan	Number	1	3	2	3
Time Base - Schedule 1-16	**Units**	**9**	**10**	**11**	**12**
Month	Bit	-------A----	--------S---	---------O--	----------D
Day of Week	Bit	-M-----	-M-----	-M-----	---W---
Day of Month	Bit	----5------------------------	-2------------------------	------------4------------	------------------------5---
Day Plan	Number	3	3	3	3
Time Base - Day Plans	**Units**	**Evt 1**	**Evt 2**	**Evt 3**	**Evt 4**
Plan 1 Hour	Hour	0	3	6	9
Plan 1 Minute	Min	0	0	0	30
Plan 1 Action	Number	8	7	1	2
Plan 2 Hour	Hour	0	7	3	0
Plan 2 Minute	Min	0	0	0	0
Plan 2 Action	Number	8	2	7	0
Plan 3 Hour	Hour	0	8	23	3
Plan 3 Minute	Min	0	0	0	0
Plan 3 Action	Number	8	2	8	7
Time Base - Action 1-32	**Units**	**1**	**2**	**3**	**4**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4
Aux. Functions	Bit				
Spec. Functions	Bit				
Time Base - Action 1-32	**Units**	**9**	**10**		
Pattern	Enum	Pattern 9	Pattern 10		
Aux. Functions	Bit				
Spec. Functions	Bit				

ROYAL WINDSOR DRIVE E @ Clarkson GO / Canadian Tire

Phase 5	Phase 6	Phase 7	Phase 8
0	10	0	10
0	18	0	23
5	8	0	8
2.0	3.0	0.0	5.0
10	33	0	40
10	33	0	40
3.0	4.0	3.0	3.5
0.0	2.5	0.0	3.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0	0	0	0
0.0	0.0	0.0	0.0
phaseNotOn	redClear	other	phaseNotOn
0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase 13:Actuated Rest In Walk
2	2	0	2
(1,2)	(1,2)	()	(4)

5	6	7	8
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	1	1	1
green	green	green	green
singlePermissive	singlePermissive	singlePermissive	singlePermissive

Phase 5	Phase 6	Phase 7	Phase 8
none	none	none	none
27	73	0	40
False	True	False	False
	0: Reference Point		
phaseOmitted	none	none	none

0	45	0	20
False	True	False	False
phaseOmitted	none	none	none
0	88	0	52
False	True	False	False

5	**6**	**7**	**8**
-F----------	--M---------	----M-------	------J-----
-M-----	-----F-	-M-----	-M-----
----------9---------	----------	----------0--------	1----------
---	9--	---	---
3	3	3	3

13	**14**	**15**	**16**
----------D	----------D	--------S---	----------
----T--	--T----	-M-----	SMTWTFS
----------6--	----------4----	----------	----------
---	---	0-	--
3	3	3	0

Evt 5	**Evt 6**
15	19
0	30
3	2
0	0
0	0
0	0
0	0
0	0
0	0

5	**6**	**7**	**8**
Pattern 5	Pattern 6	Free	Free

Intelight	1005

Phase - Parameter 1-16	Units	Phase 1	Phase 2	Phase 3	Phase 4
Phase Description*	String				
Walk	Sec	0	10	0	10
Ped Clear	Sec	0	15	0	26
Min Green	Sec	5	8	0	8
Passage	Sec	2.0	3.0	0.0	3.0
Maximum 1	Sec	20	18	0	30
Maximum 2	Sec	20	18	0	30
Yellow Change	Sec	3.0	4.0	0.0	3.5
Red Clearance	Sec	2.0	2.0	0.0	3.0
Red Revert	Sec	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0
Time Before Reduction	Sec	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0
Time To Reduce	Sec	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	phaseNotOn	redClear	phaseNotOn	phaseNotOn
[P2] Options	Bit	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory
[P2] Ring	Ring	1	1	0	1
[P2] Concurrency	Phase (,)	()	()	()	()

Coordination - Pattern 1-32	Units	1	2	3	4
Cycle Time	Sec	140	130	140	140
Offset	Sec	122	99	8	122
Split	Split	1	2	3	4
Sequence	Sequence	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive

Coordination - Splits	Units	Phase 1	Phase 2	Phase 3	Phase 4
Split 1 - Mode	Enum	none	none	none	none
Split 1 - Time	Sec	21	75	0	44
Split 1 - Coord	Enum	False	True	False	False
Split 1 - Coord Phase Options*	Bit		0: Reference Point		
Split 2 - Mode	Enum	none	none	none	none

Split 2 - Time	Sec	18	64	0	48
Split 2 - Coord	Enum	False	True	False	False
Split 2 - Coord Phase Options*	Bit		0: Reference Point		
Split 3 - Mode	Enum	none	none	none	none
Split 3 - Time	Sec	18	78	0	44
Split 3 - Coord	Enum	False	True	False	False
Split 3 - Coord Phase Options*	Bit		0: Reference Point		
Split 4 - Mode	Enum	none	none	none	pedestrianRecall
Split 4 - Time	Sec	21	75	0	44
Split 4 - Coord	Enum	False	True	False	False
Split 4 - Coord Phase Options*	Bit		0: Reference Point		
Split 5 - Mode	Enum	none	none	none	pedestrianRecall
Split 5 - Time	Sec	18	78	0	44
Split 5 - Coord	Enum	False	True	False	False
Split 5 - Coord Phase Options*	Bit		0: Reference Point		
Time Base - Schedule 1-16	**Units**	**1**	**2**	**3**	**4**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J-----------
Day of Week	Bit	-MTWTF-	S------	------S	---W---
Day of Month	Bit	1234567890123456 789012345678901	1234567890123456 789012345678901	1234567890123456 789012345678901	1--------------------------- ---
Day Plan	Number	1	3	2	3
Time Base - Schedule 1-16	**Units**	**9**	**10**	**11**	**12**
Month	Bit	-------A----	--------S---	---------O--	-----------D
Day of Week	Bit	-M-----	-M-----	-M-----	---W---
Day of Month	Bit	----5----------------------- ---	-2-------------------------- ---	-------------4-------------- ---	------------------------5--- ---
Day Plan	Number	3	3	3	3
Time Base - Day Plans	**Units**	**Evt 1**	**Evt 2**	**Evt 3**	**Evt 4**
Plan 1 Hour	Hour	0	6	7	9
Plan 1 Minute	Min	0	0	30	0
Plan 1 Action	Number	8	1	4	1
Plan 2 Hour	Hour	0	7	0	0
Plan 2 Minute	Min	0	0	0	0
Plan 2 Action	Number	8	2	0	0
Plan 3 Hour	Hour	0	8	23	0
Plan 3 Minute	Min	0	0	0	0
Plan 3 Action	Number	8	2	8	0
Time Base - Day Plans	**Units**	**Evt 9**			
Plan 1 Hour	Hour	19			
Plan 1 Minute	Min	30			
Plan 1 Action	Number	2			
Time Base - Action 1-32	**Units**	**1**	**2**	**3**	**4**

Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4
Aux. Functions	Bit				
Spec. Functions	Bit				

SOUTHDOWN ROAD N @ GO Access

Phase 5	Phase 6	Phase 7	Phase 8
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
3.0	3.0	3.0	3.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0	0	0	0
0.0	0.0	0.0	0.0
phaseNotOn	phaseNotOn	phaseNotOn	phaseNotOn
0	0	0	0
()	()	()	()
5	**6**	**7**	**8**
140	0	0	0
8	0	0	0
5	0	0	0
1	0	0	0
1	1	1	1
green	yellow	yellow	yellow
singlePermissive	singlePermissive	singlePermissive	singlePermissive
Phase 5	**Phase 6**	**Phase 7**	**Phase 8**
none	none	none	none
0	0	0	0
False	False	False	False
none	none	none	none

0	0	0	0
False	False	False	False
none	none	none	none
0	0	0	0
False	False	False	False
none	none	none	none
0	0	0	0
False	False	False	False
none	none	none	none
0	0	0	0
False	False	False	False

5	**6**	**7**	**8**
-F----------	--M---------	----M-------	------J-----
-M-----	-----F-	-M-----	-M-----
----------9---------	----------	----------0--------	1----------
---	9--	---	---
3	3	3	3

13	**14**	**15**	**16**
----------D	----------D	--------S---	----------
----T--	--T----	-M-----	SMTWTFS
----------6--	----------4----	----------	----------
---	---	0-	--
3	3	3	0

Evt 5	**Evt 6**	**Evt 7**	**Evt 8**
9	15	16	19
30	0	45	0
2	3	5	3
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

5	**8**

Pattern 5 Free

File: CA.13.SIG
Signal Timing Request
RT.07.0403
RT.07.1005

August 23, 2024

To Anatole Kung:

Re: Traffic Signal Timing

Royal Windsor Drive at Clarkson GO/Canadian Tire
Southdown Road at GO Access/Private Access

The side street phases (4,8) are actuated, unless noted in the timing plan, this means a vehicle or pedestrian must be present on the side street before the side street is given a green indication. Vehicle presence on the side street would result in a possible green time of between the minimum and maximum time noted, depending on demand. Also phases 1 and 5 are also actuated. Pedestrian "Walk" and flashing "Don't Walk" time on the side street, as noted, would be used in the event that the pedestrian push button is activated. During the side street pedestrian indications, the side street vehicle green is concurrently displayed. Should there be no demand on the actuated phase, the signals would result in a green indication on the major street (2,6).

Note: All times recorded in seconds, based on full demand.

The time of day plan is used for system control operation. In the event that the coordination pattern has a cycle length, offset and split value identified, the cycle length, split and offset values, as noted, would be used. However, when the time of day plan is programed using 'Action' 8, the mode is 'Free', meaning no cycle length, split and offset values are given and the intersection operates using the phase timings provided in the report.

The phases for each intersection are included in the "Phasing Info" tab of the attached spreadsheet. If the Leading Pedestrian Interval (LPI) is programmed at the intersection for phase 2 and/or 6, the pedestrian 'Walk' indication will be displayed 5 seconds in

advance of the green signal indication. However, in order for the Leading Pedestrian Interval to be displayed 5 seconds in advance of the green signal indication for phase 4 or 8, the pedestrian push button must be pressed, unless noted in the timing plan. Should an LPI be programmed at the intersection, it will be noted in the "Phasing Info" tab on the attached spreadsheet.

Should you require further information, please contact Steve Gee, at 905-615-3200 ext. 5169.

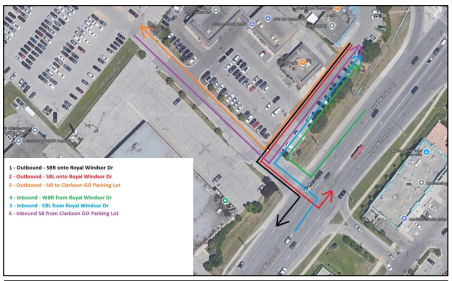
Thank you,

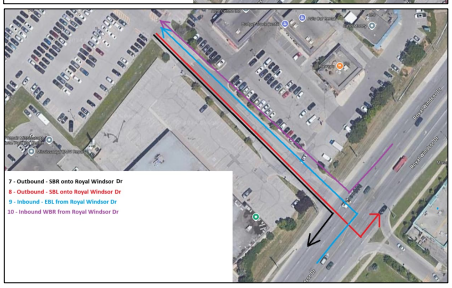
Steve Gee
ITS Technologist
Traffic Systems and ITS
Transportation and Works Department
City of Mississauga
905-615-3200 ext. 5169
steve.gee@mississauga.ca

RAW DATA

Time	Movements									
	1	2	3	4	5	6	7	8	9	10
7:00	0	0	0	0	0	0	9	0	18	17
7:15	0	0	0	0	0	0	9	3	12	22
7:30	2	1	0	1	0	0	8	0	23	20
7:45	0	0	0	1	0	0	13	1	19	51
8:00	1	0	0	0	0	0	7	2	22	31
8:15	0	1	0	0	0	1	15	0	29	25
8:30	0	0	0	0	0	0	8	0	15	11
8:45	1	1	2	2	0	1	8	0	4	14
16:00	0	8	1	1	0	0	8	1	6	8
16:15	0	2	0	0	0	0	24	2	2	6
16:30	1	2	0	2	1	1	10	0	2	4
16:45	1	0	0	2	0	1	40	2	0	13
17:00	1	0	1	1	0	0	12	0	4	3
17:15	3	1	1	2	0	1	49	3	3	7
17:30	2	2	0	3	1	0	8	1	5	9
17:45	1	1	0	0	0	1	37	7	7	5

	1-6	7-10
	2057	GO
44	0	44
46	0	46
55	4	51
85	1	84
63	1	62
71	2	69
34	0	34
33	7	26
25	2	23
36	2	34
23	7	16
59	4	55
22	3	19
70	8	62
31	8	23
59	3	56
756	52	704





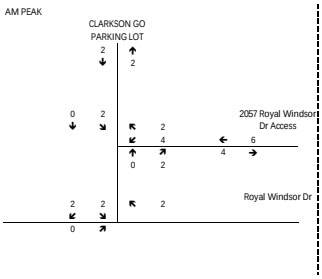
Col. #s 5 4 2 1 6 3

2057 ROYAL WINDSOR DR VEHICLE TRACE SURVEY

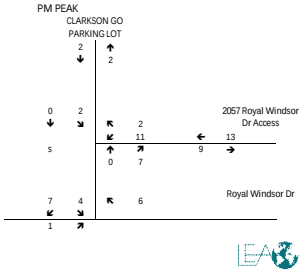
COUNT DATE: Thurs. September 19, 2024
PROJECT # : 23137.00.260 N / S STREET: Clarkson GO N-S Link Rd AREA: Mississauga
OBSERVER ID E / W STREET: 2057 Royal Windsor Dr. access & Royal Windsor Dr PROV.: ONTARIO

Time Start	Royal Windsor Dr In		Royal Windsor Dr Out		Clarkson GO In	Clarkson GO Out	Totals In	Totals Out	Totals All	Totals Hourly		
	Left	Right	Left	Right								
7:00	0	0	0	0	0	0	0	0	0			0
7:15	0	0	0	0	0	0	0	0	0			0
7:30	0	1	1	2	0	0	1	3	4			4
7:45	0	1	0	0	0	0	1	0	1	5		1
8:00	0	0	0	1	0	0	0	1	1	6		1
8:15	0	0	1	0	1	0	1	1	2	8		2
8:30	0	0	0	0	0	0	0	0	0	4		0
8:45	0	2	1	1	1	2	3	4	7	10	<-- Peak Hour	7
16:00	0	1	0	0	0	1	1	1	2			2
16:15	0	0	2	0	0	0	0	2	2			2
16:30	1	2	2	1	1	0	4	3	7			7
16:45	0	2	0	1	1	0	3	1	4	15		4
17:00	0	1	0	1	0	1	1	2	3	16		3
17:15	0	2	1	3	1	1	3	5	8	22		8
17:30	1	3	2	2	0	0	4	4	8	23		8
17:45	0	0	1	1	1	0	1	2	3	22	<-- Peak Hour	3
Total	2	15	11	13	6	5	23	29	52			52
AM Peak	0	2	2	2	2	2	4	6	10			
PM Peak	1	6	4	7	2	2	9	13	22			

AM PEAK



PM PEAK



Col. #s 9 10 8 7

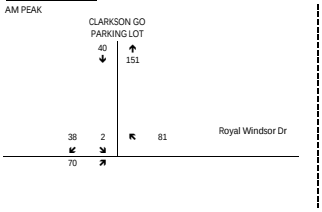
CLARKSON GO PARKING LOT VEHICLE TRACE SURVEY

COUNT DATE: Thurs. September 19, 2024
PROJECT # : 23137.00.260 N / S STREET: Clarkson GO N-S Link Rd AREA: Mississauga
OBSERVER ID E / W STREET: Royal Windsor Dr PROV.: ONTARIO

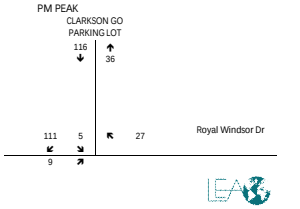
Time Start	Royal Windsor Dr In		Royal Windsor Dr Out		Totals In	Totals Out	Totals All	Totals Hourly		
	Left	Right	Left	Right						
7:00	18	17	0	9	35	9	44			44
7:15	12	22	3	9	34	12	46			46
7:30	23	20	0	8	43	8	51			51
7:45	19	51	1	13	70	14	84	225		84
8:00	22	31	2	7	53	9	62	243		62
8:15	29	25	0	15	54	15	69	266		69
8:30	15	11	0	8	26	8	34	249		34
8:45	4	14	0	8	18	8	26	191	<-- Intersection & Common Peak Hour	26
16:00	6	8	1	8	14	9	23			23
16:15	2	6	2	24	8	26	34			34
16:30	2	4	0	10	6	10	16			16
16:45	0	13	2	40	13	42	55	128		55
17:00	4	3	0	12	7	12	19	124		19
17:15	3	7	3	49	10	52	62	152	<-- Common Peak Hour	62
17:30	5	9	1	8	14	9	23	159		23
17:45	7	5	7	37	12	44	56	160	<-- Intersection Peak Hour	56
Total	171	246	22	265	417	287	704			704
Movement Peak Hour										
8:00	70	81	2	38	151	40	191	949		
17:00	19	24	11	106	43	117	160	595		
Common Peak Hour										
16:30	9	27	5	111	36	116	152			

Common Peak Hour

AM PEAK



PM PEAK

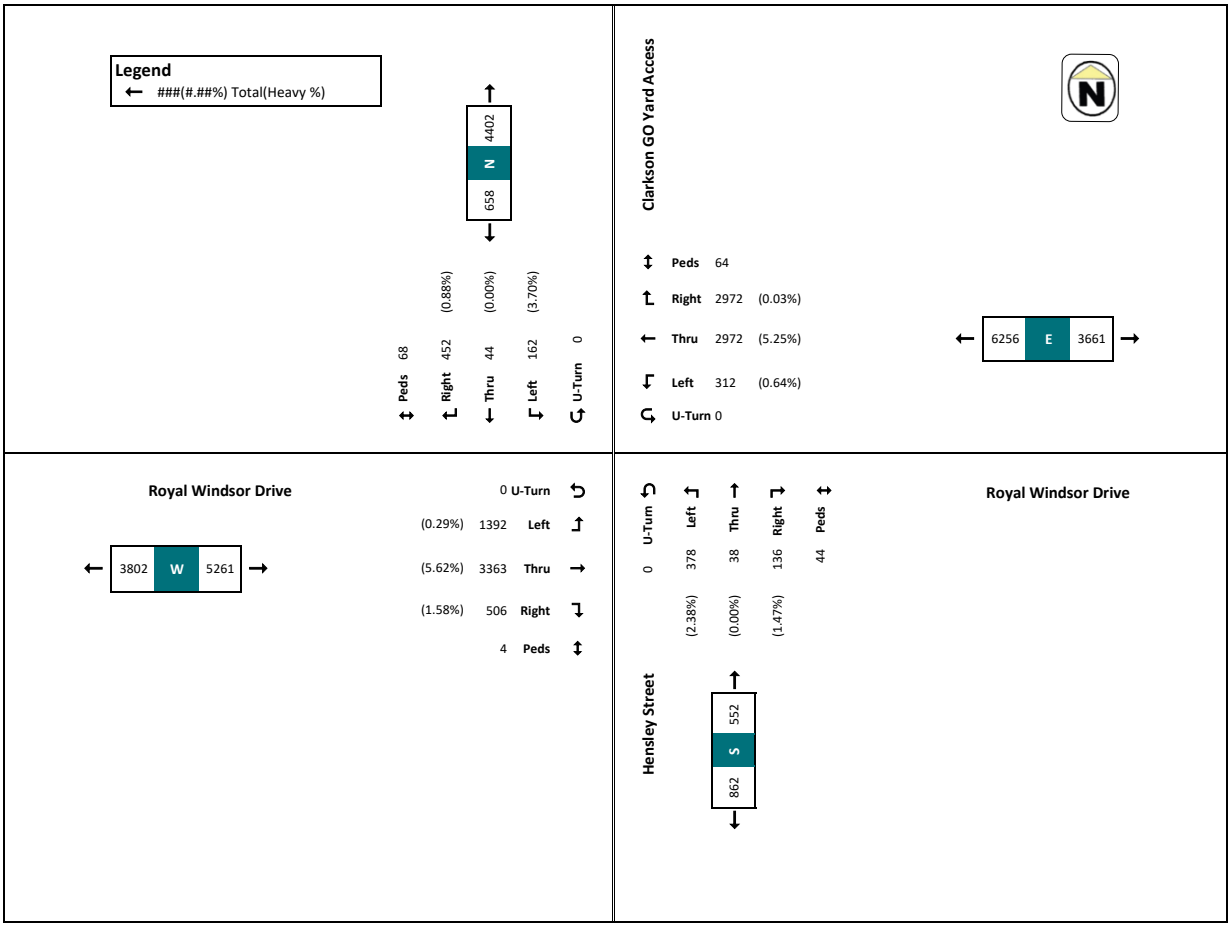


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Hensley Street & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24312

Turning Movement Count - Hensley Street & Royal Windsor Drive

	Clarkson GO Yard Access Southbound						Royal Windsor Drive Westbound						Hensley Street Northbound						Royal Windsor 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	3	1	0	2	4	0	7	100	3	0	110	0	2	0	3	0	5	0	57	125	7	0	189	308
7:15	0	14	0	4	3	18	0	6	148	4	2	158	0	7	1	3	1	11	0	64	112	9	0	185	372
7:30	0	9	2	4	7	15	0	6	183	2	0	191	0	8	1	1	1	10	0	70	132	8	0	210	426
7:45	0	13	3	9	3	25	0	7	221	6	0	234	0	6	2	3	2	11	0	94	160	13	0	267	537
Hourly Total	0	39	6	17	15	62	0	26	652	15	2	693	0	23	4	10	4	37	0	285	529	37	0	851	1643
8:00	0	12	2	9	0	23	0	8	169	2	4	179	0	7	4	0	1	11	0	106	181	10	0	297	510
8:15	0	14	1	5	3	20	0	15	204	3	0	222	0	12	3	1	1	16	0	98	165	12	0	275	533
8:30	0	8	2	8	4	18	0	17	196	7	3	220	0	13	2	3	0	18	0	57	160	14	0	231	487
8:45	0	5	3	10	2	18	0	5	191	6	3	202	0	11	4	1	1	16	0	51	170	30	0	251	487
Hourly Total	0	39	8	32	9	79	0	45	760	18	10	823	0	43	13	5	3	61	0	312	676	66	0	1054	2017
* Break *																									
16:00	0	3	2	18	1	23	0	25	193	7	5	225	0	45	1	14	7	60	0	25	245	40	0	310	618
16:15	0	10	3	44	4	57	0	23	170	5	8	198	0	41	2	16	9	59	0	21	236	53	1	310	624
16:30	0	9	3	23	23	35	0	32	203	1	7	236	0	38	3	17	2	58	0	15	303	44	1	362	691
16:45	0	11	1	69	4	81	0	34	189	3	7	226	0	31	3	17	10	51	0	34	264	49	0	347	705
Hourly Total	0	33	9	154	32	196	0	114	755	16	27	885	0	155	9	64	28	228	0	95	1048	186	2	1329	2638
17:00	0	9	4	44	4	57	0	37	181	4	9	222	0	34	3	11	1	48	0	38	309	88	1	435	762
17:15	0	22	9	74	4	105	0	25	234	3	10	262	0	45	5	15	2	65	0	23	282	46	1	351	783
17:30	0	12	5	47	2	64	0	29	201	4	4	234	0	40	2	18	5	60	0	19	271	40	0	330	688
17:45	0	8	3	84	2	95	0	36	189	6	2	231	0	38	2	13	1	53	0	23	248	43	0	314	693
Hourly Total	0	51	21	249	12	321	0	127	805	17	25	949	0	157	12	57	9	226	0	103	1110	217	2	1430	2926
Grand Total	0	162	44	452	68	658	0	312	2972	66	64	3350	0	378	38	136	44	552	0	795	3363	506	4	4664	9224
Approach %	0.0%	24.6%	6.7%	68.7%	-	-	0.0%	9.3%	88.7%	2.0%	-	-	0.0%	68.5%	6.9%	24.6%	-	-	0.0%	17.0%	72.1%	10.8%	-	-	-
Total %	0.0%	1.8%	0.5%	4.9%	-	7.1%	0.0%	3.4%	32.2%	0.7%	-	36.3%	0.0%	4.1%	0.4%	1.5%	-	6.0%	0.0%	8.6%	36.5%	5.5%	-	50.6%	-
Lights	0	156	44	448	-	648	0	310	2816	65	-	3191	0	369	38	134	-	541	0	791	3174	498	-	4463	8843
% Lights	-	96.3%	100.0%	99.1%	-	98.5%	-	99.4%	94.8%	98.5%	-	95.3%	-	97.6%	100.0%	98.5%	-	98.0%	-	99.5%	94.4%	98.4%	-	95.7%	95.9%
Buses	-	0	0	0	-	0	-	0	38	0	-	38	-	0	0	0	-	0	-	0	49	0	-	49	87
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	1.3%	0.0%	-	1.1%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	1.5%	0.0%	-	1.1%	0.9%
Trucks	-	6	0	4	-	10	-	2	118	1	-	121	-	9	0	2	-	11	-	4	140	8	-	152	294
% Trucks	-	3.7%	0.0%	-	-	1.5%	-	0.6%	4.0%	1.5%	-	3.6%	-	2.4%	0.0%	1.5%	-	2.0%	-	0.5%	4.2%	1.6%	-	3.3%	3.2%
Bicycles	-	-	-	-	7	7	-	-	-	-	0	0	-	-	-	-	2	2	-	-	-	-	0	0	9
Pedestrians	-	-	-	-	68	-	-	-	-	-	64	-	-	-	-	-	44	-	-	-	-	-	4	-	180

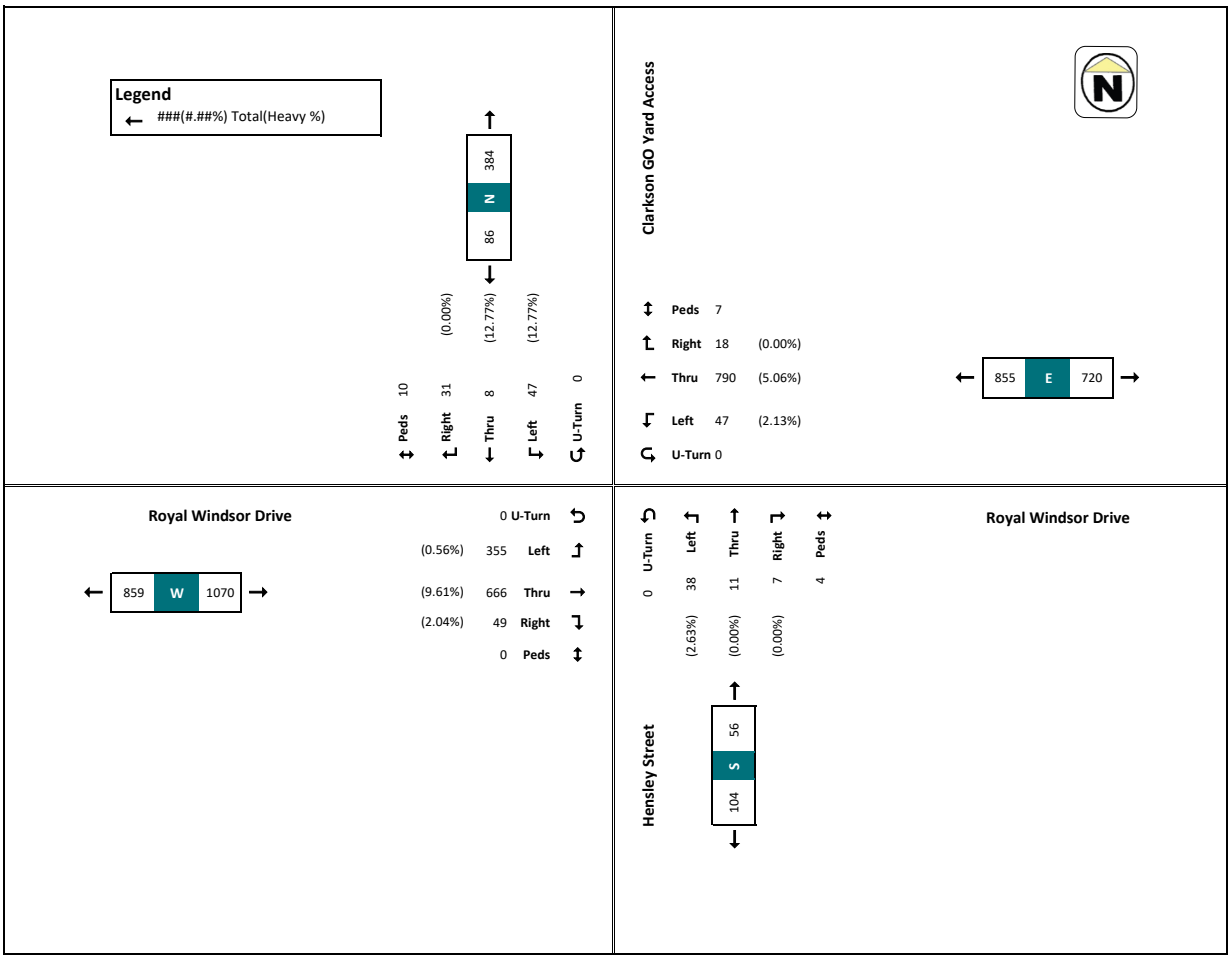


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Hensley Street & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24312

AM Peak Hour - Hensley Street & Royal Windsor Drive

	Clarkson GO Yard Access Southbound						Royal Windsor Drive Westbound						Hensley Street Northbound						Royal Windsor 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
7:45	0	13	3	9	3	25	0	7	221	6	0	234	0	6	2	3	2	11	0	94	160	13	0	267	537
8:00	0	12	2	9	0	23	0	8	169	2	4	179	0	7	4	0	1	11	0	106	181	10	0	297	510
8:15	0	14	1	5	3	20	0	15	204	3	0	222	0	12	3	1	1	16	0	98	165	12	0	275	533
8:30	0	8	2	8	4	18	0	17	196	7	3	220	0	13	2	3	0	18	0	57	160	14	0	231	487
Hourly Total	0	47	8	31	10	86	0	47	790	18	7	855	0	38	11	7	4	56	0	355	666	49	0	1070	2067
Approach %	0.0%	54.7%	9.3%	36.0%	-	-	0.0%	5.5%	92.4%	2.1%	-	-	0.0%	67.9%	19.6%	12.5%	-	-	0.0%	33.2%	62.2%	4.6%	-	-	-
Total %	0.0%	2.3%	0.4%	1.5%	-	4.2%	0.0%	2.3%	38.2%	0.9%	-	41.4%	0.0%	1.8%	0.5%	0.3%	-	2.7%	0.0%	17.2%	32.2%	2.4%	-	51.8%	-
PHF	0	0.84	0.67	0.86	-	0.86	0	0.69	0.89	0.64	-	0.91	0	0.73	0.69	0.58	-	0.78	0	0.84	0.92	0.88	-	0.9	0.96
Lights	0	41	8	30	-	79	0	46	750	18	-	814	0	37	11	7	-	55	0	353	602	48	-	1003	1951
% Lights	-	87.2%	100.0%	96.8%	-	91.9%	-	97.9%	94.9%	100.0%	-	95.2%	-	97.4%	100.0%	100.0%	-	98.2%	-	99.4%	90.4%	98.0%	-	93.7%	94.4%
Buses	-	0	0	0	-	0	-	0	9	0	-	9	-	0	0	0	-	0	-	0	14	0	-	14	23
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	1.1%	0.0%	-	1.1%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	2.1%	0.0%	-	1.3%	1.1%
Trucks	-	6	0	1	-	7	-	1	31	0	-	32	-	1	0	0	-	1	-	2	50	1	-	53	93
% Trucks	-	12.8%	0.0%	3.2%	-	8.1%	-	2.1%	3.9%	0.0%	-	3.7%	-	2.6%	0.0%	0.0%	-	1.8%	-	0.6%	7.5%	2.0%	-	5.0%	4.5%
Bicycles	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	2
Pedestrians	-	-	-	-	10	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	0	-	17

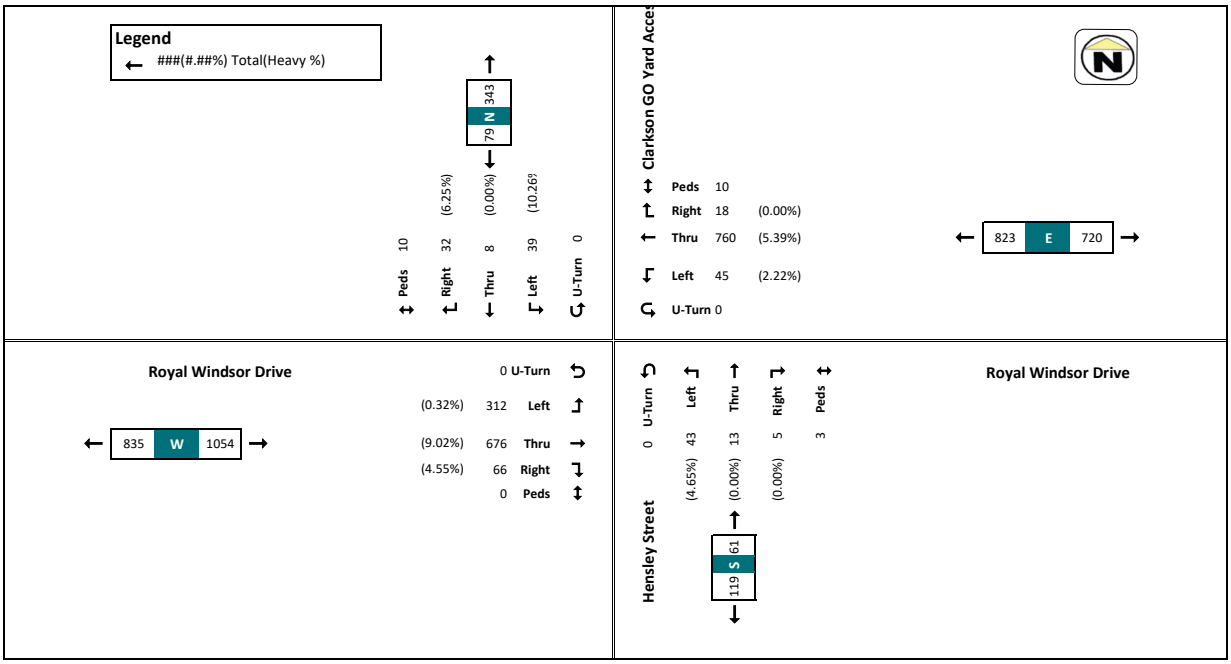


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Hensley Street & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24312

Common AM Peak Hour - Hensley Street & Royal Windsor Drive

	Clarkson GO Yard Access Southbound						Royal Windsor Drive Westbound						Hensley Street Northbound						Royal Windsor 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	12	2	9	0	23	0	8	169	2	4	179	0	7	4	0	1	11	0	106	181	10	0	297	510
8:15	0	14	1	5	3	20	0	15	204	3	0	222	0	12	3	1	1	16	0	98	165	12	0	275	533
8:30	0	8	2	8	4	18	0	17	196	7	3	220	0	13	2	3	0	18	0	57	160	14	0	231	487
8:45	0	5	3	10	3	18	0	5	191	6	3	202	0	11	4	1	1	16	0	51	170	30	0	251	487
Hourly Total	0	39	8	32	10	79	0	45	760	18	10	823	0	43	13	5	3	61	0	312	676	66	0	1054	2017
Approach %	0.0%	49.4%	10.1%	40.5%	-	-	0.0%	5.5%	92.3%	2.2%	-	-	0.0%	70.5%	21.3%	8.2%	-	-	0.0%	29.6%	64.1%	6.3%	-	-	-
Total %	0.0%	1.9%	0.4%	1.6%	-	3.9%	0.0%	2.2%	36.8%	0.9%	-	40.8%	0.0%	2.1%	0.6%	0.2%	-	3.0%	0.0%	15.1%	32.7%	3.2%	-	52.3%	-
PHF	0	0.7	0.67	0.8	-	0.86	0	0.66	0.93	0.64	-	0.93	0	0.83	0.81	0.42	-	0.85	0	0.74	0.93	0.55	-	0.89	0.95
Lights	0	35	8	30	-	73	0	45	760	18	-	823	0	41	13	5	-	59	0	311	615	63	-	989	1944
% Lights	-	89.7%	100.0%	93.8%	-	92.4%	-	100.0%	100.0%	100.0%	-	100.0%	-	95.3%	100.0%	100.0%	-	96.7%	-	99.7%	91.0%	95.5%	-	93.8%	96.4%
Buses	-	0	0	0	-	0	-	0	9	0	-	9	-	0	0	0	-	0	-	0	14	0	-	14	23
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	1.2%	0.0%	-	1.1%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	2.1%	0.0%	-	1.3%	1.1%
Trucks	-	4	0	2	-	6	-	1	31	0	-	32	-	2	0	0	-	2	-	1	47	3	-	51	91
% Trucks	-	10.3%	0.0%	6.3%	-	7.6%	-	2.2%	4.1%	0.0%	-	3.9%	-	4.7%	0.0%	0.0%	-	3.3%	-	0.3%	7.0%	4.5%	-	4.8%	4.5%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

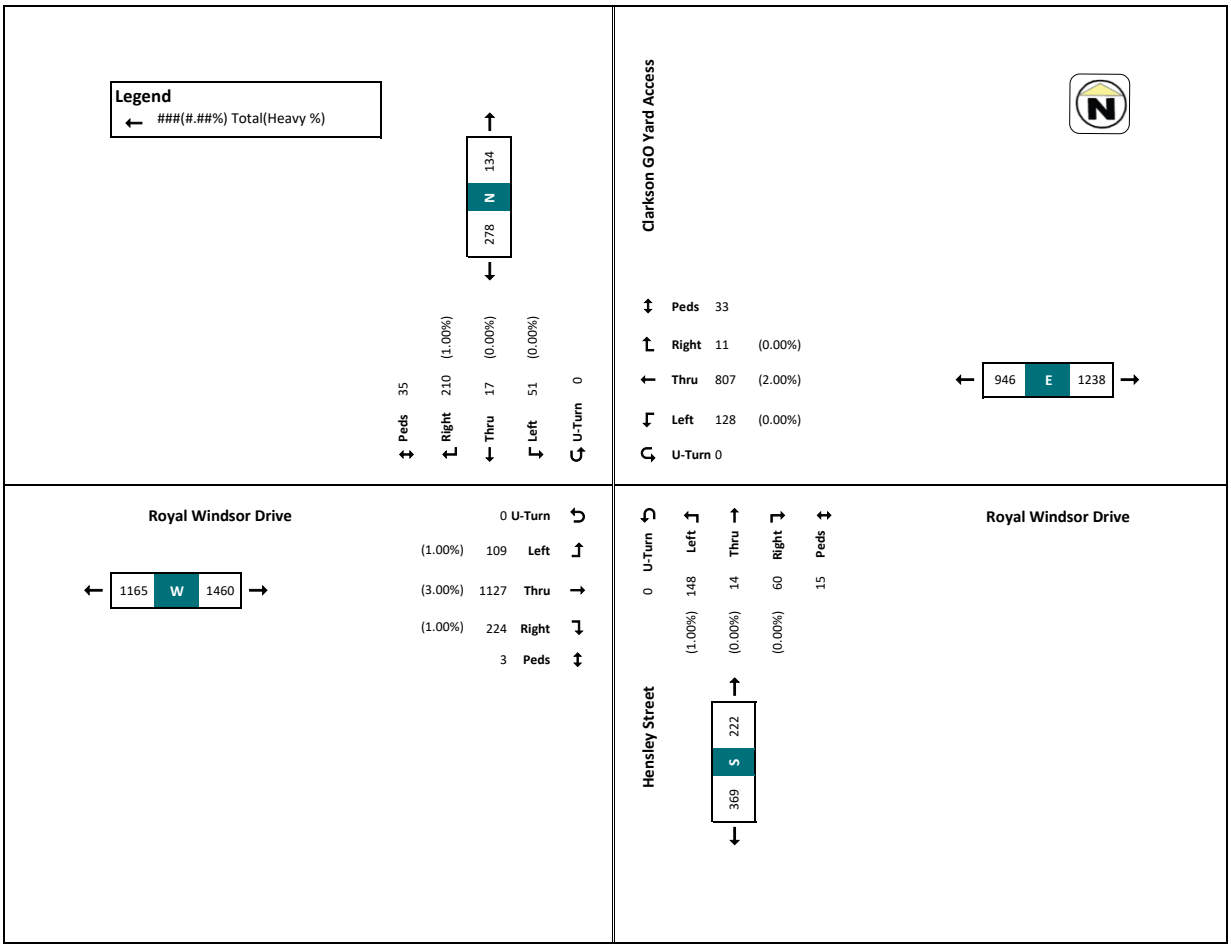


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Hensley Street & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24312

PM Peak Hour - Hensley Street & Royal Windsor Drive

	Clarkson GO Yard Access Southbound						Royal Windsor Drive Westbound						Hensley Street Northbound						Royal Windsor 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
16:30	0	9	3	23	23	35	0	32	203	1	7	236	0	38	3	17	2	58	0	15	303	44	1	362	691
16:45	0	11	1	69	4	81	0	34	189	3	7	226	0	31	3	17	10	51	0	34	264	49	0	347	705
17:00	0	9	4	44	4	57	0	37	181	4	9	222	0	34	3	11	1	48	0	38	309	88	1	435	762
17:15	0	22	9	74	4	105	0	25	234	3	10	262	0	45	5	15	2	65	0	23	282	46	1	351	783
Hourly Total	0	51	17	210	35	278	0	128	807	11	33	946	0	148	14	60	15	222	0	110	1158	227	3	1495	2941
Approach %	0.0%	18.3%	6.1%	75.5%	-	-	0.0%	13.5%	85.3%	1.2%	-	-	0.0%	66.7%	6.3%	27.0%	-	-	0.0%	7.4%	77.5%	15.2%	-	-	-
Total %	0.0%	1.7%	0.6%	7.1%	-	9.5%	0.0%	6.2%	39.0%	0.4%	-	32.2%	0.0%	7.2%	0.7%	2.9%	-	7.5%	0.0%	5.3%	56.0%	11.0%	-	50.8%	-
PHF	0	0.58	0.47	0.71	-	0.66	0	0.86	0.86	0.69	-	0.9	0	0.82	0.7	0.88	-	0.85	0	0.72	0.94	0.64	-	0.86	0.94
Lights	0	51	17	208	-	276	0	128	770	11	-	909	0	146	14	60	-	220	0	109	1127	224	-	1460	2865
% Lights	-	100.0%	100.0%	99.0%	-	99.3%	-	100.0%	95.4%	100.0%	-	96.1%	-	98.6%	100.0%	100.0%	-	99.1%	-	99.1%	97.3%	98.7%	-	97.7%	97.4%
Buses	-	0	0	0	-	0	-	0	8	0	-	8	-	0	0	0	-	0	-	0	9	0	-	9	17
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	1.0%	0.0%	-	0.8%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.8%	0.0%	-	0.6%	0.6%
Trucks	-	0	0	2	-	2	-	0	29	0	-	29	-	2	0	0	-	2	-	1	22	3	-	26	59
% Trucks	-	0.0%	0.0%	1.0%	-	0.7%	-	0.0%	3.6%	0.0%	-	3.1%	-	1.4%	0.0%	0.0%	-	0.9%	-	0.9%	1.9%	1.3%	-	1.7%	2.0%
Bicycles	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	1
Pedestrians	-	-	-	-	35	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	35

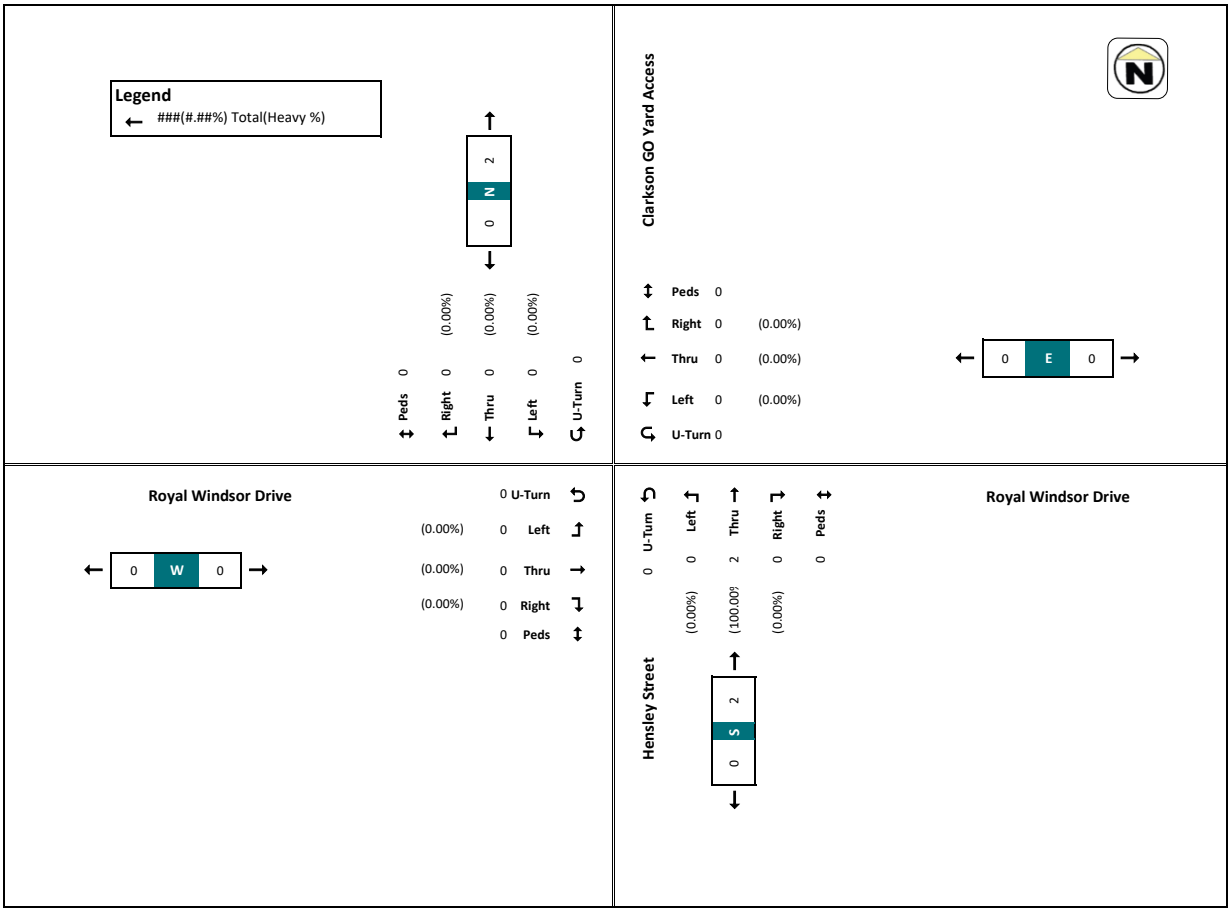


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Hensley Street & Royal Windsor Drive
Survey Date : January 0, 1900
Project No. : 23137
Count ID : 24312

Turning Movement Count - Hensley Street & Royal Windsor Drive

	Clarkson GO Yard Access Southbound						Royal Windsor Drive Westbound						Hensley Street Northbound						Royal Windsor 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
10:00	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
10:15	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
10:30	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
10:45	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
11:00	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
11:15	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
11:30	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
11:45	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
12:00	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
12:15	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
12:30	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
12:45	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
13:00	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
13:15	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
13:30	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
13:45	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
14:00	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
14:15	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
14:30	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
14:45	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
15:00	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
15:15	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
15:30	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
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
16:15	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
16:30	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
16:45	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	1	0	0	1	0	0	0	0	0	0	1
17:00	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
17:15	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
17:30	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
17:45	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
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
Approach %	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-	-	-	-	-
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%	100.0%	0.0%	-	100.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	-
Lights	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Lights	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
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%
Trucks	-	0	0	0	-	0	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	1
% Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

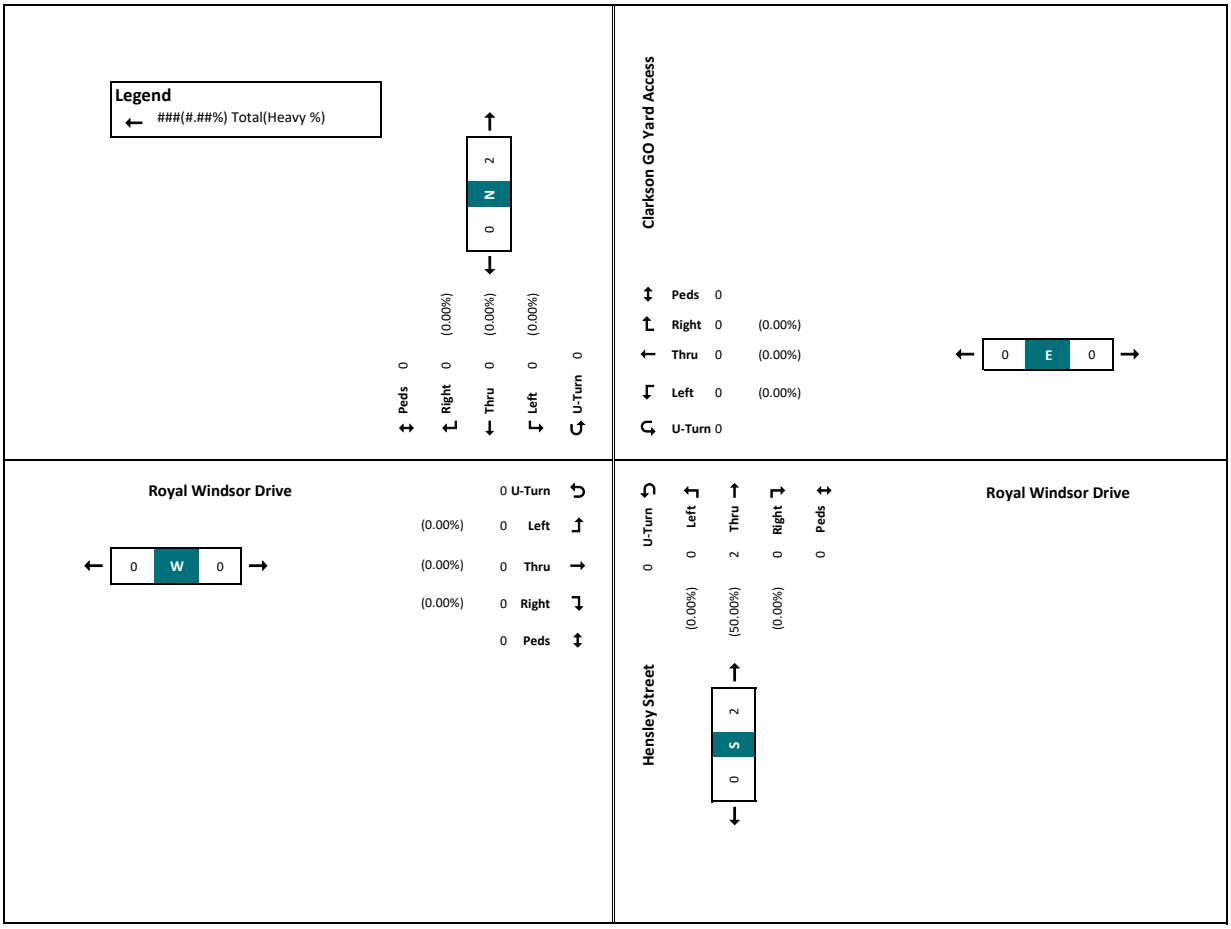


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Hensley Street & Royal Windsor Drive
Survey Date : January 0, 1900
Project No. : 23137
Count ID : 24312

SAT Peak Hour - Hensley Street & Royal Windsor Drive

	Clarkson GO Yard Access Southbound						Royal Windsor Drive Westbound						Hensley Street Northbound						Royal Windsor 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
15:15	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
15:30	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
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
Approach %	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-	-	-	-	-
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%	0.1%	0.0%	-	100.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	-
PHF	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0.5	0	-	0.5	0	0	0	0	-	0	0.5
Lights	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Lights	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
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%
Trucks	-	0	0	0	-	0	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	1
% Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

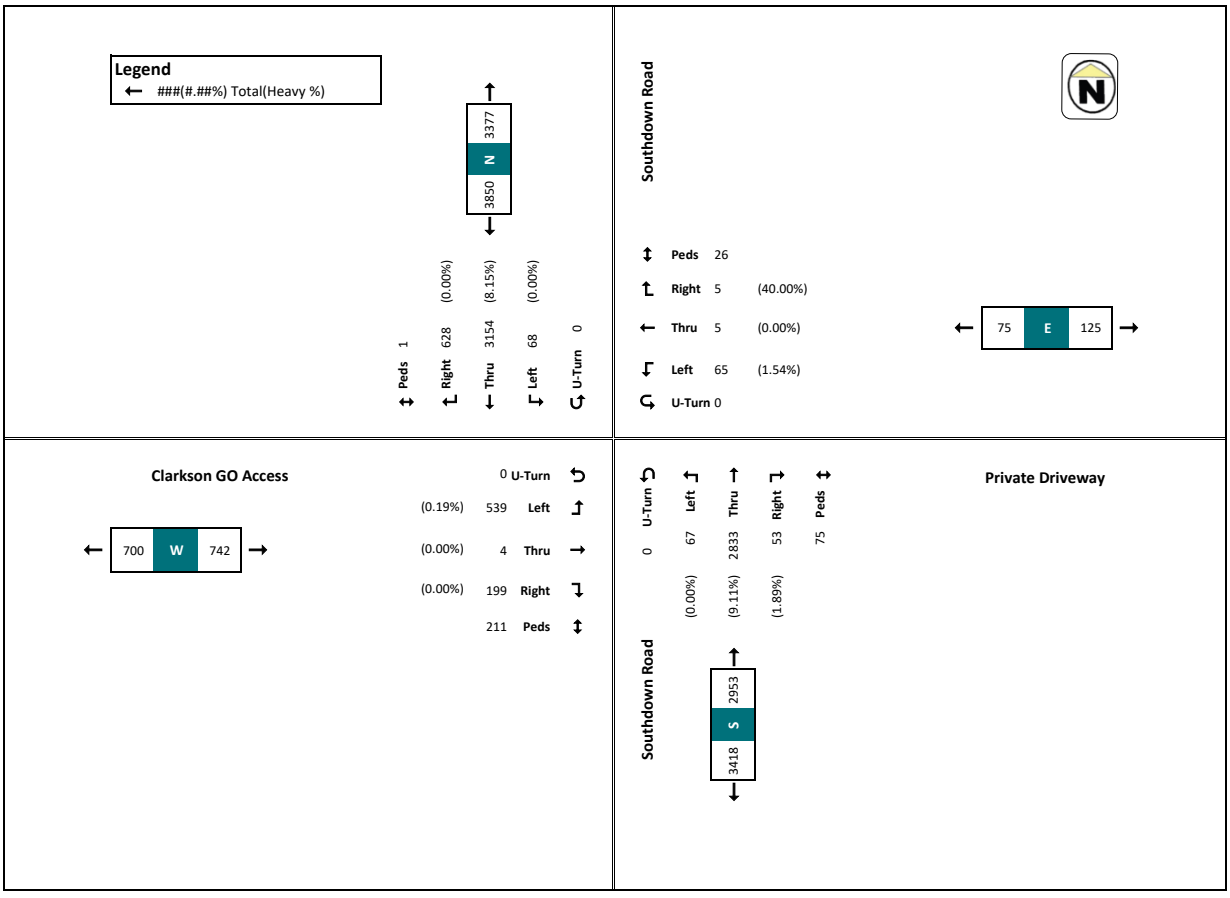


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Southdown Road & Clarkson GO Access
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24314

Turning Movement Count - Southdown Road & Clarkson GO Access

	Southdown Road Southbound						Private Driveway Westbound						Southdown Road Northbound						Clarkson GO Access 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	5	150	50	0	205	0	4	0	4	1	8	0	3	113	1	3	117	0	7	0	1	8	8	338
7:15	0	3	163	50	0	216	0	1	0	1	0	2	0	2	125	2	4	129	0	6	0	4	17	10	357
7:30	0	2	158	48	0	208	0	2	1	2	1	5	0	4	144	2	10	150	0	10	0	5	15	15	378
7:45	0	2	184	79	0	265	0	4	1	5	2	10	0	2	152	0	8	154	0	6	0	11	17	17	446
Hourly Total	0	12	655	227	0	894	0	11	2	12	4	25	0	11	534	5	25	550	0	29	0	21	57	50	1519
8:00	0	5	209	71	0	285	0	1	0	7	1	8	0	4	129	3	5	136	0	13	0	13	0	26	455
8:15	0	5	187	79	0	281	0	4	2	8	0	14	0	6	149	1	1	156	0	13	2	13	0	28	479
8:30	0	4	207	72	0	283	0	4	0	6	1	10	0	9	125	2	5	136	0	14	0	6	0	20	449
8:45	0	2	240	44	0	286	0	7	0	2	1	9	0	3	141	2	1	146	0	12	0	1	0	13	454
Hourly Total	0	16	853	266	0	1135	0	16	2	23	3	41	0	22	544	8	12	574	0	52	2	33	0	87	1837
* Break *																									
16:00	0	5	190	8	0	203	0	9	0	5	3	14	0	3	241	6	2	250	0	26	0	8	17	34	501
16:15	0	4	187	17	0	208	0	3	0	15	4	18	0	3	217	3	3	223	0	59	1	16	21	76	525
16:30	0	7	224	20	0	251	0	4	1	5	1	10	0	4	202	6	2	212	0	26	0	6	9	32	505
16:45	0	2	170	23	1	195	0	3	0	3	3	6	0	4	186	5	4	195	0	67	0	23	24	90	486
Hourly Total	0	18	771	68	1	857	0	19	1	28	11	48	0	14	846	20	11	880	0	178	1	53	71	232	2017
17:00	0	7	256	20	0	283	0	6	0	3	1	9	0	4	255	7	2	266	0	45	0	13	13	58	616
17:15	0	5	183	22	0	210	0	7	0	3	1	10	0	5	220	6	8	231	0	65	1	35	21	101	552
17:30	0	7	225	11	0	243	0	4	0	2	2	6	0	3	228	3	8	234	0	29	0	15	26	44	527
17:45	0	3	211	14	0	228	0	2	0	3	4	5	0	8	206	4	9	218	0	60	0	29	23	89	540
Hourly Total	0	22	875	67	0	964	0	19	0	11	8	30	0	20	909	20	27	949	0	199	1	92	83	292	2235
Grand Total	0	68	3154	628	1	3850	0	65	5	74	26	144	0	67	2833	53	75	2953	0	458	4	199	211	661	7608
Approach %	0.0%	1.8%	81.9%	16.3%	-	-	0.0%	45.1%	3.5%	51.4%	-	-	0.0%	2.3%	95.9%	1.8%	-	-	0.0%	69.3%	0.6%	30.1%	-	-	-
Total %	0.0%	0.9%	41.5%	8.3%	-	50.6%	0.0%	0.9%	0.1%	1.0%	-	1.9%	0.0%	0.9%	37.2%	0.7%	-	38.8%	0.0%	6.0%	0.1%	2.6%	-	8.7%	-
Lights	0	68	2897	628	-	3593	0	64	5	72	-	141	0	67	2575	52	-	2694	0	457	4	199	-	660	7088
% Lights	-	100.0%	91.9%	100.0%	-	93.3%	-	98.5%	100.0%	97.3%	-	97.9%	-	100.0%	90.9%	98.1%	-	91.2%	-	99.8%	100.0%	100.0%	-	99.8%	93.2%
Buses	-	0	88	0	-	88	-	0	0	0	-	0	-	0	76	0	-	76	-	1	0	0	-	1	165
% Buses	-	0.0%	2.8%	0.0%	-	2.3%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	2.7%	0.0%	-	2.6%	-	0.2%	0.0%	0.0%	-	0.2%	2.2%
Trucks	-	0	169	0	-	169	-	1	0	2	-	3	-	0	182	1	-	183	-	0	0	0	-	0	355
% Trucks	-	0.0%	5.4%	-	-	4.4%	-	1.5%	0.0%	2.7%	-	2.1%	-	0.0%	6.4%	1.9%	-	6.2%	-	0.0%	0.0%	0.0%	-	0.0%	4.7%
Bicycles	-	-	-	-	0	0	-	-	-	-	12	12	-	-	-	-	3	3	-	-	-	-	17	17	32
Pedestrians	-	-	-	-	1	-	-	-	-	-	26	-	-	-	-	-	75	-	-	-	-	-	211	-	313

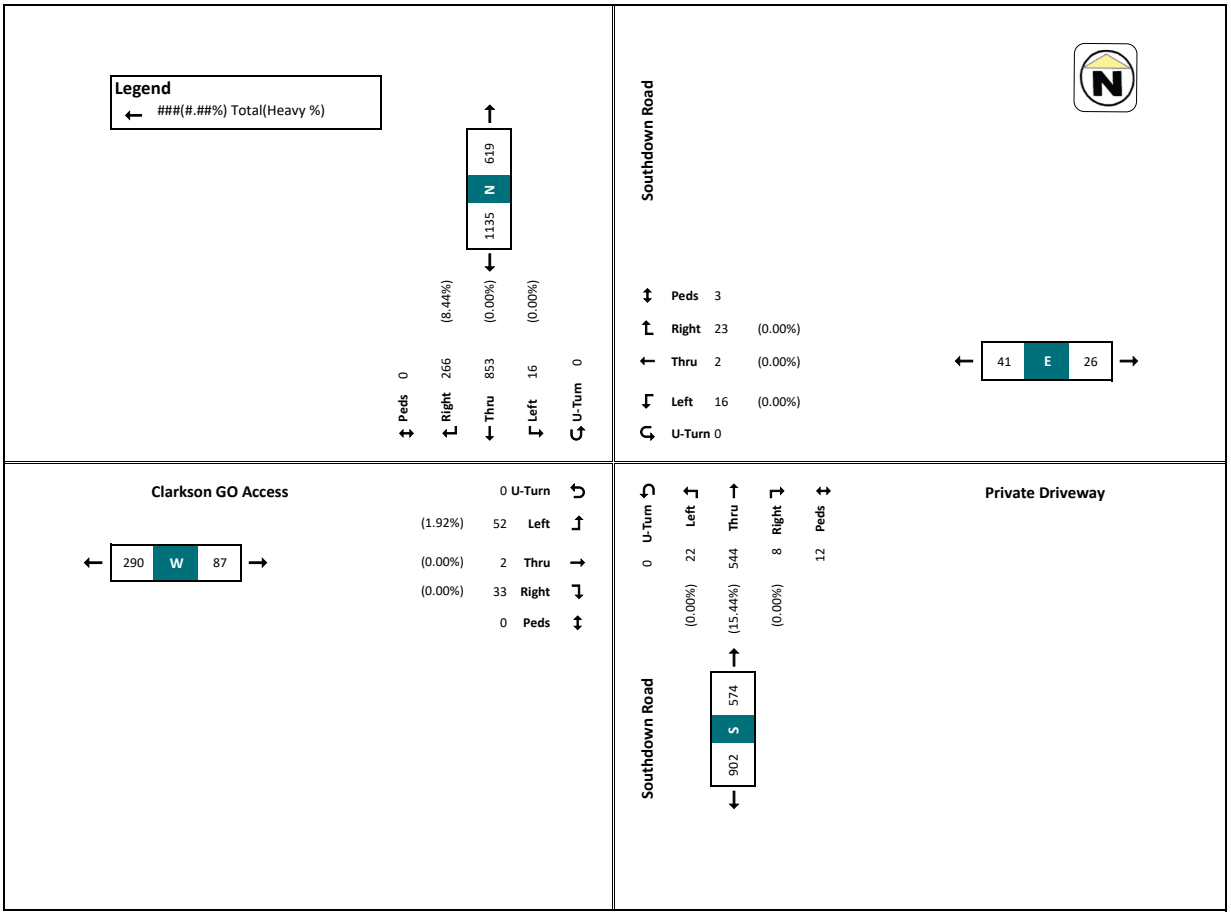


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Southdown Road & Clarkson GO Access
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24314

AM Peak Hour - Southdown Road & Clarkson GO Access

	Southdown Road Southbound						Private Driveway Westbound						Southdown Road Northbound						Clarkson GO Access 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	5	209	71	0	285	0	1	0	7	1	8	0	4	129	3	5	136	0	13	0	13	0	26	455
8:15	0	5	197	79	0	281	0	4	2	8	0	14	0	6	149	1	1	156	0	13	2	13	0	28	479
8:30	0	4	207	72	0	283	0	4	0	6	1	10	0	9	125	2	5	136	0	14	0	6	0	20	449
8:45	0	2	240	44	0	286	0	7	0	2	1	9	0	3	141	2	1	146	0	12	0	1	0	13	454
Hourly Total	0	16	853	266	0	1135	0	16	2	23	3	41	0	22	544	8	12	574	0	52	2	33	0	87	1837
Approach %	0.0%	1.4%	75.2%	23.4%	-	-	0.0%	39.0%	4.9%	56.1%	-	-	0.0%	3.8%	94.8%	1.4%	-	-	0.0%	59.8%	2.3%	37.9%	-	-	-
Total %	0.0%	0.9%	46.4%	14.5%	-	61.8%	0.0%	0.9%	0.1%	1.3%	-	2.2%	0.0%	1.2%	29.6%	0.4%	-	31.2%	0.0%	2.8%	0.1%	1.8%	-	4.7%	-
PHF	0	0.8	0.89	0.84	-	0.99	0	0.57	0.25	0.72	-	0.73	0	0.61	0.91	0.67	-	0.92	0	0.93	0.25	0.63	-	0.78	0.96
Lights	0	16	781	266	-	1063	0	16	2	23	-	41	0	22	460	8	-	490	0	51	2	33	-	86	1680
% Lights	-	100.0%	91.6%	100.0%	-	93.7%	-	100.0%	100.0%	100.0%	-	100.0%	-	100.0%	84.6%	100.0%	-	85.4%	-	98.1%	100.0%	100.0%	-	98.9%	91.5%
Buses	-	0	27	0	-	27	-	0	0	0	-	0	-	0	25	0	-	25	-	1	0	0	-	1	53
% Buses	-	0.0%	3.2%	0.0%	-	2.4%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	4.6%	0.0%	-	4.4%	-	1.9%	0.0%	0.0%	-	1.1%	2.9%
Trucks	-	0	45	0	-	45	-	0	0	0	-	0	-	0	59	0	-	59	-	0	0	0	-	0	104
% Trucks	-	0.0%	5.3%	0.0%	-	4.0%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	10.8%	0.0%	-	10.3%	-	0.0%	0.0%	0.0%	-	0.0%	5.7%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	3

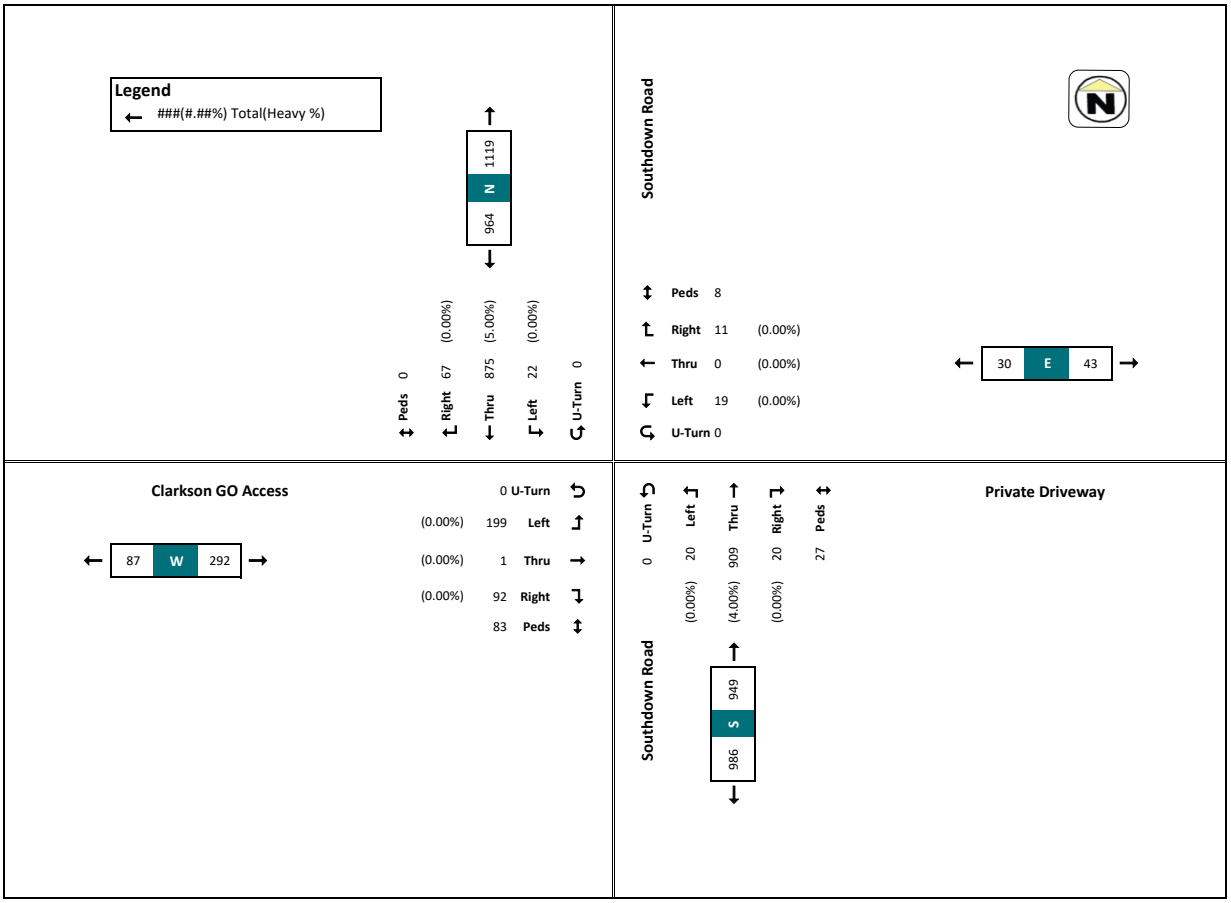


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Southdown Road & Clarkson GO Access
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24314

PM Peak Hour - Southdown Road & Clarkson GO Access

	Southdown Road Southbound						Private Driveway Westbound						Southdown Road Northbound						Clarkson GO Access 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
17:00	0	7	256	20	0	283	0	6	0	3	1	9	0	4	255	7	2	266	0	45	0	13	13	58	616
17:15	0	5	183	22	0	210	0	7	0	3	1	10	0	5	220	6	8	231	0	65	1	35	21	101	552
17:30	0	7	225	11	0	243	0	4	0	2	2	6	0	3	228	3	8	234	0	29	0	15	26	44	527
17:45	0	3	211	14	0	228	0	2	0	3	4	5	0	8	206	4	9	218	0	60	0	29	23	89	540
Hourly Total	0	22	875	67	0	964	0	19	0	11	8	30	0	20	909	20	27	949	0	199	1	92	83	292	2235
Approach %	0.0%	2.3%	90.8%	7.0%	-	-	0.0%	63.3%	0.0%	36.7%	-	-	0.0%	2.1%	95.8%	2.1%	-	-	0.0%	68.2%	0.3%	31.5%	-	-	-
Total %	0.0%	1.0%	39.1%	3.0%	-	43.1%	0.0%	1.0%	0.0%	0.5%	-	1.3%	0.0%	1.1%	49.5%	1.1%	-	42.5%	0.0%	10.8%	0.1%	5.0%	-	13.1%	-
PHF	0	0.79	0.85	0.76	-	0.85	0	0.68	0	0.92	-	0.75	0	0.63	0.89	0.71	-	0.89	0	0.77	0.25	0.66	-	0.72	0.91
Lights	0	22	831	67	-	920	0	19	0	11	-	30	0	20	874	20	-	914	0	199	1	92	-	292	2156
% Lights	-	100.0%	95.0%	100.0%	-	95.4%	-	100.0%	-	100.0%	-	100.0%	-	100.0%	96.1%	100.0%	-	96.3%	-	100.0%	100.0%	100.0%	-	100.0%	96.5%
Buses	-	0	27	0	-	27	-	0	0	0	-	0	-	0	13	0	-	13	-	0	0	0	-	0	40
% Buses	-	0.0%	3.1%	0.0%	-	2.8%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1.4%	0.0%	-	1.4%	-	0.0%	0.0%	0.0%	-	0.0%	1.8%
Trucks	-	0	30	0	-	30	-	0	0	0	-	0	-	0	22	0	-	22	-	0	0	0	-	0	52
% Trucks	-	0.0%	3.4%	0.0%	-	3.1%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	2.4%	0.0%	-	2.3%	-	0.0%	0.0%	0.0%	-	0.0%	2.3%
Bicycles	-	-	-	-	0	0	-	-	-	-	6	6	-	-	-	-	0	0	-	-	-	-	5	5	11
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

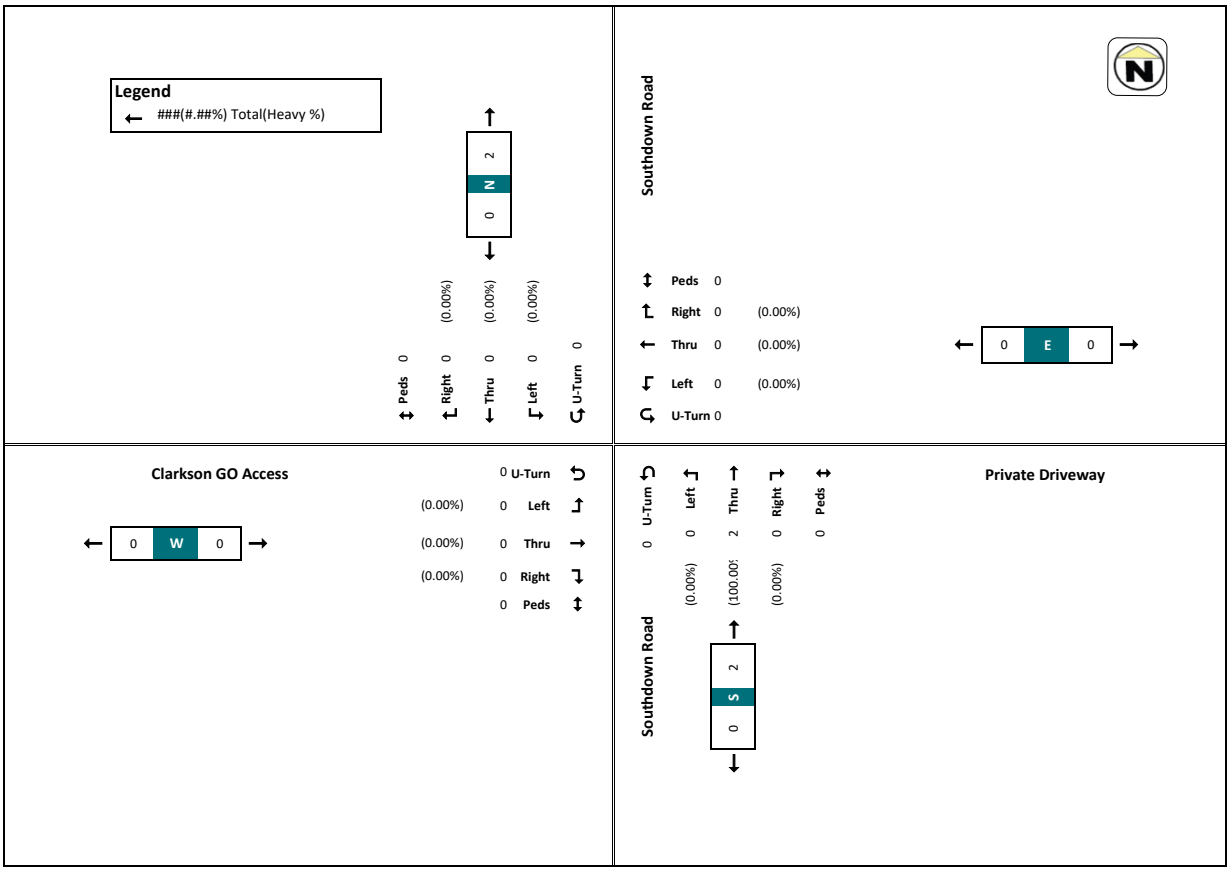


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Southdown Road & Clarkson GO Access
Survey Date : January 0, 1900
Project No. : 23137
Count ID : 24314

Turning Movement Count - Southdown Road & Clarkson GO Access

	Southdown Road Southbound						Private Driveway Westbound						Southdown Road Northbound						Clarkson GO Access 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
10:00	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
10:15	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
10:30	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
10:45	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
11:00	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
11:15	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
11:30	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
11:45	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
12:00	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
12:15	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
12:30	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
12:45	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
13:00	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
13:15	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
13:30	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
13:45	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
14:00	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
14:15	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
14:30	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
14:45	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
15:00	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
15:15	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
15:30	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
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
16:15	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
16:30	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
16:45	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	1	0	0	1	0	0	0	0	0	0	1
17:00	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
17:15	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
17:30	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
17:45	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
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
Approach %	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-	-	-	-	-
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%	100.0%	0.0%	-	100.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	-
Lights	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Lights	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
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%
Trucks	-	0	0	0	-	0	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	1
% Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

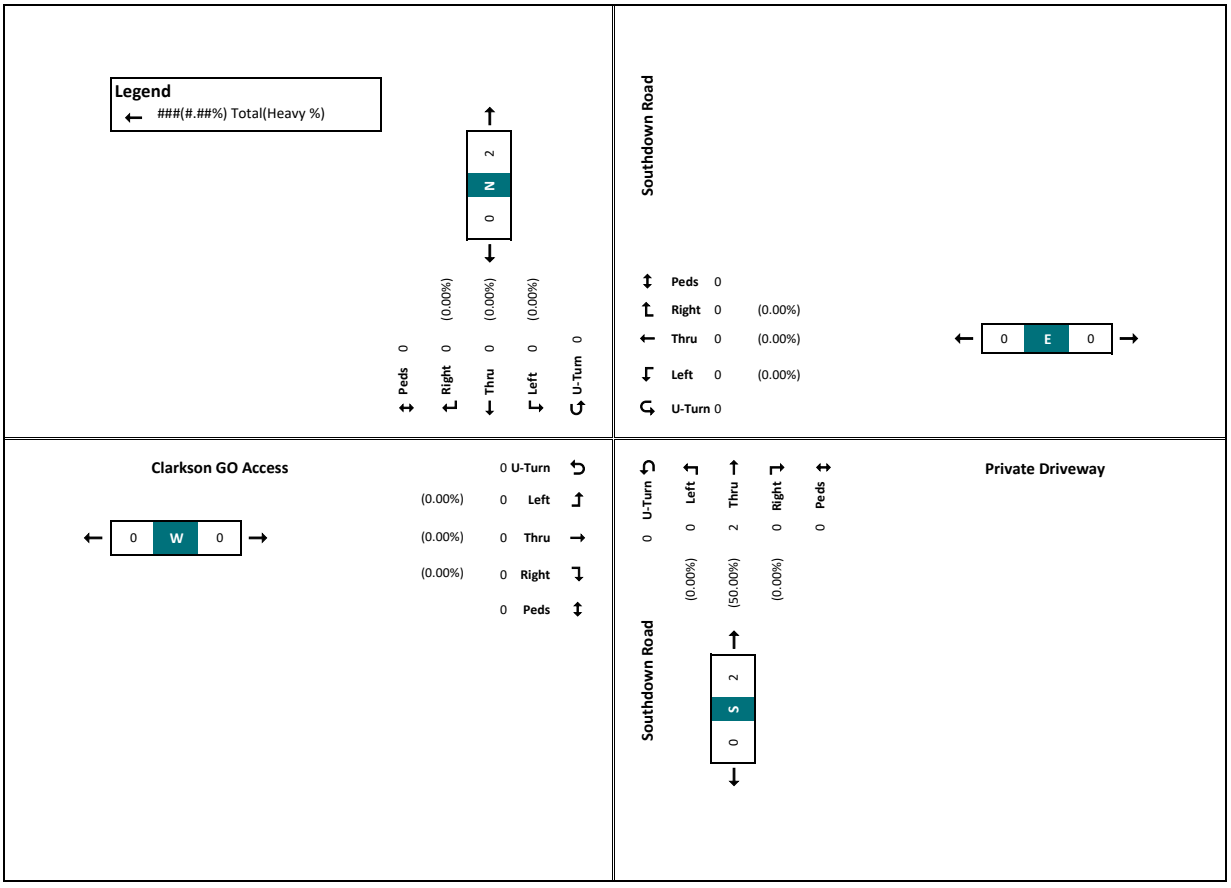


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Southdown Road & Clarkson GO Access
Survey Date : January 0, 1900
Project No. : 23137
Count ID : 24314

SAT Peak Hour - Southdown Road & Clarkson GO Access

	Southdown Road Southbound						Private Driveway Westbound						Southdown Road Northbound						Clarkson GO Access 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
15:15	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
15:30	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
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
Approach %	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-	-	-	-	-
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%	0.1%	0.0%	-	100.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	-
PHF	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0.5	0	-	0.5	0	0	0	0	-	0	0.5
Lights	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Lights	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
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%
Trucks	-	0	0	0	-	0	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	1
% Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

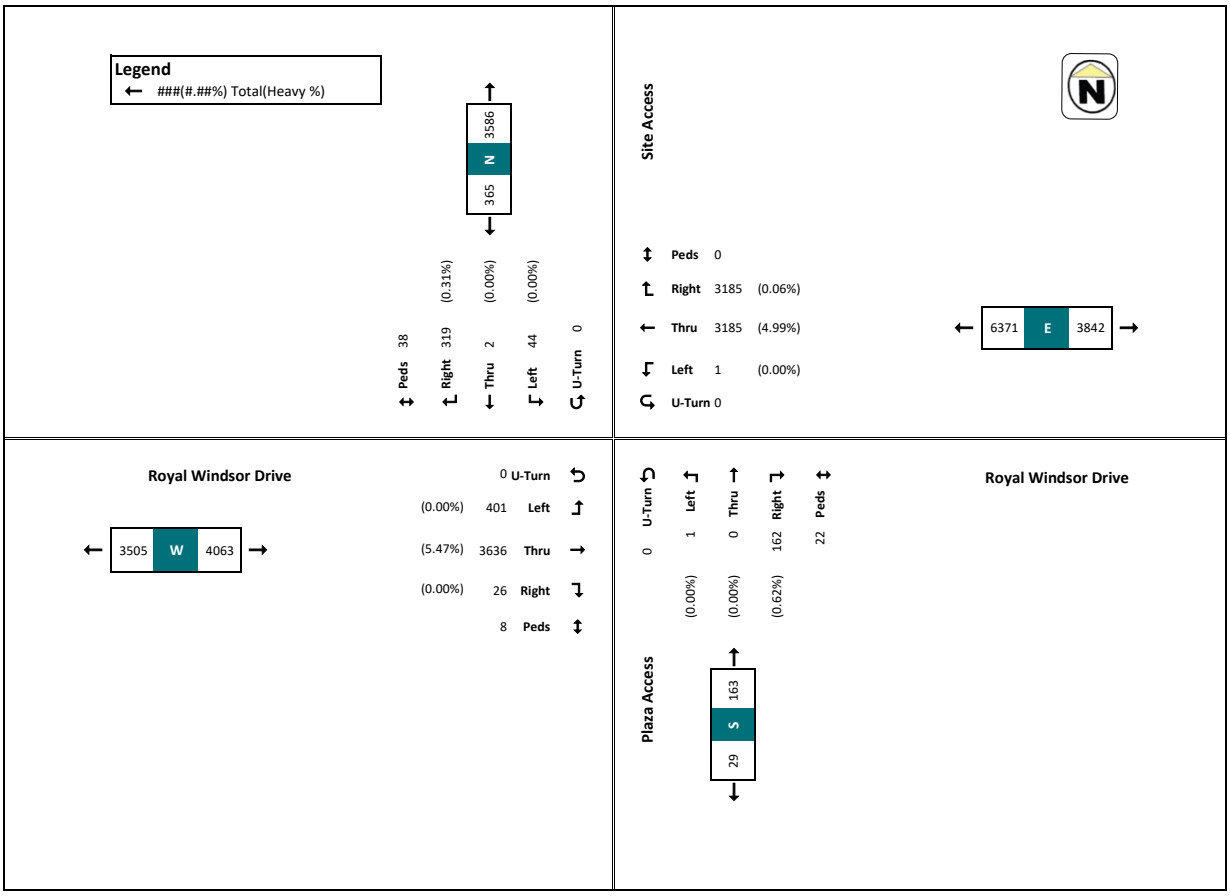


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Plaza Access & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24313

Turning Movement Count - Plaza Access & Royal Windsor Drive

	Site Access Southbound						Royal Windsor Drive Westbound						Plaza Access Northbound						Royal Windsor 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	0	9	1	9	0	0	122	18	0	140	0	0	0	1	0	1	0	19	113	0	0	132	282
7:15	0	4	1	10	1	15	0	1	165	23	0	189	0	1	0	2	0	3	0	14	132	0	1	146	353
7:30	0	0	0	10	1	10	0	0	188	22	0	210	0	0	0	3	1	3	0	25	123	2	0	150	373
7:45	0	1	0	14	0	15	0	0	238	48	0	286	0	0	0	3	0	3	0	26	151	0	0	177	481
Hourly Total	0	5	1	43	3	49	0	1	713	111	0	825	0	1	0	9	1	10	0	84	519	2	1	605	1489
8:00	0	2	0	10	0	12	0	0	192	31	0	223	0	0	0	2	3	2	0	28	163	0	1	191	428
8:15	0	1	0	16	1	17	0	0	237	26	0	263	0	0	0	8	5	8	0	34	170	0	0	204	492
8:30	0	0	0	10	2	10	0	0	225	12	0	237	0	0	0	5	3	5	0	17	172	0	0	189	441
8:45	0	4	0	10	1	14	0	0	214	17	0	231	0	0	0	6	0	6	0	5	181	0	0	186	437
Hourly Total	0	7	0	46	4	53	0	0	868	86	0	954	0	0	0	21	11	21	0	84	686	0	1	770	1798
* Break *																									
16:00	0	1	0	9	1	10	0	0	226	8	0	234	0	0	0	15	1	15	0	9	292	2	0	303	562
16:15	0	5	0	26	15	31	0	0	194	8	0	202	0	0	0	12	0	12	0	5	286	5	2	296	541
16:30	0	1	0	16	2	17	0	0	225	4	0	229	0	0	0	21	2	21	0	7	316	3	1	326	593
16:45	0	2	0	46	4	48	0	0	178	12	0	190	0	0	0	18	1	18	0	6	295	2	0	303	559
Hourly Total	0	9	0	97	22	106	0	0	823	32	0	855	0	0	0	66	4	66	0	27	1189	12	3	1228	2255
17:00	0	2	0	14	2	16	0	0	198	10	0	208	0	0	0	14	3	14	0	9	326	0	1	335	573
17:15	0	6	0	53	2	59	0	0	216	13	0	229	0	0	0	21	0	21	0	5	350	6	1	361	670
17:30	0	5	1	21	1	27	0	0	203	15	0	218	0	0	0	17	1	17	0	15	290	3	0	308	570
17:45	0	10	0	45	4	55	0	0	164	5	0	169	0	0	0	14	2	14	0	9	276	3	1	288	526
Hourly Total	0	23	1	133	9	157	0	0	781	43	0	824	0	0	0	66	6	66	0	38	1242	12	3	1292	2339
Grand Total	0	44	2	319	38	365	0	1	3185	272	0	3458	0	1	0	162	22	163	0	233	3636	26	8	3895	7881
Approach %	0.0%	12.1%	0.5%	87.4%	-	-	0.0%	0.0%	92.1%	7.9%	-	-	0.0%	0.6%	0.0%	99.4%	-	-	0.0%	6.0%	93.4%	0.7%	-	-	-
Total %	0.0%	0.6%	0.0%	4.0%	-	4.6%	0.0%	0.0%	40.4%	3.5%	-	43.9%	0.0%	0.0%	0.0%	2.1%	-	2.1%	0.0%	3.0%	46.1%	0.3%	-	49.4%	-
Lights	0	44	2	318	-	364	0	1	3026	270	-	3297	0	1	0	161	-	162	0	233	3437	26	-	3696	7519
% Lights	-	100.0%	100.0%	99.7%	-	99.7%	-	100.0%	95.0%	99.3%	-	95.3%	-	100.0%	-	99.4%	-	99.4%	-	100.0%	94.5%	100.0%	-	94.9%	95.4%
Buses	-	0	0	0	-	0	-	0	37	1	-	38	-	0	0	0	-	0	-	0	48	0	-	48	86
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	1.2%	0.4%	-	1.1%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	1.3%	0.0%	-	1.2%	1.1%
Trucks	-	0	0	1	-	1	-	0	122	1	-	123	-	0	0	1	-	1	-	0	151	0	-	151	276
% Trucks	-	0.0%	0.0%	-	-	0.3%	-	0.0%	3.8%	0.4%	-	3.6%	-	0.0%	-	0.6%	-	0.6%	-	0.0%	4.2%	0.0%	-	3.9%	3.5%
Bicycles	-	-	-	-	7	7	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	7
Pedestrians	-	-	-	-	38	-	-	-	-	-	0	-	-	-	-	-	22	-	-	-	-	-	8	-	68

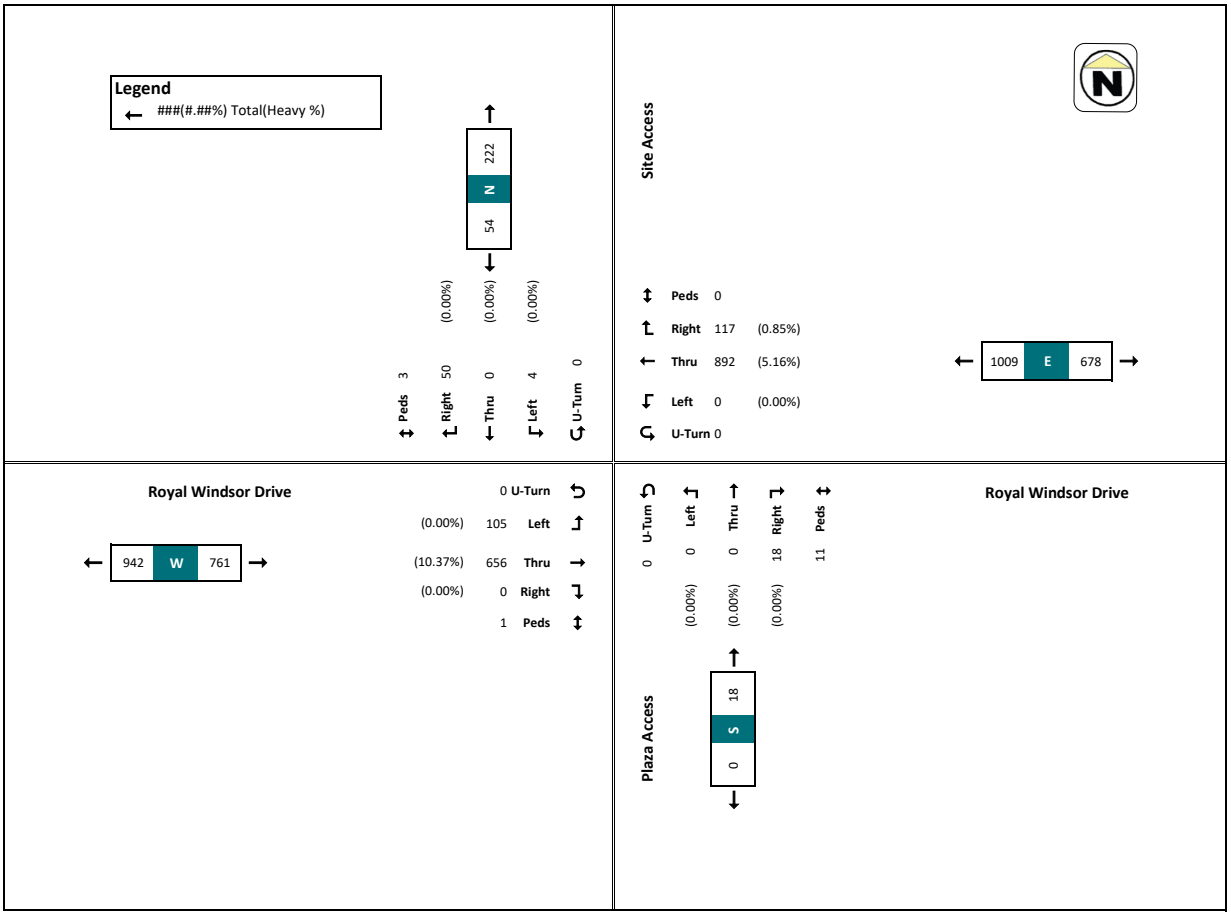


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Plaza Access & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24313

AM Peak Hour - Plaza Access & Royal Windsor Drive

	Site Access Southbound						Royal Windsor Drive Westbound						Plaza Access Northbound						Royal Windsor 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
7:45	0	1	0	14	0	15	0	0	238	48	0	286	0	0	0	3	0	3	0	26	151	0	0	177	481
8:00	0	2	0	10	0	12	0	0	192	31	0	223	0	0	0	2	3	2	0	28	163	0	1	191	428
8:15	0	1	0	16	1	17	0	0	237	26	0	263	0	0	0	8	5	8	0	34	170	0	0	204	492
8:30	0	0	0	10	2	10	0	0	225	12	0	237	0	0	0	5	3	5	0	17	172	0	0	189	441
Hourly Total	0	4	0	50	3	54	0	0	892	117	0	1009	0	0	0	18	11	18	0	105	656	0	1	761	1842
Approach %	0.0%	7.4%	0.0%	92.6%	-	-	0.0%	0.0%	88.4%	11.6%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	13.8%	86.2%	0.0%	-	-	-
Total %	0.0%	0.2%	0.0%	2.7%	-	2.9%	0.0%	0.0%	48.4%	6.4%	-	54.8%	0.0%	0.0%	0.0%	1.0%	-	1.0%	0.0%	5.7%	35.6%	0.0%	-	41.3%	-
PHF	0	0.5	0	0.78	-	0.79	0	0	0.94	0.61	-	0.88	0	0	0	0.56	-	0.56	0	0.77	0.95	0	-	0.93	0.94
Lights	0	4	0	50	-	54	0	0	846	116	-	962	0	0	0	18	-	18	0	105	588	0	-	693	1727
% Lights	-	100.0%	-	100.0%	-	100.0%	-	-	94.8%	99.1%	-	95.3%	-	-	-	100.0%	-	100.0%	-	100.0%	89.6%	-	-	91.1%	93.8%
Buses	-	0	0	0	-	0	-	0	8	1	-	9	-	0	0	0	-	0	-	0	14	0	-	14	23
% Buses	-	0.0%	-	0.0%	-	0.0%	-	-	0.9%	0.9%	-	0.9%	-	-	-	0.0%	-	0.0%	-	0.0%	2.1%	-	-	1.8%	1.2%
Trucks	-	0	0	0	-	0	-	0	38	0	-	38	-	0	0	0	-	0	-	0	54	0	-	54	92
% Trucks	-	0.0%	-	0.0%	-	0.0%	-	-	4.3%	0.0%	-	3.8%	-	-	-	0.0%	-	0.0%	-	0.0%	8.2%	-	-	7.1%	5.0%
Bicycles	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	2
Pedestrians	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	4

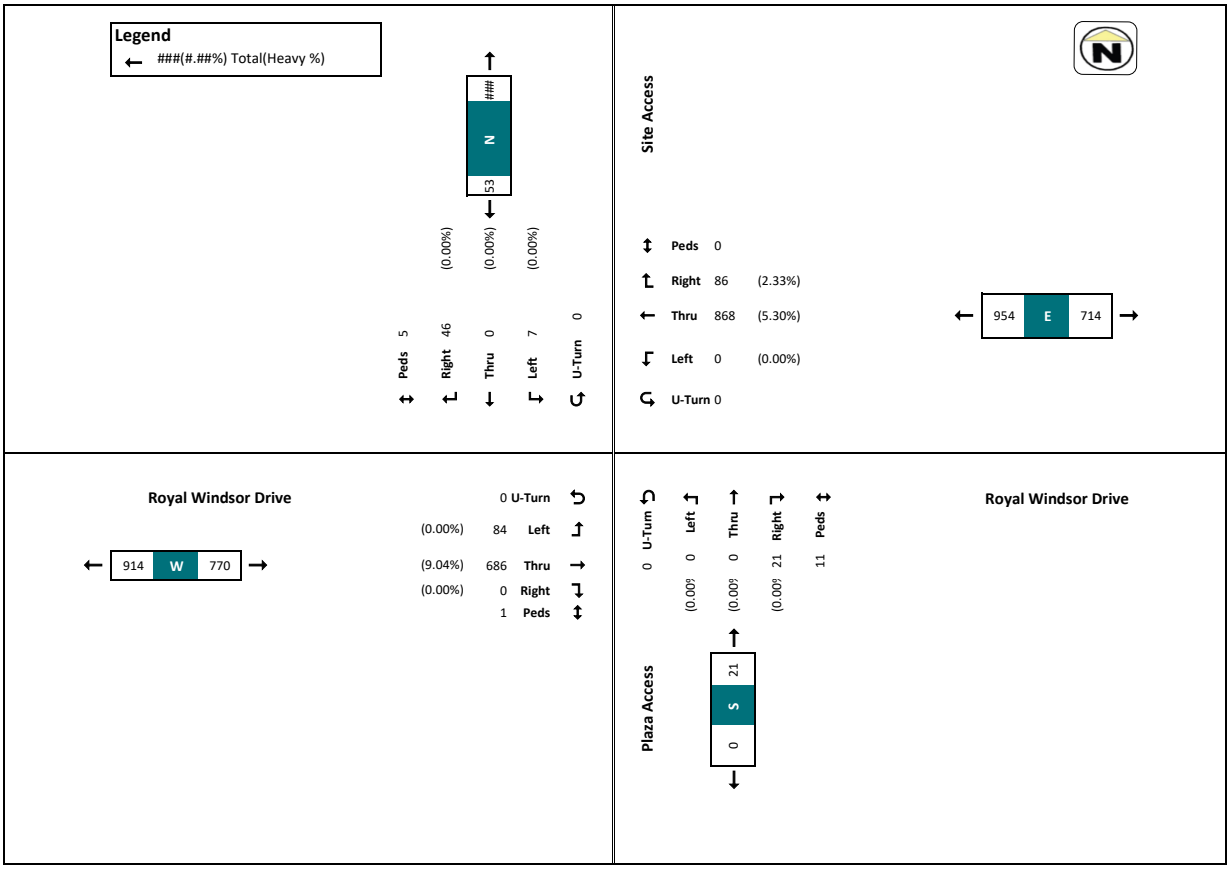


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Plaza Access & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24313

Common AM Peak Hour - Plaza Access & Royal Windsor Drive

	Site Access Southbound						Royal Windsor Drive Westbound						Plaza Access Northbound						Royal Windsor 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	10	0		0	0	192	31	0		0	0	0	2	3		0	28	163	0	1		428
8:15	0	1	0	16	1		0	0	237	26	0		0	0	0	8	5		0	34	170	0	0		492
8:30	0	0	0	10	2		0	0	225	12	0		0	0	0	5	3		0	17	172	0	0		441
8:45	0	4	0	10	2		0	0	214	17	0		0	0	0	6	0		0	5	181	0	0		437
Hourly Total	0	7	0	46	5	53	0	0	868	86	0	954	0	0	0	21	11	21	0	84	686	0	1	770	1798
Approach %	0.0%	13.2%	0.0%	86.8%	-	-	0.0%	0.0%	91.0%	9.0%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	10.9%	89.1%	0.0%	-	-	-
Total %	0.0%	0.4%	0.0%	2.6%	-	2.9%	0.0%	0.0%	47.1%	4.8%	-	53.1%	0.0%	0.0%	0.0%	1.1%	-	1.2%	0.0%	4.6%	37.2%	0.0%	-	42.8%	-
PHF	0	0.44	0	0.72	-	0	0	0	0.92	0.69	-	0	0	0	0	0.66	-	0	0	0.62	0.95	0	-	0	0.91
Lights	0	7	0	46	-	53	0	0	822	84	-	906	0	0	0	21	-	21	0	84	624	0	-	708	1688
% Lights	-	100.0%	-	100.0%	-	100.0%	-	-	94.7%	97.7%	-	95.0%	-	-	-	100.0%	-	100.0%	-	100.0%	91.0%	-	-	91.9%	93.9%
Buses	-	0	0	0	-	0	-	0	8	1	-	9	-	0	0	0	-	0	-	0	14	0	-	14	23
% Buses	-	0.0%	-	0.0%	-	0.0%	-	-	0.9%	1.2%	-	0.9%	-	-	-	0.0%	-	0.0%	-	0.0%	2.0%	-	-	1.8%	1.3%
Trucks	-	0	0	0	-	0	-	0	38	1	-	39	-	0	0	0	-	0	-	0	48	0	-	48	87
% Trucks	-	0.0%	-	0.0%	-	0.0%	-	-	4.4%	1.2%	-	4.1%	-	-	-	0.0%	-	0.0%	-	0.0%	7.0%	-	-	6.2%	4.8%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

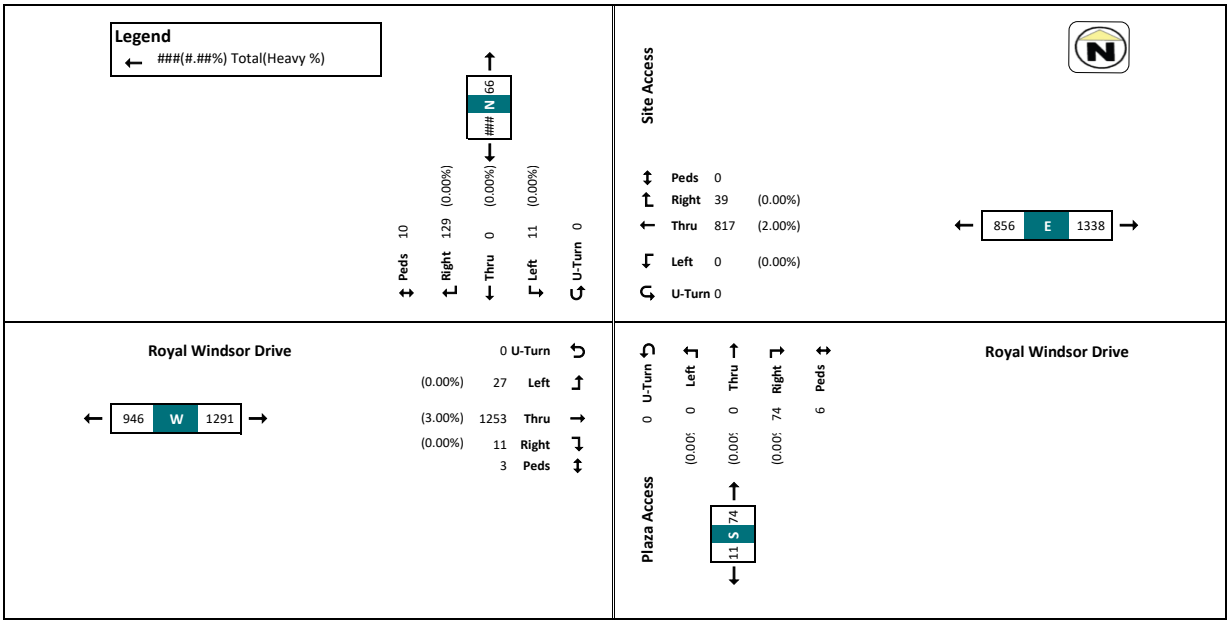


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Plaza Access & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24313

PM Peak Hour - Plaza Access & Royal Windsor Drive

	Site Access Southbound						Royal Windsor Drive Westbound						Plaza Access Northbound						Royal Windsor 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
16:30	0	1	0	16	2	17	0	0	225	4	0	229	0	0	0	21	2	21	0	7	316	3	1	326	593
16:45	0	2	0	46	4	48	0	0	178	12	0	190	0	0	0	18	1	18	0	6	295	2	0	303	559
17:00	0	2	0	14	2	16	0	0	198	10	0	208	0	0	0	14	3	14	0	9	326	0	1	335	573
17:15	0	6	0	53	2	59	0	0	216	13	0	229	0	0	0	21	0	21	0	5	350	6	1	361	670
Hourly Total	0	11	0	129	10	140	0	0	817	39	0	856	0	0	0	74	6	74	0	27	1287	11	3	1325	2395
Approach %	0.0%	7.9%	0.0%	92.1%	-	-	0.0%	0.0%	95.4%	4.6%	-	-	0.0%	0.0%	0.0%	100.0%	-	-	0.0%	2.0%	97.1%	0.8%	-	-	-
Total %	0.0%	0.5%	0.0%	5.4%	-	5.8%	0.0%	0.0%	44.4%	1.6%	-	35.7%	0.0%	0.0%	0.0%	4.0%	-	3.1%	0.0%	1.5%	69.9%	0.6%	-	55.3%	-
PHF	0	0.46	0	0.61	-	0.59	0	0	0.91	0.75	-	0.93	0	0	0	0.88	-	0.88	0	0.75	0.92	0.46	-	0.92	0.89
Lights	0	11	0	129	-	140	0	0	784	39	-	823	0	0	0	74	-	74	0	27	1253	11	-	1291	2328
% Lights	-	100.0%	-	100.0%	-	100.0%	-	-	96.0%	100.0%	-	96.1%	-	-	-	100.0%	-	100.0%	-	100.0%	97.4%	100.0%	-	97.4%	97.2%
Buses	-	0	0	0	-	0	-	0	6	0	-	6	-	0	0	0	-	0	-	0	9	0	-	9	15
% Buses	-	0.0%	-	0.0%	-	0.0%	-	-	0.7%	0.0%	-	0.7%	-	-	-	0.0%	-	0.0%	-	0.0%	0.7%	0.0%	-	0.7%	0.6%
Trucks	-	0	0	0	-	0	-	0	27	0	-	27	-	0	0	0	-	0	-	0	25	0	-	25	52
% Trucks	-	0.0%	-	0.0%	-	0.0%	-	-	3.3%	0.0%	-	3.2%	-	-	-	0.0%	-	0.0%	-	0.0%	1.9%	0.0%	-	1.9%	2.2%
Bicycles	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	2
Pedestrians	-	-	-	-	10	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	10

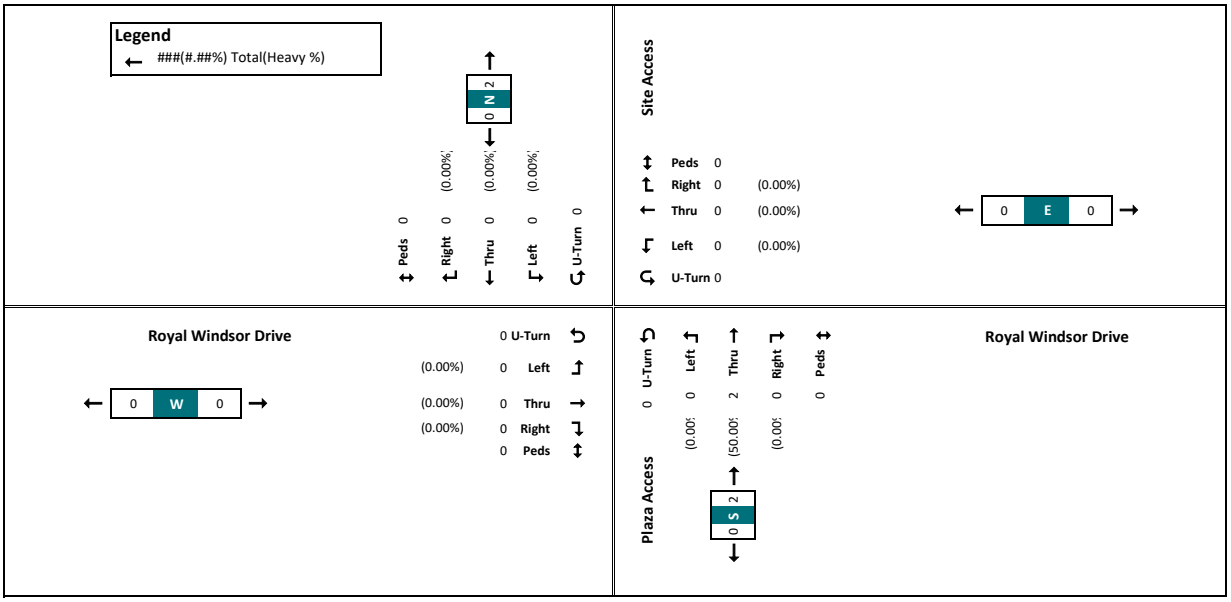


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Plaza Access & Royal Windsor Drive
Survey Date : January 0, 1900
Project No. : 23137
Count ID : 24313

SAT Peak Hour - Plaza Access & Royal Windsor Drive

	Site Access Southbound						Royal Windsor Drive Westbound						Plaza Access Northbound						Royal Windsor 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
15:15	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
15:30	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
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
Approach %	-	-	-	-	-	-	-	-	-	-	-	-	0.0%	0.0%	100.0%	0.0%	-	-	-	-	-	-	-	-	-
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%	0.1%	0.0%	-	100.0%	0.0%	0.0%	0.0%	0.0%	-	0.0%	-
PHF	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0.5	0	-	0.5	0	0	0	0	-	0	0.5
Lights	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	1
% Lights	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
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%
Trucks	-	0	0	0	-	0	-	0	0	0	-	0	-	0	1	0	-	1	-	0	0	0	-	0	1
% Trucks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50.0%	-	-	50.0%	-	-	-	-	-	-	50.0%
Bicycles	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	0
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	0

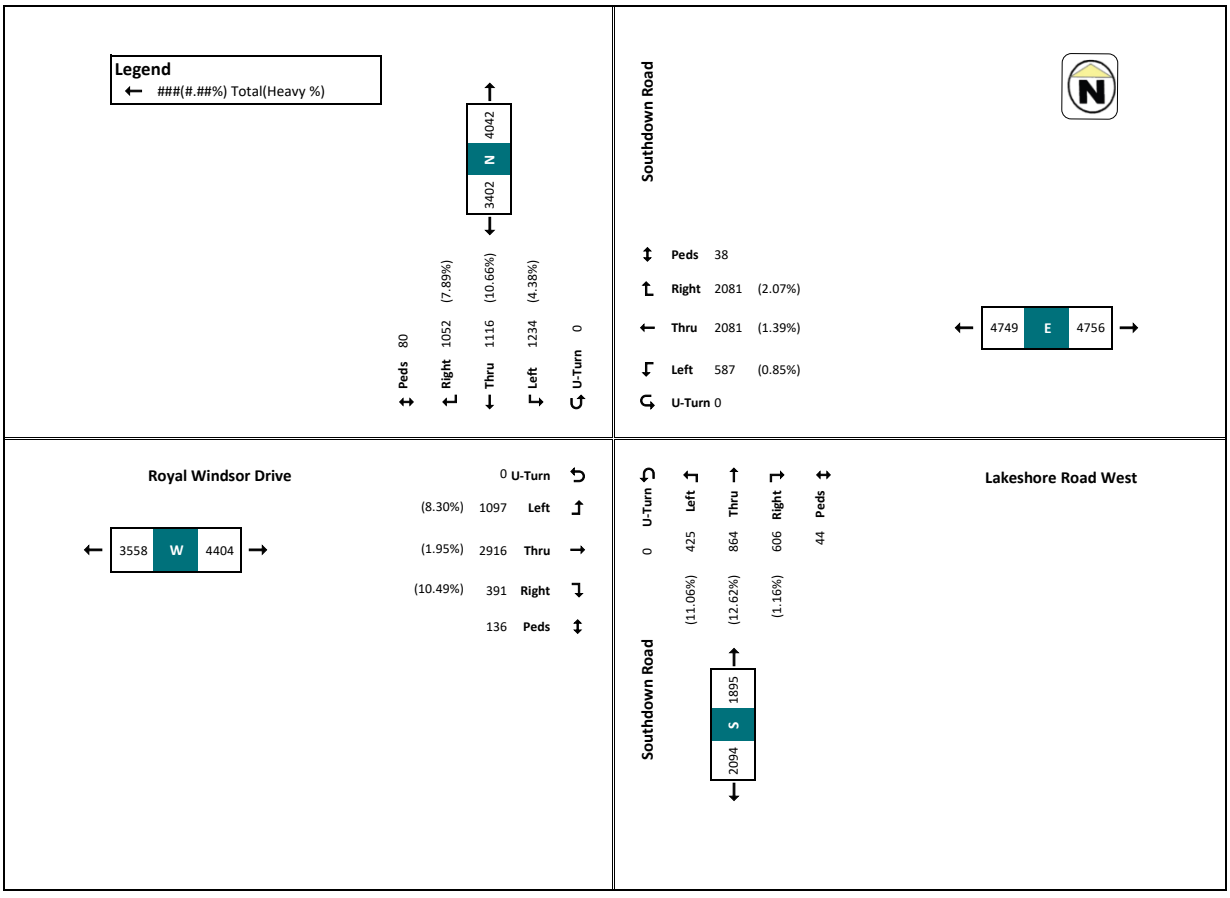


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Southdown Road & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24315

Turning Movement Count - Southdown Road & Royal Windsor Drive

	Southdown Road Southbound						Lakeshore Road West Westbound						Southdown Road Northbound						Royal Windsor 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	45	54	50	4	149	0	15	52	42	5	109	0	28	37	14	3	79	0	35	48	18	4	101	438
7:15	0	34	66	64	2	164	0	13	97	47	2	157	0	31	33	16	1	80	0	43	65	18	7	126	527
7:30	0	54	62	67	2	183	0	16	108	68	3	192	0	32	32	22	3	86	0	30	63	28	11	121	582
7:45	0	46	60	103	6	209	0	17	158	74	1	249	0	34	50	19	2	103	0	27	83	30	6	140	701
Hourly Total	0	179	242	284	14	705	0	61	415	231	11	707	0	125	152	71	9	348	0	135	259	94	28	488	2248
8:00	0	86	74	72	1	232	0	27	124	58	1	209	0	30	51	15	0	96	0	29	117	26	3	172	709
8:15	0	69	56	83	5	208	0	35	168	79	1	282	0	28	38	24	0	90	0	38	156	26	6	220	800
8:30	0	78	70	60	1	208	0	41	155	69	3	265	0	25	35	23	0	83	0	26	154	24	7	204	760
8:45	0	83	81	63	3	227	0	45	146	65	1	256	0	23	46	30	1	99	0	32	125	20	7	177	759
Hourly Total	0	316	281	278	10	875	0	148	593	271	6	1012	0	106	170	92	1	368	0	125	552	96	23	773	3028
* Break *																									
16:00	0	90	75	59	3	224	0	48	150	69	0	267	0	25	90	48	2	163	0	89	245	22	9	356	1010
16:15	0	86	75	60	19	221	0	43	120	67	4	230	0	24	76	53	1	153	0	73	244	29	12	346	950
16:30	0	82	71	68	4	221	0	44	136	79	6	259	0	23	58	60	0	141	0	69	311	15	8	395	1016
16:45	0	86	72	57	1	215	0	47	116	79	8	242	0	22	60	64	7	146	0	58	276	18	10	352	955
Hourly Total	0	344	293	244	27	881	0	182	522	294	18	998	0	94	284	225	10	603	0	289	1076	84	39	1449	3931
17:00	0	96	88	71	0	255	0	48	124	85	0	257	0	24	78	60	4	162	0	75	242	24	9	341	1015
17:15	0	90	65	61	3	216	0	49	161	86	1	296	0	30	57	61	9	148	0	83	275	44	15	402	1062
17:30	0	108	75	49	14	232	0	44	148	80	1	272	0	27	68	49	5	144	0	68	246	27	17	341	989
17:45	0	101	72	65	12	238	0	55	118	85	1	258	0	19	55	48	6	122	0	62	266	22	5	350	968
Hourly Total	0	395	300	246	29	941	0	196	551	336	3	1083	0	100	258	218	24	576	0	288	1029	117	46	1434	4034
Grand Total	0	1234	1116	1052	80	3402	0	587	2081	1132	38	3800	0	425	864	606	44	1895	0	837	2916	391	136	4144	13241
Approach %	0.0%	36.3%	32.8%	30.9%	-	-	0.0%	15.4%	54.8%	29.8%	-	-	0.0%	22.4%	45.6%	32.0%	-	-	0.0%	20.2%	70.4%	9.4%	-	-	-
Total %	0.0%	9.3%	8.4%	7.9%	-	25.7%	0.0%	4.4%	15.7%	8.5%	-	28.7%	0.0%	3.2%	6.5%	4.6%	-	14.3%	0.0%	6.3%	22.0%	3.0%	-	31.3%	-
Lights	0	1180	997	969	-	3146	0	582	2052	1089	-	3723	0	378	755	599	-	1732	0	746	2859	350	-	3955	12556
% Lights	-	95.6%	89.3%	92.1%	-	92.5%	-	99.1%	98.6%	96.2%	-	98.0%	-	88.9%	87.4%	98.8%	-	91.4%	-	89.1%	98.0%	89.5%	-	95.4%	94.8%
Buses	-	29	23	29	-	81	-	0	7	29	-	36	-	3	5	1	-	9	-	37	11	1	-	49	175
% Buses	-	2.4%	2.1%	2.8%	-	2.4%	-	0.0%	0.3%	2.6%	-	0.9%	-	0.7%	0.6%	0.2%	-	0.5%	-	4.4%	0.4%	0.3%	-	1.2%	1.3%
Trucks	-	25	96	54	-	175	-	5	22	14	-	41	-	44	104	6	-	154	-	54	46	40	-	140	510
% Trucks	-	2.0%	8.6%	-	-	5.1%	-	0.9%	1.1%	1.2%	-	1.1%	-	10.4%	12.0%	1.0%	-	8.1%	-	6.5%	1.6%	10.2%	-	3.4%	3.9%
Bicycles	-	-	-	-	5	5	-	-	-	-	0	0	-	-	-	-	3	3	-	-	-	-	15	15	23
Pedestrians	-	-	-	-	80	-	-	-	-	-	38	-	-	-	-	-	44	-	-	-	-	-	136	-	298

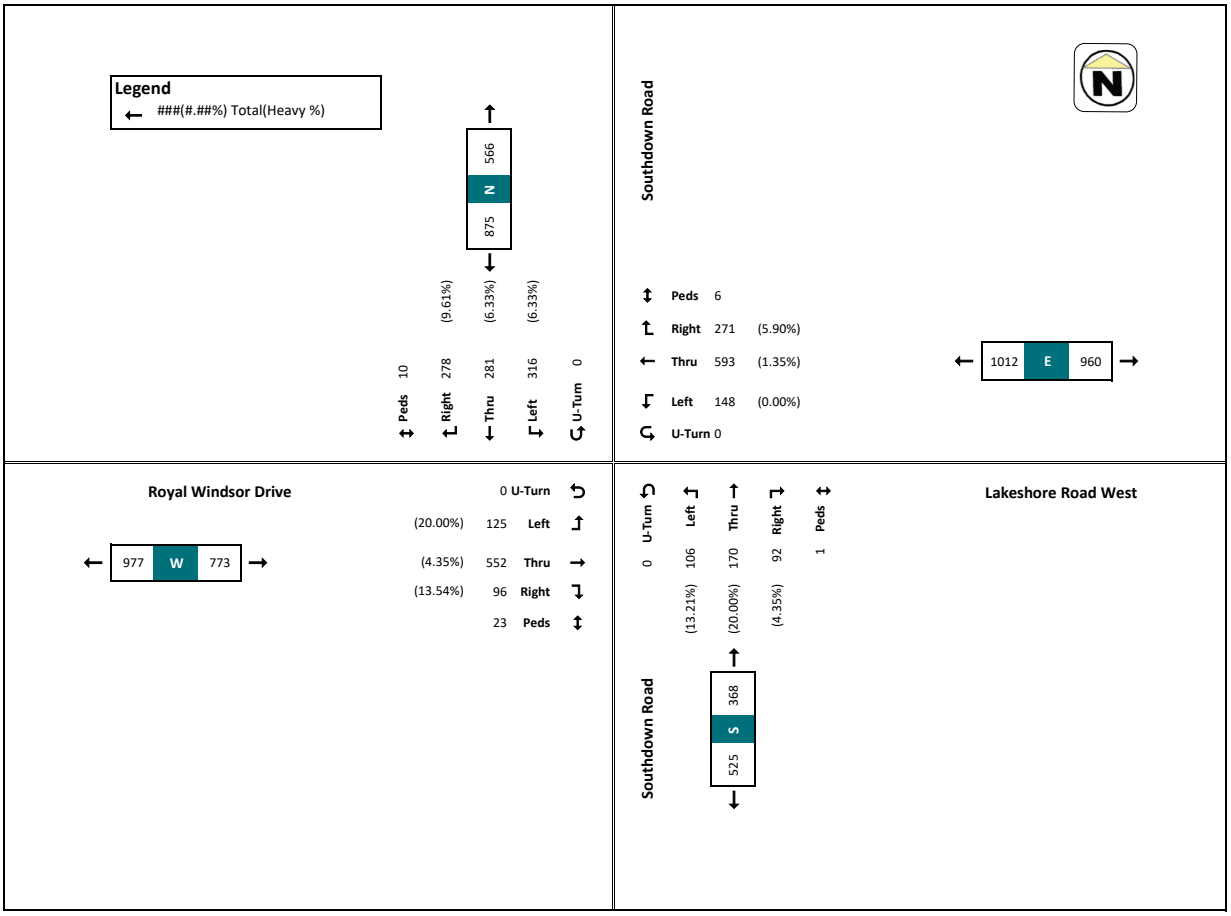


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Southdown Road & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24315

AM Peak Hour - Southdown Road & Royal Windsor Drive

	Southdown Road Southbound						Lakeshore Road West Westbound						Southdown Road Northbound						Royal Windsor 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	86	74	72	1	232	0	27	124	58	1	209	0	30	51	15	0	96	0	29	117	26	3	172	709
8:15	0	69	56	83	5	208	0	35	168	79	1	282	0	28	38	24	0	90	0	38	156	26	6	220	800
8:30	0	78	70	60	1	208	0	41	155	69	3	265	0	25	35	23	0	83	0	26	154	24	7	204	760
8:45	0	83	81	63	3	227	0	45	146	65	1	256	0	23	46	30	1	99	0	32	125	20	7	177	759
Hourly Total	0	316	281	278	10	875	0	148	593	271	6	1012	0	106	170	92	1	368	0	125	552	96	23	773	3028
Approach %	0.0%	36.1%	32.1%	31.8%	-	-	0.0%	14.6%	58.6%	26.8%	-	-	0.0%	28.8%	46.2%	25.0%	-	-	0.0%	16.2%	71.4%	12.4%	-	-	-
Total %	0.0%	10.4%	9.3%	9.2%	-	28.9%	0.0%	4.9%	19.6%	8.9%	-	33.4%	0.0%	3.5%	5.6%	3.0%	-	12.2%	0.0%	4.1%	18.2%	3.2%	-	25.5%	-
PHF	0	0.92	0.87	0.84	-	0.94	0	0.82	0.88	0.86	-	0.9	0	0.88	0.83	0.77	-	0.93	0	0.82	0.88	0.92	-	0.88	0.95
Lights	0	296	254	255	-	805	0	148	585	255	-	988	0	92	136	88	-	316	0	100	528	83	-	711	2820
% Lights	-	93.7%	90.4%	91.7%	-	92.0%	-	100.0%	98.7%	94.1%	-	97.6%	-	86.8%	80.0%	95.7%	-	85.9%	-	80.0%	95.7%	86.5%	-	92.0%	93.1%
Buses	-	10	3	7	-	22	-	0	2	12	-	14	-	1	0	0	-	1	-	10	4	0	-	14	51
% Buses	-	3.2%	1.8%	2.5%	-	2.5%	-	0.0%	0.3%	4.4%	-	1.4%	-	0.9%	0.0%	0.0%	-	0.3%	-	8.0%	0.7%	0.0%	-	1.8%	1.7%
Trucks	-	10	22	16	-	48	-	0	6	4	-	10	-	13	34	4	-	51	-	15	20	13	-	48	157
% Trucks	-	3.2%	7.8%	5.8%	-	5.5%	-	0.0%	1.0%	1.5%	-	1.0%	-	12.3%	20.0%	4.3%	-	13.9%	-	12.0%	3.6%	13.5%	-	6.2%	5.2%
Bicycles	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	2	2	3
Pedestrians	-	-	-	-	10	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	23	-	39

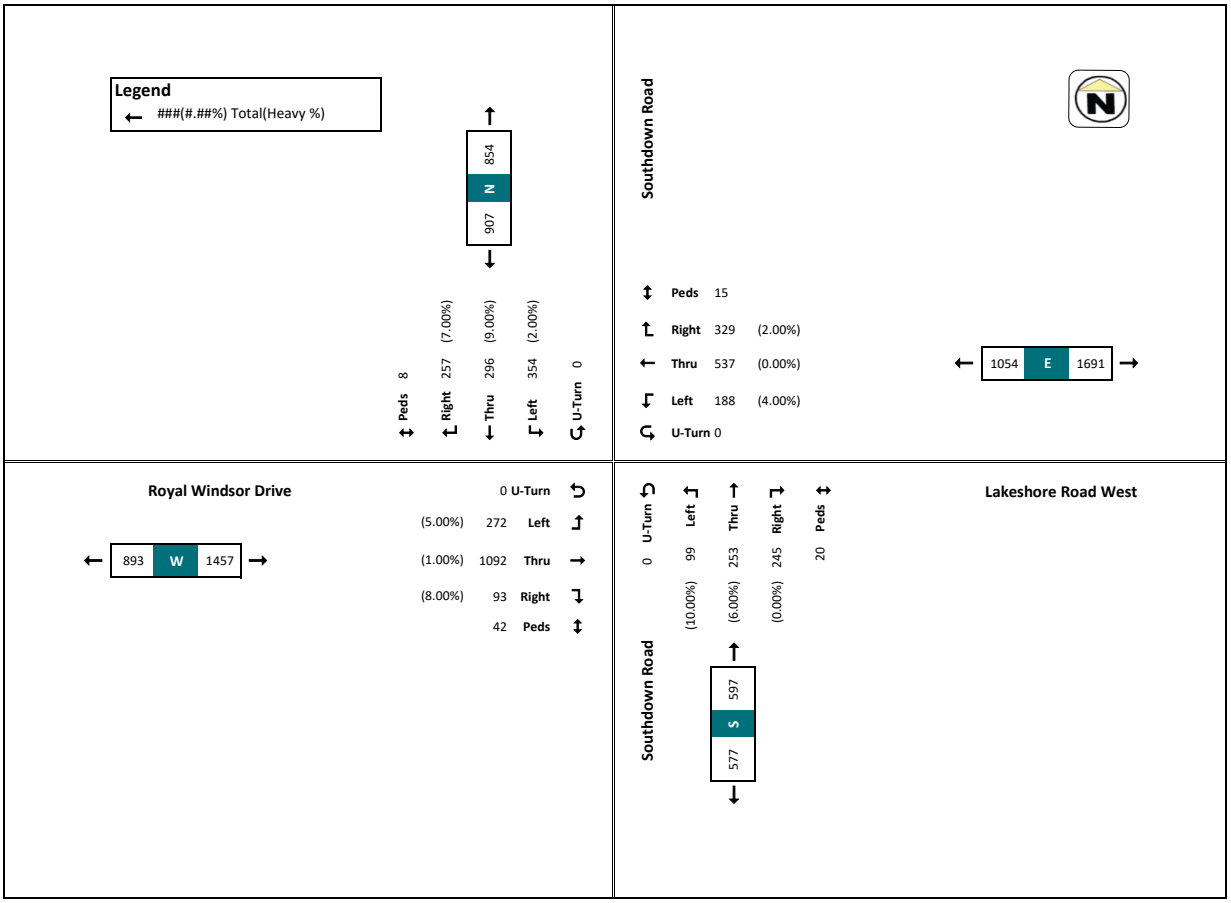


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Southdown Road & Royal Windsor Drive
Survey Date : September 19, 2024
Project No. : 23137
Count ID : 24315

PM Peak Hour - Southdown Road & Royal Windsor Drive

	Southdown Road Southbound						Lakeshore Road West Westbound						Southdown Road Northbound						Royal Windsor 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
16:30	0	82	71	68	4	221	0	44	136	79	6	259	0	23	58	60	0	141	0	69	311	15	8	395	1016
16:45	0	86	72	57	1	215	0	47	116	79	8	242	0	22	60	64	7	146	0	58	276	18	10	352	955
17:00	0	96	88	71	0	255	0	48	124	85	0	257	0	24	78	60	4	162	0	75	242	24	9	341	1015
17:15	0	90	65	61	3	216	0	49	161	86	1	296	0	30	57	61	9	148	0	83	275	44	15	402	1062
Hourly Total	0	354	296	257	8	907	0	188	537	329	15	1054	0	99	253	245	20	597	0	285	1104	101	42	1490	4048
Approach %	0.0%	39.0%	32.6%	28.3%	-	-	0.0%	17.8%	50.9%	31.2%	-	-	0.0%	16.6%	42.4%	41.0%	-	-	0.0%	19.1%	74.1%	6.8%	-	-	-
Total %	0.0%	8.7%	7.3%	6.3%	-	22.4%	0.0%	6.2%	17.7%	8.1%	-	26.0%	0.0%	3.3%	8.4%	8.1%	-	14.7%	0.0%	9.4%	36.5%	3.3%	-	36.8%	-
PHF	0	0.92	0.84	0.9	-	0.89	0	0.96	0.83	0.96	-	0.89	0	0.83	0.81	0.96	-	0.92	0	0.86	0.89	0.57	-	0.93	0.95
Lights	0	348	269	238	-	855	0	187	532	322	-	1041	0	89	237	244	-	570	0	272	1092	93	-	1457	3923
% Lights	-	98.3%	90.9%	92.6%	-	94.3%	-	99.5%	99.1%	97.9%	-	98.8%	-	89.9%	93.7%	99.6%	-	95.5%	-	95.4%	98.9%	92.1%	-	97.8%	96.9%
Buses	-	3	5	6	-	14	-	0	0	6	-	6	-	0	0	0	-	0	-	7	1	0	-	8	28
% Buses	-	0.8%	1.7%	2.3%	-	1.5%	-	0.0%	0.0%	1.8%	-	0.6%	-	0.0%	0.0%	0.0%	-	0.0%	-	2.5%	0.1%	0.0%	-	0.5%	0.7%
Trucks	-	3	24	13	-	40	-	1	5	1	-	7	-	10	16	1	-	27	-	6	11	8	-	25	99
% Trucks	-	0.8%	8.1%	5.1%	-	4.4%	-	0.5%	0.9%	0.3%	-	0.7%	-	10.1%	6.3%	0.4%	-	4.5%	-	2.1%	1.0%	7.9%	-	1.7%	2.4%
Bicycles	-	-	-	-	2	2	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	4	4	6
Pedestrians	-	-	-	-	8	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	8



Metrolinx Access Easement & Royal Windsor Dr

2024-09-19

	Inbound		Outbound		Total		
Time	**EBL**	**WBR**	**SBL**	**SBR**	**All**	**Hourly**	
7:00	0	0	0	0	0		
7:15	0	0	0	0	0		
7:30	0	0	0	0	0		
7:45	**1**	0	0	0	1	1	
8:00	0	0	0	0	0	1	
8:15	0	0	0	0	0	1	
8:30	0	0	0	0	0	1	<-- Peak Hour
8:45	0	0	0	0	0	0	
16:00	0	**1**	0	0	1	1	
16:15	0	0	0	0	0	1	
16:30	0	0	0	0	0	1	
16:45	0	0	0	0	0	1	<-- Peak Hour
17:00	0	0	0	0	0	0	
17:15	0	0	0	0	0	0	
17:30	0	0	0	0	0	0	
17:45	0	0	0	0	0	0	
Total	1	1	0	0	2		
AM Peak	1	0	0	0	1		
PM Peak	0	1	0	0	1		

800	0	0	0	0	0	
1630	0	0	0	0	0	

APPENDIX C

TTS Data

Mode Split for Residential Trips

Fri Sep 30 2022 13:59:32 GMT-0400 (Eastern Daylight Time) - Run Time: 3187ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Type of dwelling unit - dwell_type
Column: Primary travel mode of trip - mode_prime

Filters:
(2006 GTA zone of household - gta06_hhld In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Trip purpose - trip_purp In 1,2

Trip 2016
Table:

	Transit excluding GO rail	Cycle	Auto driver	GO rail only	Joint GO rail and local transit	Motorcycle	Other	Auto passenger	School bus	Taxi passenger	Paid rideshare
House	837	306	12500	1703	1040	19	21	1251	1569	85	114
Apartment	1083	125	2291	646	335	0	0	313	185	0	118
Townhouse	413	78	2032	201	271	0	0	422	273	0	0
SUM	2333	509	16823	2550	1646	19	21	1986	2027	85	232
											GRAND SUM

Mode	%
Auto Driver	54%
Passenger	7%
Transit	27%
Pedestrian	10%
Cycling	2%
Total	100%

Mode Split for Retail Trips

Fri Sep 30 2022 14:07:21 GMT-0400 (Eastern Daylight Time) - Run Time: 2854ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Type of dwelling unit - dwell_type
Column: Primary travel mode of trip - mode_prime

Filters:
(2006 GTA zone of household - gta06_hhld In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Trip purpose - trip_purp In 1,2,3

Trip 2016
Table:

	Transit excluding GO rail	Cycle	Auto driver	GO rail only	Joint GO rail and local transit	Motorcycle	Other	Auto passenger	School bus	Taxi passenger	Paid rideshare
House	1063	365	28260	2055	1060	19	21	4454	1569	120	150
Apartment	1322	125	4486	723	504	0	4	769	185	15	118
Townhouse	492	102	5045	226	271	0	0	1149	273	0	0
SUM	2877	592	37791	3004	1835	19	25	6372	2027	135	268
											GRAND SUM

Mode	%
Auto Driver	64%
Passenger	11%
Transit	17%
Pedestrian	7%
Cycling	1%
Total	100%

Mon Oct 03 2022 09:12:00 GMT-0400 (Eastern Daylight Time) - Run Time: 3034ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: 2006 GTA zone of destination - gta06_dest

Filters:
(2006 GTA zone of destination - gta06_dest In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Start time of trip - start_time In 1500-1900
and
Trip purpose of destination - purp_dest In H
and
Primary travel mode of trip - mode_prime In D, M

Trip 2016
Table:

Origin	Destination							Trips from Origin	Trip Distribution		Trip Assignment				
	3614	3623	3640	3644	3645	3879	4023		Distribution	Direction From	From East	From West	From North	From South	Assignment
PD 1 of Toronto	62	14	111	0	61	30	29	307	3%	E	3%				QEW, SB Southdown
PD 2 of Toronto	0	0	19	0	24	9	36	88	1%	E	1%				QEW, SB Southdown
PD 3 of Toronto	71	0	45	0	0	0	0	116	1%	E	1%				Hwy 427, QEW, SB Southdown
PD 4 of Toronto	0	0	0	0	9	0	0	9	0%	E	0%				Hwy 401, Hwy 427, QEW, SB Southdown
										E	0%				DVP, QEW, SB Southdown
PD 5 of Toronto	18	0	27	10	0	0	0	55	1%	E	0%				Hwy 401, Hwy 427, QEW, SB Southdown
										E	0%				DVP, QEW, SB Southdown
PD 6 of Toronto	14	0	0	30	0	0	0	44	0%	E	0%				DVP, QEW, SB Southdown
PD 7 of Toronto	57	53	51	0	30	28	16	235	2%	E	1%				QEW, SB Southdown
										E	1%				WB Lakeshore
PD 8 of Toronto	137	29	92	7	58	14	45	382	4%	E	4%				Hwy 427, QEW, SB Southdown
PD 9 of Toronto	38	29	0	35	0	0	11	113	1%	N			1%		Hwy 427, QEW, SB Southdown
PD 10 of Toronto	13	0	43	0	0	0	80	136	1%	E	1%				Hwy 400, Hwy 401, Hwy 427, QEW, SB Southdown
PD 11 of Toronto	31	0	0	0	0	0	0	31	0%	E	0%				Hwy 401, Hwy 427, QEW, SB Southdown
PD 12 of Toronto	0	0	34	10	0	0	0	44	0%	E	0%				Hwy 404, Hwy 401, Hwy 427, QEW, SB Southdown
PD 13 of Toronto	0	0	0	69	0	16	0	85	1%	E	0%				Hwy 401, Hwy 427, QEW, SB Southdown
										E	0%				DVP, QEW, SB Southdown
PD 16 of Toronto	0	0	0	0	22	0	0	22	0%	E	0%				Hwy 401, Hwy 427, QEW, SB Southdown
Pickering	0	0	0	0	0	8	0	8	0%	E	0%				Hwy 401, Hwy 427, QEW, SB Southdown
Whitby	0	31	0	0	0	0	0	31	0%	E	0%				Hwy 401, Hwy 427, QEW, SB Southdown
Oshawa	13	0	0	0	0	0	0	13	0%	E	0%				Hwy 401, Hwy 427, QEW, SB Southdown
Richmond Hill	0	0	12	0	0	0	0	12	0%	E	0%				Hwy 404, Hwy 401, Hwy 427, QEW, SB Southdown
Markham	0	0	23	0	12	0	17	52	1%	E	1%				Hwy 404, Hwy 401, Hwy 427, QEW, SB Southdown
Vaughan	32	0	23	0	0	0	0	55	1%	E	1%				Hwy 400, Hwy 401, Hwy 427, QEW, SB Southdown
Caledon	0	0	0	22	0	0	0	22	0%	N			0%		Hwy 410, Hwy 403, SB Southdown
Brampton	0	11	33	9	79	103	120	355	4%	N			4%		Hwy 410, Hwy 403, SB Southdown
Halton Hills	0	0	0	10	0	0	0	10	0%	W		0%			Hwy 401, Hwy 403, EB Royal Windsor
Milton	96	0	0	90	0	10	11	207	2%	W		2%			Hwy 401, Hwy 403, EB Royal Windsor
Oakville	224	0	230	233	95	61	537	1380	14%	W		14%			Hwy 403, SB Southdown
Burlington	34	9	7	0	0	29	16	95	1%	W		1%			Hwy 403, SB Southdown
Flamborough	0	0	15	0	0	0	26	41	0%	W		0%			Hwy 403, SB Southdown
Hamilton	0	57	16	0	29	0	0	102	1%	W		1%			Hwy 403, SB Southdown
Waterloo	17	5	0	0	0	0	13	35	0%	W		0%			Hwy 401, Hwy 403, EB Royal Windsor
City of Guelph	0	6	0	0	0	0	0	6	0%	W		0%			Hwy 401, Hwy 403, EB Royal Windsor
Erin	0	0	0	0	0	7	0	7	0%	W		0%			Hwy 401, Hwy 403, EB Royal Windsor
New Tecumseth	0	0	0	0	0	0	22	22	0%	N			0%		Hwy 427, QEW, SB Southdown
Brant	30	0	0	0	0	0	0	30	0%	W		0%			Hwy 403, SB Southdown
3601	13	0	9	10	0	0	0	32	0%	N			0%		SB Winston Churchill, EB Royal Windsor
										N			0%		SB Southdown
3602	0	0	12	0	0	0	0	12	0%	N			0%		SB Winston Churchill, EB Royal Windsor
										N			0%		SB Southdown
3604	27	0	0	0	0	0	0	27	0%	N			0%		SB Southdown
3605	0	0	0	20	0	0	43	63	1%	E	1%				Hwy 403, SB Southdown
3607	0	0	0	0	0	0	14	14	0%	E	0%				Hwy 403, SB Southdown
3609	10	0	0	37	0	0	0	47	0%	E	0%				Hwy 403, SB Southdown
3611	0	0	0	6	0	0	0	6	0%	N			0%		SB Southdown
3612	0	0	0	0	0	9	0	9	0%	N			0%		SB Southdown
3613	0	0	16	0	0	0	0	16	0%	N			0%		SB Southdown
3614	190	14	77	61	44	71	0	457	5%	N			4%		SB Winston Churchill, EB Royal Windsor
										N			1%		SB Southdown
3615	0	0	0	0	19	0	0	19	0%	N			0%		SB Winston Churchill, EB Royal Windsor
3618	0	0	0	0	0	33	29	62	1%	N			1%		SB Winston Churchill, EB Royal Windsor
3621	0	0	30	0	0	0	0	30	0%	E	0%				Hwy 403, SB Southdown
3623	0	54	33	0	30	0	0	117	1%	N			1%		SB Southdown
3631	19	0	13	0	0	0	0	32	0%	N			0%		SB Southdown
3632	24	0	15	23	0	0	0	62	1%	E	1%				QEW, SB Southdown
3633	0	56	18	0	0	0	140	214	2%	N			1%		SB Winston Churchill, EB Royal Windsor
										N			1%		SB Southdown
3634	0	0	18	0	22	9	21	70	1%	N			1%		SB Winston Churchill, EB Royal Windsor
3635	85	5	19	11	0	0	0	120	1%	N			1%		SB Winston Churchill, EB Royal Windsor
3636	0	0	13	0	0	0	0	13	0%	N			0%		SB Winston Churchill, EB Royal Windsor
3639	103	16	253	34	134	102	261	903	9%	S				3%	NB Southdown
										W		6%			EB Royal Windsor
3640	13	0	38	0	39	0	0	90	1%	E	1%				WB Lakeshore
3641	0	0	11	0	30	0	0	41	0%	E	0%				WB Lakeshore
3642	6	25	10	0	0	0	0	41	0%	E	0%				WB Lakeshore
3643	0	0	0	0	0	20	0	20	0%	E	0%				WB Lakeshore
3644	48	0	0	0	0	0	0	48	0%	N			0%		SB Southdown
3645	13	46	88	0	66	18	0	231	2%	N			1%		SB Southdown
										E	1%				WB Lakeshore
3646	0	0	40	0	57	5	0	102	1%	E	1%				WB Lakeshore
3648	0	0	26	0	0	0	0	26	0%	E	0%				WB Lakeshore
3649	0	0	0	5	18	14	0	37	0%	E	0%				WB Lakeshore
3650	0	0	0	0	0	0	64	64	1%	N			0%		SB Winston Churchill, EB Royal Windsor
										N			0%		SB Southdown
3651	0	0	15	0	0	0	0	15	0%	N			0%		SB Southdown
3653	0	0	0	0	9	0	17	26	0%	E	0%				QEW, SB Southdown
3654	19	0	0	0	0	0	33	52	1%	E	1%				QEW, SB Southdown
3655	0	0	11	0	0	0	0	11	0%	N			0%		SB Southdown
3658	0	0	22	0	0	0	0	22	0%	E	0%				Hwy 403, SB Southdown
3660	41	0	0	0	0	0	0	41	0%	E	0%				QEW, SB Southdown
3661	0	0	0	0	0	0	16	16	0%	E	0%				QEW, SB Southdown
3662	19	12	24	0	25	0	0	80	1%	N			0%		SB Winston Churchill, EB Royal Windsor
										N			0%		SB Southdown
3663	0	0	0	35	0	0	0	35	0%	N			0%		SB Southdown
3664	0	0	7	0	0	0	0	7	0%	N			0%		SB Southdown
3665	0	0	0	0	24	0	0	24	0%	E	0%				QEW, SB Southdown
3666	0	0	0	23	0	0	0	23	0%	E	0%				QEW, SB Southdown
3668	0	0	10	0	0	0	0	10	0%	E	0%				QEW, SB Southdown
3669	0	0	0	0	0	7	0	7	0%	E	0%				QEW, SB Southdown
3670	0	35	0	0	0	11	0	46	0%	E	0%				QEW, SB Southdown
3671	150	0	68	0	0	0	23	241	2%	E	2%				Hwy 403, SB Southdown
3678	0	0	12	0	0	0	0	12	0%	N			0%		SB Southdown
3680	0	0	0	0	0	0	42	42	0%	E	0%				Hwy 403, SB Southdown
3683	0	0	11	0	0	0	0	11	0%	N			0%		SB Winston Churchill, EB Royal Windsor
										N			0%		SB Southdown
3692	0	0	0	0	10	0	0	10	0%	E	0%				Hwy 403, SB Southdown
3693	142	0	32	0	0	0	0	174	2%	E	2%				Hwy 403, SB Southdown
3695	0	0	0	0	9	0	0	9	0%	N			0%		SB Southdown
3699	0	0	0	0	13	0	0	13	0%	E	0%				Hwy 403, SB Southdown
3701	201	0	0	11	0	0	21	233	2%	E	2%				Hwy 403, SB Southdown
3702	0	0	9	0	0	0	0	9	0%	E	0%				Hwy 403, SB Southdown
3703	29	0	0	0	0	0	0	29	0%	E	0%				Hwy 403, SB Southdown
3705	0	0	0	59	0	0	0	59	1%	E	1%				Hwy 403, SB Southdown
3706	44	0	19	0	0	0	0	63	1%	E	1%				Hwy 403, SB Southdown
3709	0	0	0	0	18	0	0	18	0%	E	0%				Hwy 403, SB Southdown
3710	0	0	0	0	38	0	0	38	0%	E	0%				Hwy 403, SB Southdown
3711	0	6	0	0	0	0	0	6	0%	E	0%				Hwy 403, SB Southdown
3715	0	0	0	13	0	0	0	13	0%	N			0%		SB Southdown
3717	50	0	0	0	0	0	0	50	1%	N			1%		SB Southdown
3720	0	0	0	0	0	0	23	23	0%	N			0%		SB Winston Churchill, EB Royal Windsor
3721	0	0	4	0	34	0	16	54	1%	N			1%		SB Winston Churchill, EB Royal Windsor
3723	0	0	0	34	0	0	0	34	0%	E	0%				QEW, SB Southdown
3809	0	0	0	0	0	0	18	18	0%	N			0%		SB Winston Churchill, EB Royal Windsor
3811	0	0	18	0	0	0	0	18	0%	N			0%		SB Winston Churchill, EB Royal Windsor
3812	29	0	0	0	0	0	0	29	0%	N			0%		SB Winston Churchill, EB Royal Windsor
3813	0	0	0	29	0	0	0	29	0%	N			0%		SB Winston Churchill, EB Royal Windsor
3816	0	0	25	0	0	0	0	25	0%	N			0%		Hwy 427, QEW, SB Southdown
3821	0	0	0	0	0	0	21	21	0%	N			0%		SB Southdown
3822	0	0	24	0	22	0	0	46	0%	E	0%				Hwy 403, SB Southdown
3825	0	0	0	0	0	0	43	43	0%	N			0%		SB Southdown
3829	0	0	0	29	0	0	0	29	0%	N			0%		Hwy 427, QEW, SB Southdown
3831	0	0	0	0	0	0	11	11	0%	E	0%				Hwy 403, SB Southdown
3834	49	0	2	0	0	0	0	51	1%	E	1%				Hwy 403, SB Southdown
3835	0	0	0	0	0	9	0	9	0%	E	0%				Hwy 403, SB Southdown
3838	0	19	0	0	0	0	0	19	0%	N			0%		SB Winston Churchill, EB Royal Windsor
										N			0%		SB Southdown
3847	0	0	38	0	0	49	0	87	1%	E	1%				Hwy 403, SB Southdown
3848	0	0	21	0	0	0	0	21	0%	E	0%				Hwy 403, SB Southdown
3849	0	0	2	0	0	0	0	2	0%	E	0%				Hwy 403, SB Southdown
3850	0	0	20	0	0	0	0	20	0%	E	0%				Hwy 403, SB Southdown
3851	15	0	29	0	7	0	0	51	1%	E	1%				Hwy 403, SB Southdown
3853	0	0	0	0	0	6	0	6	0%	E	0%				Hwy 403, SB Southdown
3854	0	0	0	9	0	0	16	25	0%	E	0%				Hwy 403, SB Southdown
3866	0	0	0	0	7	0	0	7	0%	E	0%				Hwy 403, SB Southdown
3867	26	0	0	0	0	0	0	26	0%	E	0%				QEW, SB Southdown
3868	31	14	0	18	18	7	0	88	1%	N			1%		SB Southdown
3869	0	0	9	40	14	0	0	63	1%	N			1%		SB Southdown
3870	77	0	0	11	0	0	0	88	1%	N			1%		SB Southdown
3876	0	0	0	0	20	0	4	24	0%	E	0%				WB Lakeshore
3877	77	6	35	0	0	0	37	155	2%	E	2%				WB Lakeshore
3878	0	0	13	0	0	7	0	20	0%	E	0%				WB Lakeshore
3879	0	0	50	0	12	0	0	62	1%	E	1%				WB Lakeshore
								9824	100%	TOTAL	43%	26%	28%	3%	100%

Pull for Mississauga only:

Mon Oct 03 2022 09:14:06 GMT-0400 (Eastern Daylight Time) - Run Time: 2778ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest

Filters:
(2006 GTA zone of destination - gta06_dest In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Start time of trip - start_time In 1500-1900
and
Trip purpose of destination - purp_dest In H
and
Primary travel mode of trip - mode_prime In D, M
and
Planning district of origin - pd_orig In 36

Trip 2016
Table:

	3614	3623	3640	3644	3645	3879	4023
3601	13	0	9	10	0	0	0
3602	0	0	12	0	0	0	0
3604	27	0	0	0	0	0	0
3605	0	0	0	20	0	0	43
3607	0	0	0	0	0	0	14
3609	10	0	0	37	0	0	0
3611	0	0	0	6	0	0	0
3612	0	0	0	0	0	9	0
3613	0	0	16	0	0	0	0
3614	190	14	77	61	44	71	0
3615	0	0	0	0	19	0	0
3618	0	0	0	0	0	33	29
3621	0	0	30	0	0	0	0
3623	0	54	33	0	30	0	0
3631	19	0	13	0	0	0	0
3632	24	0	15	23	0	0	0
3633	0	56	18	0	0	0	140
3634	0	0	18	0	22	9	21
3635	85	5	19	11	0	0	0
3636	0	0	13	0	0	0	0
3639	103	16	253	34	134	102	261
3640	13	0	38	0	39	0	0
3641	0	0	11	0	30	0	0
3642	6	25	10	0	0	0	0
3643	0	0	0	0	0	20	0
3644	48	0	0	0	0	0	0
3645	13	46	88	0	66	18	0
3646	0	0	40	0	57	5	0
3648	0	0	26	0	0	0	0
3649	0	0	0	5	18	14	0
3650	0	0	0	0	0	0	64
3651	0	0	15	0	0	0	0
3653	0	0	0	0	9	0	17
3654	19	0	0	0	0	0	33
3655	0	0	11	0	0	0	0
3658	0	0	22	0	0	0	0
3660	41	0	0	0	0	0	0
3661	0	0	0	0	0	0	16
3662	19	12	24	0	25	0	0
3663	0	0	0	35	0	0	0
3664	0	0	7	0	0	0	0
3665	0	0	0	0	24	0	0
3666	0	0	0	23	0	0	0
3668	0	0	10	0	0	0	0
3669	0	0	0	0	0	7	0
3670	0	35	0	0	0	11	0
3671	150	0	68	0	0	0	23
3678	0	0	12	0	0	0	0
3680	0	0	0	0	0	0	42
3683	0	0	11	0	0	0	0
3692	0	0	0	0	10	0	0
3693	142	0	32	0	0	0	0
3695	0	0	0	0	9	0	0
3699	0	0	0	0	13	0	0
3701	201	0	0	11	0	0	21
3702	0	0	9	0	0	0	0
3703	29	0	0	0	0	0	0
3705	0	0	0	59	0	0	0
3706	44	0	19	0	0	0	0
3709	0	0	0	0	18	0	0
3710	0	0	0	0	38	0	0
3711	0	6	0	0	0	0	0
3715	0	0	0	13	0	0	0
3717	50	0	0	0	0	0	0
3720	0	0	0	0	0	0	23
3721	0	0	4	0	34	0	16
3723	0	0	0	34	0	0	0
3809	0	0	0	0	0	0	18
3811	0	0	18	0	0	0	0
3812	29	0	0	0	0	0	0
3813	0	0	0	29	0	0	0
3816	0	0	25	0	0	0	0
3821	0	0	0	0	0	0	21
3822	0	0	24	0	22	0	0
3825	0	0	0	0	0	0	43
3829	0	0	0	29	0	0	0
3831	0	0	0	0	0	0	11
3834	49	0	2	0	0	0	0
3835	0	0	0	0	0	9	0
3838	0	19	0	0	0	0	0
3847	0	0	38	0	0	49	0
3848	0	0	21	0	0	0	0
3849	0	0	2	0	0	0	0
3850	0	0	20	0	0	0	0
3851	15	0	29	0	7	0	0
3853	0	0	0	0	0	6	0
3854	0	0	0	9	0	0	16
3866	0	0	0	0	7	0	0
3867	26	0	0	0	0	0	0
3868	31	14	0	18	18	7	0
3869	0	0	9	40	14	0	0
3870	77	0	0	11	0	0	0
3876	0	0	0	0	20	0	4
3877	77	6	35	0	0	0	37
3878	0	0	13	0	0	7	0
3879	0	0	50	0	12	0	0

Mon Oct 03 2022 09:22:29 GMT-0400 (Eastern Daylight Time) - Run Time: 2854ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: 2006 GTA zone of origin - gta06_orig

Filters:
(2006 GTA zone of origin - gta06_orig In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Start time of trip - start_time In 600-1000
and
Trip purpose of origin - purp_orig In H
and
Primary travel mode of trip - mode_prime In D, M

Trip 2016
Table:

Destination	Origin							Trips to Destination	Trip Distribution		Trip Assignment				
	3614	3623	3640	3644	3645	3879	4023		Distribution	Direction To	To East	To West	To North	To South	Assignment
PD 1 of Toronto	14	31	102	0	38	6	50	241	2%	E	2%				NB Southdown, QEW
PD 2 of Toronto	0	0	19	0	12	9	36	76	1%	E	1%				NB Southdown, QEW
PD 3 of Toronto	71	0	45	0	21	0	0	137	1%	E	1%				NB Southdown, QEW, Hwy 427
PD 5 of Toronto	0	0	32	10	30	0	0	72	1%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401
										E	0%				NB Southdown, QEW, DVP
PD 6 of Toronto	0	0	0	39	0	0	0	39	0%	E	0%				NB Southdown, QEW, DVP
PD 7 of Toronto	44	49	108	0	30	20	9	260	3%	E	1%				NB Southdown, QEW
										E	1%				EB Lakeshore
PD 8 of Toronto	127	19	106	12	18	7	79	368	4%	E	4%				NB Southdown, QEW, Hwy 427
PD 9 of Toronto	38	29	0	35	0	0	11	113	1%	N			1%		NB Southdown, QEW, Hwy 427
PD 10 of Toronto	13	0	28	0	0	0	80	121	1%	E	1%				NB Southdown, QEW, Hwy 427, Hwy 401, Hwy 400
PD 11 of Toronto	50	0	0	0	0	0	0	50	0%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401
PD 12 of Toronto	0	0	34	0	0	0	0	34	0%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401, Hwy 404
PD 13 of Toronto	0	0	0	69	0	16	0	85	1%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401
										E	0%				NB Southdown, QEW, DVP
Pickering	0	0	0	0	0	8	0	8	0%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401
Oshawa	13	0	0	0	0	0	0	13	0%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401
Richmond Hill	0	0	12	0	0	0	0	12	0%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401, Hwy 404
Whitchurch-Stouffville	0	0	0	0	18	0	0	18	0%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401, Hwy 404
Markham	0	0	23	5	12	0	17	57	1%	E	1%				NB Southdown, QEW, Hwy 427, Hwy 401, Hwy 404
Vaughan	19	25	23	0	0	0	21	88	1%	E	1%				NB Southdown, QEW, Hwy 427, Hwy 401, Hwy 400
Caledon	0	0	0	22	22	0	0	44	0%	N			0%		NB Southdown, Hwy 403, Hwy 410
Brampton	0	11	35	0	100	109	23	278	3%	N			3%		NB Southdown, Hwy 403, Hwy 410
Halton Hills	0	0	0	10	0	0	0	10	0%	W		0%			WB Royal Windsor, Hwy 403, Hwy 401
Milton	96	0	23	90	0	10	33	252	2%	W		2%			WB Royal Windsor, Hwy 403, Hwy 401
Oakville	265	0	166	176	106	68	817	1598	16%	W		16%			WB Royal Windsor, Hwy 403
Burlington	38	34	61	0	0	25	16	174	2%	W		2%			WB Royal Windsor, Hwy 403
Flamborough	0	0	0	0	0	0	26	26	0%	W		0%			WB Royal Windsor, Hwy 403
Hamilton	0	57	31	0	29	0	71	188	2%	W		2%			WB Royal Windsor, Hwy 403
Fort Erie	0	0	0	0	0	10	0	10	0%	W		0%			WB Royal Windsor, Hwy 403
Waterloo	17	5	0	0	0	0	13	35	0%	W		0%			WB Royal Windsor, Hwy 403, Hwy 401
Wilmot	0	0	0	0	9	0	0	9	0%	W		0%			WB Royal Windsor, Hwy 403, Hwy 401
City of Guelph	0	6	0	0	0	0	0	6	0%	W		0%			WB Royal Windsor, Hwy 403, Hwy 401
Erin	0	0	0	0	0	7	0	7	0%	W		0%			WB Royal Windsor, Hwy 403, Hwy 401
New Tecumseth	0	0	0	0	0	0	22	22	0%	N			0%		NB Southdown, QEW, Hwy 427
Kawartha Lakes	0	0	12	0	0	0	0	12	0%	E	0%				NB Southdown, QEW, Hwy 427, Hwy 401, Hwy 404
3601	0	0	17	10	32	13	0	72	1%	N			0%		WB Royal Windsor, NB Winston Churchill
										N			0%		NB Southdown
3602	0	0	12	0	0	0	0	12	0%	N			0%		WB Royal Windsor, NB Winston Churchill
										N			0%		NB Southdown
3605	0	0	33	38	0	0	43	114	1%	E	1%				NB Southdown, Hwy 403
3609	10	0	0	62	0	0	0	72	1%	E	1%				NB Southdown, Hwy 403
3611	0	0	0	6	0	0	0	6	0%	N			0%		NB Southdown
3612	0	0	0	0	0	9	0	9	0%	N			0%		NB Southdown
3613	0	6	34	0	0	0	0	40	0%	N			0%		NB Southdown
3614	242	12	102	70	0	41	21	488	5%	N			4%		WB Royal Windsor, NB Winston Churchill
										N			1%		NB Southdown
3618	0	0	23	0	33	0	29	85	1%	N			1%		WB Royal Windsor, NB Winston Churchill
3623	12	0	4	16	0	0	0	32	0%	N			0%		NB Southdown
3627	0	0	12	0	0	0	0	12	0%	N			0%		NB Southdown, QEW, Hwy 427
3631	33	0	21	0	50	0	0	104	1%	N			1%		NB Southdown
3632	24	0	35	0	0	0	0	59	1%	E	1%				NB Southdown, QEW
3633	16	56	18	0	0	0	140	230	2%	N			1%		WB Royal Windsor, NB Winston Churchill
										N			1%		NB Southdown
3634	5	0	4	0	0	0	14	23	0%	N			0%		WB Royal Windsor, NB Winston Churchill
3635	85	9	58	11	0	0	0	163	2%	N			2%		WB Royal Windsor, NB Winston Churchill
3636	0	0	13	0	0	0	0	13	0%	N			0%		WB Royal Windsor, NB Winston Churchill
3639	77	11	212	100	144	82	270	896	9%	S				3%	SB Southdown
										W		6%			WB Royal Windsor
3640	0	0	60	0	17	7	0	84	1%	E	1%				EB Lakeshore
3641	0	0	9	0	0	15	0	24	0%	E	0%				EB Lakeshore
3642	11	25	10	0	0	0	0	46	0%	E	0%				EB Lakeshore
3643	0	0	0	0	0	13	0	13	0%	E	0%				EB Lakeshore
3644	57	19	0	0	0	7	13	96	1%	N			1%		NB Southdown
3645	0	137	76	5	137	10	0	365	4%	N			2%		NB Southdown
										E	2%				EB Lakeshore
3646	0	0	28	0	49	49	0	126	1%	E	1%				EB Lakeshore
3648	0	0	0	0	0	24	0	24	0%	E	0%				EB Lakeshore
3649	0	0	0	0	18	0	0	18	0%	E	0%				EB Lakeshore
3650	0	0	0	7	0	0	0	7	0%	N			0%		WB Royal Windsor, NB Winston Churchill
										N			0%		NB Southdown
3651	0	0	0	0	9	0	0	9	0%	N			0%		NB Southdown
3652	0	0	0	0	0	9	0	9	0%	E	0%				NB Southdown, QEW
3653	0	0	0	0	9	0	0	9	0%	E	0%				NB Southdown, QEW
3654	0	0	0	0	0	0	33	33	0%	E	0%				NB Southdown, QEW
3655	0	0	17	0	0	0	0	17	0%	N			0%		NB Southdown
3658	0	0	22	0	0	0	0	22	0%	E	0%				NB Southdown, Hwy 403
3660	31	0	0	0	0	0	0	31	0%	E	0%				NB Southdown, QEW
3661	0	0	0	0	0	0	16	16	0%	E	0%				NB Southdown, QEW
3662	0	0	20	0	9	7	60	96	1%	N			0%		WB Royal Windsor, NB Winston Churchill
										N			0%		NB Southdown
3663	0	0	0	35	0	0	0	35	0%	N			0%		NB Southdown
3664	0	0	7	0	0	0	0	7	0%	N			0%		NB Southdown
3665	0	0	0	0	24	0	0	24	0%	E	0%				NB Southdown, QEW
3666	0	0	0	23	0	0	0	23	0%	E	0%				NB Southdown, QEW
3670	0	35	0	0	0	11	0	46	0%	E	0%				NB Southdown, QEW
3671	0	0	0	0	0	4	47	51	0%	E	0%				NB Southdown, Hwy 403
3677	0	0	0	0	0	7	0	7	0%	N			0%		NB Southdown
3680	0	0	0	0	0	0	42	42	0%	E	0%				NB Southdown, Hwy 403
3683	0	0	11	0	0	0	0	11	0%	N			0%		WB Royal Windsor, NB Winston Churchill
										N			0%		NB Southdown
3688	0	0	0	10	0	0	0	10	0%	N			0%		NB Southdown
3689	0	0	0	37	0	0	0	37	0%	E	0%				NB Southdown, Hwy 403
3692	0	0	0	0	10	0	0	10	0%	E	0%				NB Southdown, Hwy 403
3693	142	0	32	0	0	0	0	174	2%	E	2%				NB Southdown, Hwy 403
3694	0	0	0	23	0	0	0	23	0%	N			0%		NB Southdown
3695	0	0	0	0	9	0	0	9	0%	N			0%		NB Southdown
3699	0	0	13	0	0	0	0	13	0%	E	0%				NB Southdown, Hwy 403
3701	201	0	0	11	0	0	21	233	2%	E	2%				NB Southdown, Hwy 403
3702	0	0	9	6	9	0	0	24	0%	E	0%				NB Southdown, Hwy 403
3703	55	0	0	0	0	0	0	55	1%	E	1%				NB Southdown, Hwy 403
3704	0	0	0	0	14	0	0	14	0%	E	0%				NB Southdown, Hwy 403
3706	0	0	19	0	0	0	0	19	0%	E	0%				NB Southdown, Hwy 403
3707	0	0	0	0	0	0	31	31	0%	E	0%				NB Southdown, Hwy 403
3709	0	0	19	0	0	0	0	19	0%	E	0%				NB Southdown, Hwy 403
3710	0	0	0	0	38	0	0	38	0%	E	0%				NB Southdown, Hwy 403
3711	0	6	0	0	0	0	0	6	0%	E	0%				NB Southdown, Hwy 403
3715	0	0	0	13	0	0	0	13	0%	N			0%		NB Southdown
3717	50	0	0	0	0	0	0	50	0%	N			0%		NB Southdown
3720	0	0	0	0	0	0	23	23	0%	N			0%		WB Royal Windsor, NB Winston Churchill
3721	13	0	0	0	52	0	26	91	1%	N			1%		WB Royal Windsor, NB Winston Churchill
3723	0	0	0	34	0	0	0	34	0%	E	0%				NB Southdown, QEW
3811	0	0	37	0	0	0	0	37	0%	N			0%		WB Royal Windsor, NB Winston Churchill
3813	0	0	0	29	0	0	0	29	0%	N			0%		WB Royal Windsor, NB Winston Churchill
3816	0	0	25	0	0	0	0	25	0%	N			0%		NB Southdown, QEW, Hwy 427
3821	0	0	0	0	0	0	21	21	0%	N			0%		NB Southdown
3822	0	0	24	0	22	0	0	46	0%	E	0%				NB Southdown, Hwy 403
3825	0	0	0	0	0	0	43	43	0%	N			0%		NB Southdown
3829	0	0	0	29	0	0	0	29	0%	N			0%		NB Southdown, QEW, Hwy 427
3831	0	0	0	0	0	0	11	11	0%	E	0%				NB Southdown, Hwy 403
3832	0	0	10	0	0	0	0	10	0%	E	0%				NB Southdown, Hwy 403
3834	49	0	0	0	0	0	0	49	0%	E	0%				NB Southdown, Hwy 403
3835	0	0	0	0	0	9	0	9	0%	E	0%				NB Southdown, Hwy 403
3836	0	0	0	0	0	6	80	86	1%	N			1%		NB Southdown
3838	0	19	0	0	0	0	0	19	0%	N			0%		WB Royal Windsor, NB Winston Churchill
										N			0%		NB Southdown
3842	0	0	0	59	0	0	0	59	1%	E	1%				NB Southdown, Hwy 403
3847	0	0	42	0	0	49	0	91	1%	E	1%				NB Southdown, Hwy 403
3848	0	0	21	0	0	0	0	21	0%	E	0%				NB Southdown, Hwy 403
3849	0	0	2	0	0	0	0	2	0%	E	0%				NB Southdown, Hwy 403
3851	0	0	13	23	0	0	0	36	0%	E	0%				NB Southdown, Hwy 403
3853	0	0	0	0	6	0	0	6	0%	E	0%				NB Southdown, Hwy 403
3854	0	0	0	9	0	0	16	25	0%	E	0%				NB Southdown, Hwy 403
3858	0	0	13	0	0	0	0	13	0%	E	0%				NB Southdown, QEW
3864	0	0	11	0	0	0	0	11	0%	E	0%				NB Southdown, Hwy 403
3866	0	0	2	0	7	0	0	9	0%	E	0%				NB Southdown, Hwy 403
3868	31	0	10	48	18	4	0	111	1%	N			1%		NB Southdown
3869	14	0	0	0	14	0	0	28	0%	N			0%		NB Southdown
3870	30	0	12	64	22	11	0	139	1%	N			1%		NB Southdown
3876	0	0	0	0	20	0	0	20	0%	E	0%				EB Lakeshore
3877	116	0	0	0	0	10	0	126	1%	E	1%				EB Lakeshore
3878	0	0	0	0	24	0	0	24	0%	E	0%				EB Lakeshore
3879	0	0	54	0	0	0	0	54	1%	E	1%				EB Lakeshore
								10299	100%	TOTAL	40%	29%	29%	3%	100%

Pull for Mississauga only:

Mon Oct 03 2022 09:24:17 GMT-0400 (Eastern Daylight Time) - Run Time: 2964ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig

Filters:
(2006 GTA zone of origin - gta06_orig In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Start time of trip - start_time In 600-1000
and
Trip purpose of origin - purp_orig In H
and
Primary travel mode of trip - mode_prime In D, M
and
Planning district of destination - pd_dest In 36

Trip 2016
Table:

	3614	3623	3640	3644	3645	3879	4023
3601	0	0	17	10	32	13	0
3602	0	0	12	0	0	0	0
3605	0	0	33	38	0	0	43
3609	10	0	0	62	0	0	0
3611	0	0	0	6	0	0	0
3612	0	0	0	0	0	9	0
3613	0	6	34	0	0	0	0
3614	242	12	102	70	0	41	21
3618	0	0	23	0	33	0	29
3623	12	0	4	16	0	0	0
3627	0	0	12	0	0	0	0
3631	33	0	21	0	50	0	0
3632	24	0	35	0	0	0	0
3633	16	56	18	0	0	0	140
3634	5	0	4	0	0	0	14
3635	85	9	58	11	0	0	0
3636	0	0	13	0	0	0	0
3639	77	11	212	100	144	82	270
3640	0	0	60	0	17	7	0
3641	0	0	9	0	0	15	0
3642	11	25	10	0	0	0	0
3643	0	0	0	0	0	13	0
3644	57	19	0	0	0	7	13
3645	0	137	76	5	137	10	0
3646	0	0	28	0	49	49	0
3648	0	0	0	0	0	24	0
3649	0	0	0	0	18	0	0
3650	0	0	0	7	0	0	0
3651	0	0	0	0	9	0	0
3652	0	0	0	0	0	9	0
3653	0	0	0	0	9	0	0
3654	0	0	0	0	0	0	33
3655	0	0	17	0	0	0	0
3658	0	0	22	0	0	0	0
3660	31	0	0	0	0	0	0
3661	0	0	0	0	0	0	16
3662	0	0	20	0	9	7	60
3663	0	0	0	35	0	0	0
3664	0	0	7	0	0	0	0
3665	0	0	0	0	24	0	0
3666	0	0	0	23	0	0	0
3670	0	35	0	0	0	11	0
3671	0	0	0	0	0	4	47
3677	0	0	0	0	0	7	0
3680	0	0	0	0	0	0	42
3683	0	0	11	0	0	0	0
3688	0	0	0	10	0	0	0
3689	0	0	0	37	0	0	0
3692	0	0	0	0	10	0	0
3693	142	0	32	0	0	0	0
3694	0	0	0	0	23	0	0
3695	0	0	0	0	9	0	0
3699	0	0	13	0	0	0	0
3701	201	0	0	11	0	0	21
3702	0	0	9	6	9	0	0
3703	55	0	0	0	0	0	0
3704	0	0	0	0	14	0	0
3706	0	0	19	0	0	0	0
3707	0	0	0	0	0	0	31
3709	0	0	19	0	0	0	0
3710	0	0	0	0	38	0	0
3711	0	6	0	0	0	0	0
3715	0	0	0	13	0	0	0
3717	50	0	0	0	0	0	0
3720	0	0	0	0	0	0	23
3721	13	0	0	0	52	0	26
3723	0	0	0	34	0	0	0
3811	0	0	37	0	0	0	0
3813	0	0	0	29	0	0	0
3816	0	0	25	0	0	0	0
3821	0	0	0	0	0	0	21
3822	0	0	24	0	22	0	0
3825	0	0	0	0	0	0	43
3829	0	0	0	29	0	0	0
3831	0	0	0	0	0	0	11
3832	0	0	10	0	0	0	0
3834	49	0	0	0	0	0	0
3835	0	0	0	0	0	9	0
3836	0	0	0	0	0	6	80
3838	0	19	0	0	0	0	0
3842	0	0	0	59	0	0	0
3847	0	0	42	0	0	49	0
3848	0	0	21	0	0	0	0
3849	0	0	2	0	0	0	0
3851	0	0	13	23	0	0	0
3853	0	0	0	0	0	6	0
3854	0	0	0	9	0	0	16
3858	0	0	13	0	0	0	0
3864	0	0	11	0	0	0	0
3866	0	0	2	0	7	0	0
3868	31	0	10	48	18	4	0
3869	14	0	0	0	14	0	0
3870	30	0	12	64	22	11	0
3876	0	0	0	0	20	0	0
3877	116	0	0	0	0	10	0
3878	0	0	0	0	24	0	0
3879	0	0	54	0	0	0	0

Mon Oct 03 2022 09:19:42 GMT-0400 (Eastern Daylight Time) - Run Time: 2862ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: 2006 GTA zone of destination - gta06_dest

Filters:
(2006 GTA zone of destination - gta06_dest In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Start time of trip - start_time In 1500-1900
and
Trip purpose of destination - purp_dest In M
and
Primary travel mode of trip - mode_prime In D, M

Trip 2016
Table:

Origin	Destination							Trips from Origin	Trip Distribution		Trip Assignment				
	3614	3623	3639	3640	3645	3879	4023		Distribution	Direction From	From East	From West	From North	From South	Assignment
Brampton	0	0	0	0	0	15	0	15	1%	N			1%		Hwy 410, Hwy 403, SB Southdown
Oakville	79	0	166	0	0	10	19	274	25%	W		25%			Hwy 403, SB Southdown
Burlington	0	0	39	0	0	0	0	39	4%	W		4%			Hwy 403, SB Southdown
Hamilton	0	0	16	0	0	0	0	16	1%	W		1%			Hwy 403, SB Southdown
St. Catharines	0	0	0	0	37	0	0	37	3%	W		3%			Hwy 403, SB Southdown
3603	10	0	0	0	0	0	0	10	1%	E	1%				Hwy 403, SB Southdown
3605	0	0	10	0	0	0	0	10	1%	E	1%				Hwy 403, SB Southdown
3614	79	0	37	13	0	0	0	129	12%	N			9%		SB Winston Churchill, EB Royal Windsor
										N			2%		SB Southdown
3615	0	0	4	0	0	0	0	4	0%	N			0%		SB Winston Churchill, EB Royal Windsor
3623	14	0	7	0	0	0	0	21	2%	N			2%		SB Southdown
3632	11	0	0	0	0	0	0	11	1%	E	1%				QEW, SB Southdown
3634	35	9	0	0	0	0	0	44	4%	N			4%		SB Winston Churchill, EB Royal Windsor
3639	0	0	0	0	0	22	0	22	2%	S				1%	NB Southdown
										W		1%			EB Royal Windsor
3640	34	0	8	0	0	0	0	42	4%	E	4%				WB Lakeshore
3641	0	0	0	0	0	16	0	16	1%	E	1%				WB Lakeshore
3642	0	0	13	0	0	0	0	13	1%	E	1%				WB Lakeshore
3644	0	0	0	0	20	0	0	20	2%	N			2%		SB Southdown
3645	34	0	47	0	0	0	0	81	7%	N			4%		SB Southdown
										E	4%				WB Lakeshore
3646	0	0	138	0	0	0	0	138	13%	E	13%				WB Lakeshore
3661	36	0	0	0	0	0	0	36	3%	E	3%				QEW, SB Southdown
3669	0	0	13	0	0	0	0	13	1%	E	1%				QEW, SB Southdown
3684	0	10	0	0	0	0	0	10	1%	N			1%		SB Southdown
3702	0	0	6	0	0	0	0	6	1%	E	1%				Hwy 403, SB Southdown
3868	0	0	9	0	0	0	0	9	1%	N			1%		SB Southdown
3870	0	0	22	0	0	0	15	37	3%	N			3%		SB Southdown
3879	0	0	25	0	0	22	0	47	4%	E	4%				WB Lakeshore
								1100	100%	TOTAL	35%	35%	30%	1%	100%

Pull for Mississauga only:

Mon Oct 03 2022 09:18:41 GMT-0400 (Eastern Daylight Time) - Run Time: 2729ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of origin - gta06_orig
Column: 2006 GTA zone of destination - gta06_dest

Filters:
(2006 GTA zone of destination - gta06_dest In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Start time of trip - start_time In 1500-1900
and
Trip purpose of destination - purp_dest In M
and
Primary travel mode of trip - m In M
and
Planning district of origin - pd_orig In 36

Trip 2016
Table:

	3614	3623	3639	3640	3645	3879	4023
3603	10	0	0	0	0	0	0
3605	0	0	10	0	0	0	0
3614	79	0	37	13	0	0	0
3615	0	0	4	0	0	0	0
3623	14	0	7	0	0	0	0
3632	11	0	0	0	0	0	0
3634	35	9	0	0	0	0	0
3639	0	0	0	0	0	22	0
3640	34	0	8	0	0	0	0
3641	0	0	0	0	0	16	0
3642	0	0	13	0	0	0	0
3644	0	0	0	0	20	0	0
3645	34	0	47	0	0	0	0
3646	0	0	138	0	0	0	0
3661	36	0	0	0	0	0	0
3669	0	0	13	0	0	0	0
3684	0	10	0	0	0	0	0
3702	0	0	6	0	0	0	0
3868	0	0	9	0	0	0	0
3870	0	0	22	0	0	0	15
3879	0	0	25	0	0	22	0

Mon Oct 03 2022 09:35:36 GMT-0400 (Eastern Daylight Time) - Run Time: 2592ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: 2006 GTA zone of origin - gta06_orig

Filters:
(2006 GTA zone of origin - gta06_orig In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Start time of trip - start_time In 1500-1900
and
Trip purpose of origin - purp_orig In M
and
Primary travel mode of trip - mode_prime In D, M

Trip 2016
Table:

Destination	Origin							Trips to Destination	Trip Distribution		Trip Assignment				
	3614	3623	3639	3640	3645	3879	4023		Distribution	Direction To	To East	To West	To North	To South	Assignment
PD 2 of Toronto	0	0	13	0	0	0	0	13	1%	E	1%				NB Southdown, QEW
PD 8 of Toronto	9	0	0	0	0	0	0	9	1%	E	1%				NB Southdown, QEW, Hwy 427
Oakville	0	0	110	0	0	0	18	128	12%	W		12%			WB Royal Windsor, Hwy 403
Burlington	0	0	33	0	0	41	0	74	7%	W		7%			WB Royal Windsor, Hwy 403
3614	111	0	32	13	20	0	0	176	16%	N			13%		WB Royal Windsor, NB Winston Churchill
										N			3%		NB Southdown
3623	14	0	6	0	0	0	0	20	2%	N			2%		NB Southdown
3640	34	0	125	0	0	0	0	159	14%	E	14%				EB Lakeshore
3641	0	0	42	0	0	16	0	58	5%	E	5%				EB Lakeshore
3642	0	0	7	0	0	0	0	7	1%	E	1%				EB Lakeshore
3644	0	0	6	0	0	0	0	6	1%	N			1%		NB Southdown
3645	44	30	55	0	0	0	0	129	12%	N			6%		NB Southdown
										E	6%				EB Lakeshore
3646	0	9	20	0	0	35	0	64	6%	E	6%				EB Lakeshore
3647	0	0	0	0	0	15	0	15	1%	E	1%				NB Southdown, QEW
3650	35	0	0	0	0	0	15	50	4%	N			2%		WB Royal Windsor, NB Winston Churchill
										N			2%		NB Southdown
3657	0	0	34	0	0	0	0	34	3%	E	3%				NB Southdown, QEW
3813	0	0	9	0	0	0	0	9	1%	N			1%		WB Royal Windsor, NB Winston Churchill
3877	0	0	0	0	0	22	0	22	2%	E	2%				EB Lakeshore
3879	71	0	42	0	0	26	0	139	13%	E	13%				EB Lakeshore
								1112	*100%*	*TOTAL*	*53%*	*18%*	*29%*	*0%*	*100%*

Pull for Mississauga only:

Mon Oct 03 2022 09:35:01 GMT-0400 (Eastern Daylight Time) - Run Time: 2693ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of origin - gta06_orig

Filters:
(2006 GTA zone of origin - gta06_orig In 3614, 3623, 3639, 3640, 3644, 3645, 3879, 4023
and
Start time of trip - start_time In 1500-1900
and
Trip purpose of origin - purp_orig In M
and
Primary travel mode of trip - mode_prime In D, M
and
Planning district of destination - pd_dest In 36

Trip 2016
Table:

	3614	3623	3639	3640	3645	3879	4023
3614	111	0	32	13	20	0	0
3623	14	0	6	0	0	0	0
3640	34	0	125	0	0	0	0
3641	0	0	42	0	0	16	0
3642	0	0	7	0	0	0	0
3644	0	0	6	0	0	0	0
3645	44	30	55	0	0	0	0
3646	0	9	20	0	0	35	0
3647	0	0	0	0	0	15	0
3650	35	0	0	0	0	0	15
3657	0	0	34	0	0	0	0
3813	0	0	9	0	0	0	0
3877	0	0	0	0	0	22	0
3879	71	0	42	0	0	26	0

APPENDIX D

Background Developments and Growth

May 4, 2023

Kate Vassilyev
Traffic Planning Technologist
City of Mississauga, Transportation & Works Department
Infrastructure Planning Division
300 City Centre Drive, Mississauga
(905) 615-3200 x8171
kate.vassilyev@mississauga.ca

RE: 980 Southdown Road, SP 23-5 W2
Transportation Brief

Dear Kate:

BA Consulting Group Ltd. Is retained by RioCan to provide transportation consulting services in support of the above noted application proposing an increase in the retail gross floor area ("GFA") uses on the existing site by 1,576.62 m^2. No changes are proposed to the existing site driveways or access configuration. A site plan application was previously submitted and comments were provided by City of Mississauga (the "City") staff. This transportation brief has been provided to address the comments noted below.

[TRAFFIC MEMO] A Traffic Memo will be required to show: (a) The net trip difference between existing commercial use and proposed; (b) Clarification for trip distribution and evaluation of impact on the existing road network.

The existing site today comprises 21,628.9 m2 GFA retail uses with a proposed increase of 1,576.62 m^2 GFA retail uses for a total of 23,205.52 m^2 GFA, representing a relatively small 7% increase in GFA. Application of ITE land use code 820, from the *ITE Trip Generation Manual, 11th Edition*, fitted curve, for the critical weekday afternoon peak hour and Saturday mid-peak hour to this increase in retail area results in a net increase of 54 and 69 trips, respectively.

TABLE 1 TRIP GENERATION

	Retail GFA	PM Peak Hour Trips	Saturday Peak Hour Trips
Existing	21,628.90 m^2	1,037 trips	1,264 trips
Proposed	23,205.52 m^2	1,091 trips	1,333 trips
Net New	1,576.62 m^2	+54 trips	69 trips

As the proposed uses are consistent with those already on-site today, and no changes to the site's existing access configuration are proposed, no changes in trip distribution are expected.

When distributed across the site's 4 primary driveway connections (1 to Southdown Road, 3 to Royal Windsor Drive), we would expect these additional 54 and 69 trips to have a negligible impact to the traffic operations of the site driveways and adjacent intersections.

[INTERNAL SITE CIRCULATION] (a) Satisfactory turning movement diagrams will be required for proposed loading area.

Vehicle manoeuvring diagrams (VMDs) are attached for reference that demonstrate that adequate space has been provided for services vehicles.

* * * * * * *

We trust the foregoing is in order and provides an appropriate presentation of information for the SPA application being made for the proposed development at 980 Southdown Road. If you have any questions, comments, or require anything further, please do not hesitate to contact us.

Sincerely,
BA Consulting Group Ltd.

Steven X. Kwan, P.Eng
Senior Associate
416-961-7110

September 30, 2020

Colin Pillar
United Lands Corporation Inc.
2904 South Sheridan Way, Suite 103
Oakville, ON L6J 7L7

RE: Trip Generation Summary
Stonebrook Condominium Phase 2, City of Mississauga

Dear Mr.Pillar:

BA Group is retained to provide transportation consulting services related to a Site Plan Application for Phase 2 of Stonebrook Condominiums, in the City of Mississauga.

BA Group was retained to provide transportation consulting services related to the original Zoning By-Law Amendment (ZBA) application submitted in 2004. The report entitled *Traffic Impact Study, Proposed Development, Southdown Road at Lakeshore Road West and Royal Windsor Drive*, dated November 20, 2004 (referred to herein as the "November 2004 report") was submitted and accepted by City staff at that time.

The November 2004 report was based on a development concept plan which included a total of 420 condominium dwelling units (Phase 1 + Phase 2).

Phase 1, consisting of 228 units, has been constructed and occupied for many years. The current application for Phase 2, consists of up to 236 additional units, for a total of up to 464 units.

It is our understanding that staff acknowledged approvals based on the November 2004 report and indicated that a letter is required referencing updated Institute of Transportation Engineers (ITE) Trip Generation data based on the proposed increase from 420 to 464 units.

The trip generation rates documented in the November 2004 report were based on the ITE Trip Generation Manual 7th Edition, fitted curve equation for trips generated by High-Rise Condominium/Townhouse Developments Code 232. Transportation Tomorrow Survey (TTS) data based on the 2001 survey indicated a transit mode split 6-8% at the time of preparation of the November 2004 report.

Updated trip generation rates based on ITE Trip Generation Manual 10th Edition for High-Rise Residential with 1st Floor Commercial Code 232 and Multifamily Housing (High-Rise) Code 222 are reviewed herein for comparison. It is notable that TTS data based on the 2016 survey indicates transit mode split of 16-19% in the weekday peak hours based on existing conditions, which better reflects the site context and close proximity to Clarkson GO Station directly across the street.

Table 1 summarizes a comparison of vehicle trip generation based on the original application for 420 units as documented in the November 2004 report and the current application for up to 464 units based on updated trip generation rates which better reflect the existing transit mode split. The difference in the estimated trip generation, between the original application and the current application, is relatively low, in the order of only +/-5 two way vehicle trips per hour.

TABLE 1 TRIP GENERATION SUMMARY (VEHICLE TRIPS)

	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Original Application						
ITE 7th Ed Code 232						
Rate/Unit[1]	*0.07*	*0.29*	*0.36*	*0.24*	*0.14*	*0.38*
420 units	30	120	150	100	60	160
Current Application						
ITE 10th Ed Code 232						
Rate/Unit[2]	*0.07*	*0.24*	*0.31*	*0.13*	*0.08*	*0.21*
464 units	35	110	145	65	30	95
ITE 10th Ed Code 222						
Rate/Unit	*0.07*	*0.24*	*0.31*	*0.22*	*0.14*	*0.36*
464 units	35	110	145	100	65	165
Difference	**+5**	**-10**	**-5**	**0**	**+5**	**+5**

Notes:
1. Average rate calculated based on resultant vehicle trips for 420 dwelling units.
2. Directional distribution based on ITE 10th Ed Code 222.

On this basis, the proposed increase from 420 to 464 units results in vehicle trip generation estimates which are comparable to those documented in the November 2004 report.

Sincerely,
BA Consulting Group Ltd.

Margaret Briegmann, P.Eng.
Associate

5. Site Generated Traffic

5.1 Site Traffic Generation

The proposed development consists of two warehouse buildings with 406,414 sq.ft. and 436,870 sq.ft. gross floor area. The development generated traffic was calculated using rates provided in the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 10th Edition using Land Use Code 150 (Warehousing).

No transit modal split reductions were applied to the site generated traffic volumes. The

Table 3 below summarizes the estimated trip generation for the proposed development.

Table 3 Estimated Site Trips

Land Uses	GFA (per 1,000)	Parameters	Peak Hour					
			Weekday AM			Weekday PM		
			In	Out	Total	In	Out	Total
Building "A" Warehousing (LUC 150)	406.41	Trip Ratio	77%	23%	100%	27%	73%	100%
		Gross Trips	57	17	74	21	56	77
Building "B" Warehousing (LUC 150)	436.87	Trip Ratio	77%	23%	100%	27%	73%	100%
		Gross Trips	60	18	78	22	61	83
Total Site Traffic			***117***	***35***	***152***	***43***	***117***	***160***

The proposed development is expected to generate a total of 152 two-way trips consisting of 35 inbound and 117 outbound during weekday AM peak hour and 160 two-way trips consisting of 43 inbound and 117 outbound during weekday PM peak hour.

The development generated traffic was sub-divided into two categories consisting of heavy-vehicles and passenger cars using traffic data collected by GHD at an existing industrial warehouse site on Manchester Court in Bolton. The heavy vehicle splits used in the study is summarized in **Table 4** below.

Table 4 Heavy Vehicle Percentages

Data Source	AM Peak Hour		PM Peak Hour	
	Inbound	Outbound	Inbound	Outbound
Survey at 4-6 Manchester Court	40%	20%	50%	30%
Resulting Site Traffic Split				
Heavy Vehicle Trips	47	7	22	35
Passenger Car Trips	70	28	21	82
Total Site Traffic	**117**	**35**	**43**	**117**

5.2 Site Traffic Distribution and Assignment

The site generated traffic was primarily assigned towards highway interchange along Royal Windsor Drive and Winston Churchill Boulevard. The rest of traffic is conservatively assigned to the study area road network based on the engineering judgement and review of the existing traffic patterns. Traffic at site driveways were assigned based on the driveway characteristics, for instance, all passenger vehicle traffic was assigned to the middle access (Access 2), while the heavy vehicle traffic was assigned to the north and south accesses (Access 1 & 3).

The site traffic distribution percentages for the passenger vehicles and heavy vehicles are provided in **Figure 7** and **Figure 8**, respectively. Conversely, the site generated traffic assignment on the study area road network for the weekday AM and PM peak hours are provided in **Figure 9** and **Figure 10** respectively.

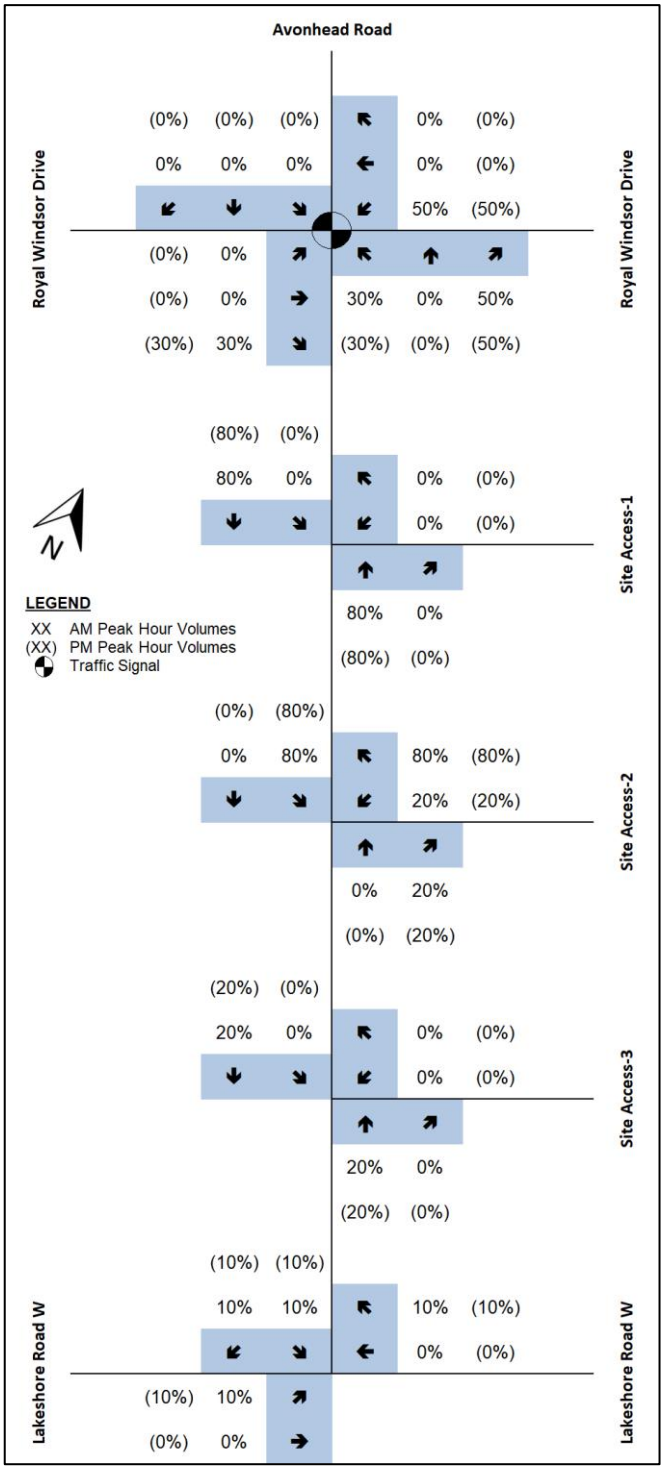


Figure 7 *Passenger Vehicle Trip Distribution Percentages*

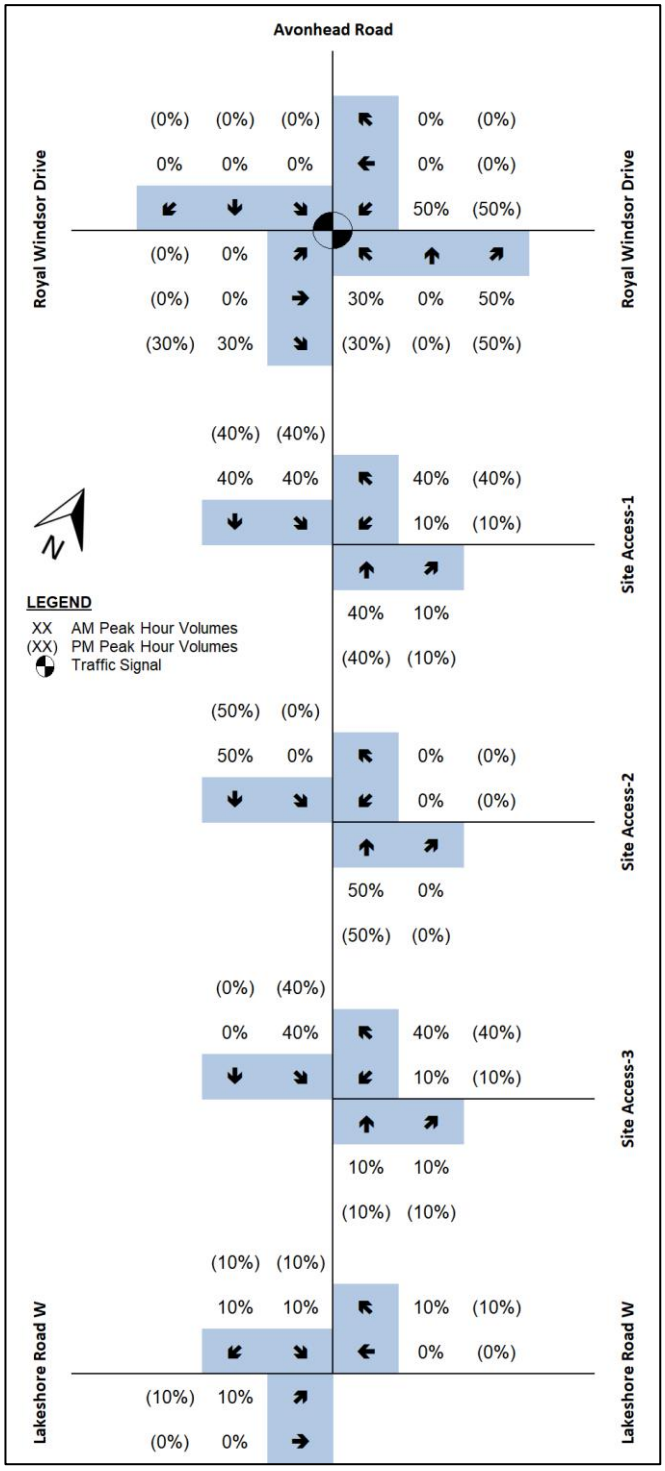


Figure 8 *Heavy Vehicle Trip Distribution Percentages*

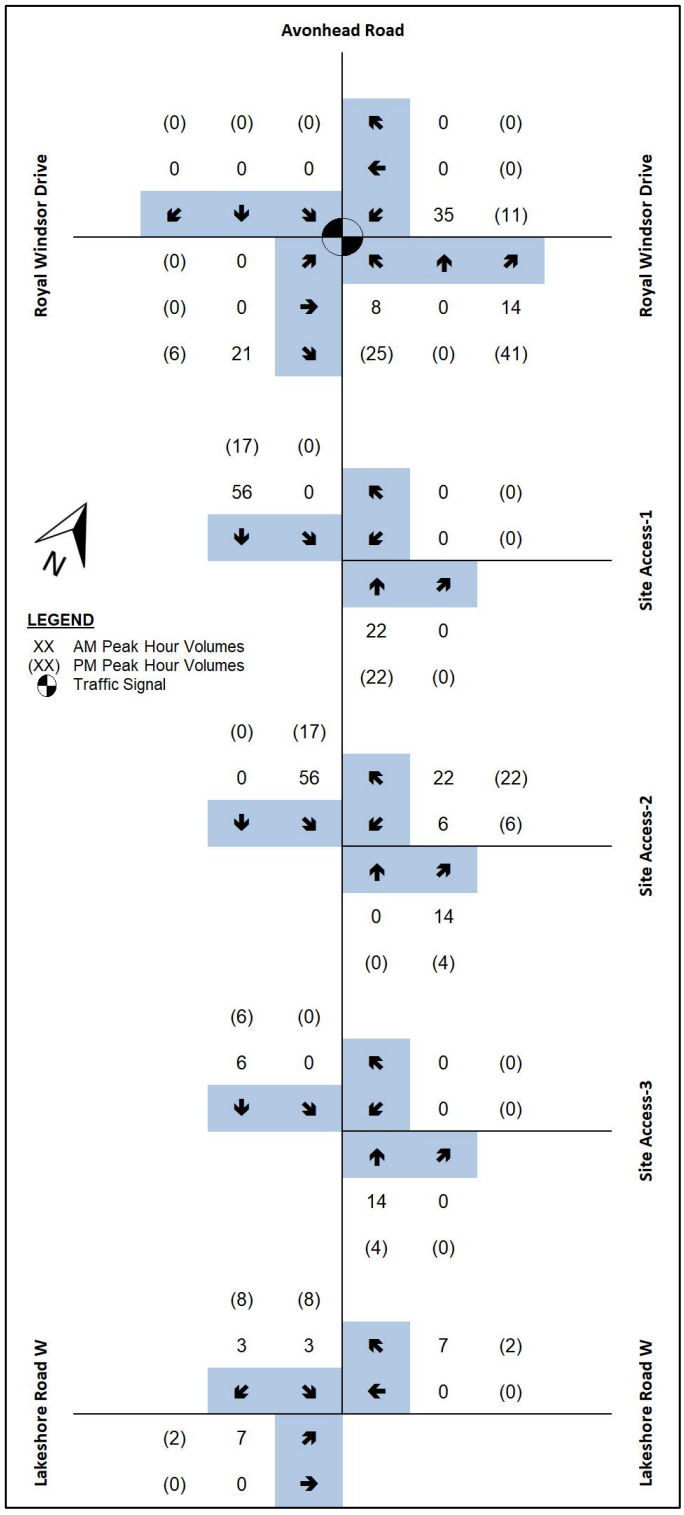


Figure 9 *Passenger Vehicle Site Trips*

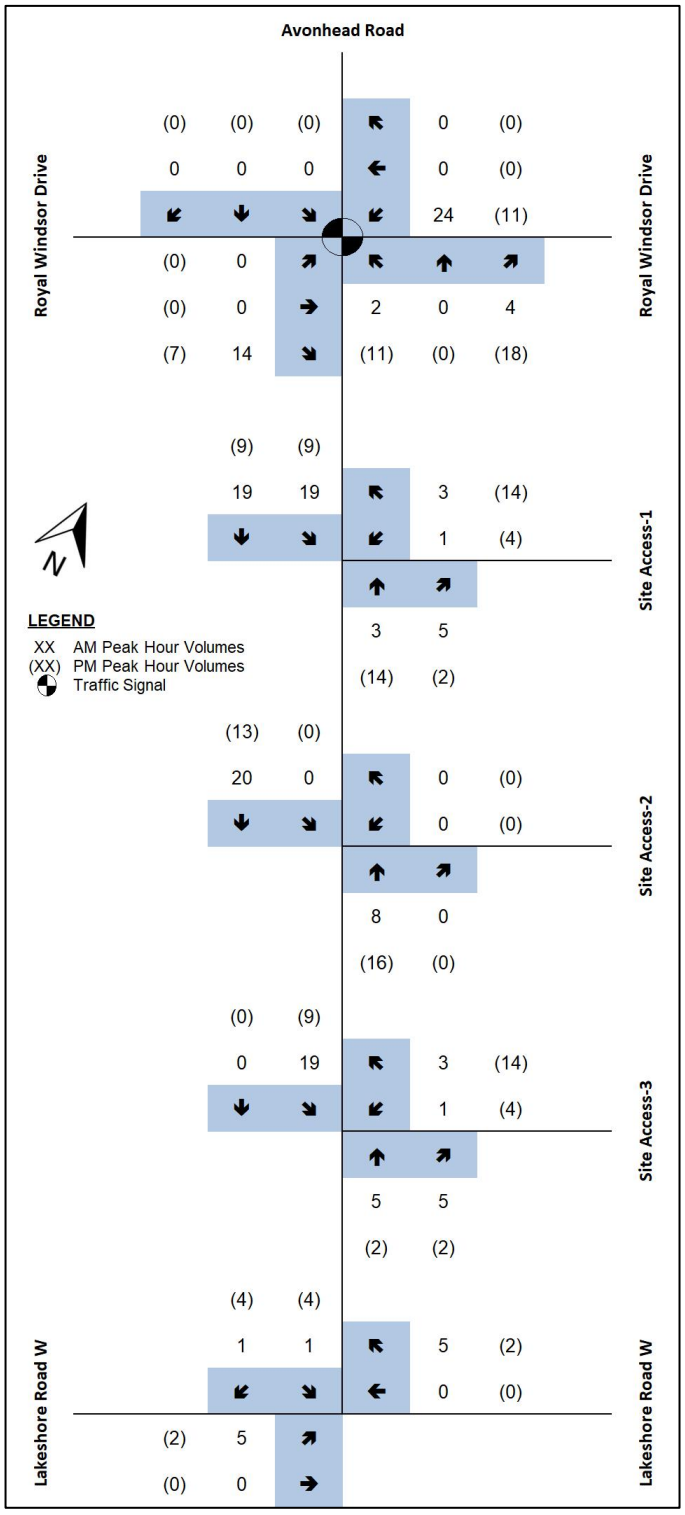


Figure 10 *Heavy Vehicle Site Trips*

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: September 28, 2022 2:00 PM
To: Keanna Tacay-Clarke
Subject: RE: General Corridor Growth Rate - 2077 & 2105 Royal Windsor Drive

External Sender

Hi Keanna,

Below are the recommended growth rates to be used along Royal Windsor Drive and Southdown Road. These rates are compounded annually from existing to 2027.

Royal Windsor Drive

	Compounded Annual Growth from Existing to 2027	
	EB	WB
AM Peak Hour	1.0%	1.5%
PM Peak Hour	1.5%	1.0%

Southdown Road

	Compounded Annual Growth from Existing to 2027	
	NB	SB
AM Peak Hour	0.0%	0.0%
PM Peak Hour	0.0%	0.0%

Regards,

Tyler Xuereb
Transportation Planning Analyst
T 905-615-3200 ext.4783
Tyler.xuereb@mississauga.ca

City of Mississauga | Transportation and Works Department,
Infrastructure Planning and Engineering Services Division

From: Keanna Tacay-Clarke <KTacay-Clarke@lea.ca>
Sent: Thursday, September 22, 2022 11:20 AM
To: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Subject: RE: General Corridor Growth Rate - 2077 & 2105 Royal Windsor Drive

Thank you. Enjoy your day, as well!

Keanna Tacay-Clarke
Transportation Analyst
LEA Consulting Ltd.

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: September 22, 2022 11:21 AM
To: Keanna Tacay-Clarke <KTacay-Clarke@lea.ca>
Cc: Jocelyn Lee <JLee@lea.ca>
Subject: RE: General Corridor Growth Rate - 2077 & 2105 Royal Windsor Drive

External Sender

Hi Keanna,

Thank you for this information.

I will get started on the growth rates and provide them to you as soon as a I can.

Enjoy the day!

Regards,

Tyler Xuereb
Transportation Planning Analyst
T 905-615-3200 ext.4783
Tyler.xuereb@mississauga.ca

City of Mississauga | Transportation and Works Department,
Infrastructure Planning and Engineering Services Division

From: Keanna Tacay-Clarke <KTacay-Clarke@lea.ca>
Sent: Thursday, September 22, 2022 11:14 AM
To: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Cc: Jocelyn Lee <JLee@lea.ca>
Subject: RE: General Corridor Growth Rate - 2077 & 2105 Royal Windsor Drive

Hello Tyler,

Thanks for getting back to me.

The horizon year of 2027 will be assessed for a 5-year horizon.

Looking at the Ward 2 Development Applications, one (1) development was found to have an impact on our study intersections; 551 Avonhead Road.

The ToR has been submitted and we have received comments back from the City (Kate Vassilyev).

Regards,

Keanna Tacay-Clarke
Transportation Analyst
LEA Consulting Ltd.

From: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Sent: September 22, 2022 8:55 AM
To: Keanna Tacay-Clarke <KTacay-Clarke@lea.ca>
Cc: Jocelyn Lee <JLee@lea.ca>
Subject: RE: General Corridor Growth Rate - 2077 & 2105 Royal Windsor Drive

Good Morning Keanna,

Thank you for your email.

I just have a couple questions in regards to your analysis.

-What are the horizon years for your study?
-What background developments are you including in your analysis?
- Have you submitted a ToR and have you received comments back from the City?

Thanks,

Tyler Xuereb
Transportation Planning Analyst
T 905-615-3200 ext.4783
Tyler.xuereb@mississauga.ca

City of Mississauga | Transportation and Works Department,
Infrastructure Planning and Engineering Services Division

From: Keanna Tacay-Clarke <KTacay-Clarke@lea.ca>
Sent: Wednesday, September 21, 2022 11:36 AM
To: Tyler Xuereb <Tyler.Xuereb@mississauga.ca>
Cc: Jocelyn Lee <JLee@lea.ca>
Subject: General Corridor Growth Rate - 2077 & 2105 Royal Windsor Drive

Hello Tyler,

We'll be preparing a Transportation Impact Study (TIS) for the proposed mixed-use development located at 2077 & 2105 Royal Windsor Drive, and was given you
contact to get the annual corridor growth rate that should be applied to the major roads in our study area, which are listed below:

- Royal Windsor Drive

Southdown Road

Thank you,

Keanna Tacay-Clarke
Transportation Analyst
LEA Consulting Ltd.
625 Crochane Drive, 5th Floor | Markham, ON | L3R 9R9
T: 905-470-0015 ext. 387 E: KTacay-Clarke@LEA.ca

APPENDIX E

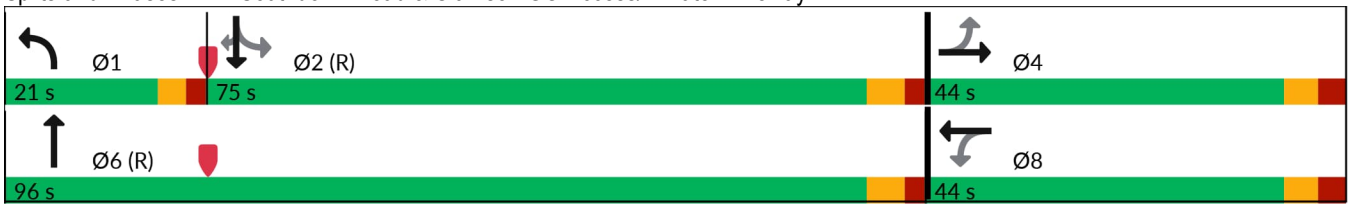
Intersection Capacity Results

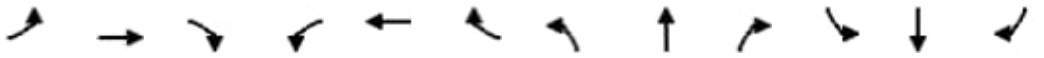
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	52	2	16	2	22	544	16	853	266
Future Volume (vph)	52	2	16	2	22	544	16	853	266
Lane Group Flow (vph)	54	36	17	26	23	575	17	889	277
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm
Protected Phases		4		8	1	6		2	
Permitted Phases	4		8				2		2
Detector Phase	4	4	8	8	1	6	2	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Minimum Split (s)	42.5	42.5	42.5	42.5	10.0	31.0	31.0	31.0	31.0
Total Split (s)	44.0	44.0	44.0	44.0	21.0	96.0	75.0	75.0	75.0
Total Split (%)	31.4%	31.4%	31.4%	31.4%	15.0%	68.6%	53.6%	53.6%	53.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	5.0	6.0	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.49	0.22	0.15	0.17	0.25	0.21	0.03	0.33	0.21
Control Delay (s/veh)	75.7	22.2	61.3	24.3	82.6	1.5	5.9	5.9	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	75.7	22.2	61.3	24.3	82.6	1.5	5.9	5.9	1.1
Queue Length 50th (m)	15.4	0.6	4.7	0.6	6.9	8.2	1.1	41.8	0.0
Queue Length 95th (m)	29.5	11.6	12.5	10.2	m15.9	10.5	4.0	63.5	8.5
Internal Link Dist (m)		94.1		46.6		182.5		333.7	
Turn Bay Length (m)			20.0		75.0		25.0		85.0
Base Capacity (vph)	365	455	364	461	204	2725	654	2710	1335
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.08	0.05	0.06	0.11	0.21	0.03	0.33	0.21

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 122 (87%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Southdown Road & Clarkson GO Access/Private Driveway





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	2	33	16	2	23	22	544	8	16	853	266
Future Volume (vph)	52	2	33	16	2	23	22	544	8	16	853	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1750	1609		1761	1655		1785	3172		1778	3380	1597
Flt Permitted	0.74	1.00		0.73	1.00		0.95	1.00		0.44	1.00	1.00
Satd. Flow (perm)	1364	1609		1360	1655		1785	3172		815	3380	1597
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	2	34	17	2	24	23	567	8	17	889	277
RTOR Reduction (vph)	0	32	0	0	22	0	0	0	0	0	0	64
Lane Group Flow (vph)	54	4	0	17	4	0	23	575	0	17	889	213
Confl. Peds. (#/hr)			12	12					3	3		
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	15%	0%	0%	8%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8						2		2
Actuated Green, G (s)	9.7	9.7		9.7	9.7		5.0	117.8		107.8	107.8	107.8
Effective Green, g (s)	9.7	9.7		9.7	9.7		5.0	117.8		107.8	107.8	107.8
Actuated g/C Ratio	0.07	0.07		0.07	0.07		0.04	0.84		0.77	0.77	0.77
Clearance Time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	94	111		94	114		63	2669		627	2602	1229
v/s Ratio Prot		0.00			0.00		c0.01	0.18			c0.26	
v/s Ratio Perm	c0.04			0.01						0.02		0.13
v/c Ratio	0.57	0.04		0.18	0.03		0.37	0.22		0.03	0.34	0.17
Uniform Delay, d1	63.1	60.8		61.4	60.8		65.9	2.1		3.8	5.0	4.3
Progression Factor	1.00	1.00		1.00	1.00		1.21	0.55		1.00	1.00	1.00
Incremental Delay, d2	8.2	0.1		0.9	0.1		3.4	0.2		0.1	0.4	0.3
Delay (s)	71.4	60.9		62.3	60.9		83.5	1.4		3.9	5.4	4.6
Level of Service	E	E		E	E		F	A		A	A	A
Approach Delay (s/veh)		67.2			61.5			4.5			5.2	
Approach LOS		E			E			A			A	

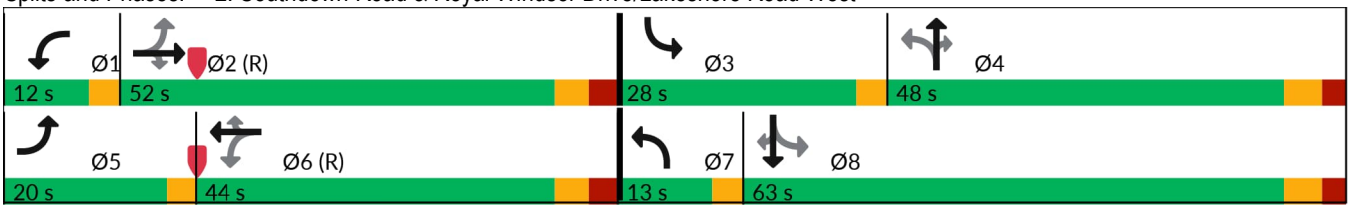
Intersection Summary			
HCM 2000 Control Delay (s/veh)	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

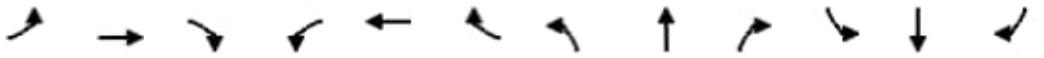
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	552	96	148	593	271	106	170	92	316	281	278
Future Volume (vph)	125	552	96	148	593	271	106	170	92	316	281	278
Lane Group Flow (vph)	132	581	101	156	624	285	112	179	97	333	296	293
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	9.5	39.5	39.5	9.5	39.5	39.5	9.5	37.5	37.5	9.5	37.5	37.5
Total Split (s)	20.0	52.0	52.0	12.0	44.0	44.0	13.0	48.0	48.0	28.0	63.0	63.0
Total Split (%)	14.3%	37.1%	37.1%	8.6%	31.4%	31.4%	9.3%	34.3%	34.3%	20.0%	45.0%	45.0%
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.0	3.0	0.0	3.0	3.0	0.0	2.5	2.5	0.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
v/c Ratio	0.50	0.51	0.20	0.49	0.58	0.45	0.26	0.18	0.17	0.52	0.22	0.39
Control Delay (s/veh)	28.5	36.4	5.0	31.4	45.1	6.7	20.1	35.7	3.8	24.8	27.3	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.5	36.4	5.0	31.4	45.1	6.7	20.1	35.7	3.8	24.8	27.3	4.5
Queue Length 50th (m)	17.7	73.4	0.0	27.7	81.6	0.0	16.3	19.8	0.0	54.8	26.8	0.0
Queue Length 95th (m)	27.9	92.4	7.3	43.7	106.6	23.3	27.6	31.0	8.5	81.4	38.7	18.6
Internal Link Dist (m)		119.5			189.3			142.3			182.5	
Turn Bay Length (m)	115.0		20.0	70.0		165.0	85.0			85.0		50.0
Base Capacity (vph)	299	1141	513	320	1070	636	436	983	564	662	1356	751
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.51	0.20	0.49	0.58	0.45	0.26	0.18	0.17	0.50	0.22	0.39

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Southdown Road & Royal Windsor Drive/Lakeshore Road West

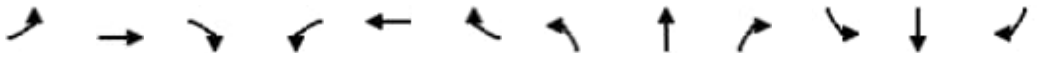




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	552	96	148	593	271	106	170	92	316	281	278
Future Volume (vph)	125	552	96	148	593	271	106	170	92	316	281	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1486	3510	1380	1785	3614	1470	1562	3042	1491	1678	3318	1415
Flt Permitted	0.24	1.00	1.00	0.34	1.00	1.00	0.57	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	380	3510	1380	640	3614	1470	939	3042	1491	1058	3318	1415
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	132	581	101	156	624	285	112	179	97	333	296	293
RTOR Reduction (vph)	0	0	65	0	0	201	0	0	66	0	0	173
Lane Group Flow (vph)	132	581	36	156	624	84	112	179	31	333	296	120
Confl. Peds. (#/hr)	10		1	1		10	23		6	6		23
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	20%	4%	14%	0%	1%	6%	13%	20%	5%	6%	10%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	57.5	45.5	45.5	50.5	41.5	41.5	54.6	45.3	45.3	69.5	57.2	57.2
Effective Green, g (s)	57.5	45.5	45.5	50.5	41.5	41.5	54.6	45.3	45.3	69.5	57.2	57.2
Actuated g/C Ratio	0.41	0.33	0.33	0.36	0.30	0.30	0.39	0.32	0.32	0.50	0.41	0.41
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	258	1140	448	304	1071	435	407	984	482	619	1355	578
v/s Ratio Prot	c0.05	0.17		0.03	c0.17		0.02	0.06		c0.08	0.09	
v/s Ratio Perm	0.16		0.03	0.15		0.06	0.09		0.02	c0.19		0.08
v/c Ratio	0.51	0.51	0.08	0.51	0.58	0.19	0.28	0.18	0.07	0.54	0.22	0.21
Uniform Delay, d1	28.2	38.2	32.7	31.7	41.9	36.8	28.1	34.0	32.7	22.2	26.9	26.7
Progression Factor	0.89	0.90	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.08	0.99	1.05
Incremental Delay, d2	1.7	1.6	0.3	1.5	2.3	1.0	0.4	0.4	0.3	0.9	0.4	0.8
Delay (s)	26.8	36.1	20.1	33.2	44.2	37.8	28.4	34.4	33.0	24.8	26.9	28.9
Level of Service	C	D	C	C	D	D	C	C	C	C	C	C
Approach Delay (s/veh)		32.6			40.9			32.3			26.8	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

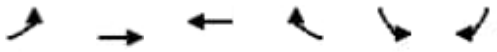
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	745	0	0	891	86	0	0	21	7	0	46
Future Volume (Veh/h)	84	745	0	0	891	86	0	0	21	7	0	46
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	92	819	0	0	979	95	0	0	23	8	0	51
Pedestrians		1						11			4	
Lane Width (m)		3.6						3.5			3.5	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		283			144							
pX, platoon unblocked	0.88			0.95			0.91	0.91	0.95	0.91	0.91	0.88
vC, conflicting volume	1078			830			1392	2092	421	1624	2045	379
vC1, stage 1 conf vol							1014	1014		1031	1031	
vC2, stage 2 conf vol							378	1078		594	1014	
vCu, unblocked vol	624			716			789	1560	285	1044	1507	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			100			100	100	97	98	100	95
cM capacity (veh/h)	851			842			246	234	676	331	258	959

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	365	546	0	392	392	291	23	8	51
Volume Left	92	0	0	0	0	0	0	8	0
Volume Right	0	0	0	0	0	95	23	0	51
cSH	851	1700	1700	1700	1700	1700	676	331	959
Volume to Capacity	0.11	0.32	0.00	0.23	0.23	0.17	0.03	0.02	0.05
Queue Length 95th (m)	2.9	0.0	0.0	0.0	0.0	0.0	0.8	0.6	1.3
Control Delay (s/veh)	3.4	0.0	0.0	0.0	0.0	0.0	10.5	16.1	9.0
Lane LOS	A						B	C	A
Approach Delay (s/veh)	1.4			0.0			10.5	9.9	
Approach LOS							B	A	

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	55.5%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	773	937	0	0	0
Future Volume (Veh/h)	0	773	937	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	859	1041	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)		213	214			
pX, platoon unblocked	0.92				0.94	0.92
vC, conflicting volume	1041				1471	347
vC1, stage 1 conf vol					1041	
vC2, stage 2 conf vol					430	
vCu, unblocked vol	723				979	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	814				385	999

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	430	430	416	416	208	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.25	0.25	0.24	0.24	0.12	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						A
Approach Delay (s/veh)	0.0		0.0			0.0
Approach LOS						A

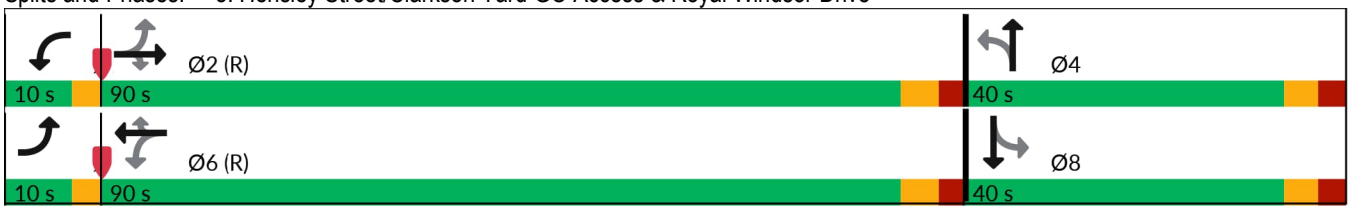
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	24.7%	ICU Level of Service	A
Analysis Period (min)	15		

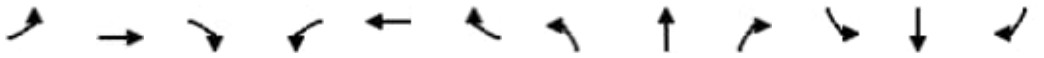
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	312	729	66	45	874	18	43	13	39	8
Future Volume (vph)	312	729	66	45	874	18	43	13	39	8
Lane Group Flow (vph)	328	767	69	47	920	19	45	19	41	42
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2		1	6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	5	2	2	1	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	34.5	34.5	9.5	34.5	34.5	39.5	39.5	39.5	39.5
Total Split (s)	10.0	90.0	90.0	10.0	90.0	90.0	40.0	40.0	40.0	40.0
Total Split (%)	7.1%	64.3%	64.3%	7.1%	64.3%	64.3%	28.6%	28.6%	28.6%	28.6%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	2.5	2.5	0.0	2.5	2.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?				Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
v/c Ratio	0.59	0.28	0.06	0.08	0.35	0.02	0.45	0.13	0.43	0.27
Control Delay (s/veh)	6.3	4.9	1.9	1.7	4.2	0.1	75.5	49.2	74.6	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.3	4.9	1.9	1.7	4.2	0.1	75.5	49.2	74.6	27.5
Queue Length 50th (m)	12.3	30.4	1.1	0.8	18.2	0.0	12.8	3.9	11.7	2.2
Queue Length 95th (m)	23.2	45.5	5.4	m3.0	30.6	m0.0	25.9	12.2	24.2	14.2
Internal Link Dist (m)		210.3			189.0			141.2		146.2
Turn Bay Length (m)	95.0		25.0	15.0						
Base Capacity (vph)	560	2706	1205	603	2613	1162	312	442	300	407
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.28	0.06	0.08	0.35	0.02	0.14	0.04	0.14	0.10

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 136 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Hensley Street/Clarkson Yard GO Access & Royal Windsor Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	312	729	66	45	874	18	43	13	5	39	8	32
Future Volume (vph)	312	729	66	45	874	18	43	13	5	39	8	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1783	3349	1479	1748	3476	1530	1700	1833		1603	1590	
Flt Permitted	0.28	1.00	1.00	0.36	1.00	1.00	0.73	1.00		0.75	1.00	
Satd. Flow (perm)	529	3349	1479	664	3476	1530	1306	1833		1257	1590	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	328	767	69	47	920	19	45	14	5	41	8	34
RTOR Reduction (vph)	0	0	11	0	0	5	0	5	0	0	32	0
Lane Group Flow (vph)	328	767	58	47	920	14	45	14	0	41	10	0
Confl. Peds. (#/hr)	9		3	3		9			10	10		
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	9%	5%	2%	5%	0%	5%	0%	0%	10%	0%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	117.9	109.9	109.9	109.0	104.0	104.0	9.1	9.1		9.1	9.1	
Effective Green, g (s)	117.9	109.9	109.9	109.0	104.0	104.0	9.1	9.1		9.1	9.1	
Actuated g/C Ratio	0.84	0.79	0.79	0.78	0.74	0.74	0.07	0.07		0.07	0.07	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	543	2628	1161	555	2582	1136	84	119		81	103	
v/s Ratio Prot	c0.05	0.23		0.00	0.26			0.01			0.01	
v/s Ratio Perm	c0.46		0.04	0.06		0.01	c0.03			0.03		
v/c Ratio	0.60	0.29	0.05	0.08	0.36	0.01	0.54	0.12		0.51	0.10	
Uniform Delay, d1	2.9	4.2	3.4	3.5	6.3	4.7	63.4	61.7		63.3	61.6	
Progression Factor	1.00	1.00	1.00	0.67	0.55	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	0.3	0.1	0.1	0.4	0.0	6.4	0.5		4.9	0.4	
Delay (s)	4.8	4.5	3.4	2.4	3.8	4.7	69.8	62.1		68.2	62.0	
Level of Service	A	A	A	A	A	A	E	E		E	E	
Approach Delay (s/veh)		4.5			3.8			67.5			65.1	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	2	168	2	2	49
Future Volume (Veh/h)	4	2	168	2	2	49
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	2	187	2	2	54
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	246	188			189	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246	188			189	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	746	859			1397	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	189	56
Volume Left	4	0	2
Volume Right	2	2	0
cSH	780	1700	1397
Volume to Capacity	0.01	0.11	0.00
Queue Length 95th (m)	0.2	0.0	0.0
Control Delay (s/veh)	9.7	0.0	0.3
Lane LOS	A		A
Approach Delay (s/veh)	9.7	0.0	0.3
Approach LOS	A		

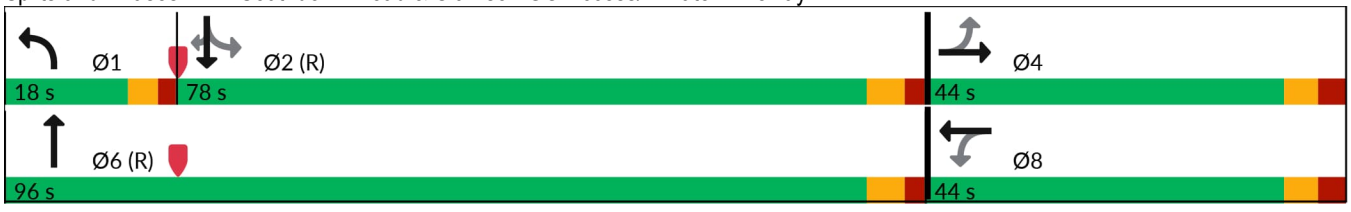
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	19.0%	ICU Level of Service	A
Analysis Period (min)	15		

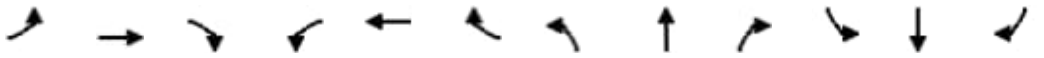
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	203	1	20	1	17	863	21	833	85
Future Volume (vph)	203	1	20	1	17	863	21	833	85
Lane Group Flow (vph)	231	89	23	17	19	1008	24	947	97
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm
Protected Phases		4		8	1	6		2	
Permitted Phases	4		8				2		2
Detector Phase	4	4	8	8	1	6	2	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Minimum Split (s)	42.5	42.5	42.5	42.5	10.0	31.0	31.0	31.0	31.0
Total Split (s)	44.0	44.0	44.0	44.0	18.0	96.0	78.0	78.0	78.0
Total Split (%)	31.4%	31.4%	31.4%	31.4%	12.9%	68.6%	55.7%	55.7%	55.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.5	6.5	6.5	5.0	6.0	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.79	0.23	0.09	0.05	0.21	0.41	0.07	0.42	0.11
Control Delay (s/veh)	70.7	9.4	42.7	17.3	74.9	13.8	13.6	14.2	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay (s/veh)	70.7	9.4	42.7	17.3	74.9	14.1	13.6	14.2	3.0
Queue Length 50th (m)	64.3	0.2	5.5	0.2	5.5	70.2	2.6	71.4	0.0
Queue Length 95th (m)	86.3	13.4	12.3	6.3	m10.3	104.6	8.3	104.2	8.3
Internal Link Dist (m)		94.1		46.6		182.5		333.7	
Turn Bay Length (m)			20.0		75.0		25.0		85.0
Base Capacity (vph)	385	488	346	445	165	2479	342	2250	864
Starvation Cap Reductn	0	0	0	0	0	821	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.18	0.07	0.04	0.12	0.61	0.07	0.42	0.11

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 8 (6%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Southdown Road & Clarkson GO Access/Private Driveway





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	1	77	20	1	14	17	863	24	21	833	85
Future Volume (vph)	203	1	77	20	1	14	17	863	24	21	833	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00		1.00	1.00	0.80
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1783	1580		1755	1618		1785	3496		1778	3444	1271
Flt Permitted	0.75	1.00		0.70	1.00		0.95	1.00		0.28	1.00	1.00
Satd. Flow (perm)	1401	1580		1292	1618		1785	3496		525	3444	1271
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	231	1	88	23	1	16	19	981	27	24	947	97
RTOR Reduction (vph)	0	70	0	0	13	0	0	1	0	0	0	35
Lane Group Flow (vph)	231	19	0	23	4	0	19	1007	0	24	947	62
Confl. Peds. (#/hr)	1		16	16		1	67		6	6		67
Confl. Bikes (#/hr)			4			7			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	6%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8						2		2
Actuated Green, G (s)	28.3	28.3		28.3	28.3		4.8	99.2		89.4	89.4	89.4
Effective Green, g (s)	29.3	28.3		28.3	28.3		4.8	99.2		89.4	89.4	89.4
Actuated g/C Ratio	0.21	0.20		0.20	0.20		0.03	0.71		0.64	0.64	0.64
Clearance Time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	293	319		261	327		61	2477		335	2199	811
v/s Ratio Prot		0.01			0.00		0.01	c0.29			c0.28	
v/s Ratio Perm	c0.16			0.02						0.05		0.05
v/c Ratio	0.79	0.06		0.09	0.01		0.31	0.41		0.07	0.43	0.08
Uniform Delay, d1	52.4	45.1		45.4	44.7		66.0	8.4		9.6	12.6	9.6
Progression Factor	1.00	1.00		1.00	1.00		1.11	1.46		1.00	1.00	1.00
Incremental Delay, d2	13.1	0.1		0.1	0.0		2.6	0.4		0.4	0.6	0.2
Delay (s)	65.5	45.2		45.5	44.7		75.6	12.6		10.0	13.2	9.8
Level of Service	E	D		D	D		E	B		A	B	A
Approach Delay (s/veh)		59.9			45.2			13.8			12.8	
Approach LOS		E			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	58.0%	ICU Level of Service	B
Analysis Period (min)	15		

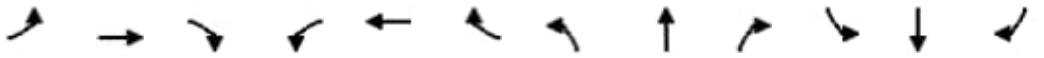
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	1104	101	188	537	329	99	253	245	354	296	257
Future Volume (vph)	285	1104	101	188	537	329	99	253	245	354	296	257
Lane Group Flow (vph)	300	1162	106	198	565	346	104	266	258	373	312	271
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	9.5	39.5	39.5	9.5	39.5	39.5	9.5	37.5	37.5	9.5	37.5	37.5
Total Split (s)	26.0	45.0	45.0	21.0	40.0	40.0	12.0	42.0	42.0	32.0	62.0	62.0
Total Split (%)	18.6%	32.1%	32.1%	15.0%	28.6%	28.6%	8.6%	30.0%	30.0%	22.9%	44.3%	44.3%
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.0	3.0	0.0	3.0	3.0	0.0	2.5	2.5	0.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
v/c Ratio	0.78	1.10	0.22	0.80	0.60	0.53	0.27	0.26	0.41	0.61	0.23	0.38
Control Delay (s/veh)	59.4	115.2	29.8	57.2	49.6	7.5	21.7	40.0	6.7	30.7	30.7	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.4	115.2	29.8	57.2	49.6	7.5	21.7	40.0	6.7	30.7	30.7	16.6
Queue Length 50th (m)	80.9	~201.8	11.0	39.0	78.0	0.0	15.6	31.5	0.0	89.7	39.3	30.5
Queue Length 95th (m)	120.4	#263.0	m27.9	#72.5	99.4	26.7	26.6	46.5	22.6	121.9	52.4	66.3
Internal Link Dist (m)		119.5			189.3			142.3			182.5	
Turn Bay Length (m)	115.0		20.0	70.0		165.0	85.0			85.0		50.0
Base Capacity (vph)	405	1057	484	276	935	649	397	1004	633	647	1337	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	1.10	0.22	0.72	0.60	0.53	0.26	0.26	0.41	0.58	0.23	0.38

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 8 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

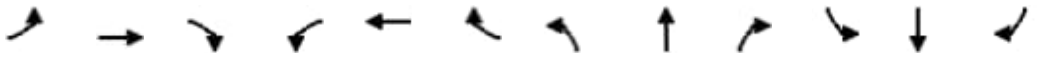
Splits and Phases: 2: Southdown Road & Royal Windsor Drive/Lakeshore Road West



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	1104	101	188	537	329	99	253	245	354	296	257
Future Volume (vph)	285	1104	101	188	537	329	99	253	245	354	296	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1699	3614	1420	1716	3650	1531	1590	3444	1546	1739	3349	1390
Flt Permitted	0.25	1.00	1.00	0.11	1.00	1.00	0.56	1.00	1.00	0.52	1.00	1.00
Satd. Flow (perm)	441	3614	1420	201	3650	1531	941	3444	1546	956	3349	1390
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	300	1162	106	198	565	346	104	266	258	373	312	271
RTOR Reduction (vph)	0	0	69	0	0	257	0	0	183	0	0	163
Lane Group Flow (vph)	300	1162	37	198	565	89	104	266	75	373	312	108
Confl. Peds. (#/hr)	8		20	20		8	42		15	15		42
Confl. Bikes (#/hr)			4									2
Heavy Vehicles (%)	5%	1%	8%	4%	0%	2%	10%	6%	0%	2%	9%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	59.5	41.0	41.0	51.4	35.9	35.9	49.4	40.8	40.8	67.5	55.9	55.9
Effective Green, g (s)	59.5	41.0	41.0	51.4	35.9	35.9	49.4	40.8	40.8	67.5	55.9	55.9
Actuated g/C Ratio	0.43	0.29	0.29	0.37	0.26	0.26	0.35	0.29	0.29	0.48	0.40	0.40
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	372	1058	415	241	935	392	371	1003	450	593	1337	555
v/s Ratio Prot	c0.12	c0.32		0.09	0.15		0.02	0.08		c0.11	0.09	
v/s Ratio Perm	0.22		0.03	0.21		0.06	0.08		0.05	c0.20		0.08
v/c Ratio	0.81	1.10	0.09	0.82	0.60	0.23	0.28	0.27	0.17	0.63	0.23	0.19
Uniform Delay, d1	29.8	49.5	36.0	35.8	45.8	41.1	31.4	38.1	36.9	24.0	27.9	27.4
Progression Factor	1.81	1.35	3.30	1.00	1.00	1.00	1.00	1.00	1.00	1.21	1.08	4.91
Incremental Delay, d2	9.7	56.0	0.3	19.7	2.9	1.3	0.4	0.6	0.8	2.0	0.4	0.7
Delay (s)	63.7	122.7	118.9	55.4	48.7	42.4	31.8	38.7	37.7	31.1	30.4	135.2
Level of Service	E	F	F	E	D	D	C	D	D	C	C	F
Approach Delay (s/veh)		111.1			47.9			37.2			60.4	
Approach LOS		F			D			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	72.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		

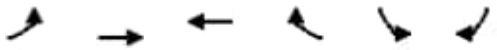
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1405	11	0	854	39	0	0	74	11	0	129
Future Volume (Veh/h)	27	1405	11	0	854	39	0	0	74	11	0	129
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	30	1579	12	0	960	44	0	0	83	12	0	145
Pedestrians		3						6			10	
Lane Width (m)		3.6						3.5			3.5	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						0			1	
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		283			144							
pX, platoon unblocked	0.89			0.69			0.74	0.74	0.69	0.74	0.74	0.89
vC, conflicting volume	1014			1585			2113	2659	796	1842	2637	355
vC1, stage 1 conf vol							1645	1645		992	992	
vC2, stage 2 conf vol							468	1014		850	1645	
vCu, unblocked vol	594			934			927	1666	0	559	1636	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			100	100	89	97	100	85
cM capacity (veh/h)	878			505			165	189	744	393	192	963

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	556	1053	12	384	384	236	83	12	145
Volume Left	30	0	0	0	0	0	0	12	0
Volume Right	0	0	12	0	0	44	83	0	145
cSH	878	1700	1700	1700	1700	1700	744	393	963
Volume to Capacity	0.03	0.62	0.01	0.23	0.23	0.14	0.11	0.03	0.15
Queue Length 95th (m)	0.8	0.0	0.0	0.0	0.0	0.0	3.0	0.8	4.2
Control Delay (s/veh)	0.9	0.0	0.0	0.0	0.0	0.0	10.4	14.5	9.4
Lane LOS	A						B	B	A
Approach Delay (s/veh)	0.3			0.0			10.4	9.8	
Approach LOS							B	A	

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	68.1%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1490	983	0	0	0
Future Volume (Veh/h)	0	1490	983	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1568	1035	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)		213	214			
pX, platoon unblocked	0.93				0.72	0.93
vC, conflicting volume	1035				1819	345
vC1, stage 1 conf vol					1035	
vC2, stage 2 conf vol					784	
vCu, unblocked vol	770				777	27
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	793				373	974

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	784	784	414	414	207	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.46	0.46	0.24	0.24	0.12	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						A
Approach Delay (s/veh)	0.0		0.0			0.0
Approach LOS						A

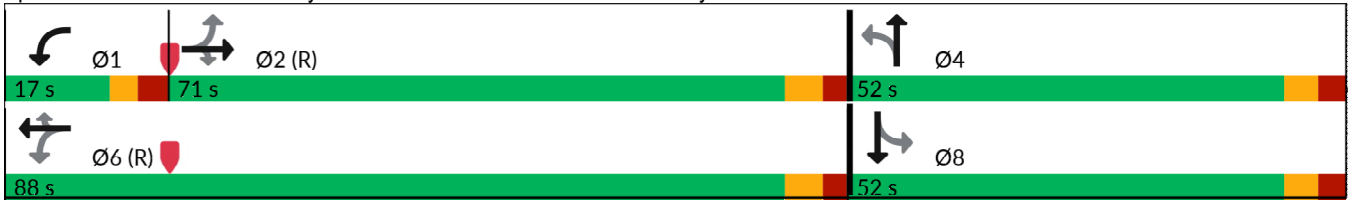
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

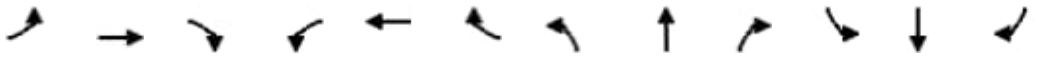
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	110	1379	227	128	844	11	148	14	51	17
Future Volume (vph)	110	1379	227	128	844	11	148	14	51	17
Lane Group Flow (vph)	117	1467	241	136	898	12	157	79	54	241
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2		1	6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	1	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	34.5	34.5	34.5	11.0	34.5	34.5	39.5	39.5	39.5	39.5
Total Split (s)	71.0	71.0	71.0	17.0	88.0	88.0	52.0	52.0	52.0	52.0
Total Split (%)	50.7%	50.7%	50.7%	12.1%	62.9%	62.9%	37.1%	37.1%	37.1%	37.1%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	3.0	2.5	2.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead						
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
v/c Ratio	0.35	0.72	0.27	0.56	0.36	0.01	1.05	0.20	0.20	0.56
Control Delay (s/veh)	23.4	26.4	13.1	42.0	6.6	0.6	139.9	13.7	44.2	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.4	26.4	13.1	42.0	6.6	0.6	139.9	13.7	44.2	27.5
Queue Length 50th (m)	17.5	156.8	22.6	18.0	27.3	0.0	~49.5	3.5	13.1	30.9
Queue Length 95th (m)	42.5	239.1	50.2	42.1	45.5	m0.2	#78.8	16.0	23.4	53.1
Internal Link Dist (m)		210.3			189.0			141.2		146.2
Turn Bay Length (m)	95.0		25.0	15.0						
Base Capacity (vph)	330	2039	890	259	2500	1005	233	567	415	606
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.72	0.27	0.53	0.36	0.01	0.67	0.14	0.13	0.40

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Hensley Street/Clarkson Yard GO Access & Royal Windsor Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	1379	227	128	844	11	148	14	60	51	17	210
Future Volume (vph)	110	1379	227	128	844	11	148	14	60	51	17	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.89	1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.96	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1723	3544	1492	1785	3579	1428	1763	1615		1718	1614	
Flt Permitted	0.32	1.00	1.00	0.09	1.00	1.00	0.39	1.00		0.71	1.00	
Satd. Flow (perm)	575	3544	1492	165	3579	1428	719	1615		1276	1614	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	117	1467	241	136	898	12	157	15	64	54	18	223
RTOR Reduction (vph)	0	0	31	0	0	4	0	51	0	0	96	0
Lane Group Flow (vph)	117	1467	210	136	898	8	157	28	0	54	145	0
Confl. Peds. (#/hr)	35		15	15		35	3		33	33		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	3%	1%	0%	2%	0%	1%	0%	0%	0%	0%	1%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	80.6	80.6	80.6	97.8	97.8	97.8	29.2	29.2		29.2	29.2	
Effective Green, g (s)	80.6	80.6	80.6	97.8	97.8	97.8	29.2	29.2		29.2	29.2	
Actuated g/C Ratio	0.58	0.58	0.58	0.70	0.70	0.70	0.21	0.21		0.21	0.21	
Clearance Time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	331	2040	858	244	2500	997	149	336		266	336	
v/s Ratio Prot		c0.41		c0.04	0.25			0.02			0.09	
v/s Ratio Perm	0.20		0.14	0.34		0.01	c0.22			0.04		
v/c Ratio	0.35	0.72	0.24	0.56	0.36	0.01	1.05	0.08		0.20	0.43	
Uniform Delay, d1	15.8	21.5	14.7	18.5	8.5	6.4	55.4	44.6		45.8	48.2	
Progression Factor	1.00	1.00	1.00	2.87	0.65	0.49	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.9	2.2	0.7	2.6	0.4	0.0	88.7	0.1		0.4	0.9	
Delay (s)	18.8	23.7	15.3	55.8	5.9	3.1	144.1	44.7		46.2	49.1	
Level of Service	B	C	B	E	A	A	F	D		D	D	
Approach Delay (s/veh)		22.3			12.3			110.9			48.5	
Approach LOS		C			B			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	93.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	2	59	7	2	129
Future Volume (Veh/h)	11	2	59	7	2	129
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	12	2	62	7	2	136
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	206	66			69	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	206	66			69	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	786	1004			1545	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	69	138
Volume Left	12	0	2
Volume Right	2	7	0
cSH	812	1700	1545
Volume to Capacity	0.02	0.04	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s/veh)	9.5	0.0	0.1
Lane LOS	A		A
Approach Delay (s/veh)	9.5	0.0	0.1
Approach LOS	A		

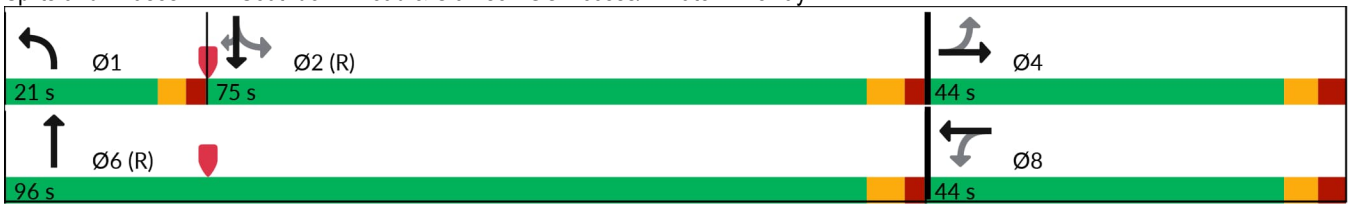
Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	18.4%	ICU Level of Service	A
Analysis Period (min)	15		

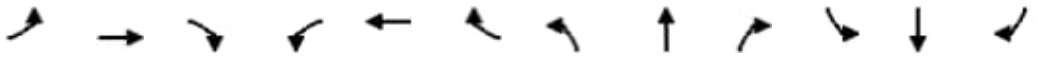
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	52	2	43	5	22	544	22	853	266
Future Volume (vph)	52	2	43	5	22	544	22	853	266
Lane Group Flow (vph)	54	36	45	70	23	578	23	889	277
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm
Protected Phases		4		8	1	6		2	
Permitted Phases	4		8				2		2
Detector Phase	4	4	8	8	1	6	2	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Minimum Split (s)	42.5	42.5	42.5	42.5	10.0	31.0	31.0	31.0	31.0
Total Split (s)	44.0	44.0	44.0	44.0	21.0	96.0	75.0	75.0	75.0
Total Split (%)	31.4%	31.4%	31.4%	31.4%	15.0%	68.6%	53.6%	53.6%	53.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	5.0	6.0	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.51	0.22	0.41	0.36	0.25	0.21	0.04	0.33	0.21
Control Delay (s/veh)	77.7	22.2	71.3	20.2	83.0	1.6	5.9	5.9	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	77.7	22.2	71.3	20.2	83.0	1.6	5.9	5.9	1.1
Queue Length 50th (m)	15.4	0.6	12.7	1.4	6.9	8.2	1.6	41.8	0.0
Queue Length 95th (m)	29.7	11.6	25.6	16.6	m16.7	10.4	5.1	63.5	8.5
Internal Link Dist (m)		94.1		46.6		182.5		333.7	
Turn Bay Length (m)			20.0		75.0		25.0		85.0
Base Capacity (vph)	350	455	364	490	204	2724	651	2710	1335
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.08	0.12	0.14	0.11	0.21	0.04	0.33	0.21

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 122 (87%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Southdown Road & Clarkson GO Access/Private Driveway





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	2	33	43	5	62	22	544	11	22	853	266
Future Volume (vph)	52	2	33	43	5	62	22	544	11	22	853	266
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1750	1609		1761	1654		1785	3171		1778	3380	1597
Flt Permitted	0.71	1.00		0.73	1.00		0.95	1.00		0.43	1.00	1.00
Satd. Flow (perm)	1310	1609		1360	1654		1785	3171		813	3380	1597
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	2	34	45	5	65	23	567	11	23	889	277
RTOR Reduction (vph)	0	32	0	0	60	0	0	0	0	0	0	64
Lane Group Flow (vph)	54	4	0	45	10	0	23	578	0	23	889	213
Confl. Peds. (#/hr)			12	12					3	3		
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	0%	15%	0%	0%	8%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8						2		2
Actuated Green, G (s)	9.7	9.7		9.7	9.7		5.0	117.8		107.8	107.8	107.8
Effective Green, g (s)	9.7	9.7		9.7	9.7		5.0	117.8		107.8	107.8	107.8
Actuated g/C Ratio	0.07	0.07		0.07	0.07		0.04	0.84		0.77	0.77	0.77
Clearance Time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	90	111		94	114		63	2668		626	2602	1229
v/s Ratio Prot		0.00			0.01		c0.01	0.18			c0.26	
v/s Ratio Perm	c0.04			0.03						0.03		0.13
v/c Ratio	0.60	0.04		0.48	0.08		0.37	0.22		0.04	0.34	0.17
Uniform Delay, d1	63.3	60.8		62.7	61.0		65.9	2.2		3.8	5.0	4.3
Progression Factor	1.00	1.00		1.00	1.00		1.22	0.58		1.00	1.00	1.00
Incremental Delay, d2	10.8	0.1		3.8	0.3		3.4	0.2		0.1	0.4	0.3
Delay (s)	74.0	60.9		66.5	61.3		83.9	1.4		3.9	5.4	4.6
Level of Service	E	E		E	E		F	A		A	A	A
Approach Delay (s/veh)		68.8			63.3			4.6			5.2	
Approach LOS		E			E			A			A	

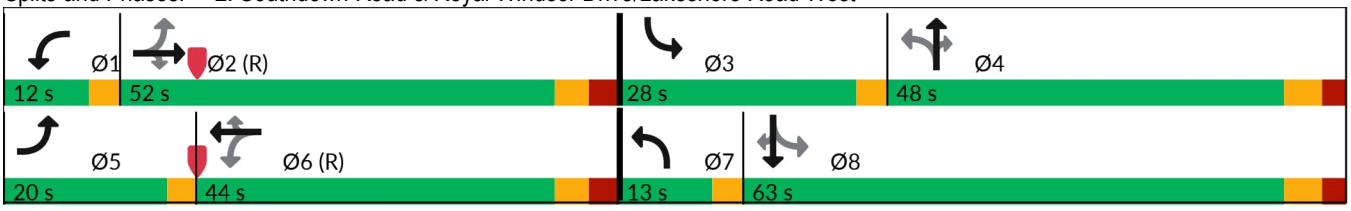
Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

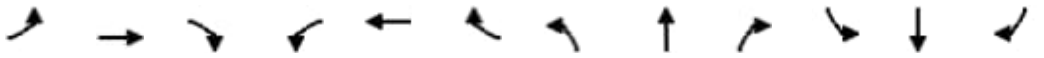
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	583	96	148	655	271	106	173	92	316	308	278
Future Volume (vph)	125	583	96	148	655	271	106	173	92	316	308	278
Lane Group Flow (vph)	132	614	101	156	689	285	112	182	97	333	324	293
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	9.5	39.5	39.5	9.5	39.5	39.5	9.5	37.5	37.5	9.5	37.5	37.5
Total Split (s)	20.0	52.0	52.0	12.0	44.0	44.0	13.0	48.0	48.0	28.0	63.0	63.0
Total Split (%)	14.3%	37.1%	37.1%	8.6%	31.4%	31.4%	9.3%	34.3%	34.3%	20.0%	45.0%	45.0%
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.0	3.0	0.0	3.0	3.0	0.0	2.5	2.5	0.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
v/c Ratio	0.47	0.54	0.20	0.51	0.63	0.44	0.27	0.16	0.17	0.52	0.22	0.39
Control Delay (s/veh)	27.4	37.0	4.9	32.1	45.5	6.5	20.2	35.2	3.8	23.8	26.6	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.4	37.0	4.9	32.1	45.5	6.5	20.2	35.2	3.8	23.8	26.6	4.1
Queue Length 50th (m)	17.8	78.3	0.0	27.7	91.0	0.0	16.3	20.1	0.0	52.9	28.5	0.0
Queue Length 95th (m)	27.7	98.1	7.6	43.7	117.9	23.0	27.6	31.1	8.5	75.8	40.5	16.4
Internal Link Dist (m)		119.5			189.3			142.3			182.5	
Turn Bay Length (m)	115.0		20.0	70.0		165.0	85.0			85.0		50.0
Base Capacity (vph)	333	1141	513	305	1097	644	428	1156	564	661	1476	751
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.54	0.20	0.51	0.63	0.44	0.26	0.16	0.17	0.50	0.22	0.39

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Southdown Road & Royal Windsor Drive/Lakeshore Road West

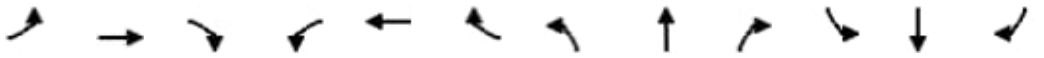




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	583	96	148	655	271	106	173	92	316	308	278
Future Volume (vph)	125	583	96	148	655	271	106	173	92	316	308	278
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1749	3510	1380	1785	3614	1470	1563	3579	1491	1678	3614	1415
Flt Permitted	0.21	1.00	1.00	0.31	1.00	1.00	0.56	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	385	3510	1380	581	3614	1470	914	3579	1491	1055	3614	1415
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	132	614	101	156	689	285	112	182	97	333	324	293
RTOR Reduction (vph)	0	0	65	0	0	198	0	0	66	0	0	173
Lane Group Flow (vph)	132	614	36	156	689	87	112	182	31	333	324	120
Confl. Peds. (#/hr)	10		1	1		10	23		6	6		23
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	2%	4%	14%	0%	1%	6%	13%	2%	5%	6%	1%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	57.5	45.5	45.5	51.5	42.5	42.5	54.6	45.3	45.3	69.5	57.2	57.2
Effective Green, g (s)	57.5	45.5	45.5	51.5	42.5	42.5	54.6	45.3	45.3	69.5	57.2	57.2
Actuated g/C Ratio	0.41	0.33	0.33	0.37	0.30	0.30	0.39	0.32	0.32	0.50	0.41	0.41
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	275	1140	448	291	1097	446	399	1158	482	618	1476	578
v/s Ratio Prot	c0.04	0.17		c0.03	c0.19		0.02	0.05		c0.08	0.09	
v/s Ratio Perm	0.16		0.03	0.16		0.06	0.09		0.02	c0.19		0.08
v/c Ratio	0.48	0.54	0.08	0.54	0.63	0.19	0.28	0.16	0.07	0.54	0.22	0.21
Uniform Delay, d1	28.2	38.7	32.7	31.2	41.9	36.1	28.1	33.7	32.7	22.2	26.9	26.7
Progression Factor	0.90	0.90	0.60	1.00	1.00	1.00	1.00	1.00	1.00	1.03	0.96	0.92
Incremental Delay, d2	1.3	1.8	0.3	1.9	2.7	1.0	0.4	0.3	0.3	0.9	0.3	0.8
Delay (s)	26.7	36.7	20.0	33.1	44.7	37.0	28.4	34.0	33.0	23.7	26.3	25.3
Level of Service	C	D	B	C	D	D	C	C	C	C	C	C
Approach Delay (s/veh)		33.1			41.2			32.2			25.1	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

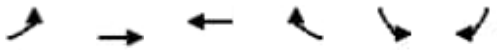
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	782	0	0	967	86	0	0	21	7	0	46
Future Volume (Veh/h)	84	782	0	0	967	86	0	0	21	7	0	46
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	92	859	0	0	1063	95	0	0	23	8	0	51
Pedestrians		1						11			4	
Lane Width (m)		3.6						3.5			3.5	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		283			144							
pX, platoon unblocked	0.87			0.94			0.89	0.89	0.94	0.89	0.89	0.87
vC, conflicting volume	1162			870			1460	2216	441	1728	2169	407
vC1, stage 1 conf vol							1054	1054		1115	1115	
vC2, stage 2 conf vol							406	1162		614	1054	
vCu, unblocked vol	644			745			772	1618	290	1071	1564	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			100			100	100	97	97	100	95
cM capacity (veh/h)	820			816			233	222	667	319	246	940

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	378	573	0	425	425	308	23	8	51
Volume Left	92	0	0	0	0	0	0	8	0
Volume Right	0	0	0	0	0	95	23	0	51
cSH	820	1700	1700	1700	1700	1700	667	319	940
Volume to Capacity	0.11	0.34	0.00	0.25	0.25	0.18	0.03	0.03	0.05
Queue Length 95th (m)	3.0	0.0	0.0	0.0	0.0	0.0	0.9	0.6	1.4
Control Delay (s/veh)	3.4	0.0	0.0	0.0	0.0	0.0	10.6	16.6	9.0
Lane LOS	A						B	C	A
Approach Delay (s/veh)	1.4			0.0			10.6	10.1	
Approach LOS							B	B	

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	58.0%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	810	1015	0	0	0
Future Volume (Veh/h)	0	810	1015	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	900	1128	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)		213	214			
pX, platoon unblocked	0.90				0.93	0.90
vC, conflicting volume	1128				1578	376
vC1, stage 1 conf vol					1128	
vC2, stage 2 conf vol					450	
vCu, unblocked vol	738				1002	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	786				370	978

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	450	450	451	451	226	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.26	0.26	0.27	0.27	0.13	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						A
Approach Delay (s/veh)	0.0		0.0			0.0
Approach LOS						A

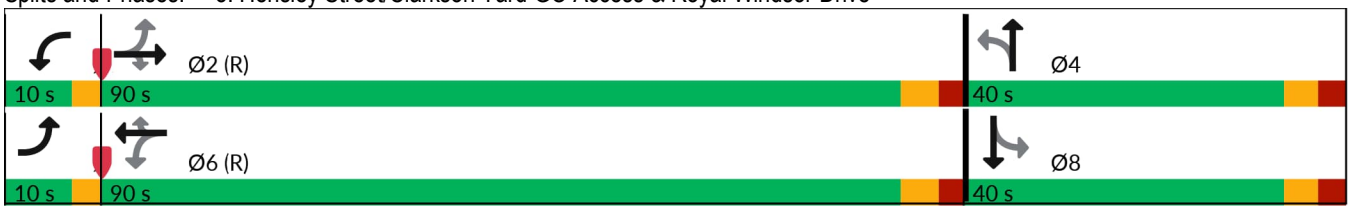
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	25.7%	ICU Level of Service	A
Analysis Period (min)	15		

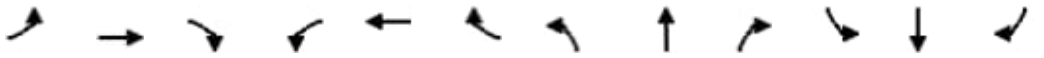
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	312	765	66	45	949	18	43	13	39	8
Future Volume (vph)	312	765	66	45	949	18	43	13	39	8
Lane Group Flow (vph)	328	805	69	47	999	19	45	19	41	42
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2		1	6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	5	2	2	1	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	34.5	34.5	9.5	34.5	34.5	39.5	39.5	39.5	39.5
Total Split (s)	10.0	90.0	90.0	10.0	90.0	90.0	40.0	40.0	40.0	40.0
Total Split (%)	7.1%	64.3%	64.3%	7.1%	64.3%	64.3%	28.6%	28.6%	28.6%	28.6%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	2.5	2.5	0.0	2.5	2.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?				Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
v/c Ratio	0.63	0.30	0.06	0.08	0.38	0.02	0.45	0.13	0.39	0.27
Control Delay (s/veh)	7.5	5.0	1.9	1.6	4.1	0.0	75.5	49.2	71.6	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.5	5.0	1.9	1.6	4.1	0.0	75.5	49.2	71.6	27.5
Queue Length 50th (m)	12.3	32.4	1.1	0.8	20.3	0.0	12.8	3.9	11.6	2.2
Queue Length 95th (m)	23.2	48.3	5.4	m2.8	32.3	m0.0	25.9	12.2	24.0	14.2
Internal Link Dist (m)		210.3			189.0			141.2		146.2
Turn Bay Length (m)	95.0		25.0	15.0						
Base Capacity (vph)	522	2706	1205	584	2613	1162	312	442	327	407
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.30	0.06	0.08	0.38	0.02	0.14	0.04	0.13	0.10

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 136 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Hensley Street/Clarkson Yard GO Access & Royal Windsor Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	312	765	66	45	949	18	43	13	5	39	8	32
Future Volume (vph)	312	765	66	45	949	18	43	13	5	39	8	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1783	3349	1479	1749	3476	1530	1700	1833		1745	1590	
Flt Permitted	0.26	1.00	1.00	0.35	1.00	1.00	0.73	1.00		0.75	1.00	
Satd. Flow (perm)	481	3349	1479	640	3476	1530	1306	1833		1369	1590	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	328	805	69	47	999	19	45	14	5	41	8	34
RTOR Reduction (vph)	0	0	11	0	0	5	0	5	0	0	32	0
Lane Group Flow (vph)	328	805	58	47	999	14	45	14	0	41	10	0
Confl. Peds. (#/hr)	9		3	3		9			10	10		
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	9%	5%	2%	5%	0%	5%	0%	0%	1%	0%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	117.9	109.9	109.9	109.0	104.0	104.0	9.1	9.1		9.1	9.1	
Effective Green, g (s)	117.9	109.9	109.9	109.0	104.0	104.0	9.1	9.1		9.1	9.1	
Actuated g/C Ratio	0.84	0.79	0.79	0.78	0.74	0.74	0.07	0.07		0.07	0.07	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	506	2628	1161	537	2582	1136	84	119		88	103	
v/s Ratio Prot	c0.05	0.24		0.00	0.29			0.01			0.01	
v/s Ratio Perm	c0.49		0.04	0.06		0.01	c0.03			0.03		
v/c Ratio	0.65	0.31	0.05	0.09	0.39	0.01	0.54	0.12		0.47	0.10	
Uniform Delay, d1	3.3	4.3	3.4	3.5	6.5	4.7	63.4	61.7		63.1	61.6	
Progression Factor	1.00	1.00	1.00	0.65	0.53	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.9	0.3	0.1	0.1	0.4	0.0	6.4	0.5		3.9	0.4	
Delay (s)	6.2	4.6	3.4	2.4	3.8	4.7	69.8	62.1		67.0	62.0	
Level of Service	A	A	A	A	A	A	E	E		E	E	
Approach Delay (s/veh)		4.9			3.8			67.5			64.5	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	4	2	168	2	2	49
Future Volume (Veh/h)	4	2	168	2	2	49
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	2	187	2	2	54
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	246	188			189	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246	188			189	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	746	859			1397	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	6	189	56
Volume Left	4	0	2
Volume Right	2	2	0
cSH	780	1700	1397
Volume to Capacity	0.01	0.11	0.00
Queue Length 95th (m)	0.2	0.0	0.0
Control Delay (s/veh)	9.7	0.0	0.3
Lane LOS	A		A
Approach Delay (s/veh)	9.7	0.0	0.3
Approach LOS	A		

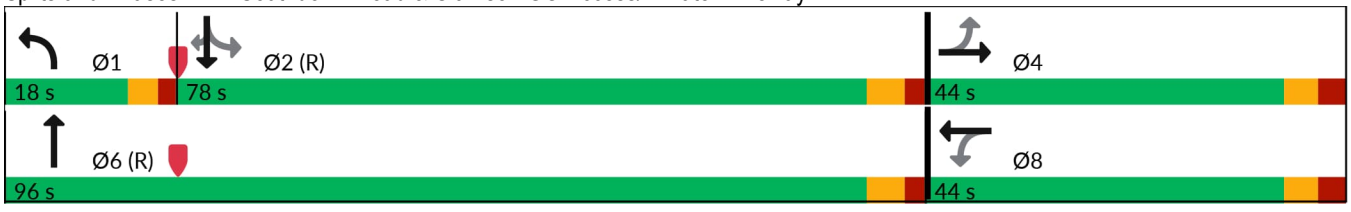
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	19.0%	ICU Level of Service	A
Analysis Period (min)	15		

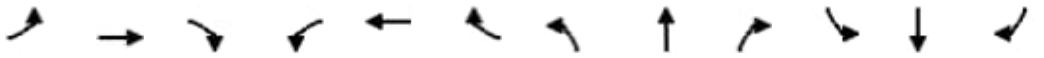
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	203	1	20	1	17	867	30	837	85
Future Volume (vph)	203	1	20	1	17	867	30	837	85
Lane Group Flow (vph)	231	89	23	17	19	1024	34	951	97
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm
Protected Phases		4		8	1	6		2	
Permitted Phases	4		8				2		2
Detector Phase	4	4	8	8	1	6	2	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Minimum Split (s)	42.5	42.5	42.5	42.5	10.0	31.0	31.0	31.0	31.0
Total Split (s)	44.0	44.0	44.0	44.0	18.0	96.0	78.0	78.0	78.0
Total Split (%)	31.4%	31.4%	31.4%	31.4%	12.9%	68.6%	55.7%	55.7%	55.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.5	6.5	6.5	5.0	6.0	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.79	0.23	0.09	0.05	0.21	0.41	0.10	0.42	0.11
Control Delay (s/veh)	70.7	9.4	42.7	17.3	71.8	14.6	14.0	14.2	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay (s/veh)	70.7	9.4	42.7	17.3	71.8	14.9	14.0	14.2	3.0
Queue Length 50th (m)	64.3	0.2	5.5	0.2	5.5	89.6	3.8	71.8	0.0
Queue Length 95th (m)	86.3	13.4	12.3	6.3	m11.6	125.0	11.0	104.6	8.3
Internal Link Dist (m)		94.1		46.6		182.5		333.7	
Turn Bay Length (m)			20.0		75.0		25.0		85.0
Base Capacity (vph)	385	488	346	445	165	2475	336	2250	864
Starvation Cap Reductn	0	0	0	0	0	729	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.18	0.07	0.04	0.12	0.59	0.10	0.42	0.11

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 8 (6%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Southdown Road & Clarkson GO Access/Private Driveway





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	203	1	77	20	1	14	17	867	34	30	837	85
Future Volume (vph)	203	1	77	20	1	14	17	867	34	30	837	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00		1.00	1.00	0.80
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.86		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1783	1580		1755	1618		1785	3490		1778	3444	1271
Flt Permitted	0.75	1.00		0.70	1.00		0.95	1.00		0.27	1.00	1.00
Satd. Flow (perm)	1401	1580		1292	1618		1785	3490		514	3444	1271
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	231	1	88	23	1	16	19	985	39	34	951	97
RTOR Reduction (vph)	0	70	0	0	13	0	0	2	0	0	0	35
Lane Group Flow (vph)	231	19	0	23	4	0	19	1022	0	34	951	62
Confl. Peds. (#/hr)	1		16	16		1	67		6	6		67
Confl. Bikes (#/hr)			4			7			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	6%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8						2		2
Actuated Green, G (s)	28.3	28.3		28.3	28.3		4.8	99.2		89.4	89.4	89.4
Effective Green, g (s)	29.3	28.3		28.3	28.3		4.8	99.2		89.4	89.4	89.4
Actuated g/C Ratio	0.21	0.20		0.20	0.20		0.03	0.71		0.64	0.64	0.64
Clearance Time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	293	319		261	327		61	2472		328	2199	811
v/s Ratio Prot		0.01			0.00		0.01	c0.29			c0.28	
v/s Ratio Perm	c0.16			0.02						0.07		0.05
v/c Ratio	0.79	0.06		0.09	0.01		0.31	0.41		0.10	0.43	0.08
Uniform Delay, d1	52.4	45.1		45.4	44.7		66.0	8.4		9.8	12.6	9.6
Progression Factor	1.00	1.00		1.00	1.00		1.05	1.54		1.00	1.00	1.00
Incremental Delay, d2	13.1	0.1		0.1	0.0		2.7	0.5		0.6	0.6	0.2
Delay (s)	65.5	45.2		45.5	44.7		72.3	13.4		10.4	13.3	9.8
Level of Service	E	D		D	D		E	B		B	B	A
Approach Delay (s/veh)		59.9			45.2			14.5			12.9	
Approach LOS		E			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

2: Southdown Road & Royal Windsor Drive/Lakeshore Road West

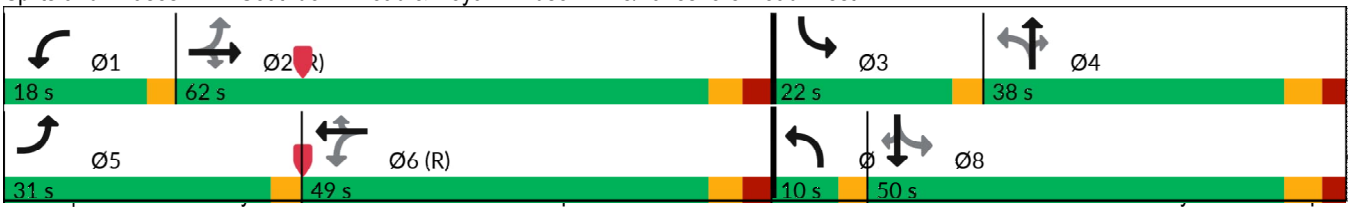
PM Peak Hour

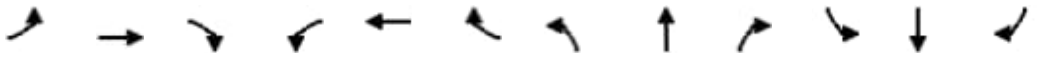
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	1195	101	193	564	329	99	267	245	354	300	257
Future Volume (vph)	285	1195	101	193	564	329	99	267	245	354	300	257
Lane Group Flow (vph)	300	1258	106	203	594	346	104	281	258	373	316	271
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	9.5	39.5	39.5	9.5	39.5	39.5	9.5	37.5	37.5	9.5	37.5	37.5
Total Split (s)	31.0	62.0	62.0	18.0	49.0	49.0	10.0	38.0	38.0	22.0	50.0	50.0
Total Split (%)	22.1%	44.3%	44.3%	12.9%	35.0%	35.0%	7.1%	27.1%	27.1%	15.7%	35.7%	35.7%
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.0	3.0	0.0	3.0	3.0	0.0	2.5	2.5	0.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
v/c Ratio	0.66	0.87	0.17	0.88	0.44	0.44	0.31	0.36	0.48	0.79	0.30	0.44
Control Delay (s/veh)	41.1	68.8	24.7	71.4	35.6	5.2	30.5	47.4	10.4	48.9	37.5	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.1	68.8	24.7	71.4	35.6	5.2	30.5	47.4	10.4	48.9	37.5	19.5
Queue Length 50th (m)	82.5	203.7	13.8	41.3	68.4	0.0	18.9	36.6	4.6	99.4	42.7	30.5
Queue Length 95th (m)	m110.9	227.8	m23.7	#90.4	93.1	23.0	32.2	51.1	29.9	#139.0	57.1	67.6
Internal Link Dist (m)		119.5			189.3			142.3			182.5	
Turn Bay Length (m)	115.0		20.0	70.0		165.0	85.0			85.0		50.0
Base Capacity (vph)	532	1450	628	239	1337	780	339	774	532	472	1040	618
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.87	0.17	0.85	0.44	0.44	0.31	0.36	0.48	0.79	0.30	0.44

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 8 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Southdown Road & Royal Windsor Drive/Lakeshore Road West

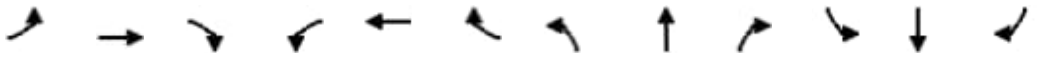




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	285	1195	101	193	564	329	99	267	245	354	300	257
Future Volume (vph)	285	1195	101	193	564	329	99	267	245	354	300	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1698	3614	1421	1716	3650	1531	1732	3444	1546	1740	3349	1389
Flt Permitted	0.31	1.00	1.00	0.08	1.00	1.00	0.56	1.00	1.00	0.47	1.00	1.00
Satd. Flow (perm)	551	3614	1421	141	3650	1531	1021	3444	1546	870	3349	1389
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	300	1258	106	203	594	346	104	281	258	373	316	271
RTOR Reduction (vph)	0	0	58	0	0	219	0	0	184	0	0	187
Lane Group Flow (vph)	300	1258	48	203	594	127	104	281	74	373	316	84
Confl. Peds. (#/hr)	8		20	20		8	42		15	15		42
Confl. Bikes (#/hr)			4									2
Heavy Vehicles (%)	5%	1%	8%	4%	0%	2%	1%	6%	0%	2%	9%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	73.5	56.2	56.2	65.6	51.3	51.3	38.5	31.5	31.5	53.5	43.5	43.5
Effective Green, g (s)	73.5	56.2	56.2	65.6	51.3	51.3	38.5	31.5	31.5	53.5	43.5	43.5
Actuated g/C Ratio	0.53	0.40	0.40	0.47	0.37	0.37	0.28	0.23	0.23	0.38	0.31	0.31
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	446	1450	570	226	1337	561	316	774	347	450	1040	431
v/s Ratio Prot	c0.09	c0.35		c0.09	0.16		0.02	0.08		c0.11	0.09	
v/s Ratio Perm	0.26		0.03	0.33		0.08	0.07		0.05	c0.20		0.06
v/c Ratio	0.67	0.87	0.08	0.90	0.44	0.23	0.33	0.36	0.21	0.83	0.30	0.20
Uniform Delay, d1	20.5	38.5	26.0	39.6	33.6	30.6	39.1	45.8	44.1	35.7	36.7	35.4
Progression Factor	2.04	1.63	3.99	1.00	1.00	1.00	1.00	1.00	1.00	1.12	0.99	4.33
Incremental Delay, d2	2.9	5.5	0.2	33.5	1.1	0.9	0.6	1.3	1.4	11.3	0.7	0.9
Delay (s)	44.8	68.3	103.7	73.1	34.6	31.6	39.8	47.1	45.5	51.2	37.2	154.2
Level of Service	D	E	F	E	C	C	D	D	D	D	D	F
Approach Delay (s/veh)		66.3			40.5			45.3			75.7	
Approach LOS		E			D			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	58.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		

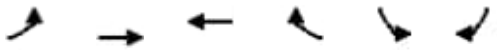
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	1504	25	0	891	39	0	0	89	11	0	129
Future Volume (Veh/h)	27	1504	25	0	891	39	0	0	89	11	0	129
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	30	1690	28	0	1001	44	0	0	100	12	0	145
Pedestrians		3						6			10	
Lane Width (m)		3.6						3.5			3.5	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						0			1	
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		283			144							
pX, platoon unblocked	0.91			0.63			0.68	0.68	0.63	0.68	0.68	0.91
vC, conflicting volume	1055			1696			2238	2811	851	1938	2789	369
vC1, stage 1 conf vol							1756	1756		1033	1033	
vC2, stage 2 conf vol							482	1055		905	1756	
vCu, unblocked vol	696			942			1048	1890	0	608	1858	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			100			100	100	85	97	100	85
cM capacity (veh/h)	817			464			149	168	688	343	171	977

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	593	1127	28	400	400	244	100	12	145
Volume Left	30	0	0	0	0	0	0	12	0
Volume Right	0	0	28	0	0	44	100	0	145
cSH	817	1700	1700	1700	1700	1700	688	343	977
Volume to Capacity	0.04	0.66	0.02	0.24	0.24	0.14	0.15	0.03	0.15
Queue Length 95th (m)	0.9	0.0	0.0	0.0	0.0	0.0	4.1	0.9	4.2
Control Delay (s/veh)	1.0	0.0	0.0	0.0	0.0	0.0	11.1	15.9	9.3
Lane LOS	A						B	C	A
Approach Delay (s/veh)	0.3			0.0			11.1	9.8	
Approach LOS							B	A	

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	70.8%	ICU Level of Service		C
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	1607	1024	0	0	0
Future Volume (Veh/h)	0	1607	1024	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1692	1078	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)		213	214			
pX, platoon unblocked	0.94				0.67	0.94
vC, conflicting volume	1078				1924	359
vC1, stage 1 conf vol					1078	
vC2, stage 2 conf vol					846	
vCu, unblocked vol	860				844	96
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	743				337	892

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	846	846	431	431	216	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.50	0.50	0.25	0.25	0.13	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS						A
Approach Delay (s/veh)	0.0		0.0			0.0
Approach LOS						A

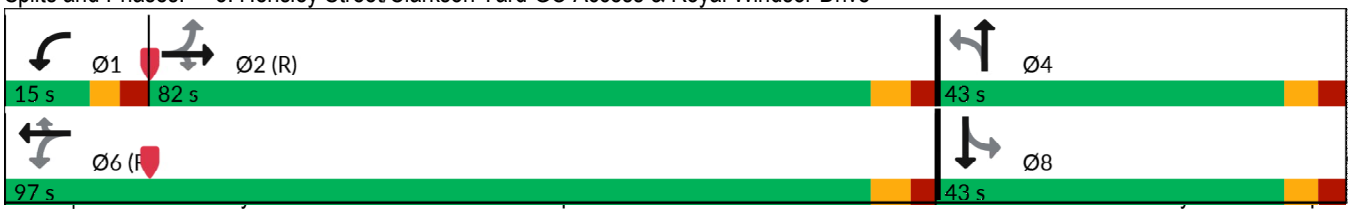
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

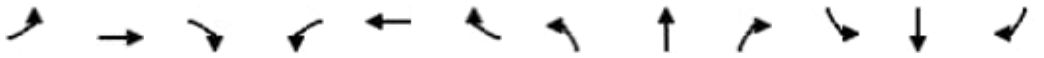
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	110	1491	227	131	878	11	157	14	51	17
Future Volume (vph)	110	1491	227	131	878	11	157	14	51	17
Lane Group Flow (vph)	117	1586	241	139	934	12	167	79	54	241
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2		1	6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	1	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	34.5	34.5	34.5	11.0	34.5	34.5	39.5	39.5	39.5	39.5
Total Split (s)	82.0	82.0	82.0	15.0	97.0	97.0	43.0	43.0	43.0	43.0
Total Split (%)	58.6%	58.6%	58.6%	10.7%	69.3%	69.3%	30.7%	30.7%	30.7%	30.7%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	3.0	2.5	2.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead						
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
v/c Ratio	0.37	0.78	0.27	0.72	0.38	0.01	0.98	0.19	0.19	0.51
Control Delay (s/veh)	22.1	27.8	12.0	63.4	5.9	0.5	117.8	13.9	43.4	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.1	27.8	12.0	63.4	5.9	0.5	117.8	13.9	43.4	22.0
Queue Length 50th (m)	19.3	196.3	24.8	21.5	22.2	0.0	47.4	3.4	12.5	23.8
Queue Length 95th (m)	36.4	230.4	42.1	#53.0	39.8	m0.3	#90.1	16.8	24.5	50.1
Internal Link Dist (m)		210.3			189.0			141.2		146.2
Turn Bay Length (m)	95.0		25.0	15.0						
Base Capacity (vph)	317	2029	885	197	2443	983	197	468	332	525
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.78	0.27	0.71	0.38	0.01	0.85	0.17	0.16	0.46

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 95
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Hensley Street/Clarkson Yard GO Access & Royal Windsor Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	1491	227	131	878	11	157	14	60	51	17	210
Future Volume (vph)	110	1491	227	131	878	11	157	14	60	51	17	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.89	1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.96	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1725	3544	1492	1785	3579	1428	1763	1615		1718	1614	
Flt Permitted	0.31	1.00	1.00	0.06	1.00	1.00	0.41	1.00		0.71	1.00	
Satd. Flow (perm)	556	3544	1492	121	3579	1428	760	1615		1276	1614	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	117	1586	241	139	934	12	167	15	64	54	18	223
RTOR Reduction (vph)	0	0	32	0	0	4	0	50	0	0	109	0
Lane Group Flow (vph)	117	1586	209	139	934	8	167	29	0	54	132	0
Confl. Peds. (#/hr)	35		15	15		35	3		33	33		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	3%	1%	0%	2%	0%	1%	0%	0%	0%	0%	1%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	80.2	80.2	80.2	95.6	95.6	95.6	31.4	31.4		31.4	31.4	
Effective Green, g (s)	80.2	80.2	80.2	95.6	95.6	95.6	31.4	31.4		31.4	31.4	
Actuated g/C Ratio	0.57	0.57	0.57	0.68	0.68	0.68	0.22	0.22		0.22	0.22	
Clearance Time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	318	2030	854	194	2443	975	170	362		286	361	
v/s Ratio Prot		c0.45		c0.05	0.26			0.02			0.08	
v/s Ratio Perm	0.21		0.14	0.44		0.01	c0.22			0.04		
v/c Ratio	0.37	0.78	0.25	0.72	0.38	0.01	0.98	0.08		0.19	0.36	
Uniform Delay, d1	16.2	23.1	14.9	28.6	9.5	7.1	54.0	42.9		44.0	45.9	
Progression Factor	1.00	1.00	1.00	2.20	0.53	0.57	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	3.1	0.7	11.4	0.4	0.0	63.5	0.1		0.3	0.6	
Delay (s)	19.4	26.2	15.5	74.3	5.5	4.1	117.5	43.0		44.3	46.5	
Level of Service	B	C	B	E	A	A	F	D		D	D	
Approach Delay (s/veh)		24.5			14.3			93.6			46.1	
Approach LOS		C			B			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	97.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	2	59	7	2	129
Future Volume (Veh/h)	11	2	59	7	2	129
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	12	2	62	7	2	136
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	206	66			69	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	206	66			69	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	786	1004			1545	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	14	69	138
Volume Left	12	0	2
Volume Right	2	7	0
cSH	812	1700	1545
Volume to Capacity	0.02	0.04	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s/veh)	9.5	0.0	0.1
Lane LOS	A		A
Approach Delay (s/veh)	9.5	0.0	0.1
Approach LOS	A		

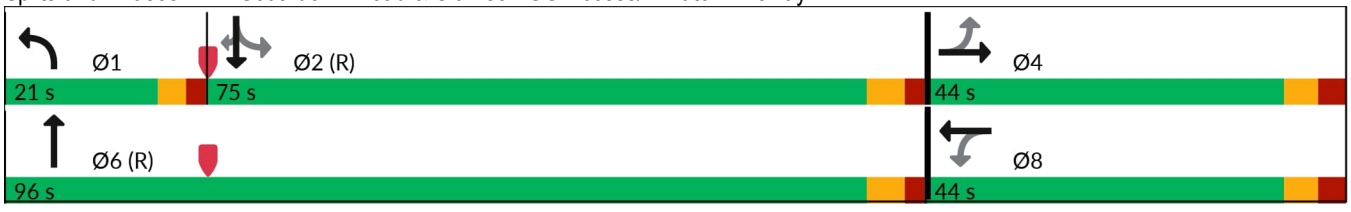
Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		18.4%	ICU Level of Service
Analysis Period (min)		15	

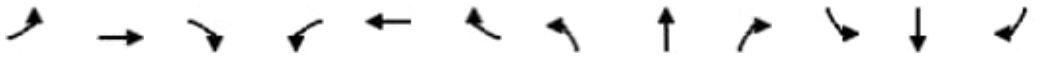
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	92	2	43	5	22	571	22	883	273
Future Volume (vph)	92	2	43	5	22	571	22	883	273
Lane Group Flow (vph)	96	41	45	70	23	606	23	920	284
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm
Protected Phases		4		8	1	6		2	
Permitted Phases	4		8				2		2
Detector Phase	4	4	8	8	1	6	2	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Minimum Split (s)	42.5	42.5	42.5	42.5	10.0	31.0	31.0	31.0	31.0
Total Split (s)	44.0	44.0	44.0	44.0	21.0	96.0	75.0	75.0	75.0
Total Split (%)	31.4%	31.4%	31.4%	31.4%	15.0%	68.6%	53.6%	53.6%	53.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	5.0	6.0	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.66	0.19	0.30	0.29	0.25	0.24	0.04	0.37	0.23
Control Delay (s/veh)	79.3	18.4	60.3	16.6	86.3	2.3	7.6	8.2	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	79.3	18.4	60.3	16.6	86.3	2.3	7.6	8.2	1.4
Queue Length 50th (m)	27.3	0.5	12.3	1.3	6.8	10.2	1.8	50.6	0.0
Queue Length 95th (m)	45.2	11.8	24.2	15.7	m14.8	13.8	5.9	78.0	10.2
Internal Link Dist (m)		94.1		46.6		182.5		333.7	
Turn Bay Length (m)			20.0		75.0		25.0		85.0
Base Capacity (vph)	354	458	362	490	204	2558	588	2509	1258
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.09	0.12	0.14	0.11	0.24	0.04	0.37	0.23

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 122 (87%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Southdown Road & Clarkson GO Access/Private Driveway





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	2	37	43	5	62	22	571	11	22	883	273
Future Volume (vph)	92	2	37	43	5	62	22	571	11	22	883	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.86		1.00	0.86		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	1607		1761	1654		1785	3199		1778	3380	1597
Flt Permitted	0.71	1.00		0.73	1.00		0.95	1.00		0.42	1.00	1.00
Satd. Flow (perm)	1323	1607		1354	1654		1785	3199		791	3380	1597
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	96	2	39	45	5	65	23	595	11	23	920	284
RTOR Reduction (vph)	0	35	0	0	58	0	0	1	0	0	0	77
Lane Group Flow (vph)	96	6	0	45	12	0	23	605	0	23	920	207
Confl. Peds. (#/hr)			12	12					3	3		
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	14%	0%	0%	8%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8						2		2
Actuated Green, G (s)	15.5	15.5		15.5	15.5		5.0	112.0		102.0	102.0	102.0
Effective Green, g (s)	15.5	15.5		15.5	15.5		5.0	112.0		102.0	102.0	102.0
Actuated g/C Ratio	0.11	0.11		0.11	0.11		0.04	0.80		0.73	0.73	0.73
Clearance Time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	146	177		149	183		63	2559		576	2462	1163
v/s Ratio Prot		0.00			0.01		c0.01	0.19			c0.27	
v/s Ratio Perm	c0.07			0.03						0.03		0.13
v/c Ratio	0.66	0.04		0.30	0.07		0.37	0.24		0.04	0.37	0.18
Uniform Delay, d1	59.7	55.6		57.3	55.8		65.9	3.5		5.3	7.1	5.9
Progression Factor	1.00	1.00		1.00	1.00		1.27	0.54		1.00	1.00	1.00
Incremental Delay, d2	10.2	0.1		1.1	0.2		3.3	0.2		0.1	0.4	0.3
Delay (s)	69.9	55.7		58.4	55.9		87.3	2.1		5.4	7.5	6.3
Level of Service	E	E		E	E		F	A		A	A	A
Approach Delay (s/veh)		65.7			56.9			5.2			7.2	
Approach LOS		E			E			A			A	

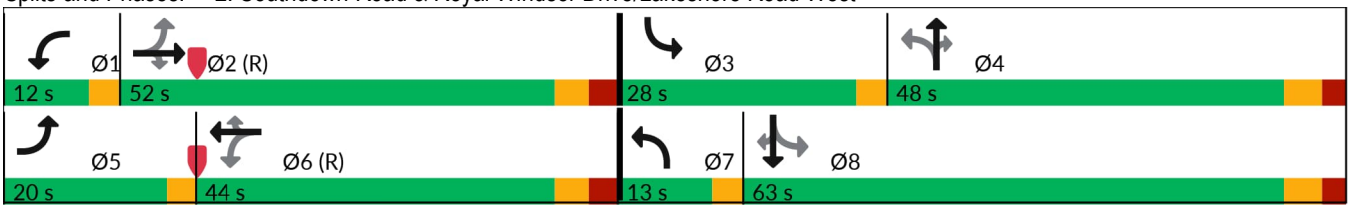
Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

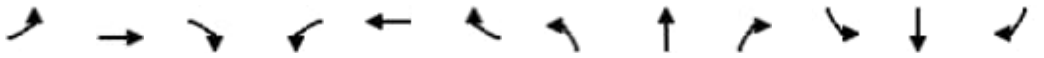
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	594	96	148	659	271	108	173	92	316	312	308
Future Volume (vph)	152	594	96	148	659	271	108	173	92	316	312	308
Lane Group Flow (vph)	160	625	101	156	694	285	114	182	97	333	328	324
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	9.5	39.5	39.5	9.5	39.5	39.5	9.5	37.5	37.5	9.5	37.5	37.5
Total Split (s)	20.0	52.0	52.0	12.0	44.0	44.0	13.0	48.0	48.0	28.0	63.0	63.0
Total Split (%)	14.3%	37.1%	37.1%	8.6%	31.4%	31.4%	9.3%	34.3%	34.3%	20.0%	45.0%	45.0%
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.0	3.0	0.0	3.0	3.0	0.0	2.5	2.5	0.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
v/c Ratio	0.62	0.55	0.20	0.52	0.67	0.46	0.27	0.19	0.17	0.52	0.24	0.42
Control Delay (s/veh)	34.9	37.3	5.1	32.6	48.1	6.8	20.2	35.7	3.8	26.6	30.7	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.9	37.3	5.1	32.6	48.1	6.8	20.2	35.7	3.8	26.6	30.7	7.8
Queue Length 50th (m)	21.9	79.8	0.0	27.7	94.5	0.0	16.7	20.2	0.0	53.1	29.0	0.0
Queue Length 95th (m)	35.4	100.2	7.4	43.7	120.3	23.3	28.1	31.5	8.5	97.1	52.6	35.7
Internal Link Dist (m)		119.5			189.3			142.3			182.5	
Turn Bay Length (m)	115.0		20.0	70.0		165.0	85.0			85.0		50.0
Base Capacity (vph)	284	1141	513	301	1042	626	427	983	564	661	1354	774
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.55	0.20	0.52	0.67	0.46	0.27	0.19	0.17	0.50	0.24	0.42

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 11 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Splits and Phases: 2: Southdown Road & Royal Windsor Drive/Lakeshore Road West

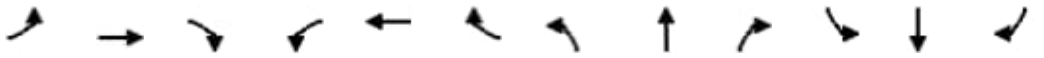




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	594	96	148	659	271	108	173	92	316	312	308
Future Volume (vph)	152	594	96	148	659	271	108	173	92	316	312	308
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1538	3510	1380	1785	3614	1470	1563	3042	1491	1678	3318	1428
Flt Permitted	0.19	1.00	1.00	0.32	1.00	1.00	0.55	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	312	3510	1380	595	3614	1470	911	3042	1491	1055	3318	1428
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	160	625	101	156	694	285	114	182	97	333	328	324
RTOR Reduction (vph)	0	0	65	0	0	203	0	0	66	0	0	192
Lane Group Flow (vph)	160	625	36	156	694	82	114	182	31	333	328	132
Confl. Peds. (#/hr)	10		1	1		10	23		6	6		23
Confl. Bikes (#/hr)			2									1
Heavy Vehicles (%)	16%	4%	14%	0%	1%	6%	13%	20%	5%	6%	10%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	57.5	45.5	45.5	49.4	40.4	40.4	54.6	45.3	45.3	69.5	57.2	57.2
Effective Green, g (s)	57.5	45.5	45.5	49.4	40.4	40.4	54.6	45.3	45.3	69.5	57.2	57.2
Actuated g/C Ratio	0.41	0.33	0.33	0.35	0.29	0.29	0.39	0.32	0.32	0.50	0.41	0.41
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	251	1140	448	286	1042	424	398	984	482	618	1355	583
v/s Ratio Prot	c0.06	0.18		0.04	0.19		0.02	0.06		c0.08	0.10	
v/s Ratio Perm	c0.20		0.03	0.16		0.06	0.09		0.02	c0.19		0.09
v/c Ratio	0.64	0.55	0.08	0.55	0.67	0.19	0.29	0.18	0.07	0.54	0.24	0.23
Uniform Delay, d1	29.4	38.8	32.7	32.5	43.9	37.5	28.1	34.1	32.7	22.2	27.2	27.0
Progression Factor	0.96	0.91	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.17	1.10	2.23
Incremental Delay, d2	5.1	1.9	0.3	2.1	3.4	1.0	0.4	0.4	0.3	0.9	0.4	0.9
Delay (s)	33.4	37.1	20.4	34.7	47.2	38.5	28.5	34.5	33.0	26.8	30.3	61.1
Level of Service	C	D	C	C	D	D	C	C	C	C	C	E
Approach Delay (s/veh)		34.5			43.3			32.4			39.3	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	38.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		

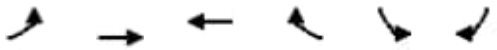
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	825	0	0	1086	2	0	0	21	2	0	4
Future Volume (Veh/h)	2	825	0	0	1086	2	0	0	21	2	0	4
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	2	907	0	0	1193	2	0	0	23	2	0	4
Pedestrians		1						11			4	
Lane Width (m)		3.6						3.5			3.5	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						1			0	
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		283			144							
pX, platoon unblocked	0.86			0.96			0.88	0.88	0.96	0.88	0.88	0.86
vC, conflicting volume	1199			918			1325	2121	465	1656	2120	404
vC1, stage 1 conf vol							922	922		1198	1198	
vC2, stage 2 conf vol							403	1199		458	922	
vCu, unblocked vol	664			825			644	1547	351	1019	1546	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	96	99	100	100
cM capacity (veh/h)	802			773			310	280	618	329	281	935

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	304	605	0	477	477	241	23	2	4
Volume Left	2	0	0	0	0	0	0	2	0
Volume Right	0	0	0	0	0	2	23	0	4
cSH	802	1700	1700	1700	1700	1700	618	329	935
Volume to Capacity	0.00	0.36	0.00	0.28	0.28	0.14	0.04	0.01	0.00
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0	0.9	0.1	0.1
Control Delay (s/veh)	0.1	0.0	0.0	0.0	0.0	0.0	11.1	16.0	8.9
Lane LOS	A						B	C	A
Approach Delay (s/veh)	0.0			0.0			11.1	11.3	
Approach LOS							B	B	

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	39.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	96	728	971	121	45	91
Future Volume (Veh/h)	96	728	971	121	45	91
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	107	809	1079	134	50	101
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)		213	214			
pX, platoon unblocked	0.87				0.90	0.87
vC, conflicting volume	1213				1765	427
vC1, stage 1 conf vol					1146	
vC2, stage 2 conf vol					619	
vCu, unblocked vol	734				1110	0
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	86				86	89
cM capacity (veh/h)	768				346	952

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	377	539	432	432	350	151
Volume Left	107	0	0	0	0	50
Volume Right	0	0	0	0	134	101
cSH	768	1700	1700	1700	1700	602
Volume to Capacity	0.14	0.32	0.25	0.25	0.21	0.25
Queue Length 95th (m)	3.9	0.0	0.0	0.0	0.0	7.9
Control Delay (s/veh)	4.2	0.0	0.0	0.0	0.0	13.0
Lane LOS	A					B
Approach Delay (s/veh)	1.7		0.0			13.0
Approach LOS						B

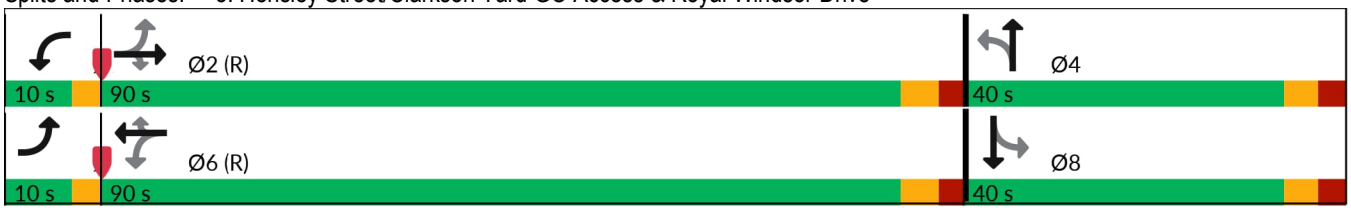
Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

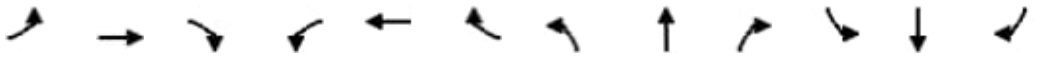
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	312	779	66	45	996	18	43	13	39	8
Future Volume (vph)	312	779	66	45	996	18	43	13	39	8
Lane Group Flow (vph)	328	820	69	47	1048	19	45	19	41	42
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	5	2		1	6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	5	2	2	1	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	34.5	34.5	9.5	34.5	34.5	39.5	39.5	39.5	39.5
Total Split (s)	10.0	90.0	90.0	10.0	90.0	90.0	40.0	40.0	40.0	40.0
Total Split (%)	7.1%	64.3%	64.3%	7.1%	64.3%	64.3%	28.6%	28.6%	28.6%	28.6%
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	0.0	2.5	2.5	0.0	2.5	2.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?				Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
v/c Ratio	0.62	0.30	0.06	0.09	0.42	0.02	0.45	0.13	0.43	0.27
Control Delay (s/veh)	7.4	5.1	1.9	1.8	5.2	0.0	75.5	49.2	74.6	27.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.4	5.1	1.9	1.8	5.2	0.0	75.5	49.2	74.6	27.5
Queue Length 50th (m)	12.3	33.3	1.1	0.8	23.5	0.0	12.8	3.9	11.7	2.2
Queue Length 95th (m)	23.2	49.4	5.4	m3.0	44.0	m0.0	25.9	12.2	24.2	14.2
Internal Link Dist (m)		210.3			189.0			141.2		146.2
Turn Bay Length (m)	95.0		25.0	15.0						
Base Capacity (vph)	528	2706	1205	560	2521	1123	312	442	300	407
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.30	0.06	0.08	0.42	0.02	0.14	0.04	0.14	0.10

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 136 (97%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Hensley Street/Clarkson Yard GO Access & Royal Windsor Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	312	779	66	45	996	18	43	13	5	39	8	32
Future Volume (vph)	312	779	66	45	996	18	43	13	5	39	8	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	3349	1479	1749	3476	1530	1700	1833		1603	1590	
Flt Permitted	0.24	1.00	1.00	0.34	1.00	1.00	0.73	1.00		0.75	1.00	
Satd. Flow (perm)	443	3349	1479	631	3476	1530	1306	1833		1257	1590	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	328	820	69	47	1048	19	45	14	5	41	8	34
RTOR Reduction (vph)	0	0	11	0	0	5	0	5	0	0	32	0
Lane Group Flow (vph)	328	820	58	47	1048	14	45	14	0	41	10	0
Confl. Peds. (#/hr)	9		3	3		9			10	10		
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	9%	5%	2%	5%	0%	5%	0%	0%	10%	0%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	117.9	109.9	109.9	105.2	100.2	100.2	9.1	9.1		9.1	9.1	
Effective Green, g (s)	117.9	109.9	109.9	105.2	100.2	100.2	9.1	9.1		9.1	9.1	
Actuated g/C Ratio	0.84	0.79	0.79	0.75	0.72	0.72	0.07	0.07		0.07	0.07	
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	513	2628	1161	514	2487	1095	84	119		81	103	
v/s Ratio Prot	c0.07	0.24		0.00	0.30			0.01			0.01	
v/s Ratio Perm	c0.47		0.04	0.07		0.01	c0.03			0.03		
v/c Ratio	0.64	0.31	0.05	0.09	0.42	0.01	0.54	0.12		0.51	0.10	
Uniform Delay, d1	4.1	4.3	3.4	4.4	8.1	5.7	63.4	61.7		63.3	61.6	
Progression Factor	1.00	1.00	1.00	0.66	0.55	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	0.3	0.1	0.1	0.5	0.0	6.4	0.5		4.9	0.4	
Delay (s)	6.7	4.6	3.4	3.0	5.0	5.7	69.8	62.1		68.2	62.0	
Level of Service	A	A	A	A	A	A	E	E		E	E	
Approach Delay (s/veh)		5.1			4.9			67.5			65.1	
Approach LOS		A			A			E			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	95	44	153	65	7	42
Future Volume (Veh/h)	95	44	153	65	7	42
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	107	49	172	73	8	47
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	272	209			245	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272	209			245	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	94			99	
cM capacity (veh/h)	718	837			1333	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	156	245	55
Volume Left	107	0	8
Volume Right	49	73	0
cSH	751	1700	1333
Volume to Capacity	0.21	0.14	0.01
Queue Length 95th (m)	6.2	0.0	0.1
Control Delay (s/veh)	11.0	0.0	1.2
Lane LOS	B		A
Approach Delay (s/veh)	11.0	0.0	1.2
Approach LOS	B		

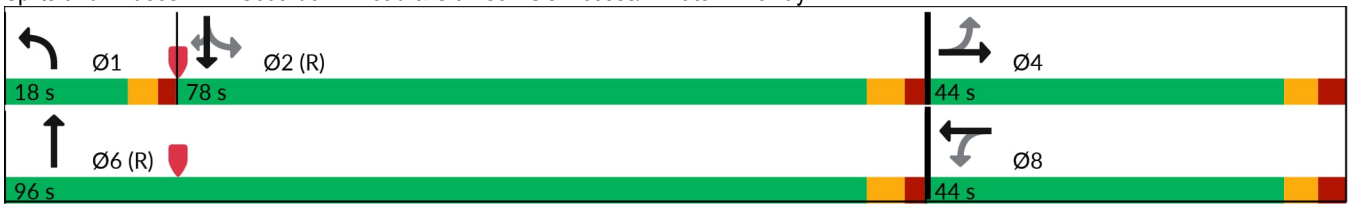
Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	26.6%	ICU Level of Service	A
Analysis Period (min)	15		

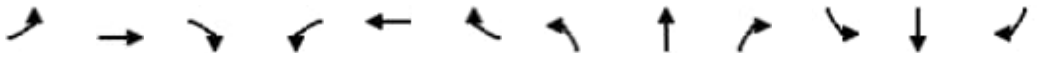
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	234	1	20	1	17	890	30	892	98
Future Volume (vph)	234	1	20	1	17	890	30	892	98
Lane Group Flow (vph)	266	91	23	17	19	1050	34	1014	111
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	NA	Perm
Protected Phases		4		8	1	6		2	
Permitted Phases	4		8				2		2
Detector Phase	4	4	8	8	1	6	2	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Minimum Split (s)	42.5	42.5	42.5	42.5	10.0	31.0	31.0	31.0	31.0
Total Split (s)	44.0	44.0	44.0	44.0	18.0	96.0	78.0	78.0	78.0
Total Split (%)	31.4%	31.4%	31.4%	31.4%	12.9%	68.6%	55.7%	55.7%	55.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.5	6.5	6.5	5.0	6.0	6.0	6.0	6.0
Lead/Lag					Lead		Lag	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
v/c Ratio	0.84	0.22	0.08	0.05	0.21	0.44	0.11	0.46	0.13
Control Delay (s/veh)	73.1	9.0	41.1	16.9	72.1	16.0	15.1	15.9	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Total Delay (s/veh)	73.1	9.0	41.1	16.9	72.1	16.4	15.1	15.9	2.9
Queue Length 50th (m)	73.9	0.2	5.3	0.2	5.5	111.9	4.1	84.3	0.0
Queue Length 95th (m)	100.6	13.4	12.3	6.3	m11.5	125.7	11.1	113.7	8.7
Internal Link Dist (m)		94.1		46.6		182.5		333.7	
Turn Bay Length (m)			20.0		75.0		25.0		85.0
Base Capacity (vph)	385	489	345	445	165	2410	311	2187	847
Starvation Cap Reductn	0	0	0	0	0	703	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.19	0.07	0.04	0.12	0.62	0.11	0.46	0.13

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 8 (6%), Referenced to phase 2:SBTL and 6:NBT, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Southdown Road & Clarkson GO Access/Private Driveway





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1	79	20	1	14	17	890	34	30	892	98
Future Volume (vph)	234	1	79	20	1	14	17	890	34	30	892	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	5.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	1.00		1.00	1.00	0.80
Flpb, ped/bikes	1.00	1.00		0.98	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	0.86		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1783	1581		1756	1619		1785	3490		1778	3444	1271
Flt Permitted	0.75	1.00		0.70	1.00		0.95	1.00		0.26	1.00	1.00
Satd. Flow (perm)	1401	1581		1290	1619		1785	3490		491	3444	1271
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	266	1	90	23	1	16	19	1011	39	34	1014	111
RTOR Reduction (vph)	0	70	0	0	12	0	0	2	0	0	0	42
Lane Group Flow (vph)	266	21	0	23	5	0	19	1048	0	34	1014	69
Confl. Peds. (#/hr)	1		16	16		1	67		6	6		67
Confl. Bikes (#/hr)			4			7			1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	6%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Perm	NA	Perm
Protected Phases		4			8		1	6			2	
Permitted Phases	4			8						2		2
Actuated Green, G (s)	30.8	30.8		30.8	30.8		4.8	96.7		86.9	86.9	86.9
Effective Green, g (s)	31.8	30.8		30.8	30.8		4.8	96.7		86.9	86.9	86.9
Actuated g/C Ratio	0.23	0.22		0.22	0.22		0.03	0.69		0.62	0.62	0.62
Clearance Time (s)	6.5	6.5		6.5	6.5		5.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	318	347		283	356		61	2410		304	2137	788
v/s Ratio Prot		0.01			0.00		0.01	c0.30			c0.29	
v/s Ratio Perm	c0.19			0.02						0.07		0.05
v/c Ratio	0.84	0.06		0.08	0.01		0.31	0.44		0.11	0.47	0.09
Uniform Delay, d1	51.6	43.2		43.4	42.7		66.0	9.6		10.8	14.3	10.6
Progression Factor	1.00	1.00		1.00	1.00		1.06	1.51		1.00	1.00	1.00
Incremental Delay, d2	17.1	0.1		0.1	0.0		2.7	0.5		0.7	0.8	0.2
Delay (s)	68.7	43.2		43.5	42.7		72.7	15.0		11.6	15.0	10.9
Level of Service	E	D		D	D		E	B		B	B	B
Approach Delay (s/veh)		62.2			43.2			16.0			14.5	
Approach LOS		E			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.5
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

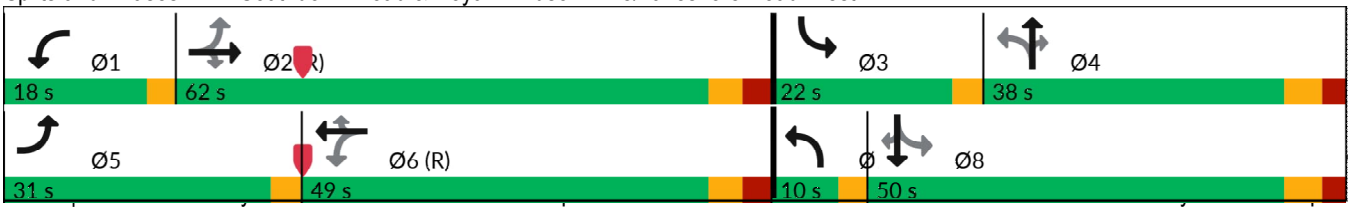
c Critical Lane Group

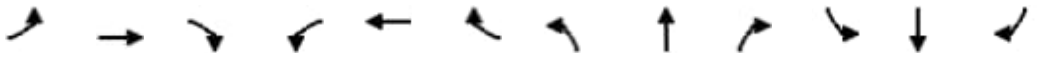
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	1207	101	193	576	329	103	267	245	354	302	311
Future Volume (vph)	308	1207	101	193	576	329	103	267	245	354	302	311
Lane Group Flow (vph)	324	1271	106	203	606	346	108	281	258	373	318	327
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Detector Phase	5	2	2	1	6	6	7	4	4	3	8	8
Switch Phase												
Minimum Initial (s)	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	9.5	39.5	39.5	9.5	39.5	39.5	9.5	37.5	37.5	9.5	37.5	37.5
Total Split (s)	31.0	62.0	62.0	18.0	49.0	49.0	10.0	38.0	38.0	22.0	50.0	50.0
Total Split (%)	22.1%	44.3%	44.3%	12.9%	35.0%	35.0%	7.1%	27.1%	27.1%	15.7%	35.7%	35.7%
Yellow Time (s)	3.0	3.5	3.5	3.0	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.0	3.0	0.0	3.0	3.0	0.0	2.5	2.5	0.0	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max	Max
v/c Ratio	0.70	0.88	0.17	0.88	0.47	0.45	0.35	0.36	0.49	0.79	0.31	0.49
Control Delay (s/veh)	42.7	68.8	24.1	71.8	37.0	5.4	32.1	47.4	10.6	47.5	36.3	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.7	68.8	24.1	71.8	37.0	5.4	32.1	47.4	10.6	47.5	36.3	20.3
Queue Length 50th (m)	90.4	205.6	13.5	41.4	71.2	0.0	19.8	36.6	4.9	99.8	43.2	41.7
Queue Length 95th (m)	m117.1	229.5	m22.8	#91.0	97.1	23.6	33.8	51.1	30.2	#139.5	57.8	82.6
Internal Link Dist (m)		119.5			189.3			142.3			182.5	
Turn Bay Length (m)	115.0		20.0	70.0		165.0	85.0			85.0		50.0
Base Capacity (vph)	524	1450	628	238	1301	768	311	774	531	472	1040	661
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.88	0.17	0.85	0.47	0.45	0.35	0.36	0.49	0.79	0.31	0.49

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 8 (6%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Southdown Road & Royal Windsor Drive/Lakeshore Road West

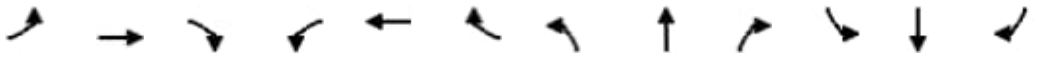




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	1207	101	193	576	329	103	267	245	354	302	311
Future Volume (vph)	308	1207	101	193	576	329	103	267	245	354	302	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1698	3614	1421	1716	3650	1531	1591	3444	1546	1740	3349	1403
Flt Permitted	0.30	1.00	1.00	0.08	1.00	1.00	0.56	1.00	1.00	0.47	1.00	1.00
Satd. Flow (perm)	528	3614	1421	145	3650	1531	936	3444	1546	870	3349	1403
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	324	1271	106	203	606	346	108	281	258	373	318	327
RTOR Reduction (vph)	0	0	58	0	0	223	0	0	184	0	0	225
Lane Group Flow (vph)	324	1271	48	203	606	123	108	281	74	373	318	102
Confl. Peds. (#/hr)	8		20	20		8	42		15	15		42
Confl. Bikes (#/hr)			4									2
Heavy Vehicles (%)	5%	1%	8%	4%	0%	2%	10%	6%	0%	2%	9%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	73.5	56.2	56.2	64.2	49.9	49.9	38.5	31.5	31.5	53.5	43.5	43.5
Effective Green, g (s)	73.5	56.2	56.2	64.2	49.9	49.9	38.5	31.5	31.5	53.5	43.5	43.5
Actuated g/C Ratio	0.53	0.40	0.40	0.46	0.36	0.36	0.28	0.23	0.23	0.38	0.31	0.31
Clearance Time (s)	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5	3.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	449	1450	570	226	1300	545	290	774	347	450	1040	435
v/s Ratio Prot	c0.11	c0.35		c0.09	0.17		0.02	0.08		c0.11	0.09	
v/s Ratio Perm	0.27		0.03	0.32		0.08	0.08		0.05	c0.20		0.07
v/c Ratio	0.72	0.88	0.08	0.90	0.47	0.23	0.37	0.36	0.21	0.83	0.31	0.23
Uniform Delay, d1	21.1	38.7	26.0	39.4	34.8	31.5	39.5	45.8	44.2	35.7	36.7	35.9
Progression Factor	2.04	1.62	3.89	1.00	1.00	1.00	1.00	1.00	1.00	1.08	0.96	4.82
Incremental Delay, d2	4.1	5.8	0.2	33.5	1.2	1.0	0.8	1.3	1.4	11.1	0.7	1.2
Delay (s)	47.2	68.3	101.1	72.8	36.0	32.5	40.3	47.1	45.6	49.6	36.0	173.9
Level of Service	D	E	F	E	D	C	D	D	D	D	D	F
Approach Delay (s/veh)		66.3			41.4			45.4			85.3	
Approach LOS		E			D			D			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	107.5%	ICU Level of Service	G
Analysis Period (min)	15		

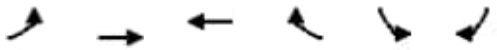
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1547	25	0	996	6	0	0	89	4	0	9
Future Volume (Veh/h)	3	1547	25	0	996	6	0	0	89	4	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	3	1738	28	0	1119	7	0	0	100	4	0	10
Pedestrians		3						6			10	
Lane Width (m)		3.6						3.5			3.5	
Walking Speed (m/s)		1.2						1.2			1.2	
Percent Blockage		0						0			1	
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		283			144							
pX, platoon unblocked	0.90			0.62			0.67	0.67	0.62	0.67	0.67	0.90
vC, conflicting volume	1136			1744			2136	2886	875	2008	2883	390
vC1, stage 1 conf vol							1750	1750		1133	1133	
vC2, stage 2 conf vol							386	1136		875	1750	
vCu, unblocked vol	764			974			819	1939	0	627	1934	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	85	99	100	99
cM capacity (veh/h)	766			442			162	176	673	311	177	972

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1	SB 2
Volume Total	582	1159	28	448	448	231	100	4	10
Volume Left	3	0	0	0	0	0	0	4	0
Volume Right	0	0	28	0	0	7	100	0	10
cSH	766	1700	1700	1700	1700	1700	673	311	972
Volume to Capacity	0.00	0.68	0.02	0.26	0.26	0.14	0.15	0.01	0.01
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.0	4.2	0.3	0.2
Control Delay (s/veh)	0.1	0.0	0.0	0.0	0.0	0.0	11.3	16.7	8.7
Lane LOS	A						B	C	A
Approach Delay (s/veh)	0.0			0.0			11.3	11.0	
Approach LOS							B	B	

Intersection Summary				
Average Delay	0.4			
Intersection Capacity Utilization	61.7%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	1590	909	100	39	152
Future Volume (Veh/h)	58	1590	909	100	39	152
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	61	1674	957	105	41	160
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (m)		213	214			
pX, platoon unblocked	0.93				0.65	0.93
vC, conflicting volume	1062				1969	372
vC1, stage 1 conf vol					1010	
vC2, stage 2 conf vol					959	
vCu, unblocked vol	784				731	38
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	92				89	83
cM capacity (veh/h)	780				372	955

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	SB 1
Volume Total	619	1116	383	383	296	201
Volume Left	61	0	0	0	0	41
Volume Right	0	0	0	0	105	160
cSH	780	1700	1700	1700	1700	724
Volume to Capacity	0.08	0.66	0.23	0.23	0.17	0.28
Queue Length 95th (m)	2.0	0.0	0.0	0.0	0.0	9.1
Control Delay (s/veh)	2.0	0.0	0.0	0.0	0.0	11.9
Lane LOS	A					B
Approach Delay (s/veh)	0.7		0.0			11.9
Approach LOS						B

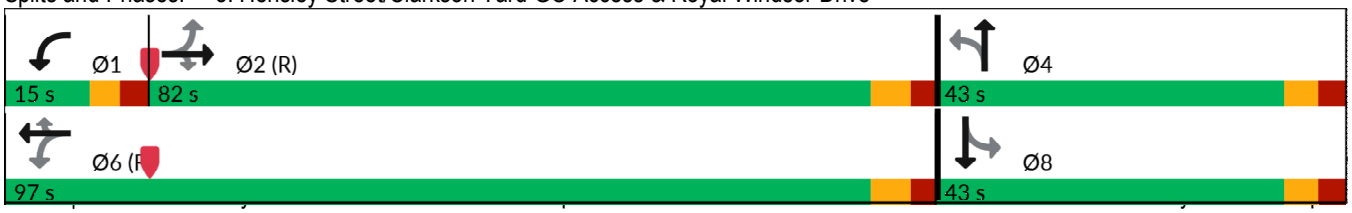
Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

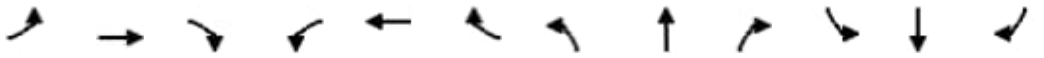
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	110	1532	227	131	915	11	157	14	51	17
Future Volume (vph)	110	1532	227	131	915	11	157	14	51	17
Lane Group Flow (vph)	117	1630	241	139	973	12	167	79	54	241
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2		1	6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	1	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	34.5	34.5	34.5	11.0	34.5	34.5	39.5	39.5	39.5	39.5
Total Split (s)	82.0	82.0	82.0	15.0	97.0	97.0	43.0	43.0	43.0	43.0
Total Split (%)	58.6%	58.6%	58.6%	10.7%	69.3%	69.3%	30.7%	30.7%	30.7%	30.7%
Yellow Time (s)	4.0	4.0	4.0	3.0	4.0	4.0	3.5	3.5	3.5	3.5
All-Red Time (s)	2.5	2.5	2.5	3.0	2.5	2.5	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lag	Lead						
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
v/c Ratio	0.38	0.80	0.27	0.74	0.40	0.01	0.98	0.19	0.19	0.52
Control Delay (s/veh)	22.7	28.8	12.0	67.8	6.8	0.8	117.8	13.9	43.4	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.7	28.8	12.0	67.8	6.8	0.8	117.8	13.9	43.4	24.5
Queue Length 50th (m)	19.5	206.5	24.8	24.0	28.1	0.0	47.4	3.4	12.5	26.9
Queue Length 95th (m)	37.1	242.1	42.1	#57.5	46.9	m0.3	#90.1	16.8	24.5	53.3
Internal Link Dist (m)		210.3			189.0			141.2		146.2
Turn Bay Length (m)	95.0		25.0	15.0						
Base Capacity (vph)	305	2027	884	189	2443	983	197	468	332	516
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.80	0.27	0.74	0.40	0.01	0.85	0.17	0.16	0.47

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 26 (19%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Hensley Street/Clarkson Yard GO Access & Royal Windsor Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	1532	227	131	915	11	157	14	60	51	17	210
Future Volume (vph)	110	1532	227	131	915	11	157	14	60	51	17	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.5
Total Lost time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.89	1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.96	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1727	3544	1492	1785	3579	1428	1763	1615		1718	1614	
Flt Permitted	0.29	1.00	1.00	0.06	1.00	1.00	0.41	1.00		0.71	1.00	
Satd. Flow (perm)	535	3544	1492	106	3579	1428	760	1615		1276	1614	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	117	1630	241	139	973	12	167	15	64	54	18	223
RTOR Reduction (vph)	0	0	32	0	0	4	0	50	0	0	101	0
Lane Group Flow (vph)	117	1630	209	139	973	8	167	29	0	54	140	0
Confl. Peds. (#/hr)	35		15	15		35	3		33	33		3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	1%	3%	1%	0%	2%	0%	1%	0%	0%	0%	0%	1%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	80.1	80.1	80.1	95.6	95.6	95.6	31.4	31.4		31.4	31.4	
Effective Green, g (s)	80.1	80.1	80.1	95.6	95.6	95.6	31.4	31.4		31.4	31.4	
Actuated g/C Ratio	0.57	0.57	0.57	0.68	0.68	0.68	0.22	0.22		0.22	0.22	
Clearance Time (s)	6.5	6.5	6.5	6.0	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	306	2027	853	186	2443	975	170	362		286	361	
v/s Ratio Prot		c0.46		c0.05	0.27			0.02			0.09	
v/s Ratio Perm	0.22		0.14	0.46		0.01	c0.22			0.04		
v/c Ratio	0.38	0.80	0.25	0.75	0.40	0.01	0.98	0.08		0.19	0.39	
Uniform Delay, d1	16.4	23.7	14.9	33.7	9.7	7.1	54.0	42.9		44.0	46.1	
Progression Factor	1.00	1.00	1.00	1.98	0.61	0.84	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	3.5	0.7	14.4	0.5	0.0	63.5	0.1		0.3	0.7	
Delay (s)	20.0	27.2	15.6	81.2	6.4	6.0	117.5	43.0		44.3	46.8	
Level of Service	B	C	B	F	A	A	F	D		D	D	
Approach Delay (s/veh)		25.4			15.6			93.6			46.4	
Approach LOS		C			B			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	28.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	72	33	38	120	13	119
Future Volume (Veh/h)	72	33	38	120	13	119
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	74	34	39	124	13	123
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	250	101			163	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	250	101			163	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	96			99	
cM capacity (veh/h)	736	960			1428	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	108	163	136
Volume Left	74	0	13
Volume Right	34	124	0
cSH	794	1700	1428
Volume to Capacity	0.14	0.10	0.01
Queue Length 95th (m)	3.8	0.0	0.2
Control Delay (s/veh)	10.2	0.0	0.8
Lane LOS	B		A
Approach Delay (s/veh)	10.2	0.0	0.8
Approach LOS	B		

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX F

Signal Warrant

M.T.O. MINIMUM REQUIREMENTS
FOR INSTALLATION OF TRAFFIC SIGNAL

Methodology from Section 4 of *Ontario Traffic Manual Book 12: Traffic Signals*

INTERSECTION: GO West N-S Access & Royal Windsor Dr

HORIZON / DESCRIPTION: Future Total (2027)

Number of lanes on main road: ≥2

Flow conditions: Restricted (speeds less than 70 km/h with frequent side friction)

Number of approach legs: 3 (T-intersection)

Number of existing roads: 2 (all approach legs exist)

Major direction: North-South

Result
Justified by J1
Condition not met
Condition not met

Justification 1: if both Justification 1A and 1B are 100% fulfilled.

Justification 2: if both Justification 2A and 2B are 100% fulfilled.

Justification 3: if all of Justifications 1A, 1B, 2A, and 2B are at least 80% fulfilled (only if both roads exist).

All justifications modified by Justification 7 to use peak hour projected volumes.

Justification 1: Minimum Vehicle Volume

A. Base volume requirement: 900
Requirement after 120% expansion: 1080

Value	Percent Met
1225	100%

B. Base volume requirement (minor street): 255
Requirement after 120% expansion: 306

Value	Percent Met
1143.25	100%

Justification 2: Delay to Cross Traffic

A. Base volume requirement (major street): 900
Requirement after 120% expansion: 1080

Value	Percent Met
81.75	8%

B. Base volume requirement (crossing major): 75
Requirement after 120% expansion: 90

Value	Percent Met
618	100%

	Volumes		Sum	Average Hourly
	AM	PM		
NBL	0	0	0	0
NBT	0	0	0	0
NBR	0	0	0	0
SBL	45	39	84	21
SBT	0	0	0	0
SBR	91	152	243	60.75
EBL	96	58	154	38.5
EBT	728	1590	2318	579.5
EBR	0	0	0	0
WBL	0	0	0	0
WBT	971	909	1880	470
WBR	121	100	221	55.25
Peds	0	0	0	0

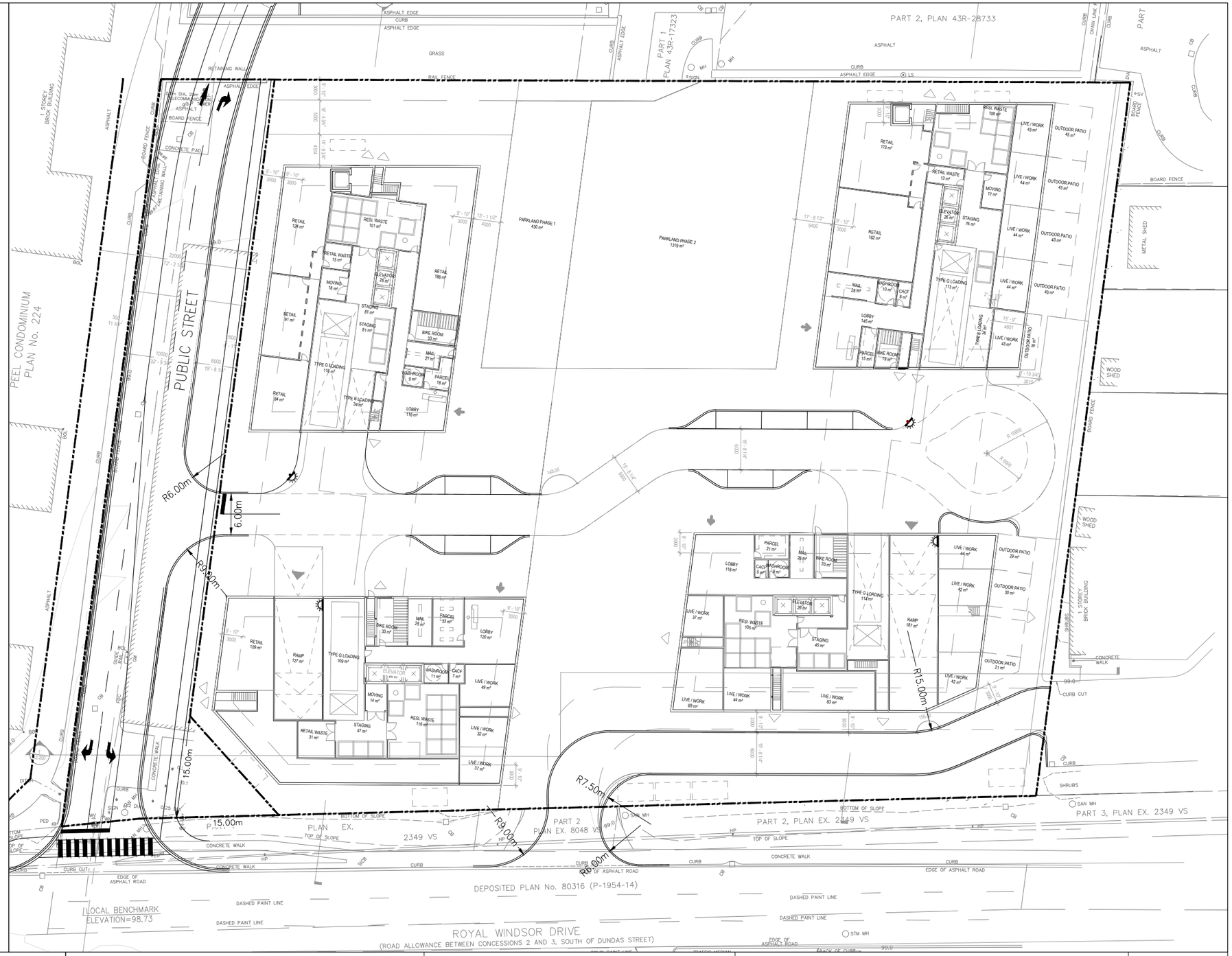
Pedestrians crossing major road

APPENDIX G

Functional Design Review

NOTES:

1. AS PER THE CITY OF MISSISSAUGA SIGN BY-LAW 0054-2002:
   - 1.1. SIGHT TRIANGLE: IN THE CASE OF A CORNER LOT, THE TRIANGULAR SPACE FORMED BY THE STREET LINES AND A LINE DRAWN FROM A POINT IN ONE STREET LINE TO A POINT IN THE OTHER STREET LINE, EACH SUCH POINT MEASURED ALONG THE STREET FROM THE POINT OF INTERSECTION OF THE STREET LINES MUST BE:
     - 1.1.1. 7.5m WHERE THE STREET IS A COLLECTOR ROAD
     - 1.1.2. 15m WHERE THE STREET IS A MAJOR OR ARTERIAL ROAD



PLOT DATE: September 30, 2024

DRAWN BY: HBAINS

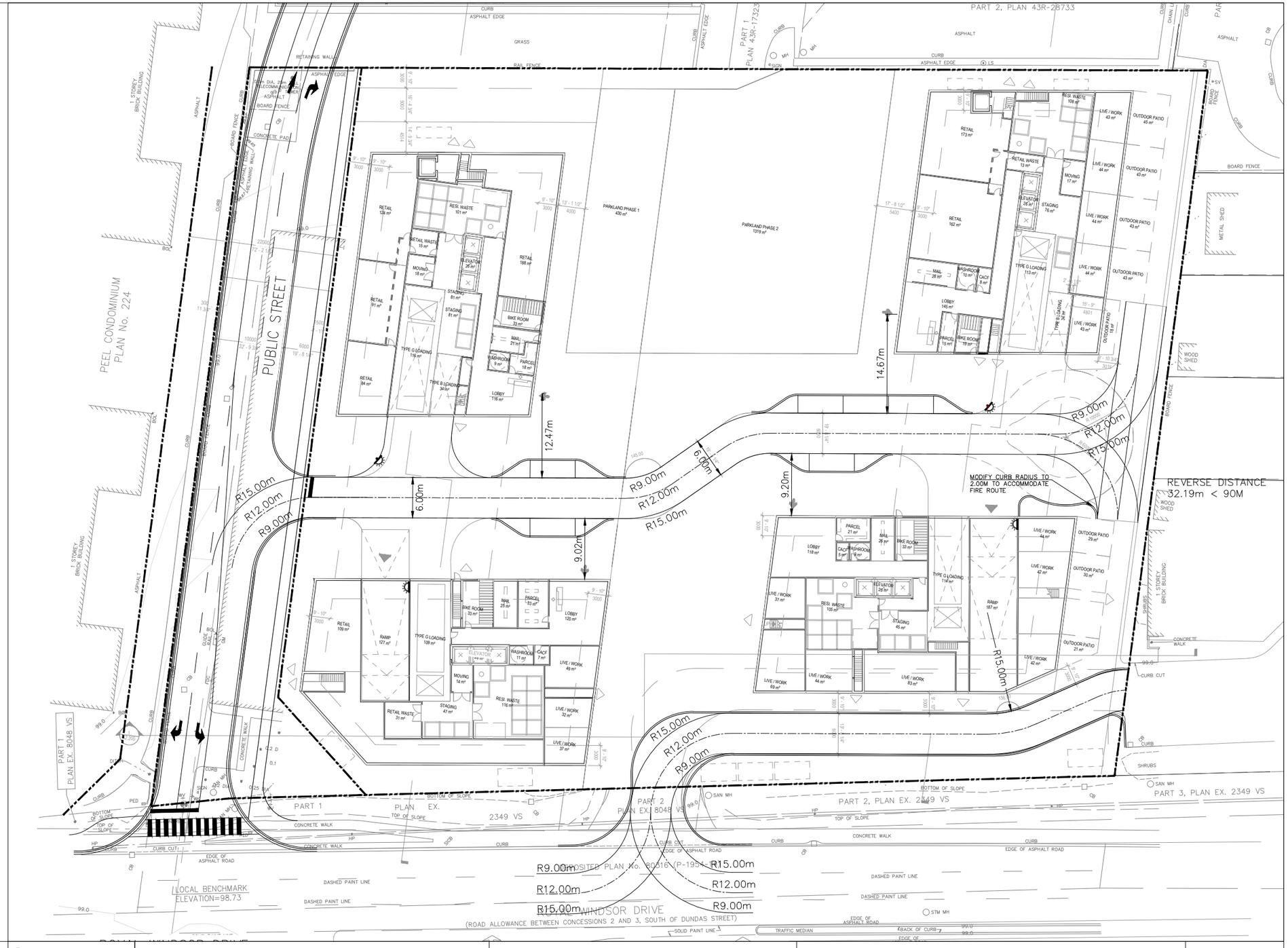
LEA Consulting Ltd. Consulting Engineers and Planners **www.LEA.ca**	Project No. 23137		2077 & 2105 ROYAL WINDSOR DRIVE MISSISSAUGA ONTARIO	Drawing No. 001
	Date SEPT 30, 2024		6 0 6 12 18m 1:600	ACCESS DESIGN REVIEW

DRAWING NAME: F:\23137\Drafting\23137WF014.dwg

NOTES:

AS PER THE ONTARIO BUILDING CODE 3.2.5

1. 5.5 LOCATION OF ACCESS ROUTES – ACCESS ROUTES SHALL BE LOCATED SO THAT THE PRINCIPAL ENTRANCE AND EVERY ACCESS OPENING ARE LOCATED NOT LESS THAN 3m AND NOT MORE THAN 15m FROM THE CLOSEST PORTION OF THE ACCESS ROUTE
2. 6.1 ACCESS ROUTE DESIGN – A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
   - 2.1. 6.1.a HAVE A CLEAR WIDTH NOT LESS THAN 6m
   - 2.2. 6.1.b HAVE A CENTRELINE RADIUS NOT LESS THAN 12m
   - 2.3. 6.1.c HAVE AN OH CLEARANCE OF NOT LESS THAN 5m
   - 2.4. 6.1.f HAVE TURNAROUND FACILITIES FOR ANY DEAD-END PORTION OF THE ACCESS ROUTE MORE THAN 90m LONG
   - 2.5. 6.1.g BE CONNECTED WITH A PUBLIC THOROUGHFARE



PLOT DATE: September 30, 2024

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Project No. 23137

Date SEPT 30, 2024

2077 & 2105 ROYAL WINDSOR DRIVE
MISSISSAUGA ONTARIO

6 0 6 12 18m
1:600

FIRE ROUTE REVIEW

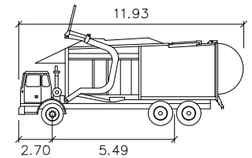
Drawing No. 002

DRAWING NAME: F:\23137\Drafting\23137WF014.dwg

NOTES:

AS PER REGION OF PEEL WASTE COLLECTION DESIGN STANDARDS MANUAL (2020):

1. ACCESS ROAD – MIN. 6m ROADWAY WIDTH AND MIN. 4.4m CLEAR HEIGHT ALONG ACCESS ROAD
2. INDOOR WASTE COLLECTION SHOULD HAVE:
   - 2.1. MIN. 18m HEAD–ON APPROACH
   - 2.2. MIN. 6m WIDE CONCRETE PAD & MIN. 7.5m OVERHEAD CLEARANCE
   - 2.3. MIN. 10m² BULKY SET OUT AREA
3. THE WASTE COLLECTION VEHICLE IS NOT PERMITTED TO REVERSE IN EXCESS OF 15m
4. AS PER THE CITY OF MISSISSAUGA ZONING BY–LAW PART 3: REQUIRED LOADING SPACES SHALL HAVE AN UNOBSTRUCTED RECTANGULAR AREA WITH A MINIMUM WIDTH OF 3.5m AND A MINIMUM LENGTH OF 9.0m
5. A TRAINED ON–SITE STAFF MEMBER WILL BE AVAILABLE TO MANEUVER THE GARBAGE BINS FOR THE COLLECTION DRIVER AND ACT AS A FLAGMAN WHEN THE TRUCK IS REVERSING. IN THE EVENT THE ON–SITE STAFF MEMBER IS UNAVAILABLE AT THE TIME THE CITY COLLECTION VEHICLE ARRIVES AT THE SITE, THE COLLECTION VEHICLE WILL LEAVE THE SITE AND NOT RETURN UNTIL THE NEXT SCHEDULED COLLECTION DAY.
6. FLASHING BEACON TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE DELIVERY AND UNTIL THE TRUCK EXITS THE SITE. WARNING SIGN TO BE MOUNTED BELOW THE FLASHING BEACON.



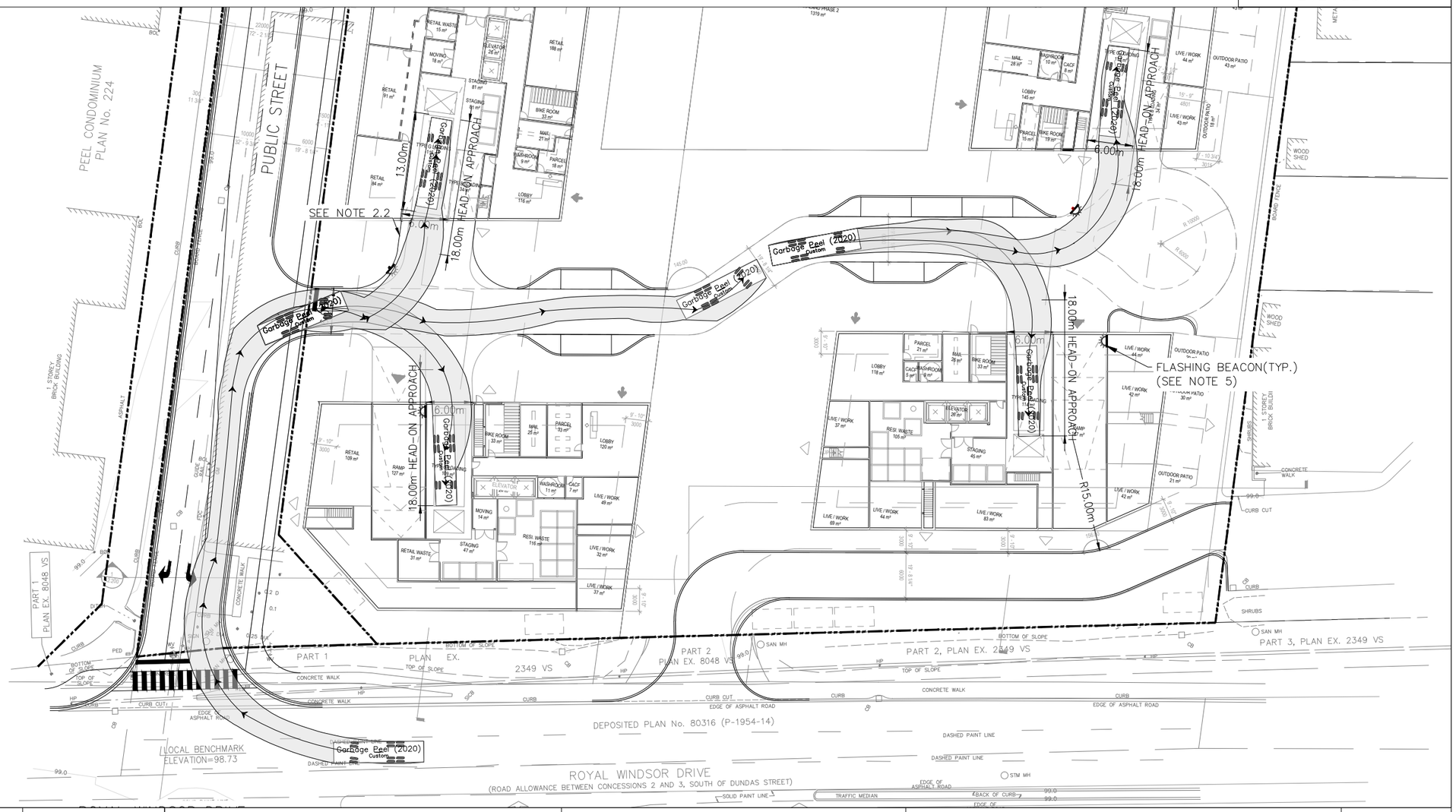
Garbage Peel (2020)

Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

FORWARD IN
REVERSE OUT

WATCH FOR TURNING TRUCKS WHEN FLASHING

(600X300)
BLACK LEGEND & BORDER
YELLOW REFL. BACKGROUND



PLOT DATE: September 30, 2024

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Project No.	23137
Date	SEPT 30, 2024

2077 & 2105 ROYAL WINDSOR DRIVE
MISSISSAUGA ONTARIO

6 0 6 12 18m
1:600

TYPE 'G' LOADING REVIEW
PEEL REGION GARBAGE TRUCK
ENTRY PATH

Drawing No.
003

DRAWING NAME: F:\23137\Drafting\23137WF014.dwg

NOTES:

AS PER REGION OF PEEL WASTE COLLECTION DESIGN STANDARDS MANUAL (2020):

1. ACCESS ROAD – MIN. 6m ROADWAY WIDTH AND MIN. 4.4m CLEAR HEIGHT ALONG ACCESS ROAD
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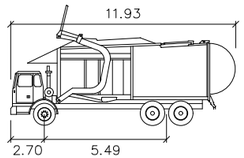
   - 2.2. MIN. 6m WIDE CONCRETE PAD & MIN. 7.5m OVERHEAD CLEARANCE
   - 2.3. MIN. 10m² BULKY SET OUT AREA
3. THE WASTE COLLECTION VEHICLE IS NOT PERMITTED TO REVERSE IN EXCESS OF 15m
4. AS PER THE CITY OF MISSISSAUGA ZONING BY–LAW PART 3: REQUIRED LOADING SPACES SHALL HAVE AN UNOBSTRUCTED RECTANGULAR AREA WITH A MINIMUM WIDTH OF 3.5m AND A MINIMUM LENGTH OF 9.0m
5. A TRAINED ON–SITE STAFF MEMBER WILL BE AVAILABLE TO MANEUVER THE GARBAGE BINS FOR THE COLLECTION DRIVER AND ACT AS A FLAGMAN WHEN THE TRUCK IS REVERSING. IN THE EVENT THE ON–SITE STAFF MEMBER IS UNAVAILABLE AT THE TIME THE CITY COLLECTION VEHICLE ARRIVES AT THE SITE, THE COLLECTION VEHICLE WILL LEAVE THE SITE AND NOT RETURN UNTIL THE NEXT SCHEDULED COLLECTION DAY.
6. FLASHING BEACON TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE DELIVERY AND UNTIL THE TRUCK EXITS THE SITE. WARNING SIGN TO BE MOUNTED BELOW THE FLASHING BEACON.

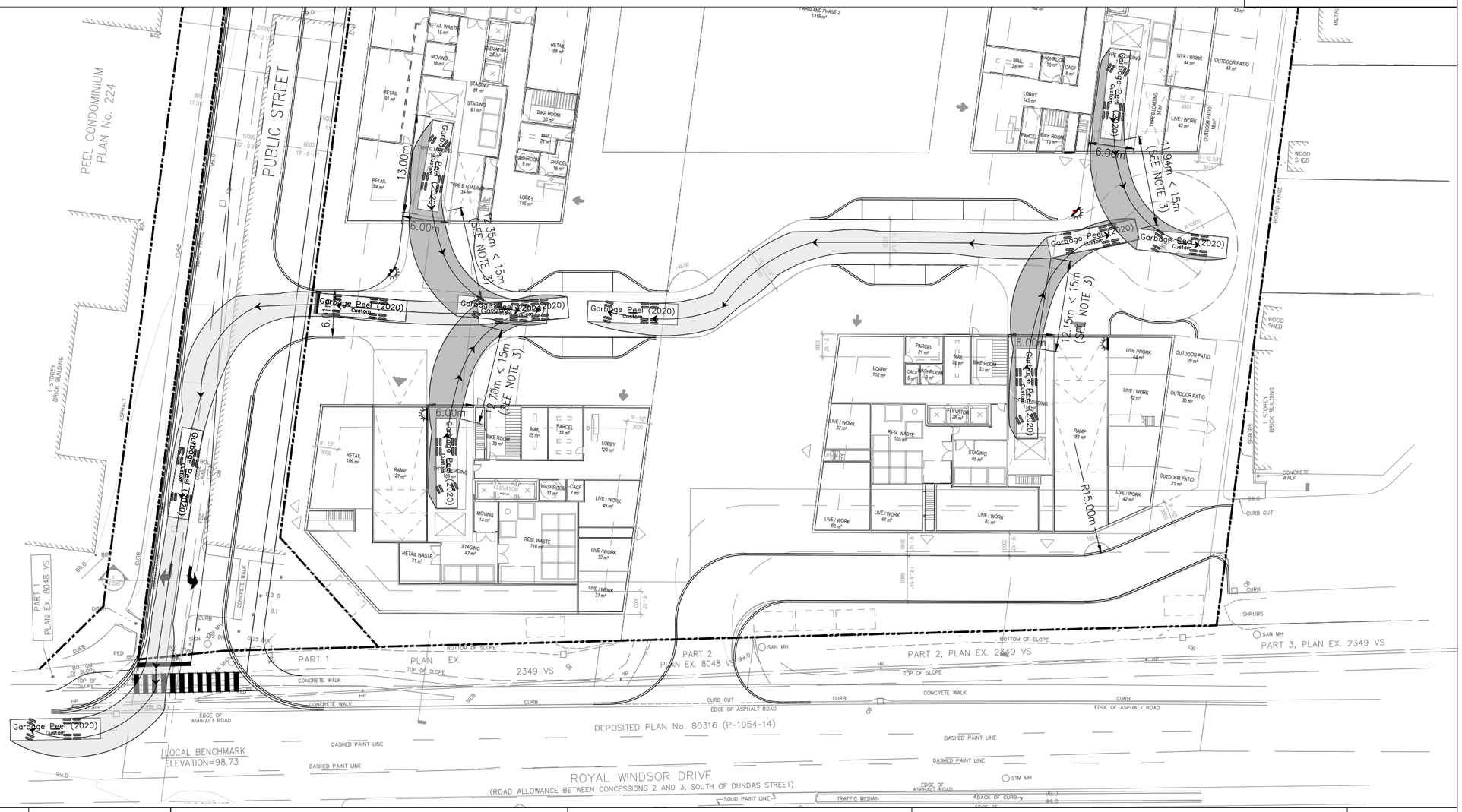


Garbage Peel (2020)

Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 25.0

FORWARD IN
REVERSE OUT

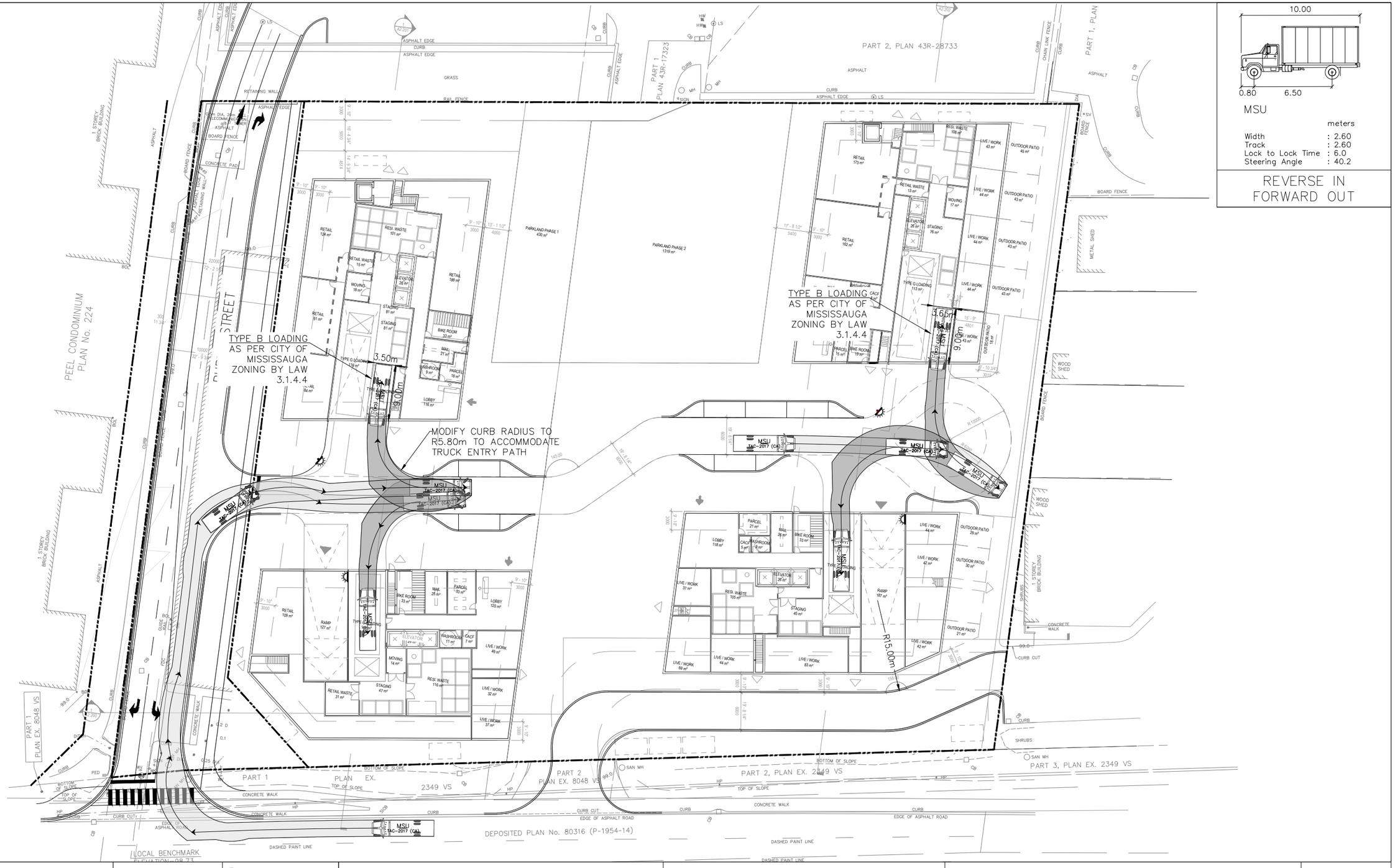
WATCH FOR TURNING TRUCKS WHEN FLASHING (600X300)
BLACK LEGEND & BORDER
YELLOW REFL. BACKGROUND



LEA Consulting Ltd. Consulting Engineers and Planners **www.LEA.ca**	Project No. 23137	2077 & 2105 ROYAL WINDSOR DRIVE MISSISSAUGA ONTARIO	Drawing No. 004
	Date SEPT 30, 2024	6 0 6 12 18m 1:600	TYPE 'G' LOADING REVIEW PEEL REGION GARBAGE TRUCK EXIT PATH

DRAWN BY: HBAINS PLOT DATE: September 30, 2024

DRAWING NAME: F:\23137\Drafting\23137WF014.dwg



MSU

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

REVERSE IN FORWARD OUT

DRAWN BY: HBAINS PLOT DATE: September 30, 2024

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Project No. 23137

Date SEPT 30, 2024

2077 & 2105 ROYAL WINDSOR DRIVE
MISSISSAUGA ONTARIO

6 0 6 12 18m
1:600

GROUND FLOOR – LOADING REVIEW
DELIVERY (MSU) TRUCKS ENTRY

Drawing No. 005

DRAWING NAME: F:\23137\Drafting\23137WF014.dwg

10.00

MSU

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

REVERSE IN
FORWARD OUT

PLOT DATE: September 30, 2024

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23137

Date
SEPT 30, 2024

2077 & 2105 ROYAL WINDSOR DRIVE
MISSISSAUGA ONTARIO

6 0 6 12 18m
1:600

GROUND FLOOR – LOADING REVIEW DELIVERY (MSU) TRUCKS EXIT

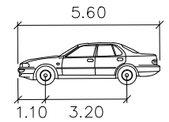
Drawing No.
006

DRAWING NAME: F:\23137\Drafting\23137WF014.dwg

NOTES:

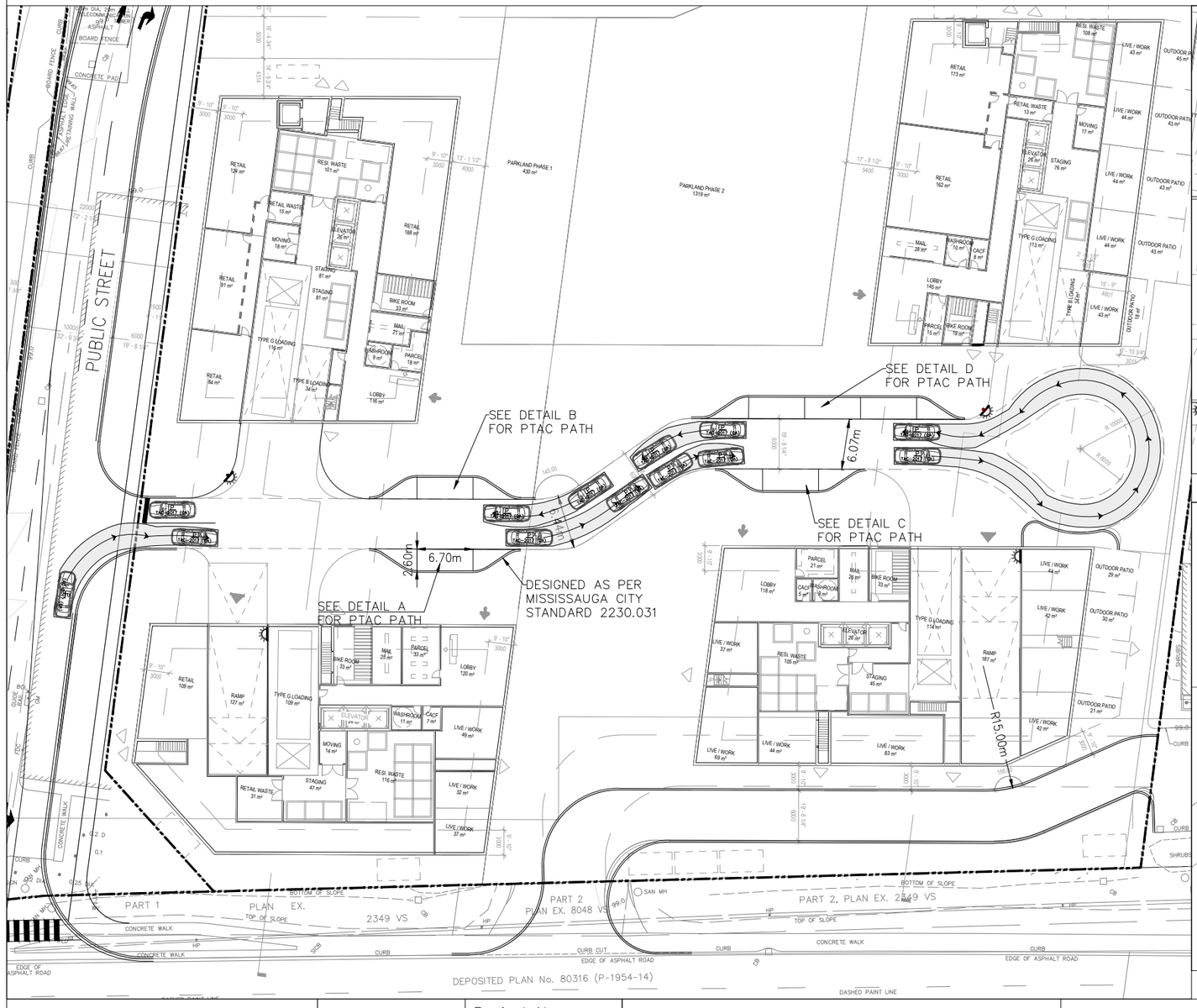
PER CITY OF MISSISSAUGA ZONING BY-LAW 0225-2007

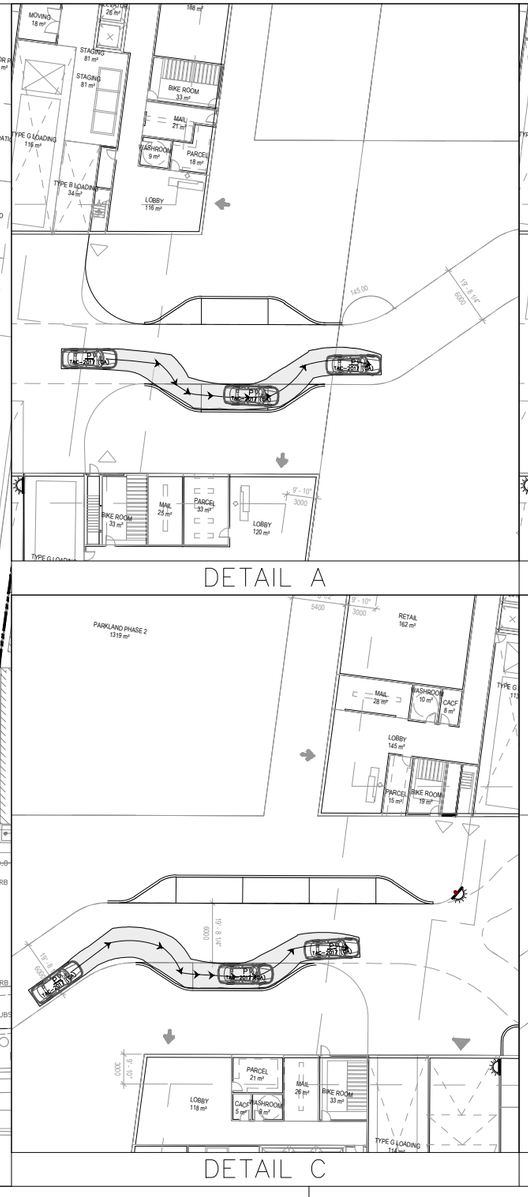
1. 3.1.1.4.1 PARKING SPACE SHALL HAVE AN UNOBSTRUCTED RECTANGULAR AREA WITH A MIN. WIDTH OF 2.6m AND LENGTH OF 5.2m.
2. 3.1.1.4.2 PARALLEL PARKING SPACES WITH A PARKING ANGLE NOT EXCEEDING 15 DEGREES, SHALL HAVE AN UNOBSTRUCTED RECTANGULAR AREA WITH A MINIMUM WIDTH OF 2.6m AND A MINIMUM LENGTH OF 6.7m, EXCLUSIVE OF ANY AISLE OR DRIVEWAY

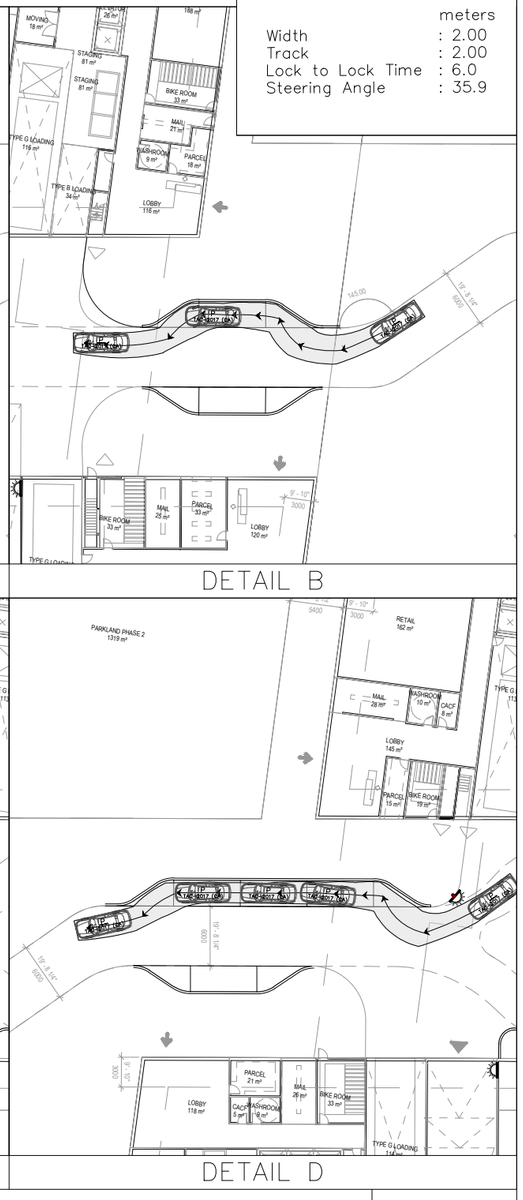


P

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







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Project No. 23137

Date SEPT 30, 2024

2077 & 2105 ROYAL WINDSOR DRIVE
MISSISSAUGA ONTARIO

6 0 6 12 18m
1:600

GROUND FLOOR PARKING REVIEW

Drawing No. 007

DRAWING NAME: F:\23137\Drafting\23137WF014.dwg

APPENDIX H

Certification Form

Appendix A

Certification Form

Individuals submitting reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Mississauga's Official Plan, Transportation Master Plan, and Transportation Impact Study Guidelines.

By submitting the attached report (and any associated documents) and signing this document, I acknowledge that:

- I have reviewed and have a sound understanding of the objectives, needs, and requirements of the City of Mississauga's Official Plan, Transportation Master Plan, and the Transportation Impact Study Guidelines as they apply to this submission;
- I have sound knowledge of industry standard practices pertaining to the preparation of development-related transportation study reports;
- I have substantial experience (more than five years) in completing development-related transportation studies and strong background knowledge of the transportation planning and engineering principles underpinning these studies; and
- I am registered as a Professional Engineer (P.Eng.), Licensed Engineering Technologist (LET), Certified Engineering Technologist (C.E.T.), or Registered Professional Planner (RPP) in good standing in the Province of Ontario with specific training in transportation planning and engineering.

Dated at St Catharines (City) this 02 day of October, 2024.

Name: Jocelyn Wallen

Professional Title: Project Manager, Transportation Engineer

Signature: Jocelyn Wallen

Office Contact Information (Please Print)

Address: 625 Cochrane Drive, 5th Floor

City/Postal Code: Markham, ON L3R 9R9

Telephone/Extension: 905-470-0015

E-mail Address: jwallen@lea.ca