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November 3rd, 2025

Reference Number: 25200

Jennifer Maestre
Associate, Planning
Fotenn Planning & Design
T 416.789.4530 x16

Dear Jennifer Maestre,

RE: Transportation Impact Study
Proposed Guildwood GO Transit Oriented Community (TOC)
4105 Kingston Road, City of Toronto

LEA Consulting Ltd. is pleased to present the findings of our Transportation Impact Study (TIS) for the proposed Guildwood GO Transit Oriented Community (TOC) located at 4105 Kingston Road in the City of Toronto. This transportation study has been prepared for Infrastructure Ontario in support of this submission to secure zoning certainty for the Guildwood transit oriented community (TOC) for the proposed mixed-use residential development located at the Guildwood GO Station at 4105 Kingston Road in the City of Toronto. This report concludes that the traffic associated with the proposed development does not present any significant impact to traffic conditions in the surrounding area. Should you have any questions regarding this Transportation Impact Study, please do not hesitate to contact the undersigned at dchen@lea.ca.

Yours truly,

LEA CONSULTING LTD.

Debang Chen, P.Eng., M.Eng.
Project Manager, Transportation Planning & Engineering

Encl. Transportation Impact Study – 4105 Kingston Road, Proposed Guildwood GO Transit Oriented Community (TOC), City of Toronto (October 2025)

Infrastructure Ontario

TRANSPORTATION IMPACT STUDY

Proposed Guildwood GO Transit Oriented Community (TOC)

4105 Kingston Road
City of Toronto

November 2025

25200

Disclaimer

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1 APPLICATION CONTEXT

LEA Consulting Ltd. (LEA) has been retained by Infrastructure Ontario to undertake a Transportation Impact Study (TIS) in support of this submission to secure zoning certainty for the Guildwood transit oriented community (TOC) for the proposed mixed-use residential development located at the Guildwood GO Station at 4105 Kingston Road (herein referred to as the "Guildwood GO Land") in the City of Toronto. The Guildwood GO Land is located directly north of the existing Guildwood GO Station and is currently occupied by the Guildwood GO Station main surface parking lot. **Figure 1-1** illustrates the site location.

Figure 1-1: Guildwood GO Land Location

Source: Google Maps, Accessed August 2025

The purpose of this study is to assess the proposed development from a transportation perspective, to determine the traffic impacts to the adjacent road network over a 5-year horizon to the year 2030, and to identify any required mitigation measures. In addition, this study reviews the proposed parking and loading supply, examines the functionality of the site, and provides a Transportation Demand Management (TDM) plan to reduce the number of single-occupant vehicle trips created by the development. This study has been prepared in accordance with the City of Toronto's Guidelines for Using Synchro 11, dated January 15, 2021.

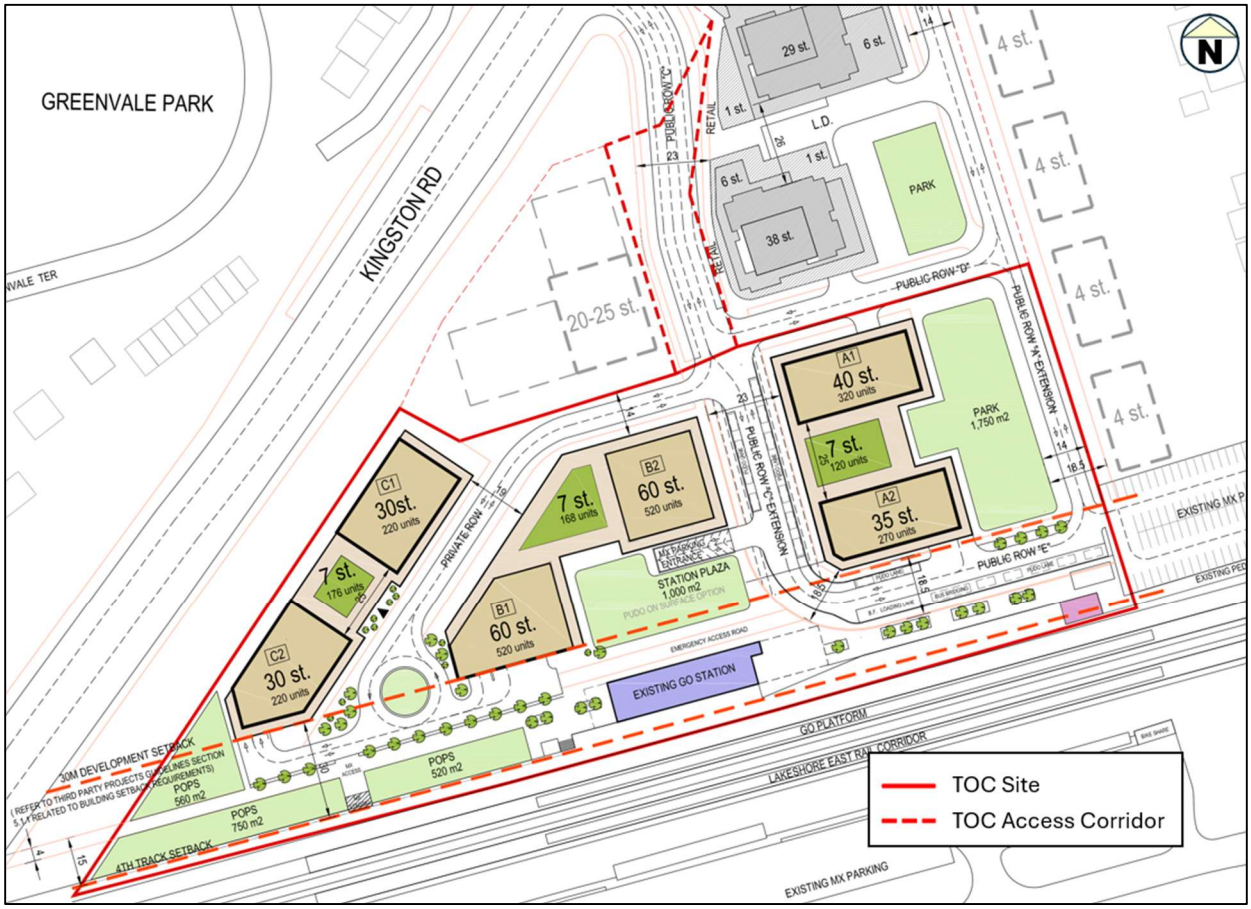
1.1 PROPOSED DEVELOPMENT

The proposed development involves replacing the existing Guildwood GO Station main surface parking lot with a mixed-use community comprising of three (3) buildings with six (6) towers varying from 30 to 60 storeys, containing a total of approximately 2,534 residential units. In total, 1,267 parking spaces are proposed, consisting of 507 parking spaces for the transit oriented community (TOC) and 760 parking spaces for the GO Station. Access to the development is proposed via Kingston Road. The proposed site statistics are summarized in **Table 1-1** and the proposed ground floor plan is illustrated in **Figure 1-2**.

Table 1-1: Site Statistics

Land Use	Building	Res Units	GFA (m^2)	GFA (ft^2)
Residential	A	710	-	-
	B	1,208	-	-
	C	616	-	-
	Total Residential	**2,534**	**-**	**-**
Retail	A	-	938	10,097
	B	-	377	4,058
	C	-	451	4,855
	Total Retail	**-**	**1,766**	**19,010**

Figure 1-2: Site Plan

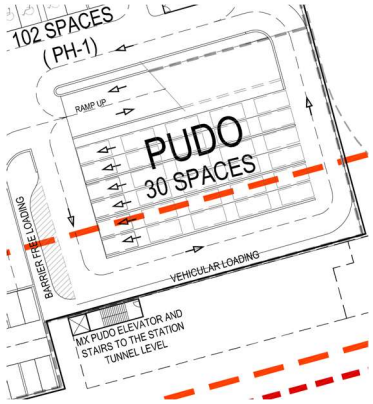
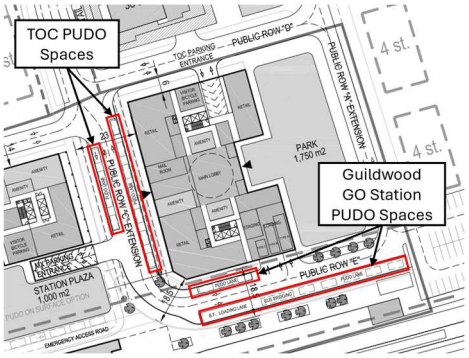
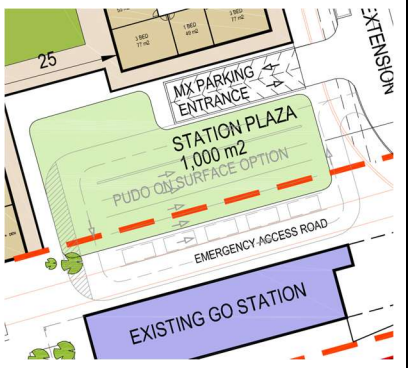


Source: Zeidler Architecture, October 2025

1.1.1 Pick-Up/Drop-Off Areas

The proposed development concept protects for three (3) pick-up/drop-off (PUDO) options: an underground PUDO option within the P1 level of Block B, an urban PUDO option surrounding Block A, and a surface PUDO option at-grade atop Station Plaza within Block B. The three (3) PUDO design options are illustrated in **Table 1-2**.

Table 1-2: PUDO Design Options

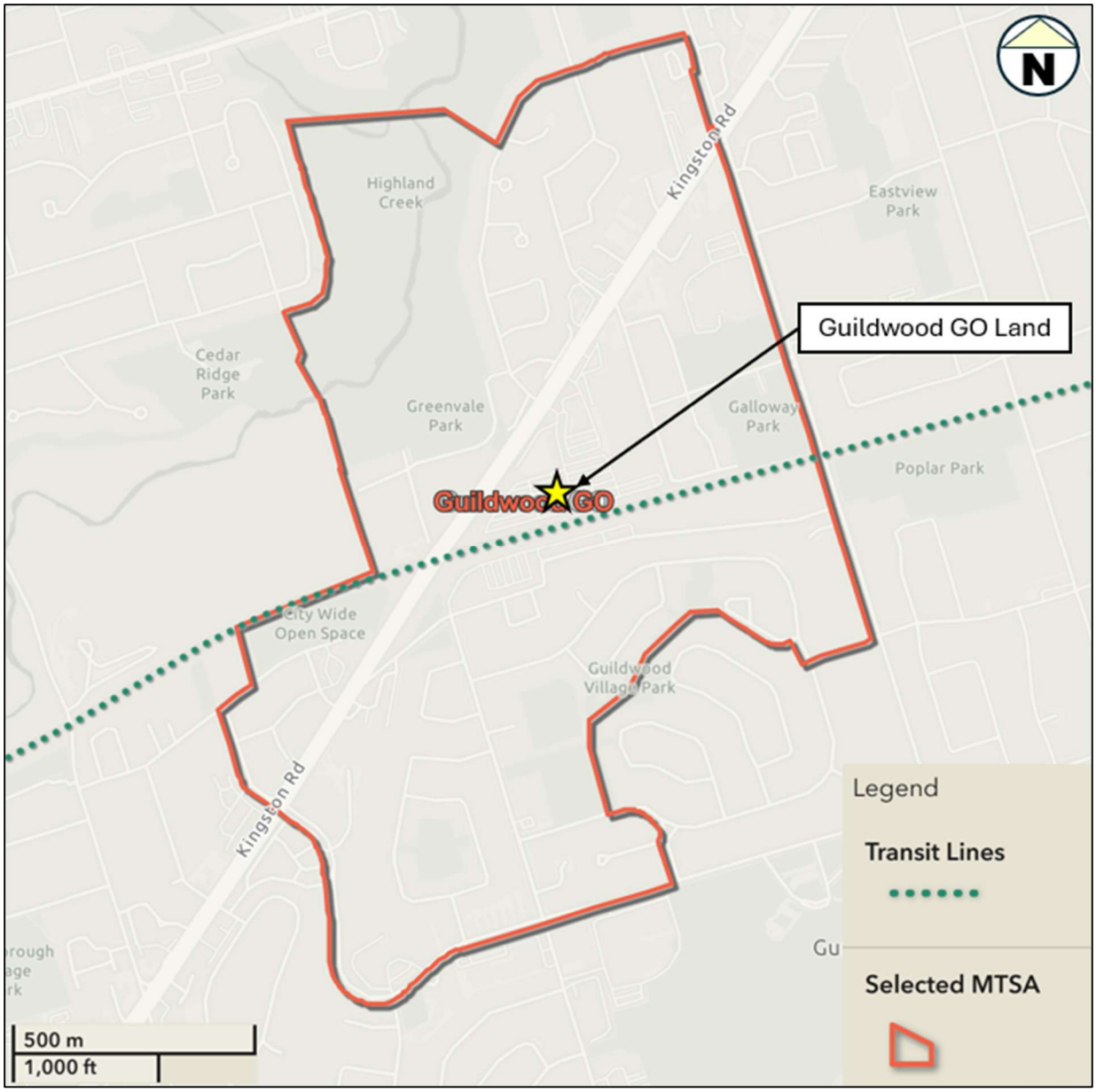
Underground PUDO	Urban PUDO	Surface PUDO
		

Although the three (3) PUDO options mentioned above are being protected for, the analysis of this TIS focuses on the urban PUDO option surrounding Block A. The urban PUDO option was chosen given the enhanced accessibility and direct access to the public realm. This not only offers the most comfort for passengers getting picked up and dropped off but also reduces pedestrian conflict with vehicles compared to multi-lane PUDO areas. A more detailed PUDO analysis is presented in **Section 13**.

1.1.2 Protected Major Transit Station Area Designation

It is noted that the proposed development is situated within the Guildwood GO Protected Major Transit Station Area (PMTSA). PMTSAs are defined as areas within 500 to 800 metres of higher-order transit, and the Guildwood GO Land meets the criteria for intensification under both the City of Toronto's Official Plan and the Provincial Planning Statement (2024). As a Protected MTSA (PMTSA), the area is subject to inclusionary zoning, enabling the delivery of affordable housing as part of new residential development. The proposed development supports these policy objectives by introducing a compact, walkable, and diverse transit-oriented community that integrates residential, commercial, and public realm uses in close proximity to regional transit infrastructure. This approach not only enhances transit ridership and reduces car dependency, but also aligns with minimum density targets of 150 people and jobs per hectare for GO station areas.

Figure 1-3: Guildwood GO PMTSA Boundary



Source: ESRI, Accessed August 2025

2 TRANSPORTATION CONTEXT

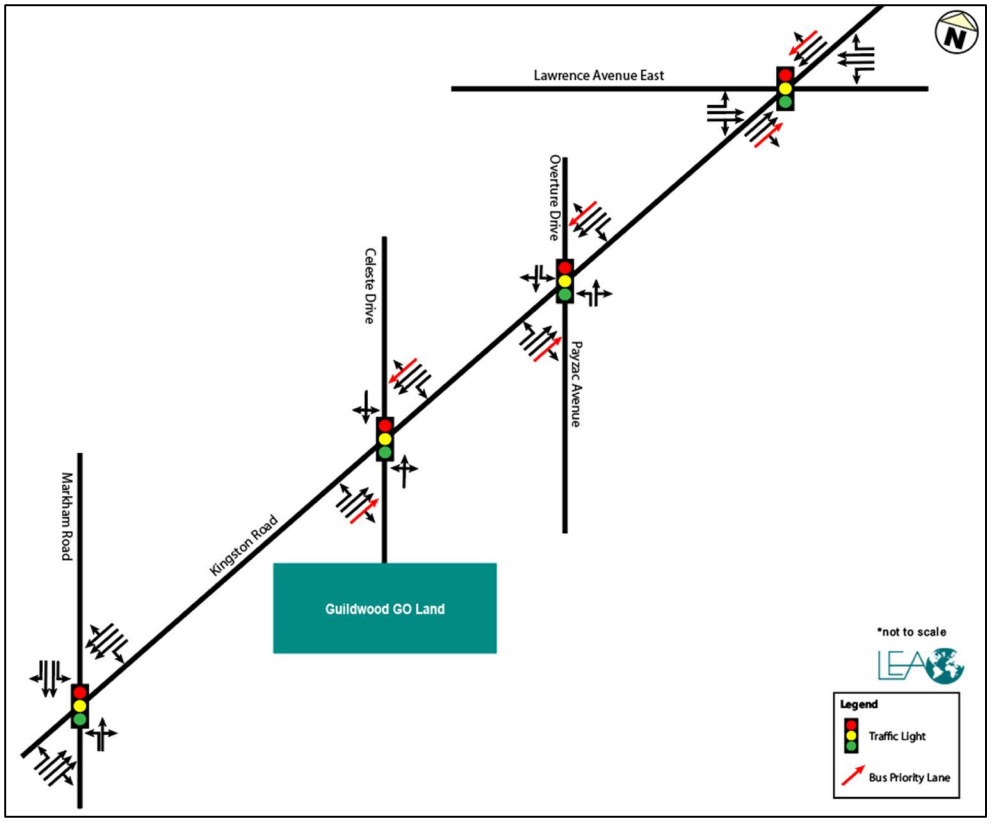
This section identifies and assesses the existing transportation conditions within the study area, including the road, transit, cycling, and pedestrian networks. The study area was determined based on the size of the proposed development and its anticipated transportation impacts, and through discussions with City of Toronto staff. A supporting terms of reference is provided in **Appendix A**. The study area includes the following intersections:

- Kingston Road and Celeste Drive/Guildwood GO Access (Signalized);
- Kingston Road and Overture Road/Payzac Avenue (Signalized);
- Kingston Road and Markham Road;
- Kingston Road and Lawrence Avenue East;
- Kingston Road and Future Private Road (Unsignalized, Future);
- Internal Guildwood GO Driveway at Future Public Road (Unsignalized); and
- Internal Guildwood GO Driveway at Future Public Road (East) (Unsignalized, Future).

2.1 EXISTING ROAD NETWORK

The following section provides a description and classification of the roadways within the study area, all under the City of Toronto's jurisdiction. **Figure 2-1** illustrates the existing lane configuration and intersection control.

Figure 2-1: Existing Road Network and Lane Configuration



Kingston Road is an east-west major arterial road that operates with a six-lane cross-section, narrowing to four lanes as it approaches the eastern city limits. A brief two-lane segment exists between Lawson Road and Highway 401. The roadway runs from Queen Street East in the west to the eastern boundary of Toronto, where it continues into Durham Region as Regional Highway 2. The roadway operates with a posted speed limit of 60 km/h in the study area.

Celeste Drive is a local residential street that operates with a two-lane cross-section (one lane in each direction). Celeste Drive operates between Kingston Road and Adams Drive. The roadway operates with a posted speed limit of 40 km/h.

Overture Drive is a north-south local residential street that operates with a two-lane cross-section (one lane in each direction). Overture Drive operates between Kingston Road in the south before becoming Payzac Avenue and Lawrence Avenue East in the north. The roadway operates with a posted speed limit of 40 km/h.

Payzac Avenue is a north-south local residential street that operates with a two-lane cross-section (one lane in each direction). Payzac Avenue operates between Apsco Avenue in the south and Kingston Road in the north before becoming Overture Drive. The roadway operates with a posted speed limit of 30 km/h.

Markham Road is a north-south major arterial road that operates with a four-lane cross-section within the study area. Markham Road operates between Hill Crescent in the south and Major Mackenzie Drive East in the north, continuing as Highway 48 toward Lake Simcoe. The roadway operates with a posted speed limit of 50 km/h in the study area.

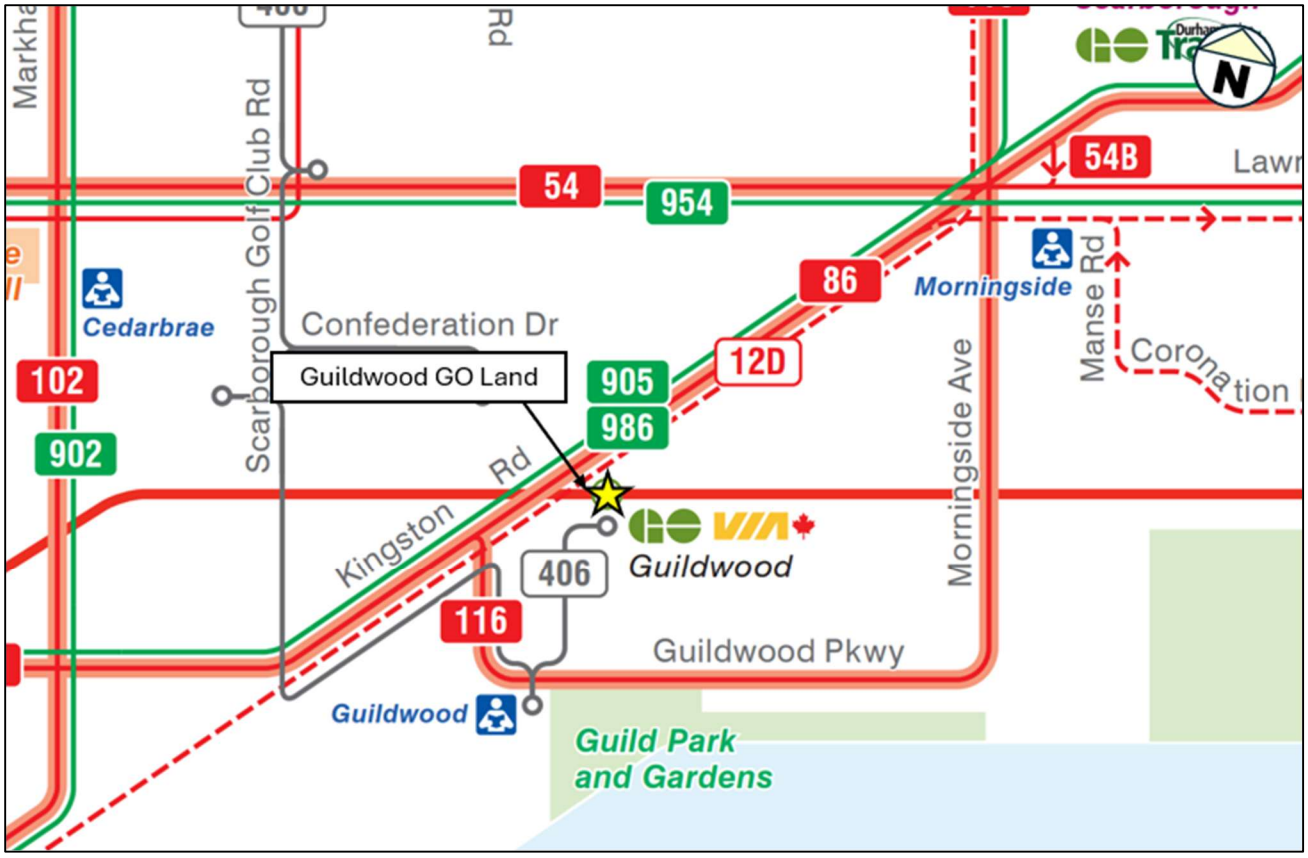
Lawrence Avenue East is an east-west major arterial road that operates with a six-lane cross-section, narrowing to four lanes as it approaches the eastern city limits. Lawrence Avenue East operates between Rouge Hills Drive to the east and Yonge Street to the west, continuing as Lawrence Avenue West. The roadway operates with a posted speed limit of 50 km/h in the study area.

2.2 EXISTING TRANSIT NETWORK

The Guildwood GO Land is located in an area very well-serviced by the Toronto Transit Commission (TTC) transit network. There are a number of transit options available in the study area which connect the Guildwood GO Land to a variety of destinations as well as higher-order transit service via Guildwood GO Station. The Guildwood GO Land is within walking distance of bus stops at Kingston Road & Celeste Drive.

The TTC transit routes currently servicing the surrounding area are illustrated in **Figure 2-2** and are described below. As a testament to the Guildwood GO Land's transit accessibility, the site receives a TransitScore™ of 69/100, indicating that there are many nearby public transit options that can accommodate daily transit travel to and from the Guildwood GO Land.

Figure 2-2: Existing TTC Transit Network



Source: Toronto Transit Commission, August 2025

TTC Bus Route 12 – Kingston Road is a bus route that generally operates in an east-west direction between Victoria Park TTC Station on Line 2 and the area of Kingston Road & Morningside Avenue. Three services are provided: Routes 12A, 12B, and 12D. The route serves local stops along Kingston Road, including connections to Kennedy TTC Station on Line 2. This route operates on weekdays with headways ranging from 5 to 25 minutes during daytime hours

TTC Bus Route 86 – Scarborough is a bus route that generally operates in an east-west direction between Kennedy TTC Station on Line 2 and the Toronto Zoo, with branches serving Highland Creek, Sheppard Avenue East, and Beechgrove Drive via Lawrence Avenue East. Four services are provided: Routes 86A, 86B, 86C, and 86D. The route operates with headways of 10 minutes or better all day, every day, and is part of the TTC's 10-Minute Network.

TTC Bus Route 334 – Eglinton East is a Blue Night Network bus route that generally operates in an east-west direction between Eglinton TTC Station on Line 1 and Finch Avenue East & Neilson Road. The route provides overnight service seven days a week, from approximately 1:30am to the start of subway service (6 a.m. weekdays/Saturdays, 8 a.m. Sundays). It operates with headways of 30 minutes or better and serves major corridors including Eglinton Avenue East, Kingston Road, Morningside Avenue, and Neilson Road.

TTC Bus Route 905 – Eglinton East Express is an express bus route that generally operates in an east-west direction between Kennedy TTC Station on Line 2 and the University of Toronto Scarborough campus. Two services are provided: Routes 905A and 905B. The route operates during peak periods, midday, and early

evenings on weekdays, serving select stops along Eglinton Avenue East, Kingston Road, Morningside Avenue, and Ellesmere Road.

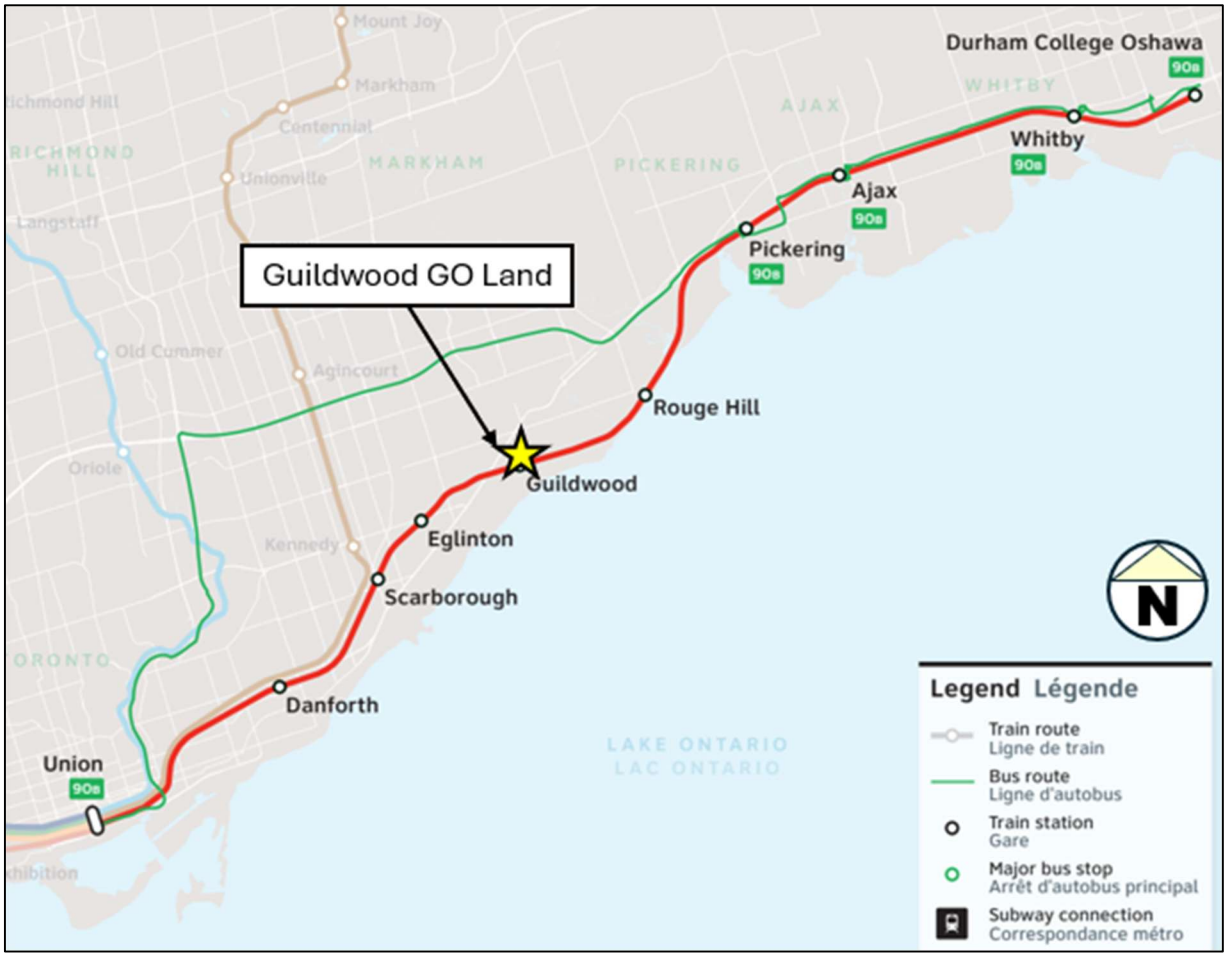
TTC Bus Route 986 – Scarborough Express is an express bus route that generally operates in an east-west direction between Kennedy TTC Station on Line 2 and Meadowvale Road & Sheppard Avenue East. One service is provided, operating during peak periods on weekdays. The route operates express between Kennedy TTC Station and Celeste Drive at Guildwood GO Station, and local service east of Celeste Drive to Meadowvale Loop.

2.2.1 Existing Higher Order Transit

The proposed development is located directly adjacent to Guildwood GO Station which connects the Guildwood GO Land to various destinations across southern Ontario via GO Transit as well as occasional VIA Rail service to destinations across Ontario and Quebec.

Guildwood GO Station primarily services the Lakeshore East GO train route that generally operates in an east-west direction between Union Station in the west and Durham College/Oshawa GO in the east. The route operates all day, every day with headways of 15 minutes or better during peak hours and 30 minutes at all other times. The Lakeshore East GO train route and stations are shown in **Figure 2-3**.

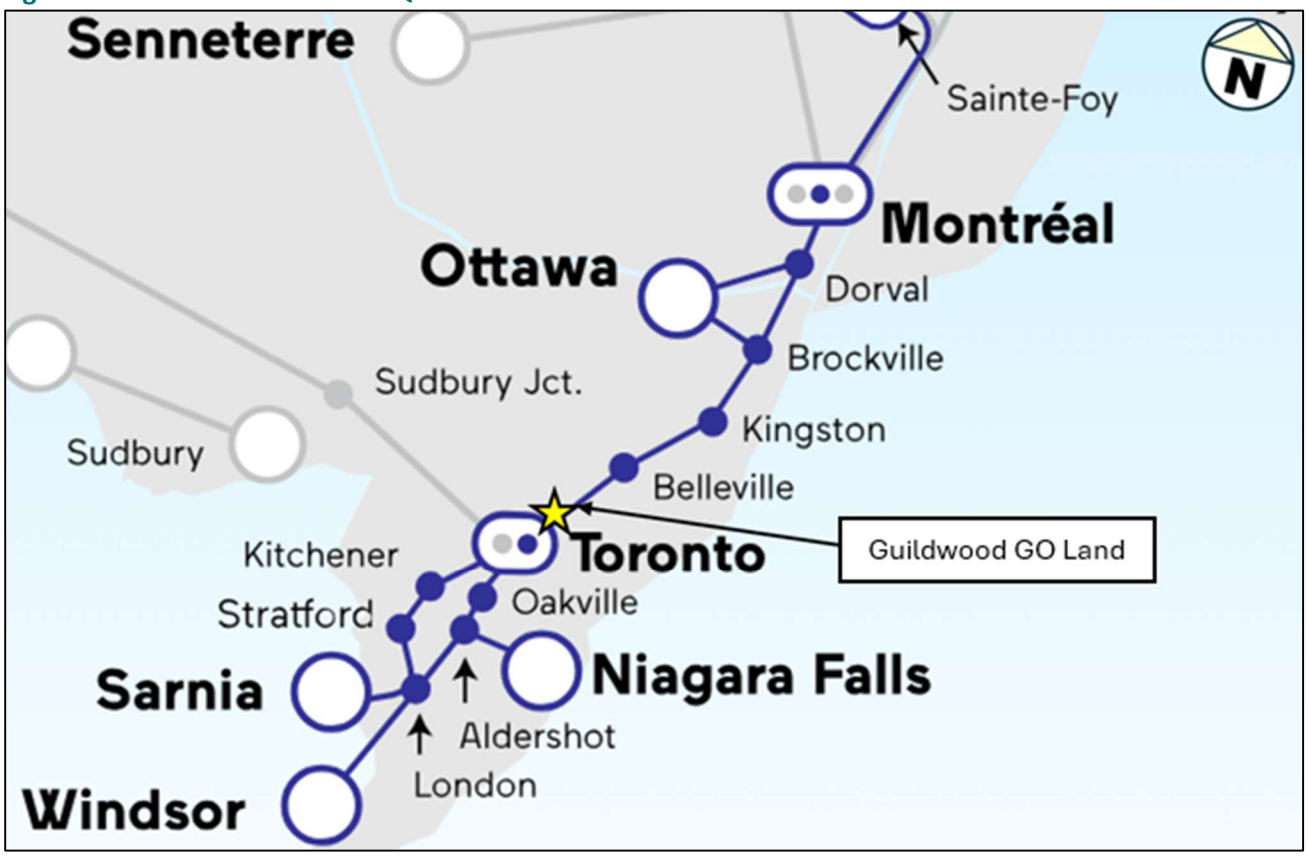
Figure 2-3: Lakeshore East GO Route



Source: GO Transit, Accessed August 2025

Guildwood Station also offers VIA Rail service and operates two (2) routes. The first route operates between Union Station to the west and Ottawa Station to the east. The second route operates between Union Station to the west and Montreal Central Station to the east. Each route operates approximately 3-4 times per day at various times in both directions. **Figure 2-4** shows the VIA Rail routes and stations.

Figure 2-4: VIA Rail Ontario and Quebec Routes

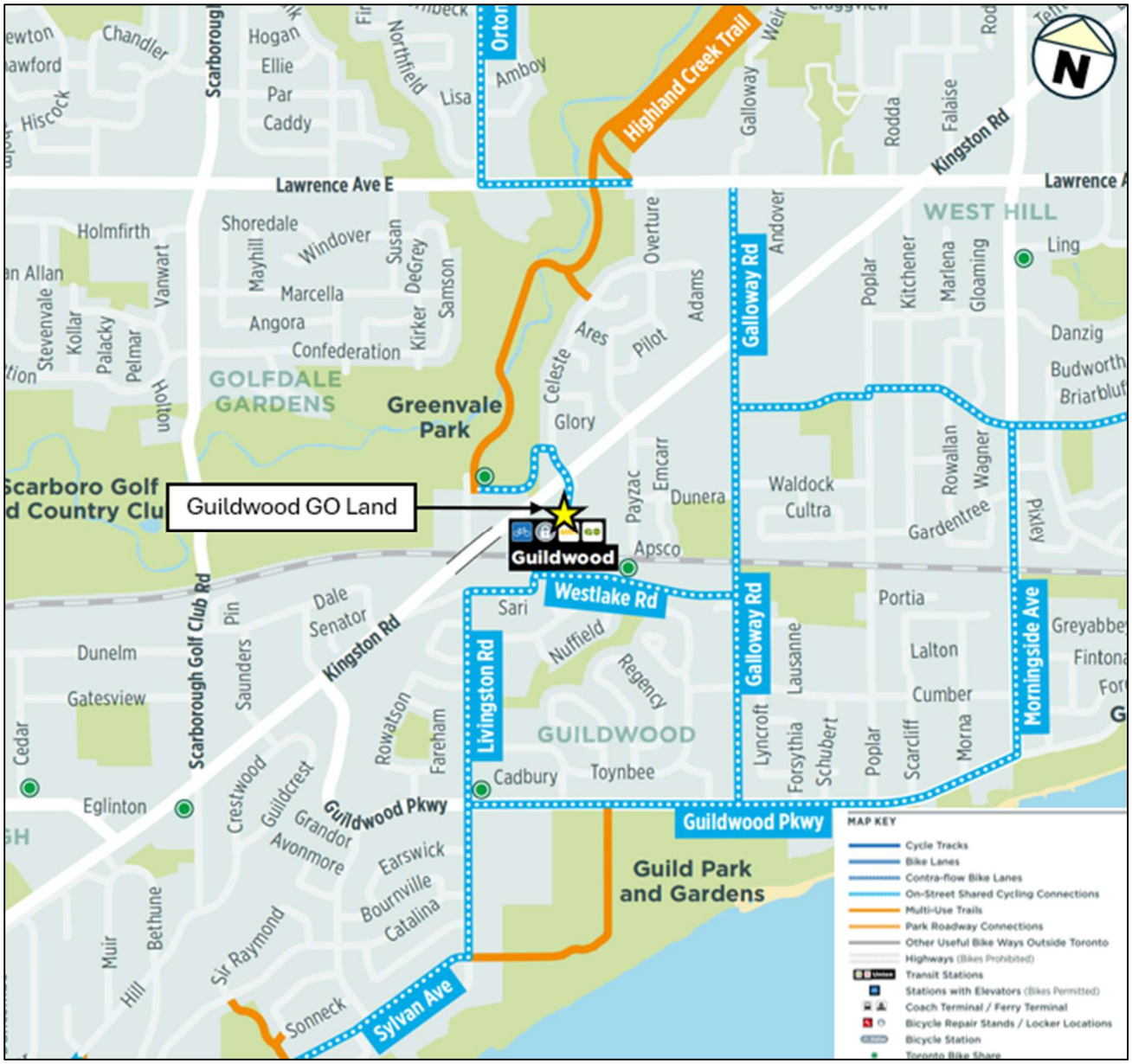


Source: VIA Rail, 2025

2.3 EXISTING CYCLING NETWORK

The existing cycling network surrounding the site is illustrated in **Figure 2-5**. The Guildwood GO Land is located in a neighbourhood with poor-to-moderate access to nearby existing cycling infrastructure, receiving a bike score of 44/100, or "Somewhat Bikeable", indicating that minimal cycling infrastructure exists nearby. On-street shared cycling routes stretch mainly south and east of the Guildwood GO Land along Westlake Road and connect to other nearby shared cycling routes. Additionally, the Highland Creek Multi-Use Trail is located 600m from the Guildwood GO Land, providing vast connectivity to other major cycling trails and routes through the City of Toronto.

Figure 2-5: Existing Cycling Network

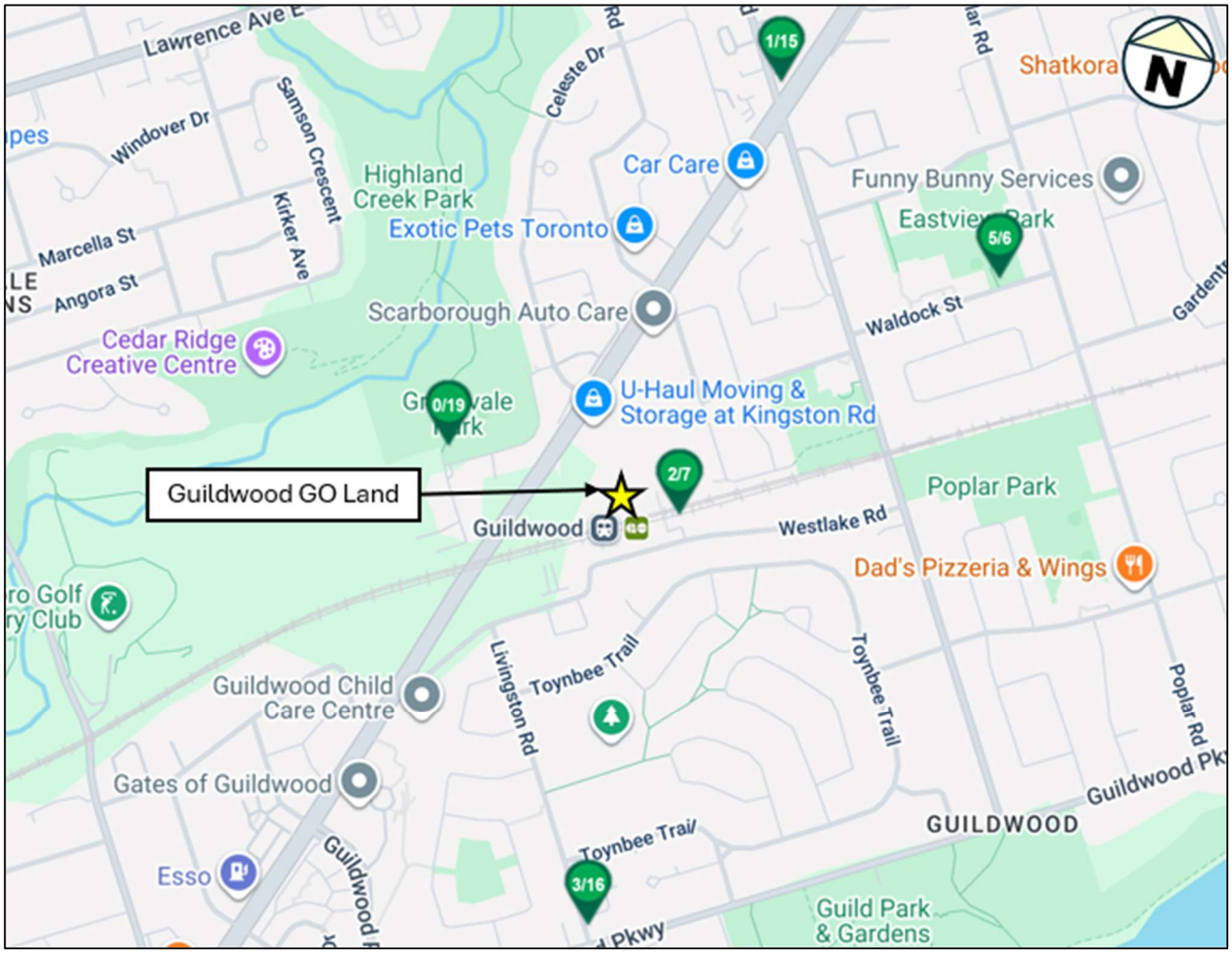


Source: City of Toronto, May 2025

2.3.1 BikeShare Toronto

The BikeShare Toronto Network is comprised of over 700 stations and 9,000 bicycles situated across Toronto, including stations within walking distance of the Guildwood GO Land. As illustrated in **Figure 2-6**, there are five (5) Toronto BikeShare stations within an approximate 15-minute walking distance of the proposed development, providing convenient bicycle access for residents or visitors who do not own a bicycle or prefer using the BikeShare system.

Figure 2-6: BikeShare Network

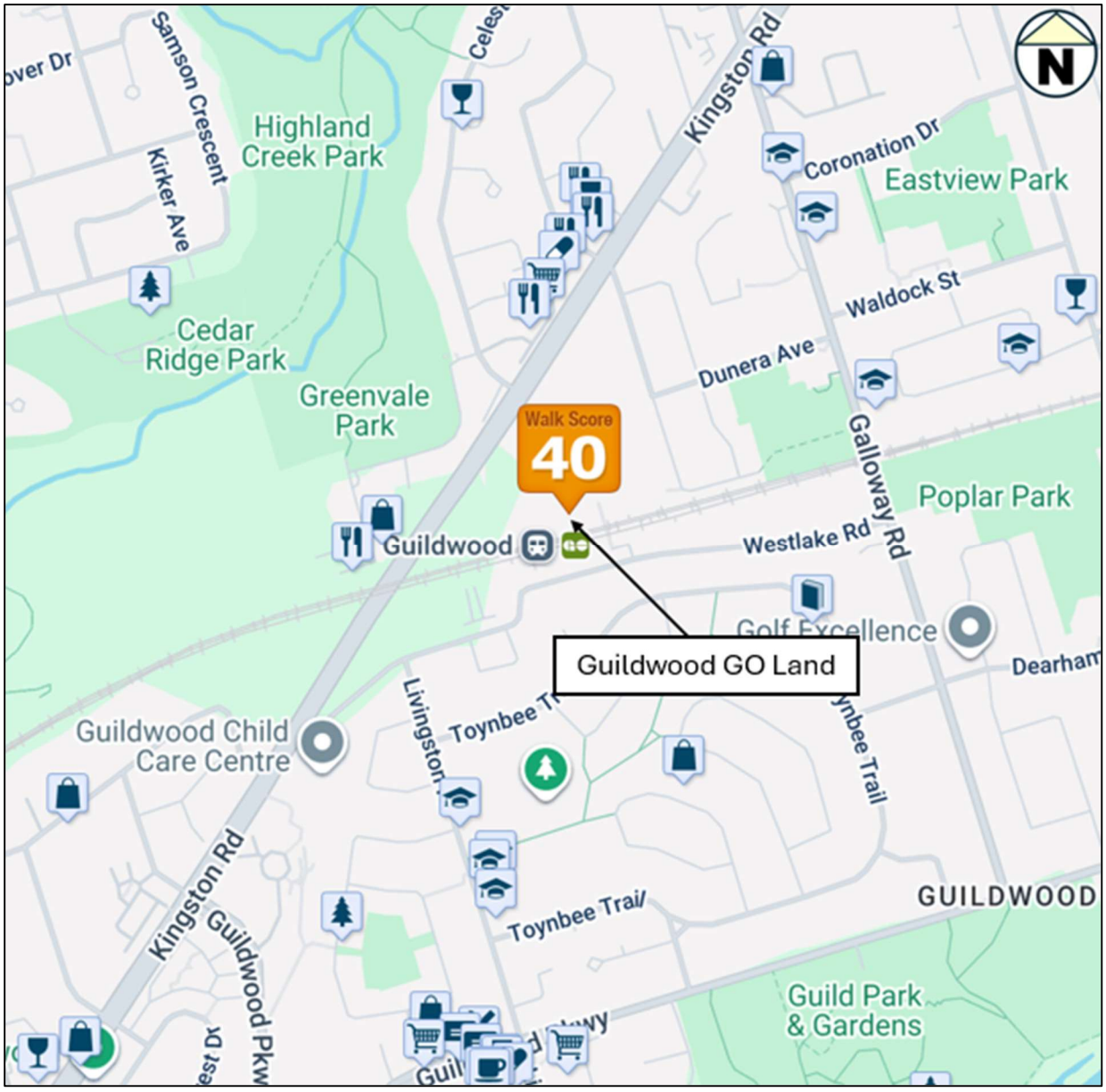


Source: BikeShare Toronto, Accessed August 2025

2.4 EXISTING PEDESTRIAN NETWORK

In the area immediately surrounding the Guildwood GO Land, the existing pedestrian network consists of sidewalks along both sides of Kingston Road and Westlake Road. Pedestrian crosswalks are available on all approaches with protected pedestrian phases at the signalized intersection in the study area. The existing pedestrian network provides good connections between the residential and commercial uses in the area as well as nearby TTC transit stops. The Guildwood GO Land has a WalkScore™ of 40/100 or "Car-Dependent", indicating that most errands rely on vehicle use. As shown in **Figure 2-7**, some amenities are accessible within walking distance including restaurants, grocery stores, retail stores, pharmacies, educational institutions, and banks.

Figure 2-7: 15-Minute Walking Distance from the Guildwood GO Land



Source: Walk Score™, 2025

2.5 TRAFFIC DATA COLLECTION

Turning movement counts (TMCs) were used as the source of traffic data in the intersection capacity analysis. Historical traffic counts were utilized to capture the weekday AM and PM peak periods under existing conditions. Traffic volumes less than two (2) years old were not grown to the existing year; however, traffic volumes were balanced between intersection.

Signal timing plans (STPs) at the signalized intersections were obtained from the City of Toronto from past projects and background development studies and may not be the most recent STPs. A summary of the TMC data used is outlined in **Table 2-1** with detailed traffic counts and signal timing plans available in **Appendix B**.

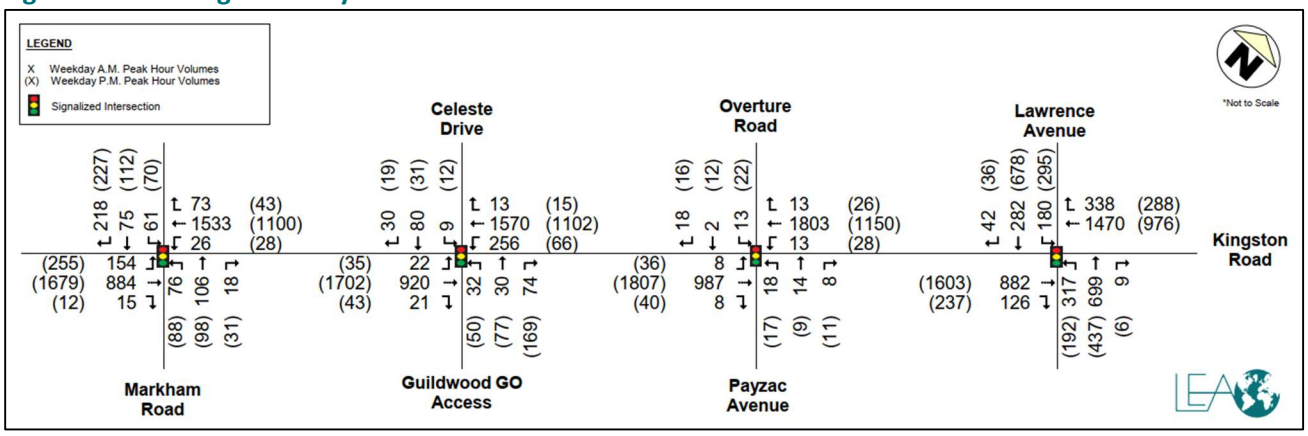
Table 2-1: Data Collection Summary

Intersection	TMC Date	Source
Kingston Road & Overture Road/Payzac Avenue	Thursday, November 24, 2022	LEA Consulting Ltd.
Kingston Road & Celeste Drive/Guildwood GO Access	Thursday, November 28, 2024	
Kingston Road & Lawrence Avenue	Tuesday, October 22, 2024	City of Toronto
Kingston Road & Markham Road	Wednesday, June 1, 2022	

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 2-8**.

Figure 2-8: Existing Weekday Peak Hour Traffic Volumes



3 TRAFFIC OPERATIONS ASSESSMENT

For the analysis of future background conditions, this study considered a five-year horizon to the year 2030. The following sections discuss planned changes to the transportation network, background developments and corridor growth assumptions within the study area.

3.1 TRANSIT NETWORK IMPROVEMENTS

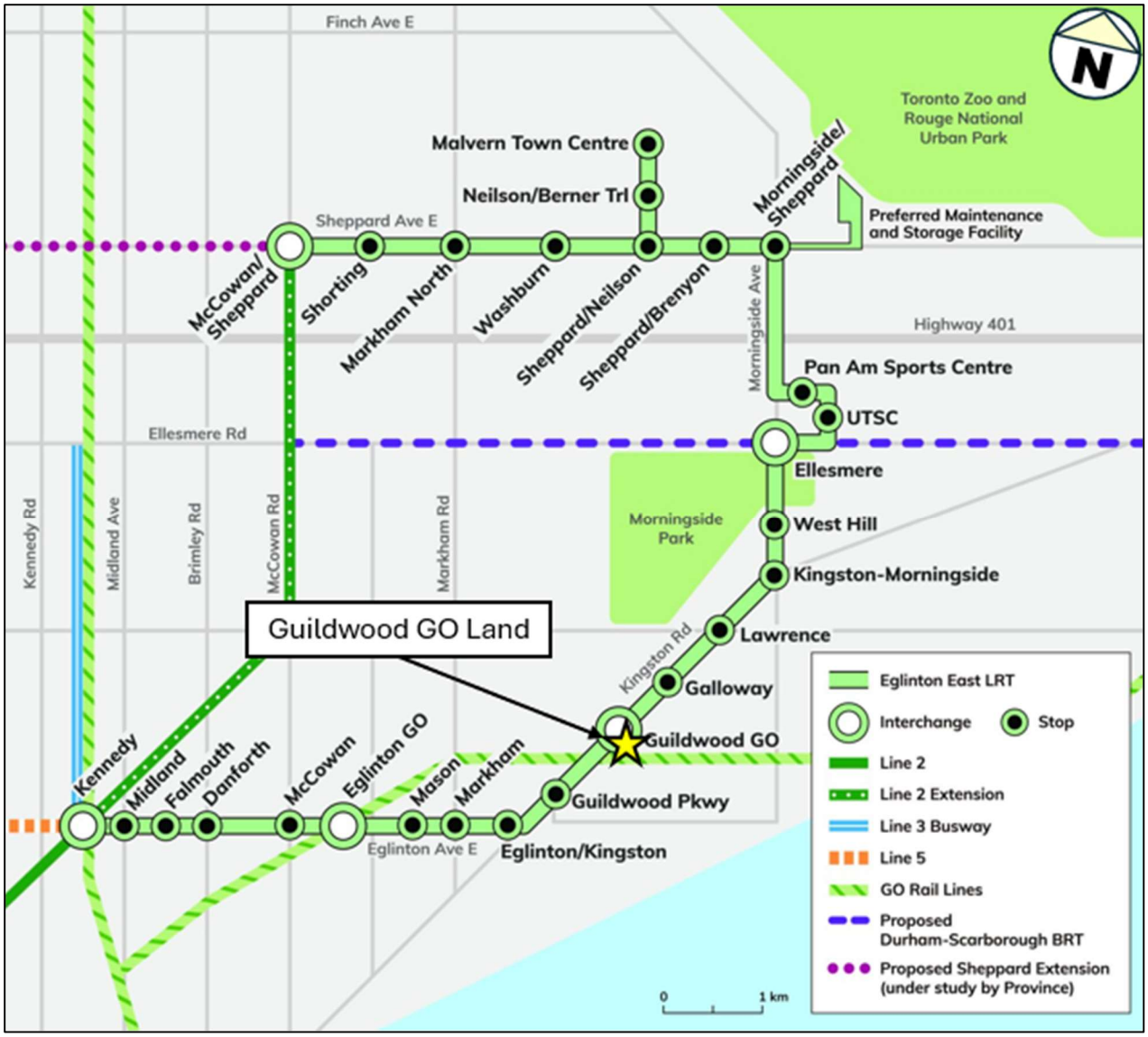
3.1.1 Eglinton East Light Rail Transit (EELRT)

The Eglinton East Light Rail Transit (EELRT) is a higher-order transit service proposed by the City of Toronto and the TTC, with construction anticipated to begin in 2027 and conclude by 2035 (timeline subject to confirmation). The EELRT will operate between Kennedy TTC Station and Malvern Town Centre, spanning approximately 18.6 km through eastern Scarborough. It will provide connections to TTC Line 2 Bloor-Danforth and the Eglinton Crosstown LRT at Kennedy TTC Station, as well as the Stouffville GO route via Kennedy GO Station.

In addition, the proposed EELRT will connect to other major transit services at five interchange points, including the University of Toronto Scarborough Campus (UTSC) and the future Line 2 terminus at Sheppard Avenue and McCowan Road. All 27 proposed stops will be fully accessible and integrated with the TTC bus network, while also supporting pedestrian, cycling, and other mobility services through extensive public realm improvements informed by the City's Complete Streets guidelines such as protected bikeways, wider sidewalks, and multi-use paths.

The EELRT will operate on a dedicated centre median lane, separated from vehicle traffic, ensuring reliable and efficient service. Although specific operating speeds and headways are yet to be finalized, the design prioritizes accessibility, safety, and multi-modal integration. The Guildwood GO Land is located 150m from the proposed "Guildwood GO" interchange at the intersection of Kingston Road & Celeste Drive. **Figure 3-1** illustrates the EELRT route and stops in relation to the Guildwood GO Land.

Figure 3-1: Future Eglinton East LRT Route and Stops



Source: City of Toronto, accessed August 2025

Completion of the EELRT will further improve transit access to/from the Guildwood GO Land, providing a rapid transit connection travelling at-grade via a dedicated guideway within convenient walking distance of the site that will link to other major rapid transit corridors and employment/service destinations within the city.

3.1.1.1 EELRT Sensitivity Analysis

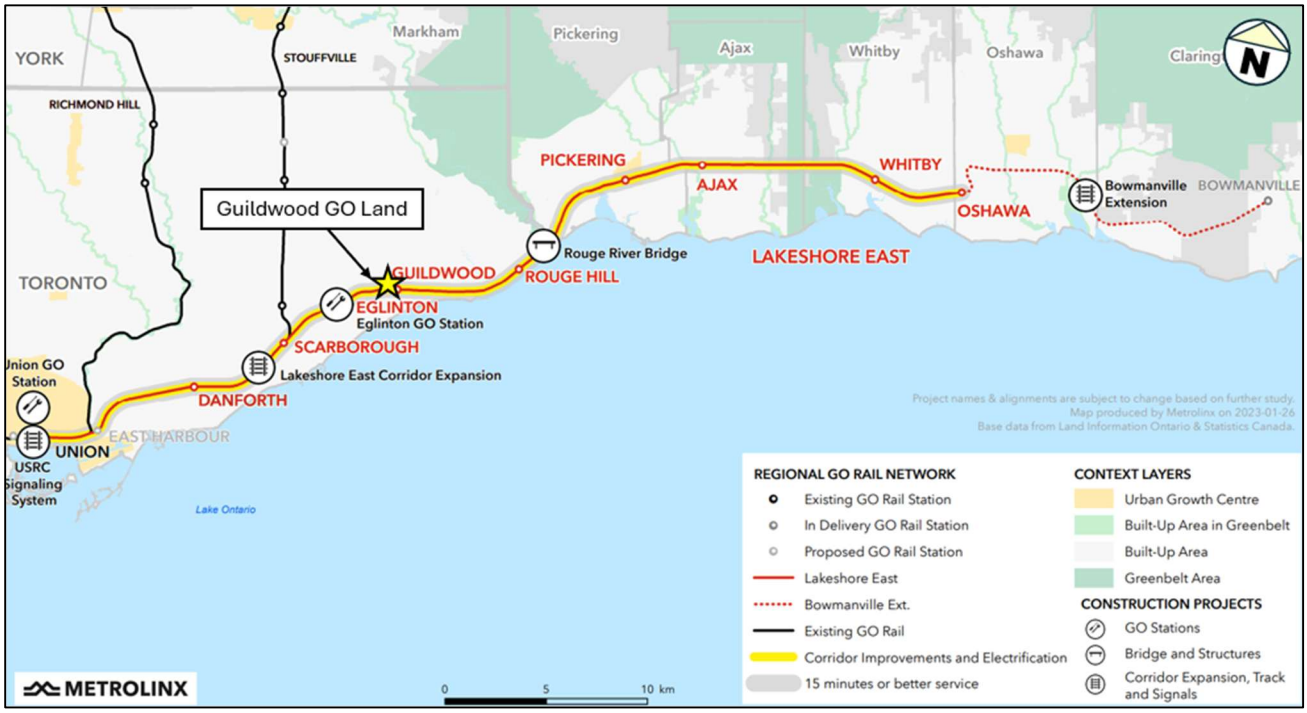
The EELRT is expected to open in 2035. The planned implementation of the EELRT will generate a significant mode shift from auto drivers to transit users, reducing vehicular demand on surrounding roadways. By attracting more passengers to higher capacity transit, overall traffic volumes at the study intersections are expected to decrease, improving v/c ratios, lowering queues and reducing delays. It is important to note that the 2030 analysis also accounts for some of this mode shift, as the RapidTO priority bus lanes are expected to achieve a reduction in auto trips prior to the introduction of the EELRT.

3.1.2 Future GO Expansion

The GO Transit service area (comprising of the Greater Toronto and Hamilton Region (GTHA), Kitchener-Waterloo, Barrie and Niagara) is expected to grow to 15 million people by 2051. As such, expanding GO service is critical to alleviating traffic congestion and will bring faster and more frequent train service, thereby reducing travel times, adding capacity, and improving overall performance.

Core routes, such as the Lakeshore East route servicing Guildwood GO Station, are anticipated to improve service from 30-minute headways currently to 15-minute headways or better, all-day, in both directions. The Lakeshore East Corridor between Union Station and Oshawa GO Station is also expected to undergo corridor improvements and electrification, resulting in approximately 20% faster travel times. The GO Rail Station Access Plan includes expansion goals for Guildwood GO Station and expected growth is detailed further in **Section 4**. **Figure 3-2** shows the Lakeshore East Corridor rail network and proposed improvements.

Figure 3-2: Lakeshore East GO Corridor Improvements



Source: Metrolinx, January 2023

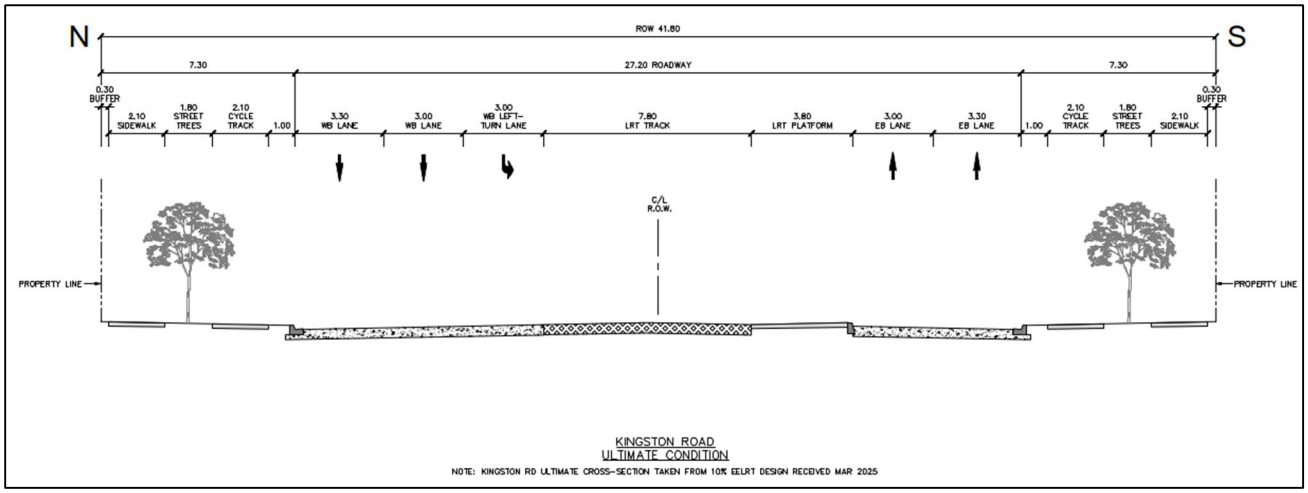
3.1.2.1 GO Expansion Sensitivity Analysis

The future GO Expansion will allow for headways of 15 minutes or less, in comparison to the current 30-minute headway. By reducing train headways from 30 minutes to 15 minutes, train arrivals and departures will be more evenly distributed throughout an hour. Instead of only two major surges in activity, passenger and vehicle flows will be spread across four periods, smoothing demand. This change will increase the peak hour factor (PHF), indicating a more uniform distribution of traffic across the hour. With less concentrated surges, volume-to-capacity (v/c) ratios will improve, queues at the station access points and nearby intersections will be reduced, and overall delays will decrease. The result is more efficient station traffic operations and a more reliable experience for passengers and roadway users.

3.2 ACTIVE TRANSPORTATION AND ROAD NETWORK IMPROVEMENTS

Aligning with Toronto's Complete Street Guidelines, significant streetscape improvements to the pedestrian environment are planned along Kingston Road. Sidewalks are recommended to be widened based on the right-of-way (ROW) along with space for landscaping, snow/garbage storage, street furniture, and retail zones to provide a buffer between pedestrians and vehicles. With the implementation of the EELRT, one-way cycle tracks with various buffer treatments will be provided along Kingston Road with connections to transit stations, bike parking facilities, and the rest of the City's cycling network. A cross-section diagram of Kingston Road with the EELRT implementation is shown in **Figure 3-3**.

Figure 3-3: Kingston Road Cross-Section Diagram



Source: LEA Consulting Ltd., September 2025

3.3 BACKGROUND DEVELOPMENTS

Six (6) background developments were included in the analysis as per the City of Toronto's Application Information Centre and confirmed by City staff. The background developments are summarized in

Table 3-1. Excerpts from the studies providing details of the background development trips are provided in **Appendix C**.

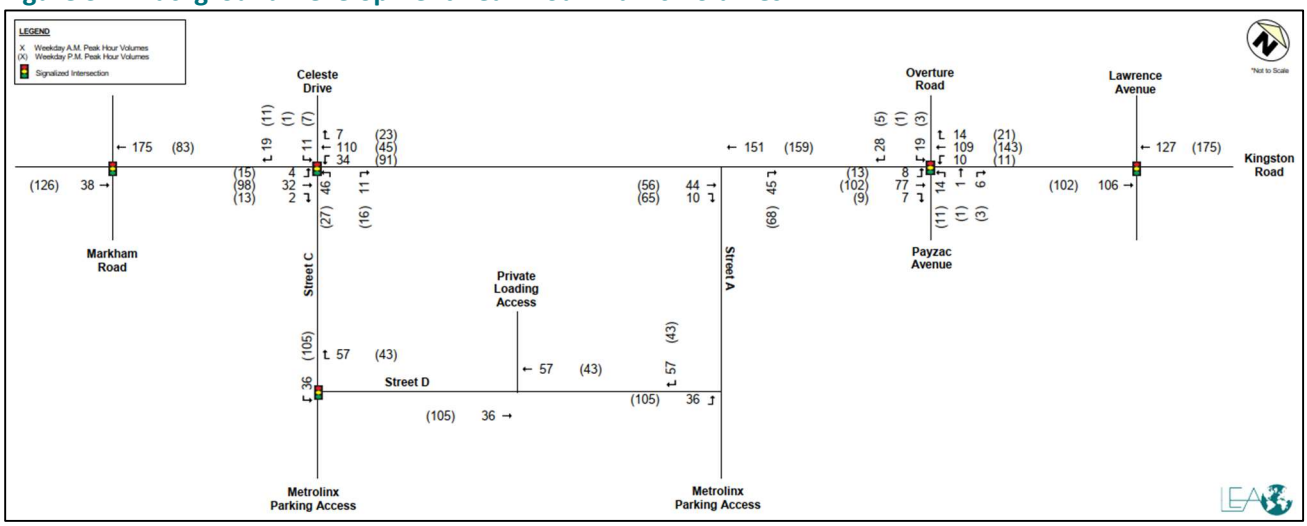
Table 3-1: Background Developments

#	Location	Proposed Development	Source of Traffic Volumes
1	4121 Kingston Road, Toronto	996 residential units	LEA Consulting (December 2024)
2	4180 Kingston Road, Toronto	320 residential units and 415 m^2 of retail GFA	BA Group (September 2023)
3	4206-4212 Kingston Road, Toronto	271 residential units and 246 m^2 commercial GFA	LEA Consulting (February 2022)
4	4201-4203 Kingston Road, Toronto	68 residential units	WSP (April 2024)
5	4151 Kingston Road, Toronto	150 residential units	LEA Consulting (November 2022)
6	402-408 Livingston Road North, Toronto	442 residential units	LEA Consulting (April 2025)

3.3.1 Background Development Traffic Volumes

Background development traffic volumes were extracted from their respective traffic studies and subsequently assigned to the study area road network. **Figure 3-4** illustrates the traffic volumes of the background developments during the weekday AM and PM peak periods. Excerpts from the studies are provided in **Appendix C**.

Figure 3-4: Background Development Peak Hour Traffic Volumes



3.4 CORRIDOR GROWTH

Historical turning movement counts (TMCs) were collected for major study intersections. Data for Kingston Road & Lawrence Avenue was available for the years 2014, 2016, and 2024. Data for Kingston Road & Markham Road was available for the years 2014, 2020, and 2022. Data for Kingston Road & Celeste Drive was available for the years 2017, 2019, 2022, and 2024.

These TMCs were used to calculate annual traffic growth rates for the Kingston Road, Markham Road, and Lawrence Avenue corridors. Negative growth rates were observed for Kingston Road at Lawrence Avenue and Celeste Drive. As a result, the growth rate derived for Kingston Road was applied to the turning movements at the Markham Road intersection and extended to the other intersections along Kingston Road to maintain consistency. No growth was applied where negative growth rates were calculated along Markham Road and Lawrence Avenue.

Some of the historical data sets are relatively old, which led to unrealistically high calculated growth rates. To ensure a more reasonable projection, a conservative annual growth rate of 2.0% was applied wherever the calculated rate exceeded this threshold. A summary of the corridor growth rates is provided in **Table 3-2** and more detailed corridor growth rates are provided in **Appendix D**.

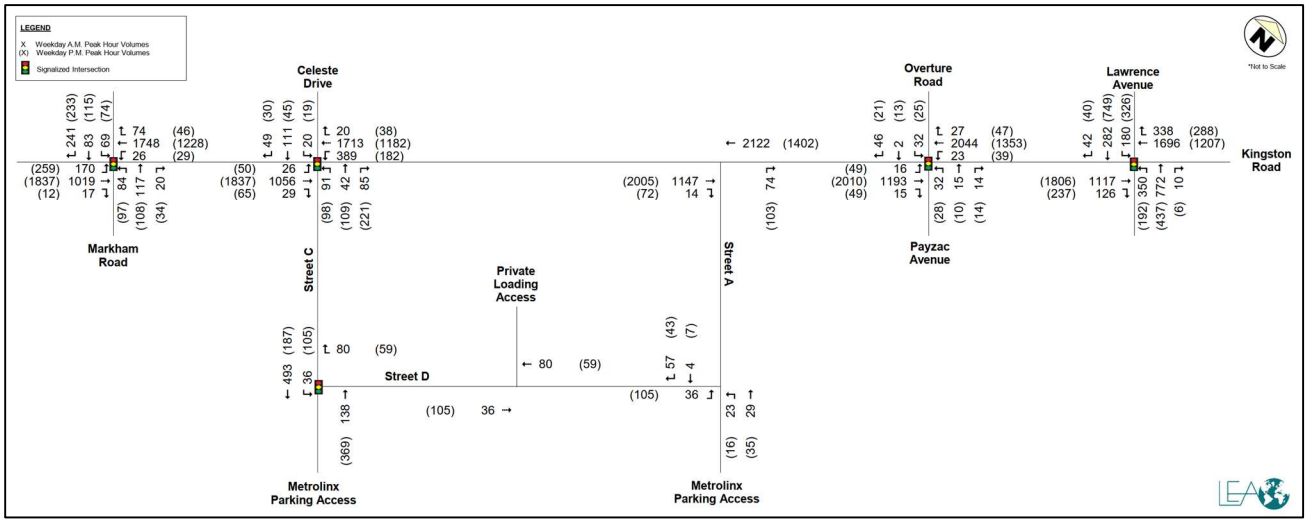
Table 3-2: Corridor Growth Rates

Corridor	AM Peak Hour (% per Year)	PM Peak Hour (% per Year)
Kingston Road EB	2.00%	0.29%
Kingston Road WB	0.00%	0.52%
Lawrence Avenue NB	2.00%	0.00%
Lawrence Avenue SB	0.00%	2.00%
Markham Road NB	2.00%	1.87%
Markham Road SB	2.00%	0.52%

3.5 FUTURE BACKGROUND TRAFFIC VOLUMES

The future background traffic volumes in the study area during the weekday AM and PM peak hours are illustrated in **Figure 3-5**.

Figure 3-5: Future Background Peak Hour Traffic Volumes



4 ESTIMATION OF TRAVEL DEMAND – GUILDWOOD GO STATION

The Guildwood GO station is projected to experience increased ridership as a result of enhanced GO service along the Lakeshore East corridor. The methodology for estimating future auto traffic associated with this ridership growth is outlined below.

Existing GO auto trips were derived from historical turning movement counts (TMCs) at the intersection of Kingston Road and Celeste Drive/Guildwood GO Access. As detailed in **Section 2.5**, traffic volumes were balanced across adjacent intersections to ensure consistency in the network. The balanced inbound and outbound vehicle volumes at the Guildwood GO access point were then projected to the year 2030, using ridership growth assumptions from the Metrolinx GO Rail Station Access Plan (December 2016).

The Access Plan provides baseline data for 2016 GO rail ridership and 2015 station facility capacity, along with expected ridership growth and modal split targets based on a planning horizon of 2031.

To quantify future growth, a compound annual growth rate (CAGR) for ridership was calculated using 2016 and 2031 ridership estimates specific to Guildwood GO Station. To account for anticipated mode shift, particularly the reduction in auto mode share (auto driver and pick-up/drop-off), a separate CAGR was determined using the auto mode share percentages from 2015 and the 2031 mode split targets. These two CAGRs were subsequently combined to estimate the net growth in auto-related traffic at the station.

It is assumed that ridership growth will be distributed proportionally across both weekday AM and PM peak hours. The resulting growth rates and projected auto volumes at Guildwood GO Station are summarized in **Table 4-1** and **Table 4-2**, with detailed supporting calculations provided in **Appendix E**.

Table 4-1: Guildwood GO Station – Forecasted Ridership Growth

Parameter	2015	2016	2031	Annual Change Rate
Daily Ridership	-	1,250	4,250	+8.50%
PUDO and Park-n-Ride Mode Share	84%	-	56%	-2.50%

Table 4-2: Guildwood GO Station – Vehicle Trips

Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
	In	Out	Total	In	Out	Total
Existing GO Trips (2025)	357	136	493	140	296	436
Future GO Trips (2030)	497	190	687	194	420	614
Growth	+150	+54	+194	+54	+124	+178

Guildwood GO station is expected to experience an increase in 194 auto trips (150 inbound and 54 outbound) during the AM peak hour, and an increase of 178 auto trips (54 inbound and 124 outbound) during the PM peak hour. **Figure 4-1** illustrates the distribution of these additional auto trips.

To reflect proposed network changes, existing auto trips to and from Guildwood GO were re-assigned. **Figure 4-2** and **Figure 4-3** show the re-assigned existing auto GO traffic and the projected future GO traffic, respectively.

Figure 4-1: GO Station Traffic Growth

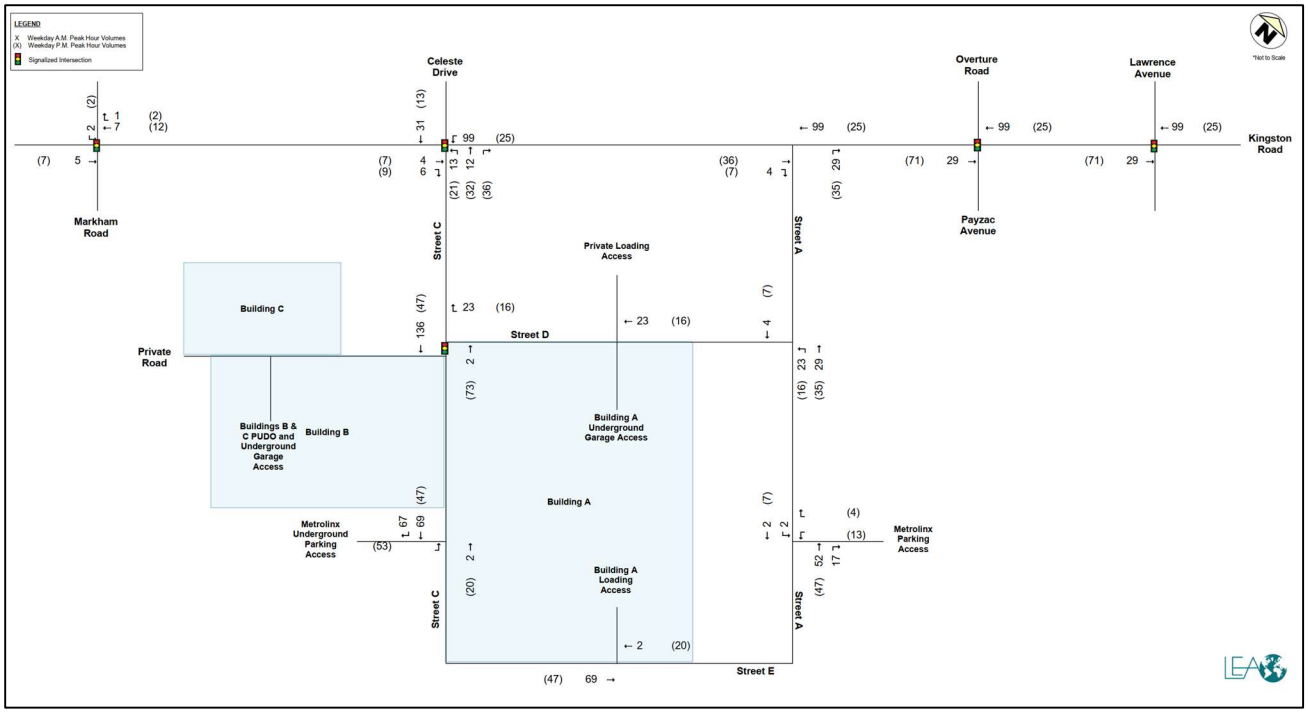


Figure 4-2: Existing GO Station Traffic Re-Assignment

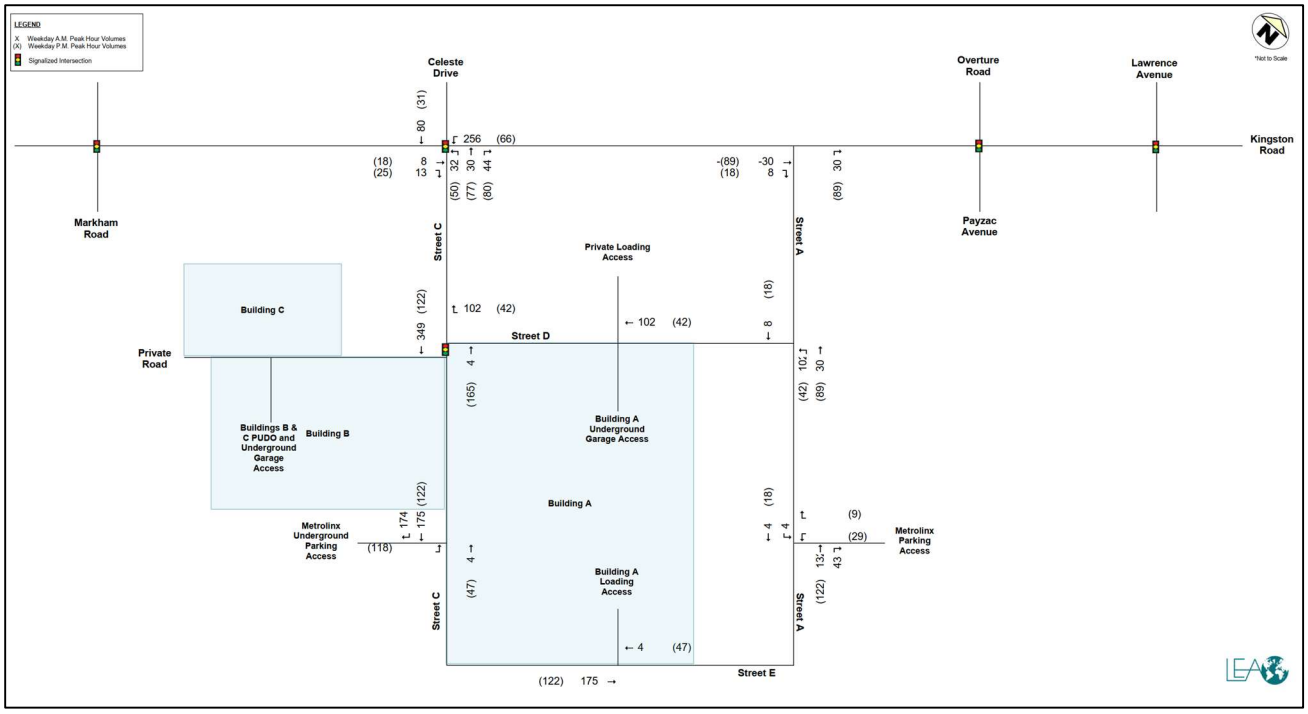
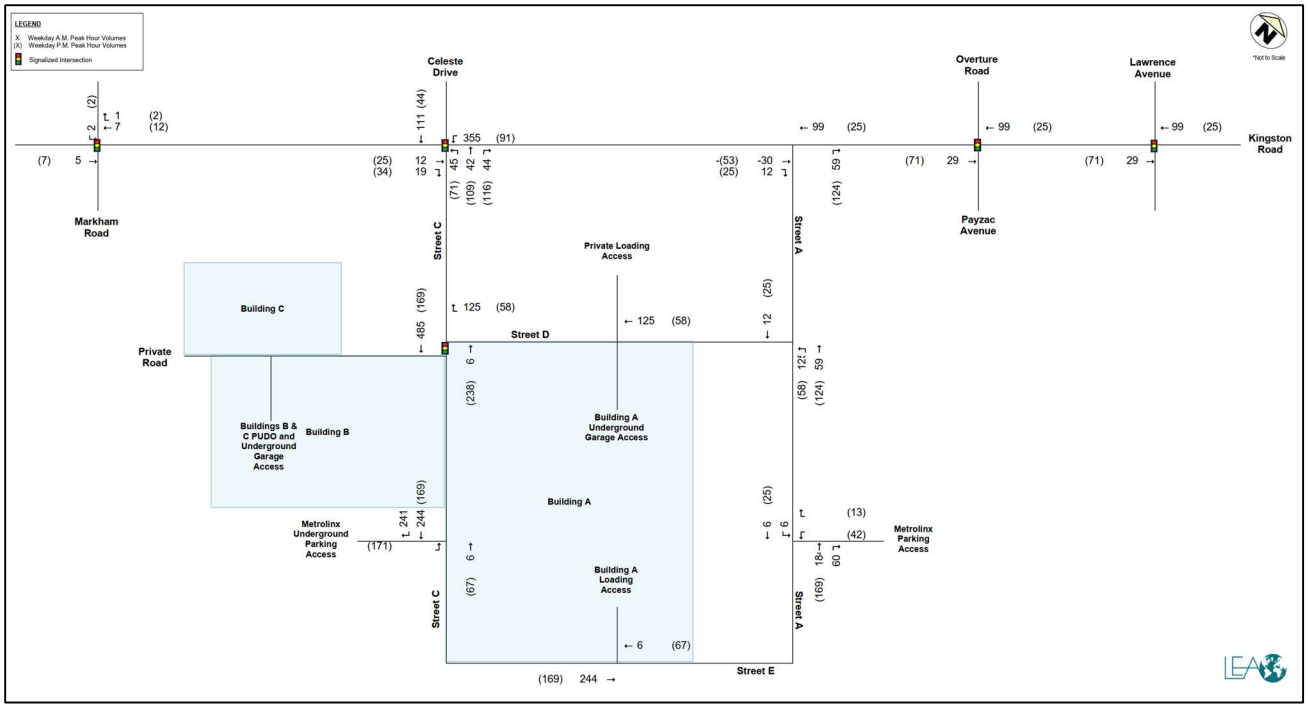


Figure 4-3: Future GO Station Traffic



The GO Rail Station Access Plan (December 2016) also details recommended facility improvements to accommodate future ridership demand. The Guildwood GO station currently has three surface parking lots consisting of approximately 1,295 parking spaces and the Access Plan shows the parking lots operating at 71-80% utilization with no parking expansion being recommended. The existing parking lot on the north side of the GO Station consists of 760 parking spaces whereas the parking lot east of the GO Station consists of 131 parking spaces. The parking lot on the south side of the GO Station also comprises 404 parking spaces. It should be noted that the 131 parking spaces on the east side of the GO Station and the 404 parking spaces on the south side of the GO Station are outside the scope of the proposed development.

The proposed development will be providing 760 underground parking spaces for the GO Station to replace the 760 existing main surface lot spaces at a 1:1 replacement rate on the north side of the GO Station.

5 ESTIMATION OF TRAVEL DEMAND – PROPOSED DEVELOPMENT

5.1 MODAL SPLIT

Data from the 2022 Transportation Tomorrow Survey (TTS) was extracted to identify the local modal split for the study area (TAZ 1585-1591). Data for home-based trips (school & work) undertaken by residents was analyzed for residential trips. Data for home-based trips (work & discretionary) and non-home-based trips were analyzed for retail trips. As per the City staff report on the implementation of the RapidTO project, an 8% modal shift from auto to transit is anticipated with the introduction of priority bus lanes on Eglinton Avenue East. Given that the Guildwood GO Land is in close proximity with the RapidTO corridor, this modal shift was assumed to affect both residential and retail site trips. The Eglinton East Light Rail Train (EELRT) is another anticipated project within the area. Although no additional mode shift due to the EELRT was considered in the analysis, it is anticipated that there will be additional mode shift once implemented. As such, the analysis is conservative. The assumed mode shift is also in line with Vision Zero and TransformTO policies. Detailed TTS data and RapidTO excerpts are provided in **Appendix F**. The modal split is summarized in **Table 5-1**.

Table 5-1: Local Mode Share

Description	Residential		Retail	
	2022 TTS	Adjusted	2022 TTS	Adjusted
External Person Trips	100%	100%	100%	100%
Auto Driver Trips	38%	30%	60%	52%
Passenger Trips	14%	14%	17%	17%
Taxi/Rideshare Trips	0%	0%	0%	0%
Transit Trips	38%	46%	15%	23%
Pedestrian Trips	10%	10%	8%	8%
Cycling Trips	0%	0%	0%	0%

It should be noted that although the TTS data does not show cycling trips for the study area, the proposed development will be adding significant cycling infrastructure as well as bicycle parking as part of the transit-oriented community and more cycling trips should be anticipated. However, to be more conservative, a mode shift from auto driver trips to cycling trips was not done.

5.2 TRIP GENERATION

Trip generation for the residential and retail component of Guildwood GO Land was calculated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition for LUC 222 – Multifamily Housing (High-Rise) and LUC 822 – Strip Retail Plaza, respectively. For the residential land use, the average ITE person trip rates were used to determine person trips. For the retail land use, the average ITE vehicle trip generation rates were used to determine auto trips, which were subsequently converted into person trips using the average vehicle occupancy and auto split data provided in the ITE Trip Generation Handbook, 3rd Edition. The person trips were then converted to auto trips using the forecasted local mode split. An internal trip reduction was also applied to reflect interaction between the proposed land uses, as per the ITE

handbook. **Table 5-2** summarizes the anticipated number of vehicle trips generated by the proposed development.

Table 5-2: Site Vehicle Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
ITE LUC 222 – Multifamily Housing (High-Rise) Building A 710 units	ITE Person Trip Rates	0.09	0.26	0.34	0.30	0.16	0.46
	ITE Person Trips	60	181	241	216	111	327
	Site Interaction	-1	-1	-2	-5	-2	-7
	External Auto Trips	**59**	**180**	**239**	**211**	**109**	**320**
	External Auto Trips – Residential (30%)	**18**	**54**	**72**	**63**	**33**	**96**
ITE LUC 222 – Multifamily Housing (High-Rise) Building B 1,208 units	ITE Person Trip Rates	0.09	0.26	0.34	0.30	0.16	0.46
	ITE Person Trips	103	308	411	367	189	556
	Site Interaction	-1	-3	-4	-9	-4	-13
	External Auto Trips	102	305	407	358	185	543
	External Auto Trips – Residential (30%)	**31**	**92**	**123**	**107**	**56**	**163**
ITE LUC 222 – Multifamily Housing (High-Rise) Building C 616 units	ITE Person Trip Rates	0.09	0.26	0.34	0.30	0.16	0.46
	ITE Person Trips	52	157	209	187	96	283
	Site Interaction	-1	-1	-2	-5	-2	-7
	External Auto Trips	51	156	207	182	94	276
	External Auto Trips – Residential (30%)	**15**	**47**	**62**	**55**	**28**	**83**
	Total External Residential Auto Trips	**64**	**193**	**257**	**225**	**117**	**342**
ITE LUC 822 – Strip Retail (<40k) Building A 11,000 ft^2	ITE Auto Trip Rates (/1000 ft^2)	1.42	0.94	2.36	3.30	3.30	6.59
	ITE Auto Trips	16	10	26	36	36	72
	Adjusted Person Trips	19	12	31	44	42	86
	Site Interaction	-2	-1	-3	-3	-7	-10
	External Person Trips	17	11	28	41	35	76
	External Auto Trips - Retail (52%)	**9**	**6**	**15**	**21**	**18**	**39**
ITE LUC 822 – Strip Retail (<40k) Building B 8,000 ft^2	ITE Auto Trip Rates (/1000 ft^2)	1.42	0.94	2.36	3.30	3.30	6.59
	ITE Auto Trips	11	8	19	26	26	52
	Adjusted Person Trips	13	9	22	31	31	62
	Site Interaction	-1	-1	-2	-2	-5	-7
	External Person Trips	12	8	20	29	26	55
	External Auto Trips - Retail (52%)	**6**	**4**	**10**	**15**	**14**	**29**
ITE LUC 822 – Strip Retail (<40k) Building C 10,000 ft^2	ITE Auto Trip Rates (/1000 ft^2)	1.42	0.94	2.36	3.30	3.30	6.59
	ITE Auto Trips	14	9	23	33	33	66
	Adjusted Person Trips	16	10	26	40	39	79
	Site Interaction	-2	-1	-3	-3	-7	-10
	External Person Trips	14	9	23	37	32	69
	External Auto Trips - Retail (52%)	**7**	**5**	**12**	**19**	**17**	**36**
	Total External Retail Auto Trips	**22**	**15**	**37**	**55**	**49**	**104**
	Total Site Auto Trips	**86**	**208**	**294**	**280**	**166**	**446**

The proposed building is anticipated to generate an additional 294 two-way trips (86 inbound and 208 outbound) during the AM peak hour and an additional 446 two-way trips (280 inbound and 166 outbound) during the PM peak hour.

5.2.1 Multi-Modal Trip Generation

The multi-modal trip generation is summarized **Table 5-3** and is based on the modal split identified in **Section 5.1.**

Table 5-3: Site Multi-Modal Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	In	In	In	Total
Proposed Residential	**External Person Trips**	**212**	**641**	**853**	**751**	**388**	**1139**
	Auto Driver Trips	64	193	257	225	117	342
	Passenger Trips	29	90	119	105	54	159
	Taxi/Rideshare Trips	0	0	0	0	0	0
	Transit Trips	98	296	394	346	178	524
	Pedestrian Trips	21	64	85	75	39	114
	Cycling Trips	0	0	0	0	0	0
Proposed Retail	**External Person Trips**	**43**	**28**	**71**	**107**	**93**	**200**
	Auto Driver Trips	22	15	37	55	49	104
	Passenger Trips	7	5	12	18	16	34
	Taxi/Rideshare Trips	0	0	0	0	0	0
	Transit Trips	11	6	17	25	21	46
	Pedestrian Trips	3	2	5	9	7	16
	Cycling Trips	0	0	0	0	0	0
Total Proposed	**External Person Trips**	**255**	**669**	**924**	**858**	**481**	**1339**
	Auto Driver Trips	86	208	294	280	166	446
	Passenger Trips	36	95	131	123	70	193
	Taxi/Rideshare Trips	0	0	0	0	0	0
	Transit Trips	109	302	411	371	199	570
	Pedestrian Trips	24	66	90	84	46	130
	Cycling Trips	0	0	0	0	0	0

The proposed development is expected to generate 924 total person trips (255 inbound and 669 outbound) during the weekday AM peak hour and 1,339 total person trips (858 inbound and 481 outbound) during the weekday PM peak hour.

5.3 TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution was determined based on TTS 2022 data using TAZ 1585-1591 as summarized in **Table 5-4**. For the residential land use, inbound and outbound distribution was based on PM and AM, respectively (peak flow direction). For the retail land use, inbound and outbound distribution was based on PM due to limited data in the AM. Trip assignment was completed based on the local network, applicable turn restrictions, logical routing, and access conditions. Detailed TTS calculations are provided in **Appendix F**.

Table 5-4: Residential/Retail Site Trip Distribution

Origin/ Destination	Assigned Route	Residential		Retail	
		Weekday AM/PM		Weekday AM/PM	
		In	Out	In	Out
North	Kingston Road	9%	7%	0%	0%
	Markham Road	1%	0%	0%	0%
East	Kingston Road	28%	28%	41%	21%
West	Kingston Road	30%	27%	59%	52%
	Eglinton Avenue	17%	20%	0%	13%
	Markham Road	4%	6%	0%	1%
	Lawrence Avenue	11%	12%	0%	13%
Total		100%	100%	100%	100%

5.4 SITE GENERATED TRAFFIC VOLUMES

Figure 5-1 and **Figure 5-2** detail the assignment of proposed residential and proposed retail site vehicle trips to the study area road network. The assignment of total proposed site vehicle trips is shown in **Figure 5-3**.

Figure 5-1: Site-Generated Peak Hour Traffic Volumes (Proposed Residential)

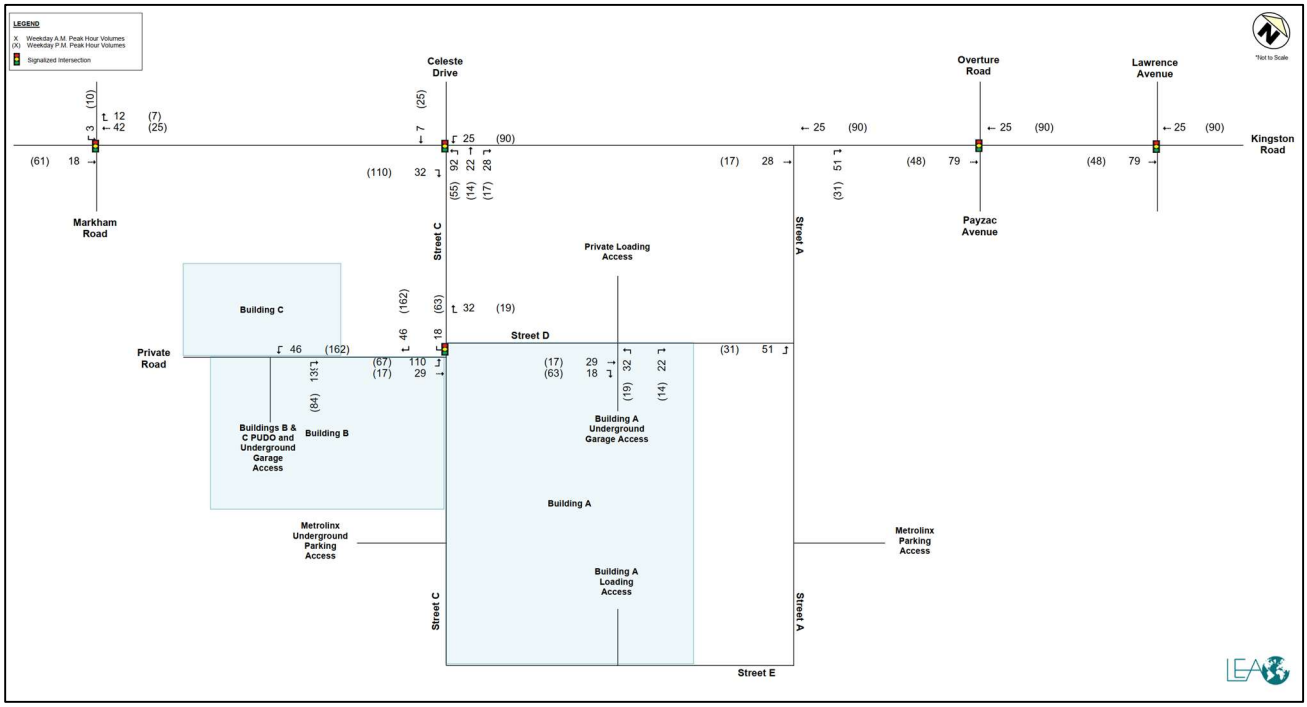


Figure 5-2: Site-Generated Peak Hour Traffic Volumes (Proposed Retail)

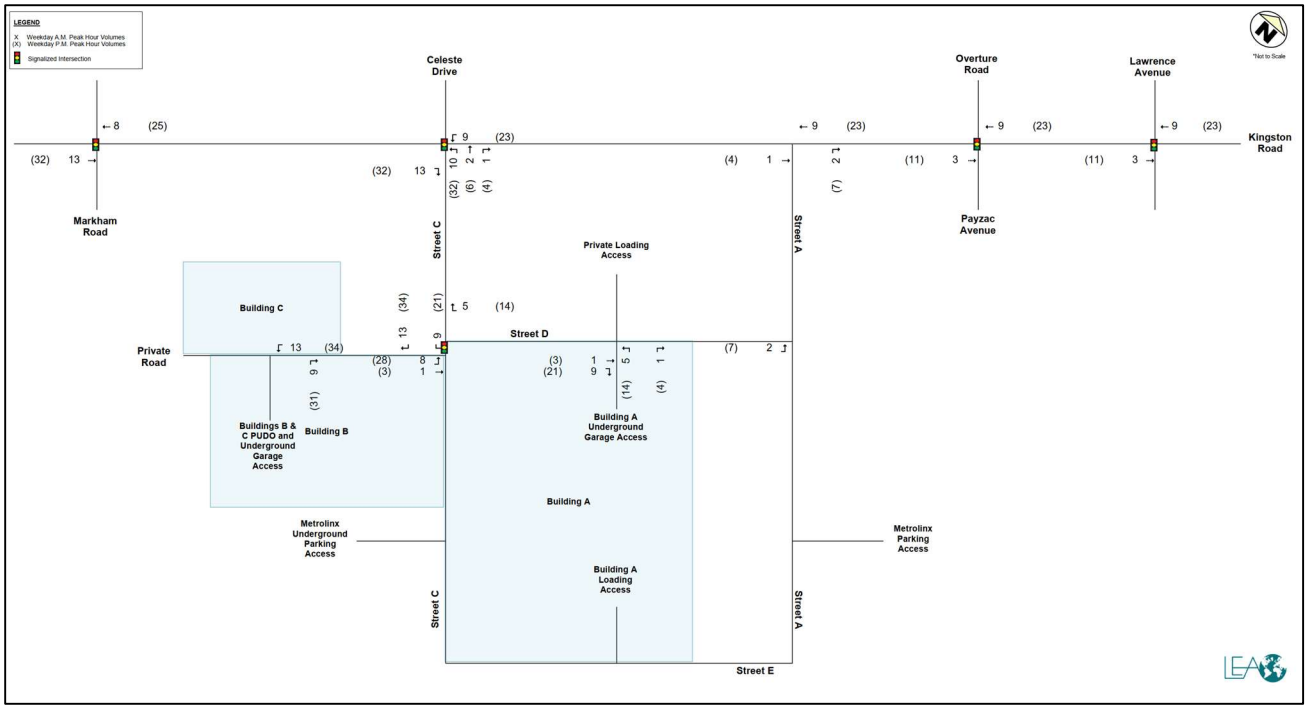
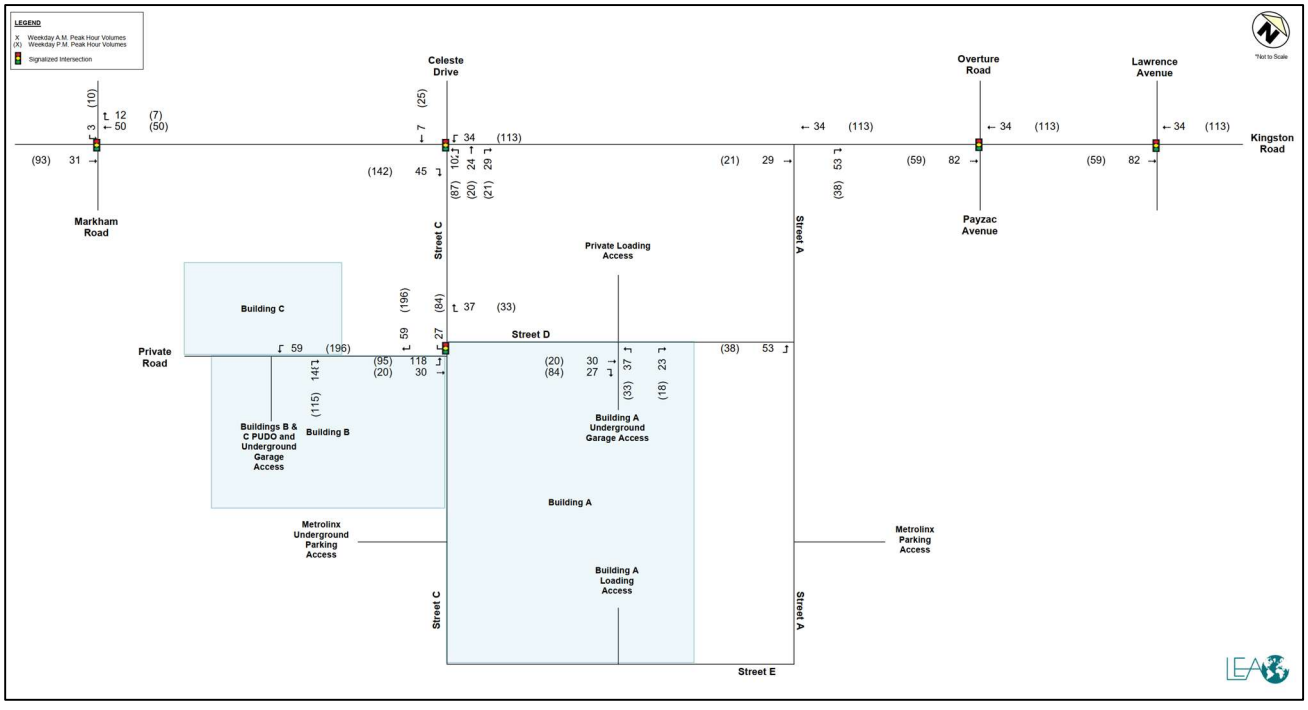


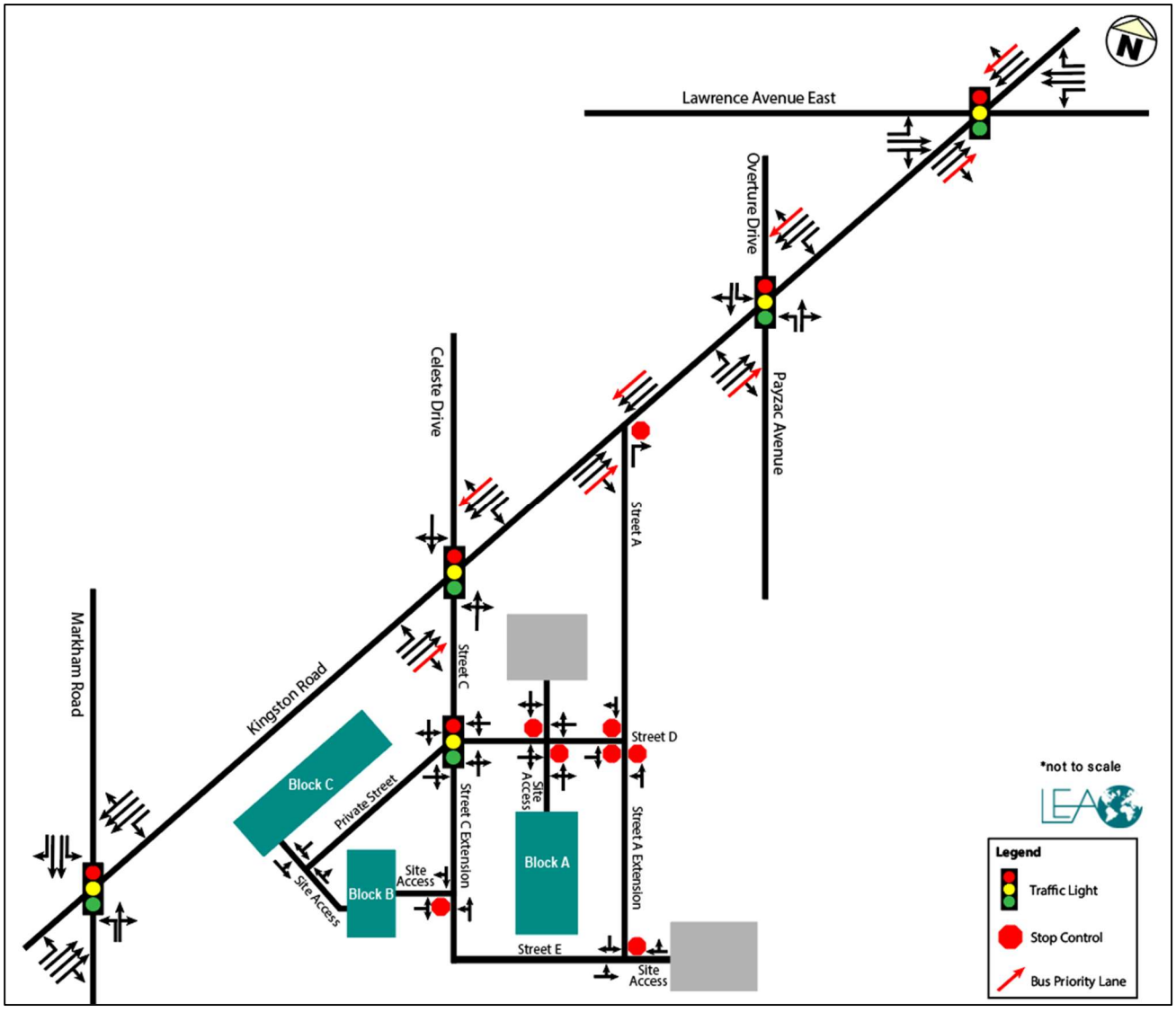
Figure 5-3: Site-Generated Peak Hour Traffic Volumes (Proposed Total)



6 FUTURE TOTAL TRANSPORTATION CONDITIONS

Future total transportation conditions include the addition of site trips to the 2030 future background volumes. **Figure 6-1** illustrates the future road network with the site accesses in place. The intersection of Street C and Street D is signalized in line with the Transportation Impact Study that was completed for the background development directly north of the Guildwood GO Land at 4121 Kingston Road.

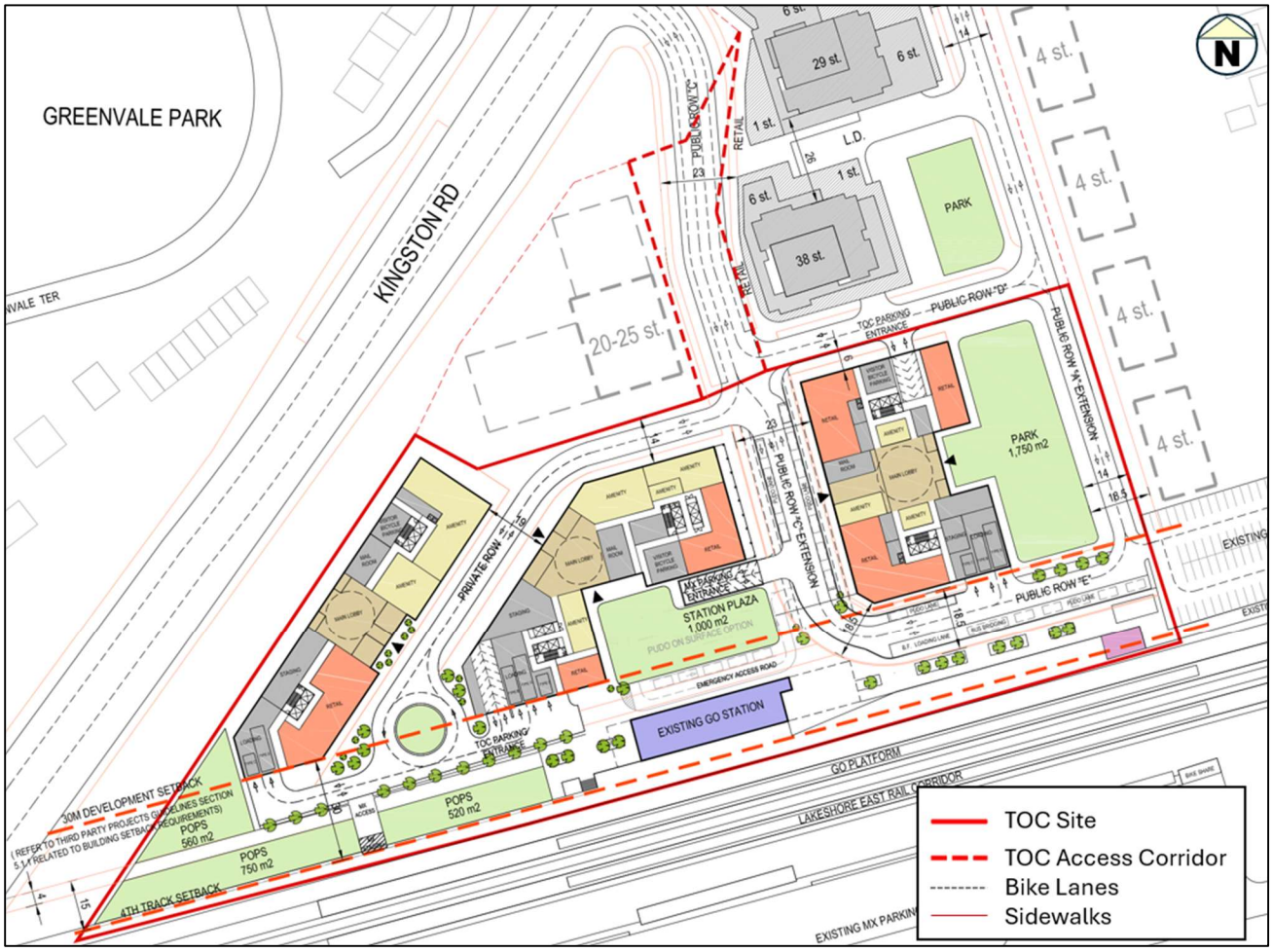
Figure 6-1: Future Road Network



6.1 FUTURE INTERNAL ROAD DESIGN

The proposed development will include improvements to the public right-of-way (ROW) on public roads Street A, Street C, and Street D such as dedicated pedestrian and cycling facilities as shown in **Figure 6-2**.

Figure 6-2: Proposed Development Ground Floor Plan



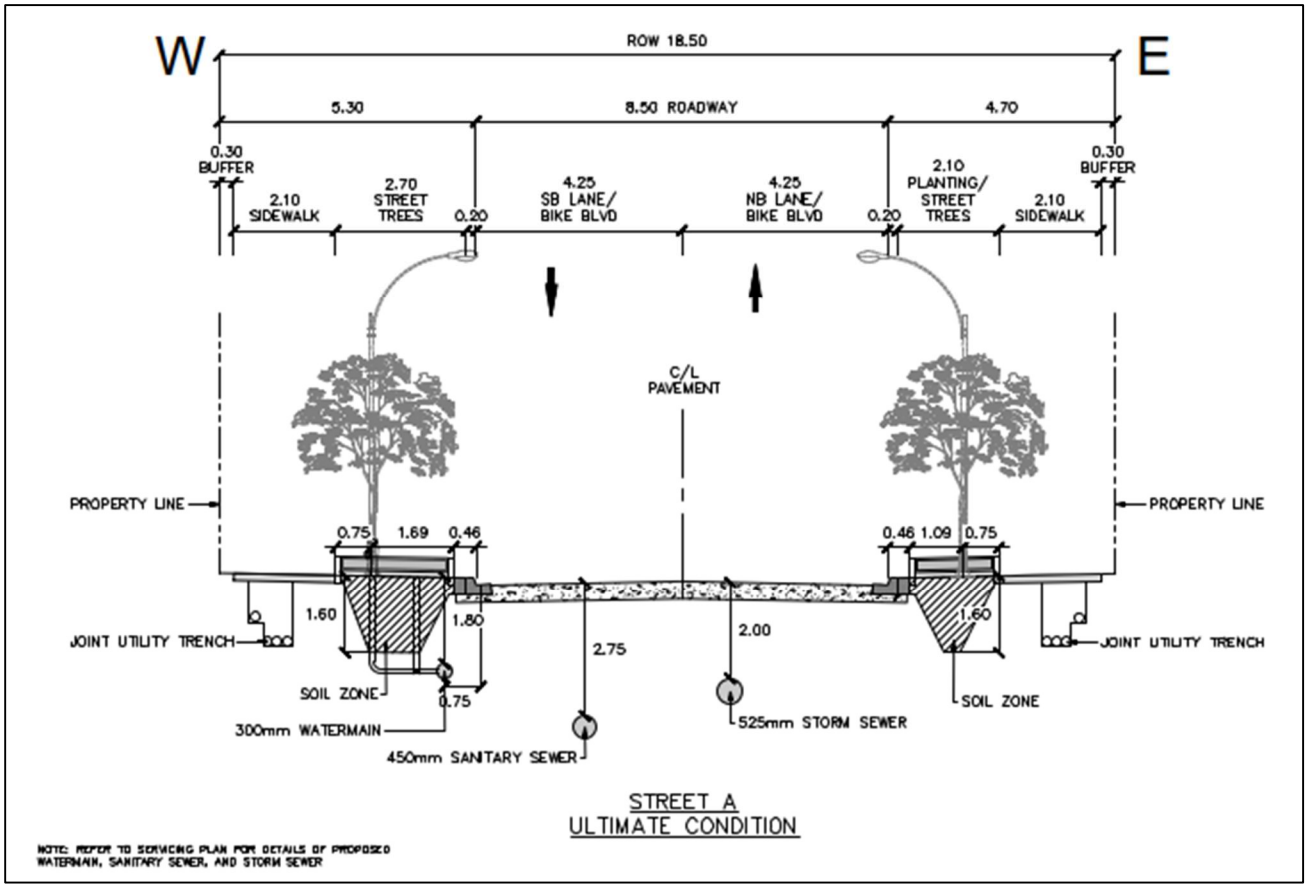
Source: Zeidler Architecture, October 2025

The cross-section diagrams for Street A and Street D (produced by LEA, dated September 2025) were sourced from the background development at 4121 Kingston Road located directly north of the Guildwood GO Land. Cross-section diagrams for Street C were produced by LEA in September 2025 for the proposed development.

6.1.1 Street A

The cross-section diagram for Street A is shown in **Figure 6-3**.

Figure 6-3: Street A Cross-Section



Source: LEA Consulting Ltd., September 2025

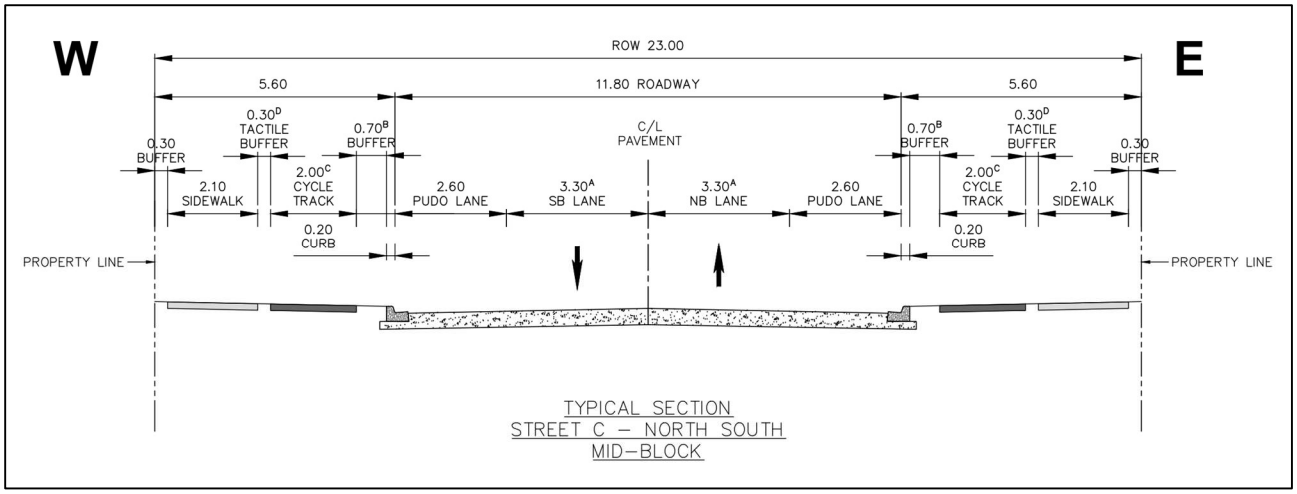
Street A has a ROW of 18.5m including 8.5m of roadway and 10.0m dedicated to pedestrian facilities and street trees. Street A will include 2.1m wide sidewalks on each side of the road. It should be noted that the design of Street A may be altered in future submissions as conversations with City staff regarding this are ongoing.

6.1.2 Street C

The north-south cross-section diagram for Street C is shown in **Figure 6-4**. Street C in the north-south direction has a ROW of 23.0m including 11.8m of roadway, comprising of 6.6m of travel lanes and 5.2m of PUDO lanes, as well as 11.2m dedicated to pedestrian and cycling facilities. Street C will include 2.1m wide sidewalks on each side of the road and 2.0m wide grade-separated unidirectional cycle tracks on each side of the road.

It should be noted that the design intention is to extend Street C southwards as "Public ROW C Extension" towards the GO Station in a manner that is complementary with what is proposed for the portion of Street C adjacent to 4121 Kingston Road. Through preliminary conversations with City staff, they have indicated a desire to see generous pedestrian clearways, planting zones, separated cycle tracks, and roadways.

Figure 6-4: Street C North-South Cross-Section (Mid-Block)

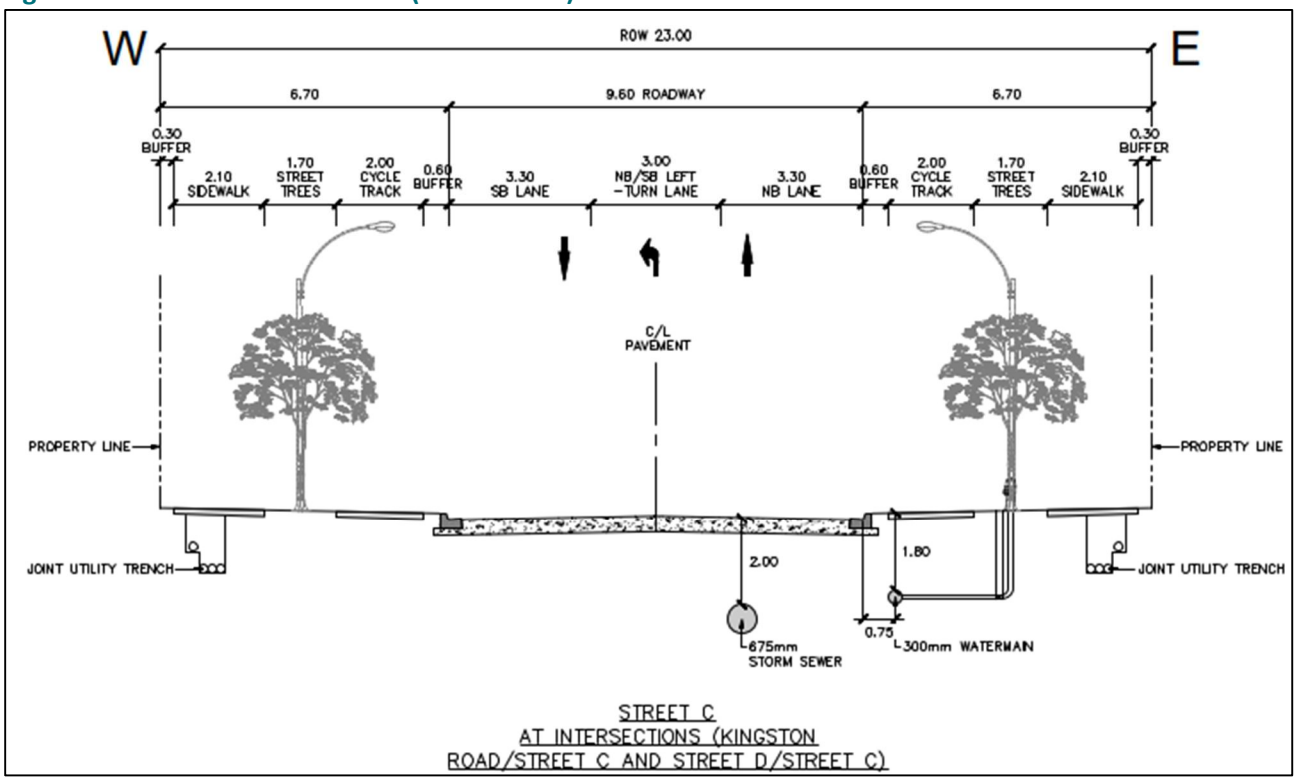


Source: LEA Consulting Ltd., September 2025

6.1.3 Street C Intersection

At the intersections of Street C & Kingston Road and Street C & Street D, the roadway will be expanded to 9.6m to accommodate dedicated left-turn lanes. This will reduce the width of the through lanes to 3.3m wide as well as reduce street tree space to 1.7m wide. The cross-section diagrams for these intersections is shown in **Figure 6-5**.

Figure 6-5: Street C Cross-Section (Intersection)

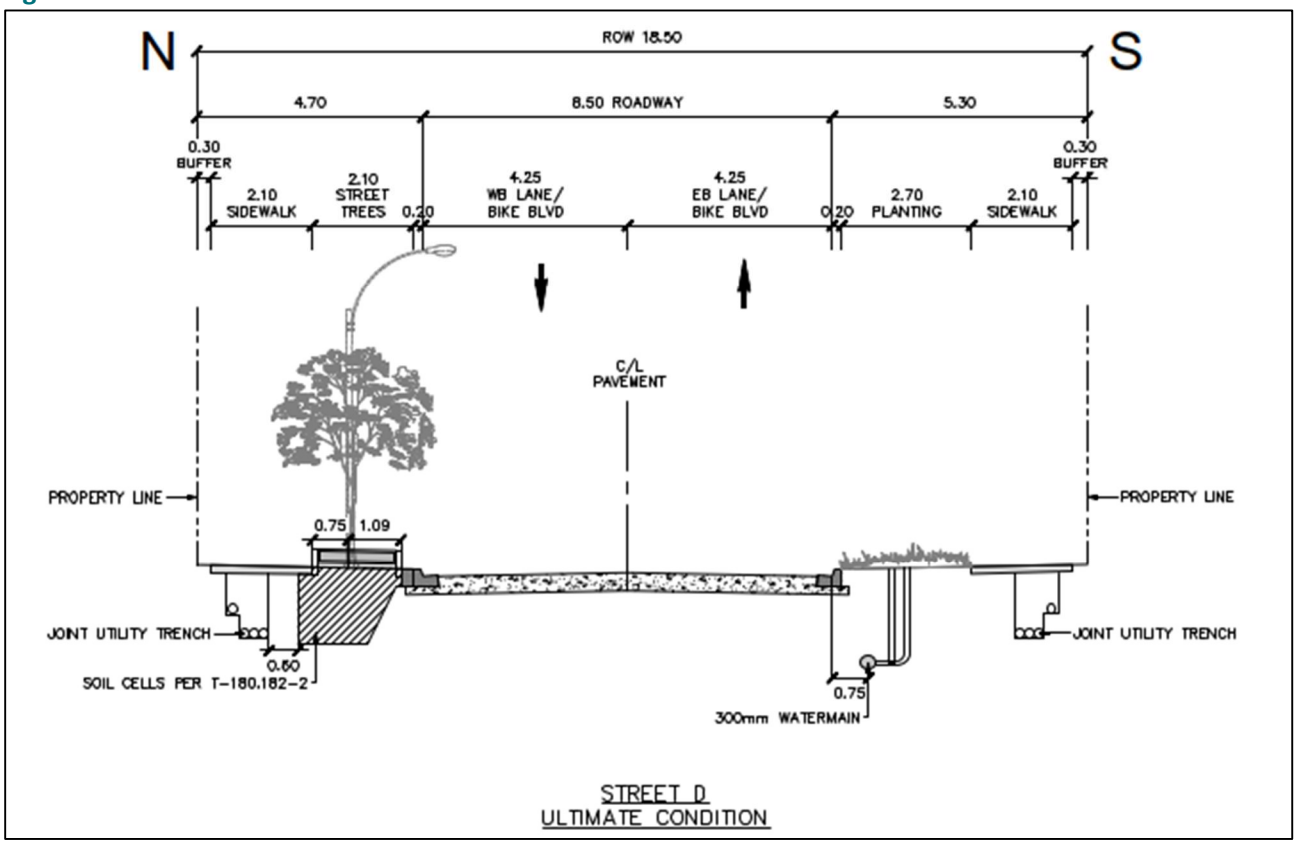


Source: LEA Consulting Ltd., September 2025

6.1.4 Street D

The cross-section diagram for Street D is shown in **Figure 6-6**. Street D has a ROW of 18.5m including 8.5m of roadway and 10.0m dedicated to pedestrian facilities and street trees. Street D will include 2.1m wide sidewalks on each side of the road. The cross-section design for the south side of Street D may be revisited at a future stage in the TOC development process to improve planting zones as well as improve the overall pedestrian realm.

Figure 6-6: Street D Cross-Section

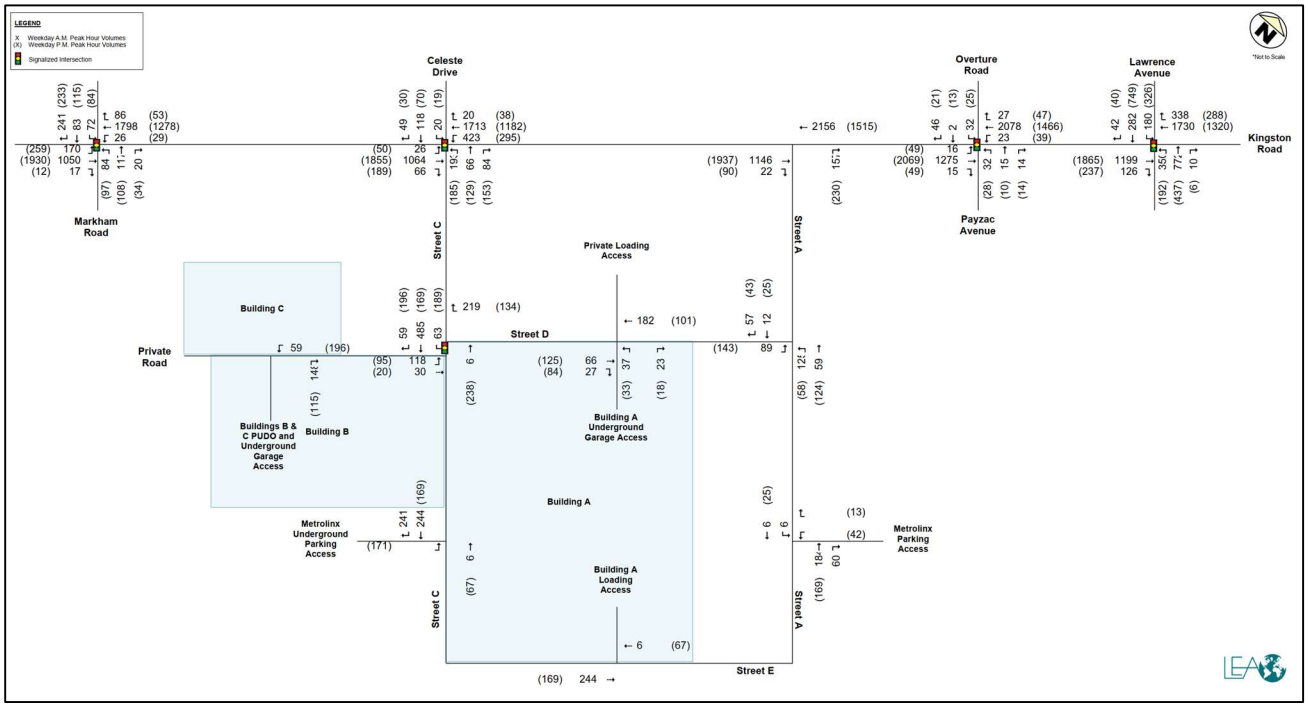


Source: LEA Consulting Ltd., September 2025

6.2 FUTURE TOTAL TRAFFIC VOLUMES

The future total traffic volumes in the study area during the weekday AM and PM peak hours are illustrated in **Figure 6-7**.

Figure 6-7: Future Total Peak Hour Traffic Volumes



7 EVALUATION OF TRANSPORTATION IMPACTS

The following sections provide an analysis of the intersection operations under existing, future background, and future total scenarios. Detailed capacity results are provided in **Appendix G**. The intersection capacity analysis for the study area was undertaken using Synchro version 12.0, with the Highway Capacity Manual (HCM) 2000 methodology. Critical movements are defined as those with a volume-to-capacity (V/C) ratio greater than 1.00 or level of service (LOS) of 'F'. Queues are reported in metres for signalized intersections and vehicles for unsignalized intersections. The LOS Definition summary is provided in **Appendix H**.

The analysis was prepared according to the City of Toronto's Application Support Material: Terms of Reference for Transportation Impact Studies (November 2023), Guidelines for the Preparation of Transportation Impact Studies (July 2013) and Guidelines for Using Synchro 11 (January 2021).

7.1 SYNCHRO MODEL INPUTS AND ASSUMPTIONS

7.1.1 Synchro Calibrations/Parameters

Calibration was performed under existing conditions for movements where the volume-to-capacity (v/c) ratio exceeded 1.00, as it is theoretically not possible for any movement to operate above capacity in current conditions. To address this, adjustments were made to lost time, lane utilization factors, and ideal saturation flow rates. All calibrations were conducted in accordance with the acceptable parameter ranges outlined in the *City of Toronto's Guidelines for Using Synchro 11* (January 2021).

The following calibrations were applied:

- Kingston Road & Celeste Drive / Guildwood GO Access
  - A lost time adjustment of -3.0 seconds was applied to the westbound left-turn movement during the PM peak hour.
- Kingston Road & Lawrence Avenue
  - A lost time adjustment of -2.0 seconds was applied to the westbound through movement during the AM peak hour.
  - A lost time adjustment of -3.0 seconds, lane utilization factor of 1.00, and ideal saturation flow rate of 1950 veh/hr/lane were applied to the eastbound through movement during the PM peak hour.
- Kingston Road & Markham Road
  - A lost time adjustment of -3.0 seconds and an ideal saturation flow rate of 2050 veh/hr/lane were applied to the eastbound left-turn movement during the PM peak hour.

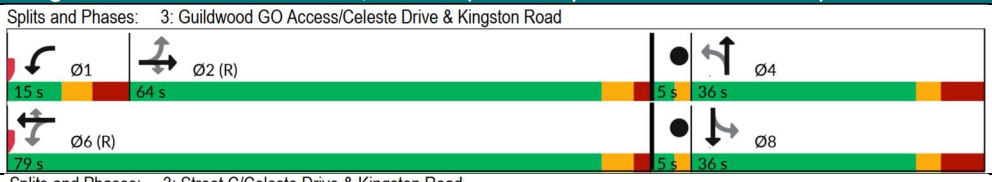
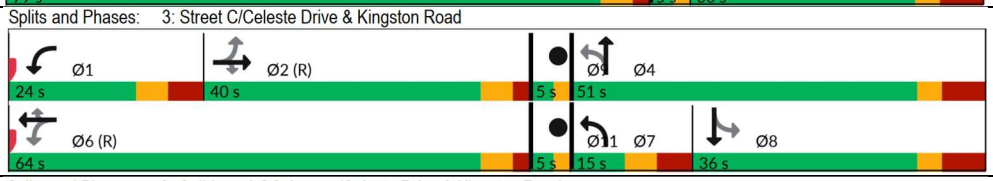
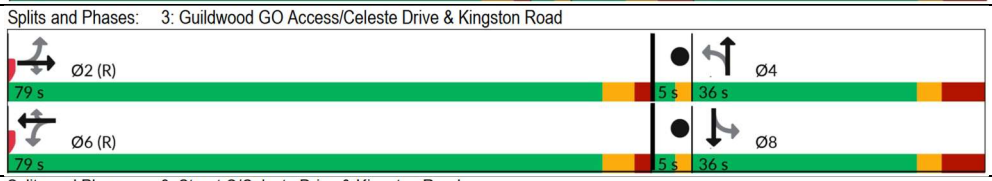
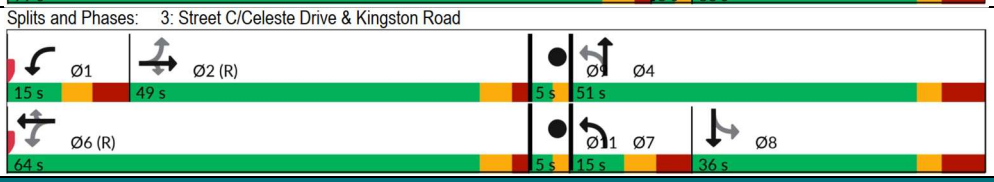
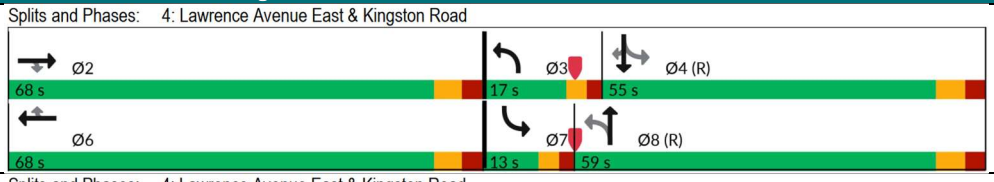
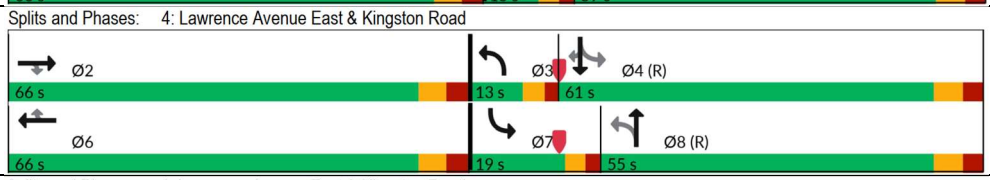
These calibration adjustments resulted in v/c ratios below 1.00 under HCM 2000 analysis and were maintained in the future condition models for consistency.

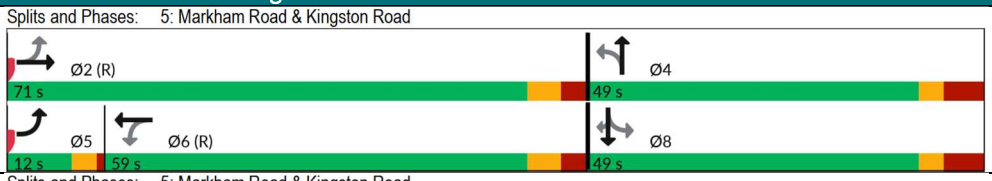
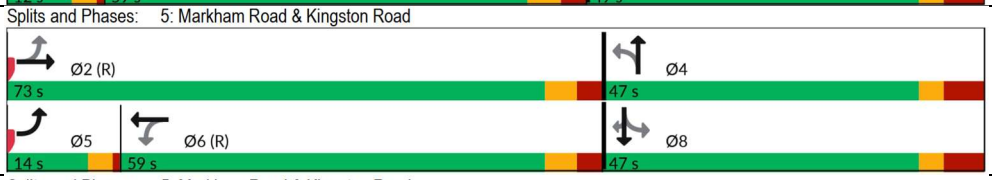
7.1.2 Signal Timing Modifications

Due to critical movements identified at the intersections of Kingston Road and Celeste Drive/Street C, Kingston Road and Lawrence Avenue, and Kingston Road and Markham Road during both peak hours in the future

scenarios, the following signal timing plan optimization is recommended to provide adequate service to all movements under future conditions. The signal timings are presented in **Table 7-1** and **Table 7-2**.

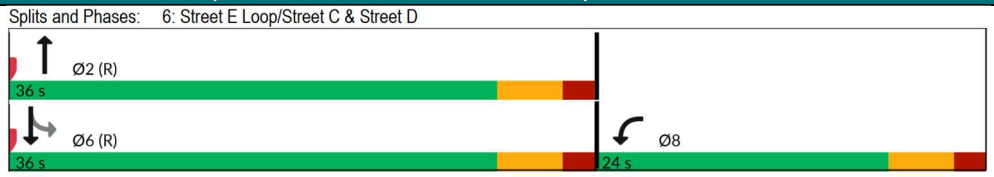
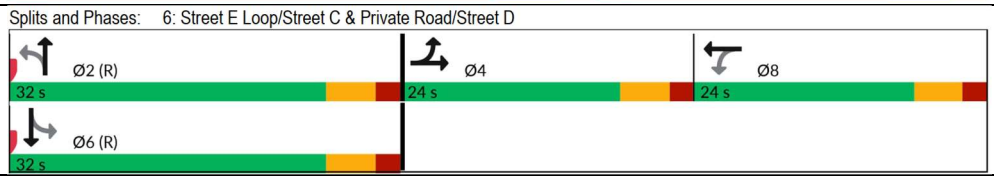
Table 7-1: Signal Timing Modifications

Kingston Road and Celeste Drive/Street C (Previously Guildwood Go Access)	
Existing – AM Peak Period	
Future Optimized – AM Peak Period	
Existing – PM Peak Period	
Future Optimized – PM Peak Period	
Kingston Road and Lawrence Avenue	
Existing – AM Peak Period	
Existing – PM Peak Period	
Future Optimized – AM & PM Peak Period	

Kingston Road and Markham Road	
Existing – AM Peak Period	
Future Optimized – AM Peak Period	
Existing – PM Peak Period	
Future Optimized – PM Peak Period	

The future intersection of Street C/Street E & Private Road/Street D will be a signalized intersection. Under future background conditions, the intersection will be a T-intersection. The signal timing was modelled to be consistent with that of the 4121 Kingston Road background development. Under future total conditions, the intersection will be a four-legged offset intersection. As a result, the signal timing is recommended to have split phasing under future total conditions. Due to the split phasing and timing minimums, the cycle length was increased to 80 seconds.

Table 7-2: Signal Timing Modifications

Street C/Street C Extension & Private Road/Street D	
Future Background – AM and PM Peak Period	
Future Total – AM and PM Peak Period	

7.2 SIGNALIZED INTERSECTIONS

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

7.2.1 Kingston Road & Overture Road/Payzac Avenue

The capacity analysis results at the intersection of Kingston Road & Overture Road/Payzac Avenue are provided in **Table 7-3**.

Table 7-3: Intersection Capacity Analysis - Kingston Road & Overture Road/Payzac Avenue

AM	Existing (2025)				Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBL	8	0.07	A (4)	0/2	16	0.20	B (12)	3/4	16	0.22	A (6)	0/0
EBT	987	0.36	A (4)	20/71	1193	0.44	B (13)	108/109	1275	0.47	A (2)	7/8
EBR	8	0.01	A (1)	0/0	15	0.01	D (36)	0/1	15	0.01	A (0)	0/0
WBL	13	0.03	A (1)	0/2	23	0.08	A (2)	1/3	23	0.09	A (3)	1/3
WBT	1803	0.63	A (4)	60/90	2044	0.74	A (6)	92/148	2078	0.75	A (6)	97/155
WBR	13	0.01	A (1)	0/0	27	0.02	A (2)	0/1	27	0.02	A (2)	0/1
NBL	18	0.31	E (58)	4/12	32	0.38	E (55)	8/17	32	0.37	E (55)	7/17
NBTR	22	0.17	E (55)	3/11	29	0.13	D (52)	3/12	29	0.13	D (52)	3/12
SBL	13	0.21	E (56)	3/9	32	0.37	E (55)	7/17	32	0.36	D (55)	7/17
SBTR	20	0.05	D (54)	1/8	48	0.41	E (56)	9/20	48	0.41	E (56)	9/21
PM	**Existing (2025)**				**Future Background (2030)**				**Future Total (2030)**			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBL	36	0.12	A (2)	1/4	49	0.22	A (4)	2/7	49	0.25	A (5)	2/7
EBT	1807	0.65	A (4)	62/94	2010	0.74	A (6)	86/135	2069	0.76	A (7)	93/146
EBR	40	0.03	A (1)	0/2	49	0.04	A (2)	0/3	49	0.04	A (2)	0/3
WBL	28	0.21	A (5)	1/5	39	0.45	B (18)	2/21	39	0.50	C (23)	2/23
WBT	1150	0.42	A (3)	28/42	1353	0.50	A (4)	39/60	1466	0.55	A (4)	44/69
WBR	26	0.02	A (1)	0/1	47	0.03	A (2)	0/2	47	0.03	A (2)	0/2
NBL	17	0.28	D (52)	4/11	28	0.33	D (50)	6/15	28	0.33	D (50)	6/15
NBTR	20	0.10	D (50)	2/9	24	0.14	D (48)	4/12	24	0.15	D (48)	4/12
SBL	22	0.32	D (52)	5/13	25	0.26	D (49)	5/14	25	0.26	D (49)	5/14
SBTR	28	0.15	D (50)	3/12	34	0.13	D (48)	3/12	34	0.13	D (48)	3/12

Existing Conditions: Under existing conditions, the intersection operates well during both weekday peak hours. All movements operate with residual capacity and acceptable delays. All existing 95th percentile queues can be accommodated by their available storage lanes. No critical movements have been identified.

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

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

7.2.2 Kingston Road & Celeste Drive/Guildwood GO Access (Kingston Road & Celeste Drive/Street C)

The capacity analysis results at the intersection of Kingston Road & Celeste Drive/Guildwood GO Access (Kingston Road & Celeste Drive/Street C) are provided in **Table 7-4**.

Table 7-4: Intersection Capacity Analysis - Kingston Road & Celeste Drive/Guildwood GO Access (Kingston Road & Celeste Drive/Street C)

AM	Existing (2025)				Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBL	22	0.17	B (16)	3/9	26	0.53	E (71)	5/20	26	0.53	E (71)	5/20
EBT	920	0.49	B (17)	68/96	1056	**1.06**	**F (87)**	145/186	1064	**1.06**	**F (90)**	147/188
EBR	21	0.02	B (12)	0/0	29	0.02	C (30)	0/0	66	0.05	C (31)	0/0
WBL	256	0.60	A (10)	22/36	389	0.91	D (51)	77/155	423	**1.00**	**F (80)**	96/181
WBT	1570	0.62	A (10)	114/164	1713	0.86	C (22)	175/256	1713	0.87	C (28)	149/256
WBR	13	0.01	A (4)	0/0	20	0.02	B (11)	0/0	20	0.02	B (11)	0/0
NBL	-	-	- (-)	-/-	91	0.41	D (38)	17/31	193	0.83	E (62)	37/61
NBLTR	136	0.58	D (55)	20/39	-	-	- (-)	-/-	-	-	- (-)	-/-
NBTR	-	-	- (-)	-/-	127	0.15	D (43)	9/24	150	0.23	C (33)	17/31
SBLTR	119	0.55	D (53)	24/41	180	0.67	D (55)	38/58	187	0.68	D (55)	39/60
PM	**Existing (2025)**				**Future Background (2030)**				**Future Total (2030)**			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBL	35	0.18	B (11)	3/9	50	0.32	C (29)	8/22	50	0.37	C (35)	9/22
EBT	1702	0.81	C (20)	159/197	1837	**1.33**	**F (191)**	312/375	1855	**1.52**	**F (277)**	338/380
EBR	43	0.03	A (8)	0/2	65	0.05	C (21)	0/0	189	0.14	C (26)	0/12
WBL	66	0.99	**F (124)**	15/31	182	0.59	C (33)	27/57	295	0.80	D (46)	55/120
WBT	1102	0.54	B (13)	76/96	1182	0.59	B (15)	85/129	1182	0.60	B (16)	90/126
WBR	15	0.01	A (8)	0/0	38	0.03	A (9)	0/0	38	0.03	A (10)	0/0
NBL	-	-	- (-)	-/-	98	0.41	D (38)	20/32	185	0.80	E (60)	39/61
NBLTR	296	0.80	E (56)	59/99	-	-	- (-)	-/-	-	-	- (-)	-/-
NBTR	-	-	- (-)	-/-	330	0.70	D (45)	53/69	282	0.61	D (42)	51/75
SBLTR	62	0.19	D (42)	9/21	94	0.50	D (52)	18/33	119	0.60	D (55)	26/43

Existing Conditions: Under existing conditions, the intersection operates well during both weekday peak hours. Most movements operate with residual capacity and acceptable delays. queues Most existing 95th percentile queues can be accommodated by their available storage lanes. The westbound left movement operates near capacity and experiences LOS F and significant delay during the PM peak hour. The 95th percentile queue for the westbound left movement exceeds the available storage during both peak hours. No other critical movements have been identified.

Future Background Conditions: Under future background conditions, signal optimization was performed. The intersection is expected to operate with some constraints compared to existing conditions due to background

development traffic, corridor growth, and increases in GO transit users. During both peak hours, the eastbound through movement is expected to operate above capacity, experience LOS F and significant delay. The 50th and 95th percentile queues are expected to extend past the available storage during both peak hours. No other new critical movements are expected.

Future Total Conditions: Under future total conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. The eastbound through movement is expected to continue to operate above capacity, with worsened operations during the PM peak hour. During the AM peak hour, the westbound left movement is expected to operate at capacity and experience some delay. No other new critical movements are expected. No intersection modifications are recommended.

7.2.3 Kingston Road & Lawrence Avenue

The capacity analysis results at the intersection of Kingston Road & Lawrence Avenue are provided in **Table 7-5**.

Table 7-5: Intersection Capacity Analysis – Kingston Road & Lawrence Avenue

AM	Existing (2025)				Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBT	882	0.61	C (32)	101/122	1117	0.69	C (30)	128/153	1199	0.75	C (32)	143/170
EBR	126	0.10	C (23)	0/12	126	0.11	B (19)	1/11	126	0.12	B (20)	2/13
WBT	1470	0.99	E (59)	218/272	1696	**1.03**	E (65)	275/317	1730	**1.05**	E (71)	285/327
WBR	338	0.39	C (28)	26/53	338	0.41	C (24)	34/60	338	0.41	C (24)	34/60
NBL	317	0.71	C (32)	58/83	350	0.94	E (71)	73/132	350	0.94	E (71)	73/132
NBTR	708	0.57	D (36)	85/105	782	0.70	D (43)	102/125	782	0.70	D (43)	102/125
SBL	180	0.72	D (39)	30/47	180	**1.01**	**F (109)**	33/77	180	**1.01**	**F (109)**	33/77
SBT	282	0.26	C (33)	31/42	282	0.26	C (34)	31/43	282	0.26	C (34)	31/43
SBR	42	0.04	C (30)	0/4	42	0.04	C (31)	0/4	42	0.04	C (31)	0/4
PM	**Existing (2025)**				**Future Background (2030)**				**Future Total (2030)**			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBT	1603	0.99	E (58)	221/272	1806	0.97	D (48)	241/296	1865	**1.00**	E (56)	259/313
EBR	237	0.29	C (28)	15/36	237	0.28	C (22)	15/34	237	0.28	C (22)	15/34
WBT	976	0.67	C (35)	115/138	1207	0.72	C (31)	138/164	1320	0.79	C (33)	159/188
WBR	288	0.30	C (28)	10/32	288	0.32	C (23)	16/38	288	0.32	C (23)	16/38
NBL	192	0.67	D (35)	30/46	192	0.96	**F (90)**	34/77	192	0.96	**F (90)**	34/77
NBTR	443	0.38	D (35)	49/64	443	0.39	D (36)	50/65	443	0.39	D (36)	50/65
SBL	295	0.70	C (29)	50/71	326	**1.02**	**F (98)**	65/131	326	**1.02**	**F (98)**	65/131
SBT	678	0.51	C (34)	76/94	749	0.64	D (42)	94/115	749	0.64	D (42)	94/115
SBR	36	0.03	C (26)	0/2	40	0.03	C (31)	0/3	40	0.03	C (31)	0/3

Existing Conditions: Under existing conditions, the intersection operates well during both weekday peak hours. All movements operate with residual capacity and acceptable delays. The westbound through movement operates near capacity during the AM peak hour. The eastbound through movement operates near capacity during the PM peak hour. Most existing 95th percentile queues can be accommodated by their available storage lanes. The 50th and 95th percentile queues for the northbound left movement exceeds the available storage during the AM peak hour. No other critical movements have been identified.

Future Background Conditions: Under future background conditions, signal optimization was performed. The intersection is expected to operate with some increases in V/C ratios and delay compared to existing conditions due to corridor growth and background development traffic. The westbound through and southbound left movements are expected to operate slightly above capacity during the AM peak hour. During the PM peak hour, the northbound left movement is expected to approach capacity and experience LOS F due to some delay and queuing. The southbound left movement is expected to operate slightly above capacity and experiences LOS F due to some delay. The 95th percentile queues for the southbound left movement are expected to exceed the available storage during both peak hours. The analysis is conservative, and the critical movements are not expected to be of concern, as active transportation options in the area will increase

significantly and there are numerous planned transit improvements. As a result, a reduction in vehicle trips for the surrounding road network is anticipated. No other new critical movements are expected.

Future Total Conditions: Under future total conditions, the addition of site traffic is expected to have an acceptable impact on intersection operations, with all movements operating similar to future background conditions. During the PM peak hour, the eastbound through movements operates at capacity. No other new critical movements are expected. No intersection modifications are recommended.

7.2.4 Kingston Road & Markham Road

The capacity analysis results at the intersection of Kingston Road & Markham Road are provided in **Table 7-6.**

Table 7-6: Intersection Capacity Analysis – Kingston Road & Markham Road

AM	Existing (2025)				Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBL	154	0.99	F (98)	25/68	170	0.95	F (86)	29/72	170	0.95	F (87)	29/72
EBTR	899	0.35	B (16)	44/54	1036	0.39	B (15)	51/61	1067	0.41	B (16)	53/63
WBL	26	0.12	C (21)	4/10	26	0.14	C (21)	4/10	26	0.14	C (22)	4/10
WBTR	1606	0.77	C (31)	121/140	1822	0.88	D (36)	147/169	1884	0.91	D (38)	156/178
NBL	76	0.19	C (28)	13/25	84	0.22	C (30)	15/28	84	0.22	C (30)	15/28
NBTR	124	0.20	C (28)	20/35	137	0.24	C (30)	23/39	137	0.24	C (30)	23/39
SBL	61	0.15	C (28)	10/21	69	0.19	C (30)	12/24	72	0.20	C (30)	13/25
SBT	75	0.07	C (26)	6/12	83	0.08	C (28)	7/13	83	0.08	C (28)	7/13
SBR	218	0.27	C (29)	13/33	241	0.30	C (31)	13/35	241	0.30	C (31)	13/35
PM	Existing (2025)				Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBL	255	0.98	E (68)	31/82	259	0.88	D (52)	42/86	259	0.88	D (53)	42/86
EBTR	1691	0.68	C (21)	101/118	1849	0.75	C (23)	117/135	1942	0.79	C (24)	127/146
WBL	28	0.47	D (46)	5/19	29	0.48	D (51)	5/19	29	0.48	D (51)	5/19
WBTR	1143	0.59	C (27)	73/87	1274	0.76	C (34)	93/111	1331	0.79	D (35)	99/117
NBL	88	0.22	C (25)	14/26	97	0.24	C (26)	15/29	97	0.24	C (26)	15/29
NBTR	129	0.20	C (25)	19/33	142	0.23	C (25)	22/37	142	0.23	C (25)	22/37
SBL	70	0.17	C (25)	11/22	74	0.19	C (25)	12/23	84	0.21	C (25)	13/25
SBT	112	0.09	C (23)	9/15	115	0.09	C (23)	9/15	115	0.09	C (23)	9/15
SBR	227	0.25	C (26)	8/27	233	0.18	C (25)	0/16	233	0.18	C (25)	0/16

Existing Conditions: Under existing conditions, the intersection operates well during both weekday peak hours. All movements operate with residual capacity and acceptable delays. The eastbound left movement operates near capacity and experiences LOS F and some delay. Most existing 95th percentile queues can be accommodated by their available storage lanes. During both peak hours, the 95th percentile queues for the eastbound left movement exceeds the available storage. No other critical movements have been identified.

Future Background Conditions: Under future background conditions, signal optimization was performed. The intersection is expected to operate similar to existing conditions with acceptable increases in V/C ratios and delay. The queues for the eastbound left movement are expected to be similar to existing conditions. No other new critical movements are expected.

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

7.2.5 Street C/Street C Extension & Street D (Street C/Street C Extension & Private Road/Street D)

The capacity analysis results at the intersection of Street C/Street C Extension & Street D (Street C/Street C Extension & Private Road/Street D) are provided in **Table 7-7**.

Table 7-7: Intersection Capacity Analysis - Street C/Street C Extension & Street D (Street C/Street C Extension & Private Road/Street D)

AM	Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBLT	-	-	- (-)	-/-	148	0.54	C (32)	23/38
WBTR	80	0.06	C (25)	0/0	219	0.15	C (35)	0/0
NBT	138	0.11	A (2)	4/7	6	0.01	A (8)	0/2
SBL	36	0.05	A (2)	1/2	63	0.09	A (8)	5/12
SBT	493	0.39	A (4)	10/38	-	-	- (-)	-/-
SBTR	-	-	- (-)	-/-	544	0.58	B (14)	54/97
PM	**Future Background (2030)**				**Future Total (2030)**			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBLT	-	-	- (-)	-/-	115	0.52	C (35)	17/31
WBTR	59	0.04	C (26)	0/0	134	0.09	C (34)	0/0
NBT	369	0.27	A (3)	11/18	238	0.22	A (8)	17/32
SBL	105	0.15	A (5)	8/27	189	0.31	A (9)	14/30
SBT	187	0.14	A (4)	15/34	-	-	- (-)	-/-
SBTR	-	-	- (-)	-/-	365	0.34	A (9)	21/43

Future Background Conditions: Under future background conditions, the intersection is expected to operate well during both weekday peak hours. All movements are expected to operate with residual capacity and acceptable delays. All 95th percentile queues are expected to be accommodated by their available storage lanes. No critical movements have been identified.

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

7.3 UNSIGNALIZED INTERSECTIONS/SITE ACCESSES

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

7.3.1 Kingston Road & Street A

The capacity analysis results at the intersection of Kingston Road & Street A are provided in **Table 7-8**.

Table 7-8: Intersection Capacity Analysis – Kingston Road & Street A

AM	Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBT	637	0.37	(0)	-/0	637	0.37	(0)	-/0
EBR	16	0.01	(0)	-/0	24	0.01	(0)	-/0
WBT	1179	0.69	(0)	-/0	1198	0.70	(0)	-/0
NBR	82	0.11	B (10)	-/3	174	0.22	B (11)	-/7
PM	Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBT	1056	0.62	(0)	-/0	1020	0.60	(0)	-/0
EBR	76	0.04	(0)	-/0	95	0.06	(0)	-/0
WBT	738	0.43	(0)	-/0	798	0.47	(0)	-/0
NBR	108	0.17	B (12)	-/5	242	0.35	B (13)	-/12

Future Background Conditions: Under future background conditions, the intersection is expected to operate well during both weekday peak hours. All movements are expected to operate with residual capacity and acceptable delays. All 95th percentile queues are expected to be accommodated by their available storage lanes. No critical movements have been identified.

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

7.3.2 Street D & Private Access (Street D & Private Access/Building A Site Access)

The capacity analysis results at the intersection of Street D & Private Access (Street D & Private Access/Building A Site Access) are provided in **Table 7-9**.

Table 7-9: Intersection Capacity Analysis - Street D & Private Access (Street D & Private Access/Building A Site Access)

AM	Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBLTR	40	0.00	- (0)	-/0	103	0.00	- (0)	-/0
WBLTR	89	0.05	- (0)	-/0	202	0.00	- (0)	-/0
NBLTR	-	-	- (-)	-/-	67	0.09	B (10)	-/2
SBLR	0	0.00	A (0)	-/0	0	0.00	A (0)	-/0
PM	Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBLTR	111	0.00	- (0)	-/0	220	0.00	- (0)	-/0
WBLTR	62	0.04	- (0)	-/0	106	0.00	- (0)	-/0
NBLTR	-	-	- (-)	-/-	54	0.07	B (10)	-/2
SBLR	0	0.00	A (0)	-/0	0	0.00	A (0)	-/0

Future Background Conditions: Under future background conditions, the intersection is expected to operate well during both weekday peak hours. All movements are expected to operate with residual capacity and acceptable delays. All 95th percentile queues are expected to be accommodated by their available storage lanes. No critical movements have been identified.

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

7.3.3 Street A/Street A Extension & Street D

The capacity analysis results at the intersection of Street A/Street A Extension & Street D are provided in **Table 7-10**.

Table 7-10: Intersection Capacity Analysis - Street A/Street A Extension & Street D

AM	Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBLR	40	0.05	A (8)	-/-	99	0.13	A (8)	-/-
NBLT	58	0.07	A (7)	-/-	205	0.25	A (9)	-/-
SBTR	67	0.06	A (7)	-/-	76	0.08	A (7)	-/-
PM	Future Background (2030)				Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBLR	111	0.13	A (8)	-/-	151	0.20	A (9)	-/-
NBLT	54	0.06	A (8)	-/-	192	0.24	A (9)	-/-
SBTR	52	0.05	A (7)	-/-	71	0.08	A (8)	-/-

Future Background Conditions: Under future background conditions, the intersection is expected to operate well during both weekday peak hours. All movements are expected to operate with residual capacity and acceptable delays. All 95th percentile queues are expected to be accommodated by their available storage lanes. No critical movements have been identified.

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

7.3.4 Private Road & Buildings B & C Site Access

The capacity analysis results at the intersection of Private Road & Buildings B & C Site Access are provided in **Table 7-11**.

Table 7-11: Intersection Capacity Analysis - Private Road & Buildings B & C Site Access

AM	Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBTR	0	0.00	- (0)	-/0
WBLT	66	0.04	A (7)	-/1
NBLR	164	0.15	A (9)	-/4
PM	Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBTR	0	0.00	- (0)	-/0
WBLT	206	0.13	A (8)	-/3
NBLR	121	0.11	A (9)	-/3

Future Total Conditions: Under future total conditions, the intersection is expected to operate well during both weekday peak hours. All movements are expected to operate with residual capacity and acceptable delays. All 95th percentile queues are expected to be accommodated by their available storage lanes. No critical movements have been identified.

7.3.5 Street C Extension and Metrolinx Underground Parking Access

The capacity analysis results at the intersection of Street C Extension and Metrolinx Underground Parking Access are provided in **Table 7-12**.

Table 7-12: Intersection Capacity Analysis - Street C Extension and Metrolinx Underground Parking Access

AM	Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBLR	0	0.00	A (0)	-/0
NBLT	7	0.00	- (0)	-/0
SBTR	539	0.32	- (0)	-/0
PM	Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
EBLR	180	0.24	B (11)	-/7
NBLT	0	0.00	- (0)	-/0
SBTR	178	0.10	- (0)	-/0

Future Total Conditions: Under future total conditions, the intersection is expected to operate well during both weekday peak hours. All movements are expected to operate with residual capacity and acceptable delays. All 95th percentile queues are expected to be accommodated by their available storage lanes. No critical movements have been identified.

7.3.6 Street A Extension and Metrolinx Parking Access

The capacity analysis results at the intersection of Street A Extension and Metrolinx Parking Access are provided in **Table 7-13.**

Table 7-13: Intersection Capacity Analysis - Street A Extension and Metrolinx Parking Access

AM	Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
WBLR	0	0.00	A (0)	-/0
NBTR	271	0.16	- (0)	-/0
SBLT	14	0.01	A (4)	-/0
PM	Future Total (2030)			
Mvmt	Vol	V/C	LOS (Delay)	Queues (50/95) (m)
WBLR	58	0.07	A (10)	-/2
NBTR	178	0.10	- (0)	-/0
SBLT	26	0.00	- (0)	-/0

Future Total Conditions: Under future total conditions, the intersection is expected to operate well during both weekday peak hours. All movements are expected to operate with residual capacity and acceptable delays. All 95th percentile queues are expected to be accommodated by their available storage lanes. No critical movements have been identified.

7.4 CONNECTION TO PAYZAC AVENUE

Based on the results of the capacity analysis undertaken for the proposed development, it is confirmed that a future vehicle connection between Payzac Avenue and the Guildwood GO TOC will not be required. All existing and proposed roadways can sufficiently accommodate anticipated vehicle traffic.

7.5 STOP CONTROL WARRANT

An all-way stop control (AWSC) warrant analysis was conducted for the future intersection of Street A/Street A Extension and Street D. Projected total volumes for both peak hours exceed the Ontario Traffic Manual (OTM) minimum threshold of 200 vehicles during the highest hour. However, the directional volume split surpasses the allowable 75%/25% threshold, which means the AWSC is technically not warranted based on OTM criteria. The directional volume split exceeds the threshold by only 1%, representing a marginal deviation. Given this slight variance and the anticipated operational benefits, implementation of an all-way stop control is recommended at the intersection. Supporting details are provided in **Appendix I**.

8 MULTI-MODAL ANALYSIS

In order to evaluate the conditions of the study area existing road network in terms of supporting transit and active transportation activities, the City of Ottawa's Multi-Modal Level of Service (MMLOS) Guidelines were adopted to generate levels of service (LOS) to describe the convenience and comfort level for transit and active transportation infrastructures in the subject area. The results are on a scale of A to F, where A represents preferred conditions and F represents least preferred conditions, depending on the criteria of the mode. It should be noted that LOS is not always the desired target for all modes, rather each mode is considered independently, and the minimum LOS targets depend on the context of the street and surrounding area.

The transit level of service (TLOS) was conducted for the signalized study intersections, based on the worst intersection approach. The pedestrian level of service (PLOS) and biking level of service (BLOS) evaluation was conducted for the worst section of the segments along Kingston Road and future streets. Supporting calculations are provided in **Appendix J**.

8.1 MMLOS TRANSIT ASSESSMENT

The Transit Level of Service (TLOS) for the signalized study intersections are summarized in **Table 8-1**.

Table 8-1: Transit Level of Service Evaluation

Transit Stop Location	Direction	Route	EX (2025)	FB (2030)	FT (2030)
			LOS	LOS	LOS
Kingston Road & Celeste Drive/Guildwood GO Access (Kingston Road & Celeste Drive/Street C)	Eastbound	TTC Bus Routes 12, 86, 334, 905, and 986	A	A	A
	Westbound		A	A	A
Kingston Road & Lawrence Avenue	Northbound	TTC Bus Routes 54, 354, 954	E	F	F
	Southbound		D	E	E
	Eastbound	TTC Bus Routes 12, 86, 334, 905, and 986	A	A	A
	Westbound		A	A	A
Kingston Road & Markham Road	Southbound	TTC Bus Routes 102 & 902	D	E	E
	Eastbound	TTC Bus Routes 12	C	D	D
	Westbound		E	E	E

Dedicated bus lanes are provided along Kingston Road east of Eglinton Avenue. As transit vehicles mix with general traffic without dedicated bus lanes along Kingston west of Eglinton Avenue, Lawrence Avenue and Markham Road, buses experience some delays. It can be noted that this evaluation only applies to surface transit. The delay for the lanes used by buses for each signalized intersection approach remains similar to existing conditions for future conditions with minimal increases in delay.

Plans to expand TTC bus service into the Guildwood GO Land is currently unknown. As such, it is anticipated that TTC bus service in the vicinity will remain limited to Kingston Road.

8.2 MMLOS PEDESTRIAN ASSESSMENT

The Pedestrian Level of Service (PLOS) for the segments within the study area are summarized in **Table 8-2**.

Table 8-2: Pedestrian Level of Service Evaluation

Segment	From	To	Side	EX (2025)	FB (2030)	FT (2030)
				LOS	LOS	LOS
Kingston Road	Guildwood Parkway	Celeste Drive	North	E	D	D
			South	E	D	D
Kingston Road	Celeste Drive	Overture Road/ Payzac Avenue	North	F	D	D
			South	F	D	D
Street A	Kingston Road	Street D	East	-	-	A
			West	-	A	A
Street C	Kingston Road	Street D	East	-	A	A
			West	-	A	A
Street D	Street A	Street C	North	-	A	A
			South	-	-	A
Street C Extension/Street E/Street A Extension	Street D	Street D	North	-	-	C
			South	-	-	C

Pedestrian facilities are provided along all of the corridors. However, with minimal separation from vehicles, conditions are somewhat impacted by the vehicle volumes and speeds. There are some improvements for the pedestrian facilities for Kingston Road under future conditions.

8.3 MMLOS CYCLING ASSESSMENT

The Bicycle Level of Service (BLOS) for the segments within the study area are summarized in **Table 8-3**.

Table 8-3: Bicycle Level of Service Evaluation

Segment	From	To	Side	EX (2025)	FB (2030)	FT (2030)
				LOS	LOS	LOS
Kingston Road	Guildwood Parkway	Celeste Drive	North	F	A	A
			South	F	A	A
Kingston Road	Celeste Drive	Overture Road/ Payzac Avenue	North	F	A	A
			South	F	A	A
Street A	Kingston Road	Street D	East	-	-	B
			West	-	B	B
Street C	Kingston Road	Street D	East	-	A	A
			West	-	A	A
Street D	Street A	Street C	North	-	B	B
			South	-	-	B
Street C Extension/Street E/Street A Extension	Street D	Street D	North	-	-	B
			South	-	-	B

As there is a lack of cycling facilities available for Kingston Road under existing conditions, the number of travel lanes and the speed of the traffic make it less comfortable for inexperienced cyclists to use. Under future conditions, cycle tracks are proposed for Kingston Road and Street C.

The Guildwood GO Land is expected to generate the following two-way transit, pedestrian, and biking trips:

- Transit trips: 411 in the AM and 570 in the PM;
- Pedestrian trips: 90 in the AM and 130 in the PM; and
- Biking trips: 0 in the AM and 0 in the PM.

Although the Guildwood GO Land is expected to generate 0 bicycle trips according to this analysis, significant cycling infrastructure as well as bicycle parking is proposed as part of the transit-oriented community and more cycling trips should be anticipated. Therefore, the analysis is considered to be conservative.

These trips are expected to be supported by the multi-modal network surrounding the Guildwood GO Land, particularly given the Guildwood GO Land's proximity to the Guildwood GO Station, which services GO Transit and Vial Rail, and TTC bus routes 12, 54, 86, 102, 334, 354, 902, 905, and 986. In addition, the Transportation Demand Management (TDM) plan for the Guildwood GO Land, as explained in **Section 16**, includes strategies to support and encourage users to travel by alternative modes.

9 TRANSIT ASSESSMENT

This section identifies current and planned transit service as well as existing and planned transit infrastructure adjacent to the site, including bus/streetcar stops, shelters, transit terminals, and subway infrastructure.

9.1 EXISTING TRANSIT INFRASTRUCTURE AND ROUTES

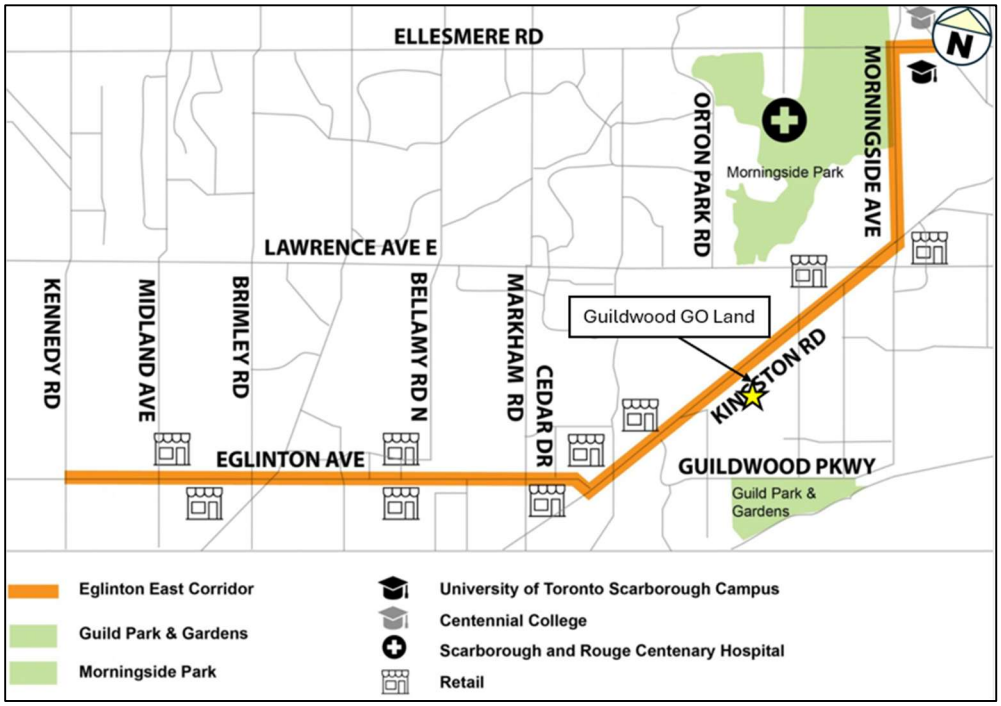
Existing transit infrastructure in the vicinity of the Guildwood GO Land consists of bus stops located at the intersection of Kingston Road and Celeste Drive. The Guildwood GO Land does not directly front onto any Enhanced Surface Transit Network Segments or streets with bus stops.

The bus stops nearest to the Guildwood GO Land service TTC Routes 12, 86, 334, 905, and 986. More detailed descriptions of the bus routes are provided in **Section 2.2**.

9.1.1 RapidTO: Eglinton Avenue East

As part of RapidTO: Eglinton Avenue East, priority bus lanes were added along Kingston Road in October 2020. The project area is shown in **Figure 9-1**. Converted from a curbside mixed-traffic lane, the current priority bus lane is reserved for TTC buses, Wheel-Trans buses, school buses, and bicycles 24 hours a day, seven days a week, and identified using red paint on the road, pavement markings, and signage.

Figure 9-1: Eglinton Avenue East RapidTO Route



Source: City of Toronto, accessed August 2025

9.2 PLANNED TRANSIT INFRASTRUCTURE AND ROUTES

Plans to expand TTC bus service into the Guildwood GO Land is currently unknown. As such, it is anticipated that TTC bus service in the vicinity will remain limited to Kingston Road.

10 HIGHER ORDER TRANSIT ASSESSMENT

This section identifies existing and planned higher order transit infrastructure within 60 metres of the site.

10.1 EXISTING HIGHER ORDER TRANSIT INFRASTRUCTURE AND ROUTES

Guildwood Station is an existing form of higher order transit infrastructure located within 60 metres of the Guildwood GO Land. It is currently accessible via Kingston Road to the north and Westlake Road to the south. Guildwood GO Station services the Lakeshore East GO train route between Union Station and Durham College/Oshawa GO Station. Guildwood Station also services VIA Rail routes to destinations across Ontario and Quebec. Further descriptions of the Lakeshore East GO train route and VIA Rail routes are provided in **Section 2.2.1**.

10.2 PLANNED HIGHER ORDER TRANSIT INFRASTRUCTURE AND ROUTES

The EELRT is a form of planned higher order transit infrastructure and transit service near Guildwood GO Station that is located within 60 metres of the Guildwood GO Land. A more detailed description of the EELRT is provided in **Section 3.1.1**.

11 PARKING ASSESSMENT

The following section reviews the parking standards for the proposed redevelopment based on the current zoning by-law requirements applicable to the Guildwood GO Land.

11.1 BICYCLE PARKING ASSESSMENT

The City of Toronto Zoning By-Law 569-2013 as amended by By-law 223-2025 bicycle parking requirements for Bicycle Zone 2 (BZ2) were reviewed and applied to the proposed development. Application of these standards also meets the TGS V4 requirements. The bicycle parking requirements for the proposed development are summarized in **Table 11-1**.

Table 11-1: Zoning By-law 223-2025 Bicycle Parking Requirements (BZ2)

Block	Land Use	Size		Rate		Min. Spaces	Proposed Supply
A	Residential (short-term)	710	Units	0.07	spaces per unit	50	71
	Residential (long-term)			0.68	spaces per unit	483	639
B	Residential (short-term)	1208	Units	0.07	spaces per unit	85	120
	Residential (long-term)			0.68	spaces per unit	822	1088
C	Residential (short-term)	616	Units	0.07	spaces per unit	44	61
	Residential (long-term)			0.68	spaces per unit	419	555
					Total	1903	2534
					Total Short-Term	179	252
					Total Long-Term	1724	2282

The proposed development is required to provide a total of 1,903 long-term and 179 short-term bicycle parking spaces. The proposed supply of 2,534 bicycle parking space, 2,282 long term and 252 short term bicycle parking spaces meets the by-law requirements. In addition, By-law 223-2025 requires that any building with 5 or more long-term bicycle parking spaces must also provide maintenance facilities. Bicycle repair stations will be provided on site, meeting this requirement.

It is also noted that under the TGS V4 requirements 15% of the required long-term bicycle parking spaces must have access to an energized 120V outlet. This means that 258 residential long-term bicycle parking spaces must include an energized outlet adjacent to the bicycle rack or parking space. The proposed development will meet this requirement.

11.2 VEHICLE PARKING ASSESSMENT

11.2.1 Policy Changes – Bill 185

It is noted that Bill 185 has been enacted by the Province of Ontario. The Bill received Royal Assent on June 6, 2024 and amends the Planning Act in several ways, including to limit the ability of official plans and zoning by-laws to 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 located within a protected major transit station area” or an area delineated in the official plan “surrounding and including an existing or planned higher order transit station or stop, within which the official plan policies identify a minimum number of residents and jobs”.

In other words, Bill 185 removes a municipality's ability to require parking, other than bicycle parking, to be provided for developments on land that is located within a Protected Major Transit Station Area (PMTSA). Given the site's location within the Guildwood GO PMTSA and proximity to the Guildwood GO Station as well as the proposed EELRT interchange at the intersection of Kingston Road and Celeste Drive, these amendments would apply to the proposed development.

11.2.2 Vehicle Parking – Zoning By-law Requirements

The Guildwood GO Land is governed by the Former City of Scarborough West Hill Community By-Law No. 10327. However, the parking by-law requirements for the City of Toronto's Zoning By-law (ZBL) 569-2013 as amended by By-law 89-2022 were applied to the site as they are reflective of the most current direction on parking requirements in the City of Toronto, aimed at eliminating or reducing minimum parking requirements and setting maximum parking allowances. Under Zoning By-law 569-2013, the parking standards for Parking Zone A (PZA) were applied given the proximity to the Guildwood GO Station adjacent to the Guildwood GO Land. **Table 11-2** and **Table 11-3** detail the applicable parking requirements and proposed supply for each building within the proposed development.

Table 11-2: Block A Zoning By-law 89-2022 Vehicle Parking Requirements (PZA)

Land Use	Units/GFA		Parking Rate (Minimum)	Minimum Spaces	Parking Rate (Maximum)	Maximum Spaces Allowed	Proposed Parking Spaces
1-Bed	378	Units	n/a	0	0.5 sp./unit	189	217
2-Bed	296	Units			0.8 sp./unit	236	
3-Bed	36	Units			1.0 sp./unit	36	
Total Residential Parking				**0**		**461**	**217**
Visitors	710	Units	2 plus 0.01 sp./unit	9	1.0 sp/unit for the first 5 units, then 0.1 space per subsequent unit	75	25
Retail	938	m^2	n/a	0	3.5 sp/100 sqm	32	
Total Non-Residential Parking				**9**		**107**	**25**
Total Parking				**9**	-	**568**	**242**

Table 11-3: Block B+C Zoning By-law 89-2022 Vehicle Parking Requirements (PZA)

Land Use	Units/GFA		Parking Rate (Minimum)	Minimum Spaces	Parking Rate (Maximum)	Maximum Spaces Allowed	Proposed Parking Spaces
1-Bed	1,100	Units	n/a	0	0.5 sp./unit	550	238
2-Bed	666	Units			0.8 sp./unit	532	
3-Bed	58	Units			1.0 sp./unit	58	
Total Residential Parking				**0**		**1140**	**238**
Visitors	1,824	Units	2 plus 0.01 sp./unit	20	1.0 sp/unit for the first 5 units, then 0.1 space per subsequent unit	186	27
Retail	828	m^2	n/a	0	3.5 sp/100 sqm	28	
Total Non-Residential Parking				**20**		**214**	**27**
Total Parking				**20**	-	**1354**	**265**

Based on By-law 89-2022, the proposed development is required to provide a minimum of 29 parking spaces for residential visitors and an overall maximum supply of 1,922 spaces is permitted.

The proposed redevelopment will provide 507 parking spaces across three underground parking levels, consisting of 455 residential and 52 shared visitor and retail spaces, satisfying the minimum zoning by-law requirements. All residential parking spaces and 25% of the non-residential parking spaces will be equipped with energized outlets to comply with Toronto Green Standards (TGS) Version 4 electric vehicle infrastructure requirements, which will be further discussed in **Section 15.1.2**.

11.2.3 Guildwood GO Parking

An additional 760 vehicle parking spaces will be provided across two (2) underground levels for users of the Guildwood GO Station, replacing the existing supply of 760 spaces at a 1:1 replacement rate.

11.3 ACCESSIBLE VEHICLE PARKING REQUIREMENTS

The site requirements for accessible parking were evaluated as per Zoning By-law 569-2013, amended by By-law 223-2025. The number of accessible parking spaces required for the TOC are outlined in **Table 11-4** and **Table 11-5**.

Table 11-4: Block A Zoning By-law 223-2025 Accessible Parking Requirements (PZA)

Test 1 - Absolute Minimum Requirement		Test 2 - Requirement per Unit/GFA	
Parking Proposed		**Units/GFA Proposed**	
Resident Parking Supply	217	Residential Units	710
Visitor Parking Supply	25	Retail GFA (m^2)	938
Retail Parking Supply	-		
Daycare Parking Supply	-		
Min. Accessible Spaces Required		Min. Accessible Spaces Required	
7% of Res Supply	16	0.02 sp./unit	15
5% of Visitor Supply	2	N/A	
5% of Retail Supply	-		
Min. Accessible Spaces	**18**		**15**
		Total Accessible Spaces Required	**18**
		Min. Visitor Spaces	**2**
		Min. Resident Spaces	16

Table 11-5: Block B+C Zoning By-law 223-2025 Accessible Parking Requirements (PZA)

Test 1 - Absolute Minimum Requirement		Test 2 - Requirement per Unit/GFA	
Parking Proposed		**Units/GFA Proposed**	
Resident Parking Supply	238	Residential Units	1,824
Visitor Parking Supply	27	Retail GFA (m^2)	828
Retail Parking Supply	-		
Daycare Parking Supply	-		
Min. Accessible Spaces Required		Min. Accessible Spaces Required	
7% of Res Supply	17	0.02 sp./unit	37
5% of Visitor Supply	2	N/A	
5% of Retail Supply	-		
Min. Accessible Spaces	**19**		**37**
		Total Accessible Spaces Required	**37**
		Min. Visitor Spaces	**≥2**
		Min. Resident Spaces	**≥17**

The proposed development is required to provide a minimum of 55 accessible parking spaces. The proposed development will provide 15 accessible spaces for the TOC, which does not satisfy the minimum zoning by-law requirements. However, it is noted that the site is not subject to a minimum vehicle parking requirement given the provincial direction articulated through Bill 185 (see **Section 11.2.1**). Furthermore, given the site's proximity to rapid transit and available travel alternatives, the provision of 15 accessible spaces is considered acceptable and appropriate.

12 LOADING ASSESSMENT

The loading requirements stipulated under the City of Toronto Zoning By-law 569-2013 were reviewed and applied to the proposed development. The loading requirements and proposed supply are summarized in **Table 12-1**.

Table 12-1: Zoning By-law 569-2013 Loading Requirements

Block	Land Use	Units/GFA	Zoning By-law 569-2013		Proposed Supply
			Required Rate	Min. Req	
A	Residential	710	400 dwelling units or more	1 Type G 1 Type C	1 Type G 1 Type C
	Retail	938m^2	GFA between 500 and 1,999 sqm	1 Type B	1 Type B
B	Residential	1208	400 dwelling units or more	1 Type G 1 Type C	1 Type G 1 Type C
	Retail	686m^2	GFA between 500 and 1,999 sqm	1 Type B	1 Type B
C	Residential	616	400 dwelling units or more	1 Type G 1 Type C	1 Type G 1 Type C
	Retail	451m^2	GFA less than 500 sqm	None	None
				2 Type B	2 Type B
				3 Type C	3 Type C
				3 Type G	3 Type G
			Total	8 Loading Spaces	8 Loading Spaces

Under By-law 569-2013, the proposed development is required to provide a total of eight (8) loading spaces comprising of two (2) Type “B”, three (3) Type “C”, and three (3) Type “G” loading spaces. The proposed loading supply complies with the applicable by-law requirements.

An updated functional design review demonstrating vehicular and loading functionality is provided in **Appendix K**.

13 PUDO ASSESSMENT

The following section analyzes the proposed pick-up/drop-off (PUDO) facilities for the Guildwood GO Land and comprises the PUDO design options as well as PUDO demand assessment. The PUDO design options consider the PUDO needs of the Guildwood GO Station users as well as the TOC. The PUDO demand assessment analyzes the proposed PUDO capacity for the TOC.

The proposed development concept protects for three (3) pick-up/drop-off (PUDO) options: an underground PUDO option within the P1 level of Block B, an urban PUDO option surrounding Block A, and a surface PUDO option at-grade atop Station Plaza within Block B. Although the three (3) PUDO options are being protected for, the analysis of this TIS focuses on the urban PUDO option surrounding Block A. The urban PUDO option was chosen given the enhanced accessibility and direct access to the public realm. This not only offers the most comfort for passengers getting picked up and dropped off but also reduces pedestrian conflict with vehicles compared to multi-lane PUDO areas.

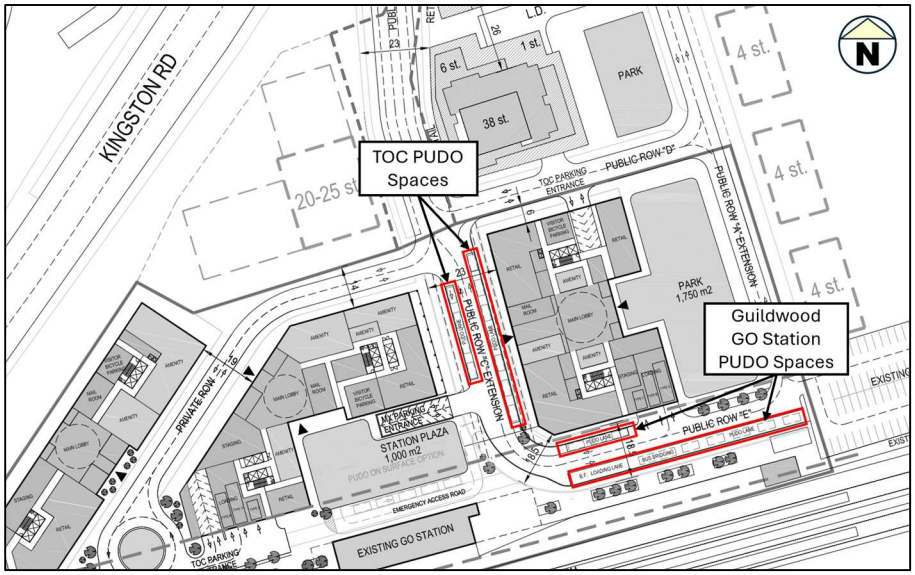
13.1 PUDO REQUIREMENTS

The chosen urban PUDO design areas comprise of 19 curbside lay-by spaces to support the TOC's PUDO activities. According to the GO Rail Station Access Plan (December 2016), Guildwood GO Station can resize or reconfigure the northern PUDO area, reducing the size to 16 waiting areas and 4 passenger loading areas which allows for reallocation of space for other uses. The proposed supply of 19 urban PUDO spaces falls short of the GO Rail Station Access Plan PUDO facility requirements; however, given that the target access mode share of PUDO activities is expected to be reduced by nearly half by 2041 compared to the 2019 access mode share, the proposed supply of 19 PUDO spaces should be considered sufficient to accommodate anticipated PUDO activities.

13.2 PUDO DESIGN OPTIONS

The proposed urban PUDO design is illustrated in **Figure 13-1**.

Figure 13-1: PUDO Area Design



Source: Zeidler Architecture, October 2025

The following sections provide a comparison of the three (3) PUDO options (urban, underground, and dedicated) and discusses benefits and tradeoffs of each option. The three (3) PUDO design options are also illustrated in **Table 1-2**.

13.2.1 Underground PUDO

Underground PUDO involves utilizing a dedicated pick-up and drop-off area located on the first underground parking level. Vehicles enter and exit through a single access point and circulate through a multi-lane configuration to pick up or drop off passengers and short-term deliveries.

Benefits of underground PUDO areas include reduced surface-level congestion, improved aesthetics and public realm, enhanced weather protection, and controlled access. By relocating PUDO activity underground, curbside space is preserved for pedestrians, cyclists, and transit users, contributing to a more walkable and visually appealing streetscape. Passengers benefit from shelter during inclement weather and direct access to building entrances, elevators, and amenities. The enclosed environment also allows for better management of traffic flow, signage, and safety features.

Tradeoffs of underground PUDO areas include high construction and maintenance costs, potential congestion at the single entry/exit point, and limited visibility for users. The need for ventilation, lighting, and fire safety infrastructure increases complexity and cost. During peak periods, queuing may occur at the access point, impacting circulation efficiency. Additionally, users unfamiliar with the site may experience wayfinding challenges, and accessibility must be carefully designed to ensure safe and convenient access for all users, including those with mobility devices. The provision of underground PUDO areas would also reduce the parking supply of the GO Station parking lot.

13.2.2 Dedicated PUDO

Dedicated Surface PUDO involves utilizing a designated off-street area for pick-up and drop-off activities, separate from the main roadway and curbside. These areas are typically located within a plaza, internal driveway, or loop adjacent to the building. Vehicles enter the space to pick up or drop off passengers or short-term deliveries without interfering with curbside or travel lane operations.

Benefits of dedicated surface PUDO areas include reduced traffic disruption, enhanced passenger safety, and improved public realm flexibility. By relocating PUDO activity away from the curb, these areas minimize conflicts with cyclists, while preserving sidewalk space for pedestrians. These areas also allow for design flexibility such as multiple lanes and shelters to accommodate various user needs and vehicle types.

Tradeoffs of dedicated surface PUDO areas include increased land and maintenance requirements, potential queuing issues, and wayfinding challenges. These zones require sufficient space off the main roadway, which may be difficult to accommodate in dense urban environments. If not properly designed, vehicles may queue into the street, causing congestion. Additionally, users unfamiliar with the site may have difficulty locating the PUDO area, and pedestrian connectivity must be carefully considered to ensure safe and convenient access. Given that the design concept for dedicated surface PUDO areas would be located atop Station Plaza, this would reduce the quality of the public realm in the immediate vicinity of Guildwood GO Station. The provision of underground PUDO areas would also reduce the parking supply of the GO Station parking lot.

13.2.3 Urban PUDO

Urban Pick-Up and Drop-Off (PUDO) zones utilize curbside lay-by spaces to facilitate short-duration stopping for passenger PUDO and time-sensitive deliveries (e.g., courier services, food delivery). Vehicles transition

from the active travel lane into a designated lay-by bay, minimizing disruption to through traffic while maintaining proximity to building frontages and public amenities.

Benefits of urban PUDO configurations include enhanced passenger safety through separation from moving traffic, improved accessibility for individuals using mobility aids, and direct interface with the public realm. These zones support efficient curbside operations and reduce pedestrian-vehicle conflict by enabling immediate access to sidewalks and adjacent ground-floor uses. Direct access to transit, pedestrian pathways, and micromobility infrastructure further enhances multimodal connectivity.

Tradeoffs include the reallocation of sidewalk and public realm space to accommodate vehicular lay-by spaces, which may reduce pedestrian capacity and limit opportunities for streetscape enhancements. The presence of adjacent cycling facilities could introduce potential conflict points between cyclists and vehicles entering or exiting the PUDO area.

Ultimately, urban PUDO was chosen to be the focus of this TIS analysis given the enhanced accessibility and direct access to the public realm. This not only offers the most comfort for passengers getting picked up and dropped off but also reduces pedestrian conflict with vehicles compared to multi-lane PUDO areas. However, the design concept may be revisited in subsequent submissions. Cross-section diagrams illustrating the urban PUDO design option can be found in **Appendix K**.

13.3 PUDO CAPACITY DEMAND ASSESSMENT

A pick-up/drop-off (PUDO) assessment has been conducted for the provision of PUDO spaces at the Guildwood GO Land to evaluate the adequacy of the proposed provision of short-term visitor parking spaces. According to the GO Rail Station Access Plan (December 2016), the northern PUDO area can be reduced to a minimum of 16 waiting and 4 loading spaces. Proxy data for residential high-rises within close proximity to rail transit was used to determine the recommended PUDO spaces provision for PUDO activity adequacy. The proxy data was used to determine the average arrival rate and average dwell time, which are summarized in **Table 13-1** and **Table 13-2**.

Table 13-1: Residential Proxy Arrival Rates

Survey Location	Total Units	Date	Maximum Accumulation	Maximum Arrival Rate
15 Roehampton Avenue, Toronto	466	May 22, 2025	3	0.009
		May 24, 2025	4	
30 Roehampton Avenue, Toronto	397	May 8, 2025	3	0.015
		May 9, 2025	6	
		May 10, 2025	4	
39 Roehampton Avenue, Toronto	440	May 22, 2025	3	0.009
		May 24, 2025	4	
120 Varna Drive & 20 New Heights Court, Toronto	306	May 9, 2024	10	0.042
		May 10, 2024	13	
1369 Bloor Street West, Toronto	238	April 27, 2023	2	0.008
7 Grenville Street, Toronto	639	May 8, 2025	3	0.005
		May 10, 2025	3	
10 York Street, Toronto	694	May 22, 2025	3	0.006
		May 24, 2025	4	
386 & 388 Yonge Street, Toronto	995	May 22, 2025	6	0.006
		May 24, 2025	3	
			Average Arrival Rate per Unit	0.013

Table 13-2: Residential Proxy Average Dwell Times

Survey Location	Survey Date	Average Duration (h:mm:ss)	# of vehicles
15 Roehampton Avenue, Toronto	May 22, 2025	0:03:36	142
	May 24, 2025	0:02:04	236
30 Roehampton Avenue, Toronto	May 8, 2025	0:06:04	61
	May 9, 2025	0:05:44	77
	May 10, 2025	0:04:54	85
39 Roehampton Avenue, Toronto	May 22, 2025	0:03:18	93
	May 24, 2025	0:03:15	153
120 Varna Drive & 20 New Heights Court, Toronto	May 9, 2024	0:08:34	304
	May 10, 2024	0:10:28	315
1369 Bloor Street West, Toronto	April 27, 2023	0:04:47	20
7 Grenville Street, Toronto	May 8, 2025	0:04:16	85
	May 10, 2025	0:02:33	95
10 York Street, Toronto	May 22, 2025	0:05:43	91
	May 24, 2025	0:04:39	111
386 & 388 Yonge Street, Toronto	May 22, 2025	0:10:37	113
	May 24, 2025	0:05:53	79
	Average Dwell Time	0:05:24	-

Based on the identified arrival rates and average dwell times, the recommended provision of short-term PUDO visitor parking spaces was determined based on the probability of vehicles in queue for a PUDO space. Detailed calculations are presented in **Appendix L**. The recommended short-term PUDO visitor parking spaces are provided in **Table 13-3**.

Table 13-3: PUDO Demand Assessment

Building	Recommended Provision (k)	Number of Vehicles in Short-term Visitor Parking Space (n)						n ≤ k	n > k (Exceeds Provision)
		0	1	2	3	4	5		
A	3	0.443	0.359	0.145	0.039	-	-	0.986	0.014
B & C	5	0.125	0.259	0.268	0.185	0.096	0.040	0.973	0.027

The results indicate that the probability for more than three (3) vehicles in the recommended PUDO visitor spaces for Building A is 1% and that the probability for more than five (5) vehicles in the recommended PUDO visitor spaces for Buildings B & C is 3%. Hence, the PUDO parking recommendations are considered adequate to accommodate the PUDO demand of the proposed development. To ensure smooth operation, a maximum dwell time of 15 minutes is proposed for the PUDO parking spaces at ground level. Management measures such as the provision of traffic signs indicating a 15-minute time limit, and deployment of on-site staff for registration with visitors are recommended.

14 SAFETY REVIEW

In the absence of detailed collision data, this safety review takes a proactive approach aligned with the City of Toronto's Vision Zero Road Safety Plan, focusing on minimizing conflict points and enhancing safety for vulnerable road users. The proposed development is situated along Kingston Road, where pedestrian and cyclist activity is currently moderate and expected to increase with planned network improvements within the area. Existing pedestrian infrastructure includes sidewalks and crossings, and cycling infrastructure is absent, as detailed in **Section 2**. Planned improvements include cycle tracks, priority bus lanes, light rail transit, and increased regional train services. Multi-modal level of services for the existing and future study horizons are also outlined in **Section 8**.

Access to the proposed development is proposed via planned local public roads and private streets. Care should be taken to minimize conflicts between vehicles, pedestrians, and cyclists at these points. Consideration should be given to potential safety improvements such as raised crossings, right-in/right-out (RIRO) accesses, and reduced curb radii. Traffic from the proposed development, along with the Guildwood GO traffic is filtered through two intersections: Kingston Road and Celeste Drive/Street C, and Kingston Road and Street A. Kingston Road and Celeste Drive/Street C is a signalized intersection with pedestrian crossings. Kingston Road and Street A is proposed as an unsignalized intersection with a RIRO prohibition for Street A.

Dedicated pick-up/drop-off (PUDO) areas are also proposed to accommodate pick-up/drop-off (PUDO) activities for the residential land uses and the Guildwood GO station, ensuring it does not obstruct pedestrian or cyclist movement. Lighting, signage, and sidewalk continuity should also be reviewed during detailed design to support safe operations and contribute to a low-speed, high-awareness environment consistent with Vision Zero principles.

It is noted that throughout the analysis for the new proposed roads within the Guildwood GO Land, a speed limit of 40 km/h is recommended. This is aligned with the design of the roads, the slow-nature of vehicles, and transit-oriented development goals for the site.

15 TORONTO GREEN STANDARDS REVIEW

The Guildwood GO Land is required to meet the Tier 1 Performance Measures listed under the Toronto Green Standards Version 4 for Mid- to High-Rise Residential and Non-Residential developments. This section will review the TGS V4 development features based on the applicable requirements for the study area. Overall, the proposed development is compliant with all the Tier 1 Performance Measures where applicable with respect to transportation-related measures.

15.1 LOW EMISSIONS TRANSPORTATION

15.1.1 Single-Occupant Vehicle Trips

Section AQ 1.1 of TGS V4 requires developments to reduce single occupancy vehicle (SOV) trips generated by the proposed development by 25% through a variety of multimodal infrastructure strategies and Transportation Demand Management (TDM) measures. The Guildwood GO Land meets this requirement as the proposed development includes a TDM plan (discussed in **Section 16**).

15.1.2 Electric Vehicle Infrastructure

Section AQ 1.2 of TGS V4 requires developments to provide parking spaces equipped with an energized outlet in accordance with Zoning By-Law 569-2013. The by-law specifies that all residential parking spaces provided for dwelling units located in an apartment must include an energized outlet capable of providing Level 2 charging or higher. For residential visitor parking spaces, at least 25% of parking spaces must include an energized outlet capable of providing Level 2 charging or higher. **Table 15-1** summarizes the required Electric Vehicle (EV) parking supply.

Table 15-1: Zoning By-law 569-2013 Electric Vehicle Parking Standards

Land Use	Number of Parking Spaces Provided	%	Required EV	Proposed Supply
Residential	455	100% of Parking Spaces	455	455
Visitor	52	25% of Parking Spaces	13	13
Total	507	-	468	468

The proposed development is required to provide 468 EVSE parking spaces. The proposed development will satisfy the TGS V4 Tier 1 Performance Measures for EV infrastructure by providing 468 EVSE parking spaces.

15.2 CYCLING INFRASTRUCTURE

15.2.1 Bicycle Parking Rates

Section AQ 2.1 of TGS V4 requires developments to provide bicycle parking spaces in accordance with Zoning By-Law 569-2013. As discussed in **Section 11.1**, the proposed development will meet the Zoning By-Law 569-2013 bicycle parking standards and the TGS V4 Tier 1 Performance Measures.

15.2.2 Long-Term Bicycle Parking Location

Section AQ 2.2 of TGS V4 requires developments to provide long-term bicycle parking in a secure controlled-access bicycle parking facility or purpose-built bicycle locker on the first or second storey of the building or on levels below ground commencing with the first level below ground. Long-term bicycle parking can be provided

on levels below ground when at least 50% of the area of the level is occupied by bicycle parking spaces until all required spaces have been provided. However, required spaces such as elevator shafts and mechanical rooms are omitted when calculating for the net area of a level.

The proposed long-term bicycle parking spaces are provided in secured bike rooms on the mezzanine level. This TGS requirement is satisfied.

15.2.3 Short-Term Bicycle Parking Location

Section AQ 2.3 of TGS V4 requires developments to provide short-term bicycle parking in a highly visible and publicly accessible location at grade or on the first parking level of the building below grade. Short-term bicycle parking spaces must be no more than 30m from a pedestrian entrance to the principal building on the lot. The location and dimensions of the elevator must facilitate easy access for bicycles. The proposed short-term bicycle parking spaces are provided on the ground floor level. This TGS requirement is satisfied.

15.2.4 Electric Bicycle Infrastructure

Section AQ 2.4 of TGS V4 requires developments to provide bicycle parking spaces equipped with an energized outlet for at least 15 percent of the required residential long-term bicycle parking spaces. As discussed in **Section 11.1**, the proposed development will include 258 spaces with energized outlets for residential long-term bicycle parking spaces, which meets the minimum 258 spaces required by TGS V4. The Guildwood GO Land therefore meets this requirement through appropriate provisions in the site plan.

15.2.5 Shower and Change Facilities

Section AQ 2.5 of TGS V4 requires developments to provide shower and change facilities consistent with the rate identified in Zoning By-Law 569-2013. Since the development includes only residential uses and the retail uses do not require long-term bicycle parking spaces, on-site shower and change facilities are not needed.

15.3 PEDESTRIAN INFRASTRUCTURE

15.3.1 Connectivity

Section AQ 3.1 of TGS V4 requires developments to provide safe, direct, universally accessible pedestrian routes that connect the buildings on-site facilities to the off-site pedestrian network and priority destinations. The Guildwood GO Land will provide direct connections onto the sidewalks along Public Road C and Private Road. This provides good connectivity to the overall pedestrian network.

15.3.2 Sidewalk Space

Section AQ 3.2 of TGS V4 requires developments to provide a context-sensitive pedestrian clearway that is a minimum of 2.1 m wide, to safely and comfortably accommodate pedestrian flow. As part of the proposed development, the sidewalks will meet the minimum width of 2.1m

15.3.3 Weather Protection

Section AQ 3.3 of TGS V4 requires developments to provide covered outdoor waiting areas for pedestrian comfort and protection from inclement weather. The proposed development meets this requirement as the site plan includes an indoor waiting area to protect pedestrians from inclement weather.

15.3.4 Pedestrian Specific Lighting

Section AQ 3.4 of TGS V4 requires developments to provide pedestrian scale lighting that is evenly spaced, continuous, and directed onto sidewalks, pathways, entrances, outdoor waiting areas, and public spaces. The pedestrian lighting for the proposed development will be further explored during a future submission.

16 TRANSPORTATION DEMAND MANAGEMENT PLAN

Transportation Demand Management (TDM) is a set of strategies that strive towards a more efficient transportation network by influencing travel behaviour. Effective TDM measures can reduce vehicle usage and encourage residents to engage in more sustainable methods of travel. There are various opportunities to incorporate TDM measures for the Guildwood GO Land that will support alternative modes of transportation for future residents and visitors.

The TDM strategies discussed in the following sections are critical for achieving a balanced multi-modal transportation system in the City of Toronto and supporting sustainable development goals as identified by the Toronto Green Standards (TGS) and TransformTO Net Zero Strategy to achieve net zero greenhouse gas emissions by 2040.

A specific requirement of the TGS is to reduce single-occupancy vehicle trips generated by a proposed development by at least 25%. A summary of the measures proposed are discussed in the following sections.

16.1 CYCLING-BASED STRATEGIES

Provision of Bicycle Parking

The proposed development will provide bicycle parking spaces to support and encourage active transportation. 252 short-term bicycle parking spaces will be provided in a storage room for visitors within the ground floor level. In addition, 2,282 long-term bicycle parking spaces will be provided in secure, weather-protected bicycle storage rooms within the mezzanine level. The proposed bicycle parking supply meets the minimum zoning by-law requirements.

Provision of Bicycle Repair Facilities

A significant barrier for some people considering cycling as their day-to-day mode of travel is repair and maintenance. Providing a bicycle repair stand, tools, and basic information on site will alleviate the stress of technical issues and promote cycling as a long-term travel method for tenants. Bicycle repair stations will be provided on-site to further support individuals choosing to cycle.

BikeShare Station

To promote the use of BikeShare, it is recommended that the applicant consider providing funding towards improving the existing BikeShare network. This financial contribution could go towards the construction of a BikeShare station in underserviced areas or as part of the planned road network improvements to Kingston Road, but is subject to further evaluation. Additional BikeShare stations would increase the supply of bicycles on the BikeShare network and support additional bike share demand. Given the provision of proposed dedicated cycling facilities along Kingston Road and improvements to other nearby cycling infrastructure connections, this can encourage future residents and visitors of the area to use BikeShare and reduce SOV reliance.

BikeShare 1-year Membership

To promote the use of BikeShare, the applicant will provide each unit at initial occupancy with a one-year membership to the Toronto BikeShare system, valued at $105 for the "Annual 30" pass. This will reduce the financial barrier for residents who may have an interest in using the BikeShare program and can lead to residents incorporating cycling into their daily routine.

Promote and Increase Cycling Awareness

Information packages will be made available to residents of the proposed development, to help encourage active transportation and increase awareness of different travel alternatives. The package will include information regarding the environmental and health benefits of cycling, rules of the road, and maps which display active transportation infrastructure available in the surrounding area including the 5 BikeShare station locations within walking distance from the Guildwood GO Land.

16.2 PEDSTRIAN-BASED STRATEGIES

On-Site Pedestrian Infrastructure and Connection to the Public Network

The proposed development will include pedestrian-friendly designs through adequate lighting and landscaping near the building entrances. The lobbies and main entrances to the buildings are positioned facing each other for easy access to the public sidewalk network and other buildings. This provides convenient connections for pedestrians to access Guildwood GO Station and the surrounding transit-oriented community amenities and services. To further accommodate those with mobility needs, pedestrian sidewalks and facilities will also be designed to meet AODA standards. The site will also provide Privately-Owned Publicly Accessible Spaces (POPS) for pedestrian animation, seating areas, and enhanced landscaping.

16.3 TRANSIT-BASED STRATEGIES

Connection to Transit Networks

The proposed development will be well served by both rapid and local transit services provided by the TTC. The availability of nearby existing higher order transit (GO Transit, VIA Rail) and future rapid transit (EELRT) as well as surface bus routes will encourage future residents and visitors of the site to use public transit.

Pre-Loaded Presto Cards

The applicant will provide a Presto card to each unit of the proposed development at building occupancy, pre-loaded with a monthly pass (value of $156). This will help reduce the financial barriers restricting usage of the available transit infrastructure. Residents will be able to learn how to make use of transit in their daily lives and will have a reduced reliance on automobiles as a mode of transportation.

Transit Information Packages and Digital Displays

For residents to take complete advantage of the local transit services, transit information packages will be distributed to residents to increase transit awareness. The information packages will contain public transit information such as route maps and timetables. In addition, a digital display will be located in each of the building lobbies with up-to-date information regarding transit schedules, adjacent transit stops, and service disruptions. The addition of a digital display showing transit information will help residents gain a better understanding of what transit routes are available and when departure times are so that they can easily plan their trip.

16.4 PARKING-BASED STRATEGIES

Limited Provision of Residential Vehicle Parking

The proposed development will include a limited supply of residential parking (0.18 space/unit), ensuring that the majority of future residents who choose to reside at the site are compatible with a lifestyle centered on the primary use of transit and active transportation. This measure will ensure a very low generation of SOV

trips by the future development, as approximately 82% of future residents will not have access to a personal vehicle.

Unbundled Parking

Selling parking spaces separately from each residential unit can lead to lower rates of vehicle ownership and can be used as a selling feature in an area well-served by transit and/or cycling infrastructure. The proposed development will unbundle the cost of parking from new dwelling units to support zero-car households and reduce parking demand from the proposed development.

16.5 IMPACT OF TDM MEASURES

The proposed TDM measures are expected to support multi-modal travel by increasing the convenience and attractiveness of taking transit, walking, or cycling to/from the Guildwood GO Land. The proposed TDM measures will help reduce vehicle activity associated with the Guildwood GO Land and encourage a lifestyle that largely relies upon transit and active transportation. **Table 16-1** summarizes the proposed strategies and the expected impact.

Table 16-1: Summary of TDM Measures

Recommended TDM Measure	Impact	Quantity	Unit Cost	Total Cost
Pedestrian-Based Strategies				
On-Site Pedestrian Infrastructure and Connection to the Public Network	1%	N/A	Included in Site Plan	Included in Site Plan
Cycling-Based Strategies				
Provision of Bicycle Parking Facilities	4%	2,534 spaces	Included in Site Plan	Included in Site Plan
Provision of Bicycle Repair Facilities		3 repair stations	$2,500	$7,500
Contribution Towards BikeShare Expansion		1 BikeShare Station	$50,000	$50,000
BikeShare 1-year Membership		2,534 units	$105 per unit (membership)	$266,070
Promote and Increase Cycling Awareness		2,534 units	~$2.00 per unit	$5,068
Transit-Based Strategies				
Connection to Transit Networks	5%	N/A	Existing Condition	Existing Condition
Pre-Loaded Presto Cards		2,534 units	$156 per unit	$395,304
Transit Information Packages		2,534 units	~$2.00 per unit	$5,068
Transit Digital Displays		3 digital displays	$5,000	$15,000
Parking-Based Strategies				
Limited Provision of Residential Vehicle Parking (0.18 spaces per unit)	26%	N/A	Included in Site Plan	Included in Site Plan
Unbundled Parking		N/A	Included in Site Plan	Included in Site Plan
Total	**36%**	-	-	**$744,010**

The combination of these TDM strategies listed above is expected to significantly reduce the auto-dependency of residents and visitors for the subject development and encourage more sustainable travel habits. This thereby enables the requirements of TGS V4 to be met and contributes to a 36% SOV reduction for the subject development.

Supporting calculations for the estimated impact are provided below:

- **Cycling-Based and Pedestrian-Based Strategies:** The existing active mode split (residential) of the study area is 10%. The provision of on-site cycling storage and maintenance facilities, expansion of the BikeShare network, complementary BikeShare memberships, along with information packages for future residents and supporting attractive pedestrian and cycling connections to the surrounding street network, is expected to result in at least a combined 50% increase in the active mode share of the future development. This translates to a 5% reduction in the number of SOV trips during the weekday peak periods.
- **Transit-Based Strategies:** The existing transit mode split of the study area is 46%. The provision of pre-loaded PRESTO cards and real-time transit displays, along with the site's close proximity to Guildwood GO Station, are expected to further increase the attractiveness of utilizing transit as a travel alternative. To be conservative, a 10% increase in the transit mode share of the future development was assumed. This translates to a 5% reduction in the number of SOV trips during the weekday peak periods.
- **Vehicle-Based Strategies:** The proposed vehicle parking supply will result in only 18% of future residential households living with a personal vehicle. The existing auto mode split of the study area is 44%; assuming the proposed development would have a comparable mode split if all or most households had access to a personal vehicle, it can be reasonably concluded that the limited provision of vehicle parking, when coupled with unbundled parking, will result in at least a 26% reduction in the number SOV trips during the weekday peak periods (relative to the status quo travel behaviour of the study area).

17 CONCLUSIONS AND RECOMMENDATIONS

Detailed below are the key study conclusions:

- **Description:** LEA Consulting Ltd. (LEA) has been retained by Infrastructure Ontario to undertake a Transportation Impact Study (TIS) in support of this submission to secure zoning certainty for the Guildwood transit oriented community (TOC) for the proposed mixed-use residential development located at the Guildwood GO Station at 4105 Kingston Road in the City of Toronto.
- The proposed development involves replacing the existing Guildwood GO Station surface parking lot with a mixed-use community comprising of three (3) buildings with six (6) towers varying from 30 to 60 storeys, containing a total of approximately 2,534 residential units. The proposed parking supply includes 507 vehicular parking spaces for the proposed transit-oriented community and 760 vehicular parking spaces for the Guildwood GO Station within three (3) levels of underground parking as well as 2,534 bicycle parking spaces.
- **Existing Transportation Network:** The Guildwood GO Land is located in an area well-serviced by the Toronto Transit Commission (TTC) transit network. There are a number of transit options available in the study area which connect the Guildwood GO Land to a variety of destinations as well as higher-order transit service via Guildwood GO Station.
- The Guildwood GO Land is located in a neighbourhood with moderate access to nearby existing cycling infrastructure. On-street shared cycling routes stretch mainly to the south and east of the Guildwood GO Land along Westlake Road and connect to other nearby shared cycling routes.
- The existing pedestrian network provides good connections between the residential and commercial uses in the area as well as nearby TTC transit stops.
- **Future Transportation Network:** The Guildwood GO Land is located approximately 50m from the future Guildwood GO interchange on the Eglinton East LRT line (EELRT). Completion of the EELRT will further improve transit access to/from the Guildwood GO Land, providing a rapid transit connection within convenient walking distance of the site that will link to other major rapid transit corridors and employment/service destinations within the city.
- Aligning with Toronto's Complete Street Guidelines, significant streetscape improvements to the pedestrian environment are planned along Kingston Road. Public realm improvements including landscaping, snow/garbage storage, street furniture, and retail zones will provide a buffer between pedestrians and vehicles. With the implementation of the EELRT, one-way cycle tracks with various buffer treatments will be provided along Kingston Road with connections to transit stations, bike parking facilities, and the rest of the City's cycling network.
- **Site Trip Generation:** The proposed development is anticipated to generate an additional 294 two-way trips (86 inbound and 208 outbound) during the AM peak hour and an additional 446 two-way trips (280 inbound and 166 outbound) during the PM peak hour.

- **Intersection Capacity Analysis:** The intersection capacity analysis results indicate that the surrounding road network will generally maintain capacity and acceptable delays under future conditions, including after the addition of site traffic.
- **Vehicle Parking:** Based on By-law 89-2022, the proposed development is required to provide a minimum of 29 parking spaces for residential visitors and is permitted a maximum supply of 1,922 spaces. The proposed redevelopment will provide 507 parking spaces, consisting of 455 residential and 52 shared visitor and retail spaces, satisfying the zoning by-law requirements.
- The proposed development will also provide 760 parking spaces for users of the Guildwood GO Station, replacing the existing supply of 760 spaces at a 1:1 replacement rate.
- **Bicycle Parking:** The proposed development is required to provide a total of 1,724 long-term and 179 short-term bicycle parking spaces. The proposed supply of 2,534 bicycle parking spaces satisfies the by-law requirements.
- **Loading:** Under By-law 569-2013, the proposed development is required to provide a total of three (3) Type C, three (3) Type G, and two (2) Type B loading spaces. The proposed loading supply provides three (3) Type C, three (3) Type G, and two (2) Type B loading spaces and complies with the applicable by-law requirements.
- **PUDO Assessment:** The proposed development will protect for three (3) PUDO design options: an underground PUDO option, an urban PUDO option, and a surface PUDO option. Although the three (3) PUDO options mentioned above are being protected for, the analysis of this TIS focuses on the urban PUDO option. The urban PUDO option was chosen given the enhanced accessibility and direct access to the public realm.
- The chosen urban PUDO design option comprises of 19 curbside lay-by spaces to support PUDO activities. According to the GO Rail Station Access Plan (December 2016), Guildwood GO Station can resize or reconfigure the northern PUDO area, reducing the size to 16 waiting and 4 loading spaces which allows for reallocation of space for other uses. The proposed supply of 19 urban PUDO spaces falls short of the GO Rail Station Access Plan PUDO facility requirements; however, given that the target access mode share of PUDO activities is expected to be reduced by nearly half by 2041 compared to the 2019 access mode share, the proposed supply of 19 PUDO spaces should be considered sufficient to accommodate anticipated PUDO activities. The PUDO analysis also confirms that the proposed PUDO supply is appropriate and will adequately support anticipated demand.
- **Safety Review:** The safety review confirms that the proposed development aligns with the City of Toronto's Vision Zero Road Safety Plan, focusing on minimizing conflict points and enhancing safety for vulnerable road users.
- **TDM:** The proposed development will be supported by a comprehensive TDM plan which includes both physical infrastructure and financial incentives to promote the enhanced use of transit and active transportation.

APPENDIX A

Terms of Reference

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

July 29th, 2025

Reference Number: 25200

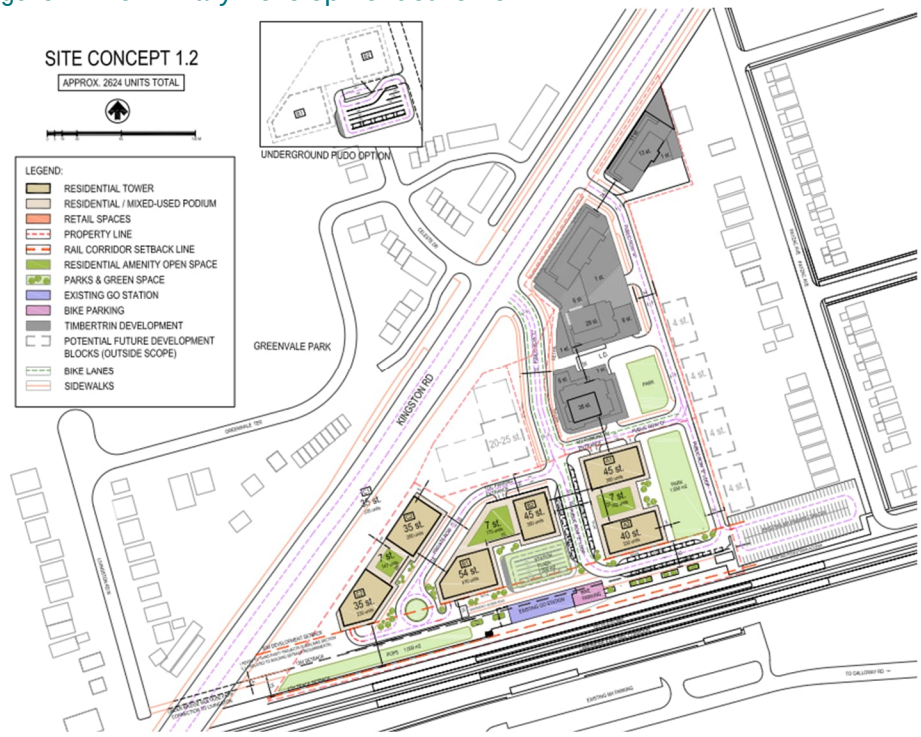
Lukasz Pawlowski
Area Manager, Scarborough District
City of Toronto Transportation Review
Development Review

Dear Lukasz Pawlowski:

RE: Terms of Reference for Transportation Work
Guildwood GO Station
4105 Kingston Road, City of Toronto

Detailed below is a work plan for the transportation work required in support of a proposed development located at the Guildwood GO Station at 4105 Kingston Road in the City of Toronto (herein referred to as the "subject site"). The proposed development consists of three (3) buildings with six (6) towers varying from 35 to 54 storeys, containing a total of approximately 2,624 residential units. In total, 1,285 parking spaces are proposed, consisting of 525 parking spaces for residents and 760 parking spaces for the GO Station. All existing parking spaces for the GO Station are proposed to be replaced at a 1:1 replacement rate. Access to the development is proposed via Kingston Road. A preliminary plan outlining the proposed development scheme is illustrated in Figure 1.

Figure 1: Preliminary Development Scheme



Source: Zeidler Architecture, July 2025

A Transportation Impact Study (TIS) is proposed to assess the transportation impacts of the proposed development. The TIS will be conducted in accordance with the City of Toronto Transportation Impact Study Terms of Reference accessed online in July 2025. Detailed below are the study assumptions requiring confirmation from the City.

1 APPLICATION CONTEXT:

LEA will provide an overview of the application, including the existing site, address, and proposed development. The application will be submitted for an OPA and ZBA Amendment.

2 TRANSPORTATION CONTEXT:

LEA will identify the existing transportation context surrounding the subject site for the road network, transit services, cycling network, and pedestrian environment

3 ESTIMATION OF TRAVEL DEMAND:

Trip generation associated with the proposed development will be forecast using the Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition and 2022 TTS data to determine the travel demands by different modes. To assess the trip generation of the current station uses, LEA will conduct a trip generation survey of the Guildwood GO Station.

4 EVALUATION OF TRANSPORTATION IMPACTS:

LEA will evaluate the transportation impacts using Synchro to assess the intersection capacity levels of the intersections within the study area, as listed in Section 6.2.

5 MITIGATION MEASURES:

Should any mitigation measures be required due to the addition of site traffic, LEA will recommend mitigation measures as appropriate.

6 CONDITIONAL CHAPTERS:

The following sections outline the work plan for chapters that will be included within the TIS.

6.1 TRAVEL DEMAND MANAGEMENT PLAN

LEA will prepare a Travel Demand Management Plan (TDM Plan) to propose site-specific transportation demand management measures for the proposed development. The plan will include:

- Proposed site-specific transportation demand management measures for the proposed development
- An estimation of percent vehicle trip reductions of every proposed TDM measure
- The value of any financial contributions or incentives towards TDM measures
- A summary of the vehicular parking supply, including the location of any parking spaces dedicated for car-share vehicles, low emissions vehicles, paid parking, and electric vehicle charging
- The location of protected space on site for bike-share facilities (if applicable)
- The location and number of proposed bicycle parking spaces
- Achievement of Toronto Green Standards measures

6.2 TRAFFIC OPERATIONS ASSESSMENT

A traffic operations assessment will be conducted to assess the potential traffic impact of the proposed development. The scope of the study will be as follows:

- Horizon year: The TIS will assess a horizon year of 2030
- Study Area and Traffic Data: the study will assess the weekday AM (7:00 am to 9:30 am) and weekday PM (4:00 pm to 6:30 pm) peak periods. The proposed study area will include an analysis of the following intersections, as illustrated in Figure 2:
    - Kingston Road and Celeste Drive/Guildwood GO Access (Signalized);
    - Kingston Road and Overture Road (Signalized);
    - Kingston Road and Future Private Road (Unsignalized, Future);
    - Internal Guildwood GO Driveway at Future Public Road (Unsignalized); and
    - Internal Guildwood GO Driveway at Future Public Road (East) (Unsignalized, Future).

Figure 2: Site Location and Survey Locations

- Background Developments: upon review of the City of Toronto Application Information Centre online database, the background developments within or near the study area were identified and show in Table 1. It is requested that City Staff confirm the background developments to be included in the study.

Table 1: Background Developments

#	Address	Date	Prepared By	Site Stats
1	4121 Kingston Road	December 2024	LEA Consulting	4 mixed-use buildings ranging from 10 to 35 storeys with commercial uses at grade. In total, 996 residential units and 533 vehicular parking spaces
2	4180 Kingston Road	September 2023	BA Group	20-storey mixed-use building with 320 residential units and 415 m^2 of retail space
3	4206-4212 Kingston Road	February 2022	LEA Consulting	2 mixed-use buildings with 7-12 storeys. In total, 271 residential units and 246 m^2 commercial space
4	4201-4203 Kingston Road	April 2024	WSP	4-storey building with 68 affordable rental housing units

#	Address	Date	Prepared By	Site Stats
5	4151 Kingston Road	November 2022	LEA Consulting	12-storey residential rental building with 150 units
6	402-408 Livingston Road North	April 2025	LEA Consulting	35-storey residential building with 442 new dwelling units

- Corridor Growth: LEA will review historical TMC data along Kingston Road to determine an appropriate corridor growth rate.
- Background Network Changes: It is requested that City Staff provide any planned infrastructure changes which should be included in the analysis for the future condition.

6.3 TRANSIT ASSESSMENT

A transit assessment will be conducted to identify current and planned transit service and infrastructure adjacent to the site. The transit assessment will include:

- A description of all existing and planned transit infrastructure and routes within the vicinity of the site
- An inventory of all bus stops
- An assessment of how Wheel-Trans vehicles will pick-up and drop-off passengers on the site, including a vehicle maneuvering diagram
- An identification of whether the site fronts onto any Enhanced Surface Transit Network Segments
- An identification of any transit priority measures that are required to mitigate delays to transit caused by the development

6.4 HIGHER ORDER TRANSIT ASSESSMENT

A higher order transit assessment will be conducted to identify existing and planned higher order transit infrastructure within 60 metres of the site. This will include the Guildwood GO Station.

6.5 BICYCLE PARKING ASSESSMENT

It is anticipated that bicycle parking provisions will meet minimum by-law requirements. LEA will summarize the bicycle parking provisions and detail how they comply with existing zoning by-law requirements. This will include any bike-share facilities on site, if applicable.

6.6 VEHICULAR PARKING ASSESSMENT

It is noted that the subject site is located within the Protected Major Transit Station Area (MTSA) for Guildwood. As such, no minimum parking requirements apply, except for accessible parking requirements. LEA will provide a summary of the proposed parking for the proposed development, including the intended

users of the parking, proposed car-share spaces (if applicable), proposed electric vehicle charging spaces, and low emissions vehicle parking spaces.

6.7 LOADING ASSESSMENT

It is anticipated that loading provisions will meet minimum by-law requirements. LEA will summarize the loading provisions and detail how they comply with existing zoning by-law requirements. LEA will provide a functional review of the loading operations (i.e. turn path analysis) in accordance with the City of Toronto Waste Management Guidelines for garbage pick-up.

An assessment of the pick-up and drop-off (PUDO) facilities for the subject site will be provided, which will include a functional review of the design of the PUDO facilities and assessment of the number of PUDO spaces for the various land uses.

Please let me know if you have any questions or comments regarding this terms of reference.

Yours truly,

LEA CONSULTING LTD.

Jocelyn Wallen, P.Eng., RSP1
Sector Lead, Project Management

APPENDIX B

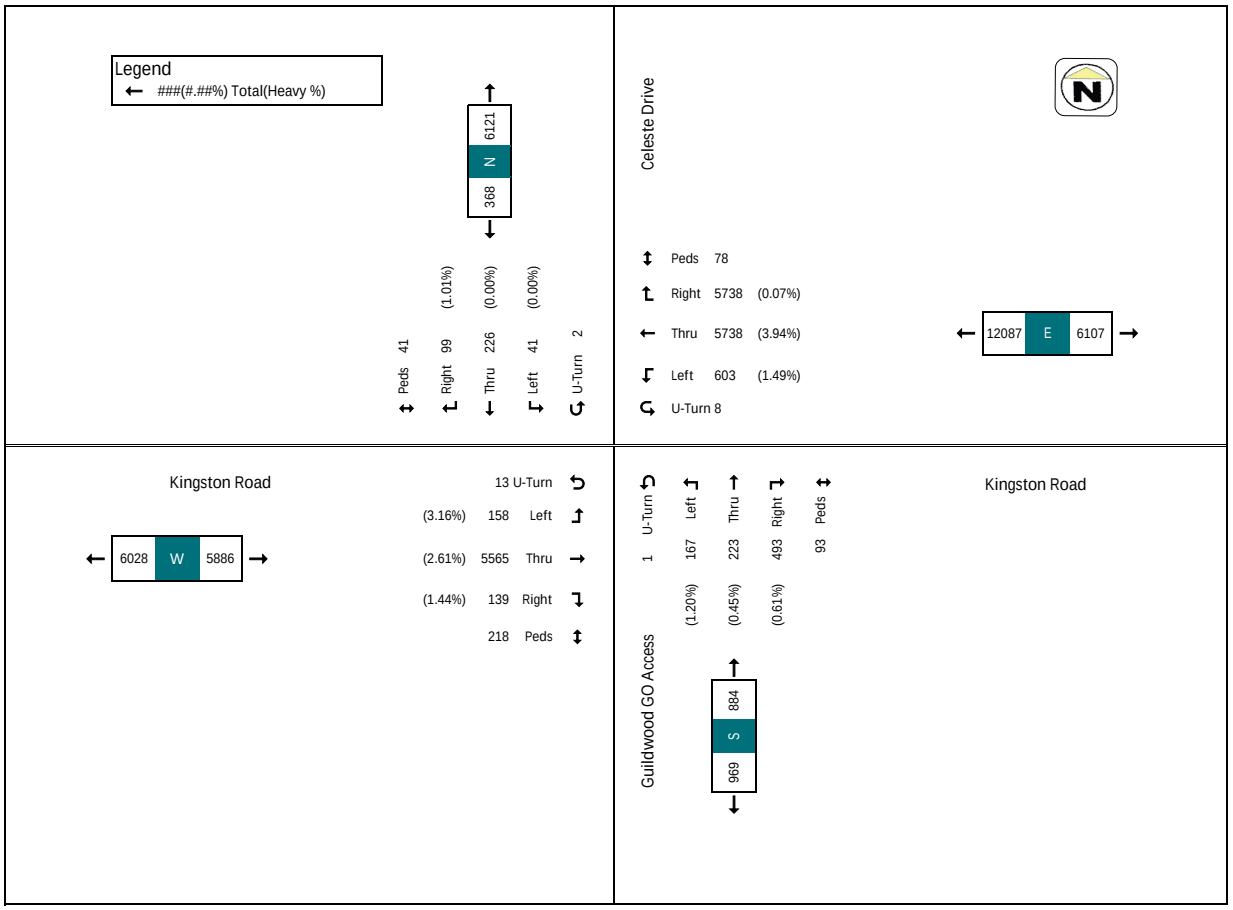
Traffic Data and Signal Timing Plans

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

Intersection : Guildwood GO Access & Kingston Road
Survey Date : November 28, 2024
Project No. : 25225
Count ID : 24422

Turning Movement Count - Guildwood GO Access & Kingston Road

	Celeste Drive Southbound						Kingston Road Westbound						Guildwood GO Access Northbound						Kingston Road 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	1	12	7	0	20	0	52	280	0	4	332	0	3	5	15	2	23	1	4	131	7	5	143	518
7:15	0	3	12	4	4	19	1	44	318	2	2	365	0	2	6	9	2	17	1	4	140	23	16	168	569
7:30	0	7	27	4	2	37	0	56	359	1	3	416	0	4	4	25	3	36	5	4	152	5	14	169	653
7:45	0	3	21	8	5	32	0	60	392	3	0	455	0	6	4	12	5	22	2	4	190	7	24	203	712
Hourly Total	0	8	72	23	11	103	1	212	1349	6	9	1568	0	15	19	61	12	98	9	16	613	42	59	683	2452
8:00	0	1	26	8	4	35	0	58	357	3	1	418	0	11	9	22	10	42	2	5	192	4	10	203	698
8:15	0	2	22	4	6	28	0	59	352	3	0	414	0	6	4	16	6	26	1	7	225	6	19	239	707
8:30	1	1	11	10	3	23	0	57	335	3	9	395	1	8	13	18	8	40	0	1	240	4	9	245	703
8:45	1	2	4	4	0	11	0	24	333	3	0	360	0	3	3	5	1	11	0	3	213	1	9	217	599
Hourly Total	2	6	63	26	13	97	0	198	1377	12	10	1587	1	28	29	61	25	119	3	16	870	15	47	904	2707
9:00	0	2	15	6	2	23	0	49	266	4	6	319	0	7	9	15	4	31	1	5	190	7	3	203	576
9:15	0	1	1	4	2	8	2	12	254	1	1	269	0	3	2	4	5	9	0	4	194	3	6	201	485
Hourly Total	0	3	16	10	4	29	2	61	520	6	9	589	0	10	11	19	9	40	1	9	384	10	9	404	1062
* Break *																									
16:00	0	1	7	6	0	14	0	16	234	1	6	251	0	3	3	6	5	12	0	4	363	8	6	375	652
16:15	0	2	8	4	0	14	0	6	284	6	4	296	0	7	21	34	3	62	1	7	344	6	7	358	730
16:30	0	4	12	3	2	19	0	9	253	3	6	265	0	13	18	36	4	67	0	16	374	6	9	396	747
16:45	0	2	10	6	0	18	3	13	238	7	3	261	0	16	18	30	7	64	1	6	359	4	4	370	713
Hourly Total	0	9	37	19	2	65	3	44	1009	17	19	1073	0	39	60	106	19	205	2	33	1440	24	26	1499	2842
17:00	0	6	8	6	1	20	0	16	261	6	8	283	0	8	18	49	7	75	1	6	327	3	9	337	715
17:15	0	3	7	5	1	15	0	18	264	2	5	284	0	13	20	21	5	54	2	7	381	10	12	400	753
17:30	0	0	4	6	9	10	1	12	236	3	3	252	0	18	20	44	5	82	1	2	416	23	20	442	786
17:45	0	3	12	2	0	17	1	12	248	9	6	284	0	11	19	55	4	85	1	12	422	3	23	436	804
Hourly Total	0	12	31	19	11	62	2	58	1009	14	22	1083	0	50	77	169	21	296	5	27	1546	39	64	1617	3058
18:00	0	2	4	1	0	7	0	16	230	8	8	254	0	10	16	41	5	67	0	4	324	7	8	335	663
18:15	0	1	3	1	0	5	0	14	244	4	1	262	0	12	11	36	2	59	4	6	388	2	5	400	726
Hourly Total	0	3	7	2	0	12	0	30	474	12	9	516	0	22	27	77	7	126	4	10	712	9	13	735	1389
Grand Total	2	41	226	99	41	368	8	603	5738	67	78	6416	1	167	223	493	93	884	24	114	5565	139	218	5842	13510
Approach %	0.5%	11.1%	61.4%	26.9%	-	-	0.1%	9.4%	89.4%	1.0%	-	-	0.1%	18.9%	25.2%	55.8%	-	-	0.4%	2.0%	95.3%	2.4%	-	-	-
Total %	0.0%	0.3%	1.7%	0.7%	-	2.7%	0.1%	4.5%	42.5%	0.5%	-	47.5%	0.0%	1.2%	1.7%	3.6%	-	6.5%	0.2%	0.8%	41.2%	1.0%	-	43.2%	-
Lights	2	41	226	98	-	367	8	594	5512	63	-	6177	1	165	222	490	-	878	24	109	5420	137	-	5690	13112
% Lights	100.0%	100.0%	100.0%	99.0%	-	99.7%	100.0%	98.5%	96.1%	94.0%	-	96.3%	100.0%	98.8%	99.6%	99.4%	-	99.3%	100.0%	95.6%	97.4%	98.6%	-	97.4%	97.1%
Buses	-	0	0	1	-	1	-	0	133	1	-	134	-	0	0	0	-	0	-	4	119	2	-	125	260
% Buses	-	0.0%	0.0%	1.0%	-	0.3%	-	0.0%	2.3%	1.5%	-	2.1%	-	0.0%	0.0%	0.0%	-	0.0%	-	3.5%	2.1%	1.4%	-	2.1%	1.9%
Trucks	-	0	0	0	-	0	-	9	93	3	-	105	-	2	1	3	-	6	-	1	26	0	-	27	138
% Trucks	-	0.0%	0.0%	-	-	0.0%	-	1.5%	1.6%	4.5%	-	1.6%	-	1.2%	0.4%	0.6%	-	0.7%	-	0.9%	0.5%	0.0%	-	0.5%	1.0%
Bicycles	-	-	-	-	6	6	-	-	-	-	8	8	-	-	-	-	0	0	-	-	-	-	3	3	17
Pedestrians	-	-	-	-	41	-	-	-	-	-	78	-	-	-	-	-	93	-	-	-	-	-	218	-	430

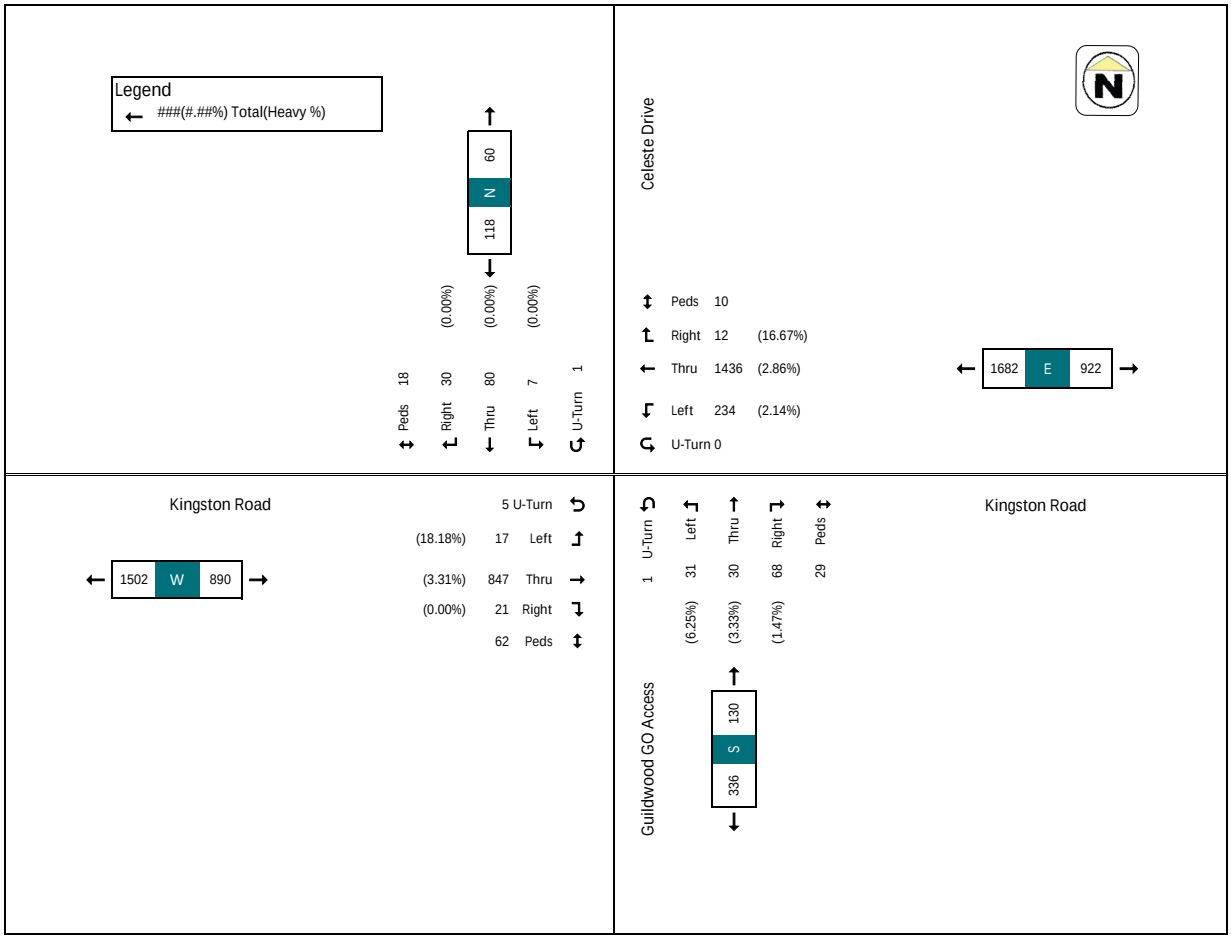


LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
Markham, ON L3R 9R9

Intersection : Guildwood GO Access & Kingston Road
Survey Date : November 28, 2024
Project No. : 25225
Count ID : 24422

AM Peak Hour - Guildwood GO Access & Kingston Road

	Celeste Drive Southbound						Kingston Road Westbound						Guildwood GO Access Northbound						Kingston Road 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	3	21	8	5	32	0	60	392	3	0	455	0	6	4	12	5	22	2	4	190	7	24	203	712
8:00	0	1	26	8	4	35	0	58	357	3	1	418	0	11	9	22	10	42	2	5	192	4	10	203	698
8:15	0	2	22	4	6	28	0	59	352	3	0	414	0	6	4	16	6	26	1	7	225	6	19	239	707
8:30	1	1	11	10	3	23	0	57	335	3	9	395	1	8	13	18	8	40	0	1	240	4	9	245	703
Hourly Total	1	7	80	30	18	118	0	234	1436	12	10	1682	1	31	30	68	29	130	5	17	847	21	62	890	2820
Approach %	0.8%	5.9%	67.8%	25.4%	-	-	0.0%	13.9%	85.4%	0.7%	-	-	0.8%	23.8%	23.1%	52.3%	-	-	0.6%	1.9%	95.2%	2.4%	-	-	-
Total %	0.0%	0.2%	2.8%	1.1%	-	4.2%	0.0%	8.3%	50.9%	0.4%	-	59.6%	0.0%	1.1%	1.1%	2.4%	-	4.6%	0.2%	0.6%	30.0%	0.7%	-	31.6%	-
PHF	0.25	0.58	0.77	0.75	-	0.84	0	0.98	0.92	1	-	0.92	0	0.7	0.58	0.77	-	0.77	0.63	0.61	0.88	0.75	-	0.91	0.99
Lights	1	7	80	29	-	117	0	229	1395	10	-	1634	1	29	29	67	-	126	5	13	819	21	-	858	2735
% Lights	100.0%	100.0%	100.0%	96.7%	-	99.2%	-	97.9%	97.1%	83.3%	-	97.1%	-	93.5%	96.7%	98.5%	-	96.9%	-	76.5%	96.7%	100.0%	-	96.4%	97.0%
Buses	-	0	0	1	-	1	-	0	27	1	-	28	-	0	0	0	-	0	-	4	24	0	-	28	57
% Buses	#VALUE!	0.0%	0.0%	3.3%	-	0.8%	-	0.0%	1.9%	8.3%	-	1.7%	-	0.0%	0.0%	0.0%	-	0.0%	-	23.5%	2.8%	0.0%	-	2.1%	2.0%
Trucks	-	0	0	0	-	0	-	5	14	1	-	20	-	2	1	1	-	4	-	0	4	0	-	4	28
% Trucks	#VALUE!	0.0%	0.0%	0.0%	-	0.0%	-	2.1%	1.0%	8.3%	-	1.2%	#VALUE!	6.5%	3.3%	1.5%	-	3.1%	-	0.0%	0.5%	0.0%	-	0.4%	1.0%
Bicycles	-	-	-	-	3	3	-	-	-	-	3	3	-	-	-	-	0	0	-	-	-	-	2	2	8
Pedestrians	-	-	-	-	18	-	-	-	-	-	10	-	-	-	-	-	1	-	-	-	-	-	62	-	91



LEA Consulting Ltd.
625 Cochrane Drive, 5th Floor
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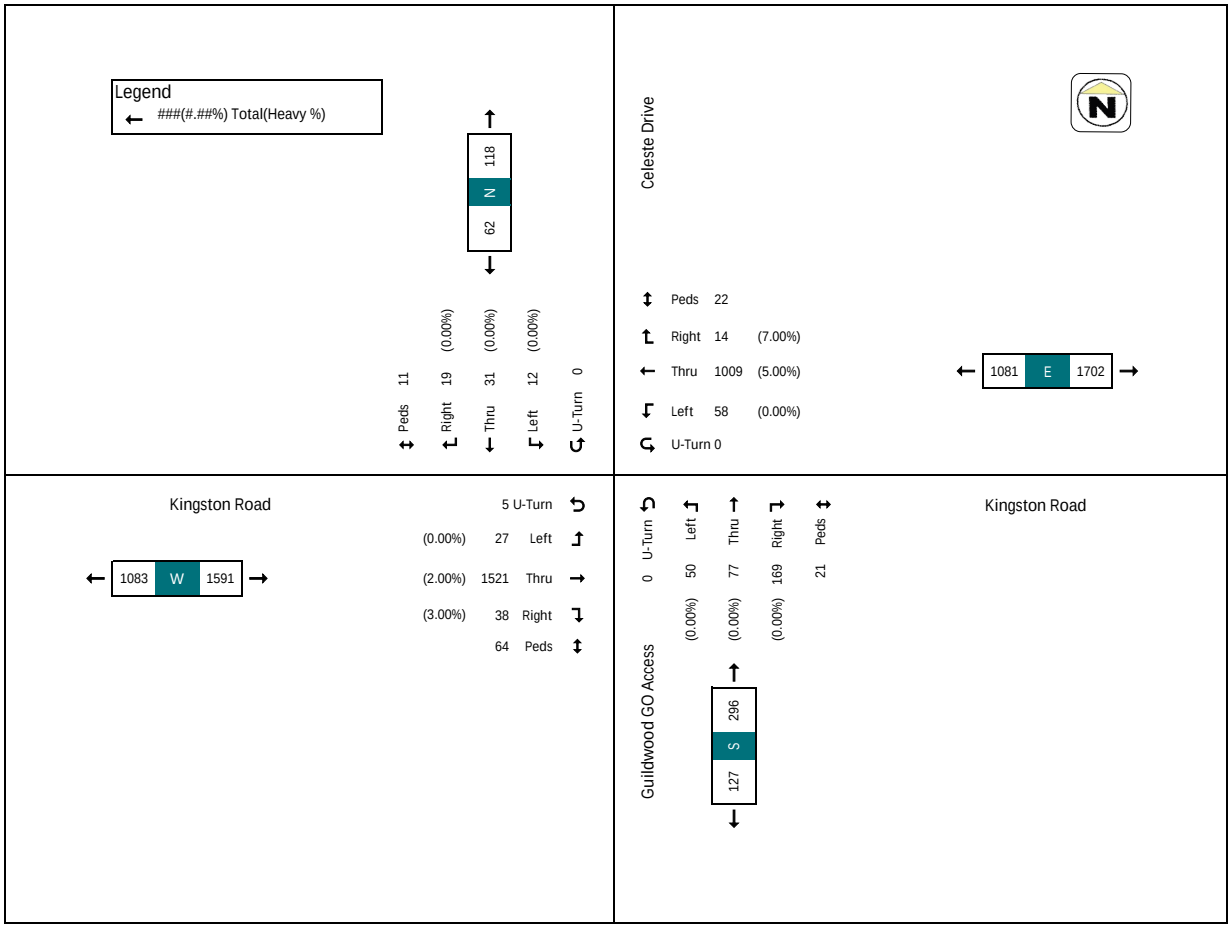
Intersection : Guildwood GO Access & Kingston Road
Survey Date : November 28, 2024
Project No. : 25225
Count ID : 24422

PM Peak Hour - Guildwood GO Access & Kingston Road

	Celeste Drive Southbound						Kingston Road Westbound						Guildwood GO Access Northbound						Kingston Road 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	6	8	6	1	20	0	16	261	6	8	283	0	8	18	49	7	75	1	6	327	3	9	337	715
17:15	0	3	7	5	1	15	0	18	264	2	5	284	0	13	20	21	5	54	2	7	381	10	12	400	753
17:30	0	0	4	6	9	10	1	12	236	3	3	252	0	18	20	44	5	82	1	2	416	23	20	442	786
17:45	0	3	12	2	0	17	1	12	248	3	6	264	0	11	19	55	4	85	1	12	422	3	23	438	804
Hourly Total	0	12	31	19	11	62	2	58	1009	14	22	1083	0	50	77	169	21	296	5	27	1546	39	64	1617	3058
Approach %	0.0%	19.4%	50.0%	30.6%	-	-	0.2%	5.4%	93.2%	1.3%	-	-	0.0%	16.9%	26.0%	57.1%	-	-	0.3%	1.7%	95.6%	2.4%	-	-	
Total %	0.0%	0.4%	1.0%	0.6%	-	2.0%	0.1%	1.9%	33.0%	0.5%	-	35.4%	0.0%	1.6%	2.5%	5.5%	-	9.7%	0.2%	0.9%	50.6%	1.3%	-	52.9%	
PHF	0	0.5	0.65	0.79	-	0.78	0.5	0.81	0.96	0.58	-	0.95	0	0.69	0.96	0.77	-	0.87	0.63	0.56	0.92	0.42	-	0.91	0.95
Lights	0	12	31	19	-	62	2	58	977	14	-	1051	0	50	77	169	-	296	5	27	1521	38	-	1591	3000
% Lights	-	100.0%	100.0%	100.0%	-	100.0%	-	100.0%	96.8%	100.0%	-	97.0%	-	100.0%	100.0%	100.0%	-	100.0%	-	100.0%	98.4%	97.4%	-	98.4%	98.1%
Buses	-	0	0	0	-	0	-	0	25	0	-	25	-	0	0	0	-	0	-	0	22	1	-	23	48
% Buses	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	2.5%	0.0%	-	2.3%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	1.4%	2.6%	-	1.4%	1.6%
Trucks	-	0	0	0	-	0	-	0	7	0	-	7	-	0	0	0	-	0	-	0	3	0	-	3	10
% Trucks	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.7%	0.0%	-	0.6%	-	0.0%	0.0%	0.0%	-	0.0%	-	0.0%	0.2%	0.0%	-	0.2%	0.3%
Bicycles	-	-	-	-	1	1	-	-	-	-	0	0	-	-	-	-	0	0	-	-	-	-	0	0	1
Pedestrians	-	-	-	-	11	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	5	-	18



KINGSTON RD AT LAWRENCE AVE E

2024-10-22

	Cars												Trucks											
Start	SB			NB			WB			EB			SB			NB			WB			EB		
	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L
time_start	sb_cars_r	sb_cars_t	sb_cars_l	nb_cars_r	nb_cars_t	nb_cars_l	wb_cars_r	wb_cars_t	wb_cars_l	eb_cars_r	eb_cars_t	eb_cars_l	sb_truck_r	sb_truck_t	sb_truck_l	nb_truck_r	nb_truck_t	nb_truck_l	wb_truck_r	wb_truck_t	wb_truck_l	eb_truck_r	eb_truck_t	eb_truck_l
2024-10-22T07:30:00	54	310	0	18	173	0	0	112	76	3	31	36	0	6	0	2	2	0	0	1	2	0	1	0
2024-10-22T07:45:00	63	266	0	20	166	0	0	146	77	5	42	33	0	8	0	1	7	0	0	3	3	0	1	0
2024-10-22T08:00:00	57	311	0	25	181	0	2	163	74	4	62	30	2	7	0	1	4	0	0	1	0	1	1	0
2024-10-22T08:15:00	84	302	0	35	236	0	2	189	58	5	56	42	0	6	0	0	4	0	0	3	0	1	1	2
2024-10-22T08:30:00	100	264	0	29	186	0	2	190	70	14	61	53	0	6	0	0	1	0	1	2	3	0	0	1
2024-10-22T08:45:00	86	303	0	24	239	0	2	119	53	8	77	47	2	4	0	2	2	0	0	3	1	0	1	1
2024-10-22T09:00:00	75	240	0	28	204	0	2	117	50	4	51	43	2	11	0	0	7	0	0	3	1	0	1	0
2024-10-22T09:15:00	72	215	0	22	161	0	3	91	67	9	52	38	0	6	0	1	5	0	0	0	1	1	1	1
2024-10-22T10:00:00	48	192	0	13	161	0	4	80	40	9	60	33	0	10	0	2	3	0	0	3	0	0	3	3
2024-10-22T10:15:00	51	190	0	30	149	0	1	72	44	9	54	39	1	6	0	4	6	0	0	2	2	0	2	0
2024-10-22T10:30:00	67	199	0	24	132	0	6	82	42	8	59	60	0	8	0	0	8	0	0	3	1	0	2	2
2024-10-22T10:45:00	44	160	0	20	165	0	0	63	41	11	64	38	1	3	0	0	6	0	1	0	2	1	2	0
2024-10-22T11:00:00	47	189	0	23	186	0	3	68	34	6	79	46	4	3	0	1	4	0	0	3	1	1	3	3
2024-10-22T11:15:00	53	174	0	22	157	0	5	112	49	10	53	45	1	7	0	2	10	0	0	0	2	1	0	2
2024-10-22T11:30:00	55	188	0	30	195	0	4	79	44	14	86	45	0	6	0	1	4	0	0	1	0	0	2	1
2024-10-22T11:45:00	70	139	0	25	200	0	1	74	52	14	97	64	1	5	0	2	6	0	0	3	0	0	1	0
2024-10-22T13:00:00	55	165	0	40	203	0	3	79	37	12	89	61	4	4	0	0	7	0	0	1	0	0	0	1
2024-10-22T13:15:00	50	160	0	30	195	0	1	98	56	13	87	56	0	3	0	0	5	0	0	0	0	0	3	1
2024-10-22T13:30:00	31	147	0	25	220	0	2	76	36	7	63	55	1	7	0	1	6	0	0	2	1	0	1	2
2024-10-22T13:45:00	41	181	0	35	222	0	4	83	56	12	89	51	1	4	0	1	6	0	0	4	1	0	1	5
2024-10-22T14:00:00	42	195	0	28	206	0	2	89	43	8	83	66	1	3	0	1	2	0	0	3	1	0	2	0
2024-10-22T14:15:00	59	168	0	50	240	0	4	85	51	12	88	57	0	9	0	1	5	0	0	1	0	0	1	2
2024-10-22T14:30:00	59	195	0	59	260	0	2	99	44	12	95	64	0	4	0	1	4	0	0	0	1	0	0	0
2024-10-22T14:45:00	48	209	0	44	246	0	4	98	40	9	77	59	1	5	0	3	8	0	0	3	1	0	3	2
2024-10-22T16:00:00	51	197	0	32	238	0	1	119	47	9	188	70	0	5	0	0	10	0	0	1	1	0	0	1
2024-10-22T16:15:00	53	226	0	39	278	0	1	107	48	17	155	55	0	1	0	0	6	0	0	0	1	0	1	1
2024-10-22T16:30:00	62	205	0	38	244	0	5	114	35	13	166	69	2	1	0	0	3	0	0	1	2	0	3	0
2024-10-22T16:45:00	72	255	0	31	244	0	2	117	51	10	145	69	0	0	0	0	4	0	1	2	0	0	1	0
2024-10-22T17:00:00	65	237	0	33	269	0	0	92	48	12	159	82	1	4	0	1	3	0	0	0	0	0	0	0
2024-10-22T17:15:00	68	220	0	41	191	0	1	102	44	5	199	83	2	1	0	0	2	0	0	0	0	0	2	0
2024-10-22T17:30:00	77	239	0	40	278	0	2	106	45	9	155	60	1	1	0	1	2	0	0	0	1	0	0	0
2024-10-22T17:45:00	68	190	0	56	293	0	2	127	43	13	127	62	0	2	0	0	1	0	0	0	0	0	2	0

	Buses												Pedestrians				Bicycles Crossings				Non-vehicle modes			
Start	SB			NB			WB			EB			North Side	South Side	East Side	West Side	North Side	South Side	East Side	West Side	North Side	South Side	East Side	West Side
	R	T	L	R	T	L	R	T	L	R	T	L												
time_start	sb_bus_r	sb_bus_t	sb_bus_l	nb_bus_r	nb_bus_t	nb_bus_l	wb_bus_r	wb_bus_t	wb_bus_l	eb_bus_r	eb_bus_t	eb_bus_l	nx_peds	sx_peds	ex_peds	wx_peds	nx_bike	sx_bike	ex_bike	wx_bike	nx_other	sx_other	ex_other	wx_other
2024-10-22T07:30:00	3	14	0	1	10	0	0	4	2	0	6	0	2	12	10	11	2	1	1	0	0	0	0	0
2024-10-22T07:45:00	2	9	0	6	8	0	0	9	3	1	5	4	9	8	13	18	2	0	0	0	0	0	0	0
2024-10-22T08:00:00	2	8	0	4	7	0	0	10	3	2	5	2	6	10	18	13	1	0	0	0	0	0	0	0
2024-10-22T08:15:00	1	5	0	3	9	0	0	8	1	0	5	1	9	27	23	11	2	0	0	0	0	0	0	0
2024-10-22T08:30:00	0	9	0	0	7	0	0	5	1	0	6	0	11	13	13	8	1	6	1	0	0	0	0	0
2024-10-22T08:45:00	4	5	0	3	6	0	0	6	1	0	7	1	14	20	14	18	2	3	1	1	0	0	0	0
2024-10-22T09:00:00	1	4	0	2	10	0	0	10	3	0	7	2	15	25	21	24	2	1	1	0	0	0	0	0
2024-10-22T09:15:00	1	7	0	1	8	0	0	3	4	0	2	2	12	21	16	15	0	0	1	3	0	0	0	0
2024-10-22T10:00:00	0	4	0	2	4	0	0	2	0	0	2	0	20	15	23	17	0	3	1	1	0	0	0	0
2024-10-22T10:15:00	0	3	0	1	3	0	0	3	1	0	0	0	26	20	24	17	2	2	0	1	0	0	0	0
2024-10-22T10:30:00	0	4	0	1	4	0	0	3	1	0	4	2	22	19	35	20	1	0	0	0	0	0	0	0
2024-10-22T10:45:00	0	5	0	0	3	0	0	2	1	0	1	1	20	29	40	23	3	2	6	0	0	0	0	0
2024-10-22T11:00:00	1	3	0	1	4	0	0	2	1	0	4	0	34	19	35	13	0	2	0	3	0	0	0	0
2024-10-22T11:15:00	0	5	0	0	4	0	0	2	0	0	1	1	17	24	36	13	0	0	1	0	0	0	0	0
2024-10-22T11:30:00	0	2	0	1	3	0	0	3	1	0	3	1	24	11	31	22	2	1	1	0	0	0	0	0
2024-10-22T11:45:00	2	5	0	2	3	0	0	2	1	0	2	0	30	20	30	23	4	1	2	2	0	0	0	0
2024-10-22T13:00:00	0	2	0	3	4	0	0	2	1	0	1	0	34	26	41	33	0	0	1	1	0	0	0	0
2024-10-22T13:15:00	0	2	0	1	4	0	0	4	0	0	4	1	21	19	33	27	0	1	1	4	0	0	0	0
2024-10-22T13:30:00	1	4	0	0	3	0	0	2	1	0	2	0	16	24	37	14	0	1	1	5	0	0	0	0
2024-10-22T13:45:00	1	6	0	1	5	0	0	1	2	0	3	1	31	17	20	37	2	2	2	1	0	0	0	0
2024-10-22T14:00:00	1	4	0	0	5	0	0	5	2	0	2	0	26	28	30	19	0	0	0	0	0	0	0	0
2024-10-22T14:15:00	1	9	0	4	2	0	0	3	3	0	7	0	23	34	29	29	1	4	6	2	0	0	0	0
2024-10-22T14:30:00	2	10	0	1	7	0	0	1	3	1	6	2	21	39	31	23	2	0	2	2	0	0	0	0
2024-10-22T14:45:00	2	7	0	1	12	0	0	8	2	0	4	0	25	36	37	26	2	6	4	3	0	0	0	0
2024-10-22T16:00:00	4	6	0	4	4	0	0	6	1	0	8	0	34	27	47	29	1	4	3	3	0	0	0	0
2024-10-22T16:15:00	1	4	0	2	8	0	0	7	2	0	7	3	29	32	36	21	4	2	1	2	0	0	0	0
2024-10-22T16:30:00	0	5	0	2	6	0	0	6	2	0	4	1	31	31	27	19	4	3	6	0	0	0	0	0
2024-10-22T16:45:00	0	6	0	0	5	0	0	6	1	0	5	1	20	36	27	26	1	4	3	3	0	0	0	0
2024-10-22T17:00:00	1	4	0	1	6	0	0	4	1	0	4	0	23	31	32	37	0	3	2	3	0	0	0	0
2024-10-22T17:15:00	1	4	0	1	4	0	0	3	0	0	3	0	46	41	21	29	4	0	3	3	0	0	0	0
2024-10-22T17:30:00	0	5	0	1	5	0	0	5	1	0	5	0	36	22	37	33	0	3	6	0	0	0	0	0
2024-10-22T17:45:00	0	6	0	1	5	0	0	3	1	0	5	1	40	40	46	26	0	2	4	1	0	0	0	0

KINGSTON RD AT MARKHAM RD
2022-06-01

	Cars												Trucks											
Start	SB			NB			WB			EB			SB			NB			WB			EB		
	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L	R	T	L
time_start	sb_cars_r	sb_cars_t	sb_cars_l	nb_cars_r	nb_cars_t	nb_cars_l	wb_cars_r	wb_cars_t	wb_cars_l	eb_cars_r	eb_cars_t	eb_cars_l	sb_truck_r	sb_truck_t	sb_truck_l	nb_truck_r	nb_truck_t	nb_truck_l	wb_truck_r	wb_truck_t	wb_truck_l	eb_truck_r	eb_truck_t	eb_truck_l
2022-06-01T07:30:00	35	16	4	2	28	13	10	313	3	3	137	35	3	0	1	0	0	0	0	11	0	0	6	1
2022-06-01T07:45:00	39	8	4	0	13	19	3	362	0	2	155	21	2	0	1	0	0	0	0	1	0	0	1	3
2022-06-01T08:00:00	37	16	4	4	21	16	11	368	3	1	169	21	0	1	0	0	0	0	0	7	0	0	3	2
2022-06-01T08:15:00	52	19	14	2	27	15	17	302	3	3	170	42	2	0	0	0	0	0	0	10	0	0	4	0
2022-06-01T08:30:00	58	18	17	6	23	18	22	316	7	2	209	28	0	1	0	0	0	0	0	5	0	1	5	0
2022-06-01T08:45:00	55	18	17	3	31	26	14	353	10	7	174	43	0	1	0	0	0	0	0	5	0	0	3	0
2022-06-01T09:00:00	50	36	6	6	28	18	12	250	8	4	167	43	1	0	0	0	0	0	0	10	0	0	4	1
2022-06-01T09:15:00	25	15	10	4	25	19	5	255	10	3	147	37	2	0	1	0	0	0	0	7	0	0	6	0
2022-06-01T10:00:00	38	20	6	9	23	11	7	188	10	4	140	32	3	1	0	0	0	0	1	5	0	0	9	1
2022-06-01T10:15:00	36	20	9	4	23	15	9	194	5	3	135	35	1	0	0	0	0	0	0	6	0	0	6	1
2022-06-01T10:30:00	39	24	6	6	18	17	7	175	8	3	116	32	1	0	0	0	1	0	0	1	1	0	3	2
2022-06-01T10:45:00	34	22	10	6	24	13	13	186	13	7	151	36	1	0	0	0	0	0	0	6	0	0	5	0
2022-06-01T11:00:00	40	19	6	3	18	20	12	136	9	2	141	37	0	0	0	0	1	3	0	6	0	0	1	2
2022-06-01T11:15:00	42	20	10	8	24	13	12	177	9	4	138	22	1	0	0	0	1	0	0	6	0	0	4	1
2022-06-01T11:30:00	47	22	8	5	19	13	8	192	5	3	133	33	1	0	0	0	0	0	1	5	1	0	4	0
2022-06-01T11:45:00	43	28	2	9	17	16	5	202	5	2	144	36	1	0	1	0	1	1	0	3	0	1	7	0
2022-06-01T13:00:00	56	25	6	8	19	12	14	146	3	9	121	43	1	0	0	0	0	0	1	2	0	0	5	0
2022-06-01T13:15:00	39	18	10	4	21	17	14	133	12	9	115	35	2	0	0	0	0	0	0	6	0	0	9	1
2022-06-01T13:30:00	48	24	9	9	20	17	10	141	10	6	115	42	3	0	0	0	0	0	0	5	0	0	4	1
2022-06-01T13:45:00	39	32	6	4	20	15	8	180	9	0	157	34	3	1	1	0	0	0	0	3	0	1	4	1
2022-06-01T14:00:00	40	23	13	9	17	11	12	142	8	3	148	51	0	0	0	0	0	0	0	3	0	0	4	3
2022-06-01T14:15:00	53	20	9	8	20	15	8	205	8	7	208	38	1	0	0	0	1	0	1	4	1	0	5	0
2022-06-01T14:30:00	60	19	4	3	26	16	11	236	2	3	189	45	1	0	0	0	1	0	1	1	0	1	1	0
2022-06-01T14:45:00	48	31	12	6	24	10	7	171	11	6	270	39	0	0	0	0	0	0	0	5	0	1	5	0
2022-06-01T16:00:00	57	27	13	5	29	20	10	179	8	5	350	38	2	0	0	0	2	0	0	3	0	0	2	1
2022-06-01T16:15:00	47	25	20	9	16	14	14	234	5	1	351	50	0	0	1	0	0	0	1	4	0	0	6	2
2022-06-01T16:30:00	50	32	15	10	22	14	10	234	2	3	385	63	0	1	0	0	0	1	0	0	0	0	2	1
2022-06-01T16:45:00	54	28	22	8	17	22	8	189	8	4	372	50	0	0	0	0	0	0	0	2	0	0	0	4
2022-06-01T17:00:00	49	26	21	7	31	25	8	203	6	1	448	56	1	0	0	0	0	0	0	1	0	1	2	2
2022-06-01T17:15:00	56	25	12	6	27	26	6	215	6	3	456	62	0	0	0	0	1	0	0	5	0	0	5	2
2022-06-01T17:30:00	55	27	15	14	20	22	10	194	3	4	375	86	0	0	0	0	0	0	0	1	0	0	3	0
2022-06-01T17:45:00	60	27	24	6	22	16	13	198	8	3	328	87	0	0	0	0	0	0	0	4	0	0	1	0

	Buses												Pedestrians				Bicycles Crossings				Non-vehicle modes			
Start	SB			NB			WB			EB			North Side	South Side	East Side	West Side	North Side	South Side	East Side	West Side	North Side	South Side	East Side	West Side
	R	T	L	R	T	L	R	T	L	R	T	L												
time_start	sb_bus_r	sb_bus_t	sb_bus_l	nb_bus_r	nb_bus_t	nb_bus_l	wb_bus_r	wb_bus_t	wb_bus_l	eb_bus_r	eb_bus_t	eb_bus_l	nx_peds	sx_peds	ex_peds	wx_peds	nx_bike	sx_bike	ex_bike	wx_bike	nx_other	sx_other	ex_other	wx_other
2022-06-01T07:30:00	4	0	1	0	0	1	0	6	0	0	3	4	0	1	4	4	0	0	0	1	0	0	0	0
2022-06-01T07:45:00	4	0	0	0	0	0	0	4	0	0	5	5	2	2	3	2	2	1	0	0	0	0	0	0
2022-06-01T08:00:00	4	1	0	0	0	0	0	4	0	0	3	6	7	5	3	3	0	0	0	0	0	0	0	0
2022-06-01T08:15:00	4	0	0	0	0	1	0	2	0	0	3	4	4	4	2	7	0	0	0	0	0	0	0	0
2022-06-01T08:30:00	3	0	0	0	4	0	1	5	0	1	4	3	2	11	5	3	0	0	0	2	0	0	0	0
2022-06-01T08:45:00	3	0	0	0	0	0	1	1	0	0	1	5	3	4	5	5	0	0	0	0	0	0	0	0
2022-06-01T09:00:00	4	0	0	0	1	0	0	6	0	0	3	0	1	1	5	4	0	0	0	1	0	0	0	0
2022-06-01T09:15:00	5	0	0	0	0	0	0	5	0	0	8	3	2	11	8	10	0	0	0	1	0	0	0	0
2022-06-01T10:00:00	2	0	0	0	0	0	0	2	0	0	1	2	0	1	4	2	0	0	0	0	0	0	0	0
2022-06-01T10:15:00	2	0	0	0	1	0	0	2	0	0	0	6	2	0	4	2	0	0	0	1	0	0	0	0
2022-06-01T10:30:00	2	0	0	0	1	0	0	0	0	0	0	4	1	1	0	3	0	0	0	0	0	0	0	0
2022-06-01T10:45:00	4	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	0	0
2022-06-01T11:00:00	3	0	0	0	0	0	0	1	0	0	0	5	4	4	3	6	0	0	0	0	0	0	0	0
2022-06-01T11:15:00	3	0	0	0	0	0	0	0	0	0	1	2	1	0	0	1	0	0	0	0	0	0	0	0
2022-06-01T11:30:00	3	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0
2022-06-01T11:45:00	1	0	0	0	0	0	0	0	0	0	0	3	4	2	4	4	0	0	0	0	0	0	0	0
2022-06-01T13:00:00	5	0	0	0	0	0	0	2	0	0	0	3	3	1	3	3	0	0	0	0	0	0	0	0
2022-06-01T13:15:00	2	0	0	0	0	0	0	2	0	0	1	3	3	4	2	6	0	0	0	0	0	0	0	0
2022-06-01T13:30:00	3	0	0	0	0	0	0	2	0	0	0	0	1	2	3	6	0	0	0	0	0	0	0	0
2022-06-01T13:45:00	3	0	0	0	1	0	0	1	0	0	0	0	4	7	6	6	0	0	0	0	0	0	0	0
2022-06-01T14:00:00	3	0	0	0	0	0	1	4	0	0	1	4	5	7	6	2	0	0	0	0	0	0	0	0
2022-06-01T14:15:00	3	0	0	0	0	0	0	3	0	0	3	3	3	7	3	6	0	0	0	0	0	0	0	0
2022-06-01T14:30:00	3	0	0	0	0	0	0	1	0	0	3	3	3	7	3	11	0	0	0	0	0	0	0	0
2022-06-01T14:45:00	2	0	0	0	1	0	0	2	1	0	2	7	4	3	2	9	0	0	0	0	0	0	0	0
2022-06-01T16:00:00	4	0	1	0	0	0	0	3	0	0	2	8	8	3	7	7	0	0	2	0	0	0	0	0
2022-06-01T16:15:00	2	0	0	0	0	0	0	4	0	1	1	3	4	9	11	2	0	0	0	0	0	0	0	0
2022-06-01T16:30:00	3	0	0	0	0	0	0	3	0	0	3	1	2	2	3	6	0	0	1	0	0	0	0	0
2022-06-01T16:45:00	5	0	0	0	0	0	1	1	0	0	2	9	6	7	8	7	0	0	0	0	0	0	0	0
2022-06-01T17:00:00	5	0	0	0	0	0	0	1	0	0	3	1	3	1	5	4	0	0	0	0	0	0	0	0
2022-06-01T17:15:00	4	0	0	0	0	0	0	0	0	0	1	4	9	4	6	7	0	0	0	1	0	0	0	0
2022-06-01T17:30:00	2	0	0	0	0	0	0	1	0	1	1	8	10	5	0	19	0	1	0	0	0	0	0	0
2022-06-01T17:45:00	2	0	0	0	0	0	0	2	0	0	1	3	5	6	3	3	1	0	0	0	0	0	0	0

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625 Cochrane Drive, 9th Floor
Markham, ON L3R 9R9

Project No.: 21107
Intersection: Overture Rd & Kingston Rd
Weather: Clear
Surveyor(s): IDJC

File Name : Overture Rd & Kingston Rd - AM
Site Code : 00021107
Start Date : 2022-11-24
Page No : 1

Groups Printed- Cars/lights - Trucks - Buses

	Overture Road Southbound					Kingston Road Westbound					Payzac Avenue Northbound					Kingston Road Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00	0	1	5	[0]	6	1	393	2	[1]	396	2	1	1	[1]	4	2	129	1	[0]	132	2	538	540
07:15	1	0	5	[0]	6	3	412	4	[0]	419	1	3	3	[1]	7	2	196	1	[0]	199	1	631	632
07:30	1	0	7	[1]	8	4	472	3	[0]	479	7	3	0	[2]	10	2	181	2	[0]	185	3	682	685
07:45	5	2	6	[0]	13	1	461	4	[2]	466	3	1	1	[3]	5	2	192	1	[3]	195	8	679	687
Total	7	3	23	[1]	33	9	1738	13	[3]	1760	13	8	5	[7]	26	8	698	5	[3]	711	14	2530	2544
08:00	3	0	0	[4]	3	5	458	2	[3]	465	7	7	2	[4]	16	2	201	4	[4]	207	15	691	706
08:15	3	3	2	[3]	8	4	354	5	[0]	363	5	1	4	[1]	10	3	217	3	[3]	223	7	604	611
08:30	5	2	2	[3]	9	3	419	6	[2]	428	5	4	3	[4]	12	1	223	5	[0]	229	9	678	687
08:45	6	7	3	[0]	16	9	368	2	[5]	379	0	4	5	[5]	9	2	257	4	[1]	263	11	667	678
Total	17	12	7	[10]	36	21	1599	15	[10]	1635	17	16	14	[14]	47	8	898	16	[8]	922	42	2640	2682
09:00	3	0	2	[2]	5	8	333	5	[0]	346	6	3	5	[1]	14	4	205	0	[0]	209	3	574	577
09:15	0	1	0	[1]	1	10	317	5	[0]	332	3	2	5	[1]	10	3	164	6	[0]	173	2	516	518
Grand Total	27	16	32	[14]	75	48	3987	38	[13]	4073	39	29	29	[23]	97	23	1965	27	[11]	2015	61	6260	6321
Apprch %	36	21.3	42.7			1.2	97.9	0.9			40.2	29.9	29.9			1.1	97.5	1.3					
Total %	0.4	0.3	0.5		1.2	0.8	63.7	0.6		65.1	0.6	0.5	0.5		1.5	0.4	31.4	0.4		32.2	1	99	
Cars/lights	25	16	27		82	46	3785	36		3880	36	29	25		113	21	1827	23		1879	0	0	5954
% Cars/lights	92.6	100	84.4	100	92.1	95.8	94.9	94.7	100	95	92.3	100	86.2	100	94.2	91.3	93	85.2	72.7	92.7	0	0	94.2
Trucks	2	0	5		7	1	92	0		93	0	0	0		0	2	73	4		82	0	0	182
% Trucks	7.4	0	15.6	0	7.9	2.1	2.3	0	0	2.3	0	0	0	0	0	8.7	3.7	14.8	27.3	4	0	0	2.9
Buses	0	0	0		0	1	110	2		113	3	0	4		7	0	65	0		65	0	0	185
% Buses	0	0	0	0	0	2.1	2.8	5.3	0	2.8	7.7	0	13.8	0	5.8	0	3.3	0	0	3.2	0	0	2.9

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File Name : Overture Rd & Kingston Rd - AM
Site Code : 00021107
Start Date : 2022-11-24
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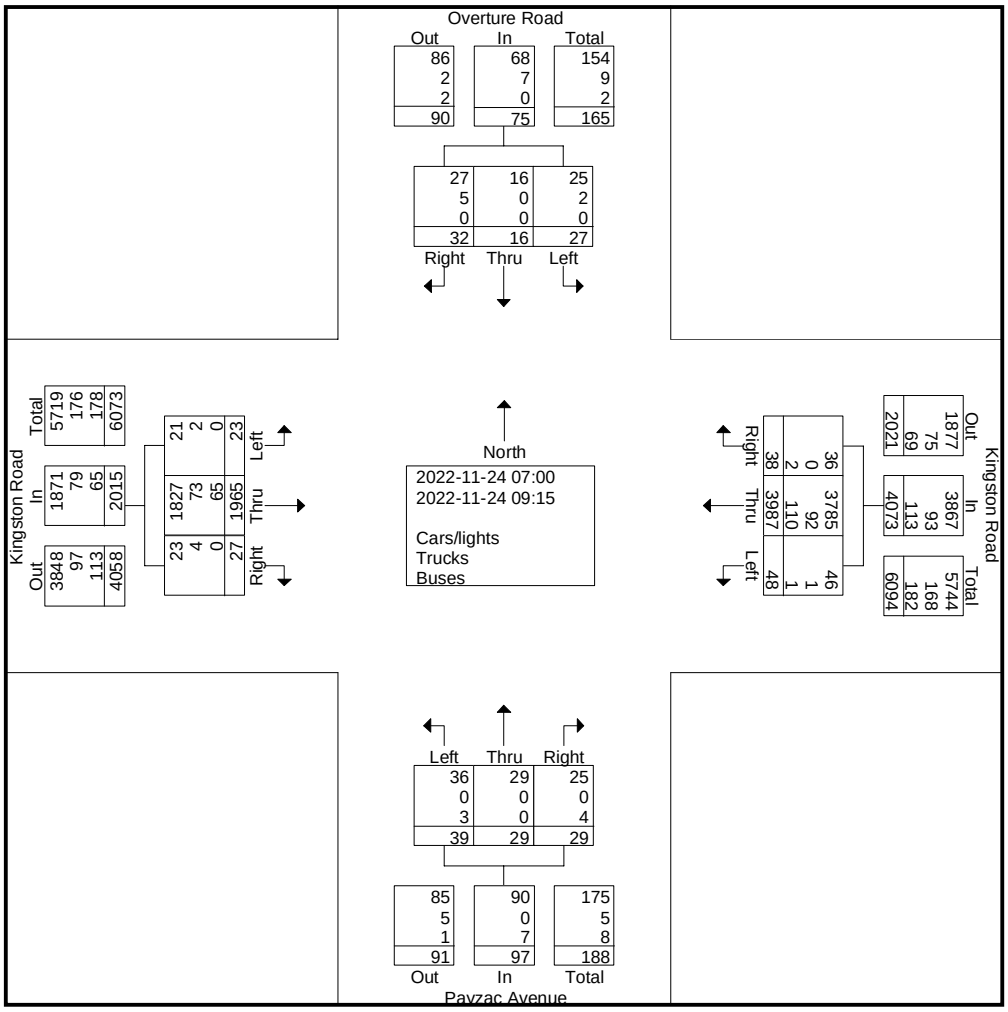

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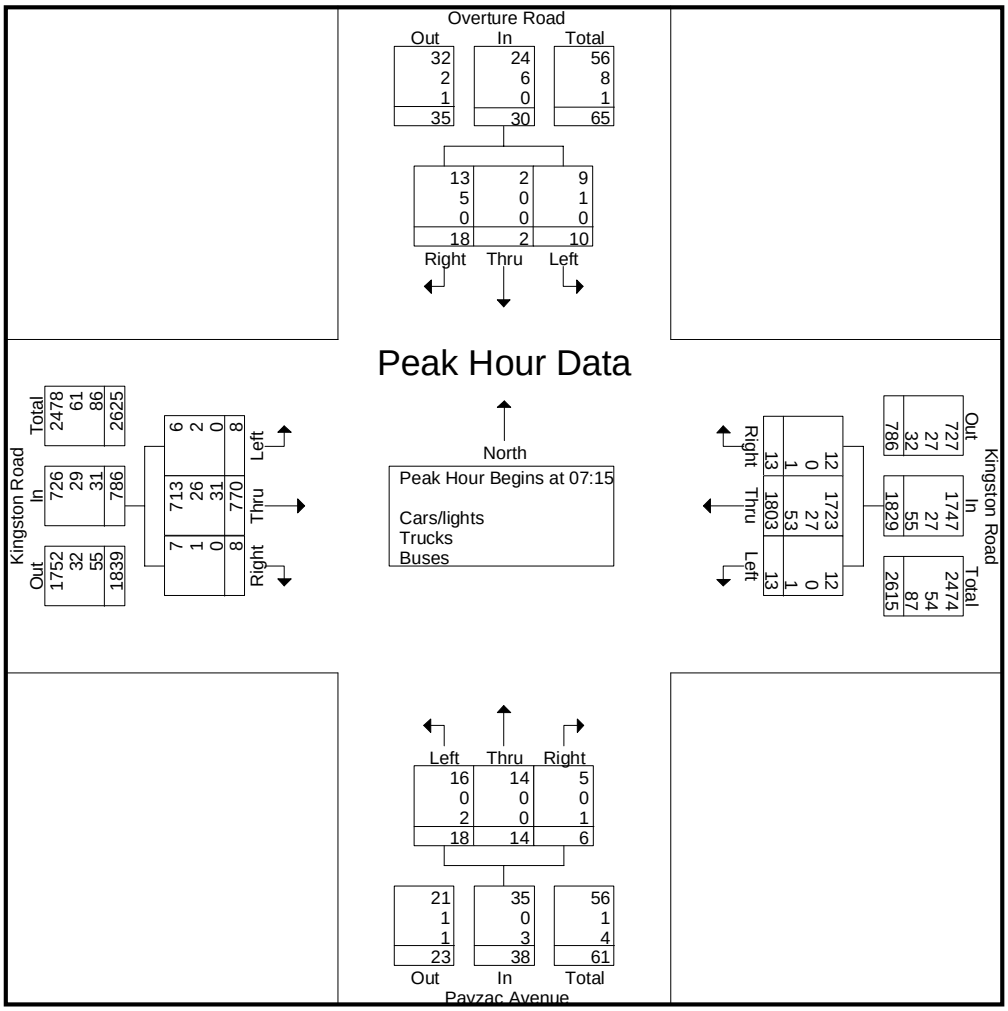
625 Cochrane Drive, 9th Floor
Markham, ON L3R 9R9

File Name : Overture Rd & Kingston Rd - AM
Site Code : 00021107
Start Date : 2022-11-24
Page No : 3

	Overture Road Southbound				Kingston Road Westbound				Payzac Avenue Northbound				Kingston Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 09:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	1	0	5	6	3	412	**4**	419	1	3	**3**	7	**2**	196	1	199	631
07:30	1	0	**7**	8	4	**472**	3	**479**	**7**	3	0	10	2	181	2	185	682
07:45	**5**	**2**	6	**13**	1	461	4	466	3	1	1	5	2	192	1	195	679
08:00	3	0	0	3	**5**	458	2	465	7	**7**	2	**16**	2	**201**	**4**	**207**	**691**
Total Volume	10	2	18	30	13	1803	13	1829	18	14	6	38	8	770	8	786	2683
% App. Total	33.3	6.7	60		0.7	98.6	0.7		47.4	36.8	15.8		1	98	1		
PHF	.500	.250	.643	.577	.650	.955	.813	.955	.643	.500	.500	.594	1.00	.958	.500	.949	.971
Cars/lights	9	2	13	24	12	1723	12	1747	16	14	5	35	6	713	7	726	2532
% Cars/lights	90.0	100	72.2	80.0	92.3	95.6	92.3	95.5	88.9	100	83.3	92.1	75.0	92.6	87.5	92.4	94.4
Trucks	1	0	5	6	0	27	0	27	0	0	0	0	2	26	1	29	62
% Trucks	10.0	0	27.8	20.0	0	1.5	0	1.5	0	0	0	0	25.0	3.4	12.5	3.7	2.3
Buses	0	0	0	0	1	53	1	55	2	0	1	3	0	31	0	31	89
% Buses	0	0	0	0	7.7	2.9	7.7	3.0	11.1	0	16.7	7.9	0	4.0	0	3.9	3.3



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625 Cochrane Drive, 9th Floor
Markham, ON L3R 9R9

Project No.: 21107
Intersection: Overture Rd & Kingston Rd
Weather: Clear
Surveyor(s): IDJC

File Name : Overture Rd & Kingston Rd - PM
Site Code : 00021107
Start Date : 2022-11-24
Page No : 1

Groups Printed- Cars/lights - Trucks - Buses

	Overture Road Southbound					Kingston Road Westbound					Payzac Avenue Northbound					Kingston Road Eastbound							
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Exclu. Total	Inclu. Total	Int. Total
16:00	7	5	5	[1]	17	13	213	5	[4]	231	5	1	3	[3]	9	8	364	2	[2]	374	10	631	641
16:15	6	2	4	[0]	12	6	246	4	[5]	256	4	3	2	[1]	9	9	389	5	[4]	403	10	680	690
16:30	4	4	4	[1]	12	9	280	8	[1]	297	4	5	5	[2]	14	5	365	10	[2]	380	6	703	709
16:45	4	2	3	[1]	9	8	269	6	[2]	283	3	1	2	[3]	6	6	327	7	[2]	340	8	638	646
Total	21	13	16	[3]	50	36	1008	23	[12]	1067	16	10	12	[9]	38	28	1445	24	[10]	1497	34	2652	2686
17:00	8	4	5	[1]	17	3	260	6	[1]	269	6	0	2	[2]	8	8	331	9	[2]	348	6	642	648
17:15	5	4	5	[1]	14	8	258	10	[1]	276	2	3	2	[0]	7	10	358	9	[0]	377	2	674	676
17:30	7	1	4	[3]	12	6	289	1	[1]	296	5	4	5	[0]	14	3	340	5	[3]	348	7	670	677
17:45	13	1	6	[2]	20	4	257	10	[2]	271	4	0	3	[0]	7	4	336	4	[0]	344	4	642	646
Total	33	10	20	[7]	63	21	1064	27	[5]	1112	17	7	12	[2]	36	25	1365	27	[5]	1417	19	2628	2647
Grand Total	54	23	36	[10]	113	57	2072	50	[17]	2179	33	17	24	[11]	74	53	2810	51	[15]	2914	53	5280	5333
Apprch %	47.8	20.4	31.9			2.6	95.1	2.3			44.6	23	32.4			1.8	96.4	1.8					
Total %	1	0.4	0.7		2.1	1.1	39.2	0.9		41.3	0.6	0.3	0.5		1.4	1	53.2	1		55.2	1	99	
Cars/lights	54	23	35		122	56	1990	50		2111	29	17	24		81	52	2738	50		2855	0	0	5169
% Cars/lights	100	100	97.2	100	99.2	98.2	96	100	88.2	96.1	87.9	100	100	100	95.3	98.1	97.4	98	100	97.5	0	0	96.9
Trucks	0	0	1		1	0	23	0		25	1	0	0		1	1	26	1		28	0	0	55
% Trucks	0	0	2.8	0	0.8	0	1.1	0	11.8	1.1	3	0	0	0	1.2	1.9	0.9	2	0	1	0	0	1
Buses	0	0	0		0	1	59	0		60	3	0	0		3	0	46	0		46	0	0	109
% Buses	0	0	0	0	0	1.8	2.8	0	0	2.7	9.1	0	0	0	3.5	0	1.6	0	0	1.6	0	0	2

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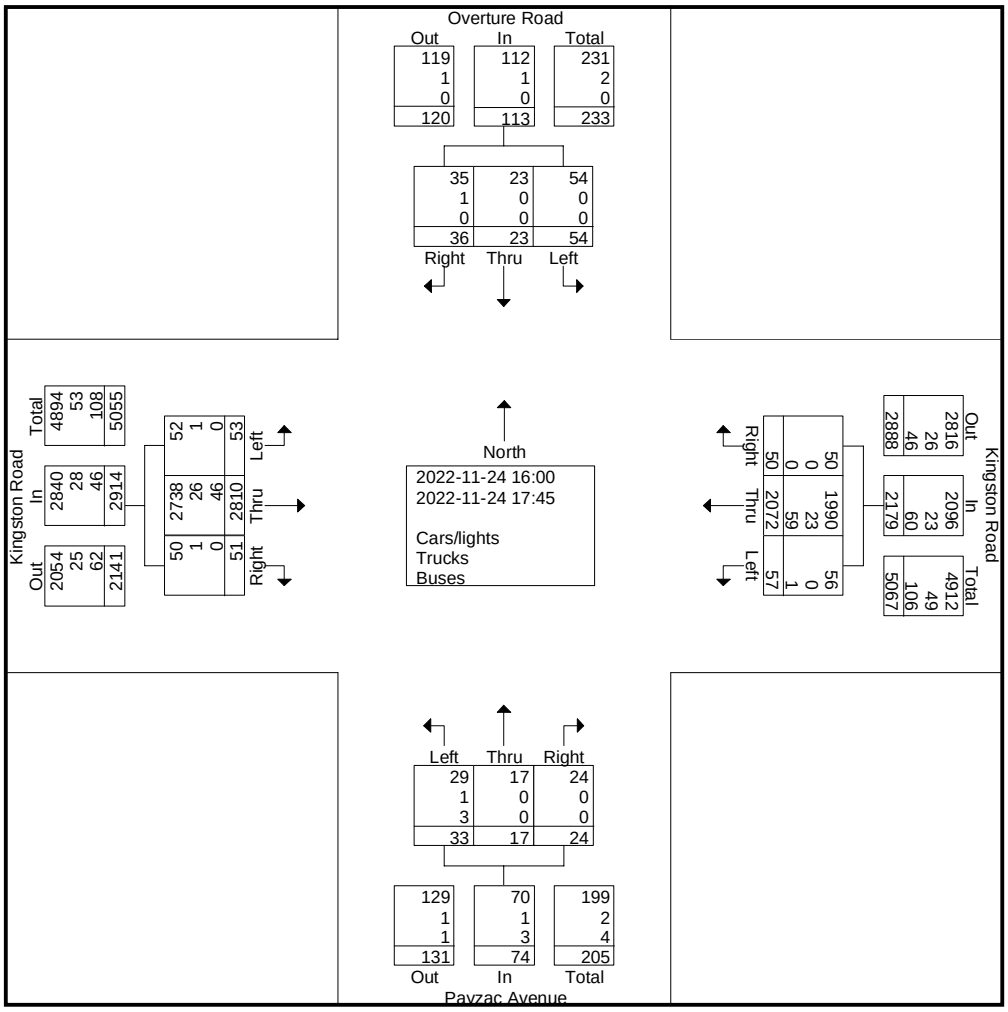
File Name : Overture Rd & Kingston Rd - PM
Site Code : 00021107
Start Date : 2022-11-24
Page No : 2



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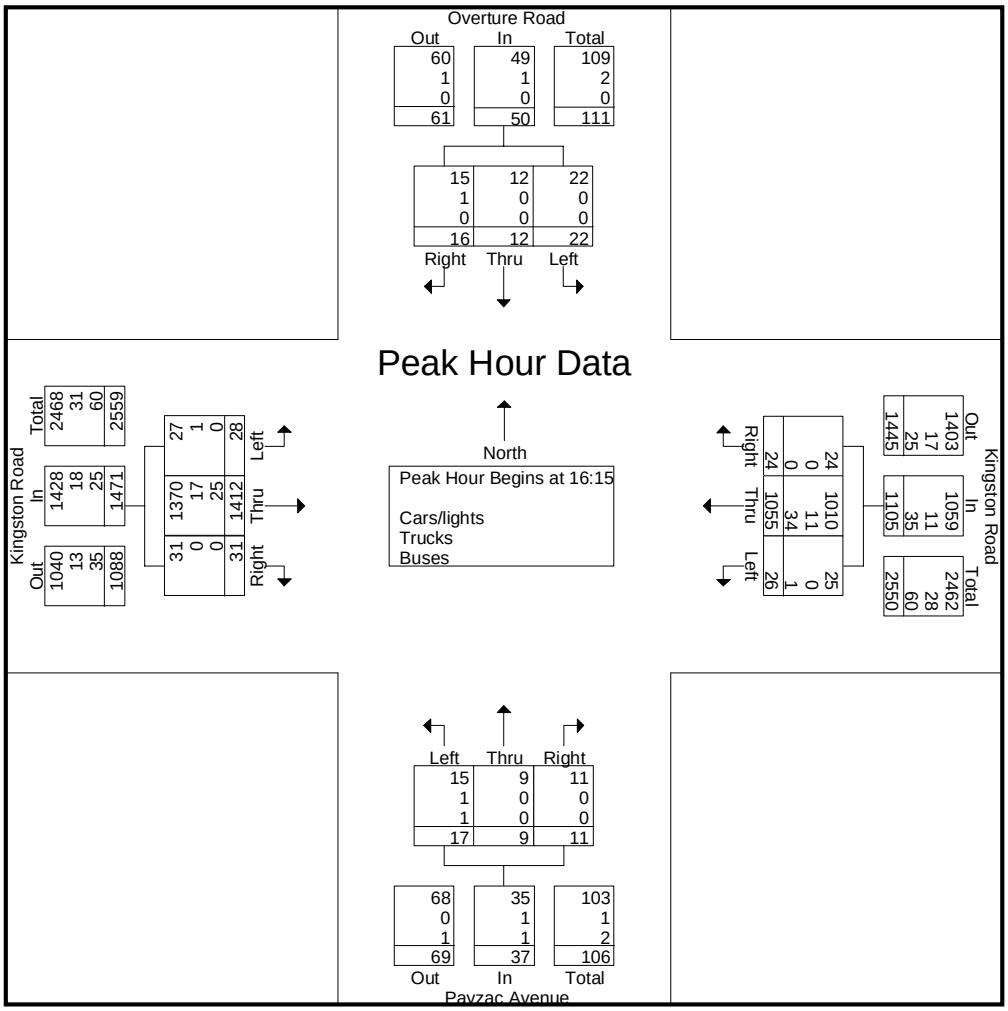
625 Cochrane Drive, 9th Floor
Markham, ON L3R 9R9

File Name : Overture Rd & Kingston Rd - PM
Site Code : 00021107
Start Date : 2022-11-24
Page No : 3

	Overture Road Southbound				Kingston Road Westbound				Payzac Avenue Northbound				Kingston Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	6	2	4	12	6	246	4	256	4	3	2	9	**9**	**389**	5	**403**	680
16:30	4	**4**	4	12	**9**	**280**	**8**	**297**	4	**5**	**5**	**14**	5	365	**10**	380	**703**
16:45	4	2	3	9	8	269	6	283	3	1	2	6	6	327	7	340	638
17:00	**8**	4	**5**	**17**	3	260	6	269	**6**	0	2	8	8	331	9	348	642
Total Volume	22	12	16	50	26	1055	24	1105	17	9	11	37	28	1412	31	1471	2663
% App. Total	44	24	32		2.4	95.5	2.2		45.9	24.3	29.7		1.9	96	2.1		
PHF	.688	.750	.800	.735	.722	.942	.750	.930	.708	.450	.550	.661	.778	.907	.775	.913	.947
Cars/lights	22	12	15	49	25	1010	24	1059	15	9	11	35	27	1370	31	1428	2571
% Cars/lights	100	100	93.8	98.0	96.2	95.7	100	95.8	88.2	100	100	94.6	96.4	97.0	100	97.1	96.5
Trucks	0	0	1	1	0	11	0	11	1	0	0	1	1	17	0	18	31
% Trucks	0	0	6.3	2.0	0	1.0	0	1.0	5.9	0	0	2.7	3.6	1.2	0	1.2	1.2
Buses	0	0	0	0	1	34	0	35	1	0	0	1	0	25	0	25	61
% Buses	0	0	0	0	3.8	3.2	0	3.2	5.9	0	0	2.7	0	1.8	0	1.7	2.3



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625 Cochrane Drive, 9th Floor
Markham, ON L3R 9R9

LOCATION:	**Kingston Rd & Lawrence Ave E**	*DISTRICT:*	**Scarborough**
TCS:	**144**	*COMPUTER SYSTEM:*	**TransSuite**
MODE/COMMENT:	**FXT**	*CONTROLLER/CABINET TYPE:*	**Econolite ASC/3-2100 / TS2 T1**
PREPARED/CHECKED BY:	**SA/HL**	*CONFLICT FLASH:*	**Red & Red**
PREPARATION DATE:	**October 13, 2015**	*DESIGN WALK SPEED:*	**1.0 m/s (FDW based on full crossing @ 1.2 m/s)**
IMPLEMENTATION DATE:	**November 23, 2015**	*CHANNEL/DROP:*	**4019/93**
		Controller Firmware:	**2.47.1**

N

NEMA Phase		OFF All Other Times	AM 06:30-09:30 M-F	PM 15:45-19:00 M-F	Phase Mode (Fixed/Demanded/Callable)	Remarks
	System Plan	Plan 1	Plan 2	Plan 3		
	Local Plan	Pattern 1	Pattern 2	Pattern 3		
1 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT					Pedestrian Minimums: NSWK = 7 secs; NSFD = 30 secs EWWK = 7secs; EWFD = 40 secs Left-Turn Passage Time = 2 secs System Loop location with 10 system loops installed on entry lanes individually, 2 on west leg, 2 on east leg, 3 on north leg and 3 on south leg,
2 Kingston Rd	WLK 7 FDW 30 MIN 37 MAX1 37 AMB 4 ALR 3 SPLIT	48	68	66	Fixed	
3	WLK FDW MIN 6 MAX1 6 AMB 3 ALR 2 SPLIT	12	17	13	Callable/Extendable by stopbar loop	
4 Lawrence Ave E	WLK 7 FDW 40 MIN 47 MAX1 47 AMB 4 ALR 3 SPLIT	55	55	61	Fixed	
5 NOT USED	WLK FDW MIN MAX1 AMB ALR SPLIT					
6 Kingston Rd	WLK 7 FDW 30 MIN 37 MAX1 37 AMB 4 ALR 3 SPLIT	48	68	66	Fixed	
7	WLK FDW MIN 6 MAX 6 AMB 3 ALR 2 SPLIT	12	13	19	Callable/Extendable by 9 m setback loop	
8 Lawrence Ave E	WLK 7 FDW 40 MIN 47 MAX1 47 AMB 4 ALR 3 SPLIT	55	59	55	Fixed	
	CL OF	115 1	140 51	140 53		

NOTES:

LOCATION:	**Kingston Rd & Markham Rd**			***DISTRICT:***	**Scarborough**	
MODE/COMMENT:	**FXT**			***COMPUTER SYSTEM:***	**TransSuite**	
TCS:	**148**			***CONTROLLER/CABINET TYPE:***	**Peek ATC - 1000 / TS2T1**	
PREPARED BY / DATE:	**Masoud Ramezani / November 22, 2018**			***CONFLICT FLASH:***	**Red & Red**	
CHECKED BY / DATE:	**Rebecca (Carmen) Lam / November 29, 2019**			***DESIGN WALK SPEED:***	**0.9 m/s (FDW based on full crossing at 1.1 m/s)**	
IMPLEMENTATION DATE:	**December 28, 2018**			***CHANNEL/DROP:***	**4027/10**	
				CONTROLLER FIRMWARE:	**3.018.1.2976**	

NEMA Phase		**OFF All Other Times**	**AM 06:30-09:30 M-F**	**PM 15:00-19:00 M-F**	**NGHT 22:00-06:30 Daily**	**WKND 10:00-18:15 Sat & Sun**	**Phase Mode (Fixed/Demanded or Callable)**	**Remarks**
	Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
	Split Table	Split 1	Split 2	Split 3	Split 4	Split 5		
1 NOT USED	WLK							Pedestrian Minimums:
	FDW							EWWK = 8 sec, EWFD = 29 sec
	MIN							NSWK = 8 sec, NSFD = 31 sec
	MAX1							Left Turn Passage Time = 2 sec
	AMB							
	ALR							
	SPLIT							
2 Kingston Rd → ↔	WLK 8						Fixed	
	FDW 29							
	MIN 37							
	MAX1 56							
	AMB 4							
	ALR 3							
	SPLIT	63	71	63	44	63		
3 NOT USED	WLK							
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
4 Markham Rd ↑ ↕	WLK 8						Fixed	
	FDW 31							
	MIN 39							
	MAX1 39							
	AMB 3							
	ALR 5							
	SPLIT	47	49	47	47	47		
5 → ↱	WLK						Callable/extendable by 9m long setback loop	
	FDW							
	MIN 6							
	MAX1 6							
	AMB 3							
	ALR 1							
	SPLIT	17	12	12		17		
6 Kingston Rd ↔ ←	WLK 8						Fixed	
	FDW 29							
	MIN 37							
	MAX1 39							
	AMB 4							
	ALR 3							
	SPLIT	46	59	51	44	46		
7 NOT USED	WLK							
	FDW							
	MIN							
	MAX1							
	AMB							
	ALR							
	SPLIT							
8 Markham Rd ↕ ↓	WLK 8						Fixed	
	FDW 31							
	MIN 39							
	MAX1 39							
	AMB 3							
	ALR 5							
	SPLIT	47	49	47	47	47		
	CL	110	120	110	91	110		
	OF	39	86	66	1	39		

Notes:

LOCATION:	**Kingston Rd & Celeste Dr/Guildwood GO Station**						***ATO / DISTRICT / WARD:***	**1/(Scarborough) /24**	
MODE/COMMENT:	**SA2 with PR, 2-Wire Polara APS and LPI**						***COMPUTER SYSTEM:***	**SCATS**	N
TCS:	**1193**						***CONTROLLER/CABINET TYPE:***	**PEEK ATC-1000 / TS2 T1**	
PREPARED BY/ DATE:	**TransCore / Jacob Corrigan / January 27, 2022**						***CONFLICT FLASH:***	**Red & Red**	
CHECKED BY / DATE:	**TransCore / Betsy Williams / January 27, 2022**						***DESIGN WALK SPEED:***	**1.0 m/s (FDW based on full crossing @ 1.2 m/s)**	
CITY STAFF:	**Behnam Amini / Hao Le**						***PERSONALITY:***	**Rev 5**	
IMPLEMENTATION DATE:	**April 26, 2022**						***CONTROLLER FIRMWARE***	**SCATS S33**	

	SCATS Stage		**OFF All Other Times**	**AM 06:30-09:30**	**PM 15:00-19:00 M-F**	**NGHT 22:00-06:30**	**WKND 10:00-19:00 Sat**	**Phase Mode (Fixed/Demanded or Callable)**	**Remarks**
		Local Plan	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5		
		System Plan	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5		
1	C	WLK						WBLA Callable/Extendable optimized vehicle green by Wavetronix	Pedestrian Minimums: EWWK = 7 sec, EWFD = 16 sec NSWK = 7 sec, NSFD = 25 sec
		FDW							
		MIN 6							
		MAX 1 6							NS phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum NSG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the NSG is capable of providing vehicle extensions up to the maximum. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the EWG.
		AMB 3.8							
		ALR 4.4							
		PULSE	95	105	119	95	101		
		SPLIT		15					
Kingston Rd 2	A	WLK 7							
		FDW 16						Fixed Optimized by SCATS	
		MIN 23							
		MAX 1 49							
		AMB 4.0							
		ALR 2.0							
		PULSE	0	0	0	0	0		Side Street Passage Time = 3 secs
		SPLIT	55	64	79	55	61		Left-Turn Passage Time = 2 secs
3									NS Leading Pedestrian Interval - NSWK comes 5 sec before NS vehicle green
									Extended Push Activation = 3 secs
									APS on during 7 seconds of EWWK and NSWK period when activated by pushbuttons and no arrows are displayed
									Following grades were used to calculate amber intervals Kingston Rd (EB): -2.6% Kingston Rd (WB): -0.1% Guildwood GO Station (NB): 1.5% Celeste Dr (SB): -0.6%
Guildwood GO Station 4	B	WLK DLY 5							
		WLK 7						Callable optimized vehicle green by Wavetronix and/or Push Button. Extendable by Wavetronix	
		FDW 25							
		MIN 7							
		MAX 1 27							
		AMB 3.0							
		ALR 5.4							
		PULSE	57	66	81	57	63	Split shown includes 5 sec of NS LPI	
		SPLIT	41	41	41	41	41		
									SCATS Q+ values for Flexilink Pedestrian Recycle Plan 1: 41 Plan 2: 49 Plan 3: 65 Plan 4: 41 Plan 5: 47
5									
Kingston Rd 6	A	WLK 7							
		FDW 16						Fixed Optimized by SCATS	
		MIN 23							
		MAX 1 49							
		AMB 4.0							
		ALR 2.0							
		PULSE	0	0	0	0	0		
		SPLIT	55	79	79	55	61		
7									
Guildwood GO Station 8		WLK DLY 5							
		WLK 7						Callable optimized vehicle green by Wavetronix and/or Push Button. Extendable by Wavetronix	
		FDW 25							
		MIN 7							
		MAX 1 27							
		AMB 3.0							
		ALR 5.4							
		PULSE	57	66	81	57	63	Split shown includes 5 sec of NS LPI	
		SPLIT	41	41	41	41	41		
		CL	96	120	120	96	102		
		OF	2	66	91	13	1		

LOCATION:	**Kingston Rd & Overture Rd/Payzac Ave**	***DISTRICT:***	**Scarborough**
MODE/COMMENT:	**SA2-VMG with PR and 2-wire Polara APS**	***COMPUTER SYSTEM:***	**TransSuite**
TCS:	**2191**	***CONTROLLER/CABINET TYPE:***	**Peek ATC - 1000/ TS2T1**
PREPARED/CHECKED BY:	**VZ / RI**	***CONFLICT FLASH:***	**Red & Red**
PREPARATION DATE:	**November 30, 2016**	***DESIGN WALK SPEED:***	**1.0 m/s (FDW based on full crossing @ 1.2 m/s)**
IMPLEMENTATION DATE:	**March 8, 2017**	***CHANNEL/DROP:***	**5002/06**
		CONTROLLER FIRMWARE:	**3.018.1.2976**

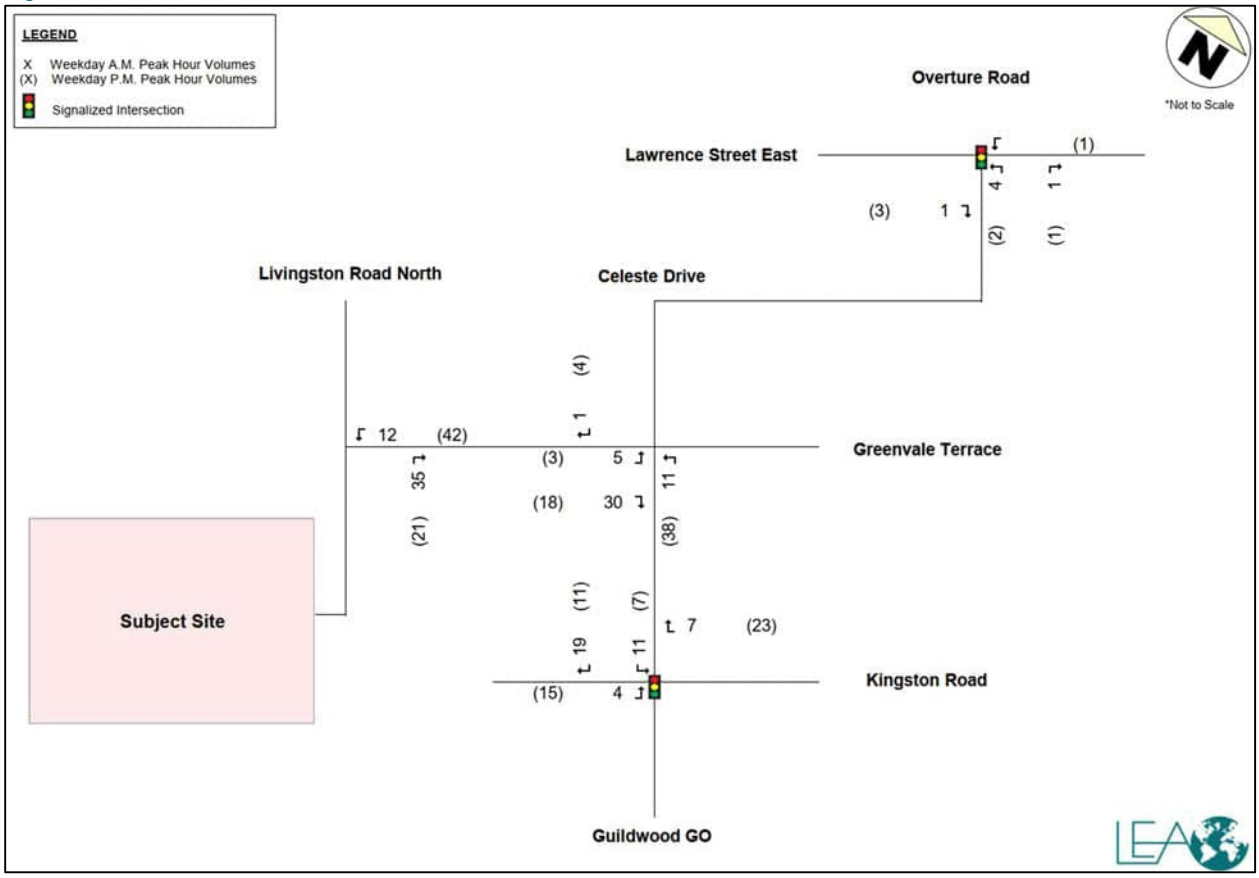
NEMA Phase		OFF All Other Times	AM 06:30-09:30 M-F	PM 15:00-19:00 M-F	Phase Mode (Fixed/Demanded or Callable)	Remarks
	Local Plan	Pattern 1	Pattern 2	Pattern 3		
	Solit Table	Split 1	Split 2	Split 3		
1	NOT USED					Pedestrian Minimums: EWWK = 7 sec, EWFD = 20 sec NSWK = 7 sec, NSFD = 24 sec
		WLK				NS phase is callable by vehicle or pedestrian actuation. If a vehicle call is received, the minimum NSG is 7 seconds. If ongoing vehicle demand exists on the stopbar loop, the NSG is capable of providing vehicle extensions up to the maximum green split. If a pedestrian call is received, the pedestrian minimums will be served. The NSWK & NSFD are only displayed on the pedestrian signal heads if a pedestrian call is received. Extension time is based on vehicle demand. Unused extension time is given to the EWG.
		FDW				
		MIN				
		MAX 1				
		AMB				
		ALR				
		SPLIT				
2	Kingston Rd				Fixed	
		WLK 7				Side Street Passage Time = 3 sec
		FDW 20				
		MIN 27				
		MAX 1 41				
		AMB 4				
		ALR 2				
		SPLIT	46	81	71	
3	NOT USED					APS on during 7 sec of EWWK & 7 sec of NSWK when activated by push button.
		WLK				Extended Push Activation = 3 secs
		FDW				
		MIN				
		MAX 1				
		AMB				
		ALR				
		SPLIT				
4	Payzac Ave				Callable by stopbar loop and/or pushbutton; Extendable by stopbar loop.	
		WLK 7				
		FDW 24				
		MIN 7				
		MAX 1 31				
		AMB 4				
		ALR 3				
		SPLIT	39	39	39	
5	NOT USED					
		WLK				
		FDW				
		MIN				
		MAX 1				
		AMB				
		ALR				
		SPLIT				
6	Kingston Rd				Fixed	
		WLK 7				
		FDW 20				
		MIN 27				
		MAX 1 41				
		AMB 4				
		ALR 2				
		SPLIT	46	81	71	
7	NOT USED					
		WLK				
		FDW				
		MIN				
		MAX 1				
		AMB				
		ALR				
		SPLIT				
8	Overture Rd				Callable by stopbar loop and/or pushbutton; Extendable by stopbar loop.	
		WLK 7				
		FDW 24				
		MIN 7				
		MAX 1 31				
		AMB 4				
		ALR 3				
		SPLIT	39	39	39	
		CL	85	120	110	
		OF	7	39	13	

NOTES:

APPENDIX C

Background Developments

Figure 4-1: Net Peak Hour Site Traffic Volumes



2.2 UPDATED TRAFFIC ASSIGNMENT

The traffic analysis was updated to reflect the assignment of site and GO-related trips to the internal road network, including the proposed public roadways. No changes were made to other aspects of the study methodology, which remains consistent with the previous TIS reports.

Site traffic volumes are illustrated in **Figure 2-2**. Future total traffic volumes are illustrated in **Figure 2-3**.

Figure 2-2: Site Traffic Volumes

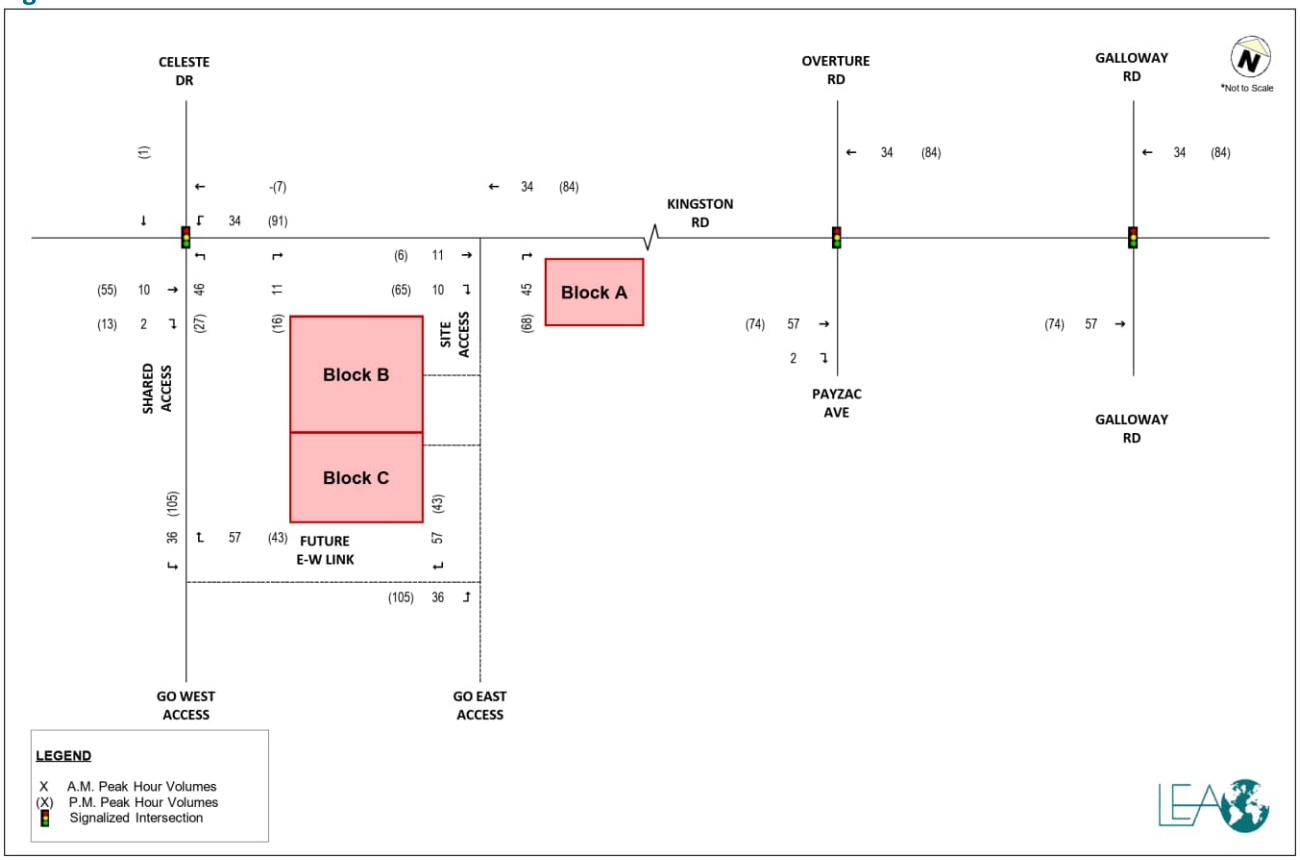


Figure 4-2: Site Generated Retail Peak Hour Traffic Volumes

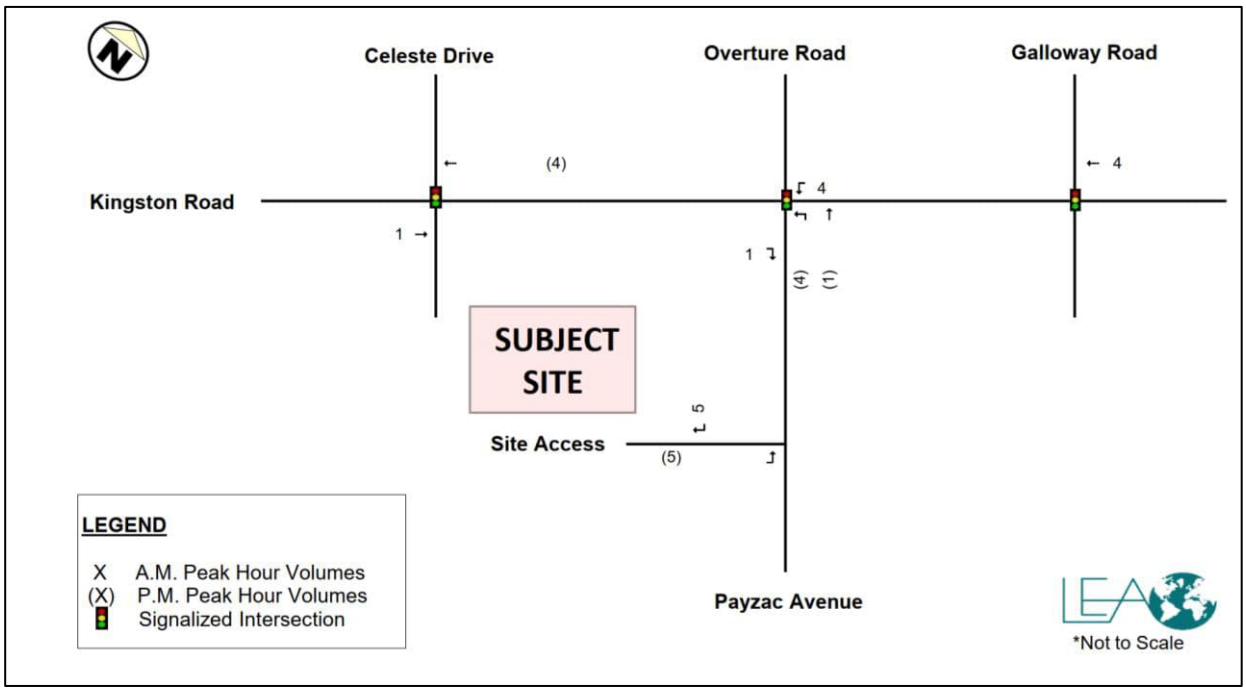
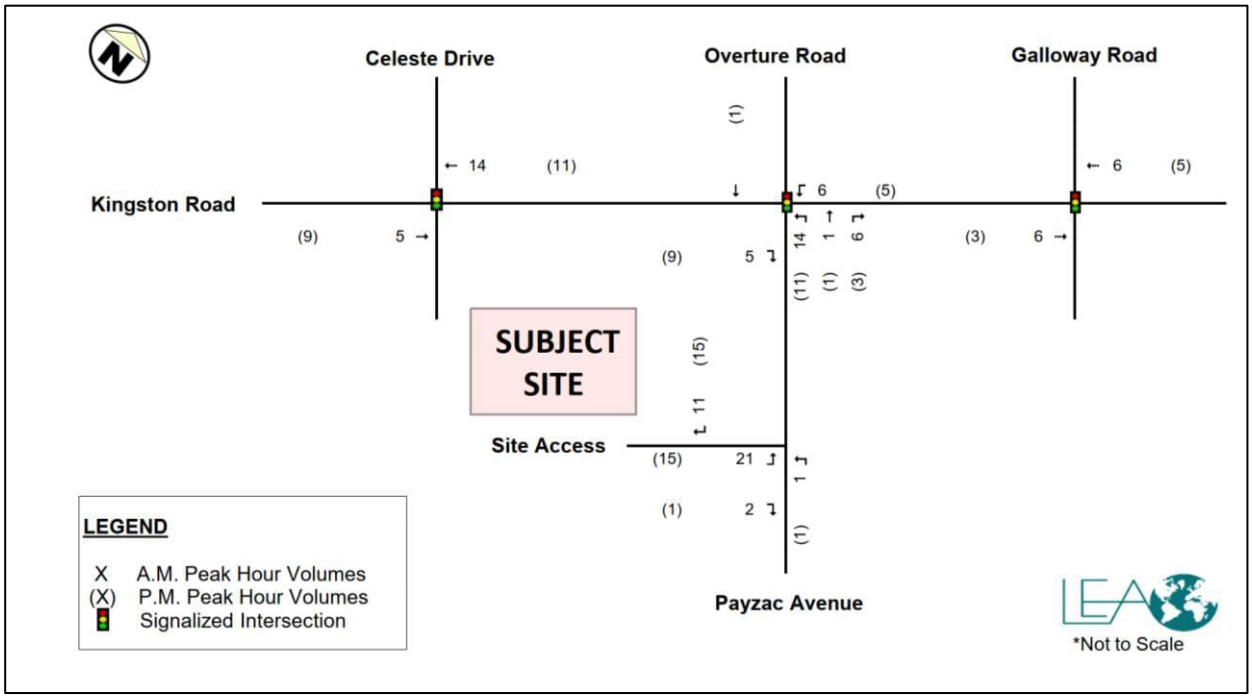


Figure 4-3: Site Generated Total Peak Hour Traffic Volumes



5.0 TRAFFIC VOLUMES FORECAST

5.1 Site Trip Generation

BA Group has updated the trip generation for the proposed development based on the updated development proposal. A comparison of trip generation based on the current proposal and the June 2022 proposal is summarized in **Table 6**.

Table 6 Trip Generation Comparison

	AM Peak Hour			PM Peak Hour		
	In	Out	2-Way	In	Out	2-Way
Trip Generation – Current Development Proposal (320 Units) [1]						
Residential Trip Rate (Trips per Unit)	0.04	0.16	**0.20**	0.14	0.07	**0.21**
Residential Site Trips (320 units) [1]	**15**	**51**	**66**	**45**	**21**	**66**
Existing Site Trips (Removed)	-2	-4	**-6**	-35	-25	**-60**
Existing Site Pass-by Trips Reassigned to Kingston Rd.	0	0	**0**	12	12	**24**
Net New Site Trips (Current Proposal)	13	47	**60**	22	8	**30**
Comparison with June 2022 Proposal (229 Units)						
Net New Site Trips (June 2022 Proposal)	8	33	**41**	+10	+3	**+13**
Difference	**+5**	**+14**	**+19**	**+12**	**+5**	**+17**

Notes:
1. Site statistics based on plans provided by BDP Quadrangle Architects dated August 30, 2023.

The proposed development is expected to generate in the order of **66 two-way vehicle trips** during both weekday morning and afternoon peak hours. By removing the existing vehicle trips from the new site-generated trips, the development proposal is expected to result in **60 and 30 two-way net new vehicle trips** during the morning and afternoon peak hours, respectively. This represents a modest increase of 19 and 17 two-way vehicle trips during the morning and afternoon peak hours, respectively, compared to the transportation assessment provided as part of the June 2022 application.

It should be noted that the forecast site traffic volume summarized herein, are anticipated to conservatively estimate (over estimate) site traffic relative to the June 2022 Transportation Study given the proposed reduction in the site's vehicle parking supply. Although an increase in the number of residential units is proposed, a reduction in the number of resident parking spaces is also planned reflecting reduced vehicle ownership – and therefore day-to-day usage – of prospective residents.

Understanding site traffic volumes are conservatively estimated based on the trip forecasting methodologies outlined in the June 2022 Transportation Report, this letter summarizes updated future total traffic analyses projections in the following.

Figure 4-5 Site-Generated Traffic Volumes

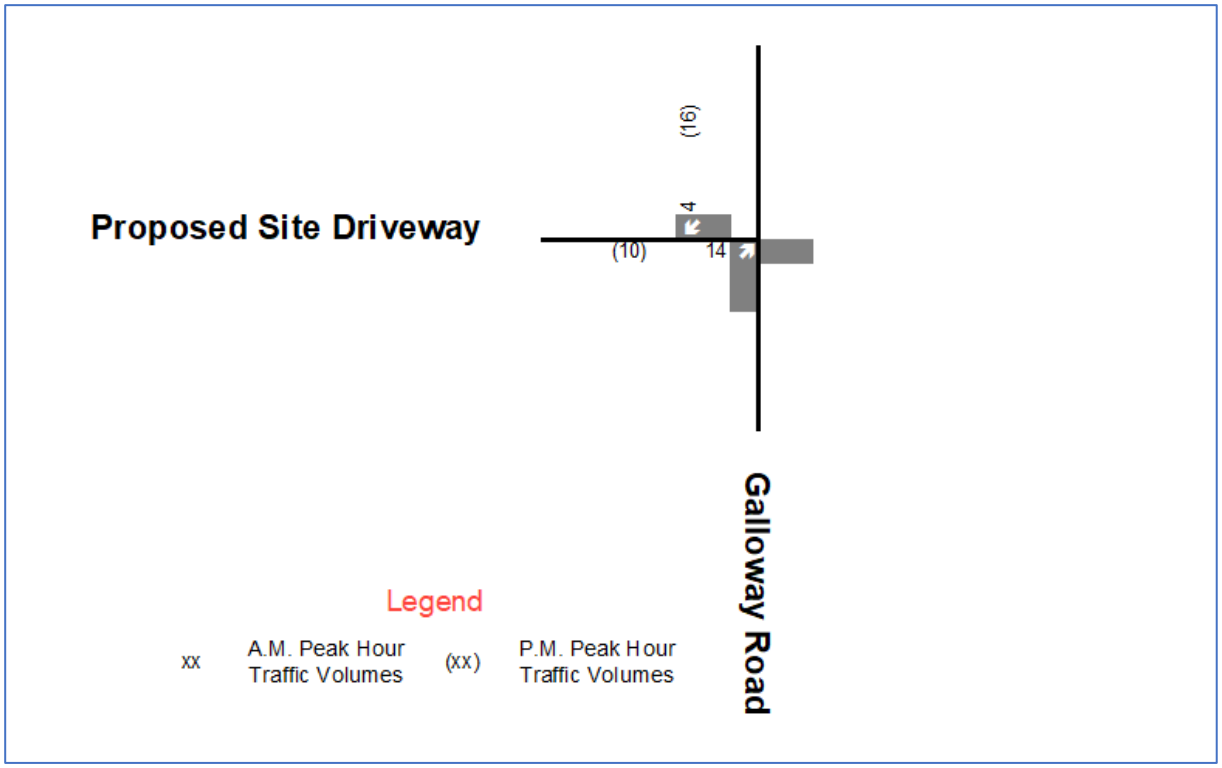
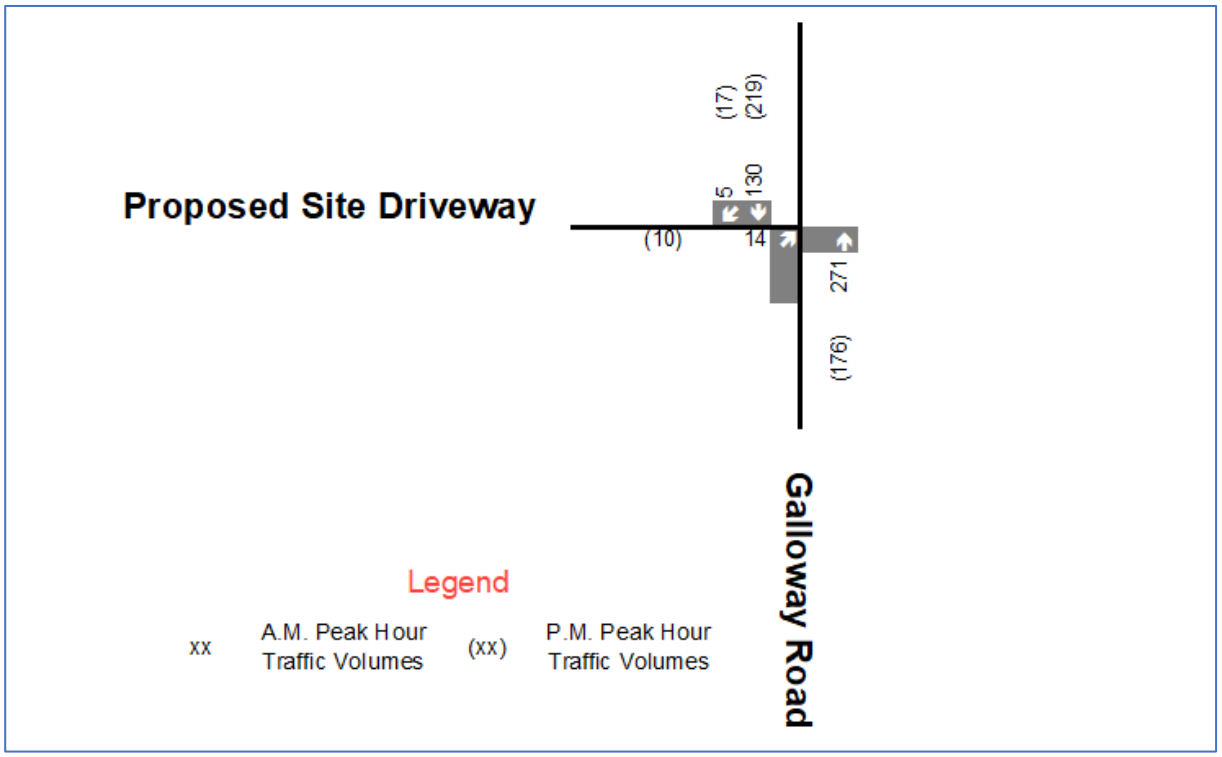


Figure 4-6 Future (2031) Total Peak Hour Traffic Volumes



4.2 TRIP DISTRIBUTION AND ASSIGNMENT

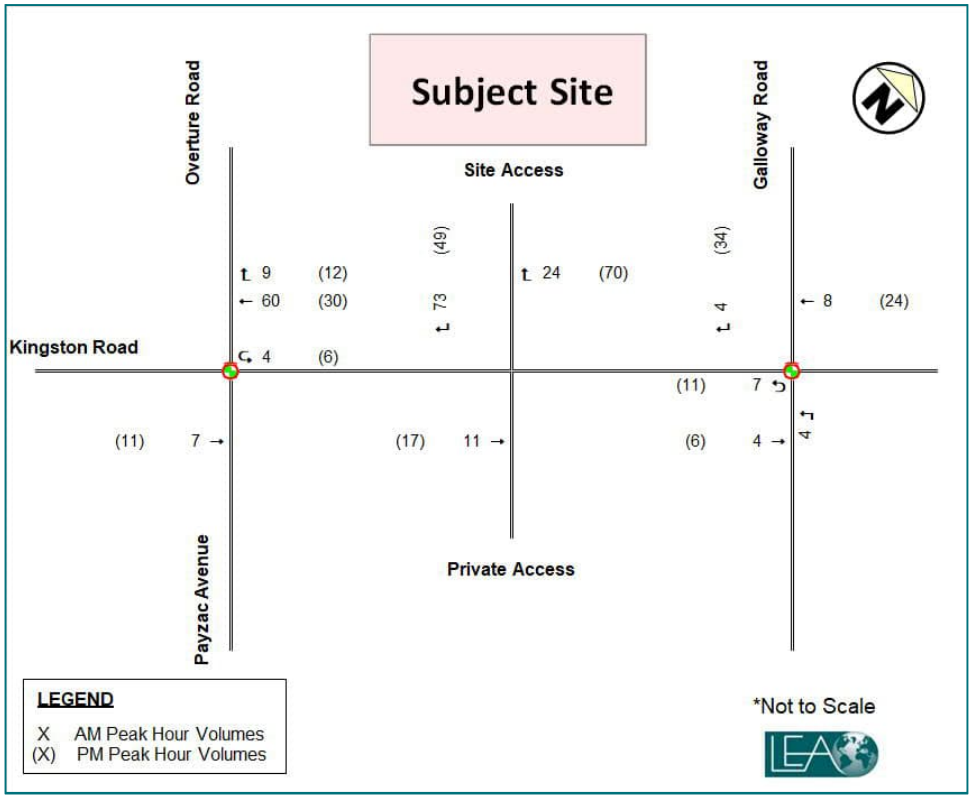
Directional trip distribution for the site generated trips was estimated using the 2016 Transportation Tomorrow Survey (TTS) data. For the residential use, it is expected that the majority of auto trips originating from the subject site will be travelling to the destination of work during the weekday AM peak hour. For the weekday PM peak hour, a majority of residential auto trips will be travelling from the place of work to the subject site. Therefore, the trip distribution for site trips was calculated based on the TTS data for home-based trips. Complete TTS data summaries are provided in Appendix E.

Results of the TTS data extraction indicating the general distribution of site traffic are presented in Table 4-2 below. Of note, these distributions were applied to all site traffic, including residential and retail trips. The future AM and PM peak hour site traffic volumes are shown in Figure 4-1.

Table 4-2: Subject Development Trip Distribution

Directional Distribution Output (8 directions)									
Time Periods	NW	N	NE	E	SE	S	SW	W	Total
AM (IN)	9%	9%	27%	5%	0%	0%	19%	31%	100%
AM (OUT)	11%	9%	4%	5%	0%	0%	31%	40%	100%
PM (IN)	14%	16%	11%	4%	0%	0%	17%	39%	100%
PM (OUT)	8%	4%	36%	1%	0%	0%	8%	43%	100%

Figure 4-1: Peak Hour Site Generated Trips



APPENDIX D

Corridor Growth Rate

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 21107_Celeste Dr & Kingston Rd-AM
Site Code: 21107
Start Date: 11/24/2022

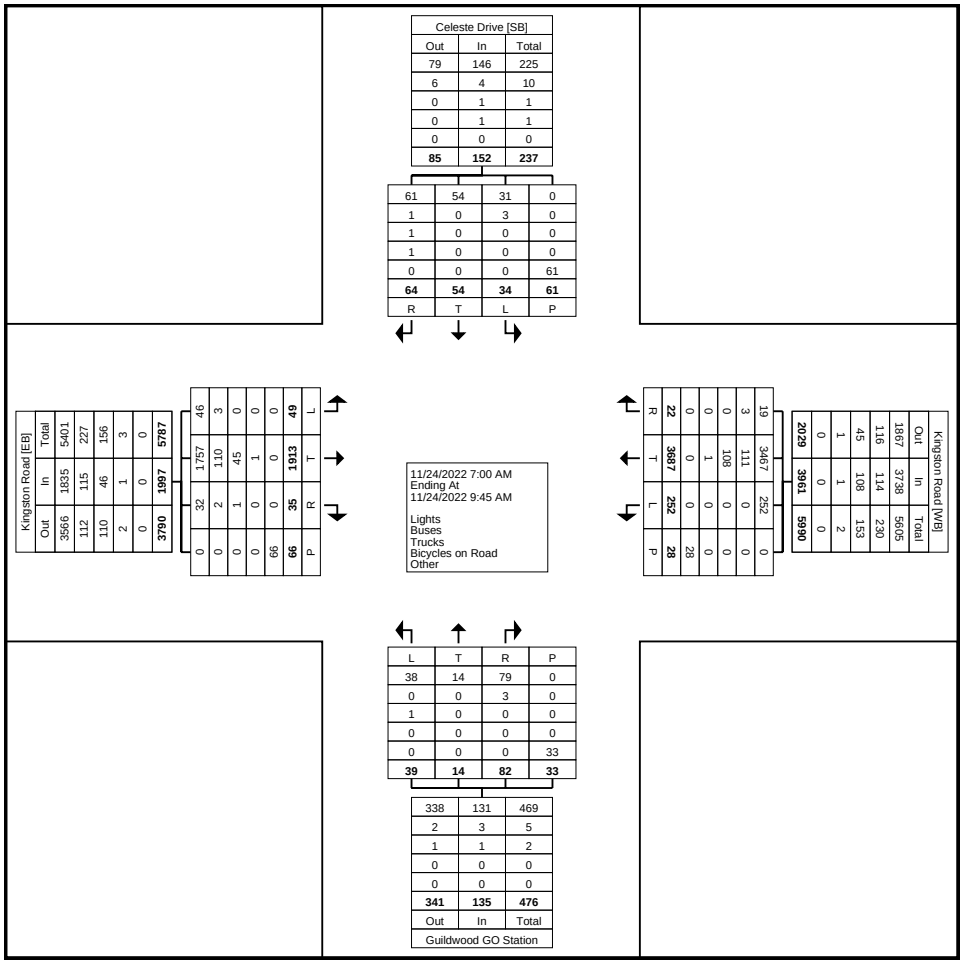
Turning Movement Data

Start Time	Celeste Drive Southbound					Kingston Road Westbound					Guildwood GO Station Access Northbound					Kingston Road Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00 AM	1	7	5	4	13	29	366	0	1	395	5	1	8	2	14	5	122	1	3	128	550
7:15 AM	3	7	2	5	12	27	358	2	1	387	3	3	10	0	16	2	177	1	6	180	595
7:30 AM	3	9	11	8	23	29	424	2	3	455	4	2	11	1	17	1	173	4	2	178	673
7:45 AM	6	9	4	5	19	37	433	0	3	470	5	1	13	3	19	5	188	4	5	197	705
Hourly Total	13	32	22	22	67	122	1581	4	8	1707	17	7	42	6	66	13	660	10	16	683	2523
8:00 AM	2	5	5	12	12	34	413	4	0	451	4	2	13	4	19	4	184	9	10	197	679
8:15 AM	4	9	14	8	27	40	321	2	3	363	5	2	10	3	17	4	206	6	10	216	623
8:30 AM	4	1	6	6	11	21	387	1	11	409	2	2	6	6	10	4	227	4	9	235	665
8:45 AM	2	3	10	7	15	17	351	2	1	370	4	1	4	4	9	13	252	3	10	268	662
Hourly Total	12	18	35	33	65	112	1472	9	15	1593	15	7	33	17	55	25	869	22	39	916	2629
9:00 AM	3	2	4	4	9	11	326	3	2	340	5	0	6	10	11	7	210	1	9	218	578
9:15 AM	6	2	3	2	11	7	308	6	3	321	2	0	1	0	3	4	174	2	2	180	515
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	34	54	64	61	152	252	3687	22	28	3961	39	14	82	33	135	49	1913	35	66	1997	6245
Approach %	22.4	35.5	42.1	-	-	6.4	93.1	0.6	-	-	28.9	10.4	60.7	-	-	2.5	95.8	1.8	-	-	-
Total %	0.5	0.9	1.0	-	2.4	4.0	59.0	0.4	-	63.4	0.6	0.2	1.3	-	2.2	0.8	30.6	0.6	-	32.0	-
Lights	31	54	61	-	146	252	3467	19	-	3738	38	14	79	-	131	46	1757	32	-	1835	5850
% Lights	91.2	100.0	95.3	-	96.1	100.0	94.0	86.4	-	94.4	97.4	100.0	96.3	-	97.0	93.9	91.8	91.4	-	91.9	93.7
Buses	3	0	1	-	4	0	111	3	-	114	0	0	3	-	3	3	110	2	-	115	236
% Buses	8.8	0.0	1.6	-	2.6	0.0	3.0	13.6	-	2.9	0.0	0.0	3.7	-	2.2	6.1	5.8	5.7	-	5.8	3.8
Trucks	0	0	1	-	1	0	108	0	-	108	1	0	0	-	1	0	45	1	-	46	156
% Trucks	0.0	0.0	1.6	-	0.7	0.0	2.9	0.0	-	2.7	2.6	0.0	0.0	-	0.7	0.0	2.4	2.9	-	2.3	2.5
Bicycles on Road	0	0	1	-	1	0	1	0	-	1	0	0	0	-	0	0	1	0	-	1	3
% Bicycles on Road	0.0	0.0	1.6	-	0.7	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.1	0.0	-	0.1	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	1	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	3.6	-	-	-	-	3.0	-	-	-	-	3.0	-	-
Pedestrians	-	-	-	61	-	-	-	-	27	-	-	-	-	32	-	-	-	-	64	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	96.4	-	-	-	-	97.0	-	-	-	-	97.0	-	-

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 21107_Celeste Dr & Kingston Rd-AM
Site Code: 21107
Start Date: 11/24/2022



Turning Movement Data Plot

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 21107_Celeste Dr & Kingston Rd-AM
Site Code: 21107
Start Date: 11/24/2022

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Celeste Drive Southbound					Kingston Road Westbound					Guildwood GO Station Access Northbound					Kingston Road Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30 AM	3	9	11	8	23	29	424	2	3	455	4	2	11	1	17	1	173	4	2	178	673
7:45 AM	6	9	4	5	19	37	433	0	3	470	5	1	13	3	19	5	188	4	5	197	705
8:00 AM	2	5	5	12	12	34	413	4	0	451	4	2	13	4	19	4	184	9	10	197	679
8:15 AM	4	9	14	8	27	40	321	2	3	363	5	2	10	3	17	4	206	6	10	216	623
Total	15	32	34	33	81	140	1591	8	9	1739	18	7	47	11	72	14	751	23	27	788	2680
Approach %	18.5	39.5	42.0	-	-	8.1	91.5	0.5	-	-	25.0	9.7	65.3	-	-	1.8	95.3	2.9	-	-	-
Total %	0.6	1.2	1.3	-	3.0	5.2	59.4	0.3	-	64.9	0.7	0.3	1.8	-	2.7	0.5	28.0	0.9	-	29.4	-
PHF	0.625	0.889	0.607	-	0.750	0.875	0.919	0.500	-	0.925	0.900	0.875	0.904	-	0.947	0.700	0.911	0.639	-	0.912	0.950
Lights	13	32	31	-	76	140	1507	5	-	1652	18	7	44	-	69	12	692	21	-	725	2522
% Lights	86.7	100.0	91.2	-	93.8	100.0	94.7	62.5	-	95.0	100.0	100.0	93.6	-	95.8	85.7	92.1	91.3	-	92.0	94.1
Buses	2	0	1	-	3	0	49	3	-	52	0	0	3	-	3	2	40	2	-	44	102
% Buses	13.3	0.0	2.9	-	3.7	0.0	3.1	37.5	-	3.0	0.0	0.0	6.4	-	4.2	14.3	5.3	8.7	-	5.6	3.8
Trucks	0	0	1	-	1	0	35	0	-	35	0	0	0	-	0	0	18	0	-	18	54
% Trucks	0.0	0.0	2.9	-	1.2	0.0	2.2	0.0	-	2.0	0.0	0.0	0.0	-	0.0	0.0	2.4	0.0	-	2.3	2.0
Bicycles on Road	0	0	1	-	1	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	2
% Bicycles on Road	0.0	0.0	2.9	-	1.2	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.1	0.0	-	0.1	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	11.1	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	33	-	-	-	-	8	-	-	-	-	11	-	-	-	-	27	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	88.9	-	-	-	-	100.0	-	-	-	-	100.0	-	-

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

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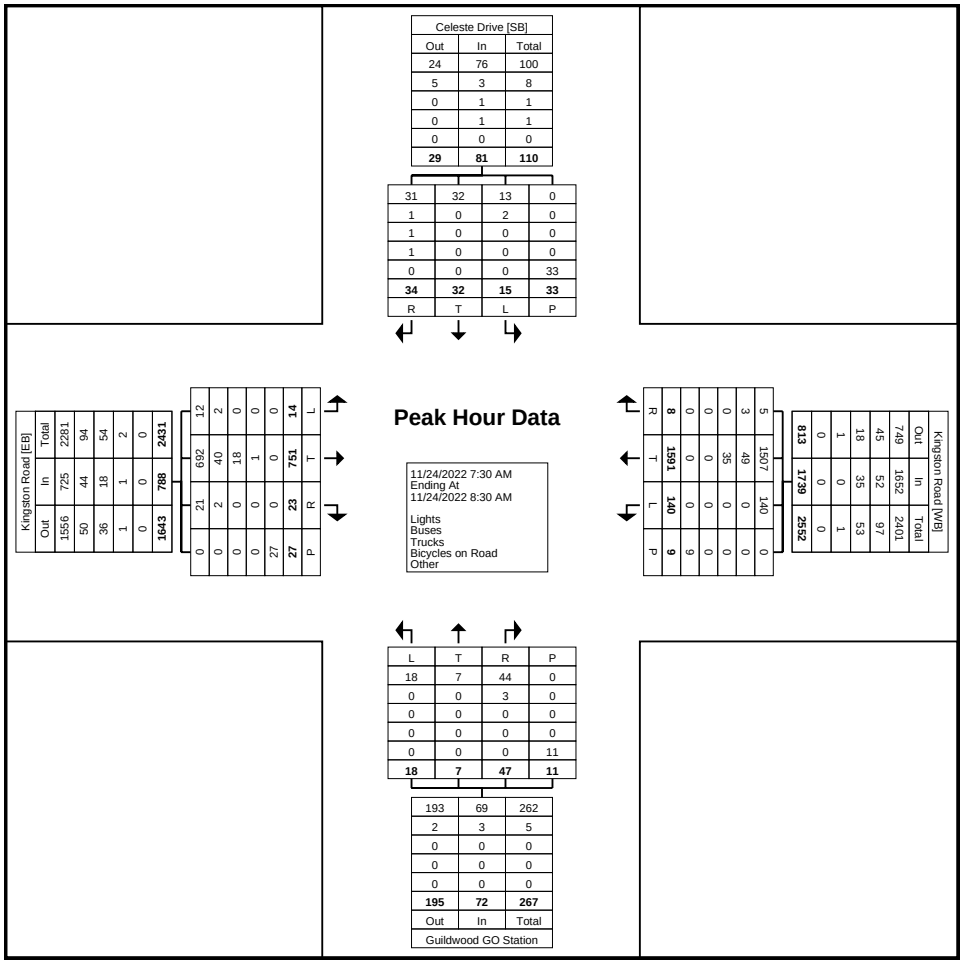
Site Code: 21107
Start Date: 11/24/2022



Turning Movement Peak Hour Data Plot (7:30 AM)

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 21107_Celeste Dr & Kingston Rd-PM
Site Code: 21107
Start Date: 11/24/2022

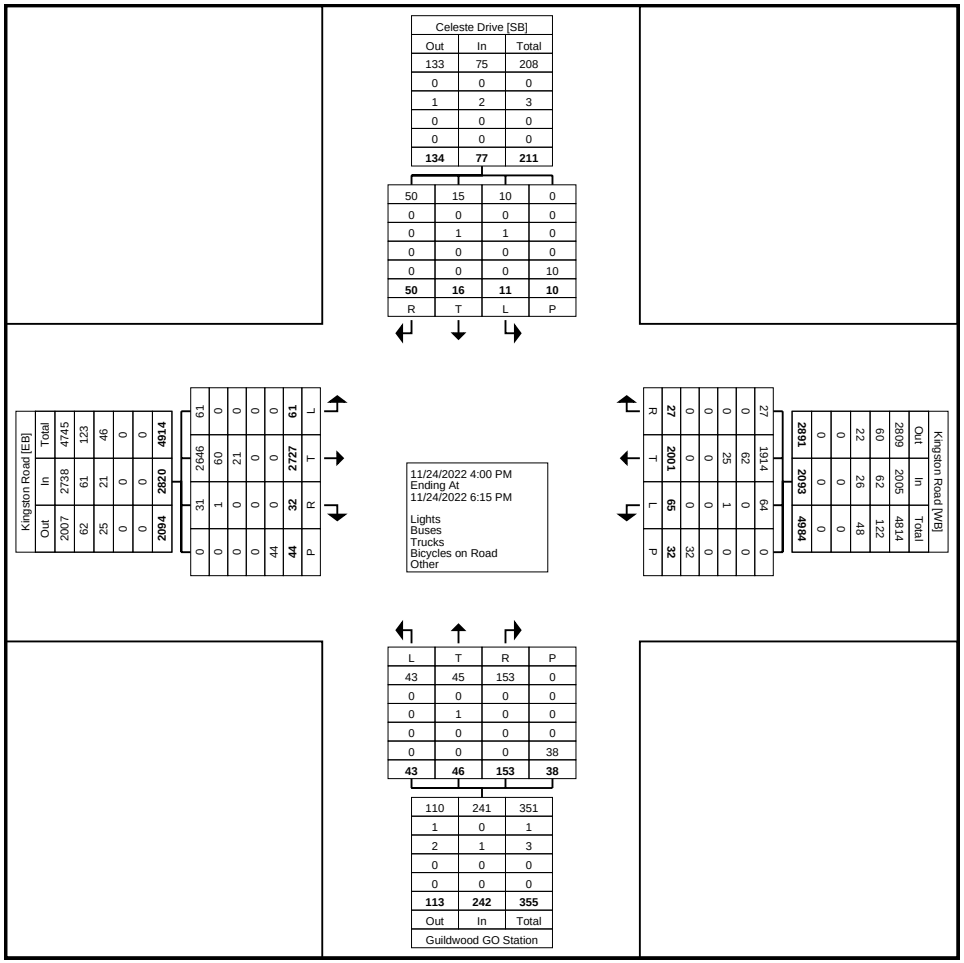
Turning Movement Data

Start Time	Celeste Drive Southbound					Kingston Road Westbound					Guildwood GO Station Access Northbound					Kingston Road Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:00 PM	1	4	4	1	9	9	229	4	5	242	7	7	20	5	34	2	361	1	11	364	649
4:15 PM	0	0	4	2	4	7	248	0	1	255	2	0	7	3	9	5	386	6	6	397	665
4:30 PM	1	3	6	3	10	8	269	5	1	282	7	12	14	6	33	8	357	2	3	367	692
4:45 PM	3	2	4	1	9	8	233	3	4	244	3	7	15	4	25	7	321	4	4	332	610
Hourly Total	5	9	18	7	32	32	979	12	11	1023	19	26	56	18	101	22	1425	13	24	1460	2616
5:00 PM	0	1	12	1	13	7	276	2	5	285	1	3	20	4	24	8	326	2	5	336	658
5:15 PM	4	0	8	0	12	5	250	6	3	261	8	7	18	2	33	11	339	4	4	354	660
5:30 PM	1	2	4	2	7	14	261	4	4	279	8	0	18	6	26	6	333	8	4	347	659
5:45 PM	1	4	8	0	13	7	235	3	9	245	7	10	41	8	58	14	304	5	7	323	639
Hourly Total	6	7	32	3	45	33	1022	15	21	1070	24	20	97	20	141	39	1302	19	20	1360	2616
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	11	16	50	10	77	65	2001	27	32	2093	43	46	153	38	242	61	2727	32	44	2820	5232
Approach %	14.3	20.8	64.9	-	-	3.1	95.6	1.3	-	-	17.8	19.0	63.2	-	-	2.2	96.7	1.1	-	-	-
Total %	0.2	0.3	1.0	-	1.5	1.2	38.2	0.5	-	40.0	0.8	0.9	2.9	-	4.6	1.2	52.1	0.6	-	53.9	-
Lights	10	15	50	-	75	64	1914	27	-	2005	43	45	153	-	241	61	2646	31	-	2738	5059
% Lights	90.9	93.8	100.0	-	97.4	98.5	95.7	100.0	-	95.8	100.0	97.8	100.0	-	99.6	100.0	97.0	96.9	-	97.1	96.7
Buses	0	0	0	-	0	0	62	0	-	62	0	0	0	-	0	0	60	1	-	61	123
% Buses	0.0	0.0	0.0	-	0.0	0.0	3.1	0.0	-	3.0	0.0	0.0	0.0	-	0.0	0.0	2.2	3.1	-	2.2	2.4
Trucks	1	1	0	-	2	1	25	0	-	26	0	1	0	-	1	0	21	0	-	21	50
% Trucks	9.1	6.3	0.0	-	2.6	1.5	1.2	0.0	-	1.2	0.0	2.2	0.0	-	0.4	0.0	0.8	0.0	-	0.7	1.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	4	-	-	-	-	0	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	10.0	-	-	-	-	12.5	-	-	-	-	0.0	-	-	-	-	4.5	-	-
Pedestrians	-	-	-	9	-	-	-	-	28	-	-	-	-	38	-	-	-	-	42	-	-
% Pedestrians	-	-	-	90.0	-	-	-	-	87.5	-	-	-	-	100.0	-	-	-	-	95.5	-	-

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 21107_Celeste Dr & Kingston Rd-PM
Site Code: 21107
Start Date: 11/24/2022



Turning Movement Data Plot

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 21107_Celeste Dr & Kingston Rd-PM
Site Code: 21107
Start Date: 11/24/2022

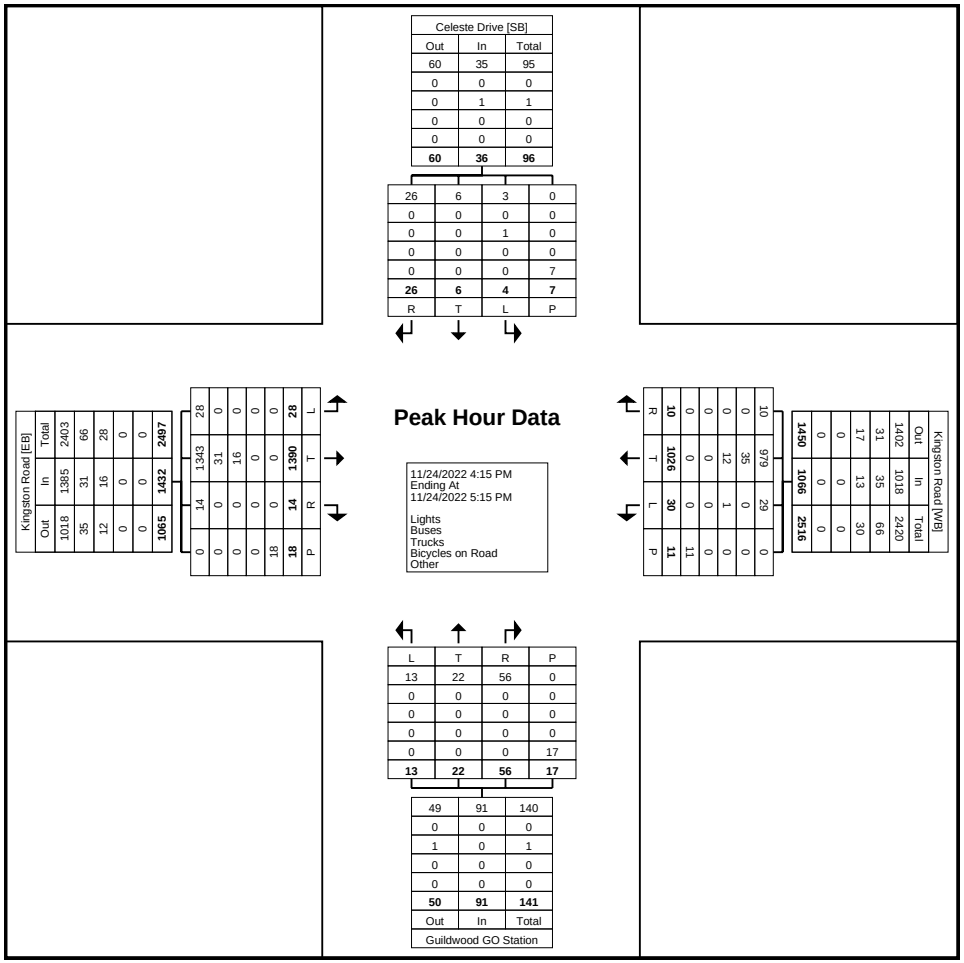
Turning Movement Peak Hour Data (4:15 PM)

Start Time	Celeste Drive Southbound					Kingston Road Westbound					Guildwood GO Station Access Northbound					Kingston Road Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:15 PM	0	0	4	2	4	7	248	0	1	255	2	0	7	3	9	5	386	6	6	397	665
4:30 PM	1	3	6	3	10	8	269	5	1	282	7	12	14	6	33	8	357	2	3	367	692
4:45 PM	3	2	4	1	9	8	233	3	4	244	3	7	15	4	25	7	321	4	4	332	610
5:00 PM	0	1	12	1	13	7	276	2	5	285	1	3	20	4	24	8	326	2	5	336	658
Total	4	6	26	7	36	30	1026	10	11	1066	13	22	56	17	91	28	1390	14	18	1432	2625
Approach %	11.1	16.7	72.2	-	-	2.8	96.2	0.9	-	-	14.3	24.2	61.5	-	-	2.0	97.1	1.0	-	-	-
Total %	0.2	0.2	1.0	-	1.4	1.1	39.1	0.4	-	40.6	0.5	0.8	2.1	-	3.5	1.1	53.0	0.5	-	54.6	-
PHF	0.333	0.500	0.542	-	0.692	0.938	0.929	0.500	-	0.935	0.464	0.458	0.700	-	0.689	0.875	0.900	0.583	-	0.902	0.948
Lights	3	6	26	-	35	29	979	10	-	1018	13	22	56	-	91	28	1343	14	-	1385	2529
% Lights	75.0	100.0	100.0	-	97.2	96.7	95.4	100.0	-	95.5	100.0	100.0	100.0	-	100.0	100.0	96.6	100.0	-	96.7	96.3
Buses	0	0	0	-	0	0	35	0	-	35	0	0	0	-	0	0	31	0	-	31	66
% Buses	0.0	0.0	0.0	-	0.0	0.0	3.4	0.0	-	3.3	0.0	0.0	0.0	-	0.0	0.0	2.2	0.0	-	2.2	2.5
Trucks	1	0	0	-	1	1	12	0	-	13	0	0	0	-	0	0	16	0	-	16	30
% Trucks	25.0	0.0	0.0	-	2.8	3.3	1.2	0.0	-	1.2	0.0	0.0	0.0	-	0.0	0.0	1.2	0.0	-	1.1	1.1
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	3	-	-	-	-	0	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	14.3	-	-	-	-	27.3	-	-	-	-	0.0	-	-	-	-	5.6	-	-
Pedestrians	-	-	-	6	-	-	-	-	8	-	-	-	-	17	-	-	-	-	17	-	-
% Pedestrians	-	-	-	85.7	-	-	-	-	72.7	-	-	-	-	100.0	-	-	-	-	94.4	-	-

LEA Consulting Ltd.
625 Cochrane Drive

Markam, Ontario, Canada L3R 9R9
905-470-0015 x240 idinsmore@lea.ca

Count Name: 21107_Celeste Dr & Kingston Rd-PM
Site Code: 21107
Start Date: 11/24/2022
Page No: 4



Turning Movement Peak Hour Data Plot (4:15 PM)

LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

Project No.: 9042
Location: Celeste Dr / Kingston Rd
Weather: Windy
Surveyor(s): Susan Cho / Jeff Tang

File Name : Celeste&Kingston-MERGED-AM
Site Code : 90420028
Start Date : 09/02/2017
Page No : 1

Groups Printed- Cars - Trucks - Buses

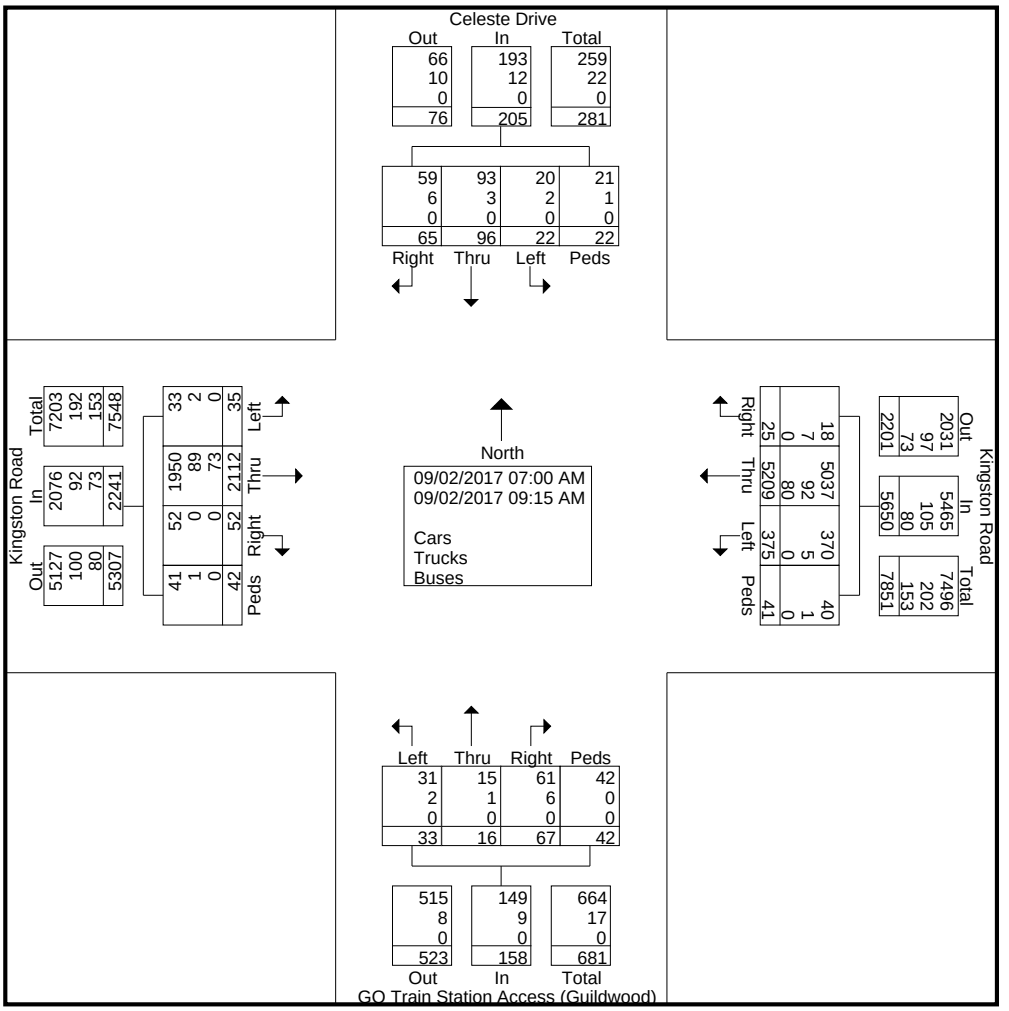
	Celeste Drive Southbound					Kingston Road Westbound					GO Train Station Access (Guildwood) Northbound					Kingston Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	18	3	0	22	48	538	2	2	590	7	0	5	3	15	2	111	7	2	122	749
07:15 AM	5	5	3	3	16	9	631	0	4	644	0	2	9	4	15	3	149	3	3	158	833
07:30 AM	0	17	4	4	25	51	608	3	2	664	4	1	7	2	14	2	220	6	3	231	934
07:45 AM	1	10	12	1	24	52	561	2	5	620	5	3	9	5	22	2	225	6	4	237	903
Total	7	50	22	8	87	160	2338	7	13	2518	16	6	30	14	66	9	705	22	12	748	3419
08:00 AM	3	21	5	5	34	89	515	2	8	614	5	3	8	5	21	6	238	12	6	262	931
08:15 AM	2	3	11	3	19	14	526	3	5	548	6	2	11	2	21	8	251	2	0	261	849
08:30 AM	3	15	9	2	29	55	528	1	5	589	3	1	8	8	20	2	291	5	14	312	950
08:45 AM	4	0	6	0	10	9	504	5	1	519	1	2	5	3	11	3	259	4	5	271	811
Total	12	39	31	10	92	167	2073	11	19	2270	15	8	32	18	73	19	1039	23	25	1106	3541
09:00 AM	1	2	3	3	9	32	448	4	5	489	2	1	4	7	14	2	192	3	5	202	714
09:15 AM	2	5	9	1	17	16	350	3	4	373	0	1	1	3	5	5	176	4	0	185	580
Grand Total	22	96	65	22	205	375	5209	25	41	5650	33	16	67	42	158	35	2112	52	42	2241	8254
Apprch %	10.7	46.8	31.7	10.7		6.6	92.2	0.4	0.7		20.9	10.1	42.4	26.6		1.6	94.2	2.3	1.9		
Total %	0.3	1.2	0.8	0.3	2.5	4.5	63.1	0.3	0.5	68.5	0.4	0.2	0.8	0.5	1.9	0.4	25.6	0.6	0.5	27.2	
Cars	20	93	59	21	193	370	5037	18	40	5465	31	15	61	42	149	33	1950	52	41	2076	7883
% Cars	90.9	96.9	90.8	95.5	94.1	98.7	96.7	72	97.6	96.7	93.9	93.8	91	100	94.3	94.3	92.3	100	97.6	92.6	95.5
Trucks	2	3	6	1	12	5	92	7	1	105	2	1	6	0	9	2	89	0	1	92	218
% Trucks	9.1	3.1	9.2	4.5	5.9	1.3	1.8	28	2.4	1.9	6.1	6.2	9	0	5.7	5.7	4.2	0	2.4	4.1	2.6
Buses	0	0	0	0	0	0	80	0	0	80	0	0	0	0	0	0	73	0	0	73	153
% Buses	0	0	0	0	0	0	1.5	0	0	1.4	0	0	0	0	0	0	3.5	0	0	3.3	1.9

LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

Project No.: 9042
Location: Celeste Dr / Kingston Rd
Weather: Windy
Surveyor(s): Susan Cho / Jeff Tang

File Name : Celeste&Kingston-MERGED-AM
Site Code : 90420028
Start Date : 09/02/2017
Page No : 2



LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

Project No.: 9042
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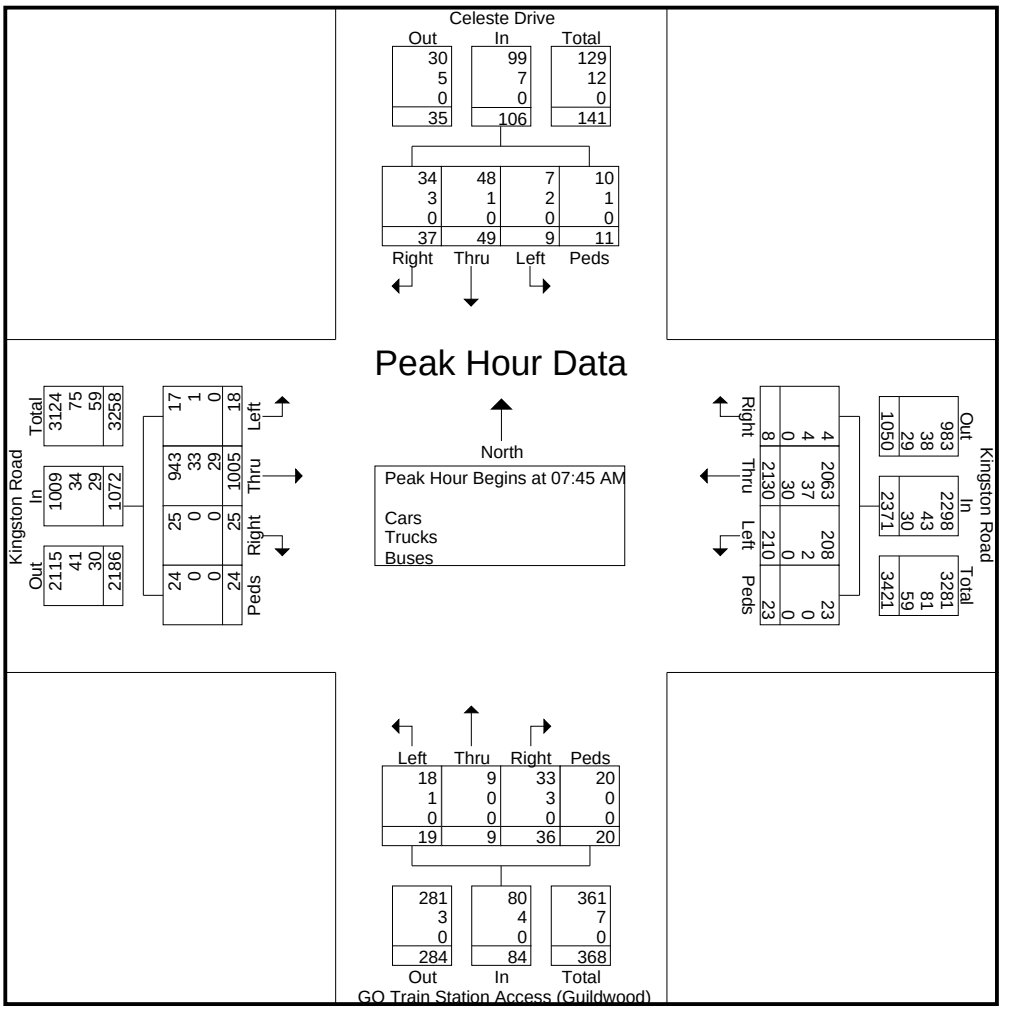
Surveyor(s): Susan Cho / Jeff Tang

File Name : Celeste&Kingston-MERGED-AM
Site Code : 90420028
Start Date : 09/02/2017
Page No : 3

	Celeste Drive Southbound					Kingston Road Westbound					GO Train Station Access (Guildwood) Northbound					Kingston Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	1	10	**12**	1	24	52	**561**	2	5	**620**	5	**3**	9	5	**22**	2	225	6	4	237	903
08:00 AM	**3**	**21**	5	**5**	**34**	**89**	515	2	**8**	614	5	3	8	5	21	6	238	**12**	6	262	931
08:15 AM	2	3	11	3	19	14	526	**3**	5	548	**6**	2	**11**	2	21	**8**	251	2	0	261	849
08:30 AM	3	15	9	2	29	55	528	1	5	589	3	1	8	**8**	20	2	**291**	5	**14**	**312**	**950**
Total Volume	9	49	37	11	106	210	2130	8	23	2371	19	9	36	20	84	18	1005	25	24	1072	3633
% App. Total	8.5	46.2	34.9	10.4		8.9	89.8	0.3	1		22.6	10.7	42.9	23.8		1.7	93.8	2.3	2.2		
PHF	.750	.583	.771	.550	.779	.590	.949	.667	.719	.956	.792	.750	.818	.625	.955	.563	.863	.521	.429	.859	.956
Cars	7	48	34	10	99	208	2063														
% Cars	77.8	98.0	91.9	90.9	93.4	99.0	96.9	50.0	100	96.9	94.7	100	91.7	100	95.2	94.4	93.8	100	100	94.1	96.0
Trucks	2	1	3	1	7	2	37	4	0	43	1	0	3	0	4	1	33	0	0	34	88
% Trucks	22.2	2.0	8.1	9.1	6.6	1.0	1.7	50.0	0	1.8	5.3	0	8.3	0	4.8	5.6	3.3	0	0	3.2	2.4
Buses	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	0	29	0	0	29	59
% Buses	0	0	0	0	0	0	1.4	0	0	1.3	0	0	0	0	0	0	2.9	0	0	2.7	1.6



LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

Project No.: 9042
Location: Celeste Dr / Kingston Rd
Weather: Windy
Surveyor(s): Susan Cho / Jeff Tang

File Name : Celeste&Kingston-MERGED-PM
Site Code : 90420028
Start Date : 09/02/2017
Page No : 1

Groups Printed- Cars - Trucks - Buses

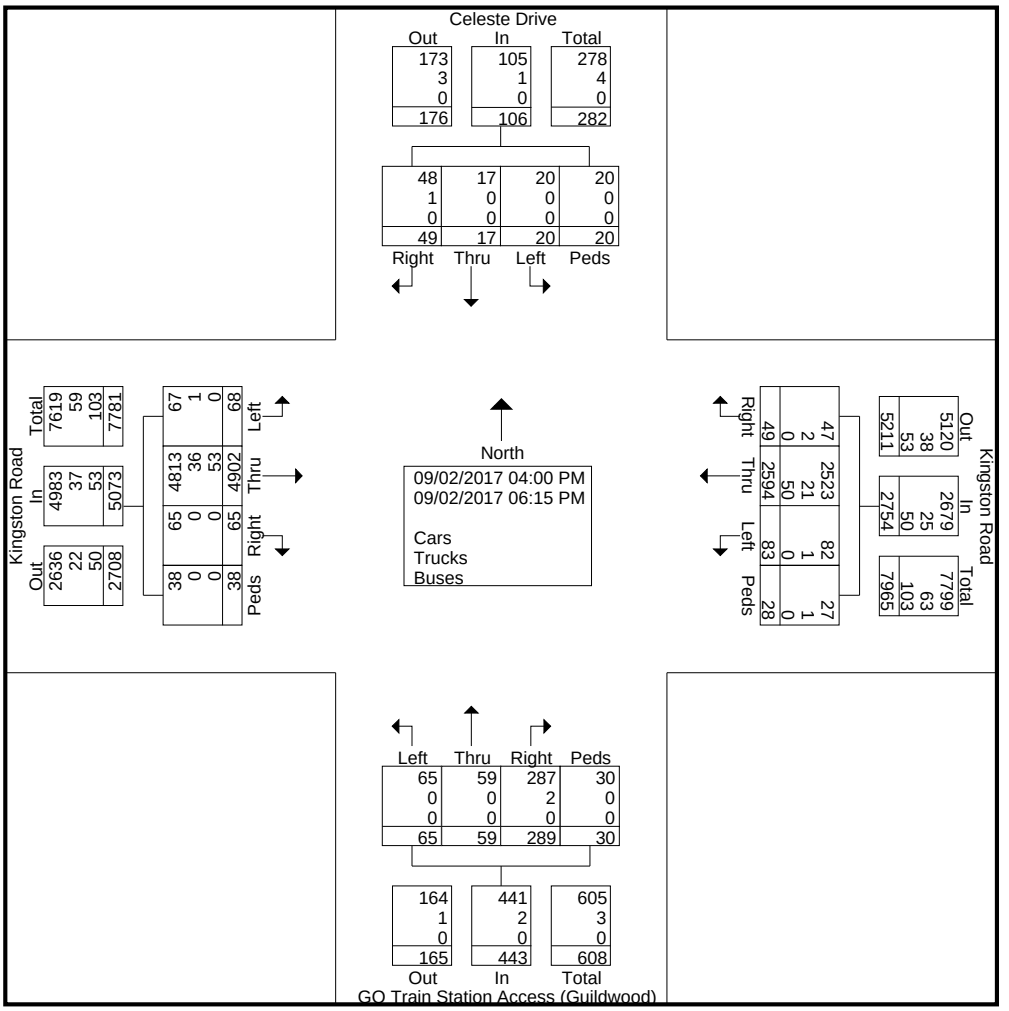
	Celeste Drive Southbound					Kingston Road Westbound					GO Train Station Access (Guildwood) Northbound					Kingston Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	4	0	3	1	8	9	216	4	5	234	6	7	17	5	35	2	384	4	2	392	669
04:15 PM	1	1	7	0	9	8	258	9	6	281	2	1	5	4	12	15	537	5	2	559	861
04:30 PM	1	1	5	3	10	11	268	3	1	283	9	5	28	7	49	11	521	15	3	550	892
04:45 PM	1	0	2	1	4	10	257	3	1	271	9	1	6	2	18	9	497	4	2	512	805
Total	7	2	17	5	31	38	999	19	13	1069	26	14	56	18	114	37	1939	28	9	2013	3227
05:00 PM	5	1	8	2	16	8	282	7	3	300	7	23	58	3	91	9	480	1	6	496	903
05:15 PM	4	3	5	0	12	8	316	4	0	328	2	1	5	0	8	6	530	2	2	540	888
05:30 PM	0	5	3	3	11	10	235	2	2	249	5	3	17	2	27	7	464	2	8	481	768
05:45 PM	0	3	4	2	9	7	296	8	4	315	11	14	67	2	94	3	495	9	2	509	927
Total	9	12	20	7	48	33	1129	21	9	1192	25	41	147	7	220	25	1969	14	18	2026	3486
06:00 PM	2	2	6	2	12	5	213	4	2	224	14	2	71	4	91	2	498	21	3	524	851
06:15 PM	2	1	6	6	15	7	253	5	4	269	0	2	15	1	18	4	496	2	8	510	812
Grand Total	20	17	49	20	106	83	2594	49	28	2754	65	59	289	30	443	68	4902	65	38	5073	8376
Apprch %	18.9	16	46.2	18.9		3	94.2	1.8	1		14.7	13.3	65.2	6.8		1.3	96.6	1.3	0.7		
Total %	0.2	0.2	0.6	0.2	1.3	1	31	0.6	0.3	32.9	0.8	0.7	3.5	0.4	5.3	0.8	58.5	0.8	0.5	60.6	
Cars	20	17	48	20	105	82	2523	47	27	2679	65	59	287	30	441	67	4813	65	38	4983	8208
% Cars	100	100	98	100	99.1	98.8	97.3	95.9	96.4	97.3	100	100	99.3	100	99.5	98.5	98.2	100	100	98.2	98
Trucks	0	0	1	0	1	1	21	2	1	25	0	0	2	0	2	1	36	0	0	37	65
% Trucks	0	0	2	0	0.9	1.2	0.8	4.1	3.6	0.9	0	0	0.7	0	0.5	1.5	0.7	0	0	0.7	0.8
Buses	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	0	53	0	0	53	103
% Buses	0	0	0	0	0	0	1.9	0	0	1.8	0	0	0	0	0	0	1.1	0	0	1	1.2

LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

Project No.: 9042
Location: Celeste Dr / Kingston Rd
Weather: Windy
Surveyor(s): Susan Cho / Jeff Tang

File Name : Celeste&Kingston-MERGED-PM
Site Code : 90420028
Start Date : 09/02/2017
Page No : 2



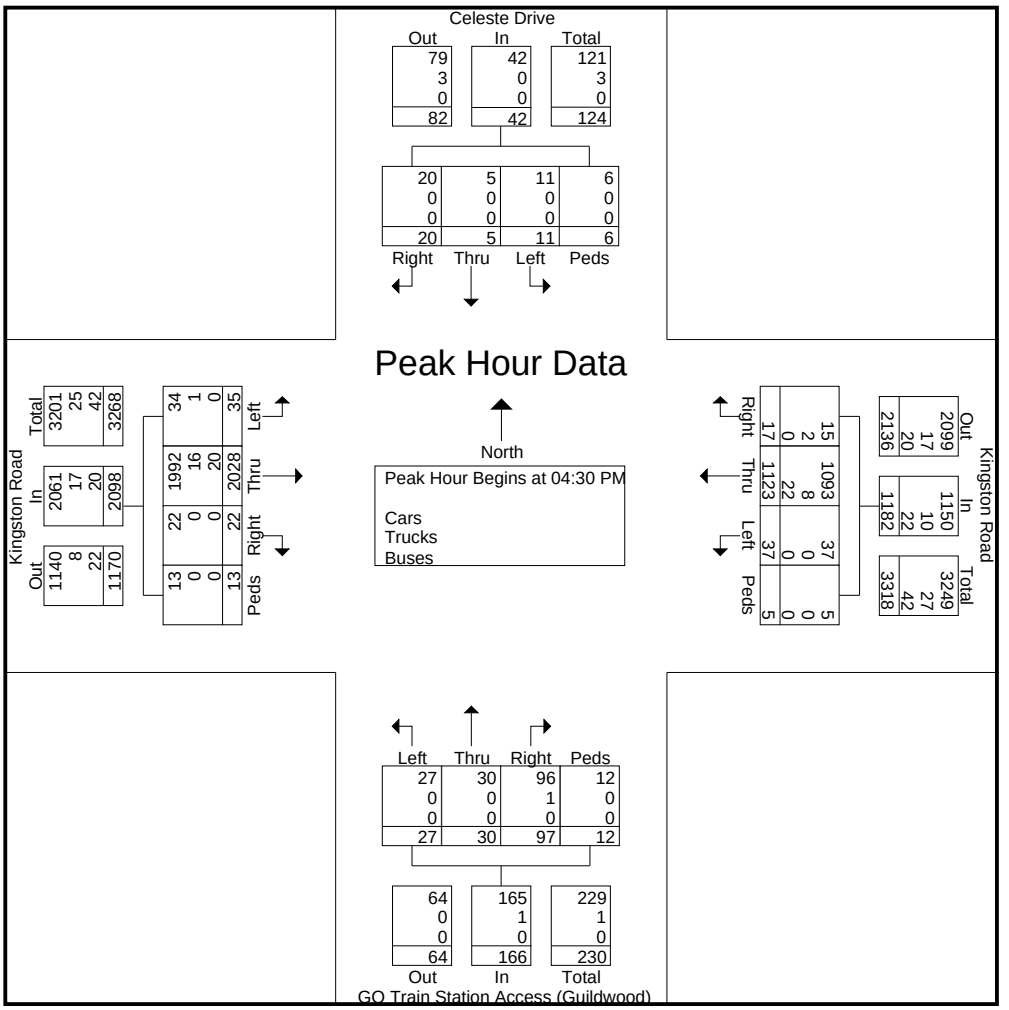
LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

Project No.: 9042
Location: Celeste Dr / Kingston Rd
Weather: Windy
Surveyor(s): Susan Cho / Jeff Tang

File Name : Celeste&Kingston-MERGED-PM
Site Code : 90420028
Start Date : 09/02/2017
Page No : 3

	Celeste Drive Southbound					Kingston Road Westbound					GO Train Station Access (Guildwood) Northbound					Kingston Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	1	1	5	**3**	10	**11**	268	3	1	283	**9**	5	28	**7**	49	**11**	521	**15**	3	**550**	892
04:45 PM	1	0	2	1	4	10	257	3	1	271	9	1	6	2	18	9	497	4	2	512	805
05:00 PM	**5**	1	**8**	2	**16**	8	282	**7**	**3**	300	7	**23**	**58**	3	**91**	9	480	1	**6**	496	**903**
05:15 PM	4	**3**	5	0	12	8	**316**	4	0	**328**	2	1	5	0	8	6	**530**	2	2	540	888
Total Volume	11	5	20	6	42	37	1123	17	5	1182	27	30	97	12	166	35	2028	22	13	2098	3488
% App. Total	26.2	11.9	47.6	14.3		3.1	95	1.4	0.4		16.3	18.1	58.4	7.2		1.7	96.7	1	0.6		
PHF	.550	.417	.625	.500	.656	.841	.888	.607	.417	.901	.750	.326	.418	.429	.456	.795	.957	.367	.542	.954	.966
Cars	11	5	20	6	42	37	1093										1992				
% Cars	100	100	100	100	100	100	97.3	88.2	100	97.3	100	100	99.0	100	99.4	97.1	98.2	100	100	98.2	98.0
Trucks	0	0	0	0	0	0	8	2	0	10	0	0	1	0	1	1	16	0	0	17	28
% Trucks	0	0	0	0	0	0	0.7	11.8	0	0.8	0	0	1.0	0	0.6	2.9	0.8	0	0	0.8	0.8
Buses	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	20	0	0	20	42
% Buses	0	0	0	0	0	0	2.0	0	0	1.9	0	0	0	0	0	0	1.0	0	0	1.0	1.2



LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

Project No.: 20259
Location: Celeste Dr & Kingston Rd
Weather: Light Rain / Snow
Surveyor: May Yue & Belinda Wong

File Name : CelesteDr&KingstonRd-AM
Site Code : 20259028
Start Date : 2019-11-07
Page No : 1

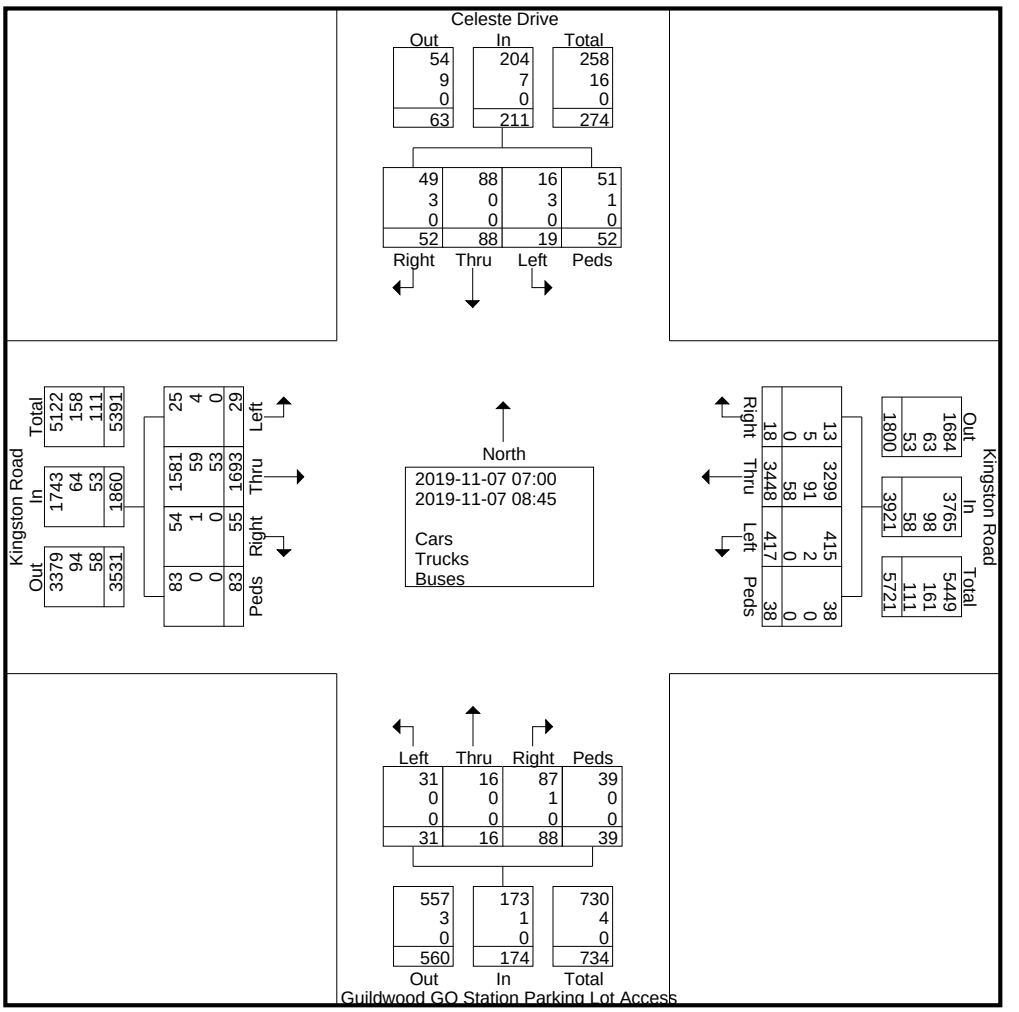
Groups Printed- Cars - Trucks - Buses

	Celeste Drive Southbound					Kingston Road Westbound					Guildwood GO Station Parking Lot Access Northbound					Kingston Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00	2	20	6	4	32	84	440	1	1	526	3	2	15	1	21	1	128	9	7	145	724
07:15	2	0	8	0	10	29	587	2	4	622	6	2	8	5	21	0	177	3	1	181	834
07:30	2	10	8	13	33	39	409	2	6	456	1	1	7	7	16	2	213	7	15	237	742
07:45	2	20	2	8	32	79	401	3	5	488	4	4	17	3	28	5	199	8	17	229	777
Total	8	50	24	25	107	231	1837	8	16	2092	14	9	47	16	86	8	717	27	40	792	3077
08:00	2	18	14	7	41	76	317	1	6	400	2	2	11	3	18	3	207	13	14	237	696
08:15	2	3	8	5	18	33	435	3	4	475	5	2	12	10	29	4	249	4	10	267	789
08:30	4	15	3	7	29	54	389	2	7	452	5	2	9	5	21	5	248	8	10	271	773
08:45	3	2	3	8	16	23	470	4	5	502	5	1	9	5	20	9	272	3	9	293	831
Total	11	38	28	27	104	186	1611	10	22	1829	17	7	41	23	88	21	976	28	43	1068	3089
Grand Total	19	88	52	52	211	417	3448	18	38	3921	31	16	88	39	174	29	1693	55	83	1860	6166
Apprch %	9	41.7	24.6	24.6		10.6	87.9	0.5	1		17.8	9.2	50.6	22.4		1.6	91	3	4.5		
Total %	0.3	1.4	0.8	0.8	3.4	6.8	55.9	0.3	0.6	63.6	0.5	0.3	1.4	0.6	2.8	0.5	27.5	0.9	1.3	30.2	
Cars	16	88	49	51	204	415	3299	13	38	3765	31	16	87	39	173	25	1581	54	83	1743	5885
% Cars	84.2	100	94.2	98.1	96.7	99.5	95.7	72.2	100	96	100	100	98.9	100	99.4	86.2	93.4	98.2	100	93.7	95.4
Trucks	3	0	3	1	7	2	91	5	0	98	0	0	1	0	1	4	59	1	0	64	170
% Trucks	15.8	0	5.8	1.9	3.3	0.5	2.6	27.8	0	2.5	0	0	1.1	0	0.6	13.8	3.5	1.8	0	3.4	2.8
Buses	0	0	0	0	0	0	58	0	0	58	0	0	0	0	0	0	53	0	0	53	111
% Buses	0	0	0	0	0	0	1.7	0	0	1.5	0	0	0	0	0	0	3.1	0	0	2.8	1.8

LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

File Name : CelesteDr&KingstonRd-AM
Site Code : 20259028
Start Date : 2019-11-07
Page No : 2

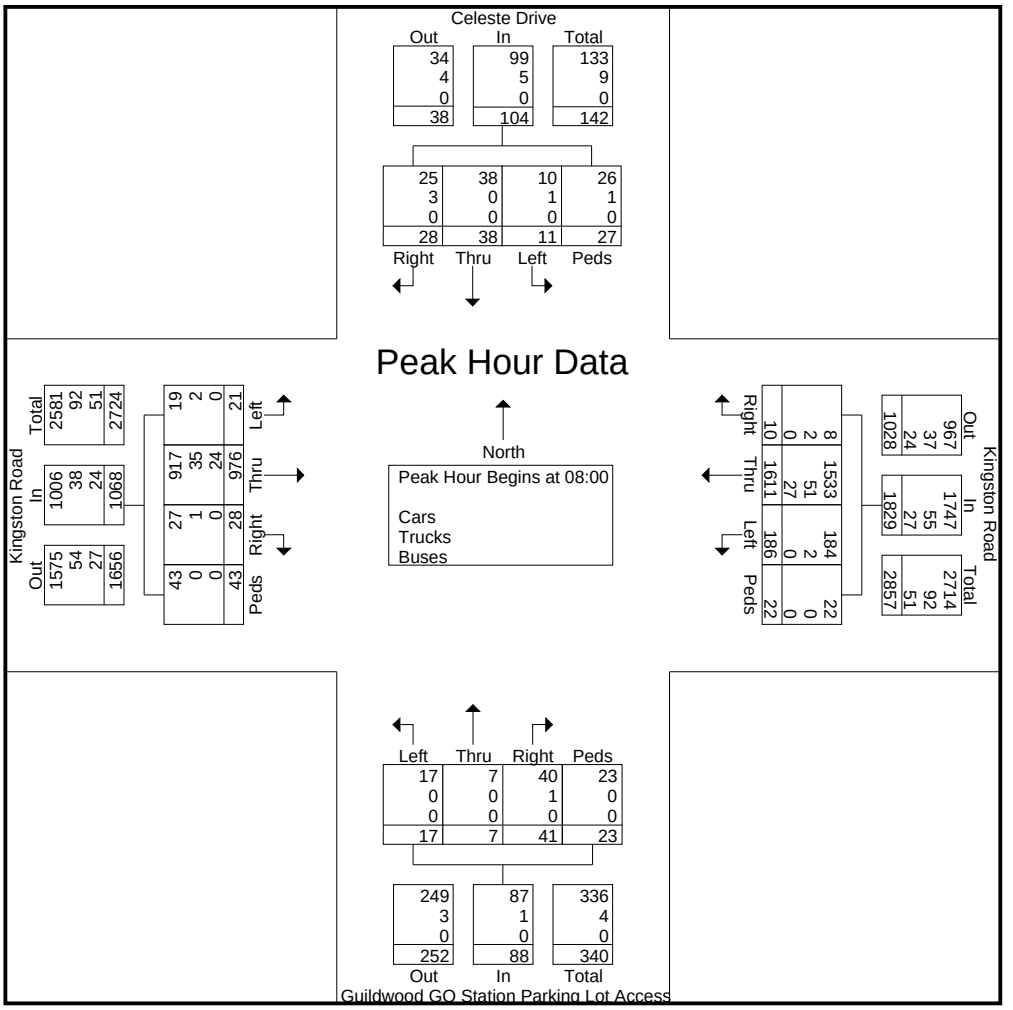


LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

File Name : CelesteDr&KingstonRd-AM
Site Code : 20259028
Start Date : 2019-11-07
Page No : 3

	Celeste Drive Southbound					Kingston Road Westbound					Guildwood GO Station Parking Lot Access Northbound					Kingston Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00																					
08:00	2	**18**	**14**	7	**41**	**76**	317	1	6	400	2	**2**	11	3	18	3	207	**13**	**14**	237	696
08:15	2	3	8	5	18	33	435	3	4	475	**5**	2	**12**	**10**	**29**	4	249	4	10	267	789
08:30	**4**	15	3	7	29	54	389	2	**7**	452	5	2	9	5	21	5	248	8	10	271	773
08:45	3	2	3	**8**	16	23	**470**	**4**	5	**502**	5	1	9	5	20	**9**	**272**	3	9	**293**	**831**
Total Volume	11	38	28	27	104	186	1611	10	22	1829	17	7	41	23	88	21	976	28	43	1068	3089
% App. Total	10.6	36.5	26.9	26		10.2	88.1	0.5	1.2		19.3	8	46.6	26.1		2	91.4	2.6	4		
PHF	.688	.528	.500	.844	.634	.612	.857	.625	.786	.911	.850	.875	.854	.575	.759	.583	.897	.538	.768	.911	.929
Cars	10	38	25	26	99	184	1533	8	22	1747	17	7	40	23	87	19	917	27	43	1006	2939
% Cars	90.9	100	89.3	96.3	95.2	98.9	95.2	80.0	100	95.5	100	100	97.6	100	98.9	90.5	94.0	96.4	100	94.2	95.1
Trucks	1	0	3	1	5	2	51	2	0	55	0	0	1	0	1	2	35	1	0	38	99
% Trucks	9.1	0	10.7	3.7	4.8	1.1	3.2	20.0	0	3.0	0	0	2.4	0	1.1	9.5	3.6	3.6	0	3.6	3.2
Buses	0	0	0	0	0	0	27	0	0	27	0	0	0	0	0	0	24	0	0	24	51
% Buses	0	0	0	0	0	0	1.7	0	0	1.5	0	0	0	0	0	0	2.5	0	0	2.2	1.7



LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

Project No.: 20259
Location: Celeste Dr & Kingston Rd
Weather: Light Rain / Snow
Surveyor: May Yue & Belinda Wong

File Name : CelesteDr&KingstonRd-PM
Site Code : 20259028
Start Date : 2019-11-07
Page No : 1

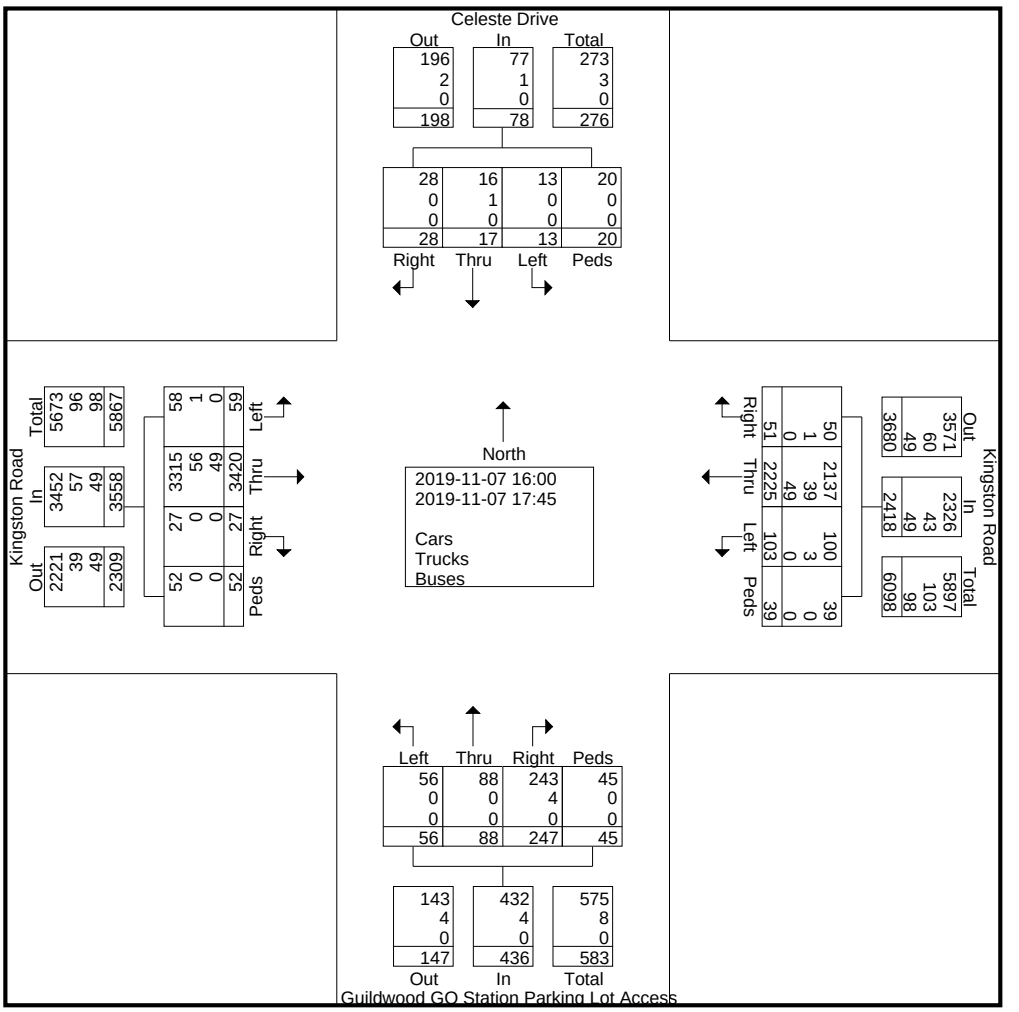
Groups Printed- Cars - Trucks - Buses

	Celeste Drive Southbound					Kingston Road Westbound					Guildwood GO Station Parking Lot Access Northbound					Kingston Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	2	2	3	3	10	7	257	4	6	274	9	10	26	2	47	4	463	4	5	476	807
16:15	3	1	2	2	8	15	280	2	6	303	5	0	11	9	25	13	458	2	3	476	812
16:30	1	3	4	5	13	11	263	4	9	287	3	12	43	10	68	6	434	3	3	446	814
16:45	1	2	5	4	12	15	282	2	6	305	6	5	7	6	24	10	457	4	7	478	819
Total	7	8	14	14	43	48	1082	12	27	1169	23	27	87	27	164	33	1812	13	18	1876	3252
17:00	2	1	7	0	10	12	290	3	6	311	12	25	64	2	103	8	428	5	8	449	873
17:15	2	1	4	1	8	6	331	6	2	345	0	1	7	8	16	6	365	1	4	376	745
17:30	1	5	2	0	8	13	258	27	1	299	3	3	12	1	19	8	414	6	10	438	764
17:45	1	2	1	5	9	24	264	3	3	294	18	32	77	7	134	4	401	2	12	419	856
Total	6	9	14	6	35	55	1143	39	12	1249	33	61	160	18	272	26	1608	14	34	1682	3238
Grand Total	13	17	28	20	78	103	2225	51	39	2418	56	88	247	45	436	59	3420	27	52	3558	6490
Apprch %	16.7	21.8	35.9	25.6		4.3	92	2.1	1.6		12.8	20.2	56.7	10.3		1.7	96.1	0.8	1.5		
Total %	0.2	0.3	0.4	0.3	1.2	1.6	34.3	0.8	0.6	37.3	0.9	1.4	3.8	0.7	6.7	0.9	52.7	0.4	0.8	54.8	
Cars	13	16	28	20	77	100	2137	50	39	2326	56	88	243	45	432	58	3315	27	52	3452	6287
% Cars	100	94.1	100	100	98.7	97.1	96	98	100	96.2	100	100	98.4	100	99.1	98.3	96.9	100	100	97	96.9
Trucks	0	1	0	0	1	3	39	1	0	43	0	0	4	0	4	1	56	0	0	57	105
% Trucks	0	5.9	0	0	1.3	2.9	1.8	2	0	1.8	0	0	1.6	0	0.9	1.7	1.6	0	0	1.6	1.6
Buses	0	0	0	0	0	0	49	0	0	49	0	0	0	0	0	0	49	0	0	49	98
% Buses	0	0	0	0	0	0	2.2	0	0	2	0	0	0	0	0	0	1.4	0	0	1.4	1.5

LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

File Name : CelesteDr&KingstonRd-PM
Site Code : 20259028
Start Date : 2019-11-07
Page No : 2

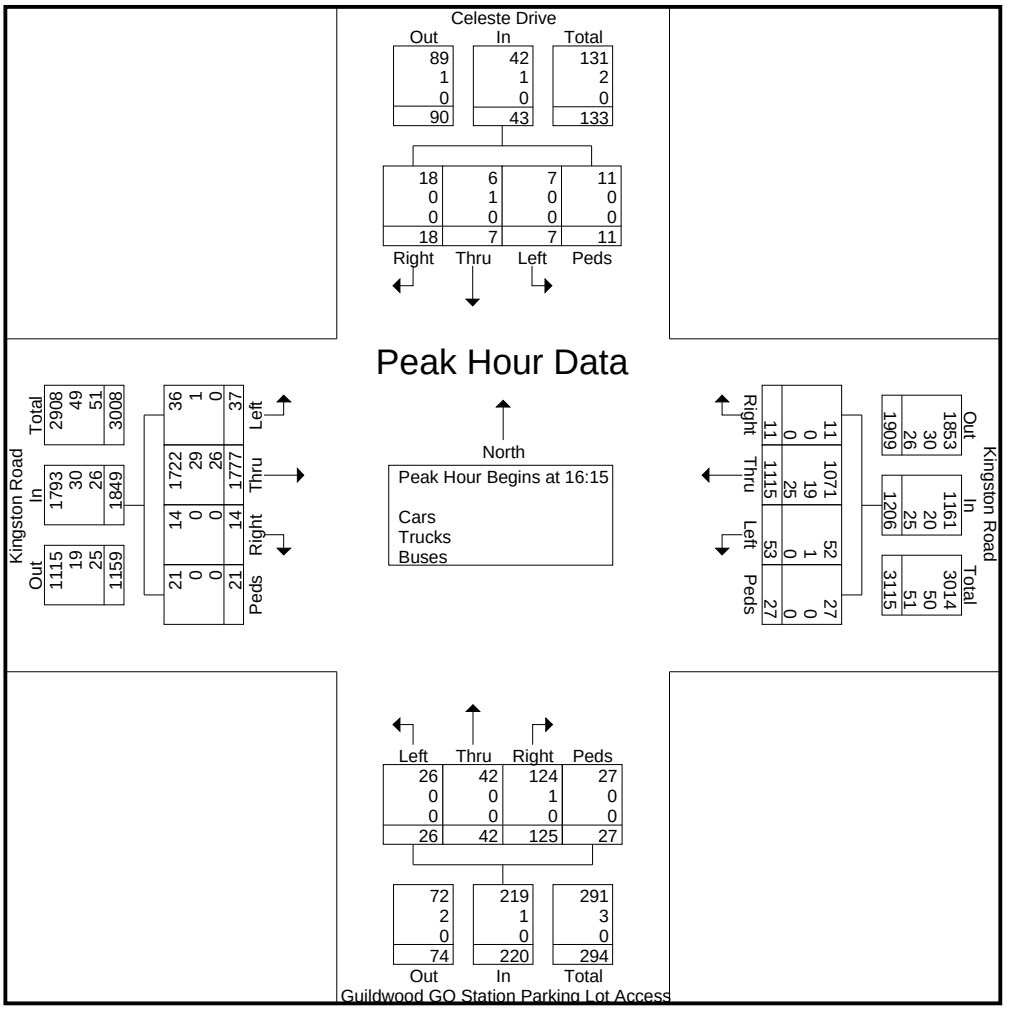


LEA CONSULTING LTD

625 Cochrane Drive 9th Floor
Markham, Ontario, L3R 9R9

File Name : CelesteDr&KingstonRd-PM
Site Code : 20259028
Start Date : 2019-11-07
Page No : 3

	Celeste Drive Southbound					Kingston Road Westbound					Guildwood GO Station Parking Lot Access Northbound					Kingston Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	**3**	1	2	2	8	**15**	280	2	6	303	5	0	11	9	25	**13**	**458**	2	3	476	812
16:30	1	**3**	4	**5**	**13**	11	263	**4**	**9**	287	3	12	43	**10**	68	6	434	3	3	446	814
16:45	1	2	5	4	12	15	282	2	6	305	6	5	7	6	24	10	457	4	7	**478**	819
17:00	2	1	**7**	0	10	12	**290**	3	6	**311**	**12**	**25**	**64**	2	**103**	8	428	**5**	**8**	449	**873**
Total Volume	7	7	18	11	43	53	1115	11	27	1206	26	42	125	27	220	37	1777	14	21	1849	3318
% App. Total	16.3	16.3	41.9	25.6		4.4	92.5	0.9	2.2		11.8	19.1	56.8	12.3		2	96.1	0.8	1.1		
PHF	.583	.583	.643	.550	.827	.883	.961	.688	.750	.969	.542	.420	.488	.675	.534	.712	.970	.700	.656	.967	.950
Cars	7	6	18	11	42	52	1071	11	27	1161	26	42	124	27	219	36	1722	14	21	1793	3215
% Cars	100	85.7	100	100	97.7	98.1	96.1	100	100	96.3	100	100	99.2	100	99.5	97.3	96.9	100	100	97.0	96.9
Trucks	0	1	0	0	1	1	19	0	0	20	0	0	1	0	1	1	29	0	0	30	52
% Trucks	0	14.3	0	0	2.3	1.9	1.7	0	0	1.7	0	0	0.8	0	0.5	2.7	1.6	0	0	1.6	1.6
Buses	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	26	0	0	26	51
% Buses	0	0	0	0	0	0	2.2	0	0	2.1	0	0	0	0	0	0	1.5	0	0	1.4	1.5



City of Toronto
KINGSTON RD AT LAWRENCE AVE (PX 144)
2014-04-15
Total Count

Start Time	NB			SB			EB			WB			Total	Hourly		
	L	T	R	L	T	R	L	T	R	L	T	R				
7:30	0	183	30	0	459	79	45	53	6	114	251	2	1222		Peak	PHF
7:45	0	198	29	0	537	91	51	68	4	123	268	2	1371			
8:00	0	203	57	0	470	97	56	61	1	111	237	5	1298			
8:15	0	228	41	0	437	115	58	72	3	89	234	6	1283	5174		
8:30	0	207	26	0	437	85	61	77	1	94	233	0	1221	5173		
8:45	0	196	52	0	472	79	65	73	7	94	211	2	1251	5053		
9:00	0	213	32	0	439	83	52	69	5	108	200	1	1202	4957		
9:15	0	204	25	0	404	78	50	68	8	95	180	1	1113	4787	5174	0.94
16:00	0	291	45	0	204	57	88	135	1	67	111	0	999			
16:15	0	359	53	0	221	69	86	157	0	70	104	1	1120			
16:30	0	468	56	0	256	60	84	178	3	52	135	3	1295			
16:45	0	431	48	0	229	79	99	211	0	68	136	1	1302	4716		
17:00	0	444	56	0	222	73	93	197	1	87	110	2	1285	5002		
17:15	0	452	63	0	212	74	112	181	3	99	141	2	1339	5221		
17:30	0	446	95	0	214	88	104	173	6	76	130	0	1332	5258		
17:45	0	453	75	0	180	77	100	167	2	77	119	3	1253	5209	5258	0.98

Peak Hour Volumes

7:30	0	812	157	0	1903	382	210	254	14	437	990	15	5174	
16:45	0	1773	262	0	877	314	408	762	10	330	517	5	5258	

City of Toronto
KINGSTON RD AT LAWRENCE AVE (PX 144)
2016-04-20
Total Count

Start Time	NB			SB			EB			WB			Total	Hourly		
	L	T	R	L	T	R	L	T	R	L	T	R				
7:30	0	435	63	0	113	5	54	322	13	17	39	8	1069		Peak	PHF
7:45	0	499	68	0	278	38	45	269	15	26	36	9	1283			
8:00	0	472	80	0	245	43	53	273	11	34	77	11	1299			
8:15	0	482	73	0	303	24	43	315	12	27	44	12	1335	4986		
8:30	0	444	54	0	289	25	34	297	15	33	106	14	1311	5228		
8:45	0	429	57	0	262	20	46	215	7	66	79	7	1188	5133		
9:00	0	480	77	0	223	11	56	150	9	58	72	8	1144	4978		
9:15	0	413	71	0	192	10	35	135	15	54	73	18	1016	4659	5228	0.98
16:00	0	219	35	0	398	61	67	84	23	48	109	16	1060			
16:15	0	279	57	0	453	76	38	64	22	49	117	19	1174			
16:30	0	289	65	0	460	65	36	89	21	60	138	11	1234			
16:45	0	299	61	0	467	67	68	59	15	59	153	8	1256	4724		
17:00	0	323	71	0	483	58	49	86	18	69	163	10	1330	4994		
17:15	0	267	69	0	457	55	46	56	25	57	170	14	1216	5036		
17:30	0	221	40	0	484	64	41	84	21	41	109	21	1126	4928		
17:45	0	194	37	0	453	54	44	56	22	36	117	12	1025	4697	5036	0.95
Peak Hour Volumes																
7:45	0	1897	275	0	1115	130	175	1154	53	120	263	46	5228			
16:30	0	1178	266	0	1867	245	199	290	79	245	624	43	5036			

City of Toronto
KINGSTON RD AT MARKHAM RD (PX 148)
2014-10-22
Total Count

Start Time	NB			SB			EB			WB			Total	Hourly		
	L	T	R	L	T	R	L	T	R	L	T	R				
7:30	4	6	2	2	4	6	5	42	0	1	208	7	287		Peak	PHF
7:45	7	10	4	7	4	20	15	60	2	2	329	6	466			
8:00	17	13	3	1	5	14	17	69	0	4	394	10	547			
8:15	10	10	1	6	6	27	19	72	1	6	471	10	639	1939		
8:30	9	12	4	4	8	29	22	127	2	3	477	10	707	2359		
8:45	17	18	2	3	8	25	28	142	0	9	517	8	777	2670		
9:00	16	26	6	8	7	42	21	150	4	1	499	12	792	2915		
9:15	32	27	3	5	10	41	26	170	3	2	477	14	810	3086	3086	0.95
16:00	17	15	10	30	25	52	54	423	6	7	210	20	869			
16:15	14	28	6	22	29	46	60	406	4	6	225	12	858			
16:30	13	18	14	19	21	45	53	444	5	11	193	12	848			
16:45	12	23	8	20	21	52	62	376	8	8	227	10	827	3402		
17:00	6	23	11	21	24	48	56	413	5	11	200	13	831	3364		
17:15	10	14	9	19	16	44	59	325	5	3	184	7	695	3201		
17:30	7	29	2	19	24	39	55	316	3	2	165	14	675	3028		
17:45	13	18	6	15	24	57	57	249	3	6	172	16	636	2837	3402	0.98

Peak Hour Volumes

8:30	74	83	15	20	33	137	97	589	9	15	1970	44	3086	
16:00	56	84	38	91	96	195	229	1649	23	32	855	54	3402	

City of Toronto
KINGSTON RD AT MARKHAM RD
2020-03-10
Total Count

Start Time	NB			SB			EB			WB			Total	Hourly		
	L	T	R	L	T	R	L	T	R	L	T	R				
7:30	16	36	11	16	13	47	58	266	14	6	510	15	1008		Peak	PHF
7:45	27	48	9	16	27	73	51	236	11	8	359	25	890			
8:00	20	35	3	11	23	54	52	203	10	16	384	17	828			
8:15	22	29	3	7	20	60	55	147	6	6	422	8	785	3511		
8:30	16	21	1	12	25	51	46	156	4	12	358	6	708	3211		
8:45	25	26	4	5	15	47	39	136	1	10	277	7	592	2913		
9:00	16	22	7	11	18	36	51	131	7	13	255	11	578	2663		
9:15	14	16	2	6	19	55	40	119	6	15	238	16	546	2424	3511	0.87
16:00	19	17	11	16	24	61	65	433	3	4	246	16	915			
16:15	21	23	8	9	27	52	49	432	0	7	233	19	880			
16:30	20	21	9	13	22	62	69	444	2	8	353	9	1032			
16:45	12	19	6	18	22	44	75	361	3	17	218	13	808	3635		
17:00	9	27	9	18	24	54	89	409	6	8	186	11	850	3570		
17:15	13	18	6	22	24	65	58	336	8	5	176	13	744	3434		
17:30	14	20	6	23	22	46	66	309	6	5	168	9	694	3096		
17:45	10	20	6	14	19	54	59	249	5	7	165	17	625	2913	3635	0.88

Peak Hour Volumes

7:30	85	148	26	50	83	234	216	852	41	36	1675	65	3511	
16:00	72	80	34	56	95	219	258	1670	8	36	1050	57	3635	

Assumptions and Reasonings:
As negative growth was calculated for Kingston Road at Lawrence Avenue and at Celeste Drive, the growth for Kingston Road was applied to the movements at the Markham Road intersection and carried through at the rest of the intersections along Kingston Road
As historical TMCs are very old, the high calculated growth rates are expected to be unrealistic. As a result, a conservative growth rate of 2% was applied, where growth rates were calculated to be over 2.0%

Kingston Road and Lawrence Avenue

Intersection	Index	Movement	15-Apr-14				20-Apr-16				22-Oct-24			
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
	1	NBL	210	408			120	245			265	192		
	2	NBT	254	762	478	1180	263	624	429	912	699	437	973	635
	3	NBR	14	10			46	43			9	6		
	4	SBL	437	330			175	199			180	295		
Kingston Road	5	SBT	990	517	1442	852	1154	290	1382	568	282	678	497	1009
&	6	SBR	15	5			53	79			35	36		
Lawrence Avenue	7	EBL	0	0			0	0			0	0		
	8	EBT	812	1773	969	2035	1897	1178	2172	1444	882	1013	1008	1163
	9	EBR	157	262			275	266			126	150		
	10	WBL	0	0			0	0			0	0		
	11	WBT	1903	877	2285	1191	1115	1867	1245	2112	1230	976	1568	1264
	12	WBR	382	314			130	245			338	288		

AM Peak

	Lawrence Avenue		Kingston Road		
Year	NB	SB	EB	WB	Overall
2014	478	1442	969	2285	5174
2016	429	1382	2172	1245	5228
2024	973	497	1008	1568	4046
Calculated Growth Rates:	5.63%	-19.94%	-3.85%	-2.53%	-3.03%
Applied Growth Rates:	2.00%	0.00%	0.00%	0.00%	

PM Peak

	Lawrence Avenue		Kingston Road		
Year	NB	SB	EB	WB	Overall
2014	1180	852	2035	1191	5258
2016	912	568	1444	2112	5036
2024	635	1009	1163	1264	4071
Calculated Growth Rates:	-7.69%	2.67%	-6.22%	-1.98%	-2.93%
Applied Growth Rates:	0.00%	2.00%	0.00%	0.00%	

Kingston Road and Markham Road

Intersection	Index	Movement	22-Oct-14				10-Mar-20				01-Jun-22			
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
	1	NBL	74	56			85	72			76	88		
	2	NBT	83	84	172	178	148	80	259	186	106	98	197	217
	3	NBR	15	38			26	34			15	31		
	4	SBL	20	91			50	56			52	70		
Kingston Road	5	SBT	33	96	190	382	83	95	367	370	75	112	345	409
&	6	SBR	137	195			234	219			218	227		
Markham Road	7	EBL	97	229			216	258			154	255		
	8	EBT	589	1649	695	1901	852	1670	1109	1936	748	1679	917	1946
	9	EBR	9	23			41	8			15	12		
	10	WBL	15	32			36	36			23	22		
	11	WBT	1970	855	2029	941	1675	1050	1776	1143	1378	854	1467	909
	12	WBR	44	54			65	57			66	33		

AM Peak

	Markham Road		Kingston Road		
Year	NB	SB	EB	WB	Overall
2014	172	190	695	2029	3086
2020	259	367	1109	1776	3511
2022	197	345	917	1467	2926
Calculated Growth Rates:	2.92%	6.29%	4.06%	-4.35%	0.03%
Applied Growth Rates:	2.00%	2.00%	2.00%	0.00%	

PM Peak

	Markham Road		Kingston Road		
Year	NB	SB	EB	WB	Overall
2014	178	382	1901	941	3402
2020	186	370	1936	1143	3635
2022	217	409	1946	909	3481
Calculated Growth Rates:	1.87%	0.52%	0.29%	0.52%	0.48%
Applied Growth Rates:	1.87%	0.52%	0.29%	0.52%	

Kingston Road and Celeste Drive

Intersection	Index	Movement	02-Sep-17				07-Nov-19				24-Nov-22				28-Nov-24			
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
	1	NBL	19	27			17	26			18	13			32	50		
	2	NBT	9	30	64	154	7	42	65	193	7	22	72	91	30	77	130	296
	3	NBR	36	97			41	125			47	56			68	169		
	4	SBL	9	11			11	7			15	4			8	12		
Kingston Road	5	SBT	49	5	95	36	38	7	77	32	32	6	81	36	80	31	118	62
&	6	SBR	37	20			28	18			34	26			30	19		
Celeste Drive	7	EBL	18	35			21	37			14	28			22	32		
	8	EBT	1005	2028	1048	2085	976	1777	1025	1828	751	1390	788	1432	847	1546	890	1617
	9	EBR	25	22			28	14			23	14			21	39		
	10	WBL	210	37			186	53			140	30			234	60		
	11	WBT	2130	1123	2348	1177	1611	1115	1807	1179	1591	1026	1739	1066	1436	1009	1682	1083
	12	WBR	8	17			10	11			8	10			12	14		

AM Peak

	Celeste Drive		Kingston Road		
Year	NB	SB	EB	WB	Overall
2017	64	95	1048	2348	3555
2019	65	77	1025	1807	2974
2022	72	81	788	1739	2680
2024	130	118	890	1682	2820
Calculated Growth Rates:	6.41%	2.53%	-3.52%	-4.99%	-3.68%
Applied Growth Rates:	0.00%	0.00%	0.00%	0.00%	

PM Peak

	Celeste Drive		Kingston Road		
Year	NB	SB	EB	WB	Overall
2017	154	36	2085	1177	3452
2019	193	32	1828	1179	3232
2022	91	36	1432	1066	2625
2024	296	62	1617	1083	3058
Calculated Growth Rates:	4.01%	5.39%	-4.76%	-1.59%	-2.58%
Applied Growth Rates:	0.00%	0.00%	0.00%	0.00%	

APPENDIX E

GO Station Traffic Assumptions

Lakeshore East Line

Guildwood GO

Station Area Characteristics			
Development Potential	High		
GO Rail Ridership	**Current (2016)**	**Forecast (2031)**	
Daily Riders' Home Station	1,225	Average (2,001-4,000)	
Daily Riders' Destination Station	25	Low (26-250)	
Facility Type and Capacity	**Current (2015)**	**Recommended Target (2031)**	
Rapid Transit Connectivity	Not Applicable	West: Develop connection to future Eglinton Crosstown East LRT station.	
Bus Facilities	South: On-street bus stops with shelters on Kingston Rd.	South: Enhance on-street facilities to improve integration.	
Bike Parking	South: 38 covered spaces.	North: Add 24 secure spaces. South: Add 28 covered spaces. Total: 90 spaces.	
Pick up/drop off Facilities	North: 30 vehicle waiting area in 6 lanes with 6 vehicle passenger loading area South: 8 vehicle waiting area and 4 vehicle passenger loading area.	North: Modify to 16 vehicle waiting area configured as short-term parking with 4 vehicle passenger loading area. South: Modify to 16 vehicle waiting area configured as short-term parking with 4 vehicle passenger loading area.	
Vehicular Parking	North: 660 surface spaces. South: 228 surface spaces. Total: 988 spaces at 71-80% utilization.	No parking expansion recommended.	
Station Access Mode	**Current Modal Split (2015) %**	**Target Modal Split (2031) %**	**Recommended Improvements**
Walking	10	14-16	• Short-term: Work with the City of Toronto to explore options for improving the pedestrian connection between Kingston Rd. and the primary station entrance. • Medium-term: Consider providing a direct pedestrian and cycling connection between the south parking lot entrance and the east tunnel entrance. • Medium-term: Consider enhancing the cycling and pedestrian connection along the primary entrance road to the north parking lot (aligned with Celeste Dr.) and reduce conflicts with vehicular traffic. • Medium-term: Consider expanding the pedestrian path immediately north of the GO corridor, heading east Payzac Ave. and improve the connection to Payzac Ave.

Lakeshore East Line

Local Transit	1	18-20	• Short-term: Work in coordination with the GTHA Fare Integration process to reduce or eliminate transfer fares between TTC and GO. • Medium-term: Work with TTC to explore options to improve service along Guildwood and West Hill neighbourhoods via Livingston Rd. to enable the high density of GO riders to the south-east of the GO station to have a more direct connection to GO service. If approved, work with the City of Toronto to explore bus shelters on both sides of the intersection of Livingston Rd. and West Lake Rd. and appropriate wayfinding and signage. • Medium-term: Engage with TTC to explore options for providing improved connections to the communities immediately southeast of the GO station along West Lake Rd. and north along Galloway Rd. returning to its current route along Kingston Rd. This proposed re-routing would enable the high density of GO riders to the north-east of the GO station to have a more direct connection to GO service. If approved, ensure that bus shelters and laybys are built on both sides of West Lake Rd. adjacent to the entrance to the GO station site. • Long-term: Work with the City of Toronto and Eglinton Crosstown East LRT East team to identify design solutions that would allow for a direct, convenient and comfortable transfer of passengers between the proposed LRT station and GO side platforms on both north and south sides of the corridor.
Cycling	1	2-4	• Medium-term: Consider integrate a secure bike parking facility adjacent to the primary station building and bike shelter adjacent to the south entrance to the east tunnel. • Medium-term: Encourage the City of Toronto to improve wayfinding and signage to the GO station along the local street network and multi-use trails in the Guildwood neighbourhood to the south of the GO station. • Medium-term: Encourage the City of Toronto to develop a bike lane along Celeste Drive and across Kingston Rd. into the GO station site. • Long-term: Encourage the City of Toronto to develop a multi-use path across the southern edge of Galloway Park and consider developing a connection to Cultra Square. This will provide direct cycling access to residential communities to the east of the GO station. • Long-term: Encourage the City of Toronto to develop cycling and pedestrian link between the trail system in Highland Creek Park and Celeste Dr. • Long-term: Encourage the City of Toronto to identify cycling improvements to West Lake Rd. from Kingston Rd. to the GO

			station site. This will allow for improved integration with a proposed bike lane along Kingston Rd.
 Pick up/drop off	19	20-22	• Short-term: Expand pick up/drop off facility on the south parking lot as part of the proposed implementation of the modified reserved, carpool, and EV parking program. • Medium-term: Consider reductions to the pick up/drop off facility to the north as part of a future joint-development project on the west half of the north parking lot. • Medium-term: Consider ride-sourcing partnerships to provide drive & park customers with alternatives at this station. • Long-term: Consider an on-street pick up/drop off solution as part of a future joint-development project on the east half of the north parking lot.
 Drive & Park	65	40-42	• Short-term: Consider implementing the modified reserved, carpool, and EV parking program on all parking spaces on the south parking lot (appx. 228 spaces). • Medium-term: Consider providing information about available peer-to-peer parking options around this station to GO rail customers. • Medium-term: Consider implementing the modified reserved, carpool and EV parking program on all remaining parking spaces (excluding accessible spaces) at this station (appx. 668 spaces). • Long-term: Consider joint development opportunities on the west half of the north parking lot (appx. 330 spaces) if lost parking can be partially off-set using alternative parking solutions (e.g. modular parking on the remaining north parking lot).
 Carpool Passengers	3	6-8	
Updates			

TMCs (not used)

Intersection	Movement	02-Sep-17		07-Nov-19		24-Nov-22		28-Nov-24	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
	NBL	19	27	17	26	18	13	32	50
	NBT	9	30	7	42	7	22	30	77
	NBR	36	97	41	125	47	56	68	169
	SBL	9	11	11	7	15	4	8	12
Kingston Road	SBT	49	5	38	7	32	6	80	31
&	SBR	37	20	28	18	34	26	30	19
Celeste Drive	EBL	18	35	21	37	14	28	22	32
/Guildwood GO	EBT	1005	2028	976	1777	751	1390	847	1546
	EBR	25	22	28	14	23	14	21	39
	WBL	210	37	186	53	140	30	234	60
	WBT	2130	1123	1611	1115	1591	1026	1436	1009
	WBR	8	17	10	11	8	10	12	14
	Inbound	284	64	252	74	195	50	335	130
	Outbound	64	154	65	193	72	91	130	296

2025 - Balanced		Distribution	
PM Peak	AM Peak	AM Peak	PM Peak
32	50	24%	17%
30	77	23%	26%
74	169	54%	57%
9	12		
80	31	23%	23%
30	19		
22	35		
920	1702		
21	43	6%	30%
256	66	71%	47%
1570	1102		
13	15		
357	140		
136	296		

	AM Peak Hour		PM Peak Hour	
Year	Inbound	Outbound	Inbound	Outbound
2017	284	64	64	154
2019	252	65	74	193
2022	195	72	50	91
2024	335	130	130	296
Calcualated Growth Rates (Linear):	0.96%	6.41%	5.17%	4.01%

CAGR	Linear
Auto Growth	Auto Growth
6.00%	0.88%

Years	Years
2024	2024
2030	2030
6	6
1.42	1.05

2030 GO Station Growth		2030 GO Station Volumes	
AM Peak	PM Peak	AM Peak	PM Peak
13	21	45	71
13	32	43	109
28	71	102	240
33	13	113	44
9	16	30	59
98	25	354	91
140	54	497	194
54	124	190	420
	Pick-Up	190	194
	Auto Driver	307	226

GO Rail Station Access Plan - Guildwood GO (p. 225-227)

Year	Home Station Riders	Destination Station Riders	Total
2016	1225	25	1250
2031	4000	250	4250
Calcualated Growth Rates (Linear):	-	-	4.71%
Calcualated Growth Rates (CAGR):	-	-	8.50%
Applied Growth Rates:	-	-	8.50%

Mode	2015 Mode Split	2031 Target Mode Split (Low)	2031 Target Mode Split (High)	2031 Target Mode Average
Walking	10%	14%	16%	15%
Local Transit	1%	18%	20%	19%
Cycling	1%	2%	4%	3%
Pick-up/Drop-off	19%	20%	22%	21%
Drive and Park	65%	40%	42%	35%
Carpool Passengers	3%	6%	8%	7%

Year	Auto Driver + PUDO
2015	84%
2031	56%
Calcualated Growth Rates (Linear):	-3.13%
Calculated Growth Rates (CAGR):	-2.50%
Applied Growth Rates:	-2.50%

Applied Mode Split			Trips	
			AM	PM
Auto Driver	35%	63%	317	323
Auto Passenger	7%	16%	63	65
Pick-up/Drop-off (PUDO)	21%	38%	190	194
Transit	19%	43%	172	176
Walk	15%	34%	136	139
Cycle	3%	7%	27	28
Total Person	100%		905	924
Total Auto Driver	56%		507	517

Revised Trips		Revised Trips - Mode Split			
AM	PM	AM	PM		
307	226	34%	24%	1%	11%
65	80	7%	9%	0%	-2%
190	194	21%	21%	0%	0%
176	217	19%	23%	0%	-4%
139	172	15%	19%	0%	-4%
28	34	3%	4%	0%	-1%
905	924				
497	420				

APPENDIX F

TTS and RapidTO Mode Split and Distribution Data

Table B.1 Baseline Weekday AM Peak Period Mode Share and Vehicle Occupancy Examples

Land Use	Location	Area Type[1]	Develop-ment Units[2]	ITE LUC	Inbound									Outbound									Source
					Mode Shares									Mode Shares									
					Personal Passenger Vehicle	Truck	Walk	Transit	Bike	Vehicle Occ.	Sample Size	Personal Passenger Vehicle	Truck	Walk	Transit	Bike	Vehicle Occ.	Sample Size	
Apartments	Falmouth, ME	5	173 DU	220	82	18	0	0	0	1.22	23	98	2	0	0	0	1.10	128	Kevin Hooper Assoc.
Apartments	Mt. Pleasant, SC	6	240 DU	220	92	0	8	0	0	1.02	49	96	0	4	0	0	1.06	126	Iteris, Inc.
Apartments	Oklahoma City, OK	6	360 DU	220	88	12	0	0	0	1.05	39	99	1	0	0	0	1.07	145	Traffic Engr. Consultants
Apartments	Tampa, FL	6	278 DU	220	93	6	0	0	1	1.14	46	95	2	1	0	2	1.14	153	Parsons Brinkerhoff
Apartments	Tampa, FL	6	317 DU	220	90	2	6	2	0	1.23	40	97	1	1	0	1	1.09	158	Parsons Brinkerhoff
Apartments	Tampa, FL	6	689 DU	220	90	4	6	0	0	1.12	73	96	0	3	0	1	1.08	314	Parsons Brinkerhoff
	Simple average				89.2	7.0	3.3	0.3	0.2	1.13		96.8	1.0	1.5	0.0	0.7	1.09		
Motel	College Station, TX	5	133 rooms	320	91	3	3	3	0	1.29	33	96	1	2	1	0	1.32	116	Texas A&M University
Motel	College Station, TX	5	*68 rooms*	320	90	0	10	0	0	1.21	19	95	5	0	0	0	1.25	77	Texas A&M University
Motel	College Station, TX	5	*79 rooms*	320	96	0	4	0	0	1.29	23	99	1	0	0	0	1.20	66	Texas A&M University
	Simple average				92.3	1.0	5.7	1.0	0.0	1.26		96.7	2.3	0.7	0.3	0.0	1.26		
Bowling alley	College Station, TX	5	73,000	437	94.0	3	3	0	0	1.13	71	100	0	0	0	0	1.00	8	TX A&M Transp. Inst.
	Simple average				94.0	3.0	3.0	0.0	0.0	1.13		100.0	0.0	0.0	0.0	0.0	1.00		
Office	Falmouth, ME	6	178,000	710	97	2	0	1	0	1.06	438	90	10	0	0	0	1.06	39	Kevin Hooper Assoc.
	Simple average				97.0	2.0	0.0	1.0	0.0	1.06		90.0	10.0	0.0	0.0	0.0	1.06		
Shopping center[3]	Bryan, TX	5	*110,000*	820	100	0	0	0	0	1.19	179	100	0	0	0	0	1.19	130	TX A&M Transp. Inst.
Shopping center[3]	College Station, TX	5	*116,000*	820	100	0	0	0	0	1.14	233	100	0	0	0	0	1.13	210	TX A&M Transp. Inst.
	Simple average				100.0	0.0	0.0	0.0	0.0	1.17		100.0	0.0	0.0	0.0	0.0	1.16		

[1] Area types: (0a) regional CBD, (0b) outlying CBD, (1) urban core, (2) activity center, (3) general urban, (4) suburban business district, (5) suburban strip commercial, (6) general suburban, (7) special district, (8) rural town business district, (9) rural, (C) adjacent to university campus, (M) within larger mixed-use development, (Ta) rail transit station within 1/4 mile, (To) rail station immediately adjacent or connected-TOD

[2] Development units in gross square feet of floor area unless otherwise indicated. Italics denote *occupied* development units.

[3] Anchored by large grocery store.

Table B.2 Baseline Weekday PM Peak Period Mode Share and Vehicle Occupancy Examples

Land Use	Location	Area Type[1]	Develop-ment Units[2]	ITE LUC	Inbound								Outbound								Source
					Mode Shares								Mode Shares								
					Personal Passenger Vehicle	Truck	Walk	Transit	Bike	Vehicle Occ.	Sample Size		Personal Passenger Vehicle	Truck	Walk	Transit	Bike	Vehicle Occ.	Sample Size	
Apartments	Falmouth, ME	5	173 DU	220	96	3	1	0	0	1.15	126		96	4	0	0	0	1.14	189	Kevin Hooper Assoc.
Apartments	Mt. Pleasant, SC	6	240 DU	220	93	1	4	1	1	1.15	124		87	1	12	0	0	1.08	68	Iteris, Inc.
Apartments	Oklahoma City, OK	6	360 DU	220	100	0	0	0	0	1.10	186		99	1	0	0	0	1.24	78	Traffic Engr. Consultants
Apartments	Tampa, FL	6	278 DU	220	97	1	1	0	1	1.20	138		97	2	1	0	0	1.30	58	Parsons Brinkerhoff
Apartments	Tampa, FL	6	317 DU	220	98	0	1	0	1	1.14	614		96	0	3	0	1	1.26	96	Parsons Brinkerhoff
Apartments	Tampa, FL	6	689 DU	220	94	1	4	0	1	1.14	317		93	1	5	0	1	1.22	190	Parsons Brinkerhoff
Simple average					96.3	1.0	1.8	0.2	0.7	1.15			94.7	1.5	3.5	0.0	0.3	1.21		
Motel	College Station, TX	5	133 rooms	320	94	2	4	0	0	1.33	67		98	2	0	0	0	1.55	51	Texas A&M University
Motel	College Station, TX	5	*68 rooms*	320	93	7	0	0	0	1.12	28		87	7	7	0	0	1.08	15	Texas A&M University
Motel	College Station, TX	5	*79 rooms*	320	100	0	0	0	0	1.47	44		100	0	0	0	0	1.26	29	Texas A&M University
Simple average					95.7	3.0	1.3	0.0	0.0	1.31			95.0	3.0	2.3	0.0	0.0	1.30		
Bowling alley	College Station, TX	5	73.000	437	100	0	0	0	0	1.27	75		100	0	0	0	0	1.33	27	TX A&M Transp. Inst.
Simple average					100	0	0	0	0	1.27			100	0	0	0	0	1.33		
Office	Falmouth, ME	6	178.000	710	96	4	0	0	0	1.11	47		98	1	1	0	0	1.07	452	Kevin Hooper Assoc.
Simple average					96	4	0	0	0	1.11			98	1	1	0	0	1.07		
Shopping center[3]	Bryan, TX	5	*153.000*	820	100	0	0	0	0	1.19	198		100	0	0	0	0	1.19	229	TX A&M Transp. Inst.
Shopping center[4]	Bryan, TX	5	*110.000*	820	100	0	0	0	0	1.22	666		100	0	0	0	0	1.20	498	TX A&M Transp. Inst.
Shopping center[4]	College Station, TX	5	*116.000*	820	100	0	0	0	0	1.21	362		100	0	0	0	0	1.23	274	TX A&M Transp. Inst.
Shopping center	Mt. Pleasant, SC	5	68.000	820	100	0	0	0	0	1.27	286		100	0	0	0	0	1.16	258	Iteris, Inc.
Shopping center[4]	Falmouth, ME	6	48.800	820	100	0	0	0	0	1.16	665		99	1	0	0	0	1.14	663	Kevin Hooper Assoc.
Simple average					100	0	0	0	0	1.21			99.8	0.2	0	0	0	1.18		
Bank	Prospect, KY	5	2.500	912	100	0	0	0	0	1.11	19		100	0	0	0	0	1.16	21	Jacobs Engr. Group
Simple average					100	0	0	0	0	1.11			100	0	0	0	0	1.16		
Quality restaurant	Oklahoma City, OK	6	5.000	931	100	0	0	0	0	1.62	105		100	0	0	0	0	1.52	54	Traffic Engr. Consultants
High turn restaurant	Mt. Pleasant, SC	6	8.150	932	100	0	0	0	0	1.33	151		97	3	0	0	0	1.34	39	Iteris, Inc.
Drive-thru restaurant	Prospect, KY	5	2.800	934	96	0	4	0	0	1.27	135		96	0	4	0	0	1.30	139	Jacobs Engr. Group
Simple average					98.7	0.0	1.3	0.0	0.0	1.41			97.7	1.0	1.3	0.0	0.0	1.39		

[1] Area types: (0a) regional CBD, (0b) outlying CBD, (1) urban core, (2) activity center, (3) general urban, (4) suburban business district, (5) suburban strip commercial, (6) general suburban, (7) special district, (8) rural town business district, (9) rural, (C) adjacent to university campus, (M) within larger mixed-use development, (Ta) rail transit station within 1/4 mile, (To) rail station immediately adjacent or connected-TOD

[2] Development units in gross square feet of floor area unless otherwise indicated. Italics denote *occupied* development units.

[3] Anchored by discount store.

[4] Anchored by grocery store comprising major portion of total floor area.

Table 6.1 Unconstrained Internal Person Trip Capture Rates for Trip Origins within a Mixed-Use Development

		WEEKDAY	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Retail	28%	20%
	To Restaurant	63%	4%
	To Cinema/Entertainment	0%	0%
	To Residential	1%	2%
	To Hotel	0%	0%
From RETAIL	To Office	29%	2%
	To Restaurant	13%	29%
	To Cinema/Entertainment	0%	4%
	To Residential	14%	26%
	To Hotel	0%	5%
From RESTAURANT	To Office	31%	3%
	To Retail	14%	41%
	To Cinema/Entertainment	0%	8%
	To Residential	4%	18%
	To Hotel	3%	7%
From CINEMA/ENTERTAINMENT	To Office	0%	2%
	To Retail	0%	21%
	To Restaurant	0%	31%
	To Residential	0%	8%
	To Hotel	0%	2%
From RESIDENTIAL	To Office	2%	4%
	To Retail	1%	42%
	To Restaurant	20%	21%
	To Cinema/Entertainment	0%	0%
	To Hotel	0%	3%
From HOTEL	To Office	75%	0%
	To Retail	14%	16%
	To Restaurant	9%	68%
	To Cinema/Entertainment	0%	0%
	To Residential	0%	2%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 99 and 100, 2011.

Table 6.2 Unconstrained Internal Person Trip Capture Rates for Trip Destinations within a Mixed-Use Development

		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Retail	4%	31%
	From Restaurant	14%	30%
	From Cinema/Entertainment	0%	6%
	From Residential	3%	57%
	From Hotel	3%	0%
To RETAIL	From Office	32%	8%
	From Restaurant	8%	50%
	From Cinema/Entertainment	0%	4%
	From Residential	17%	10%
	From Hotel	4%	2%
To RESTAURANT	From Office	23%	2%
	From Retail	50%	29%
	From Cinema/Entertainment	0%	3%
	From Residential	20%	14%
	From Hotel	6%	5%
To CINEMA/ENTERTAINMENT	From Office	0%	1%
	From Retail	0%	26%
	From Restaurant	0%	32%
	From Residential	0%	0%
	From Hotel	0%	0%
To RESIDENTIAL	From Office	0%	4%
	From Retail	2%	46%
	From Restaurant	5%	16%
	From Cinema/Entertainment	0%	4%
	From Hotel	0%	0%
To HOTEL	From Office	0%	0%
	From Retail	0%	17%
	From Restaurant	4%	71%
	From Cinema/Entertainment	0%	1%
	From Residential	0%	12%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 101 and 102, 2011.

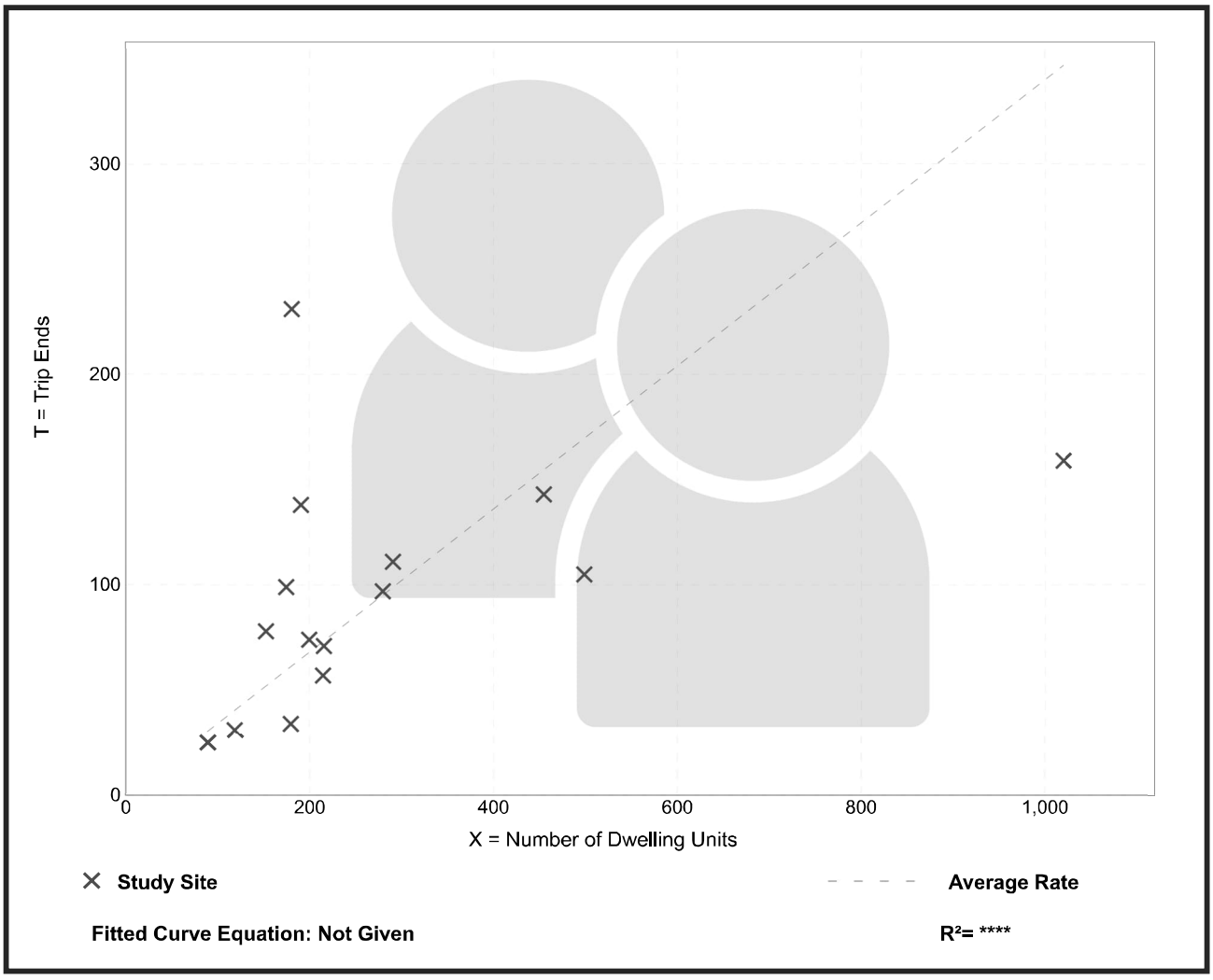
Multifamily Housing (High-Rise)
Not Close to Rail Transit (222)

Person Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 15
Avg. Num. of Dwelling Units: 284
Directional Distribution: 25% entering, 75% exiting

Person Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.34	0.16 - 1.28	0.25

Data Plot and Equation



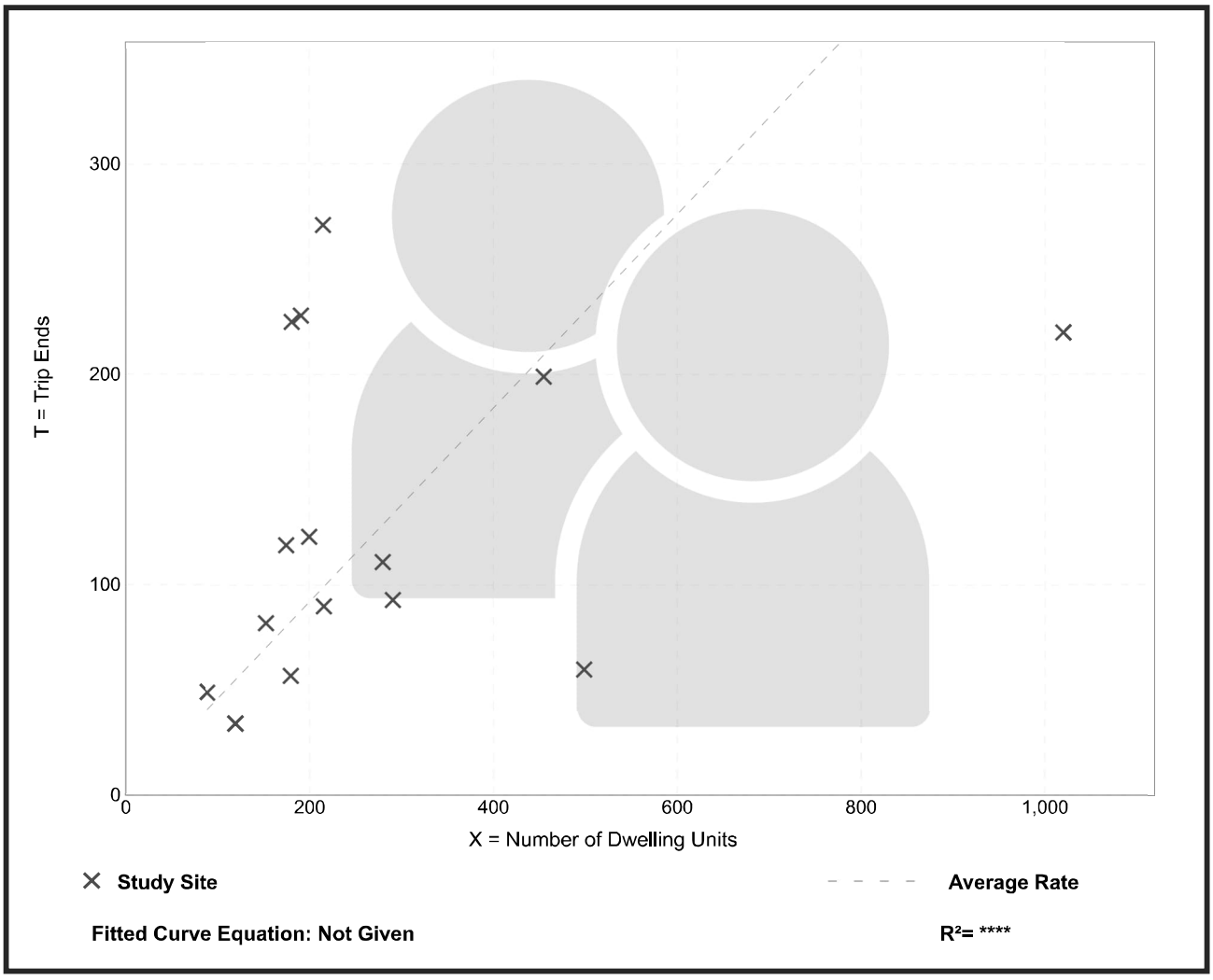
Multifamily Housing (High-Rise)
Not Close to Rail Transit (222)

Person Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	15
Avg. Num. of Dwelling Units:	284
Directional Distribution:	66% entering, 34% exiting

Person Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.46	0.12 - 1.26	0.35

Data Plot and Equation



Strip Retail Plaza (<40k)
(822)

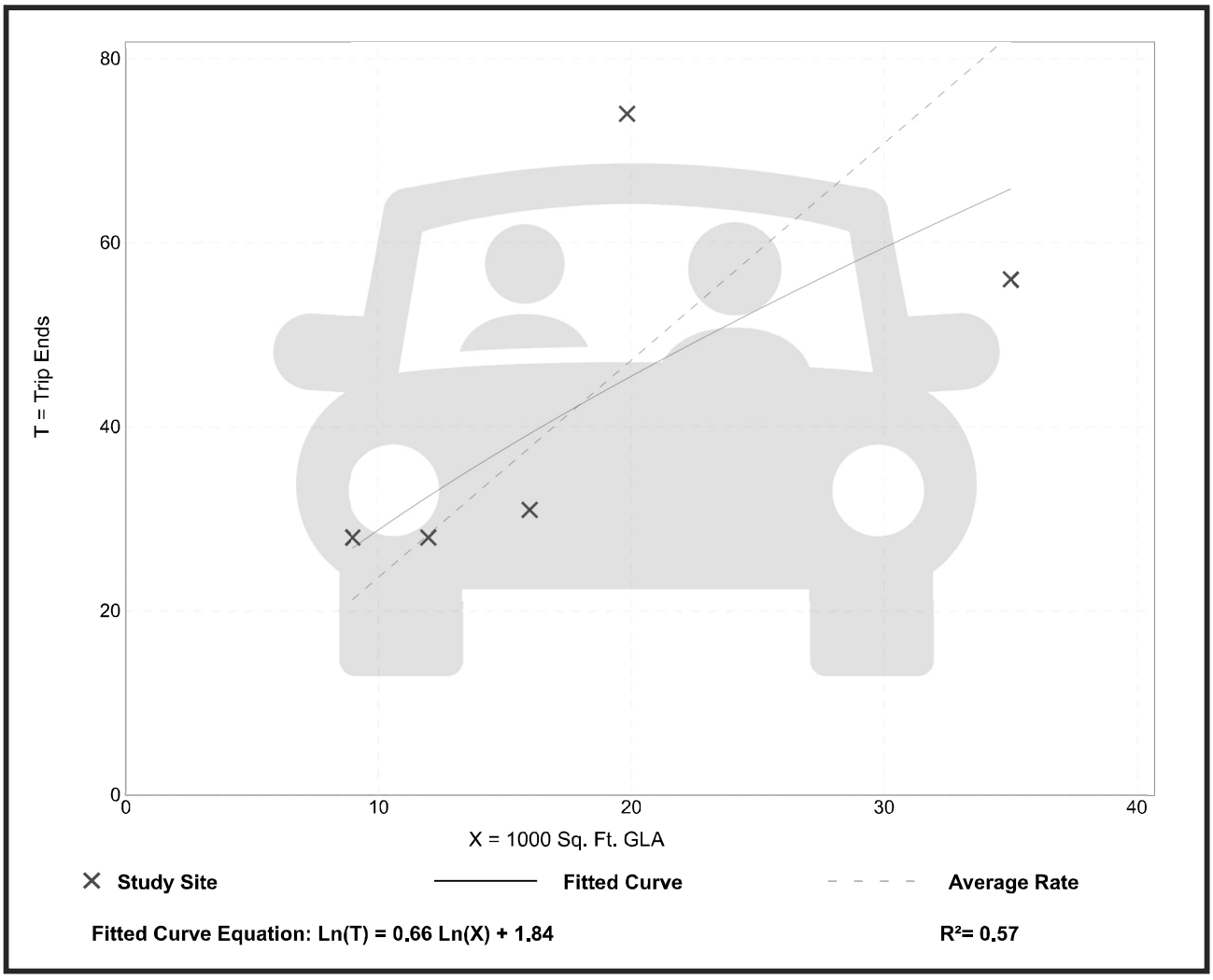
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Ln(T) = 0.66 Ln(X) + 1.84

R^2= 0.57

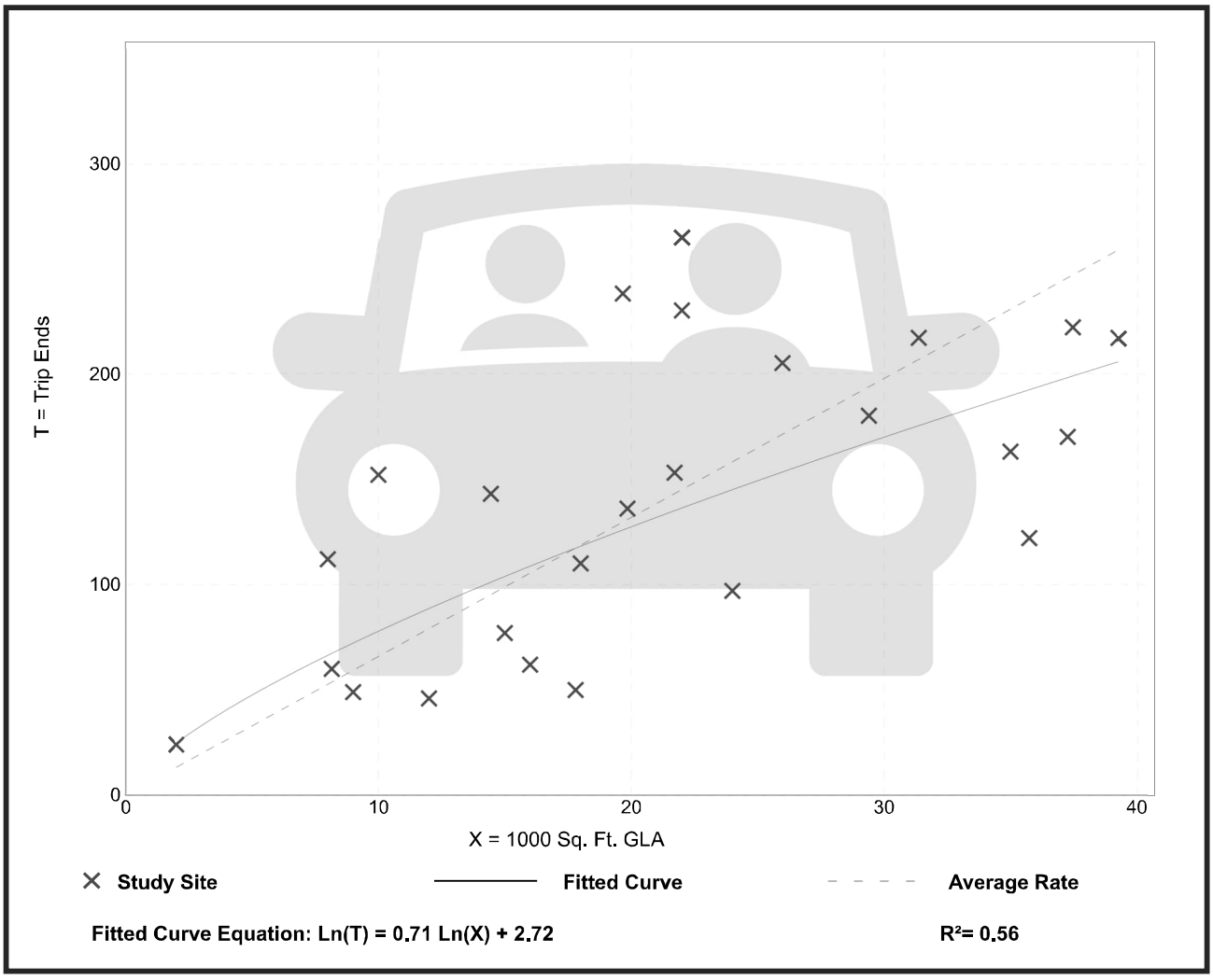
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.72

R^2= 0.56

Mode Split for Residential Trips

Fri Aug 29 2025 11:17:34 GMT-0400 (Eastern Daylight Time) - Run Time: 1919ms

Cross Tabulation Query Form - Trip - 2022

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

Filters:
(2022 TTS zone of household - tts22_hhld In 1585-1591
and
Trip purpose - trip_purp I1,2

Trip 2022
Table:

	Transit excluding GO rail	Cycle	Auto driver	GO rail only	Joint GO rail and local transit	Auto passenger	School bus	Paid rideshare	Walk
House	2246	11	4203	130	171	1304	220	45	1108
Apartment	915	49	713	63	65	14	0	0	29
Townhouse	1249	0	553	208	94	648	0	0	260
SUM	4410	60	5469	401	330	1966	220	45	1397
								GRAND SUM	14298

Mode	%
Auto Driver	38%
Auto Passenger	14%
Paid Rideshare/Taxi	0%
Transit	38%
Pedestrian	10%
Cycling	0%
Total	100%

Mode Split for Retail Trips

Wed Aug 27 2025 09:53:18 GMT-0400 (Eastern Daylight Time) - Run Time: 2180ms

Cross Tabulation Query Form - Trip - 2022

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

Filters:
(2022 TTS zone of household - tts22_hhld In 1585-1591
and
Trip purpose - trip_purp In 1,3,4

Trip 2022
Table:

	Transit excluding GO rail	Cycle	Auto driver	E-scooter	GO rail only	Joint GO rail and local transit	Motorcycle	Auto passenger	School bus	Taxi passenger	Paid rideshare	Walk
House	1869	50	14087	15	130	199	112	4116	42	14	51	1186
Apartment	1316	0	5018	0	36	122	0	1222	0	0	0	981
Townhouse	1306	0	2327	0	208	44	0	834	0	0	120	641
SUM	4491	50	21432	15	374	365	112	6172	42	14	171	2808
											GRAND SUM	35934

Mode	%
Auto Driver	60%
Auto Passenger	17%
Paid Rideshare/Taxi	0%
Transit	15%
Pedestrian	8%
Cycling	0%
Total	100%

Wed Aug 27 2025 10:23:41 GMT-0400 (Eastern Daylight Time) - Run Time: 3237ms

Cross Tabulation Query Form - Trip - 2022

Row: Planning district of origin - pd_orig
Column: 2022 TTS zone of destination - tts22_dest

Filters:
(2022 TTS zone of destination - tts22_dest In 1585-1591
and
2022 Trip purpose of destination - purp_dest2022 In 80
and
Start time of trip - start_time In 1500-1900
and
Primary travel mode of trip - mode_prime In D,M,P,T,U

Trip 2022
Table:

Origin	Destination							Trips from Origin	Trip Distribution		Trip Assignment					
	1585	1586	1587	1588	1589	1590	1591		Distribution	Direction From	From East	From West	From North	From South	-	Assignment
PD 1 of Toronto	36	68	86	0	5	16	136	347	7%	W		7%			DVP, Gardiner	EB Eglinton, EB Kingston
PD 2 of Toronto	0	11	0	0	0	0	0	11	0%	W		0%			DVP, Gardiner	EB Eglinton, EB Kingston
PD 3 of Toronto	0	0	0	0	17	0	20	37	1%	W		1%			401	SB Morningside, WB Kingston
PD 4 of Toronto	0	17	0	0	33	0	9	59	1%	W		1%				EB Eglinton, EB Kingston
PD 5 of Toronto	0	0	13	0	0	0	104	117	2%	W		2%				EB Lawrence, SB Celeste
PD 6 of Toronto	0	50	22	0	78	166	0	316	6%	W		6%				EB Kingston
PD 7 of Toronto	0	0	13	0	0	0	0	13	0%	W		0%			DVP, Gardiner	EB Eglinton, EB Kingston
PD 9 of Toronto	0	0	12	0	0	0	0	12	0%	W		0%			401, 427/403	SB Markham, EB Kingston
PD 10 of Toronto	0	0	0	0	6	0	0	6	0%	W		0%			401, 427/403	SB Markham, EB Kingston
PD 11 of Toronto	0	14	0	0	0	0	0	14	0%	W		0%			401, 427/403	SB Markham, EB Kingston
PD 12 of Toronto	0	0	0	0	0	40	0	40	1%	W		1%			401, 427/403	SB Markham, EB Kingston
PD 13 of Toronto	36	149	181	52	391	61	96	966	18%	W		9%				EB Eglinton, EB Kingston
										W		9%				EB Lawrence, SB Celeste
PD 14 of Toronto	35	375	515	0	33	5	163	1126	21%	W		21%				EB Kingston
PD 15 of Toronto	30	126	147	22	61	321	213	920	17%	E	17%					WB Kingston
PD 16 of Toronto	0	0	178	0	31	20	85	314	6%	N			6%		401	SB Morningside, WB Kingston
Pickering	0	106	118	0	5	9	44	282	5%	E	5%				401	WB Kingston
Ajax	0	23	8	0	60	0	0	91	2%	E	2%				401	WB Kingston
Whitby	0	0	42	0	0	58	30	130	2%	E	2%				401	WB Kingston
Oshawa	0	0	33	0	0	0	0	33	1%	E	1%				401	WB Kingston
Aurora	0	0	0	0	0	0	41	41	1%	N			0%		401, 404	SB Morningside, WB Kingston
										N			0%		401, 404	SB Markham, EB Kingston
Richmond Hill	0	0	0	0	21	0	0	21	0%	N			0%		401, 404	SB Morningside, WB Kingston
										N			0%		401, 404	SB Markham, EB Kingston
Whitchurch-Stouffville	0	0	0	0	0	40	0	40	1%	N			0%		401, 404	SB Morningside, WB Kingston
										N			0%		401, 404	SB Markham, EB Kingston
Markham	0	0	0	0	21	0	76	97	2%	N			2%		401	SB Morningside, WB Kingston
Vaughan	0	0	0	0	5	24	53	82	2%	W		1%			401, 400	SB Morningside, WB Kingston
										W		1%			401, 400	SB Markham, EB Kingston
Mississauga	0	25	81	0	14	40	0	160	3%	W		2%			401, 427/403	SB Morningside, WB Kingston
										W		2%			401, 427/403	SB Markham, EB Kingston
Essa	0	0	12	0	0	0	0	12	0%	N			0%		401, 400	SB Morningside, WB Kingston
Cavan Monaghan	0	21	0	0	0	0	0	21	0%	E	0%				401	WB Kingston
Alnwick/Haldimand	0	0	11	0	0	0	0	11	0%	W		0%			401, 403, QEW	SB Morningside, WB Kingston
								5319	100%	TOTAL	28%	62%	10%	0%		100%

Wed Aug 27 2025 10:25:51 GMT-0400 (Eastern Daylight Time) - Run Time: 3172ms

Cross Tabulation Query Form - Trip - 2022

Row: Planning district of destination - pd_dest
Column: 2022 TTS zone of origin - tts22_orig

Filters:
(2022 TTS zone of origin - tts22_orig In 1585-1591
and
2022 Trip Purpose of Origin - purp_orig2022 In 80
and
Start time of trip - start_time In 600-1000
and
Primary travel mode of trip - mode_prime In D,M,P,T,U

Trip 2022
Table:

Destination	Origin							Trips to Destination	Trip Distribution		Trip Assignment					
	1585	1586	1587	1588	1589	1590	1591		Distribution	Direction To	To East	To West	To North	To South	-	Assignment
PD 1 of Toronto	36	72	126	0	39	16	119	408	7%	W		7%			DVP, Gardiner	WB Kingston, WB Eglinton
PD 2 of Toronto	0	23	0	0	0	0	46	69	1%	W		1%			DVP, Gardiner	WB Kingston, WB Eglinton
PD 3 of Toronto	0	0	0	0	17	73	20	110	2%	W		2%			401	EB Kingston, NB Morningside
PD 4 of Toronto	0	142	0	0	7	0	0	149	3%	W		3%				WB Kingston, WB Eglinton
PD 5 of Toronto	0	53	13	0	11	0	104	181	3%	W		3%				NB Celeste, WB Lawrence
PD 6 of Toronto	0	39	0	0	78	0	0	117	2%	W		2%				WB Kingston
PD 7 of Toronto	0	0	0	0	0	0	17	17	0%	W		0%			DVP, Gardiner	WB Kingston, WB Eglinton
PD 8 of Toronto	0	0	8	0	0	0	0	8	0%	W		0%			401, 427	EB Kingston, NB Morningside
PD 9 of Toronto	0	0	12	0	0	0	0	12	0%	W		0%			401, 427/403	WB Kingston, NB Markham
PD 10 of Toronto	0	0	20	0	78	0	0	98	2%	W		2%			401, 427/403	WB Kingston, NB Markham
PD 11 of Toronto	31	14	7	0	0	0	0	52	1%	W		1%			401, 427/403	WB Kingston, NB Markham
PD 13 of Toronto	10	224	101	52	481	39	103	1010	17%	W		9%				WB Kingston, WB Eglinton
										W		9%				NB Celeste, WB Lawrence
PD 14 of Toronto	0	284	361	0	90	161	255	1151	20%	W		20%				WB Kingston
PD 15 of Toronto	18	145	131	0	369	346	120	1129	19%	E	19%					EB Kingston
PD 16 of Toronto	0	33	86	0	113	9	5	246	4%	N			4%		401	EB Kingston, NB Morningside
Uxbridge	0	0	21	0	0	0	0	21	0%	N			0%			EB Kingston
Pickering	0	54	55	0	0	0	118	227	4%	E	4%				401	EB Kingston
Ajax	0	0	9	0	65	0	21	95	2%	E	2%				401	EB Kingston
Whitby	0	36	57	0	0	0	13	106	2%	E	2%				401	EB Kingston
Oshawa	0	0	33	0	34	0	0	67	1%	E	1%				401	EB Kingston
Richmond Hill	0	0	0	0	21	0	16	37	1%	N			0%		401, 404	EB Kingston, NB Morningside
										N			0%		401, 404	WB Kingston, NB Markham
Markham	0	11	85	0	12	0	6	114	2%	N			2%		401	EB Kingston, NB Morningside
Vaughan	0	0	0	0	5	24	30	59	1%	W		1%			401, 400	EB Kingston, NB Morningside
										W		1%			401, 400	WB Kingston, NB Markham
Mississauga	0	36	65	0	60	40	0	201	3%	W		2%			401, 427/403	EB Kingston, NB Morningside
										W		2%			401, 427/403	WB Kingston, NB Markham
Milton	0	0	0	0	0	0	47	47	1%	W		0%			401, 427/403	EB Kingston, NB Morningside
										W		0%			401, 427/403	WB Kingston, NB Markham
Kitchener	0	0	0	0	78	0	0	78	1%	W		1%			401, 427/403	EB Kingston, NB Morningside
										W		1%			401, 427/403	WB Kingston, NB Markham
Essa	0	0	12	0	0	0	0	12	0%	N			0%		401, 400	EB Kingston, NB Morningside
Cavan Monaghan	0	21	0	0	0	0	0	21	0%	E	0%				401	EB Kingston
Severn	0	0	0	0	0	11	0	11	0%	N			0%		401, 400	EB Kingston, NB Morningside
Alnwick/Haldimand	0	0	11	0	0	0	0	11	0%	W		0%			401, 403, QEW	EB Kingston, NB Morningside
Trent Hills	0	0	0	0	0	0	35	35	1%	E	1%				401	EB Kingston
								5899	100%	TOTAL	28%	64%	7%	0%		100%

Wed Aug 27 2025 12:19:05 GMT-0400 (Eastern Daylight Time) - Run Time: 3349ms

Cross Tabulation Query Form - Trip - 2022

Row: Planning district of origin - pd_orig
Column: 2022 TTS zone of destination - tts22_dest

Filters:
(2022 TTS zone of destination - tts22_dest In 1585-1591
and
2022 Trip purpose of destination - purp_dest2022 In 41
and
Start time of trip - start_time In 1500-1900
and
Primary travel mode of trip - mode_prime In D,M,P,T,U

Trip 2022
Table:

Origin	Destination				Trips to Destination	Trip Distribution		Trip Assignment					
	1585	1586	1587	1591		Distribution	Direction To	To East	To West	To North	To South	-	Assignment
PD 14 of Toronto	16	143	0	11	170	59%	W		59%				EB Kingston
PD 15 of Toronto	0	18	100	0	118	41%	E	41%					WB Kingston
					288	100%	TOTAL	41%	59%	0%	0%		100%

Wed Aug 27 2025 12:15:21 GMT-0400 (Eastern Daylight Time) - Run Time: 2990ms

Cross Tabulation Query Form - Trip - 2022

Row: Planning district of destination - pd_dest
Column: 2022 TTS zone of origin - tts22_orig

Filters:
(2022 TTS zone of origin - tts22_orig In 1585-1591
and
2022 Trip Purpose of Origin - purp_orig2022 In 41
and
Start time of trip - start_time In 1500-1900
and
Primary travel mode of trip - mode_prime In D,M,P,T,U

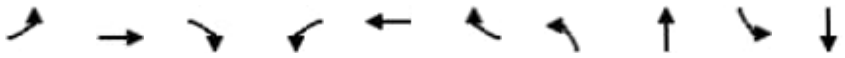
Trip 2022
Table:

Destination	Origin					Trips to Destination	Trip Distribution		Trip Assignment					
	1585	1586	1587	1589	1591		Distribution	Direction To	To East	To West	To North	To South	-	Assignment
PD 13 of Toronto	0	0	100	0	11	111	27%	W		13%				WB Kingston, WB Eglinton
								W		13%				NB Celeste, WB Lawrence
PD 14 of Toronto	16	195	0	0	0	211	51%	W		51%				WB Kingston
PD 15 of Toronto	0	19	0	0	66	85	21%	E	21%					EB Kingston
Brampton	0	0	0	7	0	7	2%	W		1%			401, 410	EB Kingston, NB Morningside
							0%	W		1%			401, 410	WB Kingston, NB Markham
						414	100%	TOTAL	21%	79%	0%	0%		100%

APPENDIX G

Intersection Capacity Analysis

Existing

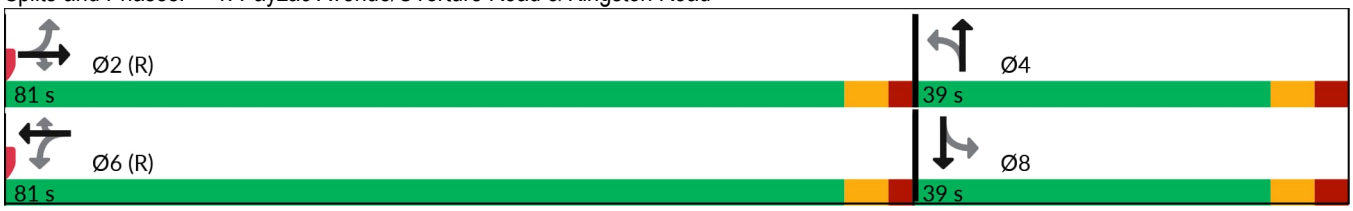


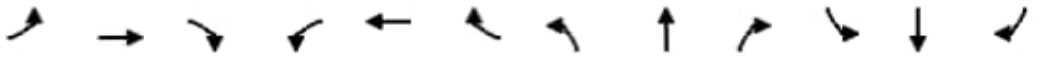
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	8	987	8	13	1803	13	18	14	13	2
Future Volume (vph)	8	987	8	13	1803	13	18	14	13	2
Lane Group Flow (vph)	8	1018	8	13	1859	13	19	22	13	21
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	27.0	27.0	27.0	27.0	27.0	27.0	7.0	7.0	7.0	7.0
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	38.0	38.0	38.0	38.0
Total Split (s)	81.0	81.0	81.0	81.0	81.0	81.0	39.0	39.0	39.0	39.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	107.5	107.5	107.5	107.5	107.5	107.5	9.1	9.1	9.1	9.1
Actuated g/C Ratio	0.90	0.90	0.90	0.90	0.90	0.90	0.08	0.08	0.08	0.08
v/c Ratio	0.06	0.34	0.01	0.03	0.60	0.01	0.21	0.17	0.14	0.19
Control Delay (s/veh)	5.6	4.1	1.3	2.1	3.8	0.1	57.3	40.3	54.7	25.9
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)	5.6	4.1	1.3	2.1	3.8	0.1	57.3	40.3	54.7	25.9
LOS	A	A	A	A	A	A	E	D	D	C
Approach Delay (s/veh)		4.1			3.7			48.2		36.9
Approach LOS		A			A			D		D
Queue Length 50th (m)	0.2	20.3	0.0	0.4	60.0	0.0	4.3	3.1	2.9	0.5
Queue Length 95th (m)	m1.6	70.5	m0.2	1.6	90.2	0.2	11.8	11.2	9.2	8.3
Internal Link Dist (m)		229.1			1142.1			209.9		118.3
Turn Bay Length (m)	20.0		75.0	25.0		80.0	15.0		10.0	
Base Capacity (vph)	130	2989	1149	403	3076	1216	324	462	327	363
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	0.06	0.34	0.01	0.03	0.60	0.01	0.06	0.05	0.04	0.06

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 39 (33%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay (s/veh): 4.9		Intersection LOS: A	
Intersection Capacity Utilization 70.2%		ICU Level of Service C	
Analysis Period (min) 15			

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

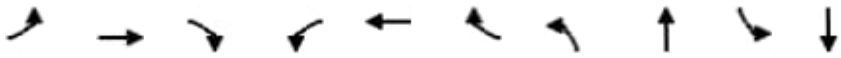
Splits and Phases: 1: Payzac Avenue/Overture Road & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	987	8	13	1803	13	18	14	8	13	2	18
Future Volume (vph)	8	987	8	13	1803	13	18	14	8	13	2	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0		6.0	6.0	
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	0.96	1.00	1.00	0.97	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95		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)	1347	3336	1278	1552	3433	1353	1506	1662		1523	1272	
Flt Permitted	0.10	1.00	1.00	0.28	1.00	1.00	0.74	1.00		0.74	1.00	
Satd. Flow (perm)	144	3336	1278	449	3433	1353	1179	1662		1191	1272	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	8	1018	8	13	1859	13	19	14	8	13	2	19
RTOR Reduction (vph)	0	0	1	0	0	2	0	8	0	0	18	0
Lane Group Flow (vph)	8	1018	7	13	1859	11	19	14	0	13	3	0
Confl. Peds. (#/hr)	5		10	10		5	7		5	5		7
Heavy Vehicles (%)	25%	7%	13%	8%	4%	8%	11%	0%	17%	10%	0%	28%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	101.7	101.7	101.7	101.7	101.7	101.7	5.3	5.3		5.3	5.3	
Effective Green, g (s)	102.7	102.7	102.7	102.7	102.7	102.7	6.3	6.3		6.3	6.3	
Actuated g/C Ratio	0.86	0.86	0.86	0.86	0.86	0.86	0.05	0.05		0.05	0.05	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0		7.0	7.0	
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)	123	2855	1093	384	2938	1157	61	87		62	66	
v/s Ratio Prot		0.31			c0.54			0.01			0.00	
v/s Ratio Perm	0.06		0.01	0.03		0.01	c0.02			0.01		
v/c Ratio	0.07	0.36	0.01	0.03	0.63	0.01	0.31	0.17		0.21	0.05	
Uniform Delay, d1	1.3	1.8	1.3	1.3	2.7	1.3	54.8	54.3		54.5	54.0	
Progression Factor	2.10	2.09	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.3	0.0	0.2	1.0	0.0	2.9	0.9		1.7	0.3	
Delay (s)	3.7	4.1	1.3	1.4	3.8	1.3	57.7	55.2		56.2	54.3	
Level of Service	A	A	A	A	A	A	E	E		E	D	
Approach Delay (s/veh)		4.0			3.7			56.4			55.0	
Approach LOS		A			A			E			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

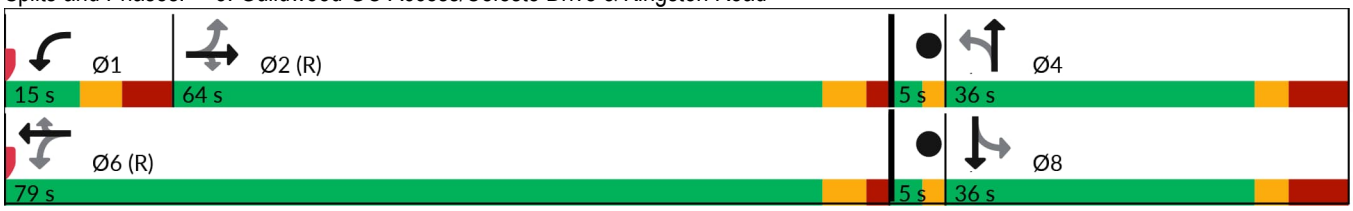


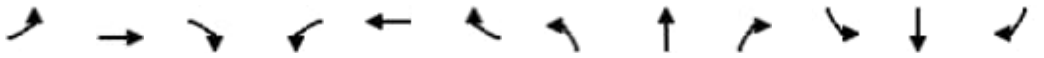
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations												
Traffic Volume (vph)	22	920	21	256	1570	13	32	30	9	80		
Future Volume (vph)	22	920	21	256	1570	13	32	30	9	80		
Lane Group Flow (vph)	22	929	21	259	1586	13	0	137	0	120		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA		
Protected Phases		2		1	6			4		8	3	7
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)	23.0	23.0	23.0	6.0	23.0	23.0	7.0	7.0	7.0	7.0	3.0	3.0
Minimum Split (s)	29.0	29.0	29.0	14.2	29.0	29.0	35.4	35.4	35.4	35.4	5.0	5.0
Total Split (s)	64.0	64.0	64.0	15.0	79.0	79.0	36.0	36.0	36.0	36.0	5.0	5.0
Total Split (%)	53.3%	53.3%	53.3%	12.5%	65.8%	65.8%	30.0%	30.0%	30.0%	30.0%	4%	4%
Yellow Time (s)	4.0	4.0	4.0	3.8	4.0	4.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.0	2.0	2.0	4.4	2.0	2.0	5.4	5.4	5.4	5.4	0.0	0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0		-1.0		
Total Lost Time (s)	5.0	5.0	5.0	7.2	5.0	5.0		7.4		7.4		
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	Max	Max
Act Effct Green (s)	66.1	66.1	66.1	86.1	88.3	88.3		14.3		14.3		
Actuated g/C Ratio	0.55	0.55	0.55	0.72	0.74	0.74		0.12		0.12		
v/c Ratio	0.17	0.49	0.03	0.61	0.62	0.01		0.67		0.57		
Control Delay (s/veh)	20.0	18.5	0.0	10.5	10.7	0.0		47.4		54.3		
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0		0.0		0.0		
Total Delay (s/veh)	20.0	18.5	0.0	10.5	10.9	0.0		47.4		54.3		
LOS	B	B	A	B	B	A		D		D		
Approach Delay (s/veh)		18.1			10.8			47.4		54.3		
Approach LOS		B			B			D		D		
Queue Length 50th (m)	2.5	68.0	0.0	22.3	113.5	0.0		20.2		24.2		
Queue Length 95th (m)	8.9	96.4	0.0	36.3	163.7	m0.0		39.1		40.9		
Internal Link Dist (m)		368.1			229.1			111.4		194.0		
Turn Bay Length (m)	35.0		85.0	25.0		85.0						
Base Capacity (vph)	130	1909	814	427	2551	901		365		408		
Starvation Cap Reductn	0	0	0	0	346	0		0		0		
Spillback Cap Reductn	0	0	0	0	0	0		0		0		
Storage Cap Reductn	0	0	0	0	0	0		0		0		
Reduced v/c Ratio	0.17	0.49	0.03	0.61	0.72	0.01		0.38		0.29		

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 66 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay (s/veh): 16.4		Intersection LOS: B	
Intersection Capacity Utilization 97.8%		ICU Level of Service F	
Analysis Period (min) 15			

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

Splits and Phases: 3: Guildwood GO Access/Celeste Drive & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	920	21	256	1570	13	32	30	74	9	80	30
Future Volume (vph)	22	920	21	256	1570	13	32	30	74	9	80	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	7.2	5.0	5.0		7.4			7.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.90	1.00	1.00	0.93		0.99			0.98	
Flpb, ped/bikes	0.99	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		0.93			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)	1420	3466	1364	1649	3466	1201		1629			1750	
Flt Permitted	0.16	1.00	1.00	0.21	1.00	1.00		0.84			0.95	
Satd. Flow (perm)	237	3466	1364	371	3466	1201		1383			1672	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	22	929	21	259	1586	13	32	30	75	9	81	30
RTOR Reduction (vph)	0	0	9	0	0	3	0	42	0	0	11	0
Lane Group Flow (vph)	22	929	12	259	1586	10	0	95	0	0	109	0
Confl. Peds. (#/hr)	18		29	29		18	62		10	10		62
Confl. Bikes (#/hr)			2			3						3
Heavy Vehicles (%)	18%	3%	0%	2%	3%	17%	6%	3%	1%	0%	0%	3%
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)	65.1	65.1	65.1	87.3	87.3	87.3		13.3			13.3	
Effective Green, g (s)	66.1	66.1	66.1	88.3	88.3	88.3		14.3			14.3	
Actuated g/C Ratio	0.55	0.55	0.55	0.74	0.74	0.74		0.12			0.12	
Clearance Time (s)	6.0	6.0	6.0	8.2	6.0	6.0		8.4			8.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	130	1909	751	432	2550	883		164			199	
v/s Ratio Prot		0.27		0.07	c0.46							
v/s Ratio Perm	0.09		0.01	0.37		0.01		c0.07			0.06	
v/c Ratio	0.17	0.49	0.02	0.60	0.62	0.01		0.58			0.55	
Uniform Delay, d1	13.3	16.5	12.2	9.0	7.7	4.2		50.0			49.8	
Progression Factor	1.00	1.00	1.00	0.85	1.15	1.00		1.00			1.00	
Incremental Delay, d2	2.8	0.9	0.0	1.8	0.9	0.0		4.9			3.0	
Delay (s)	16.1	17.4	12.2	9.5	9.8	4.2		54.9			52.8	
Level of Service	B	B	B	A	A	A		D			D	
Approach Delay (s/veh)		17.3			9.7			54.9			52.8	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

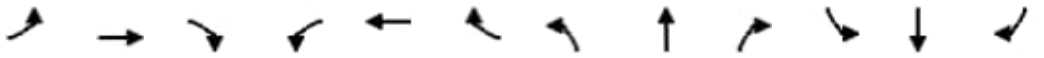
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	882	126	1470	338	317	699	180	282	42
Future Volume (vph)	882	126	1470	338	317	699	180	282	42
Lane Group Flow (vph)	919	131	1531	352	330	737	188	294	44
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	2		6		3	8	7	4	
Permitted Phases		2		6	8		4		4
Detector Phase	2	2	6	6	3	8	7	4	4
Switch Phase									
Minimum Initial (s)	37.0	37.0	37.0	37.0	6.0	47.0	6.0	47.0	47.0
Minimum Split (s)	44.0	44.0	44.0	44.0	11.0	54.0	11.0	54.0	54.0
Total Split (s)	68.0	68.0	68.0	68.0	17.0	59.0	13.0	55.0	55.0
Total Split (%)	48.6%	48.6%	48.6%	48.6%	12.1%	42.1%	9.3%	39.3%	39.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	5.0	6.0	4.0	6.0	4.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	62.0	62.0	63.0	62.0	68.0	53.0	60.0	49.0	49.0
Actuated g/C Ratio	0.44	0.44	0.45	0.44	0.49	0.38	0.43	0.35	0.35
v/c Ratio	0.61	0.21	0.99	0.49	0.70	0.57	0.70	0.26	0.09
Control Delay (s/veh)	32.0	4.4	59.1	13.0	33.7	36.7	39.2	33.2	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	32.0	4.4	59.1	13.0	33.7	36.7	39.2	33.2	2.7
LOS	C	A	E	B	C	D	D	C	A
Approach Delay (s/veh)	28.5		50.5			35.8		32.8	
Approach LOS	C		D			D		C	
Queue Length 50th (m)	100.7	0.0	218.0	25.8	57.8	84.6	29.7	30.5	0.0
Queue Length 95th (m)	122.3	11.6	#271.6	53.2	82.6	104.7	#47.0	42.2	3.5
Internal Link Dist (m)	1142.1		365.5			262.1		388.0	
Turn Bay Length (m)		80.0		145.0	55.0		75.0		
Base Capacity (vph)	1505	626	1544	719	472	1283	267	1146	483
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	0.61	0.21	0.99	0.49	0.70	0.57	0.70	0.26	0.09

Intersection Summary		
Cycle Length: 140		
Actuated Cycle Length: 140		
Offset: 51 (36%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green		
Natural Cycle: 120		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.99		
Intersection Signal Delay (s/veh): 39.9	Intersection LOS: D	
Intersection Capacity Utilization 109.9%	ICU Level of Service H	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Lawrence Avenue East & Kingston Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	882	126	0	1470	338	317	699	9	180	282	42
Future Volume (vph)	0	882	126	0	1470	338	317	699	9	180	282	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0	6.0		5.0	6.0	4.0	6.0		4.0	6.0	6.0
Lane Util. Factor		0.95	1.00		0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.91		1.00	0.92	1.00	1.00		1.00	1.00	0.92
Flpb, ped/bikes		1.00	1.00		1.00	1.00	0.98	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		3400	1249		3433	1361	1590	3389		1616	3275	1251
Flt Permitted		1.00	1.00		1.00	1.00	0.50	1.00		0.27	1.00	1.00
Satd. Flow (perm)		3400	1249		3433	1361	839	3389		453	3275	1251
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)	0	919	131	0	1531	352	330	728	9	188	294	44
RTOR Reduction (vph)	0	0	73	0	0	116	0	1	0	0	0	29
Lane Group Flow (vph)	0	919	58	0	1531	236	330	736	0	188	294	15
Confl. Peds. (#/hr)	60		68	68		60	70		40	40		70
Confl. Bikes (#/hr)			2			1			6			9
Heavy Vehicles (%)	0%	5%	10%	0%	4%	2%	4%	5%	11%	4%	9%	11%
Turn Type		NA	Perm		NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		2			6		3	8		7	4	
Permitted Phases			2			6	8			4		4
Actuated Green, G (s)		61.0	61.0		61.0	61.0	64.0	52.0		56.0	48.0	48.0
Effective Green, g (s)		62.0	62.0		63.0	62.0	66.0	53.0		58.0	49.0	49.0
Actuated g/C Ratio		0.44	0.44		0.45	0.44	0.47	0.38		0.41	0.35	0.35
Clearance Time (s)		7.0	7.0		7.0	7.0	5.0	7.0		5.0	7.0	7.0
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)		1505	553		1544	602	465	1282		262	1146	437
v/s Ratio Prot		0.27			c0.45		c0.07	0.22		0.05	0.09	
v/s Ratio Perm			0.05			0.17	c0.27			0.25		0.01
v/c Ratio		0.61	0.10		0.99	0.39	0.71	0.57		0.72	0.26	0.04
Uniform Delay, d1		29.8	22.8		38.2	26.3	27.2	34.5		30.3	32.5	29.9
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		1.9	0.4		21.0	1.9	4.9	1.9		9.0	0.5	0.2
Delay (s)		31.6	23.2		59.2	28.2	32.1	36.4		39.3	33.0	30.1
Level of Service		C	C		E	C	C	D		D	C	C
Approach Delay (s/veh)		30.6			53.4			35.1			35.0	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.9%	ICU Level of Service	H
Analysis Period (min)	15		

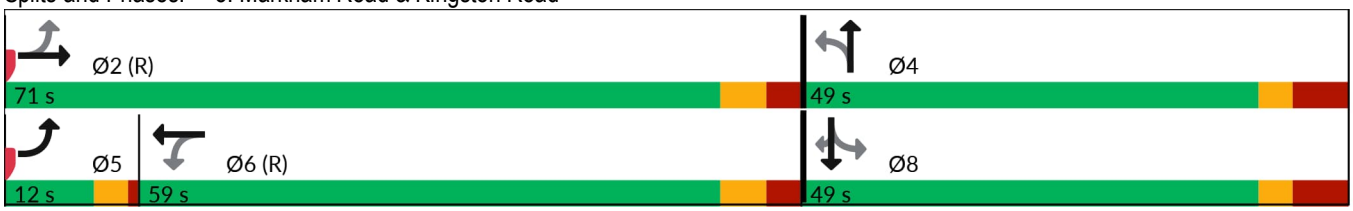
c Critical Lane Group

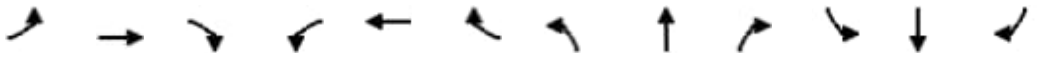
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	154	884	26	1533	76	106	61	75	218
Future Volume (vph)	154	884	26	1533	76	106	61	75	218
Lane Group Flow (vph)	162	947	27	1691	80	131	64	79	229
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6		4		8	
Permitted Phases	2		6		4		8		8
Detector Phase	5	2	6	6	4	4	8	8	8
Switch Phase									
Minimum Initial (s)	6.0	37.0	37.0	37.0	39.0	39.0	39.0	39.0	39.0
Minimum Split (s)	10.0	44.0	44.0	44.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	12.0	71.0	59.0	59.0	49.0	49.0	49.0	49.0	49.0
Total Split (%)	10.0%	59.2%	49.2%	49.2%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0	3.0	3.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?									
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	68.0	65.0	53.0	53.0	42.0	42.0	42.0	42.0	42.0
Actuated g/C Ratio	0.57	0.54	0.44	0.44	0.35	0.35	0.35	0.35	0.35
v/c Ratio	0.98	0.35	0.12	0.77	0.19	0.21	0.15	0.07	0.40
Control Delay (s/veh)	92.7	16.0	21.7	31.3	28.7	26.7	28.2	26.2	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	92.7	16.0	21.7	31.3	28.7	26.7	28.2	26.2	12.5
LOS	F	B	C	C	C	C	C	C	B
Approach Delay (s/veh)		27.2		31.2		27.5		18.1	
Approach LOS		C		C		C		B	
Queue Length 50th (m)	24.8	44.2	3.7	120.7	13.0	20.1	10.3	6.4	12.6
Queue Length 95th (m)	#68.1	53.5	10.0	139.5	25.0	34.9	20.7	11.9	33.1
Internal Link Dist (m)		387.8		660.9		305.7		459.2	
Turn Bay Length (m)	60.0		25.0		70.0		65.0		15.0
Base Capacity (vph)	166	2684	225	2185	425	624	413	1190	576
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	0.98	0.35	0.12	0.77	0.19	0.21	0.15	0.07	0.40

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 86 (72%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 105		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.98		
Intersection Signal Delay (s/veh): 28.2	Intersection LOS: C	
Intersection Capacity Utilization 128.2%	ICU Level of Service H	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Markham Road & Kingston Road

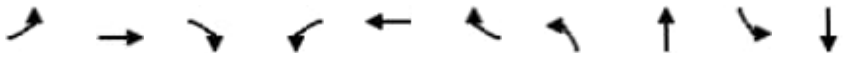




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	884	15	26	1533	73	76	106	18	61	75	218
Future Volume (vph)	154	884	15	26	1533	73	76	106	18	61	75	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0		6.0	6.0		7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.98		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)	1491	4956		1674	4940		1643	1771		1665	3400	1367
Flt Permitted	0.07	1.00		0.29	1.00		0.70	1.00		0.67	1.00	1.00
Satd. Flow (perm)	112	4956		511	4940		1216	1771		1180	3400	1367
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)	162	931	16	27	1614	77	80	112	19	64	79	229
RTOR Reduction (vph)	0	1	0	0	4	0	0	5	0	0	0	98
Lane Group Flow (vph)	162	946	0	27	1687	0	80	126	0	64	79	131
Confl. Peds. (#/hr)	16		24	24		16	18		15	15		18
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	13%	3%	13%	0%	3%	3%	1%	4%	0%	0%	5%	7%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Actuated Green, G (s)	64.0	64.0		52.0	52.0		41.0	41.0		41.0	41.0	41.0
Effective Green, g (s)	65.0	65.0		53.0	53.0		42.0	42.0		42.0	42.0	42.0
Actuated g/C Ratio	0.54	0.54		0.44	0.44		0.35	0.35		0.35	0.35	0.35
Clearance Time (s)	4.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	8.0
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)	164	2684		225	2181		425	619		413	1190	478
v/s Ratio Prot	c0.07	0.19			0.34			0.07			0.02	
v/s Ratio Perm	c0.46			0.05			0.07			0.05		c0.10
v/c Ratio	0.99	0.35		0.12	0.77		0.19	0.20		0.15	0.07	0.27
Uniform Delay, d1	32.4	15.6		19.8	28.4		27.1	27.3		26.8	26.0	28.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	66.0	0.4		1.1	2.7		1.0	0.7		0.8	0.1	1.4
Delay (s)	98.4	15.9		20.8	31.1		28.1	28.0		27.6	26.1	29.4
Level of Service	F	B		C	C		C	C		C	C	C
Approach Delay (s/veh)		28.0			31.0			28.1			28.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.2%	ICU Level of Service	H
Analysis Period (min)	15		

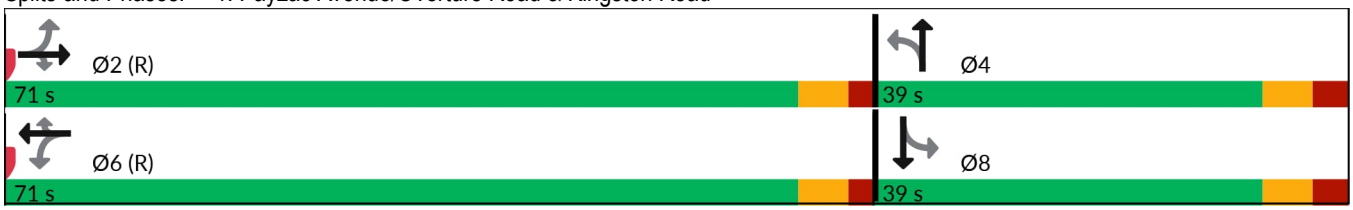
c Critical Lane Group

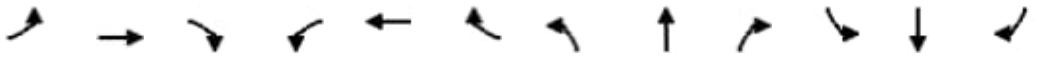


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	36	1807	40	28	1150	26	17	9	22	12
Future Volume (vph)	36	1807	40	28	1150	26	17	9	22	12
Lane Group Flow (vph)	38	1902	42	29	1211	27	18	21	23	30
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	27.0	27.0	27.0	27.0	27.0	27.0	7.0	7.0	7.0	7.0
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	38.0	38.0	38.0	38.0
Total Split (s)	71.0	71.0	71.0	71.0	71.0	71.0	39.0	39.0	39.0	39.0
Total Split (%)	64.5%	64.5%	64.5%	64.5%	64.5%	64.5%	35.5%	35.5%	35.5%	35.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	97.6	97.6	97.6	97.6	97.6	97.6	9.0	9.0	9.0	9.0
Actuated g/C Ratio	0.89	0.89	0.89	0.89	0.89	0.89	0.08	0.08	0.08	0.08
v/c Ratio	0.11	0.62	0.03	0.20	0.40	0.02	0.19	0.14	0.21	0.20
Control Delay (s/veh)	2.9	4.1	0.8	6.1	2.5	0.5	51.3	31.2	51.6	30.5
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	2.9	4.3	0.8	6.1	2.5	0.5	51.3	31.2	51.6	30.5
LOS	A	A	A	A	A	A	D	C	D	C
Approach Delay (s/veh)		4.2			2.6			40.5		39.7
Approach LOS		A			A			D		D
Queue Length 50th (m)	1.2	62.2	0.1	1.0	27.6	0.0	3.7	1.8	4.8	2.7
Queue Length 95th (m)	3.8	94.0	1.9	4.5	41.7	1.0	10.7	9.3	12.5	11.6
Internal Link Dist (m)		229.1			1142.1			209.9		118.3
Turn Bay Length (m)	20.0		75.0	25.0		80.0	15.0		10.0	
Base Capacity (vph)	334	3075	1293	142	3046	1307	347	517	392	504
Starvation Cap Reductn	0	364	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	0.11	0.70	0.03	0.20	0.40	0.02	0.05	0.04	0.06	0.06

Intersection Summary			
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 13 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay (s/veh): 4.6		Intersection LOS: A	
Intersection Capacity Utilization 72.1%		ICU Level of Service C	
Analysis Period (min) 15			

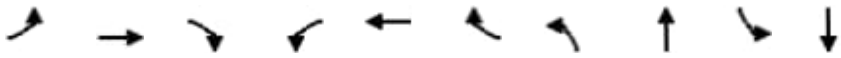
Splits and Phases: 1: Payzac Avenue/Overture Road & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	1807	40	28	1150	26	17	9	11	22	12	16
Future Volume (vph)	36	1807	40	28	1150	26	17	9	11	22	12	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0		6.0	6.0	
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	0.96	1.00	1.00	0.97	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.92	
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)	1618	3466	1453	1619	3433	1468	1489	1697		1669	1642	
Flt Permitted	0.22	1.00	1.00	0.09	1.00	1.00	0.74	1.00		0.74	1.00	
Satd. Flow (perm)	377	3466	1453	161	3433	1468	1156	1697		1306	1642	
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)	38	1902	42	29	1211	27	18	9	12	23	13	17
RTOR Reduction (vph)	0	0	6	0	0	4	0	11	0	0	16	0
Lane Group Flow (vph)	38	1902	36	29	1211	23	18	10	0	23	14	0
Confl. Peds. (#/hr)	3		8	8		3	10		9	9		10
Heavy Vehicles (%)	4%	3%	0%	4%	4%	0%	12%	0%	0%	0%	0%	6%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	91.8	91.8	91.8	91.8	91.8	91.8	5.2	5.2		5.2	5.2	
Effective Green, g (s)	92.8	92.8	92.8	92.8	92.8	92.8	6.2	6.2		6.2	6.2	
Actuated g/C Ratio	0.84	0.84	0.84	0.84	0.84	0.84	0.06	0.06		0.06	0.06	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0		7.0	7.0	
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	2924	1225	135	2896	1238	65	95		73	92	
v/s Ratio Prot		c0.55			0.35			0.01			0.01	
v/s Ratio Perm	0.10		0.02	0.18		0.02	0.02			c0.02		
v/c Ratio	0.12	0.65	0.03	0.21	0.42	0.02	0.28	0.10		0.32	0.15	
Uniform Delay, d1	1.5	3.0	1.4	1.6	2.1	1.4	49.8	49.3		49.9	49.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	1.1	0.0	3.6	0.4	0.0	2.3	0.5		2.5	0.8	
Delay (s)	2.3	4.1	1.4	5.3	2.5	1.4	52.1	49.7		52.3	50.2	
Level of Service	A	A	A	A	A	A	D	D		D	D	
Approach Delay (s/veh)		4.0			2.6			50.8			51.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	4.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

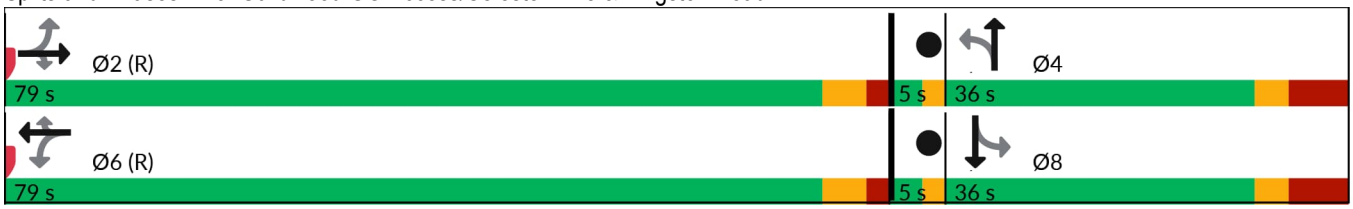


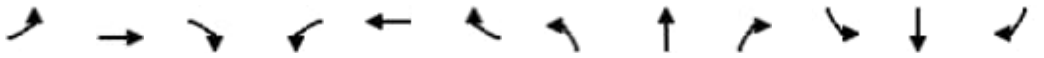
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø3	Ø7
Lane Configurations												
Traffic Volume (vph)	35	1702	43	66	1102	15	50	77	12	31		
Future Volume (vph)	35	1702	43	66	1102	15	50	77	12	31		
Lane Group Flow (vph)	37	1792	45	69	1160	16	0	312	0	66		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA		
Protected Phases		2			6			4		8	3	7
Permitted Phases	2		2	6		6	4		8			
Detector Phase	2	2	2	6	6	6	4	4	8	8		
Switch Phase												
Minimum Initial (s)	23.0	23.0	23.0	23.0	23.0	23.0	7.0	7.0	7.0	7.0	3.0	3.0
Minimum Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	35.4	35.4	35.4	35.4	5.0	5.0
Total Split (s)	79.0	79.0	79.0	79.0	79.0	79.0	36.0	36.0	36.0	36.0	5.0	5.0
Total Split (%)	65.8%	65.8%	65.8%	65.8%	65.8%	65.8%	30.0%	30.0%	30.0%	30.0%	4%	4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	5.4	5.4	5.4	5.4	0.0	0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-3.0	-1.0	-1.0		-1.0		-1.0		
Total Lost Time (s)	5.0	5.0	5.0	3.0	5.0	5.0		7.4		7.4		
Lead/Lag							Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None	Max	Max
Act Effct Green (s)	77.4	77.4	77.4	79.4	77.4	77.4		25.2		23.2		
Actuated g/C Ratio	0.65	0.65	0.65	0.66	0.65	0.65		0.21		0.19		
v/c Ratio	0.17	0.79	0.05	0.99	0.53	0.02		0.87		0.21		
Control Delay (s/veh)	12.2	19.6	1.1	131.9	13.1	0.1		61.3		30.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0		
Total Delay (s/veh)	12.2	19.6	1.1	131.9	13.1	0.1		61.3		30.2		
LOS	B	B	A	F	B	A		E		C		
Approach Delay (s/veh)		19.0			19.5			61.3		30.2		
Approach LOS		B			B			E		C		
Queue Length 50th (m)	3.4	158.5	0.0	~15.2	76.0	0.0		59.0		9.3		
Queue Length 95th (m)	9.4	197.2	2.4	#31.3	95.8	0.0		#99.3		21.0		
Internal Link Dist (m)		368.1			229.1			111.4		194.0		
Turn Bay Length (m)	35.0		85.0	25.0		85.0						
Base Capacity (vph)	212	2258	898	70	2194	889		402		376		
Starvation Cap Reductn	0	0	0	0	0	0		0		0		
Spillback Cap Reductn	0	0	0	0	0	0		0		0		
Storage Cap Reductn	0	0	0	0	0	0		0		0		
Reduced v/c Ratio	0.17	0.79	0.05	0.99	0.53	0.02		0.78		0.18		

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 91 (76%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay (s/veh): 23.2		Intersection LOS: C	
Intersection Capacity Utilization 84.5%		ICU Level of Service E	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 3: Guildwood GO Access/Celeste Drive & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	1702	43	66	1102	15	50	77	169	12	31	19
Future Volume (vph)	35	1702	43	66	1102	15	50	77	169	12	31	19
Ideal Flow (vphpl)	1900	1900	1900	2050	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	3.0	5.0	5.0		7.4			7.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00	0.95		0.98			0.97	
Flpb, ped/bikes	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		0.92			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)	1679	3500	1356	1818	3400	1341		1659			1727	
Flt Permitted	0.19	1.00	1.00	0.06	1.00	1.00		0.91			0.88	
Satd. Flow (perm)	331	3500	1356	108	3400	1341		1524			1526	
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)	37	1792	45	69	1160	16	53	81	178	13	33	20
RTOR Reduction (vph)	0	0	17	0	0	6	0	40	0	0	14	0
Lane Group Flow (vph)	37	1792	28	69	1160	10	0	272	0	0	52	0
Confl. Peds. (#/hr)	11		21	21		11	64		22	22		64
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	2%	3%	0%	5%	7%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	74.8	74.8	74.8	74.8	74.8	74.8		25.8			20.8	
Effective Green, g (s)	75.8	75.8	75.8	77.8	75.8	75.8		26.8			21.8	
Actuated g/C Ratio	0.63	0.63	0.63	0.65	0.63	0.63		0.22			0.18	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0		8.4			8.4	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	209	2210	856	70	2147	847		340			277	
v/s Ratio Prot		0.51			0.34							
v/s Ratio Perm	0.11		0.02	c0.64		0.01		c0.18			0.03	
v/c Ratio	0.18	0.81	0.03	0.99	0.54	0.01		0.80			0.19	
Uniform Delay, d1	9.2	16.7	8.3	20.6	12.4	8.2		44.1			41.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.8	3.4	0.1	103.6	1.0	0.0		12.3			0.3	
Delay (s)	11.0	20.0	8.4	124.2	13.3	8.2		56.4			41.9	
Level of Service	B	C	A	F	B	A		E			D	
Approach Delay (s/veh)		19.6			19.4			56.4			41.9	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.4
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

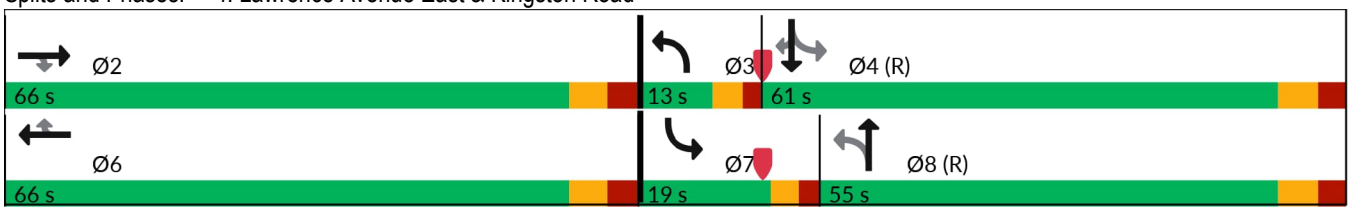
c Critical Lane Group

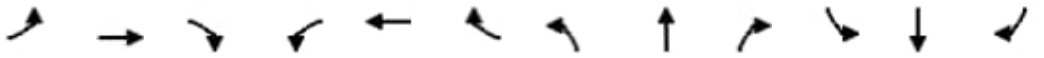
Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1603	237	976	288	192	437	295	678	36
Future Volume (vph)	1603	237	976	288	192	437	295	678	36
Lane Group Flow (vph)	1636	242	996	294	196	452	301	692	37
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	2		6		3	8	7	4	
Permitted Phases		2		6	8		4		4
Detector Phase	2	2	6	6	3	8	7	4	4
Switch Phase									
Minimum Initial (s)	37.0	37.0	37.0	37.0	6.0	47.0	6.0	47.0	47.0
Minimum Split (s)	44.0	44.0	44.0	44.0	11.0	54.0	11.0	54.0	54.0
Total Split (s)	66.0	66.0	66.0	66.0	13.0	55.0	19.0	61.0	61.0
Total Split (%)	47.1%	47.1%	47.1%	47.1%	9.3%	39.3%	13.6%	43.6%	43.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	62.0	60.0	60.0	60.0	60.0	49.0	70.0	55.0	55.0
Actuated g/C Ratio	0.44	0.43	0.43	0.43	0.43	0.35	0.50	0.39	0.39
v/c Ratio	0.99	0.39	0.67	0.44	0.66	0.38	0.70	0.51	0.07
Control Delay (s/veh)	57.7	11.7	34.9	8.2	34.6	35.2	31.7	33.9	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.7	11.7	34.9	8.2	34.6	35.2	31.7	33.9	1.2
LOS	E	B	C	A	C	D	C	C	A
Approach Delay (s/veh)	51.8		28.8			35.0		32.1	
Approach LOS	D		C			D		C	
Queue Length 50th (m)	220.9	15.0	114.9	9.5	30.1	49.2	49.5	75.9	0.0
Queue Length 95th (m)	#272.0	36.2	138.4	31.5	46.0	64.1	71.2	94.3	1.5
Internal Link Dist (m)	1142.1		365.5			262.1		388.0	
Turn Bay Length (m)		80.0		145.0	55.0		75.0		
Base Capacity (vph)	1658	621	1485	670	296	1184	431	1361	557
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	0.99	0.39	0.67	0.44	0.66	0.38	0.70	0.51	0.07

Intersection Summary		
Cycle Length: 140		
Actuated Cycle Length: 140		
Offset: 53 (38%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green		
Natural Cycle: 120		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.99		
Intersection Signal Delay (s/veh): 39.2	Intersection LOS: D	
Intersection Capacity Utilization 110.4%	ICU Level of Service H	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Lawrence Avenue East & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1603	237	0	976	288	192	437	6	295	678	36
Future Volume (vph)	0	1603	237	0	976	288	192	437	6	295	678	36
Ideal Flow (vphpl)	1900	1950	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		4.0	6.0		6.0	6.0	4.0	6.0		4.0	6.0	6.0
Lane Util. Factor		*1.00	1.00		0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.87
Flpb, ped/bikes		1.00	1.00		1.00	1.00	0.99	1.00		0.98	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		3744	1247		3466	1249	1633	3382		1654	3466	1311
Flt Permitted		1.00	1.00		1.00	1.00	0.31	1.00		0.38	1.00	1.00
Satd. Flow (perm)		3744	1247		3466	1249	538	3382		664	3466	1311
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1636	242	0	996	294	196	446	6	301	692	37
RTOR Reduction (vph)	0	0	87	0	0	135	0	1	0	0	0	22
Lane Group Flow (vph)	0	1636	155	0	996	159	196	451	0	301	692	15
Confl. Peds. (#/hr)	125		117	117		125	130		125	125		130
Confl. Bikes (#/hr)			14			9			5			10
Heavy Vehicles (%)	0%	3%	3%	0%	3%	2%	2%	5%	17%	0%	3%	0%
Turn Type		NA	Perm		NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		2			6		3	8		7	4	
Permitted Phases			2			6	8			4		4
Actuated Green, G (s)		59.0	59.0		59.0	59.0	56.0	48.0		67.0	54.0	54.0
Effective Green, g (s)		62.0	60.0		60.0	60.0	58.0	49.0		68.0	55.0	55.0
Actuated g/C Ratio		0.44	0.43		0.43	0.43	0.41	0.35		0.49	0.39	0.39
Clearance Time (s)		7.0	7.0		7.0	7.0	5.0	7.0		5.0	7.0	7.0
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)		1658	534		1485	535	293	1183		428	1361	515
v/s Ratio Prot		c0.44			0.29		0.04	0.13		c0.08	0.20	
v/s Ratio Perm			0.12			0.13	0.23			c0.27		0.01
v/c Ratio		0.99	0.29		0.67	0.30	0.67	0.38		0.70	0.51	0.03
Uniform Delay, d1		38.6	26.1		32.1	26.2	29.6	34.1		24.0	32.2	26.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		19.2	1.4		2.4	1.4	5.7	0.9		5.2	1.4	0.1
Delay (s)		57.8	27.5		34.5	27.6	35.2	35.1		29.2	33.6	26.2
Level of Service		E	C		C	C	D	D		C	C	C
Approach Delay (s/veh)		53.9			32.9			35.1			32.1	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		

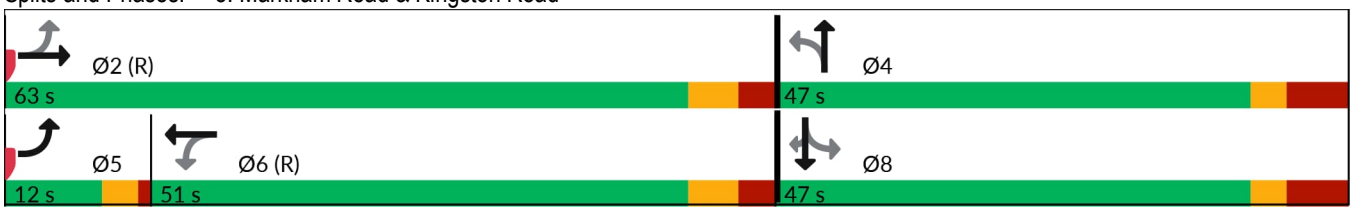
c Critical Lane Group

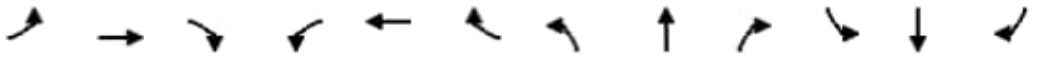
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	255	1679	28	1100	88	98	70	112	227
Future Volume (vph)	255	1679	28	1100	88	98	70	112	227
Lane Group Flow (vph)	271	1799	30	1216	94	137	74	119	241
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6		4		8	
Permitted Phases	2		6		4		8		8
Detector Phase	5	2	6	6	4	4	8	8	8
Switch Phase									
Minimum Initial (s)	6.0	37.0	37.0	37.0	39.0	39.0	39.0	39.0	39.0
Minimum Split (s)	10.0	44.0	44.0	44.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	12.0	63.0	51.0	51.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	10.9%	57.3%	46.4%	46.4%	42.7%	42.7%	42.7%	42.7%	42.7%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0	3.0	3.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	-3.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	1.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?									
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	62.0	57.0	45.0	45.0	40.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio	0.56	0.52	0.41	0.41	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.96	0.68	0.47	0.59	0.22	0.21	0.17	0.09	0.40
Control Delay (s/veh)	63.5	21.5	51.9	26.7	26.0	23.5	25.3	23.3	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	63.5	21.5	51.9	26.7	26.0	23.5	25.3	23.3	9.0
LOS	E	C	D	C	C	C	C	C	A
Approach Delay (s/veh)		27.0		27.3		24.5		15.7	
Approach LOS		C		C		C		B	
Queue Length 50th (m)	31.2	101.3	4.6	73.0	13.8	18.6	10.7	8.7	8.0
Queue Length 95th (m)	#81.7	117.8	#18.7	87.4	26.3	32.8	21.5	15.0	26.7
Internal Link Dist (m)		387.8		660.9		305.7		459.2	
Turn Bay Length (m)	60.0		25.0		70.0		65.0		15.0
Base Capacity (vph)	283	2627	64	2045	424	654	424	1285	608
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	0.96	0.68	0.47	0.59	0.22	0.21	0.17	0.09	0.40

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 66 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay (s/veh): 25.7	Intersection LOS: C
Intersection Capacity Utilization 137.6%	ICU Level of Service H
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Markham Road & Kingston Road



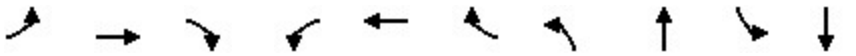


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1679	12	28	1100	43	88	98	31	70	112	227
Future Volume (vph)	255	1679	12	28	1100	43	88	98	31	70	112	227
Ideal Flow (vphpl)	2050	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	1.0	6.0		6.0	6.0		7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.98	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.96		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)	1667	5070		1683	4993		1639	1784		1659	3535	1350
Flt Permitted	0.14	1.00		0.09	1.00		0.68	1.00		0.67	1.00	1.00
Satd. Flow (perm)	253	5070		157	4993		1168	1784		1169	3535	1350
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)	271	1786	13	30	1170	46	94	104	33	74	119	241
RTOR Reduction (vph)	0	0	0	0	4	0	0	6	0	0	0	117
Lane Group Flow (vph)	271	1799	0	30	1212	0	94	131	0	74	119	124
Confl. Peds. (#/hr)	20		14	14		20	24		22	22		24
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	9%	1%	8%	0%	2%	3%	1%	1%	0%	0%	1%	8%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Actuated Green, G (s)	56.0	56.0		44.0	44.0		39.0	39.0		39.0	39.0	39.0
Effective Green, g (s)	59.0	57.0		45.0	45.0		40.0	40.0		40.0	40.0	40.0
Actuated g/C Ratio	0.54	0.52		0.41	0.41		0.36	0.36		0.36	0.36	0.36
Clearance Time (s)	4.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	8.0
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)	277	2627		64	2042		424	648		425	1285	490
v/s Ratio Prot	c0.10	c0.35			0.24			0.07			0.03	
v/s Ratio Perm	0.43			0.19			0.08			0.06		c0.09
v/c Ratio	0.98	0.68		0.47	0.59		0.22	0.20		0.17	0.09	0.25
Uniform Delay, d1	19.9	19.8		23.8	25.4		24.2	24.0		23.8	23.0	24.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	47.5	1.5		22.7	1.3		1.2	0.7		0.9	0.1	1.2
Delay (s)	67.5	21.3		46.4	26.6		25.4	24.7		24.7	23.2	25.8
Level of Service	E	C		D	C		C	C		C	C	C
Approach Delay (s/veh)		27.3			27.1			25.0			24.9	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	137.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Future Background

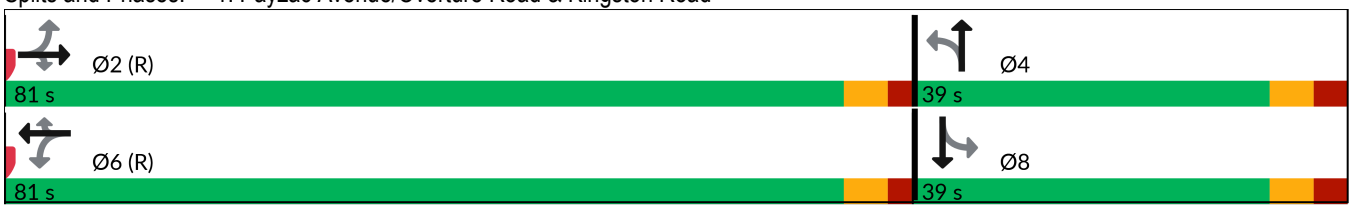


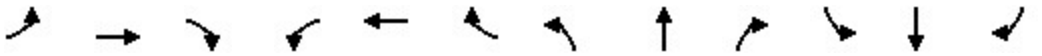
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	1193	15	23	2044	27	32	15	32	2
Future Volume (vph)	16	1193	15	23	2044	27	32	15	32	2
Lane Group Flow (vph)	16	1230	15	24	2107	28	33	29	33	49
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	27.0	27.0	27.0	27.0	27.0	27.0	7.0	7.0	7.0	7.0
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	38.0	38.0	38.0	38.0
Total Split (s)	81.0	81.0	81.0	81.0	81.0	81.0	39.0	39.0	39.0	39.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	102.2	102.2	102.2	102.2	102.2	102.2	10.6	10.6	10.6	10.6
Actuated g/C Ratio	0.85	0.85	0.85	0.85	0.85	0.85	0.09	0.09	0.09	0.09
v/c Ratio	0.20	0.43	0.01	0.08	0.72	0.02	0.33	0.19	0.32	0.41
Control Delay (s/veh)	20.0	14.4	4.1	3.2	6.7	0.7	58.9	33.7	58.3	51.6
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)	20.0	14.4	4.1	3.2	6.7	0.7	58.9	33.7	58.3	51.6
LOS	B	B	A	A	A	A	E	C	E	D
Approach Delay (s/veh)		14.4			6.6			47.1		54.3
Approach LOS		B			A			D		D
Queue Length 50th (m)	2.5	108.4	0.2	0.8	91.8	0.0	7.5	3.3	7.4	8.6
Queue Length 95th (m)	m3.6	m108.7	m1.0	3.1	147.6	1.4	17.3	12.2	17.3	20.4
Internal Link Dist (m)		133.6			1142.1			209.9		118.3
Turn Bay Length (m)	20.0		75.0	25.0		80.0	15.0		10.0	
Base Capacity (vph)	80	2840	1093	297	2923	1157	315	449	325	350
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	0.20	0.43	0.01	0.08	0.72	0.02	0.10	0.06	0.10	0.14

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 39 (33%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 11.2		Intersection LOS: B	
Intersection Capacity Utilization 77.7%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 1: Payzac Avenue/Overture Road & Kingston Road





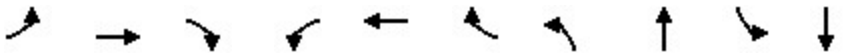
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1193	15	23	2044	27	32	15	14	32	2	46
Future Volume (vph)	16	1193	15	23	2044	27	32	15	14	32	2	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0		6.0	6.0	
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	0.96	1.00	1.00	0.97	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		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)	1348	3336	1278	1554	3433	1353	1506	1597		1523	1244	
Flt Permitted	0.07	1.00	1.00	0.21	1.00	1.00	0.73	1.00		0.74	1.00	
Satd. Flow (perm)	96	3336	1278	349	3433	1353	1150	1597		1184	1244	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	16	1230	15	24	2107	28	33	15	14	33	2	47
RTOR Reduction (vph)	0	0	3	0	0	5	0	13	0	0	10	0
Lane Group Flow (vph)	16	1230	12	24	2107	23	33	16	0	33	39	0
Confl. Peds. (#/hr)	5		10	10		5	7		5	5		7
Heavy Vehicles (%)	25%	7%	13%	8%	4%	8%	11%	0%	17%	10%	0%	28%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	98.8	98.8	98.8	98.8	98.8	98.8	8.2	8.2		8.2	8.2	
Effective Green, g (s)	99.8	99.8	99.8	99.8	99.8	99.8	9.2	9.2		9.2	9.2	
Actuated g/C Ratio	0.83	0.83	0.83	0.83	0.83	0.83	0.08	0.08		0.08	0.08	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0		7.0	7.0	
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)	79	2774	1062	290	2855	1125	88	122		90	95	
v/s Ratio Prot		0.37			c0.61			0.01			c0.03	
v/s Ratio Perm	0.17		0.01	0.07		0.02	0.03			0.03		
v/c Ratio	0.20	0.44	0.01	0.08	0.74	0.02	0.38	0.13		0.37	0.41	
Uniform Delay, d1	2.0	2.7	1.7	1.8	4.4	1.7	52.7	51.7		52.6	52.8	
Progression Factor	4.43	4.73	20.65	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	0.3	0.0	0.6	1.7	0.0	2.7	0.5		2.5	2.9	
Delay (s)	12.0	13.0	35.5	2.4	6.2	1.8	55.3	52.2		55.2	55.7	
Level of Service	B	B	D	A	A	A	E	D		E	E	
Approach Delay (s/veh)		13.3			6.1			53.9			55.5	
Approach LOS		B			A			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1147	14	0	2122	0	74
Future Volume (Veh/h)	1147	14	0	2122	0	74
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)	1274	16	0	2358	0	82
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	95			158		
pX, platoon unblocked			0.71		0.33	0.71
vC, conflicting volume			1290		2453	637
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			603		0	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	89
cM capacity (veh/h)			702		341	778

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	637	637	16	1179	1179	82
Volume Left	0	0	0	0	0	0
Volume Right	0	0	16	0	0	82
cSH	1700	1700	1700	1700	1700	778
Volume to Capacity	0.37	0.37	0.01	0.69	0.69	0.11
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	2.7
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	10.2
Lane LOS						B
Approach Delay (s/veh)	0.0			0.0		10.2
Approach LOS						B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

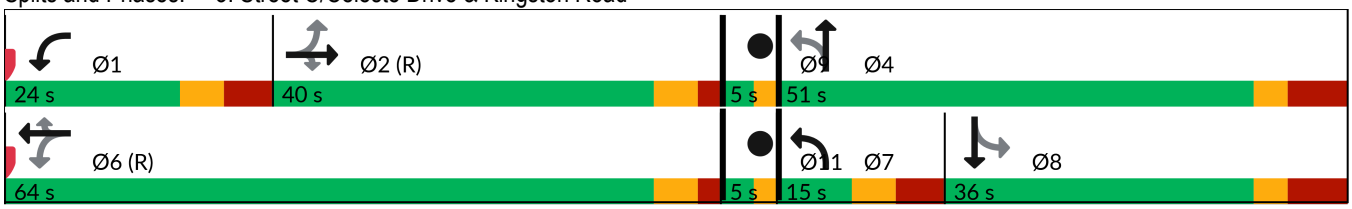


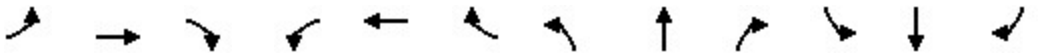
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9	Ø11
Lane Configurations												
Traffic Volume (vph)	26	1056	29	389	1713	20	91	42	20	111		
Future Volume (vph)	26	1056	29	389	1713	20	91	42	20	111		
Lane Group Flow (vph)	26	1067	29	393	1730	20	92	128	0	181		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA		
Protected Phases		2		1	6		7	4		8	9	11
Permitted Phases	2		2	6		6	4		8			
Detector Phase	2	2	2	1	6	6	7	4	8	8		
Switch Phase												
Minimum Initial (s)	23.0	23.0	23.0	6.0	23.0	23.0	6.0	7.0	7.0	7.0	3.0	3.0
Minimum Split (s)	29.0	29.0	29.0	14.2	29.0	29.0	14.2	35.4	35.4	35.4	5.0	5.0
Total Split (s)	40.0	40.0	40.0	24.0	64.0	64.0	15.0	51.0	36.0	36.0	5.0	5.0
Total Split (%)	33.3%	33.3%	33.3%	20.0%	53.3%	53.3%	12.5%	42.5%	30.0%	30.0%	4%	4%
Yellow Time (s)	4.0	4.0	4.0	3.8	4.0	4.0	3.8	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.0	2.0	2.0	4.4	2.0	2.0	4.4	5.4	5.4	5.4	0.0	0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0		
Total Lost Time (s)	5.0	5.0	5.0	7.2	5.0	5.0	7.2	7.4		7.4		
Lead/Lag	Lag	Lag	Lag	Lead			Lead		Lag	Lag		
Lead-Lag Optimize?				Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	Max	None	None	None	Max	Max
Act Effct Green (s)	35.0	35.0	35.0	67.1	69.3	69.3	33.5	33.3		18.3		
Actuated g/C Ratio	0.29	0.29	0.29	0.56	0.58	0.58	0.28	0.28		0.15		
v/c Ratio	0.53	1.06	0.05	0.92	0.86	0.03	0.41	0.25		0.69		
Control Delay (s/veh)	76.6	85.7	0.2	54.3	23.6	0.1	40.0	16.4		56.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		
Total Delay (s/veh)	76.6	85.7	0.2	54.3	23.6	0.1	40.0	16.4		56.7		
LOS	E	F	A	D	C	A	D	B		E		
Approach Delay (s/veh)		83.2			29.0			26.2		56.7		
Approach LOS		F			C			C		E		
Queue Length 50th (m)	5.1	~144.8	0.0	76.6	175.2	0.0	17.3	9.2		37.5		
Queue Length 95th (m)	#19.6	#185.5	0.0	#155.4	#256.2	m0.0	30.7	24.3		57.6		
Internal Link Dist (m)		368.1			71.5			111.4		194.0		
Turn Bay Length (m)	35.0		85.0	25.0		85.0	30.0					
Base Capacity (vph)	49	1010	550	428	2001	752	223	648		404		
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	0.53	1.06	0.05	0.92	0.86	0.03	0.41	0.20		0.45		

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 66 (55%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 140		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.06		
Intersection Signal Delay (s/veh): 46.8	Intersection LOS: D	
Intersection Capacity Utilization 109.4%	ICU Level of Service H	
Analysis Period (min) 15		

~ 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: 3: Street C/Celeste Drive & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	1056	29	389	1713	20	91	42	85	20	111	49
Future Volume (vph)	26	1056	29	389	1713	20	91	42	85	20	111	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	7.2	5.0	5.0	7.2	7.4			7.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.90	1.00	1.00	0.93	1.00	0.98			0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	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	0.90			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)	1423	3466	1362	1652	3466	1201	1567	1634			1737	
Flt Permitted	0.11	1.00	1.00	0.09	1.00	1.00	0.35	1.00			0.95	
Satd. Flow (perm)	171	3466	1362	165	3466	1201	579	1634			1650	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	26	1067	29	393	1730	20	92	42	86	20	112	49
RTOR Reduction (vph)	0	0	21	0	0	8	0	62	0	0	13	0
Lane Group Flow (vph)	26	1067	8	393	1730	12	92	66	0	0	168	0
Confl. Peds. (#/hr)	18		29	29		18	62		10	10		62
Confl. Bikes (#/hr)			2			3						3
Heavy Vehicles (%)	18%	3%	0%	2%	3%	17%	6%	3%	1%	0%	0%	3%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	34.0	34.0	34.0	68.3	68.3	68.3	32.3	32.3			17.3	
Effective Green, g (s)	35.0	35.0	35.0	69.3	69.3	69.3	33.3	33.3			18.3	
Actuated g/C Ratio	0.29	0.29	0.29	0.58	0.58	0.58	0.28	0.28			0.15	
Clearance Time (s)	6.0	6.0	6.0	8.2	6.0	6.0	8.2	8.4			8.4	
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)	49	1010	397	431	2001	693	224	453			251	
v/s Ratio Prot		c0.31		0.21	c0.50		c0.03	0.04				
v/s Ratio Perm	0.15		0.01	0.32		0.01	0.09				c0.10	
v/c Ratio	0.53	1.06	0.02	0.91	0.86	0.02	0.41	0.15			0.67	
Uniform Delay, d1	35.6	42.5	30.3	35.5	21.4	10.8	34.4	32.6			48.0	
Progression Factor	1.00	1.00	1.00	0.89	0.84	1.00	1.08	1.31			1.00	
Incremental Delay, d2	35.5	44.5	0.1	18.9	4.1	0.0	1.2	0.1			6.9	
Delay (s)	71.2	87.0	30.4	50.7	22.1	10.8	38.3	42.8			54.9	
Level of Service	E	F	C	D	C	B	D	D			D	
Approach Delay (s/veh)		85.1			27.3			40.9			54.9	
Approach LOS		F			C			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	47.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	28.8
Intersection Capacity Utilization	109.4%	ICU Level of Service	H
Analysis Period (min)	15		

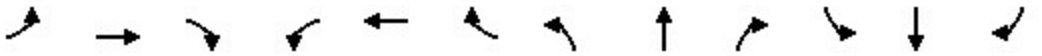
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1117	126	1696	338	350	772	180	282	42
Future Volume (vph)	1117	126	1696	338	350	772	180	282	42
Lane Group Flow (vph)	1164	131	1767	352	365	814	188	294	44
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	2		6		3	8	7	4	
Permitted Phases		2		6	8		4		4
Detector Phase	2	2	6	6	3	8	7	4	4
Switch Phase									
Minimum Initial (s)	37.0	37.0	37.0	37.0	6.0	47.0	6.0	47.0	47.0
Minimum Split (s)	44.0	44.0	44.0	44.0	11.0	54.0	11.0	54.0	54.0
Total Split (s)	75.0	75.0	75.0	75.0	11.0	54.0	11.0	54.0	54.0
Total Split (%)	53.6%	53.6%	53.6%	53.6%	7.9%	38.6%	7.9%	38.6%	38.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	5.0	6.0	4.0	6.0	4.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	69.0	69.0	70.0	69.0	57.0	48.0	57.0	48.0	48.0
Actuated g/C Ratio	0.49	0.49	0.50	0.49	0.41	0.34	0.41	0.34	0.34
v/c Ratio	0.69	0.19	1.03	0.47	0.92	0.70	0.99	0.26	0.09
Control Delay (s/veh)	30.1	4.2	64.3	14.8	66.2	43.6	95.8	34.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.1	4.2	64.3	14.8	66.2	43.6	95.8	34.0	2.8
LOS	C	A	E	B	E	D	F	C	A
Approach Delay (s/veh)	27.5		56.1			50.6		53.5	
Approach LOS	C		E			D		D	
Queue Length 50th (m)	127.8	0.8	~274.7	34.3	72.6	102.2	32.8	30.8	0.0
Queue Length 95th (m)	152.7	11.4	#316.7	60.2	#131.7	125.4	#77.3	42.6	3.5
Internal Link Dist (m)	1142.1		365.5			262.1		388.0	
Turn Bay Length (m)		80.0		145.0	55.0		75.0		
Base Capacity (vph)	1675	678	1716	748	396	1162	190	1122	474
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	0.69	0.19	1.03	0.47	0.92	0.70	0.99	0.26	0.09

Intersection Summary			
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 51 (36%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay (s/veh): 47.3		Intersection LOS: D	
Intersection Capacity Utilization 117.9%		ICU Level of Service H	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 4: Lawrence Avenue East & Kingston Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1117	126	0	1696	338	350	772	10	180	282	42
Future Volume (vph)	0	1117	126	0	1696	338	350	772	10	180	282	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0	6.0		5.0	6.0	4.0	6.0		4.0	6.0	6.0
Lane Util. Factor		0.95	1.00		0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.91		1.00	0.92	1.00	1.00		1.00	1.00	0.92
Flpb, ped/bikes		1.00	1.00		1.00	1.00	0.98	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		3400	1249		3433	1361	1586	3389		1618	3275	1251
Flt Permitted		1.00	1.00		1.00	1.00	0.54	1.00		0.18	1.00	1.00
Satd. Flow (perm)		3400	1249		3433	1361	902	3389		309	3275	1251
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)	0	1164	131	0	1767	352	365	804	10	188	294	44
RTOR Reduction (vph)	0	0	63	0	0	78	0	1	0	0	0	29
Lane Group Flow (vph)	0	1164	68	0	1767	274	365	813	0	188	294	15
Confl. Peds. (#/hr)	60		68	68		60	70		40	40		70
Confl. Bikes (#/hr)			2			1			6			9
Heavy Vehicles (%)	0%	5%	10%	0%	4%	2%	4%	5%	11%	4%	9%	11%
Turn Type		NA	Perm		NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		2			6		3	8		7	4	
Permitted Phases			2			6	8			4		4
Actuated Green, G (s)		68.0	68.0		68.0	68.0	53.0	47.0		53.0	47.0	47.0
Effective Green, g (s)		69.0	69.0		70.0	69.0	55.0	48.0		55.0	48.0	48.0
Actuated g/C Ratio		0.49	0.49		0.50	0.49	0.39	0.34		0.39	0.34	0.34
Clearance Time (s)		7.0	7.0		7.0	7.0	5.0	7.0		5.0	7.0	7.0
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)		1675	615		1716	670	388	1161		186	1122	428
v/s Ratio Prot		0.34			c0.51		0.05	0.24		c0.05	0.09	
v/s Ratio Perm			0.05			0.20	0.32			c0.35		0.01
v/c Ratio		0.69	0.11		1.03	0.41	0.94	0.70		1.01	0.26	0.04
Uniform Delay, d1		27.4	19.0		35.0	22.6	39.8	39.8		40.4	33.2	30.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		2.4	0.4		29.7	1.9	30.9	3.5		68.8	0.6	0.2
Delay (s)		29.8	19.4		64.7	24.4	70.6	43.3		109.2	33.8	30.8
Level of Service		C	B		E	C	E	D		F	C	C
Approach Delay (s/veh)		28.7			58.0			51.8			60.5	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	117.9%	ICU Level of Service	H
Analysis Period (min)	15		

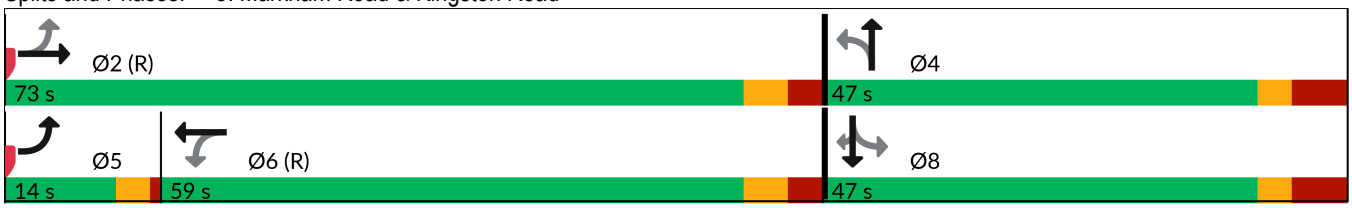
c Critical Lane Group

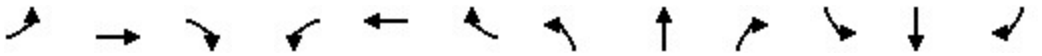
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	170	1019	26	1748	84	117	69	83	241
Future Volume (vph)	170	1019	26	1748	84	117	69	83	241
Lane Group Flow (vph)	179	1091	27	1918	88	144	73	87	254
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6		4		8	
Permitted Phases	2		6		4		8		8
Detector Phase	5	2	6	6	4	4	8	8	8
Switch Phase									
Minimum Initial (s)	6.0	37.0	37.0	37.0	39.0	39.0	39.0	39.0	39.0
Minimum Split (s)	10.0	44.0	44.0	44.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	14.0	73.0	59.0	59.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	11.7%	60.8%	49.2%	49.2%	39.2%	39.2%	39.2%	39.2%	39.2%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0	3.0	3.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?									
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	70.0	67.0	53.0	53.0	40.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio	0.58	0.56	0.44	0.44	0.33	0.33	0.33	0.33	0.33
v/c Ratio	0.94	0.39	0.14	0.88	0.22	0.24	0.19	0.08	0.44
Control Delay (s/veh)	80.5	15.5	22.4	36.1	30.6	28.7	30.2	27.7	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	80.5	15.5	22.4	36.1	30.6	28.7	30.2	27.7	12.4
LOS	F	B	C	D	C	C	C	C	B
Approach Delay (s/veh)		24.6		35.9		29.4		18.7	
Approach LOS		C		D		C		B	
Queue Length 50th (m)	28.5	50.6	3.7	147.1	14.8	23.0	12.2	7.3	12.6
Queue Length 95th (m)	#72.3	60.6	10.2	169.0	28.0	39.1	23.8	13.2	35.1
Internal Link Dist (m)		387.8		660.9		305.7		459.2	
Turn Bay Length (m)	60.0		25.0		70.0		65.0		15.0
Base Capacity (vph)	191	2770	194	2187	402	595	388	1133	574
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	0.94	0.39	0.14	0.88	0.22	0.24	0.19	0.08	0.44

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 86 (72%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 105		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.94		
Intersection Signal Delay (s/veh): 30.0	Intersection LOS: C	
Intersection Capacity Utilization 134.8%	ICU Level of Service H	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Markham Road & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1019	17	26	1748	74	84	117	20	69	83	241
Future Volume (vph)	170	1019	17	26	1748	74	84	117	20	69	83	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0		6.0	6.0		7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.98		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)	1491	4957		1676	4944		1643	1770		1666	3400	1367
Flt Permitted	0.07	1.00		0.25	1.00		0.70	1.00		0.67	1.00	1.00
Satd. Flow (perm)	112	4957		440	4944		1207	1770		1166	3400	1367
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)	179	1073	18	27	1840	78	88	123	21	73	87	254
RTOR Reduction (vph)	0	1	0	0	4	0	0	5	0	0	0	119
Lane Group Flow (vph)	179	1090	0	27	1914	0	88	139	0	73	87	135
Confl. Peds. (#/hr)	16		24	24		16	18		15	15		18
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	13%	3%	13%	0%	3%	3%	1%	4%	0%	0%	5%	7%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Actuated Green, G (s)	66.0	66.0		52.0	52.0		39.0	39.0		39.0	39.0	39.0
Effective Green, g (s)	67.0	67.0		53.0	53.0		40.0	40.0		40.0	40.0	40.0
Actuated g/C Ratio	0.56	0.56		0.44	0.44		0.33	0.33		0.33	0.33	0.33
Clearance Time (s)	4.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	8.0
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)	188	2767		194	2183		402	590		388	1133	455
v/s Ratio Prot	c0.09	0.22			0.39			0.08			0.03	
v/s Ratio Perm	c0.44			0.06			0.07			0.06		c0.10
v/c Ratio	0.95	0.39		0.14	0.88		0.22	0.24		0.19	0.08	0.30
Uniform Delay, d1	34.8	15.0		19.9	30.5		28.8	28.9		28.5	27.4	29.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	51.6	0.4		1.5	5.4		1.3	0.9		1.1	0.1	1.7
Delay (s)	86.4	15.4		21.4	35.9		30.0	29.9		29.5	27.5	31.3
Level of Service	F	B		C	D		C	C		C	C	C
Approach Delay (s/veh)		25.4			35.7			29.9			30.2	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	134.8%	ICU Level of Service	H
Analysis Period (min)	15		

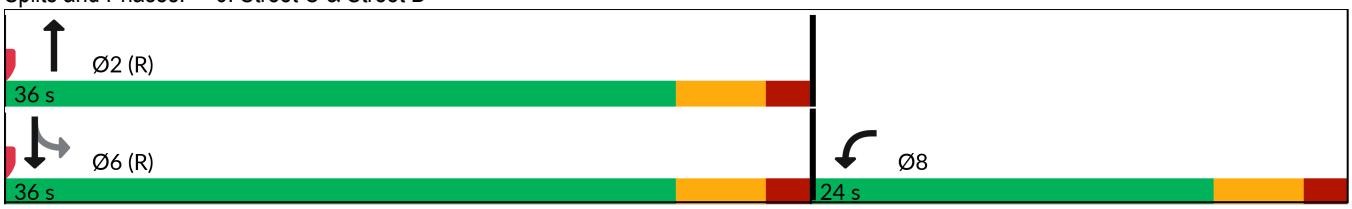
c Critical Lane Group

Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	0	138	36	493
Future Volume (vph)	0	138	36	493
Lane Group Flow (vph)	89	153	40	548
Turn Type	Prot	NA	Perm	NA
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phase	8	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	31.0	31.0	31.0
Total Split (s)	24.0	36.0	36.0	36.0
Total Split (%)	40.0%	60.0%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.5	46.8	46.8	46.8
Actuated g/C Ratio	0.11	0.78	0.78	0.78
v/c Ratio	0.11	0.10	0.04	0.37
Control Delay (s/veh)	0.3	2.6	2.1	3.7
Queue Delay	0.0	0.0	0.0	0.2
Total Delay (s/veh)	0.3	2.6	2.1	3.9
LOS	A	A	A	A
Approach Delay (s/veh)	0.3	2.6		3.7
Approach LOS	A	A		A
Queue Length 50th (m)	0.0	3.7	0.7	9.8
Queue Length 95th (m)	0.0	7.3	m2.1	m38.2
Internal Link Dist (m)	19.3	63.2		111.4
Turn Bay Length (m)			15.0	
Base Capacity (vph)	996	1465	912	1465
Starvation Cap Reductn	0	0	0	286
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.09	0.10	0.04	0.46

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of 1st Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay (s/veh): 3.2	Intersection LOS: A
Intersection Capacity Utilization 39.2%	ICU Level of Service A
Analysis Period (min) 15	

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

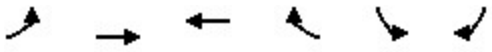
Splits and Phases: 6: Street C & Street D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	80	138	0	36	493
Future Volume (vph)	0	80	138	0	36	493
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.0	3.5	3.0	3.0	3.5
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		1.00		1.00	1.00
Frt	0.87		1.00		1.00	1.00
Flt Protected	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1534		1879		1685	1879
Flt Permitted	1.00		1.00		0.66	1.00
Satd. Flow (perm)	1534		1879		1170	1879
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	89	153	0	40	548
RTOR Reduction (vph)	81	0	0	0	0	0
Lane Group Flow (vph)	8	0	153	0	40	548
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	4.4		43.6		43.6	43.6
Effective Green, g (s)	5.4		44.6		44.6	44.6
Actuated g/C Ratio	0.09		0.74		0.74	0.74
Clearance Time (s)	6.0		6.0		6.0	6.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	138		1396		869	1396
v/s Ratio Prot	c0.01		0.08			c0.29
v/s Ratio Perm					0.03	
v/c Ratio	0.06		0.11		0.05	0.39
Uniform Delay, d1	25.0		2.2		2.0	2.8
Progression Factor	1.00		1.00		0.83	1.11
Incremental Delay, d2	0.2		0.2		0.1	0.6
Delay (s)	25.2		2.3		1.8	3.7
Level of Service	C		A		A	A
Approach Delay (s/veh)	25.2		2.3			3.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	36	80	0	0	0
Future Volume (Veh/h)	0	36	80	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	40	89	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		43				
pX, platoon unblocked						
vC, conflicting volume	89				129	89
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	89				129	89
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1519				870	975

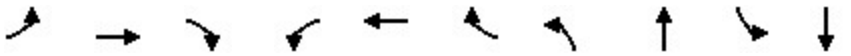
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	40	89	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1519	1700	1700
Volume to Capacity	0.00	0.05	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s/veh)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		7.5%	ICU Level of Service
Analysis Period (min)		15	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	36	0	23	29	4	57
Future Volume (vph)	36	0	23	29	4	57
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	40	0	26	32	4	63

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	40	58	67
Volume Left (vph)	40	26	0
Volume Right (vph)	0	0	63
Hadj (s)	0.20	0.09	-0.56
Departure Headway (s)	4.3	4.1	3.5
Degree Utilization, x	0.05	0.07	0.06
Capacity (veh/h)	801	848	1013
Control Delay (s/veh)	7.6	7.4	6.7
Approach Delay (s/veh)	7.6	7.4	6.7
Approach LOS	A	A	A

Intersection Summary			
Delay	7.2		
Level of Service	A		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		

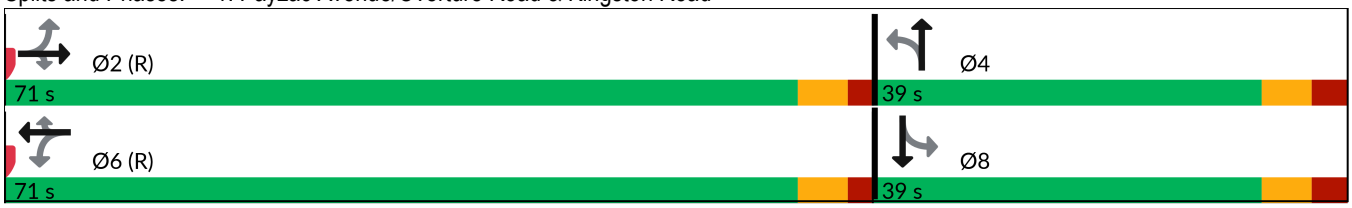


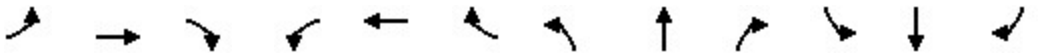
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	49	2010	49	39	1353	47	28	10	25	13
Future Volume (vph)	49	2010	49	39	1353	47	28	10	25	13
Lane Group Flow (vph)	52	2116	52	41	1424	49	29	26	26	36
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	27.0	27.0	27.0	27.0	27.0	27.0	7.0	7.0	7.0	7.0
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	38.0	38.0	38.0	38.0
Total Split (s)	71.0	71.0	71.0	71.0	71.0	71.0	39.0	39.0	39.0	39.0
Total Split (%)	64.5%	64.5%	64.5%	64.5%	64.5%	64.5%	35.5%	35.5%	35.5%	35.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	93.0	93.0	93.0	93.0	93.0	93.0	9.8	9.8	9.8	9.8
Actuated g/C Ratio	0.85	0.85	0.85	0.85	0.85	0.85	0.09	0.09	0.09	0.09
v/c Ratio	0.21	0.72	0.04	0.44	0.49	0.04	0.29	0.17	0.23	0.22
Control Delay (s/veh)	5.1	6.6	1.1	21.6	3.8	0.8	53.4	37.2	50.5	28.1
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.1	7.0	1.1	21.6	3.8	0.8	53.4	37.2	50.5	28.1
LOS	A	A	A	C	A	A	D	D	D	C
Approach Delay (s/veh)		6.8			4.2			45.7		37.5
Approach LOS		A			A			D		D
Queue Length 50th (m)	1.9	85.9	0.3	2.0	38.5	0.0	6.0	3.7	5.3	2.8
Queue Length 95th (m)	6.5	135.2	2.6	#21.3	59.6	2.2	14.8	11.8	13.6	12.2
Internal Link Dist (m)		133.6			1142.1			209.9		118.3
Turn Bay Length (m)	20.0		75.0	25.0		80.0	15.0		10.0	
Base Capacity (vph)	243	2931	1235	93	2903	1249	345	513	390	502
Starvation Cap Reductn	0	297	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	0.21	0.80	0.04	0.44	0.49	0.04	0.08	0.05	0.07	0.07

Intersection Summary		
Cycle Length: 110		
Actuated Cycle Length: 110		
Offset: 13 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 100		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.72		
Intersection Signal Delay (s/veh): 6.8	Intersection LOS: A	
Intersection Capacity Utilization 77.8%	ICU Level of Service D	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Payzac Avenue/Overture Road & Kingston Road





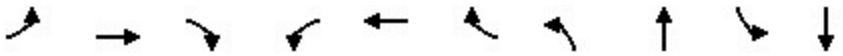
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	2010	49	39	1353	47	28	10	14	25	13	21
Future Volume (vph)	49	2010	49	39	1353	47	28	10	14	25	13	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0		6.0	6.0	
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	0.96	1.00	1.00	0.97	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.91	
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)	1619	3466	1453	1619	3433	1468	1489	1695		1669	1624	
Flt Permitted	0.17	1.00	1.00	0.07	1.00	1.00	0.73	1.00		0.74	1.00	
Satd. Flow (perm)	288	3466	1453	111	3433	1468	1150	1695		1301	1624	
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)	52	2116	52	41	1424	49	29	11	15	26	14	22
RTOR Reduction (vph)	0	0	7	0	0	9	0	7	0	0	20	0
Lane Group Flow (vph)	52	2116	45	41	1424	40	29	19	0	26	16	0
Confl. Peds. (#/hr)	3		8	8		3	10		9	9		10
Heavy Vehicles (%)	4%	3%	0%	4%	4%	0%	12%	0%	0%	0%	0%	6%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	89.6	89.6	89.6	89.6	89.6	89.6	7.4	7.4		7.4	7.4	
Effective Green, g (s)	90.6	90.6	90.6	90.6	90.6	90.6	8.4	8.4		8.4	8.4	
Actuated g/C Ratio	0.82	0.82	0.82	0.82	0.82	0.82	0.08	0.08		0.08	0.08	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0		7.0	7.0	
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)	237	2854	1196	91	2827	1209	87	129		99	124	
v/s Ratio Prot		c0.61			0.41			0.01			0.01	
v/s Ratio Perm	0.18		0.03	0.37		0.03	c0.03			0.02		
v/c Ratio	0.22	0.74	0.04	0.45	0.50	0.03	0.33	0.14		0.26	0.13	
Uniform Delay, d1	2.1	4.4	1.8	2.7	2.9	1.8	48.1	47.4		47.9	47.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	1.8	0.1	15.3	0.6	0.1	2.3	0.5		1.4	0.5	
Delay (s)	4.2	6.2	1.8	18.0	3.6	1.8	50.4	48.0		49.3	47.8	
Level of Service	A	A	A	B	A	A	D	D		D	D	
Approach Delay (s/veh)		6.0			3.9			49.2			48.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2005	72	0	1402	0	103
Future Volume (Veh/h)	2005	72	0	1402	0	103
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)	2111	76	0	1476	0	108
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	95			158		
pX, platoon unblocked			0.59		0.66	0.59
vC, conflicting volume			2187		2849	1056
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1623		1850	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	83
cM capacity (veh/h)			240		44	644

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	1056	1056	76	738	738	108
Volume Left	0	0	0	0	0	0
Volume Right	0	0	76	0	0	108
cSH	1700	1700	1700	1700	1700	644
Volume to Capacity	0.62	0.62	0.04	0.43	0.43	0.17
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	4.6
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	11.7
Lane LOS						B
Approach Delay (s/veh)	0.0			0.0		11.7
Approach LOS						B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

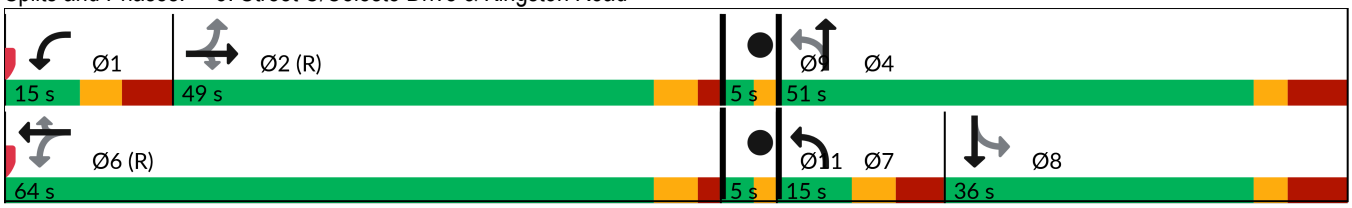


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9	Ø11
Lane Configurations												
Traffic Volume (vph)	50	1837	65	182	1182	38	98	109	19	45		
Future Volume (vph)	50	1837	65	182	1182	38	98	109	19	45		
Lane Group Flow (vph)	53	1934	68	192	1244	40	103	348	0	99		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA		
Protected Phases		2		1	6		7	4		8	9	11
Permitted Phases	2		2	6		6	4		8			
Detector Phase	2	2	2	1	6	6	7	4	8	8		
Switch Phase												
Minimum Initial (s)	23.0	23.0	23.0	6.0	23.0	23.0	6.0	7.0	7.0	7.0	3.0	3.0
Minimum Split (s)	29.0	29.0	29.0	14.2	29.0	29.0	14.2	35.4	35.4	35.4	5.0	5.0
Total Split (s)	49.0	49.0	49.0	15.0	64.0	64.0	15.0	51.0	36.0	36.0	5.0	5.0
Total Split (%)	40.8%	40.8%	40.8%	12.5%	53.3%	53.3%	12.5%	42.5%	30.0%	30.0%	4%	4%
Yellow Time (s)	4.0	4.0	4.0	3.8	4.0	4.0	3.8	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.0	2.0	2.0	4.4	2.0	2.0	4.4	5.4	5.4	5.4	0.0	0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-3.0	-1.0	-1.0	-1.0	-1.0		-1.0		
Total Lost Time (s)	5.0	5.0	5.0	5.2	5.0	5.0	7.2	7.4		7.4		
Lead/Lag	Lag	Lag	Lag	Lead			Lead		Lag	Lag		
Lead-Lag Optimize?				Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	Max	None	None	None	Max	Max
Act Effct Green (s)	49.8	49.8	49.8	73.7	73.9	73.9	28.9	28.7		13.7		
Actuated g/C Ratio	0.42	0.42	0.42	0.61	0.62	0.62	0.24	0.24		0.11		
v/c Ratio	0.32	1.33	0.10	0.60	0.59	0.05	0.41	0.75		0.55		
Control Delay (s/veh)	33.1	185.6	0.3	33.2	16.2	0.1	39.5	38.6		50.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		0.0		
Total Delay (s/veh)	33.1	185.6	0.3	33.2	16.2	0.1	39.5	38.7		50.4		
LOS	C	F	A	C	B	A	D	D		D		
Approach Delay (s/veh)		175.6			18.0			38.9		50.4		
Approach LOS		F			B			D		D		
Queue Length 50th (m)	8.3	~312.2	0.0	26.9	85.4	0.0	19.9	52.6		18.1		
Queue Length 95th (m)	21.6	#375.3	0.0	#56.5	128.9	0.0	31.6	69.4		33.0		
Internal Link Dist (m)		368.1			71.5			111.4		194.0		
Turn Bay Length (m)	35.0		85.0	25.0		85.0	30.0					
Base Capacity (vph)	164	1451	688	322	2094	880	252	658		359		
Starvation Cap Reductn	0	0	0	0	0	0	0	15		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	0.32	1.33	0.10	0.60	0.59	0.05	0.41	0.54		0.28		

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 91 (76%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.33			
Intersection Signal Delay (s/veh): 100.4		Intersection LOS: F	
Intersection Capacity Utilization 98.4%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 3: Street C/Celeste Drive & Kingston Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1837	65	182	1182	38	98	109	221	19	45	30
Future Volume (vph)	50	1837	65	182	1182	38	98	109	221	19	45	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	5.2	5.0	5.0	7.2	7.4			7.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00	0.95	1.00	0.97			0.97	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	0.97	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.90			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)	1676	3500	1356	1685	3400	1341	1638	1644			1717	
Flt Permitted	0.22	1.00	1.00	0.07	1.00	1.00	0.49	1.00			0.84	
Satd. Flow (perm)	396	3500	1356	125	3400	1341	842	1644			1449	
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)	53	1934	68	192	1244	40	103	115	233	20	47	32
RTOR Reduction (vph)	0	0	40	0	0	15	0	72	0	0	17	0
Lane Group Flow (vph)	53	1934	28	192	1244	25	103	276	0	0	82	0
Confl. Peds. (#/hr)	11		21	21		11	64		22	22		64
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	2%	3%	0%	5%	7%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	48.7	48.7	48.7	72.9	72.9	72.9	27.7	27.7			12.7	
Effective Green, g (s)	49.7	49.7	49.7	75.9	73.9	73.9	28.7	28.7			13.7	
Actuated g/C Ratio	0.41	0.41	0.41	0.63	0.62	0.62	0.24	0.24			0.11	
Clearance Time (s)	6.0	6.0	6.0	8.2	6.0	6.0	8.2	8.4			8.4	
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)	164	1449	561	326	2093	825	253	393			165	
v/s Ratio Prot		c0.55		0.09	c0.37		0.03	c0.17				
v/s Ratio Perm	0.13		0.02	0.28		0.02	0.07				0.06	
v/c Ratio	0.32	1.33	0.05	0.59	0.59	0.03	0.41	0.70			0.50	
Uniform Delay, d1	23.8	35.2	21.0	30.5	14.0	9.0	37.6	41.7			49.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.95			1.00	
Incremental Delay, d2	5.2	155.4	0.2	2.7	1.3	0.1	1.1	5.5			2.4	
Delay (s)	28.9	190.6	21.2	33.2	15.2	9.1	37.6	45.0			52.3	
Level of Service	C	F	C	C	B	A	D	D			D	
Approach Delay (s/veh)		180.8			17.4			43.3			52.3	
Approach LOS		F			B			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	103.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.8
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

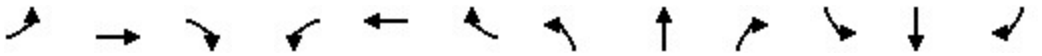
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1806	237	1207	288	192	437	326	749	40
Future Volume (vph)	1806	237	1207	288	192	437	326	749	40
Lane Group Flow (vph)	1843	242	1232	294	196	452	333	764	41
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	2		6		3	8	7	4	
Permitted Phases		2		6	8		4		4
Detector Phase	2	2	6	6	3	8	7	4	4
Switch Phase									
Minimum Initial (s)	37.0	37.0	37.0	37.0	6.0	47.0	6.0	47.0	47.0
Minimum Split (s)	44.0	44.0	44.0	44.0	11.0	54.0	11.0	54.0	54.0
Total Split (s)	75.0	75.0	75.0	75.0	11.0	54.0	11.0	54.0	54.0
Total Split (%)	53.6%	53.6%	53.6%	53.6%	7.9%	38.6%	7.9%	38.6%	38.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	71.0	69.0	69.0	69.0	57.0	48.0	57.0	48.0	48.0
Actuated g/C Ratio	0.51	0.49	0.49	0.49	0.41	0.34	0.41	0.34	0.34
v/c Ratio	0.97	0.35	0.72	0.41	0.95	0.39	1.01	0.64	0.08
Control Delay (s/veh)	48.5	10.2	31.0	9.6	82.9	36.0	89.7	41.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	48.5	10.2	31.0	9.6	82.9	36.0	89.7	41.8	2.3
LOS	D	B	C	A	F	D	F	D	A
Approach Delay (s/veh)	44.0		26.9			50.2		54.4	
Approach LOS	D		C			D		D	
Queue Length 50th (m)	241.3	15.2	138.0	16.1	34.3	49.7	~65.2	93.6	0.0
Queue Length 95th (m)	#296.3	34.2	164.2	37.8	#76.9	64.8	#130.7	115.4	2.8
Internal Link Dist (m)	1142.1		365.5			262.1		388.0	
Turn Bay Length (m)		80.0		145.0	55.0		75.0		
Base Capacity (vph)	1898	686	1708	710	207	1160	329	1188	495
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	0.97	0.35	0.72	0.41	0.95	0.39	1.01	0.64	0.08

Intersection Summary		
Cycle Length: 140		
Actuated Cycle Length: 140		
Offset: 53 (38%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green		
Natural Cycle: 140		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.01		
Intersection Signal Delay (s/veh): 42.1	Intersection LOS: D	
Intersection Capacity Utilization 117.5%	ICU Level of Service H	
Analysis Period (min) 15		

~ 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.

Splits and Phases: 4: Lawrence Avenue East & Kingston Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1806	237	0	1207	288	192	437	6	326	749	40
Future Volume (vph)	0	1806	237	0	1207	288	192	437	6	326	749	40
Ideal Flow (vphpl)	1900	1950	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		4.0	6.0		6.0	6.0	4.0	6.0		4.0	6.0	6.0
Lane Util. Factor		*1.00	1.00		0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.87
Flpb, ped/bikes		1.00	1.00		1.00	1.00	0.99	1.00		0.98	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		3744	1248		3466	1250	1643	3382		1650	3466	1310
Flt Permitted		1.00	1.00		1.00	1.00	0.21	1.00		0.41	1.00	1.00
Satd. Flow (perm)		3744	1248		3466	1250	359	3382		710	3466	1310
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1843	242	0	1232	294	196	446	6	333	764	41
RTOR Reduction (vph)	0	0	71	0	0	95	0	1	0	0	0	27
Lane Group Flow (vph)	0	1843	171	0	1232	199	196	451	0	333	764	14
Confl. Peds. (#/hr)	125		117	117		125	130		125	125		130
Confl. Bikes (#/hr)			14			9			5			10
Heavy Vehicles (%)	0%	3%	3%	0%	3%	2%	2%	5%	17%	0%	3%	0%
Turn Type		NA	Perm		NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		2			6		3	8		7	4	
Permitted Phases			2			6	8			4		4
Actuated Green, G (s)		68.0	68.0		68.0	68.0	53.0	47.0		53.0	47.0	47.0
Effective Green, g (s)		71.0	69.0		69.0	69.0	55.0	48.0		55.0	48.0	48.0
Actuated g/C Ratio		0.51	0.49		0.49	0.49	0.39	0.34		0.39	0.34	0.34
Clearance Time (s)		7.0	7.0		7.0	7.0	5.0	7.0		5.0	7.0	7.0
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)		1898	615		1708	616	205	1159		325	1188	449
v/s Ratio Prot		c0.49			0.36		0.05	0.13		c0.05	0.22	
v/s Ratio Perm			0.14			0.16	0.33			c0.35		0.01
v/c Ratio		0.97	0.28		0.72	0.32	0.96	0.39		1.02	0.64	0.03
Uniform Delay, d1		33.5	20.9		27.9	21.4	39.8	34.9		41.9	38.8	30.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		14.9	1.1		2.7	1.4	49.9	1.0		56.4	2.7	0.1
Delay (s)		48.4	22.0		30.6	22.8	89.7	35.9		98.3	41.5	30.7
Level of Service		D	C		C	C	F	D		F	D	C
Approach Delay (s/veh)		45.3			29.1			52.2			57.7	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	44.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		

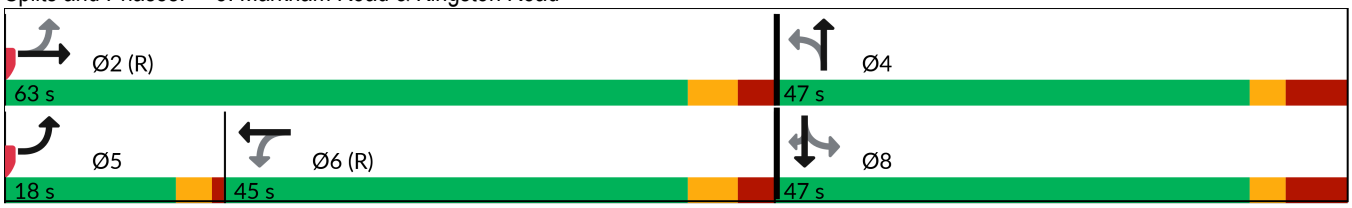
c Critical Lane Group

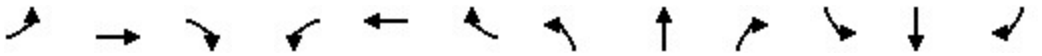
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	259	1837	29	1228	97	108	74	115	233
Future Volume (vph)	259	1837	29	1228	97	108	74	115	233
Lane Group Flow (vph)	276	1967	31	1355	103	151	79	122	248
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6		4		8	
Permitted Phases	2		6		4		8		8
Detector Phase	5	2	6	6	4	4	8	8	8
Switch Phase									
Minimum Initial (s)	6.0	37.0	37.0	37.0	39.0	39.0	39.0	39.0	39.0
Minimum Split (s)	10.0	44.0	44.0	44.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	18.0	63.0	45.0	45.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	16.4%	57.3%	40.9%	40.9%	42.7%	42.7%	42.7%	42.7%	42.7%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0	3.0	3.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	-3.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	1.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?									
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	62.0	57.0	39.4	39.4	40.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio	0.56	0.52	0.36	0.36	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.86	0.75	0.48	0.76	0.24	0.23	0.19	0.09	0.38
Control Delay (s/veh)	52.5	23.1	56.4	34.3	26.4	24.7	25.5	23.4	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.5	23.1	56.4	34.3	26.4	24.7	25.5	23.4	4.9
LOS	D	C	E	C	C	C	C	C	A
Approach Delay (s/veh)		26.7		34.8		25.4		13.5	
Approach LOS		C		C		C		B	
Queue Length 50th (m)	42.0	116.8	5.1	92.9	15.3	21.5	11.5	9.0	0.0
Queue Length 95th (m)	#86.2	135.3	#19.2	110.5	28.6	36.6	22.8	15.3	15.9
Internal Link Dist (m)		387.8		660.9		305.7		459.2	
Turn Bay Length (m)	60.0		25.0		70.0		65.0		15.0
Base Capacity (vph)	325	2627	65	1792	423	651	419	1285	648
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	0.85	0.75	0.48	0.76	0.24	0.23	0.19	0.09	0.38

Intersection Summary		
Cycle Length: 110		
Actuated Cycle Length: 110		
Offset: 66 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 105		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.86		
Intersection Signal Delay (s/veh): 27.9	Intersection LOS: C	
Intersection Capacity Utilization 143.9%	ICU Level of Service H	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Markham Road & Kingston Road

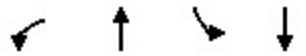




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	1837	12	29	1228	46	97	108	34	74	115	233
Future Volume (vph)	259	1837	12	29	1228	46	97	108	34	74	115	233
Ideal Flow (vphpl)	2050	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	1.0	6.0		6.0	6.0		7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.98	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.96		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)	1667	5070		1684	4994		1639	1785		1659	3535	1350
Flt Permitted	0.09	1.00		0.10	1.00		0.67	1.00		0.66	1.00	1.00
Satd. Flow (perm)	166	5070		180	4994		1164	1785		1154	3535	1350
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)	276	1954	13	31	1306	49	103	115	36	79	122	248
RTOR Reduction (vph)	0	0	0	0	4	0	0	3	0	0	0	158
Lane Group Flow (vph)	276	1967	0	31	1351	0	103	148	0	79	122	90
Confl. Peds. (#/hr)	20		14	14		20	24		22	22		24
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	9%	1%	8%	0%	2%	3%	1%	1%	0%	0%	1%	8%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Actuated Green, G (s)	56.0	56.0		38.4	38.4		39.0	39.0		39.0	39.0	39.0
Effective Green, g (s)	59.0	57.0		39.4	39.4		40.0	40.0		40.0	40.0	40.0
Actuated g/C Ratio	0.54	0.52		0.36	0.36		0.36	0.36		0.36	0.36	0.36
Clearance Time (s)	4.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	8.0
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)	315	2627		64	1788		423	649		419	1285	490
v/s Ratio Prot	c0.13	c0.39			0.27			0.08			0.03	
v/s Ratio Perm	0.34			0.17			c0.09			0.07		0.07
v/c Ratio	0.88	0.75		0.48	0.76		0.24	0.23		0.19	0.09	0.18
Uniform Delay, d1	29.7	20.9		27.4	31.1		24.4	24.3		23.9	23.1	23.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	22.7	2.0		23.9	3.0		1.4	0.8		1.0	0.1	0.8
Delay (s)	52.4	22.9		51.4	34.1		25.8	25.1		24.9	23.2	24.7
Level of Service	D	C		D	C		C	C		C	C	C
Approach Delay (s/veh)		26.5			34.5			25.4			24.3	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	143.9%	ICU Level of Service	H
Analysis Period (min)	15		

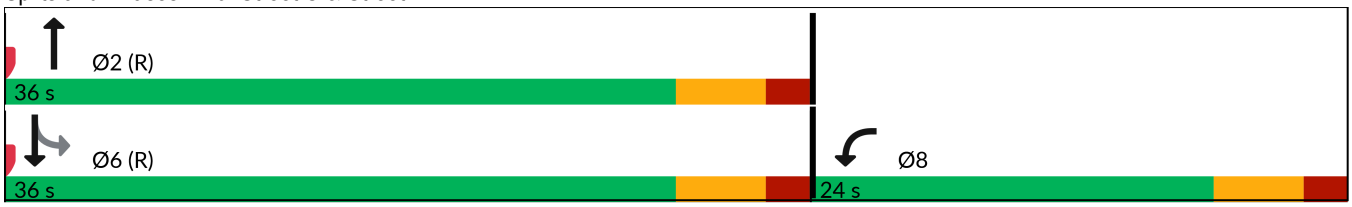
c Critical Lane Group



Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	0	369	105	187
Future Volume (vph)	0	369	105	187
Lane Group Flow (vph)	62	388	111	197
Turn Type	Prot	NA	Perm	NA
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phase	8	2	6	6
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	31.0	31.0	31.0
Total Split (s)	24.0	36.0	36.0	36.0
Total Split (%)	40.0%	60.0%	60.0%	60.0%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Max	C-Max	C-Max
Act Effct Green (s)	6.5	50.1	50.1	50.1
Actuated g/C Ratio	0.11	0.84	0.84	0.84
v/c Ratio	0.12	0.25	0.14	0.13
Control Delay (s/veh)	0.4	2.7	5.3	4.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	0.4	2.7	5.3	4.4
LOS	A	A	A	A
Approach Delay (s/veh)	0.4	2.7		4.7
Approach LOS	A	A		A
Queue Length 50th (m)	0.0	10.9	8.4	14.7
Queue Length 95th (m)	0.0	18.4	26.5	33.7
Internal Link Dist (m)	19.3	63.2		111.4
Turn Bay Length (m)			15.0	
Base Capacity (vph)	767	1569	787	1569
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.08	0.25	0.14	0.13

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 60	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of 1st Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.25	
Intersection Signal Delay (s/veh): 3.3	Intersection LOS: A
Intersection Capacity Utilization 41.9%	ICU Level of Service A
Analysis Period (min) 15	

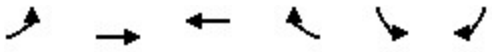
Splits and Phases: 6: Street C & Street D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	59	369	0	105	187
Future Volume (vph)	0	59	369	0	105	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.0	3.5	3.0	3.0	3.5
Total Lost time (s)	5.0		5.0		5.0	5.0
Lane Util. Factor	1.00		1.00		1.00	1.00
Frt	0.87		1.00		1.00	1.00
Flt Protected	1.00		1.00		0.95	1.00
Satd. Flow (prot)	1534		1879		1685	1879
Flt Permitted	1.00		1.00		0.53	1.00
Satd. Flow (perm)	1534		1879		944	1879
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	62	388	0	111	197
RTOR Reduction (vph)	58	0	0	0	0	0
Lane Group Flow (vph)	4	0	388	0	111	197
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	3.3		44.7		44.7	44.7
Effective Green, g (s)	4.3		45.7		45.7	45.7
Actuated g/C Ratio	0.07		0.76		0.76	0.76
Clearance Time (s)	6.0		6.0		6.0	6.0
Vehicle Extension (s)	3.0		3.0		3.0	3.0
Lane Grp Cap (vph)	109		1431		719	1431
v/s Ratio Prot	c0.00		c0.21			0.10
v/s Ratio Perm					0.12	
v/c Ratio	0.04		0.27		0.15	0.14
Uniform Delay, d1	25.9		2.1		1.9	1.9
Progression Factor	1.00		1.00		2.32	2.21
Incremental Delay, d2	0.2		0.5		0.4	0.2
Delay (s)	26.1		2.6		4.9	4.4
Level of Service	C		A		A	A
Approach Delay (s/veh)	26.1		2.6			4.6
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	105	59	0	0	0
Future Volume (Veh/h)	0	105	59	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	111	62	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)		43				
pX, platoon unblocked						
vC, conflicting volume	62				173	62
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	62				173	62
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1554				822	1009

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	111	62	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1554	1700	1700
Volume to Capacity	0.00	0.04	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	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		8.9%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	105	0	16	35	7	43
Future Volume (vph)	105	0	16	35	7	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	111	0	17	37	7	45

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	111	54	52
Volume Left (vph)	111	17	0
Volume Right (vph)	0	0	45
Hadj (s)	0.20	0.06	-0.52
Departure Headway (s)	4.3	4.3	3.7
Degree Utilization, x	0.13	0.06	0.05
Capacity (veh/h)	811	811	940
Control Delay (s/veh)	8.0	7.6	6.9
Approach Delay (s/veh)	8.0	7.6	6.9
Approach LOS	A	A	A

Intersection Summary			
Delay	7.6		
Level of Service	A		
Intersection Capacity Utilization	21.9%	ICU Level of Service	A
Analysis Period (min)	15		

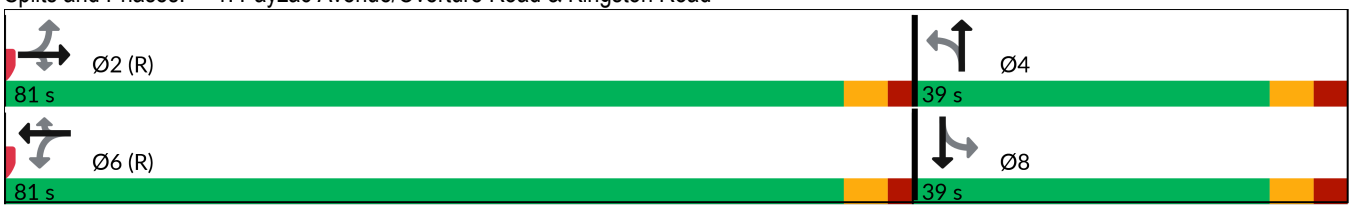
Future Total

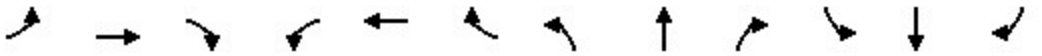
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	16	1275	15	23	2078	27	32	15	32	2
Future Volume (vph)	16	1275	15	23	2078	27	32	15	32	2
Lane Group Flow (vph)	16	1314	15	24	2142	28	33	29	33	49
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	27.0	27.0	27.0	27.0	27.0	27.0	7.0	7.0	7.0	7.0
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	38.0	38.0	38.0	38.0
Total Split (s)	81.0	81.0	81.0	81.0	81.0	81.0	39.0	39.0	39.0	39.0
Total Split (%)	67.5%	67.5%	67.5%	67.5%	67.5%	67.5%	32.5%	32.5%	32.5%	32.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	102.1	102.1	102.1	102.1	102.1	102.1	10.7	10.7	10.7	10.7
Actuated g/C Ratio	0.85	0.85	0.85	0.85	0.85	0.85	0.09	0.09	0.09	0.09
v/c Ratio	0.21	0.46	0.01	0.09	0.73	0.02	0.32	0.19	0.31	0.41
Control Delay (s/veh)	6.9	2.4	0.0	3.4	7.1	0.7	58.7	33.6	58.0	52.5
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)	6.9	2.4	0.0	3.4	7.1	0.7	58.7	33.6	58.0	52.5
LOS	A	A	A	A	A	A	E	C	E	D
Approach Delay (s/veh)		2.4			6.9			47.0		54.7
Approach LOS		A			A			D		D
Queue Length 50th (m)	0.1	7.3	0.0	0.8	96.5	0.0	7.4	3.3	7.4	8.8
Queue Length 95th (m)	m0.3	m7.9	m0.0	3.2	154.9	1.4	17.3	12.2	17.3	20.6
Internal Link Dist (m)		133.6			1142.1			209.9		118.3
Turn Bay Length (m)	20.0		75.0	25.0		80.0	15.0		10.0	
Base Capacity (vph)	75	2865	1092	269	2921	1156	315	449	325	349
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	0.21	0.46	0.01	0.09	0.73	0.02	0.10	0.06	0.10	0.14

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 39 (33%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 7.0		Intersection LOS: A	
Intersection Capacity Utilization 78.7%		ICU Level of Service D	
Analysis Period (min) 15			

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

Splits and Phases: 1: Payzac Avenue/Overture Road & Kingston Road





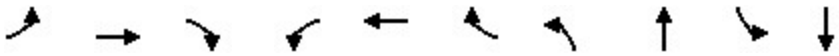
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1275	15	23	2078	27	32	15	14	32	2	46
Future Volume (vph)	16	1275	15	23	2078	27	32	15	14	32	2	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0		6.0	6.0	
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	0.96	1.00	1.00	0.97	1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		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)	1348	3368	1278	1555	3433	1353	1506	1597		1523	1244	
Flt Permitted	0.06	1.00	1.00	0.19	1.00	1.00	0.73	1.00		0.74	1.00	
Satd. Flow (perm)	90	3368	1278	316	3433	1353	1150	1597		1184	1244	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	16	1314	15	24	2142	28	33	15	14	33	2	47
RTOR Reduction (vph)	0	0	3	0	0	5	0	13	0	0	9	0
Lane Group Flow (vph)	16	1314	12	24	2142	23	33	16	0	33	40	0
Confl. Peds. (#/hr)	5		10	10		5	7		5	5		7
Heavy Vehicles (%)	25%	6%	13%	8%	4%	8%	11%	0%	17%	10%	0%	28%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	98.7	98.7	98.7	98.7	98.7	98.7	8.3	8.3		8.3	8.3	
Effective Green, g (s)	99.7	99.7	99.7	99.7	99.7	99.7	9.3	9.3		9.3	9.3	
Actuated g/C Ratio	0.83	0.83	0.83	0.83	0.83	0.83	0.08	0.08		0.08	0.08	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0		7.0	7.0	
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)	74	2798	1061	262	2852	1124	89	123		91	96	
v/s Ratio Prot		0.39			c0.62			0.01			c0.03	
v/s Ratio Perm	0.18		0.01	0.08		0.02	0.03			0.03		
v/c Ratio	0.22	0.47	0.01	0.09	0.75	0.02	0.37	0.13		0.36	0.41	
Uniform Delay, d1	2.1	2.8	1.7	1.9	4.6	1.7	52.6	51.6		52.5	52.8	
Progression Factor	0.78	0.66	0.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.8	0.3	0.0	0.7	1.9	0.0	2.6	0.5		2.5	2.9	
Delay (s)	5.5	2.2	0.0	2.6	6.4	1.8	55.2	52.1		55.0	55.6	
Level of Service	A	A	A	A	A	A	E	D		D	E	
Approach Delay (s/veh)		2.2			6.3			53.7			55.4	
Approach LOS		A			A			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1146	22	0	2156	0	157
Future Volume (Veh/h)	1146	22	0	2156	0	157
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)	1273	24	0	2396	0	174
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	95			158		
pX, platoon unblocked			0.71		0.33	0.71
vC, conflicting volume			1297		2471	637
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			613		0	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	78
cM capacity (veh/h)			696		342	778

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	637	637	24	1198	1198	174
Volume Left	0	0	0	0	0	0
Volume Right	0	0	24	0	0	174
cSH	1700	1700	1700	1700	1700	778
Volume to Capacity	0.37	0.37	0.01	0.70	0.70	0.22
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	6.5
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	11.0
Lane LOS						B
Approach Delay (s/veh)	0.0			0.0		11.0
Approach LOS						B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

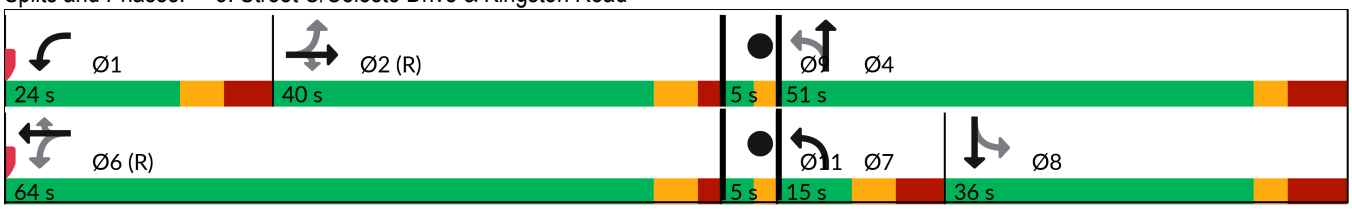


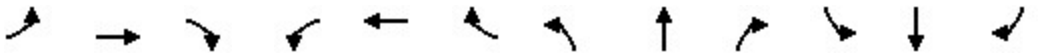
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9	Ø11
Lane Configurations												
Traffic Volume (vph)	26	1064	66	423	1713	20	193	66	20	118		
Future Volume (vph)	26	1064	66	423	1713	20	193	66	20	118		
Lane Group Flow (vph)	26	1075	67	427	1730	20	195	152	0	188		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA		
Protected Phases		2		1	6		7	4		8	9	11
Permitted Phases	2		2	6		6	4		8			
Detector Phase	2	2	2	1	6	6	7	4	8	8		
Switch Phase												
Minimum Initial (s)	23.0	23.0	23.0	6.0	23.0	23.0	6.0	7.0	7.0	7.0	3.0	3.0
Minimum Split (s)	29.0	29.0	29.0	14.2	29.0	29.0	14.2	35.4	35.4	35.4	5.0	5.0
Total Split (s)	40.0	40.0	40.0	24.0	64.0	64.0	15.0	51.0	36.0	36.0	5.0	5.0
Total Split (%)	33.3%	33.3%	33.3%	20.0%	53.3%	53.3%	12.5%	42.5%	30.0%	30.0%	4%	4%
Yellow Time (s)	4.0	4.0	4.0	3.8	4.0	4.0	3.8	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.0	2.0	2.0	4.4	2.0	2.0	4.4	5.4	5.4	5.4	0.0	0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0		
Total Lost Time (s)	5.0	5.0	5.0	7.2	5.0	5.0	7.2	7.4		7.4		
Lead/Lag	Lag	Lag	Lag	Lead			Lead		Lag	Lag		
Lead-Lag Optimize?				Yes			Yes					
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	Max	Max
Act Effct Green (s)	35.0	35.0	35.0	66.5	68.7	68.7	34.1	33.9		18.9		
Actuated g/C Ratio	0.29	0.29	0.29	0.55	0.57	0.57	0.28	0.28		0.16		
v/c Ratio	0.53	1.06	0.12	1.01	0.87	0.03	0.84	0.29		0.69		
Control Delay (s/veh)	76.6	88.1	0.5	78.8	29.1	0.1	65.6	20.4		56.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0		
Total Delay (s/veh)	76.6	88.1	0.5	78.8	29.1	0.1	65.6	20.4		56.8		
LOS	E	F	A	E	C	A	E	C		E		
Approach Delay (s/veh)		82.8			38.6			45.8		56.8		
Approach LOS		F			D			D		E		
Queue Length 50th (m)	5.1	~146.8	0.0	~95.6	149.2	0.0	37.3	16.5		39.2		
Queue Length 95th (m)	#19.6	#187.6	0.0	#181.0	#256.3	m0.0	#60.6	31.0		59.8		
Internal Link Dist (m)		368.1			71.5			111.4		194.0		
Turn Bay Length (m)	35.0		85.0	25.0		85.0	30.0					
Base Capacity (vph)	49	1010	550	424	1984	747	233	648		404		
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	0.53	1.06	0.12	1.01	0.87	0.03	0.84	0.23		0.47		

Intersection Summary			
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay (s/veh): 53.4		Intersection LOS: D	
Intersection Capacity Utilization 122.3%		ICU Level of Service H	
Analysis Period (min) 15			

~ 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: 3: Street C/Celeste Drive & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	1064	66	423	1713	20	193	66	84	20	118	49
Future Volume (vph)	26	1064	66	423	1713	20	193	66	84	20	118	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	7.2	5.0	5.0	7.2	7.4			7.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.90	1.00	1.00	0.93	1.00	0.99			0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	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	0.92			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)	1423	3466	1362	1668	3466	1201	1629	1680			1742	
Flt Permitted	0.11	1.00	1.00	0.09	1.00	1.00	0.35	1.00			0.94	
Satd. Flow (perm)	171	3466	1362	166	3466	1201	594	1680			1654	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	26	1075	67	427	1730	20	195	67	85	20	119	49
RTOR Reduction (vph)	0	0	47	0	0	9	0	43	0	0	12	0
Lane Group Flow (vph)	26	1075	20	427	1730	11	195	109	0	0	176	0
Confl. Peds. (#/hr)	18		29	29		18	62		10	10		62
Confl. Bikes (#/hr)			2			3						3
Heavy Vehicles (%)	18%	3%	0%	1%	3%	17%	2%	1%	1%	0%	0%	3%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	34.0	34.0	34.0	67.7	67.7	67.7	32.9	32.9			17.9	
Effective Green, g (s)	35.0	35.0	35.0	68.7	68.7	68.7	33.9	33.9			18.9	
Actuated g/C Ratio	0.29	0.29	0.29	0.57	0.57	0.57	0.28	0.28			0.16	
Clearance Time (s)	6.0	6.0	6.0	8.2	6.0	6.0	8.2	8.4			8.4	
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)	49	1010	397	426	1984	687	235	474			260	
v/s Ratio Prot		0.31		0.22	c0.50		c0.05	0.06				
v/s Ratio Perm	0.15		0.01	c0.35		0.01	c0.18				0.11	
v/c Ratio	0.53	1.06	0.05	1.00	0.87	0.02	0.83	0.23			0.68	
Uniform Delay, d1	35.6	42.5	30.5	37.6	21.9	11.1	40.9	33.0			47.7	
Progression Factor	1.00	1.00	1.00	1.11	1.07	1.00	1.00	1.00			1.00	
Incremental Delay, d2	35.5	47.1	0.2	38.2	4.3	0.0	20.9	0.2			6.8	
Delay (s)	71.2	89.6	30.8	80.1	27.7	11.1	61.8	33.3			54.5	
Level of Service	E	F	C	F	C	B	E	C			D	
Approach Delay (s/veh)		85.8			37.8			49.3			54.5	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	54.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	28.8
Intersection Capacity Utilization	122.3%	ICU Level of Service	H
Analysis Period (min)	15		

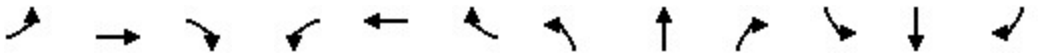
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1199	126	1730	338	350	772	180	282	42
Future Volume (vph)	1199	126	1730	338	350	772	180	282	42
Lane Group Flow (vph)	1249	131	1802	352	365	814	188	294	44
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	2		6		3	8	7	4	
Permitted Phases		2		6	8		4		4
Detector Phase	2	2	6	6	3	8	7	4	4
Switch Phase									
Minimum Initial (s)	37.0	37.0	37.0	37.0	6.0	47.0	6.0	47.0	47.0
Minimum Split (s)	44.0	44.0	44.0	44.0	11.0	54.0	11.0	54.0	54.0
Total Split (s)	75.0	75.0	75.0	75.0	11.0	54.0	11.0	54.0	54.0
Total Split (%)	53.6%	53.6%	53.6%	53.6%	7.9%	38.6%	7.9%	38.6%	38.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	6.0	6.0	5.0	6.0	4.0	6.0	4.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	69.0	69.0	70.0	69.0	57.0	48.0	57.0	48.0	48.0
Actuated g/C Ratio	0.49	0.49	0.50	0.49	0.41	0.34	0.41	0.34	0.34
v/c Ratio	0.75	0.19	1.05	0.47	0.92	0.70	0.99	0.26	0.09
Control Delay (s/veh)	31.9	4.9	70.6	14.8	66.2	43.6	95.8	34.0	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.9	4.9	70.6	14.8	66.2	43.6	95.8	34.0	2.8
LOS	C	A	E	B	E	D	F	C	A
Approach Delay (s/veh)	29.4		61.5			50.6		53.5	
Approach LOS	C		E			D		D	
Queue Length 50th (m)	142.5	2.0	~285.3	34.3	72.6	102.2	32.8	30.8	0.0
Queue Length 95th (m)	169.8	12.7	#327.0	60.2	#131.7	125.4	#77.3	42.6	3.5
Internal Link Dist (m)	1142.1		365.5			262.1		388.0	
Turn Bay Length (m)		80.0		145.0	55.0		75.0		
Base Capacity (vph)	1675	674	1716	748	396	1162	190	1122	474
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	0.75	0.19	1.05	0.47	0.92	0.70	0.99	0.26	0.09

Intersection Summary		
Cycle Length: 140		
Actuated Cycle Length: 140		
Offset: 51 (36%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green		
Natural Cycle: 150		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.05		
Intersection Signal Delay (s/veh): 49.8	Intersection LOS: D	
Intersection Capacity Utilization 118.9%	ICU Level of Service H	
Analysis Period (min) 15		

~ 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.

Splits and Phases: 4: Lawrence Avenue East & Kingston Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1199	126	0	1730	338	350	772	10	180	282	42
Future Volume (vph)	0	1199	126	0	1730	338	350	772	10	180	282	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		6.0	6.0		5.0	6.0	4.0	6.0		4.0	6.0	6.0
Lane Util. Factor		0.95	1.00		0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.91		1.00	0.92	1.00	1.00		1.00	1.00	0.92
Flpb, ped/bikes		1.00	1.00		1.00	1.00	0.98	1.00		1.00	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		3400	1249		3433	1361	1586	3389		1618	3275	1251
Flt Permitted		1.00	1.00		1.00	1.00	0.54	1.00		0.18	1.00	1.00
Satd. Flow (perm)		3400	1249		3433	1361	902	3389		309	3275	1251
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)	0	1249	131	0	1802	352	365	804	10	188	294	44
RTOR Reduction (vph)	0	0	59	0	0	78	0	1	0	0	0	29
Lane Group Flow (vph)	0	1249	72	0	1802	274	365	813	0	188	294	15
Confl. Peds. (#/hr)	60		68	68		60	70		40	40		70
Confl. Bikes (#/hr)			2			1			6			9
Heavy Vehicles (%)	0%	5%	10%	0%	4%	2%	4%	5%	11%	4%	9%	11%
Turn Type		NA	Perm		NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		2			6		3	8		7	4	
Permitted Phases			2			6	8			4		4
Actuated Green, G (s)		68.0	68.0		68.0	68.0	53.0	47.0		53.0	47.0	47.0
Effective Green, g (s)		69.0	69.0		70.0	69.0	55.0	48.0		55.0	48.0	48.0
Actuated g/C Ratio		0.49	0.49		0.50	0.49	0.39	0.34		0.39	0.34	0.34
Clearance Time (s)		7.0	7.0		7.0	7.0	5.0	7.0		5.0	7.0	7.0
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)		1675	615		1716	670	388	1161		186	1122	428
v/s Ratio Prot		0.37			c0.52		0.05	0.24		c0.05	0.09	
v/s Ratio Perm			0.06			0.20	0.32			c0.35		0.01
v/c Ratio		0.75	0.12		1.05	0.41	0.94	0.70		1.01	0.26	0.04
Uniform Delay, d1		28.5	19.1		35.0	22.6	39.8	39.8		40.4	33.2	30.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		3.1	0.4		36.2	1.9	30.9	3.5		68.8	0.6	0.2
Delay (s)		31.5	19.5		71.2	24.4	70.6	43.3		109.2	33.8	30.8
Level of Service		C	B		E	C	E	D		F	C	C
Approach Delay (s/veh)		30.4			63.6			51.8			60.5	
Approach LOS		C			E			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	51.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	118.9%	ICU Level of Service	H
Analysis Period (min)	15		

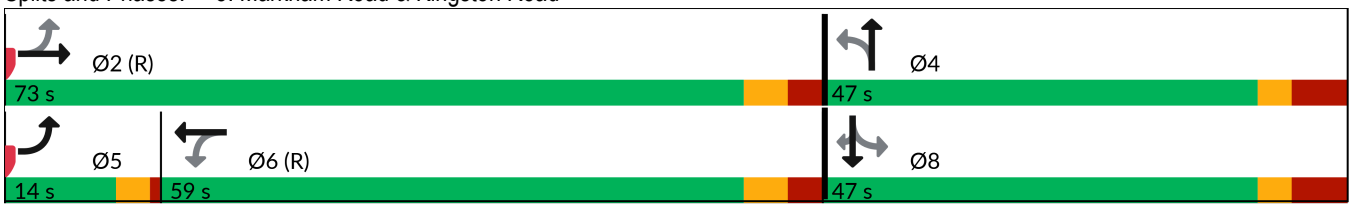
c Critical Lane Group

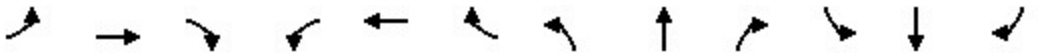
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	170	1050	26	1798	84	117	72	83	241
Future Volume (vph)	170	1050	26	1798	84	117	72	83	241
Lane Group Flow (vph)	179	1123	27	1984	88	144	76	87	254
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6		4		8	
Permitted Phases	2		6		4		8		8
Detector Phase	5	2	6	6	4	4	8	8	8
Switch Phase									
Minimum Initial (s)	6.0	37.0	37.0	37.0	39.0	39.0	39.0	39.0	39.0
Minimum Split (s)	10.0	44.0	44.0	44.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	14.0	73.0	59.0	59.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	11.7%	60.8%	49.2%	49.2%	39.2%	39.2%	39.2%	39.2%	39.2%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0	3.0	3.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?									
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	70.0	67.0	53.0	53.0	40.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio	0.58	0.56	0.44	0.44	0.33	0.33	0.33	0.33	0.33
v/c Ratio	0.94	0.41	0.14	0.91	0.22	0.24	0.20	0.08	0.44
Control Delay (s/veh)	80.5	15.6	22.6	38.4	30.6	28.7	30.3	27.7	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	80.5	15.6	22.6	38.4	30.6	28.7	30.3	27.7	12.4
LOS	F	B	C	D	C	C	C	C	B
Approach Delay (s/veh)		24.5		38.2		29.4		18.8	
Approach LOS		C		D		C		B	
Queue Length 50th (m)	28.5	52.6	3.7	155.8	14.8	23.0	12.7	7.3	12.6
Queue Length 95th (m)	#72.3	62.7	10.3	178.4	28.0	39.1	24.9	13.2	35.1
Internal Link Dist (m)		387.8		660.9		305.7		459.2	
Turn Bay Length (m)	60.0		25.0		70.0		65.0		15.0
Base Capacity (vph)	191	2770	187	2185	402	595	388	1133	574
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	0.94	0.41	0.14	0.91	0.22	0.24	0.20	0.08	0.44

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 86 (72%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 105		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.94		
Intersection Signal Delay (s/veh): 31.2	Intersection LOS: C	
Intersection Capacity Utilization 137.3%	ICU Level of Service H	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Markham Road & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1050	17	26	1798	86	84	117	20	72	83	241
Future Volume (vph)	170	1050	17	26	1798	86	84	117	20	72	83	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	3.0	6.0		6.0	6.0		7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.98		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)	1491	4958		1676	4940		1643	1770		1666	3400	1367
Flt Permitted	0.07	1.00		0.24	1.00		0.70	1.00		0.67	1.00	1.00
Satd. Flow (perm)	112	4958		426	4940		1207	1770		1166	3400	1367
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)	179	1105	18	27	1893	91	88	123	21	76	87	254
RTOR Reduction (vph)	0	1	0	0	4	0	0	5	0	0	0	119
Lane Group Flow (vph)	179	1122	0	27	1980	0	88	139	0	76	87	135
Confl. Peds. (#/hr)	16		24	24		16	18		15	15		18
Confl. Bikes (#/hr)												2
Heavy Vehicles (%)	13%	3%	13%	0%	3%	3%	1%	4%	0%	0%	5%	7%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Actuated Green, G (s)	66.0	66.0		52.0	52.0		39.0	39.0		39.0	39.0	39.0
Effective Green, g (s)	67.0	67.0		53.0	53.0		40.0	40.0		40.0	40.0	40.0
Actuated g/C Ratio	0.56	0.56		0.44	0.44		0.33	0.33		0.33	0.33	0.33
Clearance Time (s)	4.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	8.0
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)	188	2768		188	2181		402	590		388	1133	455
v/s Ratio Prot	c0.09	0.23			0.40			0.08			0.03	
v/s Ratio Perm	c0.44			0.06			0.07			0.07		c0.10
v/c Ratio	0.95	0.41		0.14	0.91		0.22	0.24		0.20	0.08	0.30
Uniform Delay, d1	35.1	15.1		20.0	31.2		28.8	28.9		28.5	27.4	29.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	51.6	0.4		1.6	6.9		1.3	0.9		1.1	0.1	1.7
Delay (s)	86.7	15.6		21.6	38.2		30.0	29.9		29.7	27.5	31.3
Level of Service	F	B		C	D		C	C		C	C	C
Approach Delay (s/veh)		25.4			37.9			29.9			30.2	
Approach LOS		C			D			C			C	

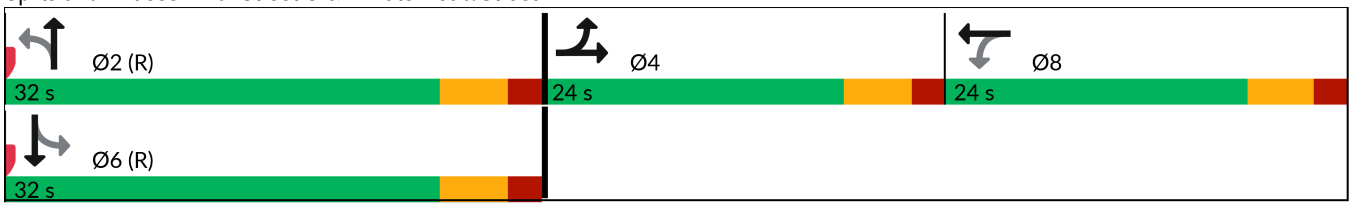
Intersection Summary			
HCM 2000 Control Delay (s/veh)	32.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	137.3%	ICU Level of Service	H
Analysis Period (min)	15		

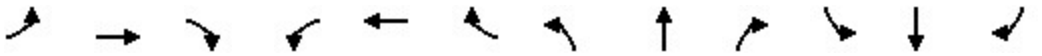
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	30	0	6	63	485
Future Volume (vph)	30	0	6	63	485
Lane Group Flow (vph)	164	243	7	70	605
Turn Type	NA	NA	NA	Perm	NA
Protected Phases	4	8	2		6
Permitted Phases				6	
Detector Phase	4	8	2	6	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	31.0	31.0	31.0
Total Split (s)	24.0	24.0	32.0	32.0	32.0
Total Split (%)	30.0%	30.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	13.5	6.5	45.0	45.0	45.0
Actuated g/C Ratio	0.17	0.08	0.56	0.56	0.56
v/c Ratio	0.54	0.27	0.01	0.09	0.58
Control Delay (s/veh)	36.4	0.7	9.3	9.7	14.9
Queue Delay	0.0	0.0	0.0	0.0	1.3
Total Delay (s/veh)	36.4	0.7	9.3	9.7	16.2
LOS	D	A	A	A	B
Approach Delay (s/veh)	36.4	0.7	9.3		15.5
Approach LOS	D	A	A		B
Queue Length 50th (m)	23.0	0.0	0.4	4.5	54.1
Queue Length 95th (m)	38.2	0.0	2.3	11.7	96.6
Internal Link Dist (m)	50.1	19.3	29.9		111.4
Turn Bay Length (m)				15.0	
Base Capacity (vph)	429	1032	1056	750	1043
Starvation Cap Reductn	0	0	0	0	239
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.24	0.01	0.09	0.75

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.58	
Intersection Signal Delay (s/veh): 15.3	Intersection LOS: B
Intersection Capacity Utilization 63.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Street C & Private Road/Street D

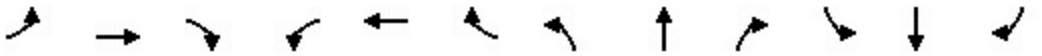




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	30	0	0	0	219	0	6	0	63	485	59
Future Volume (vph)	118	30	0	0	0	219	0	6	0	63	485	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		5.0			5.0			5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frt		1.00			0.87			1.00		1.00	0.98	
Flt Protected		0.96			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1807			1625			1879		1685	1848	
Flt Permitted		0.96			1.00			1.00		0.75	1.00	
Satd. Flow (perm)		1807			1625			1879		1336	1848	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	131	33	0	0	0	243	0	7	0	70	539	66
RTOR Reduction (vph)	0	0	0	0	223	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	164	0	0	20	0	0	7	0	70	602	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA			NA			NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)		12.5			5.5			44.0		44.0	44.0	
Effective Green, g (s)		13.5			6.5			45.0		45.0	45.0	
Actuated g/C Ratio		0.17			0.08			0.56		0.56	0.56	
Clearance Time (s)		6.0			6.0			6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		304			132			1056		751	1039	
v/s Ratio Prot		c0.09			c0.01			0.00			c0.33	
v/s Ratio Perm										0.05		
v/c Ratio		0.54			0.15			0.01		0.09	0.58	
Uniform Delay, d1		30.4			34.2			7.7		8.1	11.4	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		1.8			0.5			0.0		0.2	2.4	
Delay (s)		32.2			34.7			7.7		8.3	13.7	
Level of Service		C			C			A		A	B	
Approach Delay (s/veh)		32.2			34.7			7.7			13.1	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
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)	0	66	27	0	182	0	37	0	23	0	0	0
Future Volume (Veh/h)	0	66	27	0	182	0	37	0	23	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	73	30	0	202	0	41	0	26	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		43										
pX, platoon unblocked				1.00			1.00	1.00	1.00	1.00	1.00	
vC, conflicting volume	202			103			290	290	88	316	305	202
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	202			100			287	287	85	313	302	202
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			94	100	97	100	100	100
cM capacity (veh/h)	1382			1502			668	624	978	625	613	844

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	103	202	67	0
Volume Left	0	0	41	0
Volume Right	30	0	26	0
cSH	1382	1502	761	1700
Volume to Capacity	0.00	0.00	0.09	0.00
Queue Length 95th (m)	0.0	0.0	2.2	0.0
Control Delay (s/veh)	0.0	0.0	10.2	0.0
Lane LOS			B	A
Approach Delay (s/veh)	0.0	0.0	10.2	0.0
Approach LOS			B	A

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	19.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	89	0	125	59	12	57
Future Volume (vph)	89	0	125	59	12	57
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	99	0	139	66	13	63

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	99	205	76
Volume Left (vph)	99	139	0
Volume Right (vph)	0	0	63
Hadj (s)	0.20	0.14	-0.50
Departure Headway (s)	4.7	4.4	3.9
Degree Utilization, x	0.13	0.25	0.08
Capacity (veh/h)	712	802	893
Control Delay (s/veh)	8.4	8.8	7.2
Approach Delay (s/veh)	8.4	8.8	7.2
Approach LOS	A	A	A

Intersection Summary			
Delay	8.4		
Level of Service	A		
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	59	0	0	148
Future Volume (Veh/h)	0	0	59	0	0	148
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	0	66	0	0	164
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				125		
pX, platoon unblocked						
vC, conflicting volume			0		132	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		132	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		100	85
cM capacity (veh/h)			1636		832	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	66	164
Volume Left	0	66	0
Volume Right	0	0	164
cSH	1700	1636	1091
Volume to Capacity	0.00	0.04	0.15
Queue Length 95th (m)	0.0	1.0	4.0
Control Delay (s/veh)	0.0	7.3	8.9
Lane LOS		A	A
Approach Delay (s/veh)	0.0	7.3	8.9
Approach LOS			A

Intersection Summary			
Average Delay		8.4	
Intersection Capacity Utilization		19.2%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	6	244	241
Future Volume (Veh/h)	0	0	0	6	244	241
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)	0	0	0	7	271	268
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					54	
pX, platoon unblocked	0.79	0.79	0.79			
vC, conflicting volume	412	405	539			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	120	111	281			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	694	747	1019			

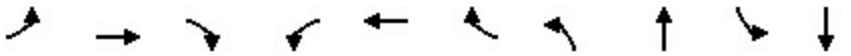
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	7	539
Volume Left	0	0	0
Volume Right	0	0	268
cSH	1700	1019	1700
Volume to Capacity	0.00	0.00	0.32
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s/veh)	0.0	0.0	0.0
Lane LOS	A		
Approach Delay (s/veh)	0.0	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		30.9%	ICU Level of Service A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	184	60	6	6
Future Volume (Veh/h)	0	0	184	60	6	6
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	0	204	67	7	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			190			
pX, platoon unblocked						
vC, conflicting volume	259	238			271	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	259	238			271	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	731	806			1304	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	0	271	14
Volume Left	0	0	7
Volume Right	0	67	0
cSH	1700	1700	1304
Volume to Capacity	0.00	0.16	0.01
Queue Length 95th (m)	0.0	0.0	0.1
Control Delay (s/veh)	0.0	0.0	3.9
Lane LOS	A		A
Approach Delay (s/veh)	0.0	0.0	3.9
Approach LOS	A		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

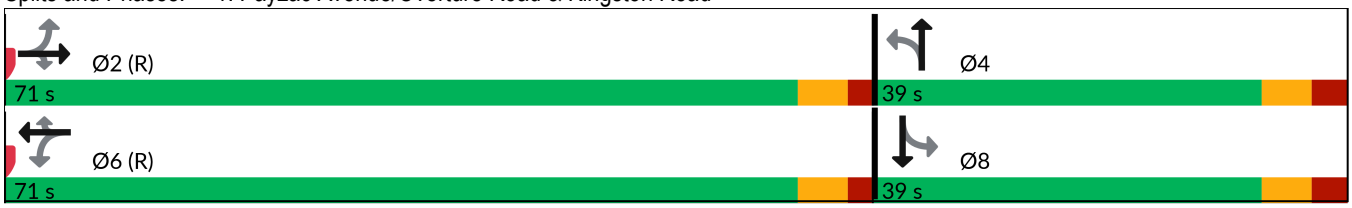


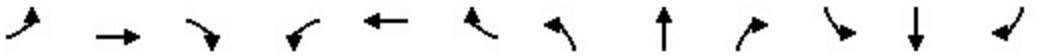
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	49	2069	49	39	1466	47	28	10	25	13
Future Volume (vph)	49	2069	49	39	1466	47	28	10	25	13
Lane Group Flow (vph)	52	2178	52	41	1543	49	29	26	26	36
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		2			6			4		8
Permitted Phases	2		2	6		6	4		8	
Detector Phase	2	2	2	6	6	6	4	4	8	8
Switch Phase										
Minimum Initial (s)	27.0	27.0	27.0	27.0	27.0	27.0	7.0	7.0	7.0	7.0
Minimum Split (s)	33.0	33.0	33.0	33.0	33.0	33.0	38.0	38.0	38.0	38.0
Total Split (s)	71.0	71.0	71.0	71.0	71.0	71.0	39.0	39.0	39.0	39.0
Total Split (%)	64.5%	64.5%	64.5%	64.5%	64.5%	64.5%	35.5%	35.5%	35.5%	35.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	6.0	6.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max	None	None	None	None
Act Effct Green (s)	93.0	93.0	93.0	93.0	93.0	93.0	9.8	9.8	9.8	9.8
Actuated g/C Ratio	0.85	0.85	0.85	0.85	0.85	0.85	0.09	0.09	0.09	0.09
v/c Ratio	0.25	0.74	0.04	0.48	0.53	0.04	0.29	0.17	0.23	0.22
Control Delay (s/veh)	6.1	7.1	1.1	27.5	4.1	0.8	53.4	38.6	50.5	28.1
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.1	7.5	1.1	27.5	4.1	0.8	53.4	38.6	50.5	28.1
LOS	A	A	A	C	A	A	D	D	D	C
Approach Delay (s/veh)		7.3			4.6			46.4		37.5
Approach LOS		A			A			D		D
Queue Length 50th (m)	2.0	92.7	0.4	2.1	44.3	0.0	6.0	3.8	5.3	2.8
Queue Length 95th (m)	7.3	146.4	2.7	#23.1	68.7	2.2	14.8	12.0	13.6	12.2
Internal Link Dist (m)		133.6			1142.1			209.9		118.3
Turn Bay Length (m)	20.0		75.0	25.0		80.0	15.0		10.0	
Base Capacity (vph)	210	2931	1235	85	2903	1249	345	513	390	502
Starvation Cap Reductn	0	282	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	0.25	0.82	0.04	0.48	0.53	0.04	0.08	0.05	0.07	0.07

Intersection Summary		
Cycle Length: 110		
Actuated Cycle Length: 110		
Offset: 13 (12%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 110		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.74		
Intersection Signal Delay (s/veh): 7.2	Intersection LOS: A	
Intersection Capacity Utilization 79.5%	ICU Level of Service D	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Payzac Avenue/Overture Road & Kingston Road





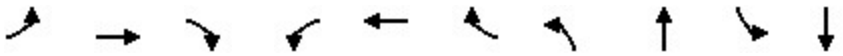
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	2069	49	39	1466	47	28	10	14	25	13	21
Future Volume (vph)	49	2069	49	39	1466	47	28	10	14	25	13	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0		6.0	6.0	
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	0.96	1.00	1.00	0.97	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.91	
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)	1619	3466	1453	1620	3433	1468	1489	1695		1669	1624	
Flt Permitted	0.15	1.00	1.00	0.06	1.00	1.00	0.73	1.00		0.74	1.00	
Satd. Flow (perm)	249	3466	1453	100	3433	1468	1150	1695		1301	1624	
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)	52	2178	52	41	1543	49	29	11	15	26	14	22
RTOR Reduction (vph)	0	0	7	0	0	9	0	6	0	0	20	0
Lane Group Flow (vph)	52	2178	45	41	1543	40	29	20	0	26	16	0
Confl. Peds. (#/hr)	3		8	8		3	10		9	9		10
Heavy Vehicles (%)	4%	3%	0%	4%	4%	0%	12%	0%	0%	0%	0%	6%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	89.6	89.6	89.6	89.6	89.6	89.6	7.4	7.4		7.4	7.4	
Effective Green, g (s)	90.6	90.6	90.6	90.6	90.6	90.6	8.4	8.4		8.4	8.4	
Actuated g/C Ratio	0.82	0.82	0.82	0.82	0.82	0.82	0.08	0.08		0.08	0.08	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	7.0	7.0		7.0	7.0	
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)	205	2854	1196	82	2827	1209	87	129		99	124	
v/s Ratio Prot		c0.63			0.45			0.01			0.01	
v/s Ratio Perm	0.21		0.03	0.41		0.03	c0.03			0.02		
v/c Ratio	0.25	0.76	0.04	0.50	0.55	0.03	0.33	0.15		0.26	0.13	
Uniform Delay, d1	2.2	4.6	1.8	2.9	3.1	1.8	48.1	47.5		47.9	47.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.0	2.0	0.1	20.1	0.8	0.1	2.3	0.5		1.4	0.5	
Delay (s)	5.1	6.6	1.8	23.1	3.9	1.8	50.4	48.0		49.3	47.8	
Level of Service	A	A	A	C	A	A	D	D		D	D	
Approach Delay (s/veh)		6.5			4.3			49.3			48.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1937	90	0	1515	0	230
Future Volume (Veh/h)	1937	90	0	1515	0	230
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)	2039	95	0	1595	0	242
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	95			158		
pX, platoon unblocked			0.64		0.72	0.64
vC, conflicting volume			2134		2837	1020
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1643		1779	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	65
cM capacity (veh/h)			255		54	696

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	1020	1020	95	798	798	242
Volume Left	0	0	0	0	0	0
Volume Right	0	0	95	0	0	242
cSH	1700	1700	1700	1700	1700	696
Volume to Capacity	0.60	0.60	0.06	0.47	0.47	0.35
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	11.8
Control Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	12.9
Lane LOS						B
Approach Delay (s/veh)	0.0			0.0		12.9
Approach LOS						B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		

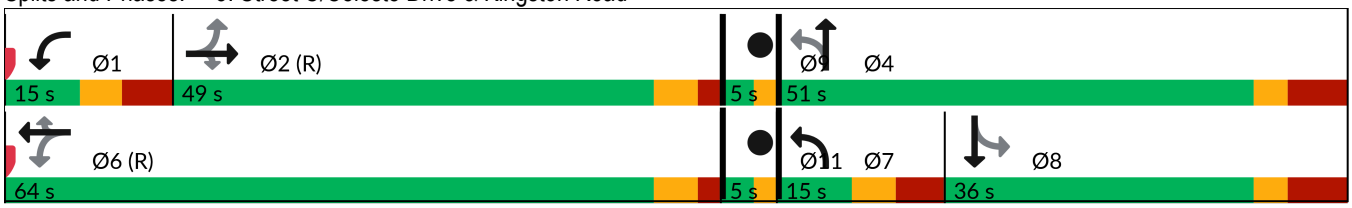


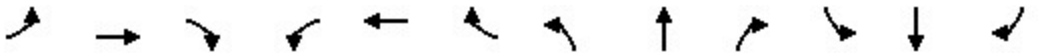
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	Ø9	Ø11
Lane Configurations												
Traffic Volume (vph)	50	1855	189	295	1182	38	185	129	19	70		
Future Volume (vph)	50	1855	189	295	1182	38	185	129	19	70		
Lane Group Flow (vph)	53	1953	199	311	1244	40	195	297	0	126		
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	NA		
Protected Phases		2		1	6		7	4		8	9	11
Permitted Phases	2		2	6		6	4		8			
Detector Phase	2	2	2	1	6	6	7	4	8	8		
Switch Phase												
Minimum Initial (s)	23.0	23.0	23.0	6.0	23.0	23.0	6.0	7.0	7.0	7.0	3.0	3.0
Minimum Split (s)	29.0	29.0	29.0	14.2	29.0	29.0	14.2	35.4	35.4	35.4	5.0	5.0
Total Split (s)	49.0	49.0	49.0	15.0	64.0	64.0	15.0	51.0	36.0	36.0	5.0	5.0
Total Split (%)	40.8%	40.8%	40.8%	12.5%	53.3%	53.3%	12.5%	42.5%	30.0%	30.0%	4%	4%
Yellow Time (s)	4.0	4.0	4.0	3.8	4.0	4.0	3.8	3.0	3.0	3.0	2.0	2.0
All-Red Time (s)	2.0	2.0	2.0	4.4	2.0	2.0	4.4	5.4	5.4	5.4	0.0	0.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-3.0	-1.0	-1.0	-1.0	-1.0		-1.0		
Total Lost Time (s)	5.0	5.0	5.0	5.2	5.0	5.0	7.2	7.4		7.4		
Lead/Lag	Lag	Lag	Lag	Lead			Lead		Lag	Lag		
Lead-Lag Optimize?				Yes								
Recall Mode	C-Max	C-Max	C-Max	None	C-Max	C-Max	Max	None	None	None	Max	Max
Act Effct Green (s)	44.0	44.0	44.0	72.5	72.7	72.7	30.1	29.9		14.9		
Actuated g/C Ratio	0.37	0.37	0.37	0.60	0.61	0.61	0.25	0.25		0.12		
v/c Ratio	0.37	1.52	0.31	0.81	0.60	0.05	0.81	0.64		0.62		
Control Delay (s/veh)	36.9	268.9	4.0	49.1	16.9	0.1	63.8	38.6		57.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		0.0		
Total Delay (s/veh)	36.9	268.9	4.0	49.1	16.9	0.1	63.8	38.6		57.1		
LOS	D	F	A	D	B	A	E	D		E		
Approach Delay (s/veh)		239.4			22.8			48.6		57.1		
Approach LOS		F			C			D		E		
Queue Length 50th (m)	9.0	~338.2	0.0	55.4	90.0	0.0	39.1	51.0		25.6		
Queue Length 95th (m)	21.6	#380.2	12.1	#119.6	125.8	0.0	#60.7	75.4		43.1		
Internal Link Dist (m)		368.1			71.5			111.4		194.0		
Turn Bay Length (m)	35.0		85.0	25.0		85.0	30.0					
Base Capacity (vph)	145	1283	643	386	2059	868	242	649		379		
Starvation Cap Reductn	0	0	0	0	0	0	0	21		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	0.37	1.52	0.31	0.81	0.60	0.05	0.81	0.47		0.33		

Intersection Summary		
Cycle Length: 120		
Actuated Cycle Length: 120		
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 150		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.52		
Intersection Signal Delay (s/veh): 134.8	Intersection LOS: F	
Intersection Capacity Utilization 105.8%	ICU Level of Service G	
Analysis Period (min) 15		

~ 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.

Splits and Phases: 3: Street C/Celeste Drive & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1855	189	295	1182	38	185	129	153	19	70	30
Future Volume (vph)	50	1855	189	295	1182	38	185	129	153	19	70	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	5.0	5.0	5.0	5.2	5.0	5.0	7.2	7.4			7.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00	0.95	1.00	0.98			0.98	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92			0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00			0.99	
Satd. Flow (prot)	1676	3500	1382	1685	3400	1341	1648	1688			1750	
Flt Permitted	0.22	1.00	1.00	0.08	1.00	1.00	0.43	1.00			0.88	
Satd. Flow (perm)	396	3500	1382	139	3400	1341	740	1688			1549	
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)	53	1953	199	311	1244	40	195	136	161	20	74	32
RTOR Reduction (vph)	0	0	126	0	0	16	0	42	0	0	11	0
Lane Group Flow (vph)	53	1953	73	311	1244	24	195	255	0	0	115	0
Confl. Peds. (#/hr)	11		21	21		11	64		22	22		64
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	2%	1%	0%	5%	7%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		7	4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	43.0	43.0	43.0	71.7	71.7	71.7	28.9	28.9			13.9	
Effective Green, g (s)	44.0	44.0	44.0	74.7	72.7	72.7	29.9	29.9			14.9	
Actuated g/C Ratio	0.37	0.37	0.37	0.62	0.61	0.61	0.25	0.25			0.12	
Clearance Time (s)	6.0	6.0	6.0	8.2	6.0	6.0	8.2	8.4			8.4	
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)	145	1283	506	389	2059	812	243	420			192	
v/s Ratio Prot		c0.56		c0.16	0.37		c0.05	0.15				
v/s Ratio Perm	0.13		0.05	0.34		0.02	c0.15				0.07	
v/c Ratio	0.37	1.52	0.14	0.80	0.60	0.03	0.80	0.61			0.60	
Uniform Delay, d1	27.8	38.0	25.4	34.9	14.7	9.5	42.9	39.9			49.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2	7.0	239.0	0.6	11.0	1.3	0.1	17.2	2.5			4.9	
Delay (s)	34.8	277.0	26.0	45.9	16.0	9.6	60.0	42.3			54.6	
Level of Service	C	F	C	D	B	A	E	D			D	
Approach Delay (s/veh)		248.5			21.7			49.3			54.6	
Approach LOS		F			C			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	138.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.8
Intersection Capacity Utilization	105.8%	ICU Level of Service	G
Analysis Period (min)	15		

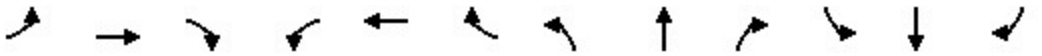
c Critical Lane Group

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	1865	237	1320	288	192	437	326	749	40
Future Volume (vph)	1865	237	1320	288	192	437	326	749	40
Lane Group Flow (vph)	1903	242	1347	294	196	452	333	764	41
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	pm+pt	NA	Perm
Protected Phases	2		6		3	8	7	4	
Permitted Phases		2		6	8		4		4
Detector Phase	2	2	6	6	3	8	7	4	4
Switch Phase									
Minimum Initial (s)	37.0	37.0	37.0	37.0	6.0	47.0	6.0	47.0	47.0
Minimum Split (s)	44.0	44.0	44.0	44.0	11.0	54.0	11.0	54.0	54.0
Total Split (s)	75.0	75.0	75.0	75.0	11.0	54.0	11.0	54.0	54.0
Total Split (%)	53.6%	53.6%	53.6%	53.6%	7.9%	38.6%	7.9%	38.6%	38.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	2.0	3.0	2.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	4.0	6.0	6.0	6.0	4.0	6.0	4.0	6.0	6.0
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	71.0	69.0	69.0	69.0	57.0	48.0	57.0	48.0	48.0
Actuated g/C Ratio	0.51	0.49	0.49	0.49	0.41	0.34	0.41	0.34	0.34
v/c Ratio	1.00	0.35	0.79	0.41	0.95	0.39	1.01	0.64	0.08
Control Delay (s/veh)	55.6	10.2	33.7	9.6	82.9	36.0	89.7	41.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	55.6	10.2	33.7	9.6	82.9	36.0	89.7	41.8	2.3
LOS	E	B	C	A	F	D	F	D	A
Approach Delay (s/veh)	50.5		29.4			50.2		54.4	
Approach LOS	D		C			D		D	
Queue Length 50th (m)	~258.6	15.2	159.3	16.1	34.3	49.7	~65.2	93.6	0.0
Queue Length 95th (m)	#313.2	34.2	188.4	37.8	#76.9	64.8	#130.7	115.4	2.8
Internal Link Dist (m)	1142.1		365.5			262.1		388.0	
Turn Bay Length (m)		80.0		145.0	55.0		75.0		
Base Capacity (vph)	1898	686	1708	710	207	1160	329	1188	495
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	1.00	0.35	0.79	0.41	0.95	0.39	1.01	0.64	0.08

Intersection Summary		
Cycle Length: 140		
Actuated Cycle Length: 140		
Offset: 53 (38%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green		
Natural Cycle: 140		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 1.01		
Intersection Signal Delay (s/veh): 45.0	Intersection LOS: D	
Intersection Capacity Utilization 119.1%	ICU Level of Service H	
Analysis Period (min) 15		

~ 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.

Splits and Phases: 4: Lawrence Avenue East & Kingston Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1865	237	0	1320	288	192	437	6	326	749	40
Future Volume (vph)	0	1865	237	0	1320	288	192	437	6	326	749	40
Ideal Flow (vphpl)	1900	1950	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		4.0	6.0		6.0	6.0	4.0	6.0		4.0	6.0	6.0
Lane Util. Factor		*1.00	1.00		0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.87
Flpb, ped/bikes		1.00	1.00		1.00	1.00	0.99	1.00		0.98	1.00	1.00
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected		1.00	1.00		1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)		3744	1248		3466	1250	1643	3382		1650	3466	1310
Flt Permitted		1.00	1.00		1.00	1.00	0.21	1.00		0.41	1.00	1.00
Satd. Flow (perm)		3744	1248		3466	1250	359	3382		710	3466	1310
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	1903	242	0	1347	294	196	446	6	333	764	41
RTOR Reduction (vph)	0	0	71	0	0	95	0	1	0	0	0	27
Lane Group Flow (vph)	0	1903	171	0	1347	199	196	451	0	333	764	14
Confl. Peds. (#/hr)	125		117	117		125	130		125	125		130
Confl. Bikes (#/hr)			14			9			5			10
Heavy Vehicles (%)	0%	3%	3%	0%	3%	2%	2%	5%	17%	0%	3%	0%
Turn Type		NA	Perm		NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		2			6		3	8		7	4	
Permitted Phases			2			6	8			4		4
Actuated Green, G (s)		68.0	68.0		68.0	68.0	53.0	47.0		53.0	47.0	47.0
Effective Green, g (s)		71.0	69.0		69.0	69.0	55.0	48.0		55.0	48.0	48.0
Actuated g/C Ratio		0.51	0.49		0.49	0.49	0.39	0.34		0.39	0.34	0.34
Clearance Time (s)		7.0	7.0		7.0	7.0	5.0	7.0		5.0	7.0	7.0
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)		1898	615		1708	616	205	1159		325	1188	449
v/s Ratio Prot		c0.51			0.39		0.05	0.13		c0.05	0.22	
v/s Ratio Perm			0.14			0.16	0.33			c0.35		0.01
v/c Ratio		1.00	0.28		0.79	0.32	0.96	0.39		1.02	0.64	0.03
Uniform Delay, d1		34.5	20.9		29.5	21.4	39.8	34.9		41.9	38.8	30.6
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2		21.3	1.1		3.8	1.4	49.9	1.0		56.4	2.7	0.1
Delay (s)		55.8	22.0		33.2	22.8	89.7	35.9		98.3	41.5	30.7
Level of Service		E	C		C	C	F	D		F	D	C
Approach Delay (s/veh)		52.0			31.4			52.2			57.7	
Approach LOS		D			C			D			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	47.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	119.1%	ICU Level of Service	H
Analysis Period (min)	15		

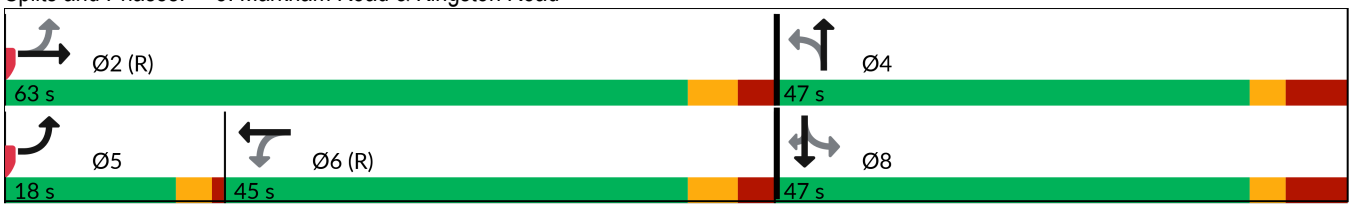
c Critical Lane Group

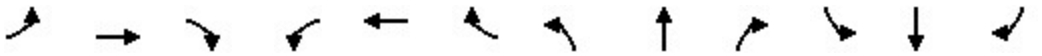
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	259	1930	29	1278	97	108	84	115	233
Future Volume (vph)	259	1930	29	1278	97	108	84	115	233
Lane Group Flow (vph)	276	2066	31	1416	103	151	89	122	248
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	5	2		6		4		8	
Permitted Phases	2		6		4		8		8
Detector Phase	5	2	6	6	4	4	8	8	8
Switch Phase									
Minimum Initial (s)	6.0	37.0	37.0	37.0	39.0	39.0	39.0	39.0	39.0
Minimum Split (s)	10.0	44.0	44.0	44.0	47.0	47.0	47.0	47.0	47.0
Total Split (s)	18.0	63.0	45.0	45.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	16.4%	57.3%	40.9%	40.9%	42.7%	42.7%	42.7%	42.7%	42.7%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	3.0	3.0	3.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	-3.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	1.0	6.0	6.0	6.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?									
Recall Mode	None	C-Max	C-Max	C-Max	Max	Max	Max	Max	Max
Act Effct Green (s)	62.0	57.0	39.4	39.4	40.0	40.0	40.0	40.0	40.0
Actuated g/C Ratio	0.56	0.52	0.36	0.36	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.86	0.79	0.48	0.79	0.24	0.23	0.21	0.09	0.38
Control Delay (s/veh)	52.5	24.3	56.4	35.5	26.4	24.9	25.9	23.4	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.5	24.3	56.4	35.5	26.4	24.9	25.9	23.4	4.9
LOS	D	C	E	D	C	C	C	C	A
Approach Delay (s/veh)		27.6		36.0		25.5		13.9	
Approach LOS		C		D		C		B	
Queue Length 50th (m)	42.0	126.7	5.1	98.8	15.3	21.7	13.0	9.0	0.0
Queue Length 95th (m)	#86.2	146.4	#19.2	117.1	28.6	36.8	25.1	15.3	15.9
Internal Link Dist (m)		387.8		660.9		305.7		459.2	
Turn Bay Length (m)	60.0		25.0		70.0		65.0		15.0
Base Capacity (vph)	325	2628	65	1791	423	651	419	1285	648
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	0.85	0.79	0.48	0.79	0.24	0.23	0.21	0.09	0.38

Intersection Summary		
Cycle Length: 110		
Actuated Cycle Length: 110		
Offset: 66 (60%), Referenced to phase 2:EBTL and 6:WBTL, Start of 1st Green		
Natural Cycle: 105		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.86		
Intersection Signal Delay (s/veh): 28.8	Intersection LOS: C	
Intersection Capacity Utilization 154.0%	ICU Level of Service H	
Analysis Period (min) 15		

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 5: Markham Road & Kingston Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	1930	12	29	1278	53	97	108	34	84	115	233
Future Volume (vph)	259	1930	12	29	1278	53	97	108	34	84	115	233
Ideal Flow (vphpl)	2050	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)	1.0	6.0		6.0	6.0		7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.98	1.00	1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.96		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)	1667	5071		1684	4993		1639	1785		1659	3535	1350
Flt Permitted	0.09	1.00		0.10	1.00		0.67	1.00		0.66	1.00	1.00
Satd. Flow (perm)	166	5071		180	4993		1164	1785		1154	3535	1350
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)	276	2053	13	31	1360	56	103	115	36	89	122	248
RTOR Reduction (vph)	0	0	0	0	4	0	0	3	0	0	0	158
Lane Group Flow (vph)	276	2066	0	31	1412	0	103	148	0	89	122	90
Confl. Peds. (#/hr)	20		14	14		20	24		22	22		24
Confl. Bikes (#/hr)									1			1
Heavy Vehicles (%)	9%	1%	8%	0%	2%	2%	1%	1%	0%	0%	1%	8%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		8
Actuated Green, G (s)	56.0	56.0		38.4	38.4		39.0	39.0		39.0	39.0	39.0
Effective Green, g (s)	59.0	57.0		39.4	39.4		40.0	40.0		40.0	40.0	40.0
Actuated g/C Ratio	0.54	0.52		0.36	0.36		0.36	0.36		0.36	0.36	0.36
Clearance Time (s)	4.0	7.0		7.0	7.0		8.0	8.0		8.0	8.0	8.0
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)	315	2627		64	1788		423	649		419	1285	490
v/s Ratio Prot	c0.13	c0.41			0.28			0.08			0.03	
v/s Ratio Perm	0.34			0.17			c0.09			0.08		0.07
v/c Ratio	0.88	0.79		0.48	0.79		0.24	0.23		0.21	0.09	0.18
Uniform Delay, d1	29.8	21.5		27.4	31.6		24.4	24.3		24.1	23.1	23.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	22.7	2.5		23.9	3.6		1.4	0.8		1.2	0.1	0.8
Delay (s)	52.6	24.0		51.4	35.2		25.8	25.1		25.3	23.2	24.7
Level of Service	D	C		D	D		C	C		C	C	C
Approach Delay (s/veh)		27.4			35.6			25.4			24.4	
Approach LOS		C			D			C			C	

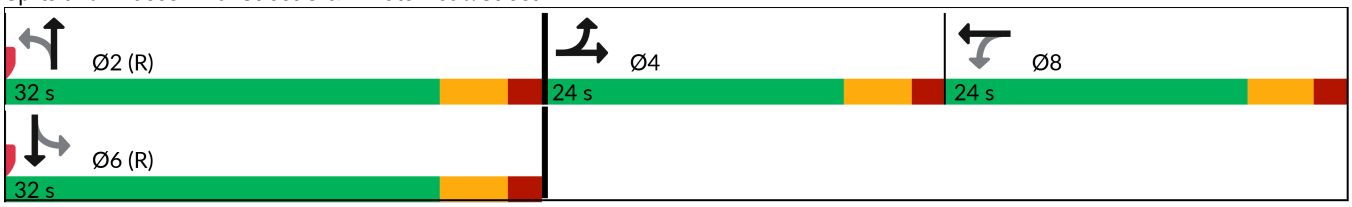
Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	154.0%	ICU Level of Service	H
Analysis Period (min)	15		

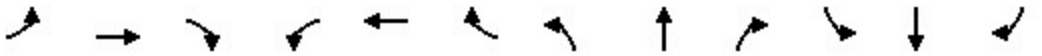
c Critical Lane Group

Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	20	0	238	189	169
Future Volume (vph)	20	0	238	189	169
Lane Group Flow (vph)	121	141	251	199	384
Turn Type	NA	NA	NA	Perm	NA
Protected Phases	4	8	2		6
Permitted Phases				6	
Detector Phase	4	8	2	6	6
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0	31.0	31.0	31.0
Total Split (s)	24.0	24.0	32.0	32.0	32.0
Total Split (%)	30.0%	30.0%	40.0%	40.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	11.7	6.5	49.4	49.4	49.4
Actuated g/C Ratio	0.15	0.08	0.62	0.62	0.62
v/c Ratio	0.46	0.24	0.22	0.30	0.35
Control Delay (s/veh)	36.3	0.9	8.8	10.5	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.3	0.9	8.8	10.5	8.1
LOS	D	A	A	B	A
Approach Delay (s/veh)	36.3	0.9	8.8		9.0
Approach LOS	D	A	A		A
Queue Length 50th (m)	17.1	0.0	16.7	14.1	21.3
Queue Length 95th (m)	30.5	0.0	31.7	30.2	42.8
Internal Link Dist (m)	50.1	19.3	29.9		111.4
Turn Bay Length (m)				15.0	
Base Capacity (vph)	428	772	1159	658	1097
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.18	0.22	0.30	0.35

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.46	
Intersection Signal Delay (s/veh): 10.9	Intersection LOS: B
Intersection Capacity Utilization 64.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Street C & Private Road/Street D

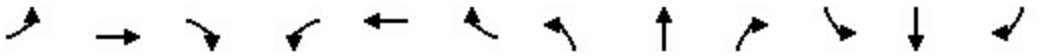




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	20	0	0	0	134	0	238	0	189	169	196
Future Volume (vph)	95	20	0	0	0	134	0	238	0	189	169	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0	3.0	3.5	3.0
Total Lost time (s)		5.0			5.0			5.0		5.0	5.0	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frt		1.00			0.87			1.00		1.00	0.92	
Flt Protected		0.96			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1804			1625			1879		1685	1728	
Flt Permitted		0.96			1.00			1.00		0.60	1.00	
Satd. Flow (perm)		1804			1625			1879		1067	1728	
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)	100	21	0	0	0	141	0	251	0	199	178	206
RTOR Reduction (vph)	0	0	0	0	130	0	0	0	0	0	31	0
Lane Group Flow (vph)	0	121	0	0	11	0	0	251	0	199	353	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Split	NA			NA			NA		Perm	NA	
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)		9.3			5.5			47.2		47.2	47.2	
Effective Green, g (s)		10.3			6.5			48.2		48.2	48.2	
Actuated g/C Ratio		0.13			0.08			0.60		0.60	0.60	
Clearance Time (s)		6.0			6.0			6.0		6.0	6.0	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		232			132			1132		642	1041	
v/s Ratio Prot		c0.07			c0.01			0.13			c0.20	
v/s Ratio Perm										0.19		
v/c Ratio		0.52			0.09			0.22		0.31	0.34	
Uniform Delay, d1		32.5			34.0			7.3		7.8	7.9	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		2.1			0.3			0.5		1.3	0.9	
Delay (s)		34.7			34.3			7.7		9.0	8.8	
Level of Service		C			C			A		A	A	
Approach Delay (s/veh)		34.7			34.3			7.7			8.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
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)	0	125	84	0	101	0	33	0	18	0	0	0
Future Volume (Veh/h)	0	125	84	0	101	0	33	0	18	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	132	88	0	106	0	35	0	19	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)		43										
pX, platoon unblocked				0.95			0.95	0.95	0.95	0.95	0.95	
vC, conflicting volume	106			220			282	282	176	301	326	106
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	106			158			223	223	112	243	269	106
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			95	100	98	100	100	100
cM capacity (veh/h)	1498			1368			703	648	903	668	611	954

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	220	106	54	0
Volume Left	0	0	35	0
Volume Right	88	0	19	0
cSH	1498	1368	762	1700
Volume to Capacity	0.00	0.00	0.07	0.00
Queue Length 95th (m)	0.0	0.0	1.7	0.0
Control Delay (s/veh)	0.0	0.0	10.1	0.0
Lane LOS			B	A
Approach Delay (s/veh)	0.0	0.0	10.1	0.0
Approach LOS			B	A

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	21.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	143	0	58	124	25	43
Future Volume (vph)	143	0	58	124	25	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	151	0	61	131	26	45

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	151	192	71
Volume Left (vph)	151	61	0
Volume Right (vph)	0	0	45
Hadj (s)	0.20	0.06	-0.38
Departure Headway (s)	4.7	4.4	4.1
Degree Utilization, x	0.20	0.24	0.08
Capacity (veh/h)	721	785	823
Control Delay (s/veh)	8.8	8.8	7.5
Approach Delay (s/veh)	8.8	8.8	7.5
Approach LOS	A	A	A

Intersection Summary			
Delay	8.6		
Level of Service	A		
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	196	0	0	115
Future Volume (Veh/h)	0	0	196	0	0	115
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	0	206	0	0	121
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				125		
pX, platoon unblocked						
vC, conflicting volume			0		412	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		412	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			87		100	89
cM capacity (veh/h)			1636		525	1091

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	0	206	121
Volume Left	0	206	0
Volume Right	0	0	121
cSH	1700	1636	1091
Volume to Capacity	0.00	0.13	0.11
Queue Length 95th (m)	0.0	3.3	2.8
Control Delay (s/veh)	0.0	7.5	8.7
Lane LOS		A	A
Approach Delay (s/veh)	0.0	7.5	8.7
Approach LOS			A

Intersection Summary			
Average Delay	8.0		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	171	0	0	67	169	0
Future Volume (Veh/h)	171	0	0	67	169	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	180	0	0	71	178	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					54	
pX, platoon unblocked						
vC, conflicting volume	249	178	178			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	249	178	178			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	76	100	100			
cM capacity (veh/h)	744	870	1410			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	180	71	178
Volume Left	180	0	0
Volume Right	0	0	0
cSH	744	1410	1700
Volume to Capacity	0.24	0.00	0.10
Queue Length 95th (m)	7.2	0.0	0.0
Control Delay (s/veh)	11.4	0.0	0.0
Lane LOS	B		
Approach Delay (s/veh)	11.4	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	42	13	169	0	0	25
Future Volume (Veh/h)	42	13	169	0	0	25
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)	44	14	178	0	0	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			190			
pX, platoon unblocked						
vC, conflicting volume	204	178			178	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	204	178			178	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	98			100	
cM capacity (veh/h)	789	870			1410	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	58	178	26
Volume Left	44	0	0
Volume Right	14	0	0
cSH	807	1700	1410
Volume to Capacity	0.07	0.10	0.00
Queue Length 95th (m)	1.8	0.0	0.0
Control Delay (s/veh)	9.8	0.0	0.0
Lane LOS	A		
Approach Delay (s/veh)	9.8	0.0	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	18.9%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX H

LOS Definitions

LEVELS OF SERVICE FOR SIGNALIZED INTERSECTIONS: METHODOLOGY

Signalized intersection analyses contained in this report were carried out using methodology described in the *Highway Capacity Manual, 2000 update*, by the Transportation Research Board and implemented using Synchro 12.1 (Build 0, Revision 30) software.

Analyses of signalized intersections compare the volume of traffic passing through an intersection with the capacity of each of the intersection's approaches. Volumes can be either observed or estimated whereas an intersection's capacity is a function of its geometry, the number of lanes per approach, speeds, signal timing, and other considerations. The level of service is evaluated in terms of the average control delay (seconds) per vehicle, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Delay is a complex measure and is calculated as a function of a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

The criteria for each level of service are given below.

Level of Service	Features	Control Delay (sec/veh)
A	Very low control delay. Occurs when signal progression (i.e. coordination) is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not have to stop.	0.0 – 10.0
B	Occurs with good progression, short cycle length, or both. More vehicles stop than with LOS A.	10.1 – 20.0
C	Occurs with fair progression, longer cycle length, or both. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.	20.0 – 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles have to stop. Individual cycle failures are noticeable (i.e. some vehicles require more than one cycle to make it through the intersection).	35.0 – 55.0
E	Considered by many agencies to be the limit of acceptable delay. High delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.	55.0- 80.0
F	Considered to be unacceptable to most drivers and often occurs with oversaturation. It may also occur at high v/c ratios below 1.0 with many individual cycle failures.	80.1 +

LEVELS OF SERVICE FOR UNSIGNALIZED INTERSECTIONS: METHODOLOGY

Unsignalized intersection analyses contained in this report were carried out using methodology described in the *Highway Capacity Manual (2000 edition)* by the Transportation Research Board and implemented using Synchro 12.1 (Build 0, Revision 30) software.

Analyses of unsignalized intersections compare observed or estimated traffic volumes with the capacity of each of the intersection's approaches. The analysis derives an estimation of queue lengths and the resulting delays experienced by vehicles from the time they join a queue to the moment they cross the stop bar at the intersection. Queuing and delays at unsignalized approaches are a function of the volumes of all other conflicting movements and the characteristics of the intersection. Traffic volumes can be either observed or estimated while an intersection's capacity is a function of its geometry, lane configurations, speeds, and other operational considerations. The resulting statistic is termed "average total delay" for each approach and is measured in seconds per vehicle. The delay can then be assigned a letter grade, which provides a simple qualitative assessment of the Level of Service for any unsignalized intersection.

The Level of Service grading for unsignalized intersections is more sensitive than that used for signalized analyses: delays are more onerous at unsignalized intersections as drivers must remain attentive while waiting for acceptable conditions to complete their movement. As a result, the thresholds between grades are lower for unsignalized analyses.

Level of Service	Features	Average Total Delay (sec/veh)
A	Almost no delay occurs. Approaches appear clear and turns are made easily.	0.0 – 10.0
B	Short delays are experienced. Drivers find their movement becoming more restricted.	10.1 – 15.0
C	Longer delays occur. Operation of both the minor and major streets are generally stable but movements from the minor street become more difficult. This level is often used for urban intersection design standards.	15.1 – 25.0
D	Motorists encounter increasing traffic restrictions and substantial delays. Delays on the major street occur as turning traffic interferes with the flow of traffic. Traffic flows are approaching the capacity of the intersection.	25.1 - 35.0
E	At level "E", capacity is reached. There are long queues of vehicles waiting upstream for the approach to clear. Delays to vehicles reach frustrating levels.	35.1- 50.0
F	Intersection saturation occurs as vehicle demand has exceeded the capacity. Drivers will often accept less than ideal gap opportunities; safety is compromised.	50.1 +

APPENDIX I

Warrant Analysis

ALL-WAY STOP CONTROL WARRANT

INTERSECTION: Street A/Street E Loop and Street D
HORIZON / DESCRIPTION: Future Total 2030

Road Type: Local/Minor
Number of Legs: Three
Major Direction: North-South

All-way stop control may be considered where the following conditions are met:

1. The total vehicle volume on all intersection approaches exceeds 200 for the highest hour recorded:

Value	Condition Met?
392	Yes

2. Volume split doesn't exceed 75%/25% for three-way control or 65%/35% for four-way control

Value	Condition Met?
74%	No
26%	

	Volumes			Approach Share		
	AM	PM	SAT	AM	PM	SAT
NBL	125	58		74%	64%	
NBT	59	124				
NBR	0	0				
SBL	0	0				
SBT	12	25				
SBR	57	43				
EBL	89	142		26%	36%	
EBT	0	0				
EBR	0	0				
WBL	0	0				
WBT	0	0				
WBR	0	0				
Sum	342	392	0	100%	100%	0%

Conclusion
No: All-way stop control is not warranted

APPENDIX J

Multi-Modal Analysis

Pedestrian Level of Service

Segment	From	To	Side	Sidewalk Width		Blvd Width		AADT per lane	Parking?	Speed	Segment PLOS		
				Existing	Future	Existing	Future				Existing	Future Background	Future Total
Kingston Road	Guildwood Parkway	Celeste Drive	North	1.5	>2.0	0.5 - 2.0	0.5 - 2.0	>3000	No	60	E	D	D
			South	1.5	>2.0	0.5 - 2.0	0.5 - 2.0	>3000	No	60	E	D	D
Kingston Road	Celeste Drive	Overture Road/ Payzac Avenue	North	1.5	>2.0	0	0.5 - 2.0	>3000	No	60	F	D	D
			South	1.5	>2.0	0	0.5 - 2.0	>3000	No	60	F	D	D
Street A	Kingston Road	Street D	East	-	>2.0	-	>2.0	<3000	No	40	-	-	A
			West	-	>2.0	-	>2.0	<3000	No	40	-	A	A
Street C	Kingston Road	Street D	East	-	>2.0	-	0.5 - 2.0	<3000	No	40	-	A	A
			West	-	>2.0	-	0.5 - 2.0	<3000	No	40	-	A	A
Street D	Street A	Street C	North	-	>2.0	-	>2.0	<3000	No	40	-	A	A
			South	-	>2.0	-	>2.0	<3000	No	40	-	-	A
Street E Loop	Street D	Street D	North	-	>2.0	-	0	<3000	Yes	40	-	-	C
			South	-	>2.0	-	0	<3000	Yes	40	-	-	C

Bicycle Level of Service

Segment	From	To	Side	Type		No. of Lanes		Bike Lane Width		Speed	Centreline?	Segment BLOS		
				Existing	Future	Existing	Future	Existing	Future			Existing	Future Background	Future Total
Kingston Road	Guildwood Parkway	Celeste Drive	North	Mixed	Cycle Track	6	8* w LRT	-	2.10	60	Yes	F	A	A
			South	Mixed	Cycle Track			-	2.10	60	Yes	F	A	A
Kingston Road	Celeste Drive	Overture Road/ Payzac Avenue	North	Mixed	Cycle Track	6	8* w LRT	-	2.10	60	Yes	F	A	A
			South	Mixed	Cycle Track			-	2.10	60	Yes	F	A	A
Street A	Kingston Road	Street D	East	-	Mixed	-	2	-	-	40	Yes	-	-	B
			West	-	Mixed			-	-	40	Yes	-	B	B
Street C	Kingston Road	Street D	East	-	Cycle Track	-	2	-	2.00	40	Yes	-	A	A
			West	-	Cycle Track			-	2.00	40	Yes	-	A	A
Street D	Street A	Street C	North	-	Mixed	-	2	-	-	40	Yes	-	B	B
			South	-	Mixed			-	-	40	Yes	-	-	B
Street E Loop	Street D	Street D	North	-	Mixed	-	2	-	-	40	Yes	-	-	B
			South	-	Mixed			-	-	40	Yes	-	-	B

Transit Level of Service

Signalized Intersection	Direction	Existing				Future Background				Future Total			
		AM Delay (sec)	PM Delay (sec)	Worst Delay (sec)	TLOS	AM Delay (sec)	PM Delay (sec)	Worst Delay (sec)	TLOS	AM Delay (sec)	PM Delay (sec)	Worst Delay (sec)	TLOS
Kingston Road & Celeste Drive/Guildwood GO Access (Kingston Road & Celeste Drive/Street C)	North												
	South												
	East	0	0	0	A	0	0	0	A	0	0	0	A
	West	0	0	0	A	0	0	0	A	0	0	0	A
Kingston Road & Lawrence Avenue	North	36	35	36	E	43	36	43	F	43	36	43	F
	South	30	26	30	D	31	31	31	E	31	31	31	E
	East	0	0	0	A	0	0	0	A	0	0	0	A
	West	0	0	0	A	0	0	0	A	0	0	0	A
Kingston Road & Markham Road													
	South	29	26	29	D	31	25	31	E	31	25	31	E
	East	16	21	21	C	15	23	23	D	16	24	24	D
	West	31	27	31	E	36	34	36	E	38	35	38	E

Exhibit 4 – PLOS Segment Evaluation Table

Sidewalk Width (m)	Boulevard Width (m)	Motor Vehicle Traffic Volume (AADT)	Presence of On-street Parking	Segment PLOS			
				Operating Speed (km/h)			
				≤30	>30 or 50	>50 or 60	>60 [1]
2.0 or more	> 2	≤ 3000	N/A	A	A	A	B
		> 3000	Yes	A	B	B	N/A
			No	A	B	C	D
	0.5 to 2	≤ 3000	N/A	A	A	A	B
		> 3000	Yes	A	B	C	N/A
			No	A	C	D	E
	0	≤ 3000	NA	A	B	C	D
		> 3000	Yes	B	B	D	N/A
			No	B	C	E	F
1.8	> 2	≤ 3000	N/A	A	A	A	B
		> 3000	Yes	A	B	C	N/A
			No	A	C	D	E
	0.5 to 2	≤ 3000	N/A	A	B	B	D
		> 3000	Yes	A	C	C	N/A
			No	B	C	E	E
	0	≤ 3000	N/A	A	B	C	D
		> 3000	Yes	B	C	D	N/A
			No	C	D	F	F
1.5	> 2	≤ 3000	N/A	C	C	C	C
		> 3000	Yes	C	C	D	N/A
			No	C	D	E	E
	0.5 to 2	≤ 3000	N/A	C	C	C	D
		> 3000	Yes	C	C	D	N/A
			No	D	E	E	E
	0	N/A		D	E	F [2]	F [2]
<1.5	N/A			F [3]	F [3]	F [3]	F [3]
No sidewalk	N/A			C [4]	F [3]	F [3]	F [3]

Notes:
1. On-street parking not provided on roadways with posted speed of 70 km/h or more
2. Sidewalk must be 1.8 m wide if no separation is provided (curb-face sidewalk) where speeds are high
3. Sidewalk must be 1.5 m wide to meet Provincial accessiblity standards
4. Ottawa Pedestrian Plan, 2014: “all new and reconstructed urban local roads where pedestrian facilities are required in accordance with these policies but no dedicated pedestrian facility is provided, require that roads be designed for a speed of 30 km/h or lower (pending development of a new 30 km/h roadway design standard).” Where a roadway is specifically designed as 'shared space', with appropriate design controls and features, it can achieve LOS A.
5. Where a multi-use path is provided in lieu of sidewalks, the MUP can be evaluated using the same methodology.

Exhibit 11 – BLOS Segment Evaluation Table

Type of Bikeway		LOS
Physically Separated Bikeway (cycle tracks, protected bike lanes and multi-use paths). Physical separation refers to, but is not limited to, curbs, raised medians, bollards and parking lanes (adjacent to the bike lane along the travelled way i.e. not curbside).		A
Bike Lanes Not Adjacent Parking Lane - Select Worst Scoring Criteria		
No. of Travel Lanes	1 travel lane in each direction	A
	2 travel lanes in each direction separated by a raised median	B
	2 travel lanes in each direction without a separating median	C
	More than 2 travel lanes in each direction	D
Bike Lane Width	≥ 1.8 m wide bike lane (includes marked buffer and paved gutter width)	A
	≥1.5 m to <1.8 m wide bike lane (includes marked buffer and paved gutter width)	B
	≥1.2 m to <1.5 m wide bike lane (includes marked buffer and paved gutter width)	C
Operating Speed	≤ 50 km/h operating speed	A
	60 km/h operating speed	C
	≥ 70 km/h operating speed	E
Bike lane blockage (commercial areas)	Rare	A
	Frequent	C
Bike Lanes Adjacent to curbside Parking Lane - Select Worst Scoring Criteria		
No. of Travel Lanes	1 travel lane in each direction	A
	2 or more travel lanes in each direction	C
Bike Lane and Parking Lane Width	4.5 m wide bike lane plus parking lane (includes marked buffer and paved gutter width)	A
	4.25 m wide bike lane plus parking lane (includes marked buffer and paved gutter width)	B
	≤ 4.0 m wide bike lane plus parking lane (includes marked buffer and paved gutter width)	C
Operating Speed	≤ 40 km/h operating speed	A
	50 km/h operating speed	B
	60 km/h operating speed	D
	≥ 70 km/h operating speed	F
Bike lane blockage (commercial areas)	Rare	A
	Frequent	C
Mixed Traffic		
No. of Travel Lanes and Operating Speed	2 travel lanes; ≤ 40 km/h; no marked centerline or classified as residential	A
	2 to 3 travel lanes; ≤ 40 km/h	B
	2 travel lanes; 50 km/h; no marked centerline or classified as residential	B
	2 to 3 travel lanes; 50 km/h	D
	4 to 5 travel lanes; ≤ 40 km/h	D
	4 to 5 travel lanes; ≥ 50 km/h	E
	6 or more travel lanes; ≤ 40 km/h	E
	≥ 60 km/h	F
Unsignalized Crossing along Route: no median refuge		
No. of Travel Lanes on Side Street and Operating Speed	3 or less lanes being crossed; ≤ 40 km/h	A
	4 to 5 lanes being crossed; ≤ 40 km/h	B
	3 or less lanes being crossed; 50 km/h	B
	4 to 5 lanes being crossed; 50 km/h	C
	3 or less lanes being crossed; 60 km/h	C
	4 to 5 lanes being crossed; 60 km/h	D
	6 or more lanes being crossed; ≤ 40 km/h	E
	3 or less lanes being crossed; ≥ 65 km/h	E
	6 or more lanes being crossed; ≥ 50 km/h	F
	4 to 5 lanes being crossed; ≥ 65 km/h	F
Unsignalized Crossing along Route: with median refuge (≥ 1.8 m wide)		
No. of Travel Lanes on Side Street and Operating Speed	5 or less lanes being crossed; ≤ 40 km/h	A
	3 or less lanes being crossed; 50 km/h	A
	6 or more lanes being crossed; ≤ 40 km/h	B
	4 to 5 lanes being crossed; 50 km/h	B
	3 or less lanes being crossed; 60 km/h	B
	6 or more lanes being crossed; 50 km/h	C
	4 to 5 lanes being crossed; 60 km/h	C
	3 or less lanes being crossed; ≥ 65 km/h	D
	6 or more lanes being crossed; 60 km/h	E
	4 to 5 lanes being crossed; ≥ 65 km/h	E
	6 or more lanes being crossed; ≥ 65 km/h	F

Exhibit 16 – TLOS Signalized Intersection Evaluation Table

Delay	Typical Location	LOS
0	Grade Separation	A
≤10 sec	High Level TSP	B
≤20 sec		C
≤30 sec		D
≤40 sec	TSP & long cycle length	E
>40 sec	No TSP & long cycle length	F

Note: Delay includes travel time from end of queue to entering the intersection

5 Truck Level of Service (TkLOS)

5.1 Intent

Motor vehicle LOS accounts for trucks by considering the percent of trucks and buses in the traffic volume. However, some elements of roadway segments and intersections clearly affect the ability of trucks to operate with ease. The intent of the truck level of service (TkLOS) is to complement motor vehicle LOS by considering the physical space available for trucks to negotiate corners quickly and easily, and to operate safely within travelled lanes.

The objective of evaluating TkLOS is to facilitate goods movement within the City of Ottawa – however, unlike other modes, the TkLOS need only be applied along truck routes, arterial roads and key delivery access routes, since trucks are not intended to operate on every street. An exception would be within employment or enterprise areas where targets are set for trucks on all streets in these areas, as laid out in Section 7.

Care should be taken when considering the trade-offs between truck level of service and pedestrian/bicycle level of service with respect to the corner radii and turning speed. There is potential for trucks to encroach on pedestrian and cycling facilities if trucks are not accommodated appropriately, which can put vulnerable users at risk. As mentioned in Section 1.2, the MMLOS guidelines do not replace safety or geometric guidance.

5.2 Data Requirements

A summary of the data required to evaluate the truck level of service is provided in Exhibit 17.

Exhibit 17 - Data Requirements for Truck Level of Service

SEGMENTS	SIGNALIZED INTERSECTIONS
» Street width (number of through lanes per direction) » Curb lane width (m)	» Effective radius » Number of receiving lanes on departing leg

Note that effective radius is the same as corner radius where trucks must turn from the curbside lane into a departing curbside lane, however where parking lanes or on-street parking lanes are provided adjacent to the travel / turn lanes the effective radius can be determined by placing a simple or compound radius between the edge of the travel lane on the approach and departing legs – refer to Exhibit 18 below.

APPENDIX K

Functional Design Review

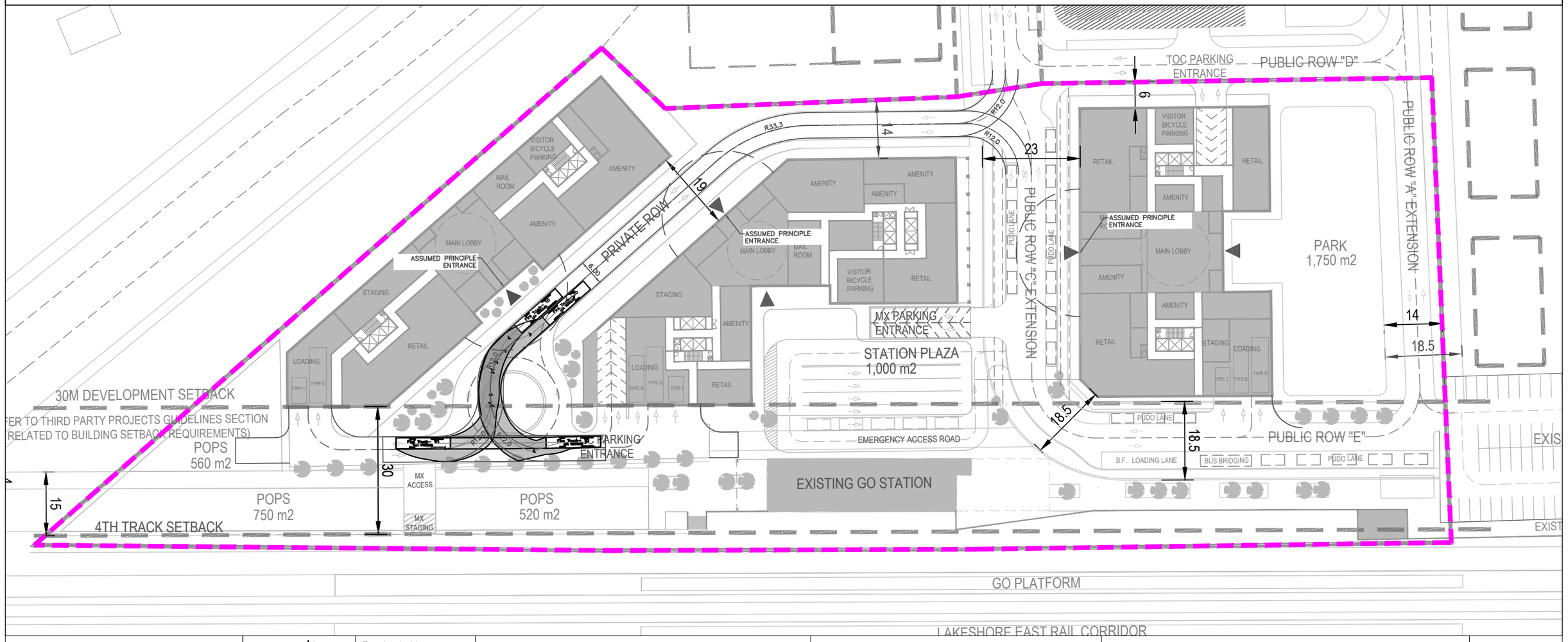
NOTES:

AS PER THE ONTARIO BUILDING CODE 3.2.5

1. 5. LOCATION OF ACCESS ROUTES
   (i) 5.1 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
   (ii) 5.2.b FOR A BUILDING NOT PROVIDED WITH A FIRE DEPARTMENT CONNECTION, A FIRE DEPARTMENT PUMPER VEHICLE CAN BE LOCATED SO THAT THE LENGTH OF THE ACCESS ROUTE FROM A HYDRANT PLUS THE UNOBSTRUCTED PATH OF TRAVEL FOR THE FIREFIGHTER FROM THE VEHICLE TO THE BUILDING IS NOT MORE THAN 90m AND,
   (iii) 5.2.c THE UNOBSTRUCTED PATH OF TRAVEL FOR THE FIREFIGHTER FROM THE VEHICLE TO THE BUILDING IS NOT MORE THAN 45m

2. 6.1 ACCESS ROUTE DESIGN – A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
   (i) 6.1.a HAVE A CLEAR WIDTH NOT LESS THAN 6m,
   (ii) 6.1.b HAVE A CENTRELINE RADIUS NOT LESS THAN 12m
   (iii) 6.1.c HAVE AN OH CLEARANCE OF NOT LESS THAN 5m
   (iv) 6.1.g BE CONNECTED WITH A PUBLIC THOROUGHFARE

3. IF A PORTION OF A BUILDING IS COMPLETELY CUT OFF FROM THE REMAINDER OF THE BUILDING SO THAT THERE IS NO ACCESS TO THE REMAINDER OF THE BUILDING, THE ACCESS ROUTE REQUIRED SHALL BE LOCATED SO THAT THE UNOBSTRUCTED PATH OF TRAVEL FROM THE VEHICLE TO ONE ENTRANCE OF EACH PORTION OF THE BUILDING IS NOT MORE THAN 45m



LEA Consulting Ltd. Consulting Engineers and Planners **www.LEA.ca**	N	Project No. 25200 Date Oct. 29, 2025		600–158 STERLING ROAD TORONTO ONTARIO 9 0 9 18 27m 1:900	FIRE ROUTE REVIEW OPTION 1: T–INTERSECTION	Drawing No. 001

DRAWN BY: C.A.

NOTES:

AS PER THE ONTARIO BUILDING CODE 3.2.5

1. 5. LOCATION OF ACCESS ROUTES
   (i) 5.1 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
   (ii) 5.2.b FOR A BUILDING NOT PROVIDED WITH A FIRE DEPARTMENT CONNECTION, A FIRE DEPARTMENT PUMPER VEHICLE CAN BE LOCATED SO THAT THE LENGTH OF THE ACCESS ROUTE FROM A HYDRANT PLUS THE UNOBSTRUCTED PATH OF TRAVEL FOR THE FIREFIGHTER FROM THE VEHICLE TO THE BUILDING IS NOT MORE THAN 90m AND,
   (iii) 5.2.c THE UNOBSTRUCTED PATH OF TRAVEL FOR THE FIREFIGHTER FROM THE VEHICLE TO THE BUILDING IS NOT MORE THAN 45m

2. 6.1 ACCESS ROUTE DESIGN – A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
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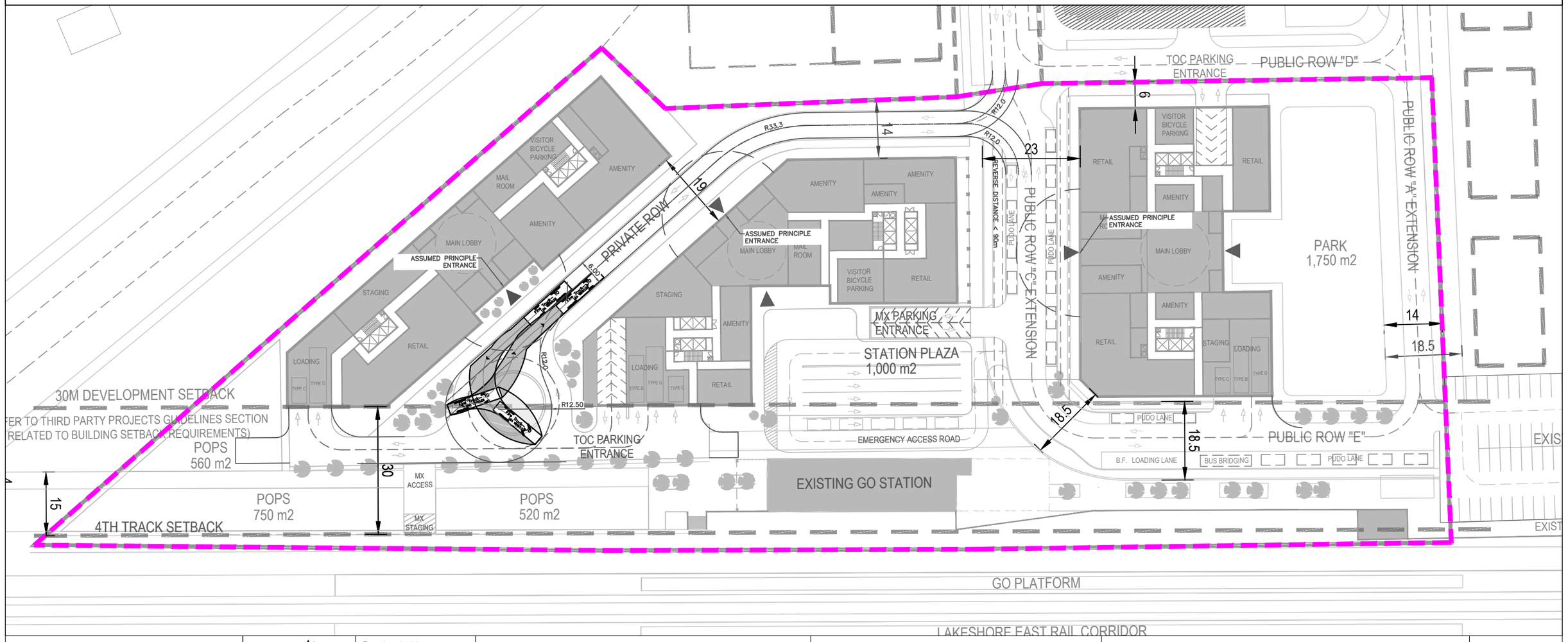
   (ii) 6.1.b HAVE A CENTRELINE RADIUS NOT LESS THAN 12m
   (iii) 6.1.c HAVE AN OH CLEARANCE OF NOT LESS THAN 5m
   (iv) 6.1.g BE CONNECTED WITH A PUBLIC THOROUGHFARE

3. IF A PORTION OF A BUILDING IS COMPLETELY CUT OFF FROM THE REMAINDER OF THE BUILDING SO THAT THERE IS NO ACCESS TO THE REMAINDER OF THE BUILDING, THE ACCESS ROUTE REQUIRED SHALL BE LOCATED SO THAT THE UNOBSTRUCTED PATH OF TRAVEL FROM THE VEHICLE TO ONE ENTRANCE OF EACH PORTION OF THE BUILDING IS NOT MORE THAN 45m



LEA Consulting Ltd. Consulting Engineers and Planners **www.LEA.ca**	N	Project No. 25200 Date Oct. 29, 2025		600–158 STERLING ROAD TORONTO ONTARIO 9 0 9 18 27m 1:900	FIRE ROUTE REVIEW OPTION 2: CUL–DE–SAC	Drawing No. 002

DRAWN BY: C.A.

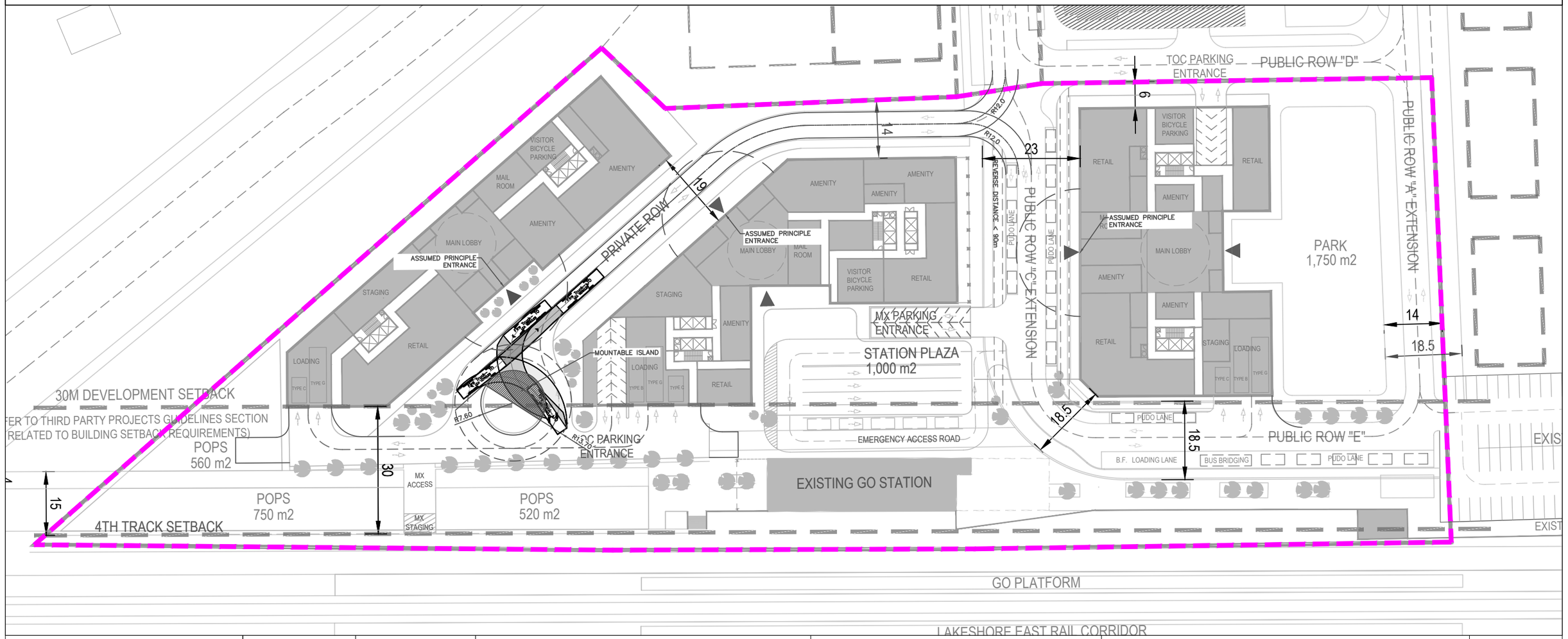
NOTES:

AS PER THE ONTARIO BUILDING CODE 3.2.5

1. 5. LOCATION OF ACCESS ROUTES
   (i) 5.1 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
   (ii) 5.2.b FOR A BUILDING NOT PROVIDED WITH A FIRE DEPARTMENT CONNECTION, A FIRE DEPARTMENT PUMPER VEHICLE CAN BE LOCATED SO THAT THE LENGTH OF THE ACCESS ROUTE FROM A HYDRANT PLUS THE UNOBSTRUCTED PATH OF TRAVEL FOR THE FIREFIGHTER FROM THE VEHICLE TO THE BUILDING IS NOT MORE THAN 90m AND,
   (iii) 5.2.c THE UNOBSTRUCTED PATH OF TRAVEL FOR THE FIREFIGHTER FROM THE VEHICLE TO THE BUILDING IS NOT MORE THAN 45m

2. 6.1 ACCESS ROUTE DESIGN – A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
   (i) 6.1.a HAVE A CLEAR WIDTH NOT LESS THAN 6m,
   (ii) 6.1.b HAVE A CENTRELINE RADIUS NOT LESS THAN 12m
   (iii) 6.1.c HAVE AN OH CLEARANCE OF NOT LESS THAN 5m
   (iv) 6.1.g BE CONNECTED WITH A PUBLIC THOROUGHFARE

3. IF A PORTION OF A BUILDING IS COMPLETELY CUT OFF FROM THE REMAINDER OF THE BUILDING SO THAT THERE IS NO ACCESS TO THE REMAINDER OF THE BUILDING, THE ACCESS ROUTE REQUIRED SHALL BE LOCATED SO THAT THE UNOBSTRUCTED PATH OF TRAVEL FROM THE VEHICLE TO ONE ENTRANCE OF EACH PORTION OF THE BUILDING IS NOT MORE THAN 45m



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N

Project No. 25200

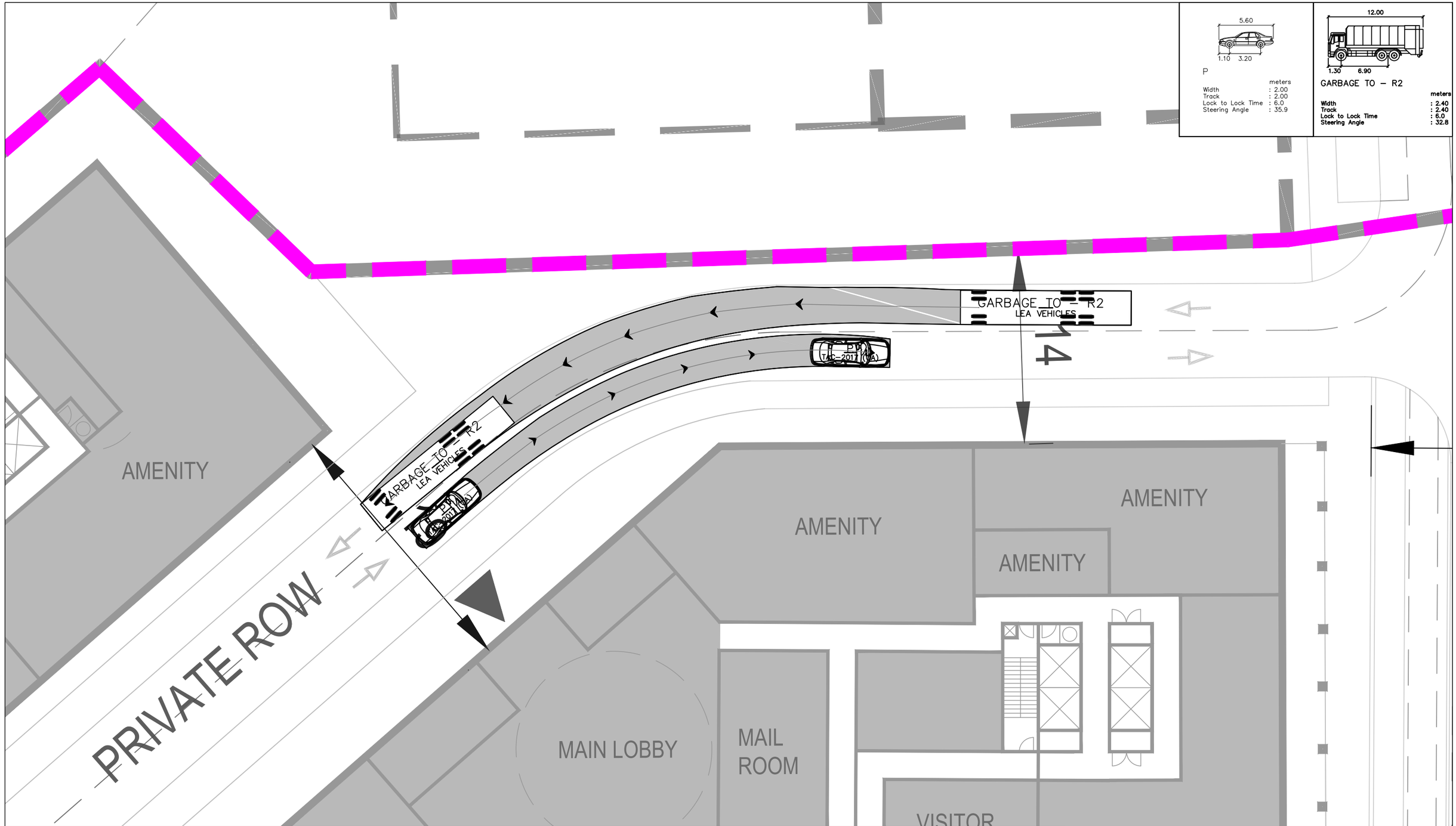
Date Oct. 29, 2025

600–158 STERLING ROAD
TORONTO ONTARIO

9 0 9 18 27m
1:900

FIRE ROUTE REVIEW
OPTION 3: TRAFFIC CIRCLE WITH SEMI–MOUNTABLE ISLAND

Drawing No. 003



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25200

Date
Oct. 29, 2025

600–158 STERLING ROAD
TORONTO ONTARIO

2.5 0 2.5 5 7.5m
1:250

SIMULTANEOUS PATH
CITY GARBAGE TRUCK
(REAR PACKER) & PTAC

Drawing No.
004

NOTES: AS PER THE CITY OF TORONTO REQUIREMENTS FOR GARBAGE, RECYCLING AND ORGANICS COLLECTION SERVICES FOR NEW DEVELOPMENTS AND REDEVELOPMENTS (WASTE DESIGN GUIDELINES):

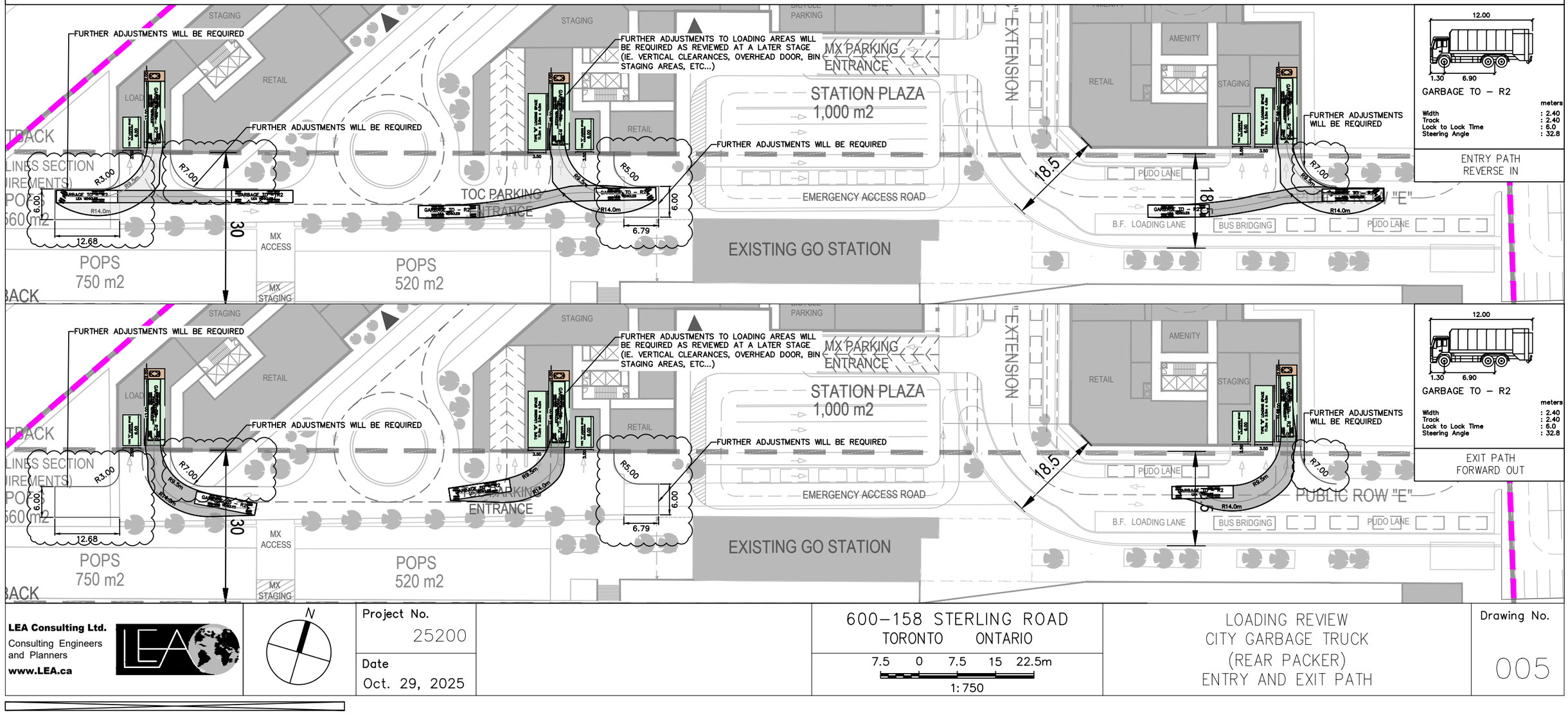
1. LOADING AREA SHALL HAVE A DIMENSION OF 13.0m LENGTH x 4.0m WIDTH x 6.1m VERTICAL LOADING CLEARANCE, AND MIN. 2.0m AWAY FROM ADJACENT WALL.
2. MINIMUM STAGING AREA = (UNIT COUNT−50/50)x5+5.
3. WITH 100 UNITS OR MORE, A MINIMUM OF 8 m2, OUT OF THE TOTAL STAGING PAD AREA REQUIRED, MUST BE ALLOCATED AT THE FRONT OF THE TYPE G, WITH THE REMAINDER BEING LOCATED ALONG THE SIDE IF ALL OF IT CAN'T BE LOCATED IN FRONT.
4. THE DESIGN OF THE STAGING PAD SHOULD NOT REQUIRE THE JOCKEYING OF CONTAINERS BY THE DRIVER. IF JOCKEYING OF CONTAINERS IS NECESSARY, AN ON−SITE STAFF PERSON MUST BE AVAILABLE TO MANOEUVRE THE CONTAINERS FOR THE DRIVER. THE CITY DOES NOT ALLOW THE DRIVER TO LEAVE THE COLLECTIOaN VEHICLE.
5. THE WASTE STORAGE ROOM MUST PROVIDE A MINIMUM FLOOR AREA OF:
   - 25 m2 FOR THE FIRST 50 UNITS (TO ACCOMMODATE CONTAINERS AND THE COMPACTOR),
   - •0.26 m2 FOR EACH ADDITIONAL UNIT, OVER 50 UNITS,
   - 10 m2 FOR OVERSIZED ITEM, AND ITEMS ELIGIBLE FOR SPECIAL COLLECTION SERVICES
6. ALL DOORWAYS THAT WASTE CONTAINERS TRAVEL THROUGH BETWEEN THE WASTE STORAGE ROOM AND THE COLLECTION POINT MUST BE EITHER DOUBLE DOORS OR OVERHEAD DOORS.
7. ACCESS DRIVEWAYS MUST BE A MIN. 6m WIDE AT THE POINT OF INGRESS/EGRESS TO THE SITE AND A MIN. 4.5m WIDE THROUGHOUT THE SITE, WITH AN UNENCUMBERED VERTICAL CLEARANCE OF 4.4m.
8. TRUCK MUST HAVE A MIN. INSIDE TURNING RADII OF 9.5m AND MIN. OUTSIDE TURNING RADII OF 14m
9. SLOPE OF THE ACCESS ROUTE SHALL NOT EXCEED 8% AND SLOPE OF LOADING AREA SHALL NOT EXCEED 2%.

ADDITIONAL NOTES:

10. A TRAINED ON−SITE STAFF TO BE AVAILABLE TO MANEUVER THE WASTE COLLECTION BINS FROM THE GARBAGE ROOM TO THE FRONT OF THE GARBAGE COLLECTING TRUCK, AND ACT AS A FLAGMAN WHEN THE TRUCK IS REVERSING. IN THE EVENT WHEN 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.
11. FLASHING WARNING LIGHT TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE. THE SYSTEM TO REMAIN ACTIVATED DURING THE CITY GARBAGE COLLECTION ACTIVITY AND UNTIL THE TRUCK EXITS THE SITE.
12. WARNING SIGN TO BE MOUNTED BELOW THE FLASH LIGHT.

WATCH FOR TURNING TRUCKS WHEN FLASHING

(600x300)
BLACK LEGEND & BORDER,
WHITE REFL. BACKGROUND.



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Project No. 25200

Date Oct. 29, 2025

600−158 STERLING ROAD
TORONTO ONTARIO

7.5 0 7.5 15 22.5m
1:750

LOADING REVIEW
CITY GARBAGE TRUCK
(REAR PACKER)
ENTRY AND EXIT PATH

Drawing No. 005

NOTE:

1. A TRAINED ON–SITE STAFF TO BE AVAILABLE TO MANEUVER THE WASTE COLLECTION BINS FROM THE STAGING AREA TO IN FRONT OF THE TRUCK FOR THE COLLECTION DRIVER, AND ACT AS A FLAGMAN WHEN THE TRUCK IS REVERSING. IN THE EVENT WHEN 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.
2. FLASHING WARNING LIGHT TO BE ACTIVATED WHEN TRUCKS ENTER AND EXIT THE SITE.
   THE SYSTEM TO REMAIN ACTIVATED DURING THE CITY GARBAGE COLLECTION ACTIVITY AND UNTIL THE TRUCK EXITS THE SITE. THE MAKER SHOWN IS FOR ILLUSTRATIVE PURPOSE AND IS NOT SCALE.
3. WARNING SIGN TO BE MOUNTED BELOW THE FLASH LIGHT. (SEE DETAIL A)

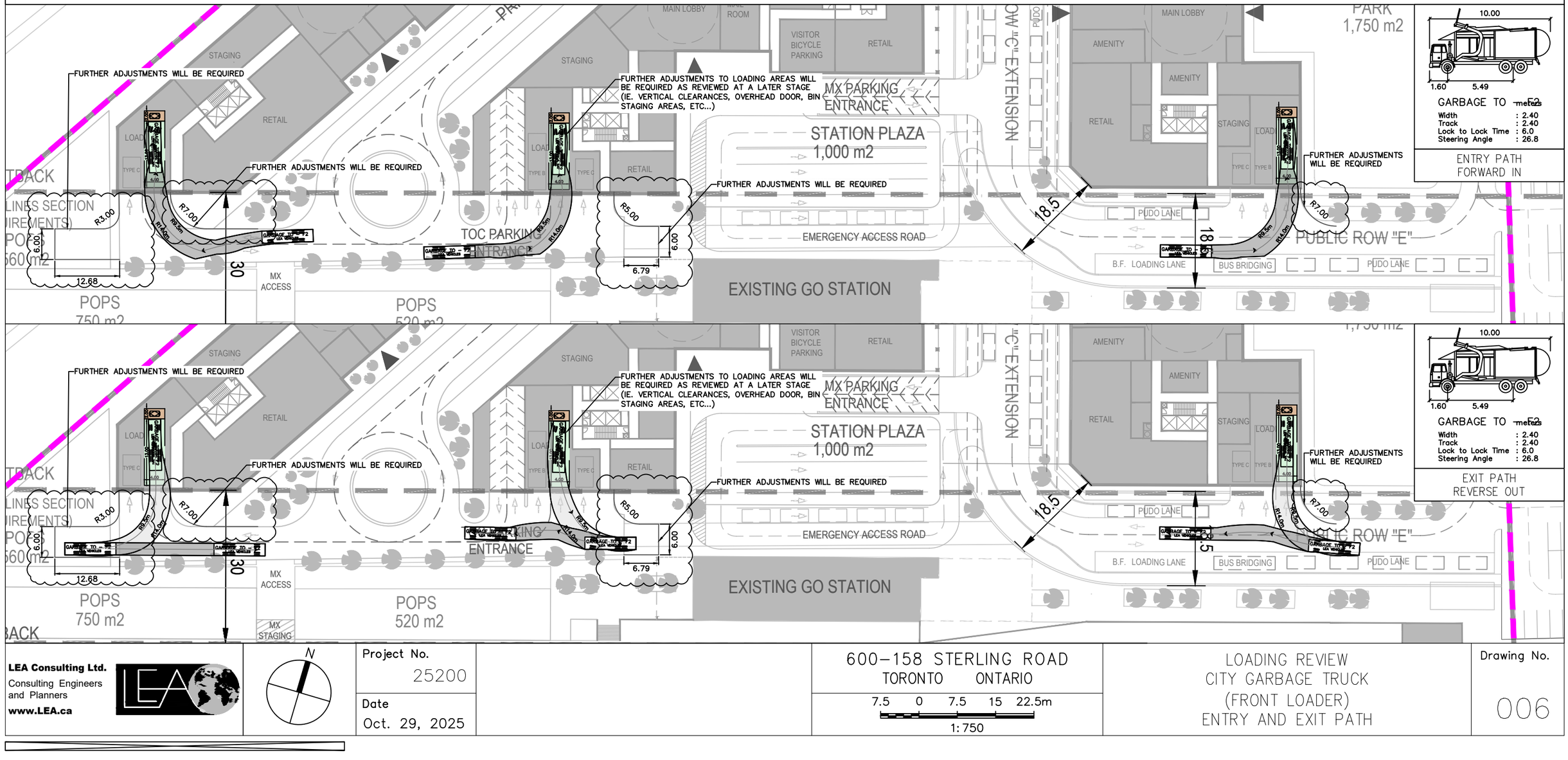
AS PER THE CITY OF TORONTO REQUIREMENTS FOR GARBAGE, RECYCLING AND ORGANICS COLLECTION SERVICES FOR NEW DEVELOPMENTS AND REDEVELOPMENTS (WASTE DESIGN GUIDELINES):

4. PAGE 27 – WASTE STORAGE ROOM – PROVIDE MIN. 25m² FOR THE FIRST 50 UNITS PLUS AN ADDITIONAL 0.26m² FOR EACH ADDITIONAL UNIT ABOVE 50. PROVIDE MIN. 10m² FOR UNCOMPACTED WASTE.
5. PAGE 29 – STAGING & LOADING AREA – PROVIDE 5m² FOR THE FIRST 50 UNITS PLUS AN ADDITIONAL 0.10m² FOR EACH ADDITIONAL UNIT ABOVE 50.
6. PAGE 29 – MIN. 6.1m VERTICAL CLEARANCE THROUGHOUT THE LOADING SPACE AND STAGING AREA.
7. PAGE 21 – MIN. 6.0m AT THE POINT OF INGRESS/EGRESS TO THE SITE, MIN. 4.5m WIDE THROUGHOUT THE SITE WITH A MIN. 4.4m VERTICAL CLEARANCE THROUGHOUT THE SITE.
8. PAGE 21 – TRUCK MUST HAVE A MIN. INSIDE TURNING RADII OF 9.5m AND MIN. OUTSIDE TURNING RADII OF 14m. SLOPE OF THE ACCESS ROUTE SHALL NOT EXCEED 8% AND SLOPE OF LOADING AREA SHALL NOT EXCEED 2%..
9. BINS THAT WILL BE USED FOR THE NON–RESIDENTIAL WASTE WILL BE LABELED SEPARATELY FROM THE BINS FOR THE RESIDENTIAL WASTE.
10. THE NON–RESIDENTIAL COMPONENT WILL MAKE USE OF THE TYPE G LOADING SPACE. THE NON–RESIDENTIAL COMPONENT WILL ONLY SCHEDULE USE OF THE TYPE G LOADING SPACE ON OPPOSITE DAYS FROM THE COLLECTION DAYS OF THE RESIDENTIAL COMPONENT TO ENSURE THAT THE TYPE G LOADING SPACE WILL BE VACANT FOR CITY WASTE COLLECTION.

DETAIL A: WARNING SIGN

WATCH FOR
TURNING TRUCKS
WHEN FLASHING

(600x300)
BLACK LEGEND & BORDER,
WHITE REFL. BACKGROUND.



DRAWN BY: C.A.

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Project No. 25200

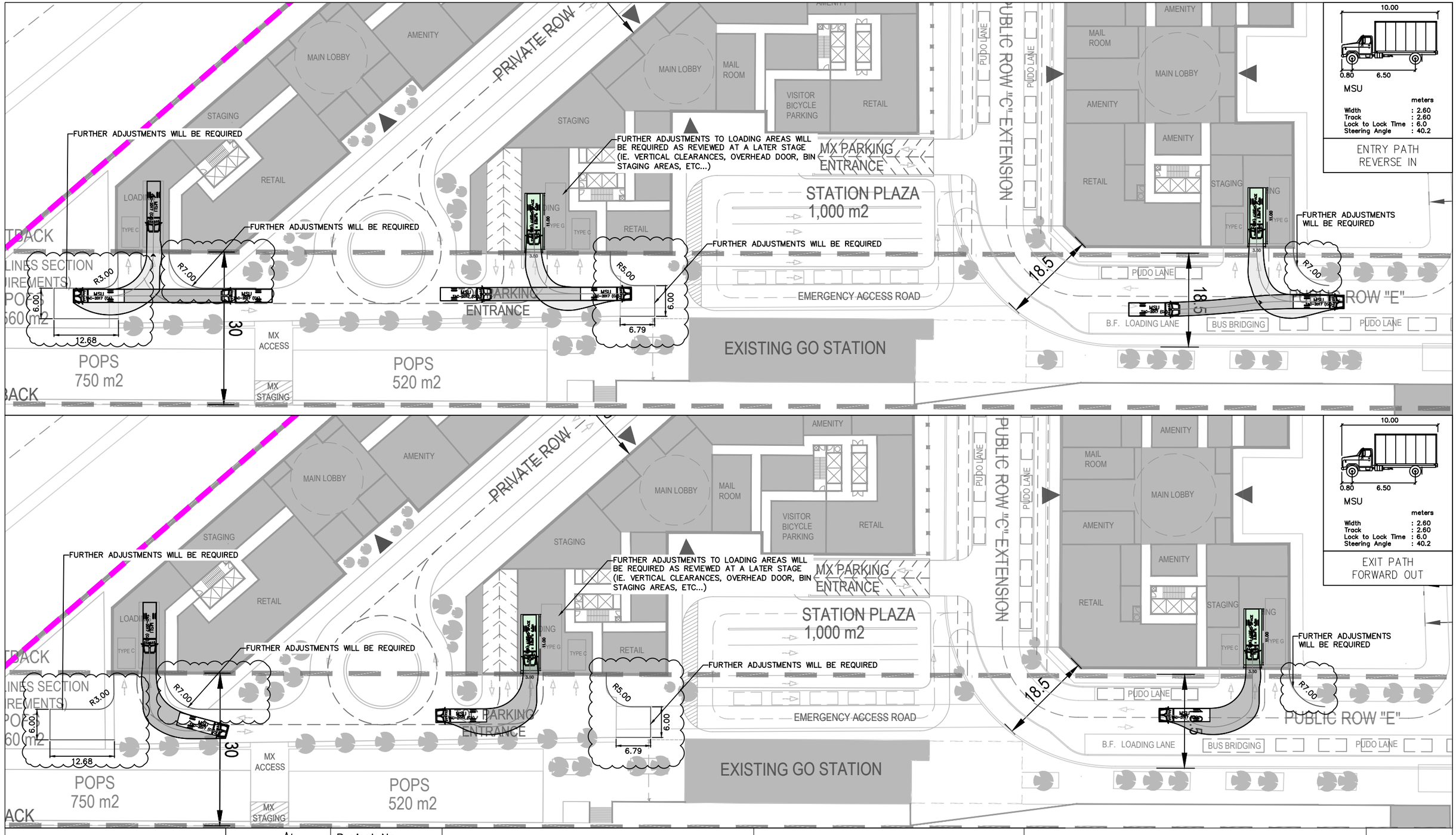
Date Oct. 29, 2025

600–158 STERLING ROAD
TORONTO ONTARIO

7.5 0 7.5 15 22.5m
1:750

LOADING REVIEW
CITY GARBAGE TRUCK
(FRONT LOADER)
ENTRY AND EXIT PATH

Drawing No. 006



DRAWN BY: C.A.

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Project No. 25200

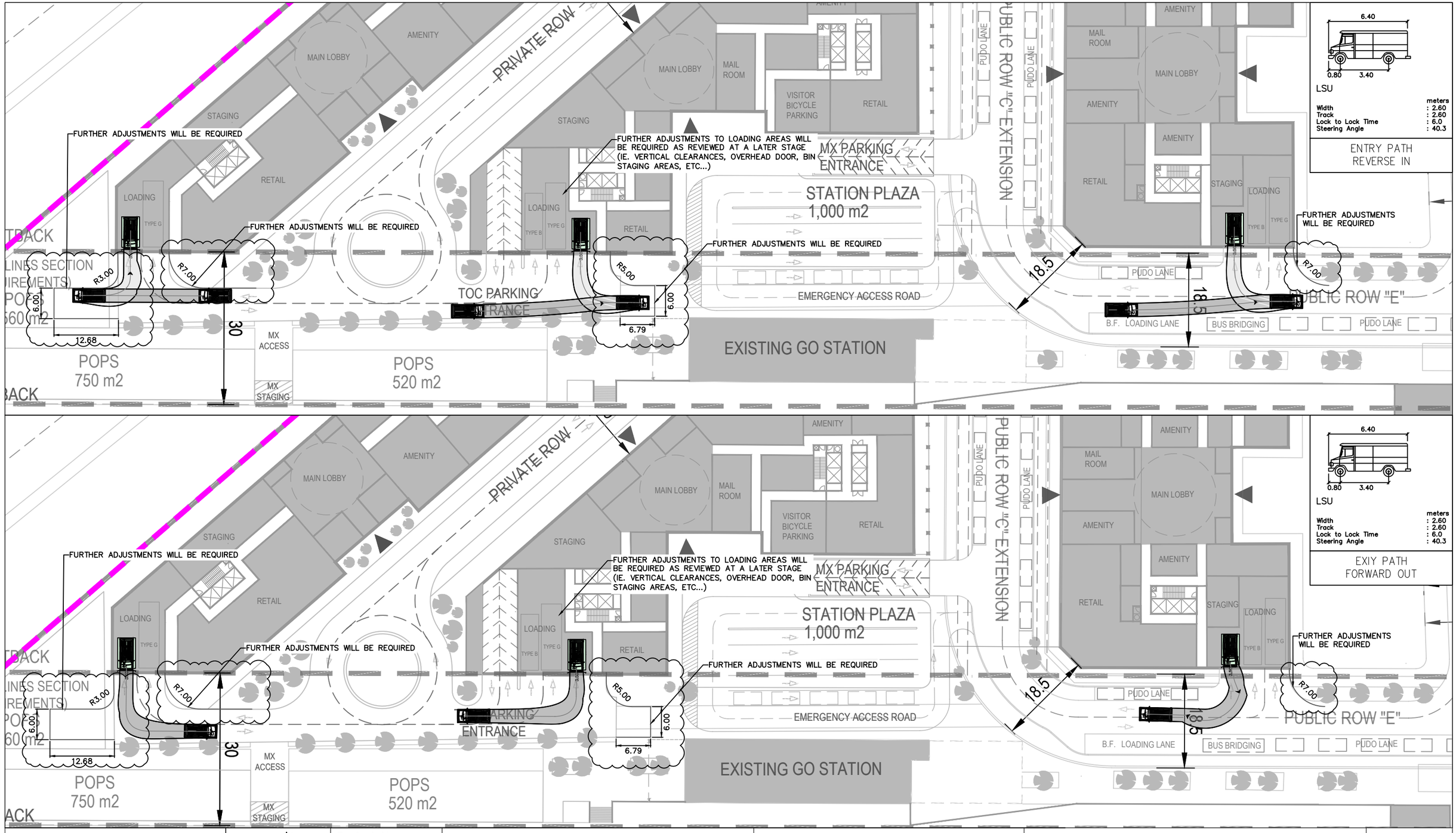
Date Oct. 29, 2025

600–158 STERLING ROAD
TORONTO ONTARIO

7 0 7 14 21m
1:700

LOADING REVIEW
MEDIUM SINGLE UNIT (MSU) TRUCK
ENTRY AND EXIT PATH

Drawing No. 007



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Project No. 25200

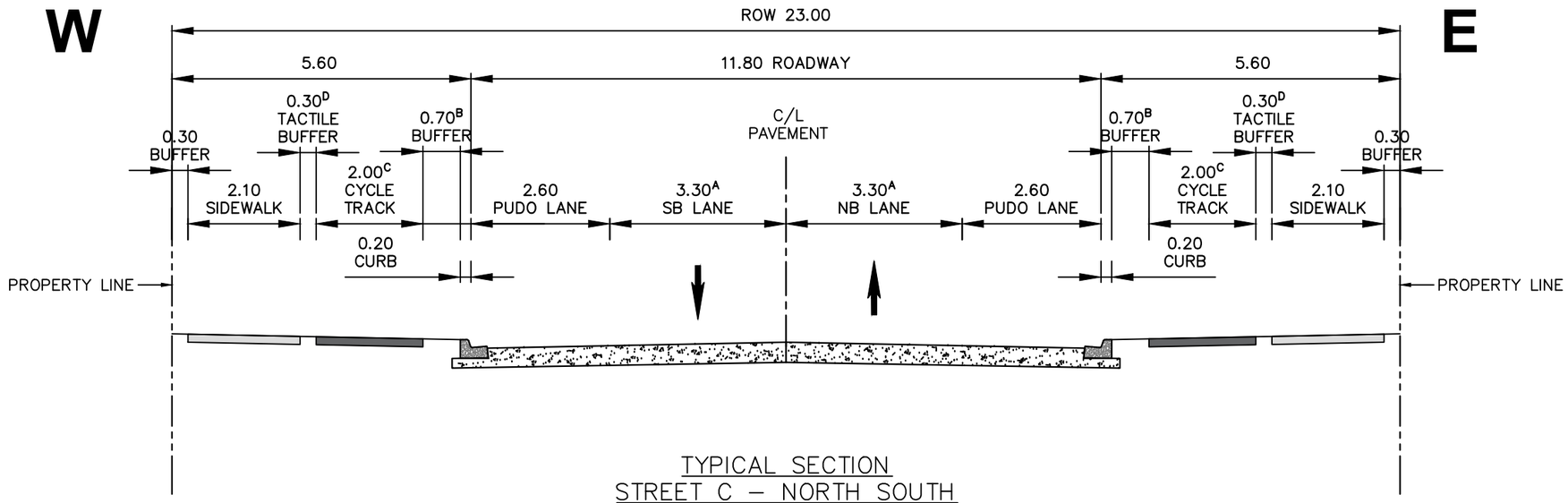
Date Oct. 29, 2025

600–158 STERLING ROAD
TORONTO ONTARIO

7 0 7 14 21m
1:700

LOADING REVIEW
LIGHT SINGLE UNIT (LSU) TRUCK
ENTRY AND EXIT PATH

Drawing No. 008



TYPICAL SECTION
STREET C – NORTH SOUTH
MID–BLOCK

NOTES:
A. 3m REQUIRED WIDTH FOR THROUGH LANES AS PER TABLE 2 OF GO DESIGN REQUIREMENTS MANUAL
B. WITHIN DESIRED WIDTH FOR CYCLE TRACK BUFFER AS PER TABLE 4.6 OF OTM BOOK 18
C. WITHIN DESIRED WIDTH FOR CYCLE TRCK AS PER TABLE 4.4 OF OTM BOOK 18
D. CONTINUOUS DETECTABLE TACTILE BUFFER PROVIDED BETWEEN SIDEWALK AND CYCLING FACILITY AS PER P.67 OF OTM BOOK 18

DRAWN BY: C.A.

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Project No. 25200

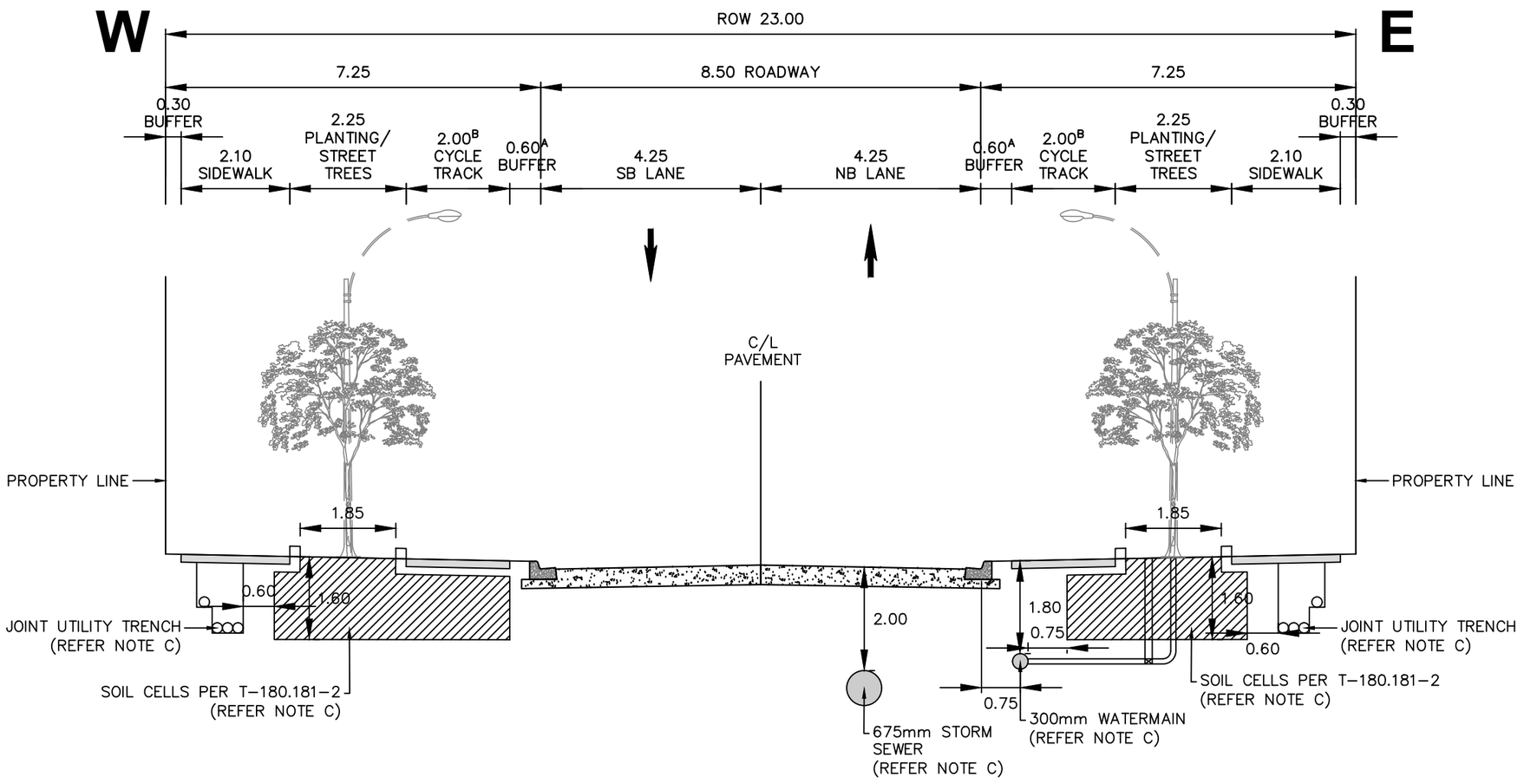
Date Nov. 1, 2025

600–158 STERLING ROAD
TORONTO ONTARIO

1 0 1 2 3m
1:100

TYPICAL CROSS SECTIONS
STREET C – NORTH SOUTH
MID BLOCK

Drawing No. SK01



ALTERNATIVE OPTION: PUDO REMOVED & REPLACED WITH PLANTING ZONE
TYPICAL SECTION
STREET C – NORTH SOUTH
MID-BLOCK

NOTES:
A. THE MINIMUM WIDTH FOR CYCLE TRACK BUFFER AS PER TABLE 4.6 OF OTM BOOK 18
B. WITHIN DESIRED WIDTH FOR CYCLE TRACK AS PER TABLE 4.4 OF OTM BOOK 18
C. UNDERGROUND UTILITIES (JOINT UTILITY TRENCH, SOIL CELLS, STORM SEWER, WATERMAIN, ETC..) TO BE CONFIRMED BY OTHERS

DRAWN BY: C.A.

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Project No. 25200

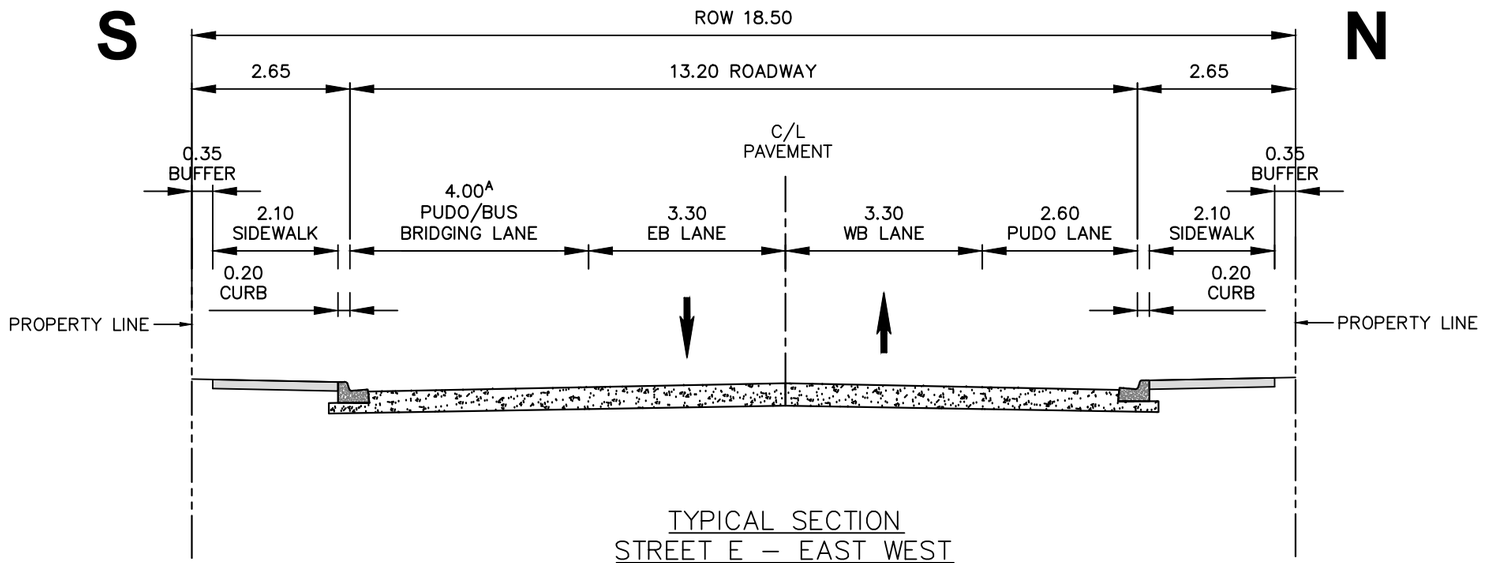
Date Nov. 1, 2025

600-158 STERLING ROAD
TORONTO ONTARIO

1 0 1 2 3m
1:100

TYPICAL CROSS SECTIONS
STREET C ALTERNATIVE OPTION:
PUDO REMOVED & REPLACED WITH PLANTING ZONE

Drawing No. SK02



TYPICAL SECTION
STREET E – EAST WEST
MID–BLOCK

NOTES:
A. EXACT WIDTH FOR BUS BRIDGING TO BE DETERMINED AFTER SWEPT PATH ANALYSIS

DRAWN BY: C.A.

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Project No.
25200

Date
Nov. 1, 2025

600–158 STERLING ROAD
TORONTO ONTARIO

1 0 1 2 3m
1:100

TYPICAL CROSS SECTIONS
STREET E – EAST WEST
MID BLOCK

Drawing No.
SK03

APPENDIX L

PUDO Assessment

PUDO Dwell Time Summary

Project # 25282/210
Location: 7 Grenville St, Toronto
Date: Thursday May 8th, 2025
Observers: SM

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes		Accum-ulation:
	Passenger Pick-up		8:04:31	8:05:08	0:00:37	Grenville St	Personal		1
	Passenger Pick-up		8:09:33	8:10:46	0:01:13	St Luke Lane	Personal		1
	Passenger Drop-off		8:10:17	8:10:26	0:00:09	Grenville St	Personal		2
	Package Delivery		8:10:53	8:13:07	0:02:14	St Luke Lane	Personal		1
	Passenger Pick-up		8:42:12	8:42:25	0:00:13	Grenville St	Personal		1
	Passenger Drop-off		8:46:57	8:47:10	0:00:13	Grenville St	Personal		1
	Passenger Pick-up		8:56:15	8:56:57	0:00:42	Grenville St	Personal		1
	Passenger Pick-up		9:02:56	9:06:19	0:03:23	Grenville St	Personal		1
	Passenger Pick-up		9:07:00	9:07:34	0:00:34	Grenville St	Personal		1
	Passenger Pick-up		9:08:12	9:08:25	0:00:13	Grenville St	Personal		1
	Drop-off		9:39:50	9:44:47	0:04:57	St Luke Lane	Personal		1
	Passenger Pick-up		9:51:01	9:57:08	0:06:07	Grenville St	Personal		1
	Passenger Pick-up		9:52:13	9:52:27	0:00:14	Grenville St	Personal		2
	Package Delivery		9:57:46	9:59:04	0:01:18	St Luke Lane	Personal		1
	Passenger Pick-up		10:03:24	10:03:34	0:00:10	Grenville St	Personal		1
	Passenger Pick-up		10:03:48	10:06:00	0:02:12	Grenville St	Personal		1
	Passenger Pick-up		10:04:31	10:06:36	0:02:05	Grenville St	Personal		2
	Passenger Pick-up		10:05:25	10:05:57	0:00:32	Grenville St	Personal		3
	Food Delivery		10:15:21	10:21:28	0:06:07	St Luke Lane	Personal		1
	Passenger Pick-up		10:20:19	10:20:50	0:00:31	Grenville St	Personal		2
	Passenger Pick-up		10:26:38	10:29:02	0:02:24	Grenville St	Personal		1
	Moving/Loading		11:16:44	12:50:54	1:34:10	St Luke Lane	Van		1
	Passenger Pick-up		11:46:53	11:47:18	0:00:25	Grenville St	Personal		2
	Passenger Pick-up		12:08:44	12:26:13	0:17:29	St Luke Lane	Personal		2
	Passenger Pick-up		12:10:39	12:10:58	0:00:19	Grenville St	Personal		3
	Passenger Pick-up		12:11:02	12:11:13	0:00:11	Grenville St	Personal		3
	Package Delivery		12:47:26	12:54:58	0:07:32	St Luke Lane	Canada Post		2
	Passenger Drop-off		13:44:00	13:44:53	0:00:53	Grenville St	Personal		1
	Passenger Pick-up		13:45:15	13:57:03	0:11:48	Grenville St	Personal		1
	Moving/Loading		13:55:49	15:25:44	1:29:55	Grenville St	Personal		2
	Passenger Pick-up		13:57:11	13:59:07	0:01:56	Grenville St	Personal		2
	Passenger Pick-up		14:04:22	14:04:31	0:00:09	St Luke Lane	Personal		2
	Passenger Pick-up		14:09:04	14:09:25	0:00:21	Grenville St	Personal		2
	Passenger Drop-off		14:09:38	14:10:36	0:00:58	Grenville St	Personal		2
	Passenger Drop-off		14:20:28	14:20:35	0:00:07	Grenville St	Personal		2
	Passenger Drop-off		14:29:40	14:30:34	0:00:54	Grenville St	Personal		2
	Passenger Drop-off		14:42:15	14:46:52	0:04:37	Grenville St	Personal		2
	Passenger Pick-up		14:45:37	14:46:05	0:00:28	Grenville St	Personal		3
	Passenger Pick-up		14:59:17	15:01:20	0:02:03	Grenville St	Personal		2
	Passenger Drop-off		14:59:42	14:59:49	0:00:07	Grenville St	Personal		3
	Passenger Drop-off		15:10:43	15:20:15	0:09:32	Grenville St	Personal		2
	Passenger Pick-up		15:16:18	15:16:49	0:00:31	Grenville St	Personal		3
	Passenger Drop-off		15:17:16	15:17:27	0:00:11	Grenville St	Personal		3
	Passenger Drop-off		15:37:24	15:39:06	0:01:42	Grenville St	Personal		1
	Passenger Pick-up		15:38:42	15:39:04	0:00:22	Grenville St	Personal		2
	Passenger Pick-up		15:39:34	16:03:40	0:24:06	Grenville St	Personal		1
	Passenger Pick-up		16:02:29	16:03:38	0:01:09	Grenville St	Personal		2
	Passenger Drop-off		16:18:21	16:18:37	0:00:16	Grenville St	Personal		1
	Package Delivery		16:23:20	16:26:00	0:02:40	Grenville St	Van		1
	Package Delivery		16:37:12	16:44:17	0:07:05	St Luke Lane	Personal		1
	Passenger Drop-off		16:37:35	16:37:49	0:00:14	Grenville St	Personal		2
	Passenger Pick-up		16:40:16	16:41:38	0:01:22	Grenville St	Personal		2
	Package Delivery		16:43:36	16:46:13	0:02:37	Grenville St	Single Unit Truck		2
	Passenger Drop-off		16:47:47	16:48:05	0:00:18	Grenville St	Personal		1
	Passenger Pick-up		17:13:02	17:14:30	0:01:28	Grenville St	Personal		1
	Package Delivery		17:27:18	17:29:07	0:01:49	Grenville St	Personal		1
	Passenger Drop-off		17:33:38	17:37:31	0:03:53	Grenville St	Personal		1
	Package Delivery		17:44:08	17:46:44	0:02:36	Grenville St	Personal		1
	Passenger Pick-up		17:50:41	17:50:56	0:00:15	Grenville St	Personal		1
	Passenger Pick-up		18:04:43	18:04:51	0:00:08	Grenville St	Personal		1
	Passenger Pick-up		18:09:02	18:09:17	0:00:15	Grenville St	Personal		1
	Passenger Pick-up		18:10:31	18:11:59	0:01:28	Grenville St	Personal		1
	Passenger Pick-up		18:14:14	18:14:35	0:00:21	Grenville St	Personal		1
	Passenger Drop-off		18:17:38	18:18:04	0:00:26	Grenville St	Personal		1
	Passenger Pick-up		18:18:28	18:20:15	0:01:47	Grenville St	Personal		1
	Passenger Drop-off		18:27:49	18:28:30	0:00:41	Grenville St	Personal		1
	Passenger Drop-off		18:30:35	18:31:59	0:01:24	Grenville St	Personal		1
	Passenger Drop-off		18:33:34	18:33:50	0:00:16	Grenville St	Personal		1
	Passenger Drop-off		18:40:21	18:41:28	0:01:07	Grenville St	Personal		1
	Passenger Drop-off		19:03:04	19:03:15	0:00:11	Grenville St	Personal		1
	Passenger Drop-off		19:05:26	19:06:07	0:00:41	Grenville St	Personal		1
	Passenger Pick-up		19:08:21	19:09:24	0:01:03	Grenville St	Personal		1
	Passenger Pick-up		19:08:42	19:09:35	0:00:53	Grenville St	Personal		2
	Passenger Drop-off		19:11:50	19:11:59	0:00:09	Grenville St	Personal		1
	Passenger Pick-up		19:27:20	19:34:52	0:07:32	Grenville St	Personal		1
	Passenger Drop-off		19:42:13	19:42:19	0:00:06	Grenville St	Personal		1
	Passenger Pick-up		19:46:37	19:46:58	0:00:21	Grenville St	Personal		1
	Passenger Pick-up		20:16:32	20:16:42	0:00:10	Grenville St	Personal		1
	Passenger Drop-off		20:21:46	20:22:04	0:00:18	Grenville St	Personal		1
	Passenger Pick-up		20:46:37	20:48:39	0:02:02	Grenville St	Personal		1
	Passenger Drop-off		20:49:59	20:50:10	0:00:11	Grenville St	Personal		1
	Passenger Pick-up		20:51:53	20:53:04	0:01:11	Grenville St	Personal		1
	Passenger Drop-off		21:08:30	21:09:32	0:01:02	Grenville St	Personal		1
	Passenger Drop-off		21:29:30	21:29:40	0:00:10	Grenville St	Personal		1
	Passenger Pick-up		21:45:28	21:51:41	0:06:13	Grenville St	Personal		1
			# of vehicles		85			max	3
			Average Duration		0:04:16			at	10:05:25
									12:10:39
									14:45:37
									15:16:18

PUDO Dwell Time Summary

Project # 25282/210
Location: 7 Grenville St, Toronto
Date: Saturday May 10th, 2025
Observers: SM

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	Survey Time 22:00 Time Depart	Duration	Location	Notes	Accum-ulation:
	Passenger Pick-up		8:24:19	8:24:45	0:00:26	Grenville St	Personal	1
	Package Delivery		8:26:08	8:32:35	0:06:27	St Luke Lane	Personal	1
	Passenger Pick-up		8:31:12	8:32:17	0:01:05	Grenville St	Personal	2
	Passenger Pick-up		9:38:00	9:38:10	0:00:10	Grenville St	Personal	1
	Passenger Drop-off		9:41:25	9:41:42	0:00:17	Grenville St	Personal	1
	Package Delivery		10:09:34	10:12:40	0:03:06	St Luke Lane	Personal	1
	Passenger Pick-up		10:15:54	10:16:08	0:00:14	Grenville St	Personal	1
	Package Delivery		10:19:51	10:27:55	0:08:04	Grenville St	FedEx	1
	Passenger Pick-up		10:34:53	10:37:36	0:02:43	Grenville St	Personal	1
	Passenger Drop-off		10:41:13	10:41:44	0:00:31	St Luke Lane	Personal	1
	Passenger Pick-up		11:12:30	11:13:44	0:01:14	Grenville St	Personal	1
	Passenger Pick-up		11:32:39	11:36:08	0:03:29	Grenville St	Personal	1
	Passenger Pick-up		11:37:08	11:37:28	0:00:20	Grenville St	Personal	1
	Passenger Pick-up		11:42:47	11:48:54	0:06:07	Grenville St	Personal	1
	Passenger Pick-up		11:46:12	11:46:28	0:00:16	St Luke Lane	Personal	2
	Passenger Pick-up		11:53:24	11:57:11	0:03:47	Grenville St	Personal	1
	Passenger Drop-off		11:54:59	11:55:16	0:00:17	Grenville St	Personal	2
	Passenger Pick-up		12:03:18	12:06:50	0:03:32	Grenville St	Personal	1
	Passenger Pick-up		12:07:36	12:09:35	0:01:59	Grenville St	Personal	1
	Passenger Pick-up		12:07:48	12:08:41	0:00:53	St Luke Lane	Personal	2
	Passenger Pick-up		12:11:36	12:12:38	0:01:02	St Luke Lane	Personal	1
	Package Delivery		12:20:52	12:22:37	0:01:45	Grenville St	Personal	1
	Passenger Pick-up		12:25:52	12:26:29	0:00:37	Grenville St	Personal	1
	Passenger Pick-up		12:33:25	12:37:19	0:03:54	Grenville St	Personal	1
	Passenger Pick-up		12:51:22	12:51:41	0:00:19	Grenville St	Personal	1
	Passenger Pick-up		13:10:01	13:10:16	0:00:15	Grenville St	Personal	1
	Package Delivery		13:19:16	13:21:58	0:02:42	Grenville St	Personal	1
	Passenger Pick-up		13:39:06	13:42:28	0:03:22	Grenville St	Personal	1
	Passenger Drop-off		13:56:43	13:57:01	0:00:18	Grenville St	Personal	1
	Passenger Pick-up		14:10:56	14:11:20	0:00:24	Grenville St	Personal	1
	Passenger Pick-up		14:30:06	14:30:50	0:00:44	Grenville St	Personal	1
	Passenger Drop-off		14:51:52	14:52:03	0:00:11	Grenville St	Personal	1
	Passenger Pick-up		14:54:33	14:54:52	0:00:19	Grenville St	Personal	1
	Passenger Pick-up		15:00:14	15:00:46	0:00:32	Grenville St	Personal	1
	Passenger Drop-off		15:09:26	15:10:08	0:00:42	Grenville St	Personal	1
	Passenger Pick-up		15:11:52	15:12:02	0:00:10	Grenville St	Personal	1
	Passenger Pick-up		15:14:03	15:16:48	0:02:45	Grenville St	Personal	1
	Passenger Pick-up		15:24:51	15:25:33	0:00:42	Grenville St	Personal	1
	Food Delivery		15:27:05	15:30:45	0:03:40	Grenville St	Personal	1
	Passenger Pick-up		15:34:32	15:34:42	0:00:10	Grenville St	Personal	1
	Passenger Pick-up		15:31:30	15:42:06	0:10:36	Grenville St	Personal	2
	Passenger Pick-up		15:38:46	15:39:03	0:00:17	Grenville St	Personal	2
	Passenger Pick-up		15:41:54	15:44:44	0:02:50	Grenville St	Personal	2
	Package Delivery		15:51:32	16:16:40	0:25:08	Grenville St	FedEx	1
	Passenger Pick-up		16:14:32	16:18:30	0:03:58	Grenville St	Personal	2
	Passenger Drop-off		16:18:45	16:20:58	0:02:13	Grenville St	Personal	1
	Passenger Pick-up		16:26:29	16:27:01	0:00:32	Grenville St	Personal	1
	Passenger Drop-off		16:27:25	16:33:51	0:06:26	Grenville St	Personal	1
	Passenger Pick-up		16:40:12	16:43:46	0:03:34	Grenville St	Personal	1
	Passenger Pick-up		16:54:02	16:58:15	0:04:13	Grenville St	Personal	1
	Passenger Drop-off		16:56:20	16:56:45	0:00:25	Grenville St	Personal	2
	Passenger Pick-up		16:56:47	16:59:43	0:02:56	Grenville St	Personal	2
	Passenger Pick-up		16:57:23	17:00:11	0:02:48	Grenville St	Personal	3
	Passenger Drop-off		17:03:19	17:03:34	0:00:15	Grenville St	Personal	1
	Passenger Pick-up		17:19:35	17:23:45	0:04:10	Grenville St	Personal	1
	Passenger Pick-up		17:20:50	17:22:26	0:01:36	St Luke Lane	Personal	2
	Passenger Drop-off		17:22:29	17:23:02	0:00:33	Grenville St	Personal	2
	Passenger Drop-off		17:28:23	17:28:39	0:00:16	Grenville St	Personal	1
	Passenger Pick-up		17:38:06	17:40:25	0:02:19	Grenville St	Personal	1
	Food Delivery		17:41:04	17:57:14	0:16:10	Grenville St	Personal	1
	Passenger Drop-off		18:17:40	18:21:40	0:04:00	Grenville St	Personal	1
	Passenger Drop-off		18:27:34	18:28:08	0:00:34	Grenville St	Personal	1
	Passenger Pick-up		18:28:48	18:32:16	0:03:28	Grenville St	Personal	1
	Passenger Drop-off		18:28:55	18:29:19	0:00:24	Grenville St	Personal	2
	Passenger Pick-up		18:29:56	18:30:25	0:00:29	Grenville St	Personal	2
	Passenger Pick-up		18:39:07	18:39:18	0:00:11	Grenville St	Personal	1
	Food Delivery		18:40:22	18:42:18	0:01:56	St Luke Lane	Personal	1
	Passenger Drop-off		18:52:33	18:53:38	0:01:05	St Luke Lane	Personal	1
	Passenger Pick-up		18:58:19	18:58:44	0:00:25	Grenville St	Personal	1
	Passenger Pick-up		19:10:32	19:11:31	0:00:59	Grenville St	Personal	1
	Passenger Pick-up		19:14:37	19:15:05	0:00:28	Grenville St	Personal	1
	Passenger Drop-off		19:19:59	19:21:15	0:01:16	Grenville St	Personal	1
	Passenger Drop-off		19:30:10	19:30:29	0:00:19	Grenville St	Personal	1
	Passenger Drop-off		19:35:37	19:38:23	0:02:46	Grenville St	Personal	1
	Passenger Pick-up		19:39:29	19:44:16	0:04:47	Grenville St	Personal	1
	Passenger Drop-off		19:41:12	19:41:27	0:00:15	Grenville St	Personal	2
	Passenger Pick-up		19:42:25	19:42:43	0:00:18	Grenville St	Personal	2
	Passenger Drop-off		19:44:17	19:44:41	0:00:24	Grenville St	Personal	1
	Passenger Pick-up		19:48:19	19:56:05	0:07:46	Grenville St	Personal	1
	Passenger Pick-up		19:52:46	19:54:54	0:02:08	Grenville St	Personal	2
	Passenger Drop-off		19:56:08	19:59:08	0:03:00	Grenville St	Personal	1
	Passenger Pick-up		20:10:22	20:18:26	0:08:04	Grenville St	Personal	1
	Passenger Drop-off		20:21:10	20:21:34	0:00:24	Grenville St	Personal	1
	Passenger Pick-up		20:33:20	20:33:38	0:00:18	Grenville St	Personal	1
	Passenger Pick-up		20:34:25	20:37:48	0:03:23	Grenville St	Personal	1
	Passenger Drop-off		20:44:28	20:44:44	0:00:16	Grenville St	Personal	1
	Passenger Drop-off		20:47:29	20:52:00	0:04:31	Grenville St	Personal	1
	Passenger Drop-off		20:52:16	21:04:09	0:11:53	Grenville St	Personal	1
	Passenger Pick-up		20:54:42	20:55:52	0:01:10	Grenville St	Personal	2
	Passenger Pick-up		21:22:30	21:23:25	0:00:55	Grenville St	Personal	1
	Passenger Drop-off		21:31:40	21:31:53	0:00:13	Grenville St	Personal	1
	Passenger Pick-up		21:35:19	21:40:31	0:05:12	Grenville St	Personal	1
	Food Delivery		21:42:47	21:47:57	0:05:10	Grenville St	Personal	1
	Passenger Pick-up		21:46:32	21:48:46	0:02:14	Grenville St	Personal	2
	Passenger Pick-up		21:47:52	21:48:40	0:00:48	Grenville St	Personal	3
			# of vehicles		95		max	3
			Average Duration		0:02:33		at	21:47:52

PUDO Dwell Time Summary

Project # 25282/210
Location: 10 York Street, Toronto
Date: Thursday May 22nd, 2025
Observers: SM

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes		Accum-ulation:
	Passenger Pick-Up		8:17:32	8:25:18	0:07:46	Authorized Parking Area	Personal		1
	Passenger Pick-Up		8:37:34	8:39:31	0:01:57	York St	Personal		1
	Package Delivery		8:46:47	8:49:03	0:02:16	Authorized Parking Area	Personal		1
	Passenger Drop-Off		8:48:17	8:48:27	0:00:10	York St	Personal		2
	Passenger Pick-Up		8:51:00	8:51:21	0:00:21	York St	Personal		1
	Moving/Loading		8:59:27	12:10:49	3:11:22	Authorized Parking Area	Personal		1
	Passenger Pick-Up		9:00:06	9:00:27	0:00:21	York St	Personal		2
	Food Delivery		9:10:48	9:17:04	0:06:16	York St	Personal		2
	Passenger Pick-Up		9:14:55	9:17:50	0:02:55	York St	Personal		3
	Passenger Pick-Up		9:20:51	9:20:59	0:00:08	York St	Personal		2
	Passenger Drop-Off		9:26:12	9:26:23	0:00:11	York St	Personal		2
	Passenger Pick-Up		9:27:32	9:27:55	0:00:23	York St	Personal		2
	Passenger Pick-Up		9:46:40	9:47:52	0:01:12	York St	Personal		2
	Passenger Pick-Up		10:04:39	10:18:24	0:13:45	Authorized Parking Area	Personal		2
	Passenger Pick-Up		10:14:51	10:15:06	0:00:15	York St	Personal		2
	Passenger Drop-Off		10:41:53	10:42:02	0:00:09	York St	Personal		2
	Package Delivery		10:52:53	11:00:28	0:07:35	Authorized Parking Area	Van		2
	Package Delivery		10:55:50	11:00:24	0:04:34	York St	Canada Post		3
			11:10:41	11:38:20	0:27:39	Authorized Parking Area	Personal		2
	Passenger Pick-Up		11:11:01	11:11:14	0:00:13	York St	Personal		3
	Passenger Pick-Up		11:33:44	11:38:38	0:04:54	York St	Personal		3
	Passenger Pick-Up		11:40:30	11:53:59	0:13:29	Authorized Parking Area	Personal		2
	Package Delivery		11:51:09	11:57:10	0:06:01	Authorized Parking Area	Van		3
	Passenger Pick-Up		12:03:49	12:04:03	0:00:14	York St	Personal		2
	Passenger Drop-Off		12:08:55	12:09:12	0:00:17	York St	Personal		2
	Passenger Pick-Up		12:16:36	12:23:43	0:07:07	Authorized Parking Area	Personal		1
	Passenger Drop-Off		12:29:50	12:31:28	0:01:38	York St	Personal		1
	Food Delivery		12:31:46	12:33:43	0:01:57	York St	Personal		1
	Passenger Pick-Up		12:33:40	12:34:30	0:00:50	York St	Taxi		2
	Passenger Drop-Off		12:37:56	12:38:04	0:00:08	York St	Personal		1
	Passenger Pick-Up		12:54:50	12:55:11	0:00:21	York St	Personal		1
	Passenger Drop-Off		12:59:45	12:59:53	0:00:08	York St	Personal		1
	Passenger Drop-Off		13:09:42	13:11:09	0:01:27	Authorized Parking Area	Personal		1
	Passenger Drop-Off		13:15:40	13:16:02	0:00:22	Harbour St	Personal		1
	Passenger Pick-Up		13:24:08	13:26:10	0:02:02	York St	Personal		1
	Food Delivery		13:29:42	13:34:56	0:05:14	York St	Personal		1
	Passenger Drop-Off		13:31:06	13:31:23	0:00:17	York St	Personal		2
	Package Delivery		13:41:07	13:46:26	0:05:19	York St	UPS		1
	Passenger Drop-Off		13:46:33	13:51:37	0:05:04	Authorized Parking Area	Personal		1
	Food Delivery		14:02:07	14:10:43	0:08:36	Authorized Parking Area	Personal		1
	Passenger Pick-Up		14:17:05	14:22:50	0:05:45	Authorized Parking Area	Personal		1
	Passenger Drop-Off		14:26:24	14:26:33	0:00:09	York St	Personal		1
	Passenger Pick-Up		14:27:10	14:29:02	0:01:52	Authorized Parking Area	Personal		1
	Food Delivery		14:32:08	14:35:25	0:03:17	York St	Personal		1
	Passenger Pick-Up		14:32:10	14:32:21	0:00:11	York St	Personal		2
	Passenger Drop-Off		14:32:20	14:32:27	0:00:07	York St	Personal		3
	Package Delivery		14:35:57	14:56:35	0:20:38	Authorized Parking Area	Van		1
	Passenger Drop-Off		14:36:17	14:36:22	0:00:05	York St	Personal		2
	Passenger Drop-Off		14:56:45	14:57:06	0:00:21	York St	Personal		1
	Passenger Drop-Off		15:14:16	15:14:34	0:00:18	York St	Personal		1
	Passenger Pick-Up		15:15:04	15:15:12	0:00:08	York St	Personal		1
	Package Delivery		15:24:30	15:35:58	0:11:28	Authorized Parking Area	Personal		1
	Passenger Pick-Up		15:35:52	16:02:15	0:26:23	Authorized Parking Area	Personal		2
	Food Delivery		15:46:00	16:01:17	0:15:17	Authorized Parking Area	Personal		2
	Passenger Drop-Off		16:25:00	16:25:33	0:00:33	York St	Personal		1
	Passenger Drop-Off		16:28:24	16:28:34	0:00:10	York St	Personal		1
	Passenger Pick-Up		16:34:20	16:34:30	0:00:10	York St	Personal		1
	Package Delivery		16:55:35	17:04:37	0:09:02	Authorized Parking Area	Van		1
	Passenger Pick-Up		17:05:01	17:05:16	0:00:15	York St	Personal		1
	Passenger Drop-Off		17:05:41	17:05:52	0:00:11	Harbour St	Personal		1
	Passenger Drop-Off		17:43:31	17:43:45	0:00:14	York St	Personal		1
	Passenger Drop-Off		18:08:03	18:08:10	0:00:07	York St	Personal		1
	Food Delivery		18:14:58	18:18:55	0:03:57	York St	Personal		1
	Passenger Drop-Off		18:17:05	18:20:49	0:03:44	Authorized Parking Area	Personal		2
	Passenger Pick-Up		18:22:38	18:32:41	0:10:03	Authorized Parking Area	Personal		1
	Passenger Drop-Off		18:23:30	18:25:11	0:01:41	York St	Personal		2
	Food Delivery		18:38:39	18:44:34	0:05:55	Authorized Parking Area	Personal		1
	Passenger Pick-Up		18:58:58	18:59:30	0:00:32	York St	Personal		1
	Passenger Pick-Up		19:08:11	19:08:39	0:00:28	York St	Personal		1
	Passenger Drop-Off		19:10:34	19:10:48	0:00:14	York St	Personal		1
	Passenger Drop-Off		19:34:42	19:51:24	0:16:42	Authorized Parking Area	Personal		1
	Passenger Drop-Off		19:49:26	19:51:31	0:02:05	York St	Personal		2
	Passenger Drop-Off		19:52:10	19:52:22	0:00:12	York St	Personal		1
	Passenger Drop-Off		19:53:03	20:03:34	0:10:31	Authorized Parking Area	Personal		1
	Passenger Pick-Up		20:01:04	20:02:39	0:01:35	York St	Personal		2
	Food Delivery		20:02:53	20:06:40	0:03:47	York St	Personal		2
	Food Delivery		20:07:20	20:09:02	0:01:42	York St	Personal		1
	Passenger Drop-Off		20:10:54	20:13:45	0:02:51	Authorized Parking Area	Personal		1
	Passenger Drop-Off		20:12:03	20:12:16	0:00:13	York St	Personal		2
	Passenger Pick-Up		20:13:22	20:13:32	0:00:10	York St	Personal		2
	Passenger Drop-Off		20:14:04	20:15:03	0:00:59	Authorized Parking Area	Personal		1
	Passenger Drop-Off		20:27:21	20:28:56	0:01:35	Authorized Parking Area	Personal		1
	Passenger Drop-Off		20:29:56	20:31:30	0:01:34	Authorized Parking Area	Personal		1
	Food Delivery		21:11:46	21:18:10	0:06:24	Authorized Parking Area	Personal		1
	Food Delivery		21:16:12	21:19:05	0:02:53	York St	Personal		2
	Passenger Pick-Up		21:20:33	21:21:15	0:00:42	York St	Personal		1
	Passenger Drop-Off		21:21:18	21:23:03	0:01:45	Authorized Parking Area	Personal		1
	Passenger Drop-Off		21:36:40	21:37:14	0:00:34	Authorized Parking Area	Personal		1
	Passenger Pick-Up		21:38:09	21:42:36	0:04:27	Authorized Parking Area	Personal		1
	Passenger Pick-Up		21:44:10	21:44:37	0:00:27	York St	Personal		1
	Passenger Drop-Off		21:46:58	21:47:13	0:00:15	York St	Personal		1
			# of vehicles		91			max	3
			Average Duration		0:05:43			at	9:14:55
									10:14:51
									10:55:50
									11:11:01
									11:33:44
									11:51:09

PUDO Dwell Time Summary

Project # 25282/210
Location: 10 York Street, Toronto
Date: Saturday May 24th, 2025
Observers: SM

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes		Accum-ulation:
			8:01:19	8:37:30	0:36:11	Authorized Parking Area	Personal		1
	Passenger Pick-Up		8:05:25	8:05:43	0:00:18	York St	Personal		2
	Passenger Pick-Up		8:18:42	8:28:50	0:10:08	York St	Personal		2
	Package Delivery		8:39:37	8:46:45	0:07:08	Authorized Parking Area	Personal		1
	Food Delivery		8:41:06	8:43:52	0:02:44	Authorized Parking Area	Personal		2
	Passenger Pick-Up		8:46:38	8:47:03	0:00:25	York St	Personal		2
	Passenger Pick-Up		8:46:56	8:47:13	0:00:17	York St	Personal		2
	Passenger Pick-Up		9:07:30	9:11:22	0:03:52	York St	Personal		1
	Package Delivery		9:15:36	9:41:15	0:25:39	Authorized Parking Area	Van		1
	Passenger Pick-Up		9:16:39	9:18:03	0:01:24	York St	Personal		2
	Passenger Pick-Up		9:24:36	9:25:02	0:00:26	York St	Personal		2
	Passenger Pick-Up		9:34:24	9:35:03	0:00:39	York St	Personal		2
	Passenger Pick-Up		9:40:35	9:46:53	0:06:18	Authorized Parking Area	Personal		2
	Passenger Pick-Up		9:42:31	9:45:46	0:03:15	York St	Personal		2
	Passenger Drop-Off		9:53:33	9:53:57	0:00:24	Harbour St	Personal		1
	Passenger Pick-Up		9:57:03	9:58:34	0:01:31	York St	Personal		1
	Passenger Pick-Up		9:59:23	9:59:51	0:00:28	York St	Personal		1
	Passenger Drop-Off		10:00:59	10:01:10	0:00:11	York St	Personal		1
	Passenger Pick-Up		10:02:52	10:04:21	0:01:29	York St	Personal		1
	Moving/Loading		10:24:07	10:32:21	0:08:14	Authorized Parking Area	Single Unit Truck		1
	Passenger Pick-Up		10:35:26	10:35:47	0:00:21	York St	Personal		1
	Passenger Drop-Off		10:48:26	10:48:37	0:00:11	York St	Personal		1
	Passenger Pick-Up		10:51:52	10:51:57	0:00:05	York St	Personal		1
	Passenger Drop-Off		10:59:09	11:35:41	0:36:32	Authorized Parking Area	Personal		1
	Moving/Loading		11:01:09	11:31:25	0:30:16	Authorized Parking Area	Personal		2
	Package Delivery		11:06:49	11:29:44	0:22:55	York St	UPS		3
	Passenger Pick-Up		11:16:16	11:21:23	0:05:07	York St	Personal		4
	Passenger Pick-Up		11:33:37	12:08:50	0:35:13	Authorized Parking Area	Personal		2
	Package Delivery		11:40:23	11:54:28	0:14:05	Authorized Parking Area	Van		2
	Passenger Pick-Up		11:40:52	11:41:26	0:00:34	York St	Personal		3
	Passenger Pick-Up		11:42:38	11:44:48	0:02:10	York St	Personal		3
	Passenger Pick-Up		11:56:49	11:57:02	0:00:13	York St	Personal		2
	Passenger Pick-Up		12:00:19	12:00:35	0:00:16	York St	Personal		2
	Passenger Pick-Up		12:00:47	12:01:13	0:00:26	York St	Personal		2
	Package Delivery		12:07:50	13:38:08	1:30:18	Authorized Parking Area	Van		2
	Passenger Drop-Off		12:29:09	12:29:23	0:00:14	York St	Personal		2
	Passenger Pick-Up		12:41:31	12:41:41	0:00:10	York St	Personal		2
	Passenger Pick-Up		12:45:44	12:45:55	0:00:11	York St	Personal		2
	Passenger Pick-Up		12:55:34	12:55:42	0:00:08	York St	Personal		2
	Passenger Pick-Up		12:58:06	12:59:57	0:01:48	York St	Personal		2
	Passenger Drop-Off		12:59:15	13:01:23	0:02:08	Authorized Parking Area	Personal		3
	Passenger Drop-Off		13:19:05	13:19:14	0:00:11	York St	Personal		2
	Food Delivery		13:38:30	13:44:18	0:05:48	Authorized Parking Area	Personal		1
	Passenger Drop-Off		13:41:02	13:41:51	0:00:49	York St	Personal		2
	Moving/Loading		13:41:25	13:54:16	0:12:51	Authorized Parking Area	Van		3
	Passenger Pick-Up		14:06:21	14:07:05	0:00:44	York St	Personal		1
	Moving/Loading		14:17:03	15:23:40	1:06:37	Authorized Parking Area	Personal		1
	Passenger Pick-Up		14:23:33	14:24:44	0:01:11	York St	Personal		2
	Passenger Pick-Up		14:28:31	14:35:26	0:06:55	Authorized Parking Area	Personal		2
	Passenger Pick-Up		14:31:10	14:34:37	0:03:27	Authorized Parking Area	Personal		3
	Food Delivery		14:43:39	14:46:13	0:02:34	York St	Personal		2
	Passenger Pick-Up		14:49:39	14:50:04	0:00:25	York St	Personal		2
	Moving/Loading		14:57:44	15:03:07	0:05:23	Authorized Parking Area	Van		2
	Passenger Drop-Off		14:58:15	14:58:26	0:00:11	York St	Personal		3
	Passenger Drop-Off		14:58:19	14:59:01	0:00:42	York St	Personal		4
	Passenger Drop-Off		15:17:12	15:17:59	0:00:47	York St	Personal		2
	Passenger Drop-Off		15:20:55	15:29:03	0:08:08	Authorized Parking Area	Personal		2
	Passenger Pick-Up		15:39:55	15:45:55	0:06:00	Authorized Parking Area	Personal		1
	Passenger Pick-Up		15:48:04	15:48:17	0:00:13	York St	Personal		1
	Passenger Pick-Up		15:51:18	15:51:35	0:00:17	York St	Personal		1
	Passenger Drop-Off		15:51:45	15:52:09	0:00:24	York St	Personal		1
	Passenger Drop-Off		15:58:27	15:59:44	0:01:17	York St	Personal		1
	Passenger Pick-Up		16:02:52	16:05:17	0:02:25	York St	Personal		1
	Passenger Drop-Off		16:15:31	16:16:51	0:01:20	Authorized Parking Area	Personal		1
	Passenger Pick-Up		16:26:13	16:28:39	0:02:26	York St	Personal		1
	Passenger Drop-Off		16:33:41	16:33:54	0:00:13	York St	Personal		1
	Moving/Loading		16:35:07	16:43:30	0:08:23	Authorized Parking Area	Van		1
	Passenger Pick-Up		16:49:09	16:49:16	0:00:07	York St	Personal		1
	Passenger Drop-Off		17:00:09	17:01:02	0:00:53	Authorized Parking Area	Personal		1
	Passenger Pick-Up		17:03:48	17:04:53	0:01:05	York St	Personal		1
	Passenger Drop-Off		17:06:13	17:07:32	0:01:19	Authorized Parking Area	Personal		1
	Passenger Drop-Off		17:14:32	17:16:06	0:01:34	Authorized Parking Area	Personal		1
	Passenger Pick-Up		17:15:07	15:16:14	########	York St	Personal		2
	Passenger Drop-Off		17:30:54	17:32:33	0:01:39	Authorized Parking Area	Personal		1
	Passenger Drop-Off		17:35:39	17:41:15	0:05:36	Authorized Parking Area	Personal		1
	Passenger Drop-Off		17:37:20	17:37:42	0:00:22	York St	Personal		2
	Passenger Pick-Up		17:45:07	17:45:39	0:00:32	York St	Personal		1
	Passenger Pick-Up		17:50:58	17:51:26	0:00:28	York St	Personal		1
	Passenger Drop-Off		17:54:21	17:57:30	0:03:09	Authorized Parking Area	Personal		1
	Passenger Pick-Up		17:55:06	17:55:12	0:00:06	York St	Personal		2
	Passenger Pick-Up		18:22:00	18:22:10	0:00:10	York St	Personal		1
	Passenger Pick-Up		18:24:04	18:24:39	0:00:35	York St	Personal		1
	Passenger Pick-Up		18:33:07	18:33:26	0:00:19	York St	Personal		1
	Food Delivery		18:35:41	18:48:05	0:12:24	Authorized Parking Area	Personal		1
	Moving/Loading		18:39:31	19:03:58	0:24:27	Authorized Parking Area	Personal		2
	Passenger Pick-Up		18:43:30	18:46:11	0:02:41	York St	Personal		3
	Passenger Drop-Off		18:48:23	18:48:41	0:00:18	York St	Personal		2
	Passenger Pick-Up		18:57:46	19:22:06	0:24:18	Authorized Parking Area	Personal		2
	Passenger Pick-Up		19:06:21	19:06:30	0:00:09	York St	Personal		2
	Passenger Pick-Up		19:14:14	19:19:17	0:05:03	Authorized Parking Area	Personal		2
	Passenger Drop-Off		19:17:45	19:18:18	0:00:33	York St	Personal		3
	Passenger Pick-Up		19:31:45	19:32:23	0:00:38	York St	Personal		1
	Food Delivery		19:35:36	19:59:18	0:23:42	Authorized Parking Area	Personal		1
	Passenger Pick-Up		19:59:31	20:01:04	0:01:33	York St	Personal		1
	Passenger Pick-Up		20:01:29	20:04:05	0:02:36	Authorized Parking Area	Personal		1
	Passenger Drop-Off		20:13:02	20:13:30	0:00:28	York St	Personal		1
	Passenger Drop-Off		20:18:29	20:18:43	0:00:14	York St	Personal		1
	Passenger Pick-Up		20:41:04	20:41:32	0:00:28	Authorized Parking Area	Personal		1
	Passenger Drop-Off		20:42:29	20:42:39	0:00:10	York St	Personal		1
	Passenger Pick-Up		20:48:27	20:51:29	0:03:02	York St	Personal		1
	Passenger Pick-Up		20:50:01	20:53:53	0:03:52	Authorized Parking Area	Personal		2
	Food Delivery		20:52:08	20:54:20	0:02:12	York St	Personal		2
	Passenger Pick-Up		21:04:04	21:05:20	0:01:16	York St	Personal		1
	Passenger Drop-Off		21:08:41	21:11:10	0:02:29	Authorized Parking Area	Personal		1
	Passenger Pick-Up		21:15:51	21:24:08	0:08:17	Authorized Parking Area	Personal		1
	Passenger Drop-Off		21:17:34	21:17:44	0:00:10	York St	Personal		2
	Passenger Drop-Off		21:29:01	21:29:58	0:00:57	Authorized Parking Area	Personal		1
	Passenger Drop-Off		21:38:33	21:38:47	0:00:14	York St	Personal		1
	Passenger Pick-Up		21:53:29	21:54:09	0:00:40	York St	Personal		1
	Passenger Pick-Up		21:54:12	21:54:31	0:00:19	York St	Personal		1
	Passenger Drop-Off		21:59:06	21:59:23	0:00:17	York St	Personal		1
			# of vehicles		111			max	4
			Average Duration		0:04:39			at	11:16:16
									14:58:19

PUDO Dwell Time Summary

Project # 26038/210
Location: 15 Roehampton Avenue, Toronto
Date: Thursday May 22nd, 2025
Observers: LC

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes		Accum-ulation:
	Passenger Pick-up		8:00:55	8:01:10	0:00:15	South Side	Personal		1
	Passenger Pick-up		8:01:05	8:01:20	0:00:15	South Side	Personal		2
	Passenger Pick-up		8:09:15	8:09:35	0:00:20	South Side	School Bus		1
	Passenger Pick-up		8:10:30	8:10:44	0:00:14	South Side	Personal		1
	Passenger Pick-up		8:23:25	8:24:10	0:00:45	South Side	School Bus		1
	Passenger Pick-up		8:56:15	8:56:35	0:00:20	South Side	Personal		1
	Package Delivery		9:16:52	10:31:05	1:14:13	South Side	Fedex Van		1
	Passenger Pick-up		9:17:40	9:18:50	0:01:10	South Side	Personal		2
	Food Delivery		9:19:25	9:28:15	0:08:50	South Side	Delivery		2
	Drop-off		9:31:35	9:33:10	0:01:35	South Side	Personal		2
	Passenger Pick-up		9:35:25	9:36:02	0:00:37	South Side	Personal		2
	Passenger Pick-up		9:37:21	9:41:15	0:03:54	South Side	Personal		2
	Passenger Pick-up		9:44:25	9:45:40	0:01:15	South Side	Personal		2
	Drop-off		9:57:30	9:57:43	0:00:13	South Side	Personal		2
	Drop-off		10:07:22	10:09:40	0:02:18	South Side	Taxi		2
	Passenger Pick-up		10:14:15	10:14:25	0:00:10	South Side	Personal		2
	Food Delivery		10:20:30	10:25:46	0:05:16	South Side	Delivery		2
	Drop-off		10:20:30	10:20:45	0:00:15	South Side	Personal		3
	Passenger Pick-up		10:23:25	10:24:03	0:00:38	South Side	Personal		3
	Drop-off		10:29:05	10:29:20	0:00:15	South Side	Personal		2
	Passenger Pick-up		10:31:10	10:34:23	0:03:13	South Side	Personal		1
	Package Delivery		10:35:00	10:37:45	0:02:45	South Side	UPS Truck		1
	Drop-off		10:50:30	10:51:28	0:00:58	South Side	Personal		1
	Package Delivery		11:04:52	11:55:46	0:50:54	South Side	UPS Truck		1
	Food Delivery		11:08:46	11:17:45	0:08:59	South Side	Delivery		2
	Passenger Pick-up		11:10:30	11:10:55	0:00:25	South Side	Personal		3
	Passenger Pick-up		11:19:30	11:19:40	0:00:10	South Side	Personal		2
	Drop-off		11:30:31	11:30:50	0:00:19	South Side	Personal		2
	Drop-off		11:30:55	11:31:05	0:00:10	South Side	Personal		2
	Food Delivery		11:34:45	11:48:18	0:13:33	South Side	Delivery		2
	Drop-off		11:42:10	11:42:25	0:00:15	South Side	Personal		3
	Food Delivery		11:47:11	11:48:28	0:01:17	South Side	Delivery		3
	Drop-off		11:53:30	11:53:44	0:00:14	South Side	Personal		2
	Passenger Pick-up		11:53:57	11:54:14	0:00:17	South Side	Personal		2
	Drop-off		11:55:26	11:55:37	0:00:11	South Side	Personal		2
	Passenger Pick-up		11:59:36	11:59:57	0:00:21	South Side	Personal		1
	Passenger Pick-up		12:11:23	12:14:42	0:03:19	South Side	Personal		1
	Food Delivery		12:12:10	12:26:18	0:14:08	South Side	Delivery		2
	Package Delivery		12:16:50	12:39:56	0:23:06	South Side	ATS truck		2
	Food Delivery		12:27:52	12:32:27	0:04:35	South Side	Delivery		2
	Passenger Pick-up		12:41:07	12:41:19	0:00:12	South Side	Personal		1
	Food Delivery		12:55:10	12:57:13	0:02:03	South Side	Delivery		1
	Food Delivery		12:55:42	13:04:19	0:08:37	South Side	Delivery		2
	Package Delivery		13:07:14	13:10:02	0:02:48	South Side	UPS truck		1
	Food Delivery		13:16:00	13:16:23	0:00:23	South Side	Delivery		1
	Passenger Pick-up		13:16:11	13:16:24	0:00:13	South Side	Personal		2
	Food Delivery		13:20:48	13:22:04	0:01:16	South Side	Delivery		1
	Passenger Pick-up		13:25:07	13:25:17	0:00:10	South Side	Personal		1
	Package Delivery		13:32:10	13:36:34	0:04:24	South Side	Fedex Truck		1
	Passenger Pick-up		13:32:22	13:33:27	0:01:05	South Side	Personal		2
	Food Delivery		13:39:08	13:44:54	0:05:46	South Side	Delivery		1
	Passenger Pick-up		13:52:42	13:54:43	0:02:01	South Side	Personal		1
	Food Delivery		13:57:01	14:06:20	0:09:19	South Side	Delivery		1
	Passenger Pick-up		14:12:00	14:12:23	0:00:23	South Side	Personal		1
	Food Delivery		14:25:26	14:31:23	0:05:57	South Side	Delivery		1
	Passenger Pick-up		14:39:27	14:39:48	0:00:21	South Side	Personal		1
	Passenger Pick-up		14:47:20	14:50:12	0:02:52	South Side	Personal		1
	Food Delivery		14:50:35	14:53:50	0:03:15	South Side	Delivery		1
	Drop-off		14:55:25	14:56:18	0:00:53	South Side	Personal		1
	Passenger Pick-up		15:11:35	15:12:05	0:00:30	South Side	Personal		1
	Drop-off		15:15:53	15:16:13	0:00:20	South Side	school bus		1
	Passenger Pick-up		15:23:04	15:24:13	0:01:09	South Side	Personal		1
	Passenger Pick-up		15:27:01	15:34:11	0:07:10	South Side	Personal		1
	Passenger Pick-up		15:31:28	15:33:00	0:01:32	South Side	Personal		2
	Passenger Pick-up		15:31:54	15:32:35	0:00:41	South Side	Personal		3
	Drop-off		15:38:49	15:40:00	0:01:11	South Side	school bus		1
	Food Delivery		15:45:32	15:49:39	0:04:07	South Side	Delivery		1
	Drop-off		15:47:05	15:47:24	0:00:19	South Side	Personal		2
	Drop-off		15:58:30	16:01:11	0:02:41	South Side	Wheel-Trans		1
	Drop-off		16:01:05	16:02:01	0:00:56	South Side	Personal		2
	Passenger Pick-up		16:05:37	16:05:50	0:00:13	South Side	Personal		1
	Passenger Pick-up		16:10:30	16:14:35	0:04:05	South Side	Personal		1
	Drop-off		16:15:35	16:15:58	0:00:23	South Side	school bus		1
	Passenger Pick-up		16:17:33	16:18:26	0:00:53	South Side	Personal		1
	Drop-off		16:27:15	16:27:51	0:00:36	South Side	Personal		1
	Passenger Pick-up		16:30:27	16:30:45	0:00:18	South Side	Personal		1
	Passenger Pick-up		16:33:49	16:34:07	0:00:18	South Side	Personal		1
	Passenger Pick-up		16:43:09	16:44:02	0:00:53	South Side	Personal		1
	Passenger Pick-up		16:43:44	16:44:13	0:00:29	South Side	Personal		2
	Passenger Pick-up		16:49:18	17:10:14	0:20:56	North Side	Personal		1
	Food Delivery		16:54:54	16:57:42	0:02:48	South Side	Delivery		2
	Food Delivery		16:57:21	17:06:10	0:08:49	South Side	Delivery		3
	Passenger Pick-up		17:00:30	17:00:47	0:00:17	South Side	Personal		3
	Food Delivery		17:02:15	17:06:17	0:04:02	South Side	Delivery		3
	Passenger Pick-up		17:09:19	17:14:31	0:05:12	South Side	Personal		2
	Drop-off		17:12:16	17:12:54	0:00:38	South Side	Personal		2
	Passenger Pick-up		17:18:48	17:20:39	0:01:51	South Side	Personal		1
	Drop-off		17:30:30	17:30:44	0:00:14	South Side	Personal		1
	Package pickup		17:37:07	17:38:57	0:01:50	South Side	Pickup		1
	Passenger Pick-up		17:42:53	17:43:48	0:00:55	South Side	Personal		1
	Passenger Pick-up		17:44:13	17:44:24	0:00:11	South Side	Personal		1
	Drop-off		17:48:00	17:48:55	0:00:55	South Side	Personal		1
	Passenger Pick-up		17:54:21	17:55:08	0:00:47	South Side	Personal		1
	Passenger Pick-up		18:05:20	18:05:32	0:00:12	South Side	Personal		1
	Passenger Pick-up		18:05:51	18:07:00	0:01:09	South Side	Personal		1
	Drop-off		18:06:37	18:07:14	0:00:37	South Side	Personal		2
	Passenger Pick-up		18:09:44	18:41:21	0:31:37	South Side	passenger pickup		1
	Drop-off		18:33:01	18:34:09	0:01:08	South Side	Personal		2
	Drop-off		18:34:19	18:35:10	0:00:51	South Side	Personal		2
	Drop-off		18:35:18	18:35:29	0:00:11	South Side	Personal		2
	Passenger Pick-up		18:35:56	18:36:37	0:00:41	South Side	Personal		2
	Drop-off		18:38:53	18:39:16	0:00:23	South Side	Personal		2
	Passenger Pick-up		18:39:20	18:41:11	0:01:51	South Side	Personal		2
	Food Delivery		18:44:48	18:53:18	0:08:30	South Side	Delivery		1
	Passenger Pick-up		18:45:08	18:46:18	0:01:10	South Side	Personal		2
	Food Delivery		18:47:40	18:50:02	0:02:22	South Side	Delivery		2
	Passenger Pick-up		18:49:45	18:50:02	0:00:17	South Side	Personal		3
	Drop-off		18:50:35	18:51:19	0:00:44	South Side	Personal		2
	Passenger Pick-up		18:53:47	18:55:31	0:01:44	South Side	Personal		1
	Passenger Pick-up		18:57:04	18:59:16	0:02:12	South Side	Personal		1
	Drop-off		18:58:42	18:59:27	0:00:45	South Side	Personal		2
	Passenger Pick-up		19:00:00	19:02:31	0:02:31	South Side	Personal		1
	Drop-off and Passenger pickup		19:07:15	19:31:38	0:24:23	South Side	Personal		1
	Passenger Pick-up		19:12:04	19:13:33	0:01:29	South Side	Personal		2
	Food Delivery		19:23:09	19:31:58	0:08:49	South Side	Delivery		2
	Passenger Pick-up		19:26:42	19:27:52	0:01:10	South Side	Personal		3
	Drop-off		19:29:01	19:29:25	0:00:24	South Side	Personal		3
	Drop-off		19:41:15	19:46:29	0:05:14	South Side	Personal		1
	Food Delivery		19:42:07	19:51:17	0:09:10	South Side	Delivery		2
	Drop-off		19:47:44	19:47:54	0:00:10	South Side	Personal		2
	Drop-off		19:48:44	19:48:57	0:00:13	South Side	Personal		2
	Drop-off		19:50:26	19:50:40	0:00:14	South Side	Personal		2
	Drop-off		19:52:54	19:55:16	0:02:22	South Side	Personal		1
	Package Delivery		19:55:35	19:57:48	0:02:13	South Side	Delivery		1
	Drop-off		19:55:41	20:04:18	0:08:37	South Side	Personal		2
	Food Delivery		20:07:38	20:13:54	0:06:16	South Side	Delivery		1
	Passenger Pick-up		20:22:29	20:32:20	0:09:51	South Side	Personal		1
	Food Delivery		20:27:55	20:34:07	0:06:12	South Side	Delivery		2
	Drop-off		20:39:25	20:46:29	0:07:04	South Side	Personal		1
	Passenger Pick-up		20:49:00	20:49:23	0:00:23	South Side	Personal		1
	Passenger Pick-up		20:53:20	20:57:41	0:04:21	South Side	Personal		1
	Drop-off		20:57:59	20:59:36	0:01:37	South Side	Personal		1
	Drop-off		21:16:20	21:16:25	0:00:05	South Side	Personal		1
	Drop-off		21:19:33	21:20:03	0:00:30	South Side	Personal		1
	Food Delivery		21:22:17	21:26:25	0:04:08	South Side	Delivery		1
	Passenger Pick-up		21:35:40	21:35:59	0:00:19	South Side	Personal		1
	Food Delivery		21:41:10	21:42:46	0:01:36	South Side	Delivery		1
	Passenger Pick-up		21:41:10	21:42:24	0:01:14	South Side	Personal		2
	Passenger Pick-up		21:43:36	21:43:45	0:00:09	South Side	Personal		1
	Drop-off		21:49:43	21:50:17	0:00:34	South Side	Personal		1
	Food Delivery		21:54:46	21:59:27	0:04:41	South Side	Delivery		1
	Drop-off		21:54:46	21:55:14	0:00:28	South Side	Personal		2
			# of vehicles		142			max	3
			Average Duration		0:03:46			at	10:20:30
									10:23:25
									11:10:30
									11:42:10
									11:47:11
									15:31:54
									16:57:21
									17:00:30
									17:02:15
									18:49:45
									19:26:42
									19:29:01

PUDO Dwell Time Summary

Project # 26038/210
Location: 15 Roehampton Avenue, Toronto
Date: Saturday May 24th, 2025
Observers: LC

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes		Accum-ulation:
	Passenger Pickup		8:03:50	8:04:23	0:00:33	South Side	Personal		1
	Drop-off		8:16:01	8:16:28	0:00:27	South Side	Personal		1
	Passenger Pickup		8:25:30	8:26:14	0:00:44	South Side	Personal		1
	Passenger Pickup		8:25:50	8:26:05	0:00:15	South Side	Personal		2
	Drop-off		8:48:15	8:48:30	0:00:15	South Side	Personal		1
	Package delivery		9:10:55	9:12:44	0:01:49	South Side	Delivery		1
	Passenger Pickup		9:18:21	9:18:50	0:00:29	South Side	Personal		1
	Passenger Pickup		9:18:27	9:18:44	0:00:17	South Side	Personal		2
	Passenger Pickup		9:23:34	9:35:02	0:11:28	South Side	Personal		1
	Passenger Pickup		9:24:41	9:25:06	0:00:25	South Side	Personal		2
	Passenger Pickup		9:32:59	9:33:12	0:00:13	South Side	Personal		2
	Passenger Pickup		9:34:05	9:34:52	0:00:47	South Side	Personal		2
	Passenger Pickup		9:37:16	9:37:39	0:00:23	South Side	Personal		1
	Drop-off		9:38:07	9:38:17	0:00:10	South Side	Personal		1
	Passenger Pickup		9:44:27	9:44:35	0:00:08	South Side	Personal		1
	Passenger Pickup		9:47:10	9:51:11	0:04:01	South Side	Personal		1
	Food Delivery		9:54:35	10:00:20	0:05:45	South Side	Delivery		1
	Drop-off		9:55:37	9:56:09	0:00:32	South Side	Personal		2
	Passenger Pickup		9:57:37	9:57:44	0:00:07	South Side	Personal		2
	Passenger Pickup		10:01:42	10:04:37	0:02:55	South Side	Personal		1
	Drop-off		10:04:46	10:04:58	0:00:12	South Side	Personal		1
	Passenger Pickup		10:10:51	10:12:18	0:01:27	South Side	Personal		1
	Passenger Pickup		10:14:31	10:14:40	0:00:09	South Side	Personal		1
	Passenger Pickup		10:17:15	10:29:17	0:12:02	South Side	Personal		1
	Passenger Pickup		10:18:10	10:18:42	0:00:32	South Side	Personal		2
	Passenger Pickup		10:25:15	10:25:58	0:00:43	South Side	Personal		2
	Passenger Pickup		10:30:51	10:35:59	0:05:08	South Side	Personal		1
	Passenger Pickup		10:32:04	10:32:25	0:00:21	South Side	Personal		2
	Drop-off		10:51:37	10:52:02	0:00:25	South Side	Personal		1
	Passenger Pickup		10:52:08	10:53:29	0:01:21	South Side	Personal		1
	Food Delivery		10:53:40	11:02:29	0:08:49	South Side	Delivery		1
	Passenger Pickup		10:55:49	10:56:26	0:00:37	South Side	Personal		2
	Passenger Pickup		10:59:45	11:00:04	0:00:19	South Side	Personal		2
	Passenger Pickup		11:00:47	11:01:21	0:00:34	South Side	Personal		2
	Passenger Pickup		11:04:51	11:16:57	0:12:06	South Side	Personal		1
	Passenger Pickup		11:04:51	11:05:07	0:00:16	South Side	Personal		2
	Drop-off		11:12:32	11:12:50	0:00:18	South Side	Personal		2
	Passenger Pickup		11:18:55	11:19:42	0:00:47	South Side	Personal		1
	Passenger Pickup		11:32:28	11:42:37	0:10:09	South Side	Personal		1
	Drop-off		11:33:57	11:35:18	0:01:21	South Side	Personal		2
	Drop-off		11:46:37	11:47:32	0:00:55	South Side	Personal		1
	Passenger Pickup		11:49:00	11:49:35	0:00:35	South Side	Personal		1
	Food Delivery		11:59:05	12:09:00	0:09:55	South Side	Delivery		1
	Passenger Pickup		12:00:41	12:01:44	0:01:03	South Side	Personal		2
	Passenger Pickup		12:00:45	12:06:37	0:05:52	South Side	Personal		3
	Passenger Pickup		12:00:53	12:01:10	0:00:17	South Side	Personal		4
	Drop-off		12:08:29	12:11:43	0:03:14	South Side	Taxi		2
	Passenger Pickup		12:13:33	12:13:43	0:00:10	South Side	Personal		1
	Drop-off		12:13:37	12:13:46	0:00:09	South Side	Personal		2
	Passenger Pickup		12:13:57	12:14:04	0:00:07	South Side	Personal		1
	Passenger Pickup		12:24:24	12:34:25	0:10:01	South Side	Personal		1
	Package pickup		12:24:33	12:36:49	0:12:16	South Side	Personal		2
	Furniture delivery		12:25:47	12:29:48	0:04:01	South Side	Delivery		3
	Passenger Pickup		12:32:07	12:32:24	0:00:17	South Side	Personal		3
	Package delivery		12:39:31	12:43:04	0:03:33	South Side	Delivery		1
	Drop-off		12:42:02	12:42:25	0:00:23	South Side	Personal		2
	Drop-off		12:43:18	12:43:24	0:00:06	South Side	Personal		1
	Passenger Pickup		12:46:16	12:48:19	0:02:03	South Side	Personal		1
	Drop-off		12:52:59	12:53:10	0:00:11	South Side	Personal		1
	Passenger Pickup		12:56:09	12:57:02	0:00:53	South Side	Personal		1
	Passenger Pickup		12:57:13	12:57:24	0:00:11	South Side	Personal		1
	Drop-off		12:57:56	12:58:18	0:00:22	South Side	Personal		1
	Passenger Pickup		12:57:57	13:05:12	0:07:15	South Side	Personal		2
	Drop-off		13:03:40	13:06:01	0:02:21	South Side	Personal		2
	Passenger Pickup		13:06:13	13:07:56	0:01:43	South Side	Personal		1
	Passenger Pickup		13:08:20	13:08:52	0:00:32	South Side	Personal		1
	Drop-off		13:22:32	13:22:53	0:00:21	South Side	Personal		1
	Package delivery		13:22:44	13:37:21	0:14:37	North Side	UPS truck		2
	Passenger Pickup		13:34:58	13:38:06	0:03:08	South Side	Personal		2
	Passenger Pickup		13:37:07	13:38:19	0:01:12	South Side	Personal		3
	Passenger Pickup		13:39:59	13:40:47	0:00:48	South Side	Personal		1
	Passenger Pickup		13:48:03	13:49:09	0:01:06	South Side	Personal		1
	Drop-off		13:49:40	13:49:58	0:00:18	South Side	Personal		1
	Passenger Pickup		13:56:01	13:56:14	0:00:13	South Side	Personal		1
	Drop-off		14:04:02	14:04:09	0:00:07	South Side	Personal		1
	Drop-off		14:12:51	14:13:09	0:00:18	South Side	Personal		1
	Drop-off		14:12:52	14:15:12	0:02:20	South Side	Personal		2
	Drop-off		14:21:32	14:22:03	0:00:31	South Side	Personal		1
	Passenger Pickup		14:30:23	14:37:18	0:06:55	South Side	Personal		1
	Passenger Pickup		14:31:26	14:31:53	0:00:27	South Side	Personal		2
	Passenger Pickup		14:33:05	14:33:18	0:00:13	South Side	Personal		2
	Passenger Pickup		14:35:35	14:36:00	0:00:25	South Side	Personal		2
	Food Delivery		14:38:34	14:45:12	0:06:38	South Side	Delivery		1
	Drop-off		14:45:24	14:45:34	0:00:10	South Side	Personal		1
	Drop-off		14:49:04	14:51:10	0:02:06	South Side	Personal		1
	Package delivery		14:50:41	14:53:51	0:03:10	South Side	Delivery		2
	Passenger Pickup		14:57:45	14:58:03	0:00:18	South Side	Personal		1
	Passenger Pickup		15:00:44	15:01:46	0:01:02	South Side	Personal		1
	Passenger Pickup		15:02:38	15:06:12	0:03:34	South Side	Personal		1
	Drop-off		15:03:30	15:03:41	0:00:11	South Side	Personal		2
	Passenger Pickup		15:05:00	15:05:39	0:00:39	South Side	Personal		2
	Passenger Pickup		15:05:15	15:08:25	0:03:10	South Side	Personal		3
	Drop-off		15:05:43	15:07:25	0:01:42	South Side	Personal		3
	Passenger Pickup		15:10:58	15:13:25	0:02:27	South Side	Personal		1
	Food Delivery		15:11:18	15:17:30	0:06:12	South Side	Delivery		2
	Passenger Pickup		15:13:43	15:17:00	0:03:17	South Side	Personal		2
	Drop-off		15:16:27	15:16:53	0:00:26	South Side	Personal		3
	Passenger Pickup		15:16:46	15:17:01	0:00:15	South Side	Personal		4
	Passenger Pickup		15:19:15	15:19:40	0:00:25	South Side	Personal		1
	Drop-off		15:20:49	15:21:00	0:00:11	South Side	Personal		1
	Passenger Pickup		15:22:07	15:22:57	0:00:50	South Side	Personal		1
	Passenger Pickup		15:24:53	15:31:25	0:06:32	South Side	Personal		1
	Drop-off		15:28:53	15:30:30	0:01:37	South Side	Personal		2
	Drop-off		15:43:23	15:46:45	0:03:22	South Side	Personal		1
	Drop-off		15:50:25	15:50:51	0:00:26	South Side	Personal		1
	Drop-off		15:58:21	16:00:20	0:01:59	South Side	Personal		1
	Drop-off		16:05:10	16:05:38	0:00:28	South Side	Personal		1
	Passenger Pickup		16:05:58	16:06:36	0:00:38	South Side	Personal		1
	Drop-off		16:06:42	16:07:41	0:00:59	South Side	Personal		1
	Passenger Pickup		16:11:17	16:13:41	0:02:24	South Side	Personal		1
	Drop-off		16:11:33	16:11:50	0:00:17	South Side	Personal		2
	Passenger Pickup		16:16:31	16:16:41	0:00:10	South Side	Personal		1
	Passenger Pickup		16:26:32	16:27:00	0:00:28	South Side	Personal		1
	Passenger Pickup		16:28:16	16:30:47	0:02:31	South Side	Personal		1
	Drop-off		16:31:30	16:31:45	0:00:15	South Side	Personal		1
	Drop-off		16:32:31	16:32:53	0:00:22	South Side	Personal		1
	Drop-off		16:33:08	16:34:37	0:01:29	South Side	Personal		1
	Passenger Pickup		16:41:53	16:52:36	0:10:43	South Side	Personal		1
	Drop-off		16:42:17	16:42:30	0:00:13	South Side	Personal		2
	Passenger Pickup		16:45:05	16:46:16	0:01:11	South Side	Personal		2
	Passenger Pickup		16:49:31	16:53:30	0:03:59	South Side	Personal		2
	Passenger Pickup		16:51:54	16:52:37	0:00:43	South Side	Personal		3
	Food Delivery		16:55:36	16:57:02	0:01:26	South Side	Delivery		1
	Passenger Pickup		16:55:50	16:56:04	0:00:14	South Side	Personal		2
	Drop-off		17:04:16	17:06:14	0:01:58	South Side	Personal		1
	Passenger Pickup		17:04:40	17:05:07	0:00:27	South Side	Personal		2
	Drop-off		17:11:37	17:14:56	0:03:19	South Side	Personal		1
	Passenger Pickup		17:11:42	17:11:51	0:00:09	South Side	Personal		2
	Food Delivery		17:12:24	17:19:21	0:06:57	South Side	Personal		2
	Passenger Pickup		17:13:31	17:13:48	0:00:17	South Side	Personal		3
	Passenger Pickup		17:16:37	17:18:58	0:02:21	South Side	Personal		2
	Drop-off		17:18:12	17:18:52	0:00:40	South Side	Personal		3
	Drop-off		17:24:24	17:25:15	0:00:51	South Side	Personal		1
	Drop-off		17:25:06	17:25:47	0:00:41	South Side	Personal		2
	Drop-off		17:29:40	17:31:18	0:01:38	South Side	Personal		1
	Drop-off		17:32:52	17:35:29	0:02:37	South Side	Personal		1
	Drop-off		17:35:14	17:45:58	0:10:44	South Side	Personal		2
	Passenger Pickup		17:39:30	17:39:48	0:00:18	South Side	Personal		2
	Drop-off		17:39:37	17:40:44	0:01:07	South Side	Personal		3
	Drop-off		17:40:39	17:42:53	0:02:14	South Side	Personal		3
	Drop-off		17:45:57	17:46:43	0:00:46	South Side	Personal		2
	Drop-off		17:49:06	17:49:29	0:00:23	South Side	Personal		1
	Drop-off		17:50:34	17:51:35	0:01:01	South Side	Personal		1
	Drop-off		17:52:03	17:54:06	0:02:03	South Side	Personal		1
	Drop-off		17:52:24	17:53:59	0:01:35	South Side	Personal		2
	Drop-off		17:55:54	17:56:07	0:00:13	South Side	Personal		1
	Passenger Pickup		17:56:33	17:58:16	0:01:43	South Side	Personal		1
	Passenger Pickup		18:00:56	18:02:20	0:01:24	South Side	Personal		1
	Drop-off		18:01:53	18:02:03	0:00:10	North Side	Personal		2
	Drop-off		18:04:31	18:05:00	0:00:29	South Side	Personal		1
	Passenger Pickup		18:07:47	18:08:32	0:00:45	South Side	Personal		1
	Passenger Pickup		18:18:46	18:20:35	0:01:49	South Side	Personal		1
	Passenger Pickup		18:21:51	18:22:38	0:00:47	South Side	Personal		1
	Passenger Pickup		18:24:03	18:38:13	0:14:10	South Side	Personal		1
	Passenger Pickup		18:26:25	18:28:13	0:01:48	South Side	Personal		2
	Passenger Pickup		18:29:55	18:39:28	0:09:33	South Side	Personal		2
	Drop-off		18:30:48	18:31:11	0:00:23	South Side	Personal		3
	Drop-off		18:32:39	18:33:41	0:01:02	South Side	Personal		3
	Drop-off		18:34:50	18:35:10	0:00:20	South Side	Personal		3
	Drop-off		18:35:29	18:36:20	0:00:51	South Side	Personal		3
	Drop-off		18:36:09	18:36:43	0:00:34	North Side	Personal		4
	Drop-off		18:37:50	18:40:07	0:02:17	South Side	Personal		3
	Drop-off		18:38:22	18:39:01	0:00:39	South Side	Personal		3
	Drop-off		18:40:31	18:40:45	0:00:14	South Side	Personal		1
	Passenger Pickup		18:44:43	18:44:55	0:00:12	South Side	Personal		1
	Passenger Pickup		18:45:25	18:48:11	0:02:46	South Side	Personal		1
	Food Delivery		18:47:49	18:53:01	0:05:12	South Side	Delivery		2
	Passenger Pickup		18:48:00	18:48:13	0:00:13	South Side	Personal		3
	Drop-off		18:59:57	19:00:10	0:00:13	South Side	Personal		1
	Drop-off		19:01:41	19:01:48	0:00:07	South Side	Personal		1
	Drop-off		19:07:06	19:07:46	0:00:40	South Side	Personal		1
	Drop-off		19:08:50	19:11:45	0:02:55	South Side	Personal		1
	Passenger Pickup		19:11:35	19:12:03	0:00:28	South Side	Personal		2
	Drop-off		19:11:46	19:12:47	0:01:01	South Side	Personal		2
	Drop-off		19:12:36	19:12:46	0:00:10	South Side	Personal		2
	Passenger Pickup		19:13:31	19:14:01	0:00:30	South Side	Personal		1
	Passenger Pickup		19:15:29	19:16:06	0:00:37	South Side	Personal		1
	Passenger Pickup		19:17:05	19:17:21	0:00:16	South Side	Personal		1
	Food Delivery		19:19:40	19:23:47	0:04:07	North Side	Delivery		1
	Drop-off		19:20:42	19:22:18	0:01:36	South Side	Personal		2
	Drop-off		19:20:57	19:21:29	0:00:32	South Side	Personal		3
	Passenger Pickup		19:21:32	19:21:39	0:00:07	South Side	Personal		3
	Passenger Pickup		19:23:53	19:27:14	0:03:21	South Side	Personal		1
	Drop-off		19:25:02	19:32:53	0:07:51	South Side	Personal		2
	Drop-off		19:26:04	19:26:36	0:00:32	South Side	Personal		3
	Passenger Pickup		19:30:58	19:31:12	0:00:14	South Side	Personal		2
	Passenger Pickup		19:32:18	19:32:41	0:00:23	South Side	Personal		2
	Passenger Pickup		19:33:37	19:33:55	0:00:18	South Side	Personal		1
	Passenger Pickup		19:35:24	19:35:42	0:00:18	South Side	Personal		1
	Passenger Pickup		19:40:09	19:44:57	0:04:48	South Side	Personal		1
	Passenger Pickup		19:44:14	19:44:58	0:00:44	South Side	Personal		2
	Drop-off		19:47:08	19:48:00	0:00:52	South Side	Personal		1
	Drop-off		19:48:21	19:48:31	0:00:10	South Side	Personal		1
	Drop-off		19:49:34	19:49:45	0:00:11	South Side	Personal		1
	Drop-off		19:51:14	19:53:13	0:01:59	South Side	Personal		1
	Drop-off		19:51:25	19:53:35	0:02:10	South Side	Personal		2
	Drop-off		19:52:26	19:52:40	0:00:14	South Side	Personal		3
	Passenger Pickup		19:53:56	19:58:39	0:04:43	South Side	Personal		1
	Drop-off		19:55:48	19:56:39	0:00:51	South Side	Personal		2
	Passenger Pickup		19:57:24	19:59:20	0:01:56	South Side	Personal		2
	Food Delivery		20:01:14	20:07:52	0:06:38	South Side	Delivery		2
	Passenger Pickup		20:01:21	20:01:51	0:00:30	South Side	Personal		2
	Drop-off		20:02:07	20:02:44	0:00:37	South Side	Personal		2
	Passenger Pickup		20:03:01	20:12:51	0:09:50	South Side	Personal		2
	Drop-off		20:12:31	20:13:17	0:00:46	South Side	Personal		2
	Food Delivery		20:13:44	20:21:17	0:07:33	South Side	Personal		1
	Drop-off		20:14:26	20:21:44	0:07:18	South Side	Personal		2
	Passenger Pickup		20:16:06	20:16:40	0:00:34	South Side	Personal		3
	Drop-off		20:18:50	20:19:22	0:00:32	South Side	Personal		3
	Drop-off		20:20:41	20:20:53	0:00:12	South Side	Personal		3
	Drop-off		20:24:06	20:24:39	0:00:33	South Side	Personal		1
	Drop-off		20:24:49	20:24:58	0:00:09	South Side	Personal		1
	Passenger Pickup		20:29:21	20:30:39	0:01:18	South Side	Personal		1
	Passenger Pickup		20:31:20	20:33:55	0:02:35	South Side	Personal		1
	Passenger Pickup		20:33:41	20:34:07	0:00:26	South Side	Personal		2
	Drop-off		20:35:14	20:35:46	0:00:32	South Side	Personal		1
	Drop-off		20:38:32	20:38:42	0:00:10	South Side	Personal		1
	Drop-off		20:41:11	20:41:23	0:00:12	South Side	Personal		1
	Drop-off		20:44:15	20:46:03	0:01:48	South Side	Personal		1
	Food Delivery		20:50:31	20:54:51	0:04:20	South Side	Delivery		1
	Drop-off		20:59:18	21:03:33	0:04:15	South Side	Personal		1
	Drop-off		21:01:13	21:01:46	0:00:33	South Side	Personal		2
	Drop-off		21:05:14	21:05:44	0:00:30	South Side	Personal		1
	Passenger Pickup		21:09:58	21:10:41	0:00:43	South Side	Personal		1
	Passenger Pickup		21:20:44	21:21:05	0:00:21	South Side	Personal		1
	Package delivery		21:23:08	21:24:10	0:01:02	South Side	Delivery		1
	Drop-off		21:28:53	21:29:05	0:00:12	South Side	Personal		1
	Drop-off		21:31:17	21:31:30	0:00:13	South Side	Personal		1
	Drop-off		21:32:17	21:40:23	0:08:06	South Side	Personal		1
	Drop-off		21:32:17	21:42:53	0:10:36	South Side	Personal		2
	Drop-off		21:34:47	21:35:02	0:00:15	South Side	Personal		3
	Passenger Pickup		21:35:38	21:36:10	0:00:32	South Side	Personal		3
	Drop-off		21:49:43	21:56:47	0:07:04	South Side	Personal		1
	Drop-off		21:51:14	21:51:32	0:00:18	South Side	Personal		2
	Drop-off		21:54:36	21:57:24	0:02:48	South Side	Personal		2
	Passenger Pickup		21:57:43	21:58:31	0:00:48	South Side	Personal		1
			# of vehicles		236			max	4
			Average Duration		0:02:04			at	12:00:53
									15:16:46
									18:36:09

PUDO Dwell Time Summary

Project # 26038/210
Location: 30 Roehampton Avenue, Toronto
Date: Thursday May 8th, 2025
Observers: SL

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	Survey Time 22:00 Time Depart	Duration	Location	Notes	Accum-ulation:
	Delivery		8:16:08	8:59:38	0:43:30	South side	Appliance Canada Truck	1
	Passenger Pick-up		8:24:51	8:25:12	0:00:21	North side	Personal	2
	Passenger Pick-up		8:34:18	8:35:04	0:00:46	South side	Personal	2
	Package delivery		8:47:37	9:28:52	0:41:15	South side	Fedex Truck	2
	Passenger Pick-up		8:53:37	8:54:24	0:00:47	South side	Personal	3
	Package delivery		8:56:54	9:28:06	0:31:12	South side	Devliery Truck	3
	Passenger Pick-up		9:13:32	9:16:41	0:03:09	North side	TTC Van	3
	Passenger Pick-up		9:27:13	9:28:23	0:01:10	South side	Personal	3
	Drop-off		9:56:02	9:56:59	0:00:57	South side	Personal	1
	Package delivery		10:00:20	10:02:49	0:02:29	South side	Personal	1
	Package delivery		10:04:15	10:07:50	0:03:35	South side	Single Unit Truck	1
	Package delivery		10:18:54	10:22:26	0:03:32	North side	Van	1
	Package delivery		10:44:21	10:56:35	0:12:14	South side	UPS Truck	1
	Food delivery		10:58:22	11:00:49	0:02:27	South side	Personal	1
	Package delivery		11:40:58	12:09:00	0:28:02	South side	Devliery Truck	1
	Food delivery		12:24:55	12:28:58	0:04:03	South side	Personal	1
	Drop-off		12:27:20	12:28:05	0:00:45	South side	Personal	2
	Pick up		12:31:58	12:32:43	0:00:45	South side	Personal	1
	Food delivery		12:49:55	12:54:18	0:04:23	South side	Personal	1
	Food delivery		12:50:56	12:55:58	0:05:02	South side	Personal	2
	Food delivery		13:03:32	13:10:28	0:06:56	South side	Personal	1
	Package delivery		13:22:10	14:22:12	1:00:02	South side	Devliery Truck	1
	Food delivery		13:47:07	13:56:22	0:09:15	South side	Personal	2
	Drop-off		14:14:29	14:26:40	0:12:11	South side	Personal	2
	Food delivery		14:41:05	14:45:21	0:04:16	South side	Personal	1
	Drop-off		14:50:53	14:52:17	0:01:24	South side	Personal	1
	Drop-off		14:56:49	14:57:26	0:00:37	South side	Personal	1
	Passenger Pick-up		15:10:12	15:10:25	0:00:13	North side	Personal	1
	Package delivery		15:47:29	15:52:24	0:04:55	South side	Personal	1
	Pick up		15:49:30	15:49:57	0:00:27	North side	Personal	2
	Grocery delivery		16:23:46	16:28:41	0:04:55	South side	Personal	1
	Passenger Pick-up		16:37:43	16:38:41	0:00:58	North side	Personal	1
	Food delivery		16:51:45	16:58:15	0:06:30	South side	Personal	1
	Driver visit building		17:06:33	17:12:44	0:06:11	South side	Personal	1
	Drop-off		17:21:34	17:21:50	0:00:16	North side	Personal	1
	Passenger Pick-up		18:16:44	18:17:20	0:00:36	South side	Personal	1
	Food delivery		18:21:38	18:28:00	0:06:22	South side	Personal	1
	Drop-off		19:07:03	19:07:24	0:00:21	North side	Personal	1
	Passenger Pick-up		19:12:01	19:15:31	0:03:30	South side	Personal	1
	Passenger Pick-up		19:15:36	19:15:56	0:00:20	South side	Personal	1
	Drop-off		19:18:28	19:23:56	0:05:28	North side	Personal	1
	Drop-off		19:27:09	19:31:06	0:03:57	South side	Pick up truck	1
	Drop-off		19:30:14	19:31:00	0:00:46	South side	Personal	2
	Drop-off		19:25:09	19:34:52	0:09:43	South side	Personal	3
	Passenger Pick-up		19:38:48	19:40:08	0:01:20	South side	Personal	1
	Food delivery		19:45:08	19:50:47	0:05:39	South side	Personal	1
	Food delivery		19:47:34	19:59:02	0:11:28	South side	Personal	2
	Food delivery		19:51:14	19:56:06	0:04:52	South side	Personal	2
	Food delivery		19:57:18	20:03:03	0:05:45	South side	Personal	2
	Passenger Pick-up		20:10:25	20:16:21	0:05:56	South side	Personal	1
	Food delivery		20:13:46	20:19:41	0:05:55	South side	Personal	2
	Food delivery		20:34:59	20:43:50	0:08:51	South side	Personal	1
	Passenger Pick-up		20:39:10	20:39:40	0:00:30	South side	Personal	2
	Drop-off		20:41:43	20:43:38	0:01:55	South side	Personal	2
	Drop-off		20:49:15	20:49:33	0:00:18	South side	Personal	1
	Food delivery		21:04:52	21:09:23	0:04:31	South side	Personal	1
	Passenger Pick-up		21:22:07	21:22:43	0:00:36	South side	Personal	1
	Drop-off		21:37:45	21:38:16	0:00:31	South side	Personal	1
	Drop-off		21:44:26	21:46:45	0:02:19	South side	Personal	1
	Drop-off		21:54:11	21:54:50	0:00:39	South side	Personal	1
	Food delivery		21:54:45	22:00:05	0:05:20	South side	Personal	2
			# of vehicles	61				max 3
			Average Duration	0:06:40				at 19:25:09

PUDO Dwell Time Summary

Project # 24500/003.001
Location: 30 Roehampton Avenue, Toronto
Date: Friday May 9th, 2025
Observers: SL

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	Survey Time 22:00 Time Depart	Duration	Location	Notes	Accum-ulation:
	Passenger Pick-up		8:50:21	8:50:54	0:00:33	South Side	Personal	1
	Package delivery		8:57:51	9:52:27	0:54:36	South Side	Fedex truck	1
	Passenger Pick-up		9:01:13	9:01:20	0:00:07	South Side	Personal	2
	Driver visit building		9:24:13	10:00:15	0:36:02	South Side	Personal	2
	Passenger Pick-up		9:28:55	9:29:17	0:00:22	South Side	Personal	3
	Passenger Pick-up		9:54:27	9:54:46	0:00:19	North Side	Taxi	2
	Passenger Pick-up		10:15:17	10:16:52	0:01:35	North Side	Personal	1
			10:21:40	10:24:22	0:02:42	South Side	Parking Enforcement	1
	Passenger Pick-up		10:27:05	10:29:35	0:02:30	South Side	Personal	1
	Drop-off		10:30:10	10:32:23	0:02:13	South Side	Personal	1
	Passenger Pick-up		10:30:45	10:32:20	0:01:35	South Side	Personal	2
	Package delivery		10:38:51	10:58:16	0:19:25	South Side	UPS Truck	1
	Passenger Pick-up		10:40:34	10:41:50	0:01:16	South Side	Personal	2
	Package delivery		10:58:22	11:01:32	0:03:10	South Side	Single unit truck	1
	Package delivery		11:02:12	11:06:01	0:03:49	South Side	UPS Truck	1
	Passenger Pick-up		11:27:05	11:27:25	0:00:20	North Side	Personal	1
	Loading on street after exit parking		11:56:50	12:45:48	0:48:58	South Side	Single unit truck	1
	Package delivery		12:40:08	12:43:37	0:03:29	South Side	Personal	2
	Drop-off		13:02:39	13:02:51	0:00:12	South Side	Personal	1
	Package delivery		13:10:53	13:22:22	0:11:29	South Side	Van	1
	Passenger Pick-up		13:24:05	13:25:43	0:01:38	South Side	Personal	1
	Drop-off		13:30:55	13:31:30	0:00:35	South Side	Personal	1
	Drop-off		13:33:02	13:33:28	0:00:26	North Side	Personal	1
			13:42:06	13:43:01	0:00:55	South Side	Parking Enforcement	1
	Package delivery		13:15:24	13:45:59	0:30:35	South Side	Delivery Van	6
			13:55:05	13:57:12	0:02:07	South Side	Parking Enforcement	1
	Package delivery		13:57:55	14:01:05	0:03:10	South Side	Fedex truck	1
	Drop-off		14:06:10	14:06:17	0:00:07	South Side	Personal	1
	Drop-off		14:17:04	14:23:01	0:05:57	South Side	Personal	1
	Contractor		14:46:10	15:43:25	0:57:15	North Side	Single unit truck	1
	Package delivery		14:48:32	14:57:41	0:09:09	North Side	Fedex truck	2
	Passenger Pick-up		15:04:46	15:05:12	0:00:26	South Side	Personal	2
	Driver visit building		15:45:16	15:55:33	0:10:17	South Side	Personal	1
	Drop-off		15:56:33	15:57:06	0:00:33	South Side	Personal	1
	Drop-off		15:59:02	16:01:08	0:02:06	South Side	Taxi	1
	Food delivery		16:21:56	16:24:55	0:02:59	South Side	Personal	1
	Passenger Pick-up		16:26:50	16:27:11	0:00:21	South Side	Personal	1
	Passenger Pick-up		16:26:38	16:29:23	0:02:45	South Side	Personal	2
	Drop-off		16:41:06	16:41:46	0:00:40	South Side	Personal	1
	Drop-off		16:48:50	16:49:27	0:00:37	North Side	Personal	1
	Driver visit building		16:56:36	17:01:03	0:04:27	South Side	Personal	1
	Passenger Pick-up		17:01:08	17:03:02	0:01:54	South Side	Personal	1
	Food delivery		17:02:50	17:08:13	0:05:23	North Side	Personal	2
	Drop-off		17:24:26	17:24:59	0:00:33	North Side	Personal	1
	Drop-off		17:38:08	17:38:31	0:00:23	North Side	Personal	1
	Package delivery		17:45:18	17:47:16	0:01:58	North Side	Canpar Truck	1
	Passenger Pick-up		18:01:43	18:03:19	0:01:36	South Side	Personal	1
	Passenger Pick-up		18:03:20	18:05:47	0:02:27	South Side	Personal	1
	Passenger Pick-up		18:03:34	18:08:35	0:05:01	South Side	Personal	2
	Drop-off		18:09:33	18:10:30	0:00:57	North Side	Personal	1
	Drop-off		18:10:43	18:11:04	0:00:21	South Side	Personal	1
	Drop-off then pick up different passenger		18:17:24	18:18:14	0:00:50	South Side	Uber	1
			18:20:15	18:23:24	0:03:09	South Side	Parking Enforcement	1
	Passenger Pick-up		18:21:47	18:22:15	0:00:28	South Side	Personal	2
	Passenger Pick-up		18:41:24	18:42:20	0:00:56	South Side	Personal	1
	Passenger Pick-up		18:47:11	18:47:32	0:00:21	North Side	Personal	1
	Passenger Pick-up		18:54:27	18:55:51	0:01:24	South Side	Personal	1
	Drop-off		19:03:53	19:04:52	0:00:59	North Side	Personal	1
	Package delivery		19:12:12	19:19:30	0:07:18	South Side	Van	1
	Passenger Pick-up		19:19:34	19:20:35	0:01:01	South Side	Personal	1
	Food delivery		19:35:01	20:04:43	0:29:42	South Side	Personal	1
	Drop-off		19:38:15	19:39:14	0:00:59	South Side	Personal	2
	Drop-off		19:41:41	19:41:57	0:00:16	South Side	Personal	2
	Drop-off		19:58:42	19:59:33	0:00:51	South Side	Personal	2
	Drop-off		20:00:00	20:01:44	0:01:44	North Side	Personal	2
	Food delivery		20:07:52	20:15:30	0:07:38	South Side	Personal	1
	Food delivery		20:11:22	20:16:12	0:04:50	South Side	Personal	2
	Passenger Pick-up		20:19:48	20:21:21	0:01:33	South Side	Personal	1
	Passenger Pick-up		20:25:26	20:27:04	0:01:38	North Side	Personal	1
	Drop-off		20:25:51	20:26:22	0:00:31	North Side	Personal	2
	Food delivery		20:29:15	20:46:19	0:17:04	South Side	Personal	1
	Drop-off		21:02:01	21:02:09	0:00:08	South Side	Personal	1
	Drop-off		21:05:05	21:05:32	0:00:27	South Side	Personal	1
	Drop-off		21:06:06	21:06:26	0:00:20	South Side	Personal	1
	Food delivery		21:27:38	21:30:52	0:03:14	South Side	Personal	1
	Drop-off		21:36:08	21:36:33	0:00:25	South Side	Personal	1
	Drop-off		21:55:32	21:56:40	0:01:08	South Side	Personal	1
			# of vehicles		77			max 6
			Average Duration		0:05:44			

PUDO Dwell Time Summary

Project # 26038/210
Location: 30 Roehampton Avenue, Toronto
Date: Saturday May 10th, 2025
Observers: SL

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	Survey Time 22:00 Time Depart	Duration	Location	Notes	Accum-ulation:
	Visitor		8:05:13	8:58:27	0:53:14	South Side	Personal	1
	Pick-up Patient		8:25:07	8:58:58	0:33:51	North Side	Ambulance	2
	Food Delivery		9:12:28	9:14:27	0:01:59	South Side	Personal	1
	Pick-up		9:15:11	9:20:06	0:04:55	South Side	Personal	1
	Food Delivery		9:18:06	9:26:30	0:08:24	South Side	Personal	2
	Pick-up		9:57:40	10:04:22	0:06:42	South Side	Personal	1
	Drop-off		9:58:16	9:58:44	0:00:28	South Side	Personal	2
	Food Delivery		10:01:43	10:04:58	0:03:15	South Side	Personal	2
	Package delivery		10:02:03	10:06:51	0:04:48	South Side	Delivery Truck	3
	Pick-up		10:01:56	10:10:53	0:08:57	North Side	Personal	4
	Drop-off		10:14:12	10:14:35	0:00:23	South Side	Personal	1
	Drop-off		10:18:21	10:20:55	0:02:34	South Side	Personal	1
	Food Delivery		10:29:38	10:39:49	0:10:11	South Side	Personal	1
	Drop-off		10:40:16	10:44:48	0:04:32	South Side	Personal	1
	Passenger Pick-up		10:43:32	10:47:46	0:04:14	South Side	Personal	2
	Passenger Pick-up		11:19:59	11:21:27	0:01:28	South Side	Personal	1
	Passenger Pick-up		11:36:16	11:36:43	0:00:27	South Side	Personal	1
	Drop-off		11:37:27	11:38:02	0:00:35	South Side	Personal	1
	Passenger Pick-up		11:31:17	11:39:35	0:08:18	South Side	Personal	3
	Passenger Pick-up		11:42:45	11:43:27	0:00:42	South Side	Personal	1
	Package delivery		11:51:14	12:34:34	0:43:20	South Side	Fedex truck	1
	Passenger Pick-up		11:54:57	11:55:49	0:00:52	South Side	Personal	2
	Drop-off		11:56:58	12:00:03	0:03:05	North Side	Personal	2
	Food Delivery		12:14:02	12:17:58	0:03:56	North Side	Personal	2
	Food Delivery		12:17:05	12:18:22	0:01:17	North Side	Personal	3
	Drop-off		12:20:25	12:20:33	0:00:08	North Side	Personal	2
	Food Delivery		12:59:24	13:01:30	0:02:06	South Side	Personal	1
	Passenger Pick-up		13:00:12	13:07:34	0:07:22	South Side	Personal	2
	Drop-off		13:18:01	13:18:09	0:00:08	North Side	Personal	1
	Passenger Pick-up		13:20:15	13:25:41	0:05:26	South Side	Personal	1
	Passenger Pick-up		13:47:31	13:48:50	0:01:19	South Side	Personal	1
	Drop-off		13:50:52	13:51:08	0:00:16	South Side	Personal	1
	Drop-off		13:57:35	13:58:21	0:00:46	South Side	Personal	1
	Passenger Pick-up		14:00:22	14:00:45	0:00:23	South Side	Personal	1
	Passenger Pick-up		14:00:55	14:01:04	0:00:09	South Side	Personal	1
	Drop-off		14:03:26	14:19:43	0:16:17	South Side	Personal	1
	Drop-off		14:19:23	14:19:39	0:00:16	South Side	Personal	2
	Package delivery		14:28:29	14:33:06	0:04:37	South Side	Van	1
	Passenger Pick-up		14:47:37	14:59:47	0:12:10	South Side	Personal	1
	Passenger Pick-up		14:47:26	15:08:50	0:21:24	South Side	Personal	2
	Passenger Pick-up		14:54:45	14:54:56	0:00:11	South Side	Personal	3
	Passenger Pick-up		15:11:13	15:11:31	0:00:18	South Side	Personal	1
	Passenger Pick-up		15:17:38	15:18:14	0:00:36	South Side	Personal	1
	Passenger Pick-up		15:24:14	15:27:51	0:03:37	South Side	Personal	1
	Drop-off		15:28:55	15:31:08	0:02:13	South Side	Personal	1
	Drop-off		16:02:46	16:03:38	0:00:52	South Side	Personal	1
	Drop-off		16:04:03	16:05:26	0:01:23	South Side	Personal	1
	Passenger Pick-up		16:23:50	16:25:18	0:01:28	North Side	Personal	1
	Passenger Pick-up		16:31:09	16:32:22	0:01:13	South Side	Personal	1
	Food Delivery		16:35:59	16:37:44	0:01:46	North Side	Personal	1
	Drop-off		16:39:04	16:39:25	0:00:21	South Side	Personal	1
	Drop-off		16:44:17	16:44:45	0:00:28	South Side	Personal	1
	Passenger Pick-up		16:52:27	16:52:51	0:00:24	North Side	Taxi	1
	Passenger Pick-up		17:05:48	17:10:00	0:04:12	North Side	Personal	1
	Passenger Pick-up		17:07:36	17:11:52	0:04:16	North Side	Personal	2
	Drop-off		17:13:23	17:14:02	0:00:39	South Side	Personal	1
	Passenger Pick-up		17:08:35	17:16:03	0:07:28	South Side	Personal	4
	Passenger Pick-up		17:16:16	17:16:37	0:00:21	South Side	Personal	1
	Drop-off		17:37:18	17:43:21	0:06:03	South Side	Personal	1
	Drop-off		17:49:05	17:50:36	0:01:31	South Side	Personal	1
	Passenger Pick-up		17:52:57	17:54:42	0:01:45	North Side	Personal	1
	Drop-off		18:06:01	18:27:22	0:21:21	South Side	Personal	1
	Passenger Pick-up		18:12:25	18:14:13	0:01:48	North Side	Personal	2
	Passenger Pick-up		18:27:26	18:28:57	0:01:31	South Side	Personal	1
	Food Delivery		18:28:34	18:33:03	0:04:29	South Side	Personal	2
	Food Delivery		18:44:46	18:47:37	0:02:51	South Side	Personal	1
	Passenger Pick-up		18:48:52	18:49:04	0:00:12	North Side	Personal	1
	Drop-off		19:22:01	19:22:24	0:00:23	North Side	Personal	1
	Drop-off		19:31:58	19:32:15	0:00:17	North Side	Personal	1
	Food Delivery		19:37:30	19:43:25	0:05:55	South Side	Personal	1
	Food Delivery		19:40:17	19:48:11	0:07:54	South Side	Personal	2
	Drop-off		19:40:58	19:41:15	0:00:17	South Side	Personal	3
	Drop-off		19:42:13	19:43:02	0:00:49	South Side	Personal	3
	Passenger Pick-up		19:53:30	19:54:54	0:01:24	North Side	Personal	1
	Food Delivery		20:42:30	20:53:21	0:10:51	South Side	Personal	1
	Food Delivery		20:48:03	20:53:37	0:05:34	South Side	Personal	2
	Passenger Pick-up		21:00:59	21:09:43	0:08:44	South Side	Personal	1
	Drop-off		21:16:10	21:16:18	0:00:08	South Side	Personal	1
	Drop-off		21:29:08	21:29:22	0:00:14	South Side	Personal	1
	Drop-off		21:29:32	21:29:47	0:00:15	South Side	Personal	1
	Drop-off		21:35:22	21:35:42	0:00:20	North Side	Personal	1
	Passenger Pick-up		21:35:35	21:39:03	0:03:28	North Side	Personal	2
	Passenger Pick-up		21:49:25	21:51:23	0:01:58	South Side	Personal	1
	Passenger Pick-up		21:46:10	21:53:24	0:07:14	South Side	Personal	2
	Drop-off		21:56:02	21:57:41	0:01:39	North Side	Personal	1
			# of vehicles		85		max	4
			Average Duration		0:04:54		at	17:08:35

PUDO Dwell Time Summary

Project # 26038/210
Location: 39 Roehampton Avenue, Toronto
Date: Thursday May 22nd, 2025
Observers: LC

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes		Accum-ulation:
	Passenger Pick-up		8:00:20	8:04:37	0:04:17	South Side	Personal		1
	Food Delivery		8:02:47	8:04:30	0:01:43	South Side	Personal		2
	Passenger Pick-up		8:40:05	8:40:38	0:00:33	South Side	Personal		1
	Food Delivery		9:27:16	9:29:44	0:02:28	South Side	Delivery		1
	Passenger Pick-up		9:28:15	9:28:35	0:00:20	South Side	Personal		2
	Drop-off		9:34:30	9:36:15	0:01:45	South Side	Personal		1
	Passenger Pick-up		9:40:45	9:42:32	0:01:47	South Side	Personal		1
	Drop-off		9:47:50	9:48:06	0:00:16	South Side	Personal		1
	Drop-off		9:48:11	9:48:30	0:00:19	South Side	Personal		1
	Food Delivery		9:49:20	9:52:55	0:03:35	South Side	Delivery		1
	Package Delivery		9:51:00	10:14:55	0:23:55	South Side	Purolator Van		2
	Passenger Pick-up		10:01:40	10:04:55	0:03:15	South Side	Personal		2
	Drop-off		10:07:45	10:08:10	0:00:25	South Side	Personal		2
	Food Delivery		10:15:35	10:17:05	0:01:30	South Side	Delivery		1
	Drop-off		10:16:15	10:16:40	0:00:25	South Side	Personal		2
	Drop-off		10:18:35	10:18:55	0:00:20	South Side	Personal		1
	Drop-off		10:21:45	10:23:55	0:02:10	South Side	Personal		1
	Food Delivery		10:36:11	10:41:35	0:05:24	South Side	Delivery		1
	Package Delivery		10:38:05	10:41:30	0:03:25	South Side	UPS Truck		2
	Passenger Pick-up		10:47:55	10:50:25	0:02:30	South Side	Personal		1
	Drop-off		10:53:00	10:53:35	0:00:35	South Side	Personal		1
	Food Delivery		11:06:20	11:11:11	0:04:51	South Side	Delivery		1
	Food Delivery		11:17:45	11:20:16	0:02:31	South Side	Delivery		1
	Passenger Pick-up		11:48:49	11:52:29	0:03:40	South Side	Personal		1
	Drop-off		11:49:39	11:50:40	0:01:01	South Side	Personal		2
	Food Delivery		12:05:44	12:10:02	0:04:18	South Side	Delivery		1
	Drop-off		12:19:43	12:21:10	0:01:27	South Side	Personal		1
	Passenger Pick-up		12:25:03	12:25:20	0:00:17	South Side	Personal		1
	Food Delivery		12:26:07	12:32:00	0:05:53	South Side	Delivery		1
	Food Delivery		12:30:26	12:36:52	0:06:26	South Side	Delivery		2
	Passenger Pick-up		12:33:33	12:35:02	0:01:29	South Side	Personal		2
	Package Delivery		12:34:08	12:40:30	0:06:22	South Side	Delivery truck now moved to South Side		3
	Drop-off		12:43:43	12:43:51	0:00:08	South Side	Personal		1
	Passenger Pick-up		12:44:56	12:48:03	0:03:07	South Side	Personal		1
	Passenger Pick-up		12:49:27	12:51:06	0:01:39	South Side	Personal		1
	Food Delivery		12:57:02	13:03:00	0:05:58	South Side	Delivery		1
	Food Delivery		12:59:03	13:18:57	0:19:54	South Side	Delivery		2
	Food Delivery		13:06:05	13:10:40	0:04:35	South Side	Delivery		2
	Food Delivery		13:07:22	13:11:07	0:03:45	South Side	Delivery		3
	Food Delivery		13:11:45	13:19:21	0:07:36	South Side	Delivery		2
	Food Delivery		13:54:43	14:00:55	0:06:12	South Side	Delivery		1
	Food Delivery		14:09:26	14:20:33	0:11:07	South Side	Delivery		1
	Passenger Pick-up		14:25:46	14:27:08	0:01:22	South Side	Personal		1
	Drop-off		14:32:17	14:32:51	0:00:34	South Side	Personal		1
	Passenger Pick-up		14:35:12	14:43:37	0:08:25	South Side	Personal		1
	Passenger Pick-up		14:35:36	14:37:29	0:01:53	South Side	Personal		2
	Drop-off		15:04:09	15:05:01	0:00:52	South Side	Personal		1
	Drop-off		15:09:50	15:10:06	0:00:16	South Side	Personal		1
	Passenger Pick-up		15:26:49	15:26:56	0:00:07	South Side	Personal		1
	Drop-off		15:35:08	15:35:43	0:00:35	South Side	Personal		1
	Package Delivery		15:39:20	15:54:13	0:14:53	South Side	Fedex Truck		1
	Drop-off		16:03:54	16:04:15	0:00:21	South Side	Personal		1
	Passenger Pick-up		16:04:21	16:04:30	0:00:09	South Side	Personal		1
	Food Delivery		16:06:50	16:08:49	0:01:59	South Side	Delivery		1
	Drop-off		16:12:59	16:13:21	0:00:22	South Side	Personal		1
	Passenger Pick-up		16:14:24	16:15:13	0:00:49	South Side	Personal		1
	Drop-off		16:19:27	16:20:09	0:00:42	South Side	Personal		1
	Drop-off		16:20:03	16:20:17	0:00:14	South Side	Personal		2
	Passenger Pick-up		16:20:25	16:20:39	0:00:14	South Side	Personal		1
	Drop-off		16:41:29	16:42:47	0:01:18	South Side	Personal		1
	Passenger Pick-up		16:41:40	16:50:00	0:08:20	South Side	Personal		2
	Passenger Pick-up		16:42:02	17:03:35	0:21:33	South Side	Personal		3
	Drop-off		16:42:52	16:43:02	0:00:10	South Side	Personal		3
	Passenger Pick-up		16:51:00	16:55:52	0:04:52	South Side	Personal		2
	Passenger Pick-up		16:59:41	17:00:47	0:01:06	South Side	Personal		2
	Drop-off		17:03:35	17:03:45	0:00:10	South Side	Personal		1
	Passenger Pick-up		17:05:29	17:06:09	0:00:40	South Side	Personal		1
	Drop-off		17:09:39	17:10:20	0:00:41	South Side	Personal		1
	Passenger Pick-up		17:19:51	17:22:07	0:02:16	South Side	Personal		1
	Drop-off		17:29:24	17:36:30	0:07:06	South Side	Personal		1
	Passenger Pick-up		17:39:07	17:42:02	0:02:55	South Side	Personal		1
	Passenger Pick-up		17:42:00	17:48:17	0:06:17	South Side	Personal		2
	Food Delivery		17:45:25	17:51:53	0:06:28	South Side	Delivery		2
	Passenger Pick-up		17:50:58	17:54:30	0:03:32	South Side	Personal		2
	Passenger Pick-up		17:51:18	17:55:06	0:03:48	South Side	Personal		3
	Drop-off		18:01:45	18:02:15	0:00:30	South Side	Personal		1
	Passenger Pick-up		18:17:50	18:20:50	0:03:00	South Side	Personal		1
	Passenger Pick-up		18:31:47	18:32:10	0:00:23	South Side	Personal		1
	Drop-off		18:31:59	18:37:08	0:05:09	South Side	Personal		2
	Drop-off		18:34:04	18:34:12	0:00:08	South Side	Personal		2
	Package pickup		18:37:06	18:44:07	0:07:01	South Side	Personal		2
	Drop-off		18:37:20	18:42:04	0:04:44	South Side	Personal		2
	Passenger Pick-up		18:59:45	19:00:10	0:00:25	South Side	Personal		1
	Passenger Pick-up		19:16:46	19:20:43	0:03:57	South Side	Personal		1
	Drop-off		19:17:58	19:18:19	0:00:21	South Side	Personal		2
	Drop-off		19:33:35	19:34:11	0:00:36	South Side	Personal		1
	Drop-off		19:37:53	19:39:38	0:01:45	South Side	Personal		1
	Food Delivery		19:39:49	19:45:23	0:05:34	South Side	Delivery		1
	Passenger Pick-up		20:06:02	20:07:03	0:01:01	South Side	Personal		1
	Drop-off		21:30:18	21:30:52	0:00:34	South Side	Personal		1
	Drop-off		21:44:44	21:45:14	0:00:30	South Side	Personal		1
	Passenger Pick-up		21:48:14	21:51:27	0:03:13	South Side	Personal		1
	Drop-off		21:52:49	21:53:21	0:00:32	South Side	Personal		1
			# of vehicles		93			max	3
			Average Duration		0:03:18			at	12:34:08
									13:07:22
									16:42:02
									16:42:52
									17:51:18

PUDO Dwell Time Summary

Project # 26038/210
Location: 39 Roehampton Avenue, Toronto
Date: Saturday May 24th, 2025
Observers: LC

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes		Accumulation:
	Passenger Pickup		8:02:36	8:03:51	0:01:15	South Side	Personal		1
	Passenger Pickup		8:02:53	8:06:50	0:03:57	South Side	Personal		2
	Passenger Pickup		8:15:08	8:17:20	0:02:12	South Side	Personal		1
	Passenger Pickup		8:22:02	8:22:20	0:00:18	South Side	Personal		1
	Food Delivery		8:22:10	8:26:49	0:04:39	South Side	Delivery		2
	Passenger Pickup		8:24:20	8:24:59	0:00:39	South Side	Personal		2
	Drop-off		8:28:05	8:28:25	0:00:20	South Side	Personal		1
	Drop-off		8:29:37	8:29:47	0:00:10	South Side	Personal		1
	Passenger Pickup		8:31:19	8:37:51	0:06:32	South Side	Personal		1
	Passenger Pickup		8:49:32	8:50:15	0:00:43	South Side	Personal		1
	Passenger Pickup		9:01:40	9:02:23	0:00:43	South Side	Personal		1
	Food Delivery		9:09:38	9:19:55	0:10:17	South Side	Delivery		1
	Passenger Pickup		9:09:56	9:11:52	0:01:56	South Side	Personal		2
	Passenger Pickup		9:20:18	9:20:39	0:00:21	South Side	Personal		1
	Passenger Pickup		9:25:59	9:26:17	0:00:18	South Side	Personal		1
	Passenger Pickup		9:30:12	9:33:02	0:02:50	South Side	Personal		1
	Passenger Pickup		9:34:49	9:35:39	0:00:50	South Side	Personal		1
	Passenger Pickup		9:38:50	9:40:21	0:01:31	South Side	Personal		1
	Passenger Pickup		9:46:48	10:11:17	0:24:29	South Side	Personal		1
	Passenger Pickup		9:54:30	9:55:23	0:00:53	South Side	Personal		2
	Drop-off		9:55:08	9:56:29	0:01:21	South Side	Personal		3
	Passenger Pickup		9:56:44	9:57:44	0:01:00	South Side	Personal		2
	Passenger Pickup		10:01:27	10:03:24	0:01:57	South Side	Personal		2
	Passenger Pickup		10:15:09	10:15:53	0:00:44	South Side	Personal		1
	Drop-off		10:16:33	10:17:01	0:00:28	South Side	Personal		1
	Passenger Pickup		10:18:42	10:21:55	0:03:13	South Side	Personal		1
	Passenger Pickup		10:26:11	10:27:05	0:00:54	South Side	Personal		1
	Passenger Pickup		10:28:35	10:29:05	0:00:30	South Side	Personal		1
	Drop-off		10:31:17	10:31:28	0:00:11	South Side	Personal		1
	Passenger Pickup		10:32:28	10:32:44	0:00:16	South Side	Personal		1
	Drop-off		10:33:09	10:33:34	0:00:25	South Side	Personal		1
	Passenger Pickup		10:39:29	10:40:22	0:00:53	South Side	Personal		1
	Passenger Pickup		10:50:08	10:50:15	0:00:07	South Side	Personal		1
	Passenger Pickup		11:07:04	11:07:43	0:00:39	South Side	Personal		1
	Passenger Pickup		11:20:15	11:28:14	0:07:59	South Side	Personal		1
	Passenger Pickup		11:23:48	11:30:01	0:06:13	South Side	Personal		2
	Passenger Pickup		11:35:01	11:39:08	0:04:07	South Side	Personal		1
	Drop-off		11:44:14	11:45:30	0:01:16	South Side	Personal		1
	Food Delivery		11:50:33	11:56:40	0:06:07	South Side	Delivery		1
	Passenger Pickup		11:55:33	11:55:47	0:00:14	South Side	Personal		2
	Drop-off		11:57:56	11:58:43	0:00:47	South Side	Personal		1
	Food Delivery		12:02:19	12:08:05	0:05:46	South Side	Delivery		1
	Passenger Pickup		12:28:24	12:29:24	0:01:00	South Side	Personal		1
	Passenger Pickup		13:00:00	13:00:27	0:00:27	South Side	Personal		1
	Passenger Pickup		13:06:05	13:07:42	0:01:37	South Side	Personal		1
	Package delivery		13:08:20	13:21:00	0:12:40	South Side	Delivery		1
	Drop-off		13:14:40	13:15:00	0:00:20	South Side	Personal		2
	Drop-off		13:17:43	13:19:19	0:01:36	South Side	Personal		2
	Drop-off		13:20:25	13:21:07	0:00:42	South Side	Personal		2
	Passenger Pickup		13:24:30	13:25:18	0:00:48	South Side	Personal		1
	Passenger Pickup		13:32:13	13:34:25	0:02:12	South Side	Personal		1
	Furniture delivery		13:38:27	13:48:11	0:09:44	South Side	business truck		1
	Drop-off		13:50:25	13:50:57	0:00:32	South Side	Personal		1
	Passenger Pickup		13:54:18	13:55:35	0:01:17	South Side	Personal		1
	Drop-off		14:01:08	14:02:39	0:01:31	South Side	Personal		1
	Passenger Pickup		14:07:46	14:13:26	0:05:40	South Side	Personal		1
	Drop-off		14:19:12	14:28:21	0:09:09	South Side	Personal		1
	Drop-off		14:41:48	14:42:42	0:00:54	South Side	Personal		1
	Passenger Pickup		14:46:04	14:46:26	0:00:22	South Side	Personal		1
	Drop-off		14:46:34	14:47:03	0:00:29	South Side	Personal		1
	Drop-off		14:58:31	15:01:07	0:02:36	South Side	Personal		1
	Passenger Pickup		15:01:33	15:02:58	0:01:25	South Side	Personal		1
	Passenger Pickup		15:01:44	15:03:23	0:01:39	South Side	Personal		2
	Package delivery		15:05:59	15:14:30	0:08:31	South Side	Delivery		1
	Passenger Pickup		15:16:06	15:16:44	0:00:38	South Side	Personal		1
	Drop-off		15:22:17	15:22:40	0:00:23	South Side	Personal		1
	Passenger Pickup		15:31:09	15:32:12	0:01:03	South Side	Personal		1
	Drop-off		15:32:50	15:35:08	0:02:18	South Side	Personal		1
	Drop-off		15:33:28	15:34:16	0:00:48	South Side	Personal		2
	Passenger Pickup		15:35:16	15:45:14	0:09:58	South Side	Personal		1
	Passenger Pickup		15:35:16	15:38:48	0:03:32	South Side	Personal		2
	Drop-off		15:37:54	15:38:16	0:00:22	South Side	Personal		3
	Passenger Pickup		15:43:13	15:43:58	0:00:45	South Side	Personal		2
	Drop-off		15:52:10	15:53:26	0:01:16	South Side	Personal		1
	Passenger Pickup		15:54:15	15:54:41	0:00:26	South Side	Personal		1
	Drop-off		15:56:22	15:56:51	0:00:29	South Side	Personal		1
	Passenger Pickup		15:57:54	16:06:07	0:08:13	South Side	Personal		1
	Passenger Pickup		15:59:46	16:05:50	0:06:04	South Side	Personal		2
	Passenger Pickup		16:06:30	16:07:01	0:00:31	South Side	Personal		1
	Passenger Pickup		16:07:18	16:07:32	0:00:14	South Side	Personal		1
	Drop-off		16:09:59	16:17:19	0:07:20	South Side	Personal		1
	Passenger Pickup		16:12:14	16:18:27	0:06:13	South Side	Personal		2
	Passenger Pickup		16:18:53	16:19:05	0:00:12	South Side	Personal		1
	Passenger Pickup		16:20:40	16:25:35	0:04:55	South Side	Personal		1
	Passenger Pickup		16:31:08	16:31:46	0:00:38	South Side	Personal		1
	Drop-off		16:40:37	16:51:38	0:11:01	South Side	Personal		1
	Passenger Pickup		16:42:49	16:47:52	0:05:03	South Side	Personal		2
	Food Delivery		16:44:40	16:51:38	0:06:58	South Side	Delivery		3
	Drop-off		16:46:51	16:47:47	0:00:56	South Side	Personal		4
	Drop-off		16:52:09	16:52:29	0:00:20	South Side	Personal		1
	Passenger Pickup		16:53:05	16:53:18	0:00:13	South Side	Personal		1
	Passenger Pickup		16:54:23	17:06:11	0:11:48	South Side	Personal		1
	Passenger Pickup		16:54:46	16:55:33	0:00:47	South Side	Personal		2
	Drop-off		16:55:32	17:08:41	0:13:09	South Side	Personal		3
	Drop-off		16:57:41	16:58:36	0:00:55	South Side	Personal		3
	Passenger Pickup		16:59:56	17:20:04	0:20:08	South Side	Personal		3
	Food Delivery		17:01:07	17:07:33	0:06:26	South Side	Delivery		4
	Drop-off		17:08:00	17:08:25	0:00:25	South Side	Personal		3
	Food Delivery		17:10:37	17:16:09	0:05:32	South Side	Personal		2
			17:11:13	17:17:44	0:06:31	South Side	Personal		3
	Passenger Pickup		17:20:57	17:21:26	0:00:29	South Side	Personal		1
	Drop-off		17:22:46	17:24:10	0:01:24	South Side	Personal		1
	Drop-off		17:25:17	17:25:32	0:00:15	South Side	Personal		1
	Passenger Pickup		17:31:35	17:32:35	0:01:00	South Side	Personal		1
	Passenger Pickup		17:31:57	17:32:12	0:00:15	South Side	Personal		2
	Food Delivery		17:36:57	17:45:58	0:09:01	South Side	Delivery		1
	Drop-off		17:39:03	17:44:10	0:05:07	South Side	Personal		2
	Passenger Pickup		17:46:39	17:48:35	0:01:56	South Side	Personal		1
	Drop-off		17:55:45	17:59:20	0:03:35	South Side	Personal		1
	Passenger Pickup		17:59:22	18:04:57	0:05:35	South Side	Personal		1
	Passenger Pickup		17:59:36	18:02:20	0:02:44	South Side	Personal		2
	Passenger Pickup		18:09:12	18:14:53	0:05:41	South Side	Personal		1
	Drop-off		18:11:47	18:14:13	0:02:26	South Side	Personal		2
	Passenger Pickup		18:15:22	18:15:35	0:00:13	South Side	Personal		1
	Drop-off		18:17:36	18:18:06	0:00:30	South Side	Personal		1
	Passenger Pickup		18:22:26	18:29:00	0:06:34	South Side	Personal		1
	Passenger Pickup		18:25:21	18:26:00	0:00:39	South Side	Personal		2
	Passenger Pickup		18:27:51	18:28:13	0:00:22	South Side	Personal		2
	Passenger Pickup		18:39:23	18:47:27	0:08:04	South Side	Personal		1
	Drop-off		18:40:45	18:41:30	0:00:45	South Side	Personal		2
	Drop-off		18:41:45	18:43:25	0:01:40	South Side	Personal		2
	Passenger Pickup		18:43:57	18:44:22	0:00:25	South Side	Personal		2
	Passenger Pickup		18:47:32	18:48:53	0:01:21	South Side	Personal		1
	Passenger Pickup		18:49:41	18:53:51	0:04:10	South Side	Personal		1
	Passenger Pickup		18:51:36	18:54:45	0:03:09	South Side	Personal		2
	Drop-off		18:57:52	19:01:06	0:03:14	South Side	Personal		1
	Drop-off		18:59:29	18:59:54	0:00:25	South Side	Personal		2
	Passenger Pickup		19:03:00	19:03:20	0:00:20	South Side	Personal		1
	Drop-off		19:04:23	19:04:40	0:00:17	South Side	Personal		1
	Package delivery		19:05:00	19:07:55	0:02:55	South Side	Delivery		1
	Passenger Pickup		19:05:19	19:05:55	0:00:36	South Side	Personal		2
	Passenger Pickup		19:06:23	19:07:05	0:00:42	South Side	Personal		2
	Drop-off		19:08:08	19:11:28	0:03:20	South Side	Personal		1
	Drop-off		19:13:39	19:17:56	0:04:17	South Side	Personal		1
	Passenger Pickup		19:21:18	19:31:24	0:10:06	South Side	Personal		1
	Drop-off		19:33:16	19:33:40	0:00:24	South Side	Personal		1
	Drop-off		19:35:19	19:40:20	0:05:01	South Side	Personal		1
	Passenger Pickup		19:38:52	19:40:38	0:01:46	South Side	Personal		2
	Passenger Pickup		19:44:42	19:45:39	0:00:57	South Side	Personal		1
	Drop-off		19:51:36	19:53:27	0:01:51	South Side	Personal		1
	Drop-off		19:56:37	19:57:00	0:00:23	South Side	Personal		1
	Drop-off		19:57:38	19:59:03	0:01:25	South Side	Personal		1
	Passenger Pickup		20:18:03	20:28:39	0:10:36	South Side	Personal		1
	Drop-off		20:20:28	20:21:30	0:01:02	South Side	Personal		2
	Food Delivery		20:21:39	20:28:13	0:06:34	South Side	Delivery		2
	Food Delivery		20:29:05	20:41:06	0:12:01	South Side	Delivery		1
	Passenger Pickup		20:44:39	20:49:09	0:04:30	South Side	Personal		1
	Passenger Pickup		20:54:03	21:01:06	0:07:03	South Side	Personal		1
	Passenger Pickup		21:01:32	21:15:52	0:14:20	South Side	Personal		1
	Drop-off		21:19:17	21:22:08	0:02:51	South Side	Personal		1
	Passenger Pickup		21:25:05	21:27:07	0:02:02	South Side	Personal		1
	Drop-off		21:29:35	21:29:50	0:00:15	South Side	Personal		1
	Food Delivery		21:46:16	21:55:50	0:09:34	South Side	Delivery		1
			# of vehicles		153			max	4
			Average Duration		0:03:15			at	16:46:51
									17:01:07

PUDO Dwell Time Summary

Project #: 20371.210
Location: 120 Varna Drive & 20 New Heights Court
Date: Thursday May 9, 2024
Observers: ID

Survey Time

Vehicle Type	Purpose	Location	Time Arrived	Time Depart	Duration	Notes	Accum-ulation:
			8:00:00	22:00			
Personal	Drop-off	Court	8:05:29	8:13:43	0:08:14		1
Personal	Loading	Court	8:06:07	8:14:10	0:08:03		2
Personal	Drop-off	Court	8:07:49	8:09:15	0:01:26		3
Personal	Drop-off	Court	8:19:30	8:20:36	0:01:06		1
Personal	Pick-up	Court	8:20:29	8:29:30	0:09:01		2
Personal	Drop-off	Court	8:30:58	8:32:46	0:01:48		1
Taxi	Pick-up	Driveway	8:37:21	8:37:49	0:00:28	Taxi	1
Personal	Pick-up	Court	8:37:29	8:38:04	0:00:35		2
Personal	Pick-up	Driveway	8:43:58	8:45:56	0:01:58	from garage	1
Personal	Drop-off	On-Street	8:47:14	8:47:31	0:00:17		1
Personal	Delivery	On-Street	8:54:33	8:57:55	0:03:22		1
Personal	Loading	Court	9:02:57	9:10:30	0:07:33		1
Taxi	Pick-up	On-Street	9:08:08	9:09:46	0:01:38		2
Personal	Loading	Court	9:09:00	9:11:10	0:02:10		3
Personal	Loading	Court	9:15:20	9:20:00	0:04:40		1
Personal	Pick-up	On-Street	9:23:01	9:26:14	0:03:13		1
Personal	Drop-off	On-Street	9:27:14	9:34:55	0:07:41		1
Personal	Delivery	On-Street	9:28:14	9:39:21	0:11:07		2
Personal	Drop-off	On-Street	9:28:30	9:28:59	0:00:29		3
Personal	Food Delivery	On-Street	9:28:34	9:33:17	0:04:43		4
Personal	Drop-off	Court	9:39:16	9:41:48	0:02:32		2
Personal	Pick-up	Driveway	9:41:12	9:49:40	0:08:28		2
Personal	Pick-up	On-Street	9:46:53	9:47:17	0:00:24		2
Personal	Drop-off	On-Street	9:48:10	9:48:22	0:00:12		2
Personal	Loading	Court	9:52:33	9:58:22	0:05:49		1
Personal	Loading	Court	9:54:31	10:09:07	0:14:36		2
Personal	Loading	Court	9:54:43	10:24:23	0:29:40		3
		On-Street	9:58:10	10:02:42	0:04:32	Police	4
Personal	Drop-off	On-Street	9:59:50	10:00:21	0:00:31		4
Truck	Delivery	Court	10:02:11	10:06:41	0:04:30	UPS	4
Personal	Pick-up	On-Street	10:04:39	10:04:59	0:00:20		4
Personal	Pick-up	On-Street	10:09:19	10:09:50	0:00:31		2
Truck	Pick-up	Court	10:11:12	10:16:06	0:04:54	WheelTrans	2
Personal	Pick-up	On-Street	10:12:46	10:13:26	0:00:40		3
Personal	Delivery	On-Street	10:13:09	10:16:49	0:03:40	Purolator	4
Personal	Drop-off	On-Street	10:16:50	10:17:46	0:00:56		2
Personal	Pick-up	Court	10:30:58	10:39:03	0:08:05		1
Personal	Drop-off	Court	10:32:10	10:32:50	0:00:40		2
Personal	Drop-off	On-Street	10:33:43	10:34:57	0:01:14		2
Personal	Pick-up	Court	10:35:03	10:38:01	0:02:58		2
Personal	Loading	On-Street	10:41:07	10:45:10	0:04:03		1
Personal	Delivery	On-Street	10:43:46	10:51:31	0:07:45		2
Personal	Food Delivery	On-Street	10:44:55	10:49:48	0:04:53		3
Van	Delivery	Court	10:51:10	10:57:04	0:05:54	Canada Post	2
Personal	Loading	On-Street	10:55:48	11:09:05	0:13:17		2
Personal	Pick-up	On-Street	10:57:00	11:00:00	0:03:00		3
Personal	Loading	On-Street	10:57:57	11:10:12	0:12:15		3
Personal	Delivery	Court	11:00:00	11:09:03	0:09:03	Amazon?	3
Personal	Delivery	On-Street	11:06:48	11:12:44	0:05:56		4
Personal	Pick-up	On-Street	11:11:28	11:12:44	0:01:16		2
Personal	Pick-up	Court	11:20:08	11:24:49	0:04:41		1
Van	Delivery	On-Street	11:32:06	11:38:16	0:06:10		1
Personal	Pick-up	On-Street	11:41:08	11:41:27	0:00:19		1
Personal	Loading	Court	11:41:10	12:21:46	0:40:36		2
Truck	Delivery	On-Street	11:42:54	11:46:48	0:03:54	UPS	2
Personal	Loading	On-Street	11:43:29	11:53:48	0:10:19		3
Van	Delivery	On-Street	11:46:35	12:01:51	0:15:16	Canada Post	4
Personal	Pick-up	On-Street	11:48:08	11:48:32	0:00:24		4
Personal	Loading	On-Street	11:49:09	11:56:15	0:07:06		4
Personal	Pick-up	On-Street	11:50:36	11:55:39	0:05:03		5
Personal	Loading	Court	11:53:14	12:02:10	0:08:56		6
Personal	Drop-off	Court	12:03:26	12:03:56	0:00:30		2
Personal	Pick-up	On-Street	12:03:40	12:04:10	0:00:30		3
Personal	Pick-up	On-Street	12:04:21	12:06:52	0:02:31		2
Personal	Pick-up	Court	12:05:53	12:21:08	0:15:15		3
Personal	Loading	Court	12:14:24	13:04:20	0:49:56		3
Personal	Pick-up	Court	12:24:27	12:24:54	0:00:27		2
Personal	Pick-up	Court	12:24:59	12:34:05	0:09:06		2
Personal	Pick-up	On-Street	12:25:50	12:26:13	0:00:23		3
Personal	Food Delivery	On-Street	12:26:30	12:29:58	0:03:28		3
Personal	Pick-up	On-Street	12:31:05	12:32:02	0:00:57		3
Personal	Drop-off	Court	12:31:23	12:32:01	0:00:38		4
Personal	Food Delivery	On-Street	12:37:20	12:43:57	0:06:37		2
Personal	Loading	Court	12:41:32	13:35:54	0:54:22		3
Personal	Loading	On-Street	12:43:55	14:51:21	2:07:26		4
Taxi	Drop-off	On-Street	12:45:06	12:45:38	0:00:32	Taxi	4
Personal	Loading	Court	12:46:17	13:49:48	1:03:31		4
Personal	Drop-off	On-Street	12:48:11	12:48:30	0:00:19		5
Personal	Pick-up	On-Street	12:48:59	12:51:33	0:02:34		5
Personal	Food Delivery	On-Street	12:50:10	12:54:52	0:04:42		6
Personal	Drop-off	On-Street	12:50:25	12:52:44	0:02:19		7
Personal	Loading	On-Street	12:57:41	14:39:16	1:41:35		5
Personal	Food Delivery	On-Street	13:01:20	13:07:33	0:06:13		6
Personal	Food Delivery	On-Street	13:03:21	13:09:53	0:06:32		7
Personal	Drop-off	Court	13:06:11	13:06:29	0:00:18		7
Personal	Food Delivery	Court	13:09:20	13:15:18	0:05:58		6
Truck	Delivery	Court	13:11:41	13:17:30	0:05:49	FedEx	6
Pick up truck		On-Street	13:12:43	15:27:00	2:14:17		7
Personal	Food Delivery	On-Street	13:13:46	13:19:38	0:05:52		8
Personal	Loading	On-Street	13:13:46	13:57:01	0:43:15		9
Personal	Drop-off	On-Street	13:16:04	13:17:16	0:01:12		9
Personal	Food Delivery	On-Street	13:25:08	13:30:00	0:04:52		7
		Court	13:26:00	13:37:15	0:11:15	Purolator	8
Personal	Drop-off	Court	13:31:20	13:34:44	0:03:24		8
Personal	Delivery	On-Street	13:32:17	13:46:00	0:13:43		9
Personal	Pick-up	Court	13:35:14	13:41:36	0:06:22		9
Personal	Drop-off	Court	13:36:24	13:37:54	0:01:30		9
Personal	Food Delivery	On-Street	13:36:48	13:41:56	0:05:08		10
Truck	Delivery	On-Street	13:39:24	13:49:37	0:10:13	FedEx	9
Personal	Pick-up	Court	13:41:00	13:44:03	0:03:03		10
Personal	Drop-off	On-Street	13:41:55	13:42:22	0:00:27		10
Personal	Delivery	Court	13:59:05	14:04:45	0:05:40	Amazon	4
Personal	Loading	On-Street	13:59:05	14:04:56	0:05:51		5
Personal	Loading	Court	14:00:20	14:08:39	0:08:19		6
Personal	Pick-up	On-Street	14:01:00	14:07:12	0:06:12		7
Personal	Pick-up	Court	14:03:22	14:05:13	0:01:51		8
Personal	Drop-off	On-Street	14:06:45	14:09:59	0:03:14		6
Personal	Pick-up	On-Street	14:08:34	14:12:12	0:03:38		6
Personal	Loading	Court	14:11:50	14:34:03	0:22:13		5
Personal	Delivery	On-Street	14:22:06	14:24:01	0:01:55		5
Personal	Drop-off	On-Street	14:25:41	14:26:07	0:00:26		5
Personal	Delivery	Court	14:27:01	14:35:09	0:08:08	Amazon	5
Personal	Pick-up	On-Street	14:32:15	14:33:30	0:01:15		6
Personal	Pick-up	On-Street	14:35:15	14:40:02	0:04:47		4
Personal	Pick-up	On-Street	14:36:01	14:38:07	0:02:06		5
Personal	Loading	Driveway	14:41:31	17:33:18	2:51:47		3
Personal	Pick-up	On-Street	14:42:16	14:43:38	0:01:22		4
Personal	Pick-up	Court	14:45:55	14:46:21	0:00:26		4
Taxi	Drop-off	Court	14:47:30	14:49:13	0:01:43	Taxi	4
Personal	Food Delivery	On-Street	14:51:15	14:55:02	0:03:47		4
Personal	Drop-off	Court	14:53:44	14:57:01	0:03:17	Uber	4
Personal	Drop-off	Court	14:59:35	15:00:15	0:00:40	Uber	3
Personal	Drop-off	On-Street	15:01:40	15:02:00	0:00:20		3
Taxi	Pick-up	Court	15:03:59	15:04:21	0:00:22	Taxi	3
Personal	Drop-off	Court	15:04:02	15:05:08	0:01:06		4
Van	Loading	Driveway	15:05:38	16:22:35	1:16:57	Contractor	3
Personal	Food Delivery	Court	15:08:28	15:12:23	0:03:55		4
Personal	Food Delivery	On-Street	15:10:20	15:15:45	0:05:25		5
Personal	Drop-off	Driveway	15:12:42	15:13:37	0:00:55	to garage	5
Personal	Food Delivery	On-Street	15:14:20	15:17:13	0:02:53		5
Personal	Drop-off	Court	15:21:10	15:21:20	0:00:10		4
Personal	Drop-off	Court	15:23:23	15:26:21	0:02:58	Uber	4
Personal	Food Delivery	Driveway	15:24:59	15:33:03	0:08:04		5
Personal	Drop-off	Court	15:28:25	15:29:30	0:01:05		4
Personal	Food Delivery	Court	15:30:41	15:37:01	0:06:20		4
Personal	Loading	On-Street	15:33:24	16:03:20	0:29:56		4
Personal	Drop-off	Court	15:36:30	15:37:02	0:00:32		5
Taxi	Drop-off	Court	15:37:02	15:37:37	0:00:35	Taxi	4
Personal	Drop-off	On-Street	15:37:37	15:38:27	0:00:50		4
Personal	Food Delivery	Court	15:38:22	15:43:52	0:05:30		5
Personal	Pick-up	Court	15:38:54	15:46:43	0:07:49		5
Personal	Drop-off	Court	15:41:06	15:45:16	0:04:10		6
Personal	Pick-up	Court	15:43:02	15:43:24	0:00:22		7
Personal	Drop-off	Driveway	15:43:26	15:43:34	0:00:08	to garage	7
Personal	Food Delivery	Court	15:47:10	15:50:50	0:03:40		4
Personal	Loading	Court	15:48:20	16:17:49	0:29:29		5
Personal	Drop-off	On-Street	15:52:01	15:52:29	0:00:28		5
Taxi	Drop-off	Driveway	15:52:45	15:52:57	0:00:12	Taxi	5
Van	Delivery	On-Street	15:54:51	15:56:20	0:01:29		5
Personal	Drop-off	Court	15:56:54	15:57:48	0:00:54		5
Personal	Loading	Court	15:56:55	16:19:47	0:22:52		6
Personal	Loading	Court	16:01:01	17:12:44	1:11:43		6
Personal	Pick-up	Court	16:01:31	16:05:26	0:03:55		7
Personal	Pick-up	Court	16:07:29	16:13:01	0:05:32		6
Personal	Pick-up	On-Street	16:10:15	16:10:45	0:00:30		7
Personal	Drop-off	Court	16:12:10	16:12:23	0:00:13		7
Personal	Drop-off	Driveway	16:14:25	16:14:57	0:00:32		6
Personal	Food Delivery	Court	16:16:00	16:21:07	0:05:07		6
Personal	Drop-off	On-Street	16:22:50	16:24:55	0:02:05		3
Personal	Delivery	Court	16:23:02	16:28:48	0:05:46		4
Personal	Delivery	On-Street	16:24:26	16:29:01	0:04:35		5
Personal	Drop-off	Court	16:27:28	16:29:28	0:02:00		5
Personal	Drop-off	On-Street	16:29:18	16:29:32	0:00:14		4
Personal	Drop-off	On-Street	16:30:01	16:30:19	0:00:18		3
Personal	Drop-off	On-Street	16:32:10	16:34:07	0:01:57		3
Personal	Drop-off	Court	16:33:44	16:39:26	0:05:42		4
Personal	Loading	Driveway	16:34:32	17:00:17	0:25:45		4
Van	Delivery	On-Street	16:35:01	16:43:37	0:08:36		5
Personal	Drop-off	On-Street	16:37:34	16:40:31	0:02:57		6
Personal	Loading	Court	16:38:43	16:47:51	0:09:08		7
Personal	Food Delivery	On-Street	16:40:25	16:49:42	0:09:17		7
Personal	Drop-off	On-Street	16:43:20	16:44:10	0:00:50		7
Personal	Pick-up	On-Street	16:43:50	16:52:29	0:08:39		7
Personal	Loading	Court	16:45:45	16:53:37	0:07:52		7
Personal	Delivery	Court	16:47:58	16:50:09	0:02:11	Amazon	7
Van	Delivery	On-Street	16:55:14	17:01:28	0:06:14		4
Personal	Drop-off	On-Street	16:56:35	17:01:46	0:05:11		5
Personal	Loading	Court	16:58:30	17:06:28	0:07:58		6
Personal	Loading	Court	16:58:33	17:11:15	0:12:42		7
Personal	Drop-off	On-Street	17:00:00	17:12:46	0:12:46		8
Personal	Loading	Court	17:04:29	17:10:41	0:06:12		6
Personal	Drop-off	On-Street	17:05:21	17:09:45	0:04:24		7
Personal	Pick-up	Court	17:09:28	17:11:57	0:02:29		7
Personal	Pick-up	On-Street	17:23:03	17:27:09	0:04:06		2
Personal	Loading	Driveway	17:25:08	17:38:04	0:12:56		3
Van	Delivery	On-Street	17:32:11	17:36:10	0:03:59		3
Personal	Food Delivery	On-Street	17:34:12	17:48:35	0:14:23		3
Personal	Pick-up	On-Street	17:37:49	18:00:00	0:22:11		3
Personal	Food Delivery	Court	17:42:36	17:49:20	0:06:44		3
Van	Delivery	On-Street	17:43:07	17:43:31	0:00:24		4
Personal	Drop-off	Court	17:45:39	17:46:05	0:00:26		4
Personal	Food Delivery	Court	17:46:06	17:49:24	0:03:18		4
Personal	Loading	Driveway	17:47:27	17:48:30	0:01:03		5
Personal	Drop-off	On-Street	17:47:58	17:48:13	0:00:15		6
Personal	Pick-up	On-Street	17:50:55	17:52:31	0:01:36		2
Personal	Food Delivery	Court	17:55:22	17:57:49	0:02:27		2
Personal	Loading	On-Street	18:01:11	18:04:58	0:03:47		1
Personal	Loading	Court	18:02:24	19:38:13	1:35:49		2
Personal	Drop-off	Driveway	18:03:03	18:05:50	0:02:47		3
Personal	Drop-off	Court	18:05:21	18:06:20	0:00:59		3
Personal	Pick-up	On-Street	18:15:09	18:19:22	0:04:13		2
Personal	Drop-off	Court	18:16:33	18:19:37	0:03:04		3
Personal	Drop-off	On-Street	18:16:51	18:17:11	0:00:20		4
Personal	Food Delivery	On-Street	18:23:46	18:30:33	0:06:47		2
Personal	Drop-off	On-Street	18:26:58	18:28:35	0:01:37		3
Personal	Drop-off	On-Street	18:35:16	18:36:01	0:00:45		2
Personal	Loading	On-Street	18:40:10	19:00:13	0:20:03		2
Personal	Delivery	Court	18:45:29	18:53:10	0:07:41		3
Personal	Drop-off	On-Street	18:47:15	18:49:18	0:02:03		4
Personal	Food Delivery	On-Street	18:52:00	18:57:15	0:05:15		4
Personal	Food Delivery	On-Street	18:55:19	18:59:03	0:03:44		4
Van	Delivery	On-Street	18:55:20	18:57:39	0:02:19		5
Personal	Drop-off	Court	19:00:01	19:00:51	0:00:50		3
Personal	Loading	Driveway	19:02:01	19:06:55	0:04:54	to garage	2
Personal	Pick-up	Court	19:07:29	19:08:30	0:01:01		2
Personal	Food Delivery	On-Street	19:08:18	19:13:05	0:04:47		3
Personal	Food Delivery	On-Street	19:12:09	19:17:48	0:05:39		3
Personal	Drop-off	Court	19:12:43	19:13:24	0:00:41		4
Personal	Pick-up	On-Street	19:13:03	19:15:40	0:02:37		5
Personal	Drop-off	On-Street	19:20:05	19:22:58	0:02:53		2
Personal	Food Delivery	On-Street	19:21:04	19:26:15	0:05:11		3
Personal	Pick-up	On-Street	19:22:53	19:27:25	0:04:32		4
Personal	Food Delivery	Court	19:25:25	19:29:31	0:04:06		4
Personal	Food Delivery	Driveway	19:25:33	19:31:40	0:06:07		5
Personal	Food Delivery	On-Street	19:26:10	19:35:40	0:09:30		6
Personal	Food Delivery	On-Street	19:26:16	19:36:03	0:09:47		6
Personal	Loading	Court	19:32:20	20:18:16	0:45:56		4
Personal	Loading	Court	19:33:12	19:43:20	0:10:08		5
Van	Delivery	Court	19:34:00	19:41:33	0:07:33	District	6
Personal	Pick-up	On-Street	19:35:55	19:37:03	0:01:08		6
Personal	Pick-up	Court	19:36:14	19:39:05	0:02:51		6
Personal	Pick-up	On-Street	19:37:05	19:43:30	0:06:25		6
Personal	Food Delivery	On-Street	19:38:06	19:41:17	0:03:11		7
Personal	Drop-off	On-Street	19:38:18	19:40:01	0:01:43		7
Personal	Drop-off	Court	19:39:50	19:40:02	0:00:12		7
Van	Delivery	Court	19:40:13	19:46:01	0:05:48		6
Personal	Food Delivery	On-Street	19:46:12	19:52:52	0:06:40		2
Personal	Food Delivery	On-Street	19:46:18	20:09:08	0:22:50		3
Personal	Loading	Court	19:46:35	20:33:05	0:46:30		4
Personal	Loading	Court	19:47:55	21:03:51	1:15:56		5
Personal	Drop-off	On-Street	19:48:07	19:48:45	0:00:38		6
Personal	Drop-off	Driveway	19:49:14	19:49:35	0:00:21	to garage	6
Personal	Drop-off	Court	19:49:57	19:50:10	0:00:13		6
Pick up truck	Drop-off	On-Street	19:50:05	19:50:47	0:00:42		7
Personal	Pick-up	Court	19:50:33	19:52:31	0:01:58		7
Personal	Loading	Driveway	19:53:41	20:00:54	0:07:13		5
Personal	Drop-off	Court	19:57:30	19:58:44	0:01:14		6
Personal	Pick-up	On-Street	19:58:02	20:01:12	0:03:10		7
Personal	Loading	Court	19:59:25	20:09:29	0:10:04		7
Personal	Food Delivery	On-Street	20:01:20	20:05:53	0:04:33	E-bike	6
Personal	Loading	Driveway	20:02:18	20:04:39	0:02:21	to garage	7
Pick up truck	Loading	Driveway	20:02:26	20:03:55	0:01:29	loaded into above vehicle	8
Personal	Loading	Court	20:10:32	20:12:43	0:02:11		4
Personal	Delivery	Court	20:11:22	20:19:40	0:08:18		5
Personal	Delivery	On-Street	20:13:09	20:14:57	0:01:48		5
Personal	Food Delivery	On-Street	20:17:25	20:22:45	0:05:20		5
Personal	Food Delivery	On-Street	20:18:13	20:22:53	0:04:40		6
Personal	Food Delivery	On-Street	20:18:27	20:23:17	0:04:50		6
Personal	Food Delivery	On-Street	20:20:19	20:23:15	0:02:56		6
Personal	Loading	Court	20:24:22	20:33:10	0:08:48		3
Personal	Drop-off	Court	20:26:15	20:26:47	0:00:32		4
Personal	Loading	On-Street	20:26:50	20:31:18	0:04:28		4
Personal	Drop-off	On-Street	20:26:58	20:27:40	0:00:42		5
Personal	Drop-off	Court	20:27:48	20:29:50	0:02:02		5
Personal	Loading	Court	20:34:20	20:49:46	0:15:26		2
Personal	Drop-off	On-Street	20:35:16	20:38:07	0:02:51		3
Personal	Food Delivery	On-Street	20:40:16	20:45:35	0:05:19		3
Personal	Loading	Court	20:42:25	20:45:56	0:03:31		4
Personal	Drop-off	On-Street	20:45:01	20:47:30	0:02:29		5
Personal	Food Delivery	On-Street	20:51:41	20:56:41	0:05:00		2
Personal	Loading	Court	20:52:03	20:56:50	0:04:47		3
Personal	Loading	Court	20:52:15	21:07:42	0:15:27		4
Personal	Drop-off	On-Street	20:52:20	20:52:35	0:00:15		5
Personal	Delivery	Court	20:53:26	20:56:16	0:02:50		5
Personal	Pick-up	Court	20:54:38	20:55:32	0:00:54		6
Personal	Drop-off	Court	20:56:33	20:57:10	0:00:37		5
Personal	Drop-off	Court	20:58:41	20:58:52	0:00:11		3
Personal	Loading	On-Street	21:07:28	21:51:16	0:43:48		2
Personal	Loading	Court	21:07:29	21:51:17	0:43:48		3
Personal	Loading	Driveway	21:09:58	21:32:01	0:22:03		3
Personal	Food Delivery	Court	21:10:06	21:12:40	0:02:34		4
Personal	Drop-off	On-Street	21:10:13	21:12:38	0:02:25		5
Personal	Drop-off	Court	21:12:25	21:12:56	0:00:31		6
Personal	Drop-off	On-Street	21:12:36	21:12:45	0:00:09		7
Personal	Drop-off	On-Street	21:14:28	21:15:51	0:01:23		4
Personal	Drop-off	Court	21:15:00	21:15:54	0:00:54		5
Personal	Pick-up	On-Street	21:15:04	21:17:25	0:02:21		6
Personal	Pick-up	On-Street	21:25:12	21:28:44	0:03:32		4
Personal	Drop-off	Court	21:25:20	21:28:55	0:03:35		5
Personal	Drop-off	Court	21:33:20	21:34:05	0:00:45		3
Personal	Drop-off	On-Street	21:33:39	21:34:03	0:00:24		4
Personal	Drop-off	On-Street	21:39:14	21:39:28	0:00:14		3
Personal	Drop-off	Court	21:39:15	21:39:50	0:00:35		4
Personal	Food Delivery	Driveway	21:40:01	21:41:35	0:01:34		3
Personal	Drop-off	On-Street	21:40:19	21:41:20	0:01:01		4
Personal	Drop-off	Court	21:40:23	21:41:37	0:01:14		5
Personal	Pick-up	On-Street	21:41:43	21:42:50	0:01:07		3
Personal	Pick-up	Court	21:41:46	21:42:56	0:01:10		4
Personal	Drop-off	Court	21:43:00	21:43:18	0:00:18		3
Personal	Drop-off	On-Street	21:43:08	21:43:23	0:00:15		4
Personal	Pick-up	Driveway	21:49:29	21:52:40	0:03:11		3
Personal	Pick-up	On-Street	21:51:44	21:54:58	0:03:14		2
Personal	Pick-up	Court	21:51:50	21:55:09	0:03:19		3
Personal	Pick-up	Driveway	21:58:51	21:59:30	0:00:39		1
			# of vehicles		304	max	10
			Average Duration		0:08:34	at	13:36:48

PUDO Dwell Time Summary

Project # 20371.210
Location: 120 Varna Drive & 20 New Heights Court
Date: Friday May 10, 2024
Observers: ID

Vehicle Type	Purpose	Location	Survey Time 8:00:00	22:00	Duration	Notes	Accum-ulation:
			Time Arrived	Time Depart			
Personal	Loading	On-street	8:00:17	8:01:15	0:00:58		1
Personal	Loading	Driveway	8:13:48	8:45:29	0:31:41		1
Truck	Delivery	On-street	8:15:19	8:29:57	0:14:38		2
Personal	Pick-up	Court	8:23:19	8:28:55	0:05:36		3
Truck	Delivery	On-street	8:29:42	8:31:52	0:02:10	Staples	3
Personal	Food Delivery	On-street	8:31:00	8:33:59	0:02:59		3
Personal	Drop-off	On-street	8:31:13	8:31:45	0:00:32		4
Personal	Pick-up	On-street	8:32:09	8:32:29	0:00:20		3
Personal	Drop-off	Court	8:33:22	8:38:11	0:04:49		3
Personal	Food Delivery	Driveway	8:35:11	8:40:49	0:05:38		3
Personal	Pick-up	On-street	8:39:58	8:40:22	0:00:24		3
Personal	Loading	Court	8:50:47	9:03:23	0:12:36		1
Personal	Delivery	On-street	8:55:45	8:57:21	0:01:36	Amazon?	2
Personal	Food Delivery	Court	8:56:12	9:02:35	0:06:23		3
Personal	Drop-off	On-street	8:58:10	8:59:24	0:01:14		3
Personal	Pick-up	On-street	9:06:14	9:08:55	0:02:41		1
Personal	Pick-up	On-street	9:09:36	9:13:08	0:03:32		1
Personal	Pick-up	Court	9:12:01	9:12:44	0:00:43		2
Personal	Parking?	Court	9:16:50	9:36:53	0:20:03		1
Personal	Pick-up	Driveway	9:24:16	9:25:51	0:01:35		2
Van	Loading	Court	9:27:45	10:47:38	1:19:53	Contractor	2
Personal	Drop-off	On-street	9:30:49	9:31:14	0:00:25		3
Personal	Loading	Driveway	9:33:07	9:42:01	0:08:54	to garage	3
Personal	Pick-up	On-street	9:39:51	9:44:29	0:04:38		3
Personal	Pick-up	Court	9:41:11	9:42:59	0:01:48		4
Personal	Loading	Driveway	9:43:15	9:48:47	0:05:32	from garage	3
Personal	Pick-up	Court	9:43:58	9:44:15	0:00:17		4
Personal	Food Delivery	On-street	9:45:30	9:47:17	0:01:47		3
Personal	Pick-up	On-street	9:45:57	9:48:48	0:02:51		4
Truck	Delivery	On-street	9:47:35	9:49:59	0:02:24	Purolator	4
Personal	Pick-up	On-street	9:47:56	9:50:06	0:02:10		5
Truck	Delivery	On-street	9:48:18	9:50:36	0:02:18		6
Personal	Food Delivery	On-street	9:56:39	10:00:42	0:04:03		2
Truck	Delivery	On-street	9:57:15	10:00:52	0:03:37	UPS	3
Personal	Loading	Driveway	10:00:27	10:48:18	0:47:51	from garage	4
Personal	Pick-up	Court	10:02:14	10:04:19	0:02:05		3
Personal	Loading	Court	10:06:47	10:21:38	0:14:51		3
Personal	Food Delivery	Court	10:08:00	10:16:41	0:08:41		4
Personal	Delivery	On-street	10:09:01	10:10:27	0:01:26		5
Personal	Pick-up	Court	10:20:46	10:26:08	0:05:22		4
Personal	Pick-up	Court	10:21:01	10:21:34	0:00:33		5
Personal	Loading	On-street	10:23:57	10:50:39	0:26:42		4
Personal	Drop-off	Court	10:24:15	10:24:32	0:00:17		5
Personal	Delivery	On-street	10:24:47	10:28:54	0:04:07		5
Personal	Parking?	On-street	10:25:53	11:05:46	0:39:53		6
Personal	Loading	Court	10:32:15	10:38:41	0:06:26		5
Personal	Loading	Driveway	10:39:53	12:44:01	2:04:08		5
Personal	Pick-up	Court	10:40:34	10:41:05	0:00:31		6
Personal	Drop-off	Court	10:41:45	10:43:29	0:01:44		6
Personal	Pick-up	Court	10:43:05	10:44:42	0:01:37		7
Personal	Food Delivery	On-street	10:55:00	11:02:07	0:07:07		3
Personal	Pick-up	On-street	10:57:10	10:58:34	0:01:24		4
Personal	Drop-off	On-street	11:04:53	11:07:55	0:03:02		3
Truck	Delivery	Driveway	11:05:01	11:18:55	0:13:54		4
Personal	Drop-off	On-street	11:09:39	11:11:42	0:02:03		3
Personal	Drop-off	On-street	11:13:05	11:17:50	0:04:45		3
Personal	Pick-up	On-street	11:14:18	11:15:00	0:00:42		4
Pick up Truc	Loading	Court	11:14:49	11:24:57	0:10:08	Loading to each other vehicle	5
Personal	Loading	Court	11:14:51	11:24:57	0:10:06	Loading to each other vehicle	6
Van	Delivery	On-street	11:15:12	11:41:43	0:26:31	Canada Post	6
Van	Delivery	On-street	11:15:20	11:18:09	0:02:49		7
Personal	Pick-up	Court	11:16:27	11:17:40	0:01:13		8
Personal	Pick-up	On-street	11:26:51	11:27:25	0:00:34		3
Personal	Delivery	On-street	11:28:00	11:31:27	0:03:27		3
Personal	Delivery	Court	11:29:20	11:30:53	0:01:33	Amazon?	4
Van	Delivery	Court	11:29:37	11:36:37	0:07:00		5
Personal	Pick-up	Court	11:30:28	11:32:47	0:02:19		6
Personal	Delivery	Court	11:33:40	11:42:12	0:08:32		4
Personal	Food Delivery	On-street	11:39:55	11:45:44	0:05:49		4
Personal	Pick-up	Court	11:40:25	11:49:15	0:08:50		5
Van	Delivery	On-street	11:46:03	11:51:56	0:05:53		3
Van	Loading	Court	11:46:13	12:22:36	0:36:23	Contractor	4
Van	Delivery	Court	11:48:34	11:52:23	0:03:49	Amazon?	5
Personal	Pick-up	On-street	11:50:46	11:52:15	0:01:29		5
Personal	Food Delivery	On-street	11:52:20	11:58:34	0:06:14		4
Personal	Drop-off	On-street	12:02:41	12:03:25	0:00:44		3
Personal	Food Delivery	On-street	12:04:05	12:12:37	0:08:32		3
Personal	Food Delivery	On-street	12:05:11	12:18:50	0:13:39		4
Personal	Loading	Court	12:07:35	12:23:27	0:15:52		5
Personal	Loading	Court	12:12:29	13:59:01	1:46:32		6
Personal	Food Delivery	Court	12:14:08	12:19:41	0:05:33		6
Van	Delivery	On-street	12:14:16	12:17:50	0:03:34	FedEx	7
Personal	Food Delivery	On-street	12:16:14	12:20:10	0:03:56		8
Personal	Pick-up	Court	12:18:25	12:18:45	0:00:20		8
Personal	Food Delivery	On-street	12:22:13	12:25:44	0:03:31		5
Personal	Delivery	Driveway	12:23:12	12:26:16	0:03:04		5
Personal	Pick-up	On-street	12:26:01	12:26:35	0:00:34		4
Personal	Loading	Court	12:26:36	13:33:55	1:07:19		3
Personal	Food Delivery	On-street	12:30:40	12:37:27	0:06:47		4
Personal	Delivery	Driveway	12:31:27	12:35:26	0:03:59		5
Personal	Food Delivery	On-street	12:32:03	12:33:17	0:01:14		6
Personal	Food Delivery	Court	12:40:27	12:47:51	0:07:24		4
Personal	Food Delivery	On-street	12:41:23	12:48:54	0:07:31		5
Personal	Drop-off	On-street	12:45:53	12:46:10	0:00:17		5
Personal	Food Delivery	Court	12:48:44	12:52:33	0:03:49		4
Personal	Food Delivery	Court	12:51:56	12:52:59	0:01:03		4
Van	Drop-off	On-street	12:55:15	12:55:38	0:00:23		3
Truck	Delivery	On-street	13:05:55	13:11:04	0:05:09	FedEx	3
Personal	Loading	Court	13:06:20	13:14:46	0:08:26		4
Personal	Drop-off	Court	13:06:42	13:08:11	0:01:29		5
Personal	Pick-up	On-street	13:07:04	13:09:58	0:02:54		6
Personal	Drop-off	Court	13:15:29	13:16:24	0:00:55		3
Personal	Drop-off	On-street	13:15:53	13:16:12	0:00:19		4
Personal	Drop-off	Court	13:18:10	13:45:25	0:27:15		3
Personal	Loading	Court	13:26:42	14:43:54	1:17:12		4
Personal	Pick-up	On-street	13:27:28	13:31:44	0:04:16		5
Personal	Drop-off	Court	13:30:23	13:30:58	0:00:35		6
Personal	Pick-up	Court	13:33:06	13:35:05	0:01:59		5
Personal	Pick-up	Court	13:34:17	13:35:32	0:01:15		5
Personal	Food Delivery	Court	13:34:30	13:40:04	0:05:34		6
Personal	Drop-off	Court	13:40:25	13:43:21	0:02:56		4
Personal	Drop-off	Court	13:47:55	13:48:17	0:00:22		3
Personal	Pick-up	Court	13:48:15	14:00:11	0:11:56		4
Personal	Food Delivery	On-street	13:49:17	14:04:22	0:15:05		4
Personal	Loading	Court	13:50:19	13:56:48	0:06:29		5
Personal	Food Delivery	On-street	13:54:45	14:02:42	0:07:57		6
Personal	Food Delivery	On-street	13:55:03	14:02:17	0:07:14		7
Personal	Pick-up	Court	13:56:45	13:57:28	0:00:43		8
Personal	Delivery	On-street	13:57:10	14:08:50	0:11:40		8
Personal	Food Delivery	On-street	14:01:25	14:06:16	0:04:51		6
Personal	Food Delivery	On-street	14:03:37	14:07:26	0:03:49		5
Personal	Drop-off	Court	14:05:32	14:05:50	0:00:18		5
Personal	Pick-up	On-street	14:06:28	14:10:32	0:04:04		4
Personal	Food Delivery	On-street	14:07:24	14:12:59	0:05:35		5
Personal	Food Delivery	On-street	14:08:15	14:11:56	0:03:41		5
Personal	Drop-off	Court	14:09:57	14:10:05	0:00:08		5
Personal	Loading	Driveway	14:13:22	14:27:11	0:13:49		2
Personal	Pick-up	Court	14:16:02	14:16:18	0:00:16		3
Personal	Delivery	On-street	14:17:21	14:18:20	0:00:59		3
Personal	Pick-up	On-street	14:22:56	14:26:13	0:03:17		3
Personal	Food Delivery	On-street	14:27:21	14:32:30	0:05:09		2
Personal	Drop-off	Court	14:28:09	14:28:30	0:00:21		3
Personal	Drop-off	On-street	14:30:44	14:31:24	0:00:40		3
Personal	Drop-off	Court	14:36:33	14:37:01	0:00:28		2
Personal	Loading	Court	14:37:24	14:55:27	0:18:03		2
Personal	Parking?	Court	14:39:55	16:48:48	2:08:53		3
Personal	Drop-off	Court	14:41:01	14:41:15	0:00:14		4
Personal	Pick-up	On-street	14:43:03	14:43:28	0:00:25		4
Van	Delivery	On-street	14:44:52	14:48:32	0:03:40		3
Personal	Loading	Court	14:50:18	15:04:33	0:14:15		3
Van	Delivery	On-street	14:51:09	14:55:02	0:03:53		4
Personal	Pick-up	Court	15:00:20	15:08:04	0:07:44		3
Personal	Drop-off	Court	15:00:36	15:03:20	0:02:44		4
Personal	Loading	Court	15:09:01	16:26:34	1:17:33		2
Personal	Loading	Driveway	15:09:49	15:30:44	0:20:55		3
Personal	Pick-up	Court	15:10:08	15:17:33	0:07:25		4
Personal	Food Delivery	Court	15:10:08	15:11:38	0:01:30		5
Personal	Drop-off	On-street	15:10:49	15:11:08	0:00:19		6
Personal	Delivery	On-street	15:11:25	15:18:41	0:07:16		6
Personal	Pick-up	Court	15:12:30	15:18:19	0:05:49		6
Personal	Loading	Court	15:13:00	15:40:30	0:27:30		7
Truck	Delivery	On-street	15:17:55	15:21:42	0:03:47	Canpar	7
Personal	Loading	Driveway	15:21:04	15:35:59	0:14:55		6
Personal	Food Delivery	On-street	15:28:52	15:31:57	0:03:05		6
Personal	Pick-up	Court	15:29:07	15:30:10	0:01:03		7
Personal	Pick-up	On-street	15:29:46	15:32:15	0:02:29		8
Personal	Pick-up	On-street	15:30:23	15:30:52	0:00:29		8
Personal	Drop-off	Court	15:30:34	15:36:33	0:05:59		9
Personal	Delivery	On-street	15:33:00	15:50:12	0:17:12		6
Personal	Pick-up	On-street	15:36:54	15:38:47	0:01:53		5
Personal	Food Delivery	On-street	15:38:59	15:46:37	0:07:38		5
Personal	Food Delivery	On-street	15:46:12	15:50:00	0:03:48		5
Personal	Food Delivery	Court	15:49:00	15:56:05	0:07:05		5
Personal	Drop-off	Court	15:56:51	16:00:20	0:03:29		3
Personal	Pick-up	Court	16:00:15	16:06:15	0:06:00		4
Personal	Pick-up	Court	16:04:39	16:09:35	0:04:56		4
Personal	Drop-off	Driveway	16:08:58	16:09:30	0:00:32		4
Personal	Loading	Court	16:10:35	17:16:49	1:06:14		3
Personal	Drop-off	On-street	16:13:10	16:13:38	0:00:28		4
Personal	Drop-off	Driveway	16:13:29	16:16:59	0:03:30		5
Personal	Loading	Court	16:17:02	16:38:10	0:21:08		4
Personal	Food Delivery	Court	16:18:48	16:25:47	0:06:59		5
Personal	Pick-up	On-street	16:19:51	16:20:43	0:00:52		6
Pick up Truc	Loading	Court	16:22:05	16:30:27	0:08:22		6
Personal	Pick-up	Court	16:23:12	16:24:20	0:01:08		7
Van	Delivery	On-street	16:25:55	16:27:55	0:02:00		6
Personal	Loading	On-street	16:27:32	16:34:25	0:06:53		6
Personal	Food Delivery	Court	16:28:38	16:30:42	0:02:04		6
Personal	Pick-up	Court	16:29:54	16:30:21	0:00:27		7
Personal	Drop-off	Court	16:31:51	16:35:08	0:03:17		5
Personal	Drop-off	Driveway	16:32:06	16:32:24	0:00:18		6
Personal	Drop-off	On-street	16:38:08	16:40:19	0:02:11		4
Personal	Loading	Court	16:41:03	16:50:20	0:09:17		3
Personal	Food Delivery	On-street	16:42:15	16:49:10	0:06:55		4
Personal	Loading	On-street	16:42:42	18:02:49	1:20:07		5
Personal	Food Delivery	On-street	16:45:06	16:50:04	0:04:58		6
Personal	Drop-off	Court	16:47:15	16:52:50	0:05:35		7
Personal	Drop-off	On-street	16:49:05	16:50:34	0:01:29		7
Personal	Delivery	On-street	16:52:40	16:54:14	0:01:34		4
Personal	Pick-up	On-street	16:55:02	16:55:55	0:00:53		3
Personal	Drop-off	On-street	16:56:01	16:56:21	0:00:20		3
Personal	Pick-up	Court	16:56:29	17:01:01	0:04:32		3
Personal	Loading	On-street	17:01:42	17:17:44	0:16:02	to garage	3
Personal	Parking?	Driveway	17:03:06	20:15:00	3:11:54		4
Pick up Truc	Delivery	On-street	17:03:10	17:11:52	0:08:42		5
Personal	Drop-off	Court	17:12:15	17:13:42	0:01:27		5
Personal	Delivery	On-street	17:13:00	17:40:30	0:27:30		6
Personal	Loading	Driveway	17:13:05	17:56:34	0:43:29	to garage	7
Personal	Drop-off	Court	17:15:21	17:25:38	0:10:17		7
Personal	Drop-off	On-street	17:20:54	17:28:00	0:07:06		6
Personal	Drop-off	Court	17:38:23	17:39:08	0:00:45		5
Personal	Food Delivery	Driveway	17:38:34	17:39:07	0:00:33		6
Personal	Loading	Court	17:38:56	17:46:54	0:07:58		7
Personal	Drop-off	On-street	17:39:15	17:39:30	0:00:15		6
Personal	Drop-off	Court	17:44:30	17:46:30	0:02:00		5
Personal	Food Delivery	On-street	17:46:19	17:53:41	0:07:22	E-bike	6
Personal	Food Delivery	On-street	17:51:02	17:56:52	0:05:50		5
Personal	Food Delivery	On-street	17:52:04	17:56:55	0:04:51		6
Personal	Food Delivery	On-street	17:52:45	17:58:28	0:05:43		7
Personal	Food Delivery	On-street	17:57:06	18:02:31	0:05:25		4
Personal	Pick-up	Court	17:58:00	18:15:33	0:17:33		5
Personal	Parking?	Court	17:58:30	20:04:15	2:05:45		5
Personal	Pick-up	On-street	18:12:08	18:14:48	0:02:40		4
Personal	Drop-off	On-street	18:15:53	18:16:10	0:00:17		3
Personal	Food Delivery	On-street	18:16:36	18:22:04	0:05:28		3
Personal	Food Delivery	On-street	18:17:44	18:22:19	0:04:35		4
Pick up Truc	Loading	Court	18:19:31	20:25:53	2:06:22	Contractor	5
Personal	Drop-off	Driveway	18:23:05	18:23:59	0:00:54		4
Personal	Food Delivery	On-street	18:23:29	18:26:49	0:03:20		5
Personal	Drop-off	On-street	18:27:44	18:28:24	0:00:40		4
Personal	Pick-up	On-street	18:29:59	18:59:14	0:29:15		4
Personal	Loading	On-street	18:31:00	18:39:14	0:08:14	to garage	5
Personal	Food Delivery	Court	18:31:20	18:38:02	0:06:42		6
Personal	Pick-up	Court	18:31:39	18:40:07	0:08:28		7
Personal	Food Delivery	On-street	18:32:55	18:35:03	0:02:08		8
Personal	Loading	Court	18:37:52	19:20:31	0:42:39		8
Personal	Loading	On-street	18:38:02	18:52:18	0:14:16		8
Personal	Parking?	Court	18:38:52	19:33:00	0:54:08		9
Personal	Loading	On-street	18:40:34	18:57:07	0:16:33		8
Personal	Loading	Driveway	18:42:59	19:28:53	0:45:54		9
Personal	Loading	On-street	18:43:20	18:51:18	0:07:58		10
Personal	Food Delivery	On-street	18:45:42	18:51:21	0:05:39		11
Personal	Food Delivery	On-street	18:49:38	18:52:50	0:03:12		12
Personal	Food Delivery	On-street	18:49:40	18:56:56	0:07:16		13
Personal	Delivery	On-street	18:56:55	18:58:23	0:01:28		10
Personal	Pick-up	Court	18:57:59	19:01:45	0:03:46		9
Personal	Drop-off	Court	18:58:59	18:59:27	0:00:28		9
Personal	Drop-off	On-street	19:00:44	19:01:07	0:00:23		8
Personal	Drop-off	On-street	19:05:18	19:05:24	0:00:06		7
Personal	Food Delivery	On-street	19:08:32	19:14:56	0:06:24		7
Personal	Drop-off	Court	19:13:52	19:14:09	0:00:17		8
Personal	Pick-up	On-street	19:15:57	19:16:42	0:00:45		7
Personal	Food Delivery	Court	19:20:30	19:26:59	0:06:29		7
Personal	Pick-up	On-street	19:24:10	19:26:25	0:02:15		7
Personal	Parking?	On-street	19:24:12	20:10:20	0:46:08		8
Personal	Drop-off	On-street	19:24:52	19:27:26	0:02:34		9
Personal	Food Delivery	On-street	19:25:50	19:33:35	0:07:45		10
Personal	Per	Driveway	19:26:21	19:40:21	0:14:00		11
Personal	Food Delivery	On-street	19:26:56	19:29:25	0:02:29		11
Personal	Food Delivery	On-street	19:27:28	19:29:30	0:02:02		10
Personal	Drop-off	Court	19:30:15	19:30:45	0:00:30		8
Personal	Food Delivery	On-street	19:30:15	19:38:14	0:07:59		9
Personal	Loading	Court	19:32:32	19:45:30	0:12:58		9
Personal	Food Delivery	On-street	19:32:57	19:39:49	0:06:52		10
Personal	Pick-up	Court	19:33:31	19:35:15	0:01:44		10
Personal	Drop-off	On-street	19:34:58	19:38:58	0:04:00		10
Personal	Pick-up	On-street	19:37:54	19:43:56	0:06:02		10
Personal	Drop-off	Court	19:39:15	19:41:07	0:01:52		9
Personal	Food Delivery	Court	19:41:50	19:44:43	0:02:53		7
Van	Delivery	On-street	19:42:10	19:47:44	0:05:34		8
Personal	Drop-off	Court	19:42:23	19:44:28	0:02:05		9
Personal	Drop-off	Court	19:51:01	19:52:06	0:01:05		5
Personal	Pick-up	Driveway	19:54:04	19:56:40	0:02:36		5
Personal	Loading	Driveway	19:55:18	20:48:48	0:53:30		6
Personal	Loading	Driveway	19:57:29	20:08:32	0:11:03		6
Personal	Food Delivery	On-street	19:59:44	20:04:39	0:04:55		7
Personal	Pick-up	On-street	20:00:46	20:01:03	0:00:17		8
Personal	Pick-up	Court	20:10:38	20:12:05	0:01:27		4
Van	Delivery	Court	20:16:20	20:26:43	0:10:23		3
Personal	Drop-off	Court	20:18:25	20:20:04	0:01:39		4
Personal	Drop-off	Court	20:18:43	20:19:50	0:01:07		5
Personal	Drop-off	On-street	20:21:56	20:24:14	0:02:18		4
Personal	Pick-up	Court	20:28:12	20:33:05	0:04:53		2
Personal	Pick-up	On-street	20:29:40	20:33:11	0:03:31		3
Personal	Delivery	Driveway	20:30:05	20:31:07	0:01:02		4
Personal	Pick-up	On-street	20:33:19	20:36:09	0:02:50		2
Personal	Food Delivery	Court	20:33:42	20:37:50	0:04:08		3
Personal	Food Delivery	On-street	20:34:41	20:39:26	0:04:45		4
Personal	Loading	On-street	20:37:22	21:01:37	0:24:15		4
Personal	Pick-up	On-street	20:38:56	20:39:22	0:00:26		4
Personal	Parking?	Court	20:40:40	21:38:59	0:58:19		3
Personal	Food Delivery	On-street	20:41:45	20:45:28	0:03:43		4
Personal	Drop-off	On-street	20:44:03	20:45:31	0:01:28		5
Personal	Loading	On-street	20:51:27	21:01:27	0:10:00		3
Personal	Pick-up	On-street	20:56:54	20:58:39	0:01:45		4
Personal	Loading	Court	20:58:37	21:38:51	0:40:14		5
Personal	Loading	Court	21:01:35	21:38:56	0:37:21		4
Personal	Pick-up	On-street	21:04:41	21:05:41	0:01:00		4
Personal	Food Delivery	On-street	21:06:35	21:11:06	0:04:31		4
Personal	Drop-off	On-street	21:08:28	21:08:52	0:00:24		5
Personal	Pick-up	On-street	21:09:29	21:09:46	0:00:17		5
Personal	Drop-off	Court	21:10:37	21:14:23	0:03:46		5
Personal	Pick-up	On-street	21:11:42	21:17:56	0:06:14		5
Personal	Drop-off	Driveway	21:14:16	21:14:49	0:00:33		6
Personal	Loading	On-street	21:17:58	21:46:15	0:28:17		4
Personal	Drop-off	On-street	21:20:34	21:21:51	0:01:17		5
Personal	Loading	On-street	21:27:37	21:30:16	0:02:39		5
Personal	Drop-off	Court	21:29:29	21:30:42	0:01:13		6
Personal	Pick-up	Court	21:31:53	21:33:07	0:01:14		5
Personal	Food Delivery	Court	21:32:16	21:38:58	0:06:42		6
Personal	Drop-off	Court	21:33:06	21:35:35	0:02:29		7
Personal	Drop-off	On-street	21:33:30	21:34:00	0:00:30		7
Personal	Pick-up	Court	21:34:30	21:36:50	0:02:20		7
Personal	Pick-up	On-street	21:37:05	21:44:05	0:07:00		6
Personal	Drop-off	Court	21:43:45	21:46:27	0:02:42		3
Personal	Loading	Court	21:47:01	21:55:50	0:08:49		1
Personal	Food Delivery	On-street	21:49:43	21:54:57	0:05:14		2
Personal	Drop-off	On-street	21:50:09	21:51:35	0:01:26		3
Personal	Drop-off	Court	21:50:23	21:50:49	0:00:26		4
Taxi	Drop-off	Court	21:50:44	21:50:58	0:00:14	Taxi	5
Personal	Delivery	Driveway	21:50:51	21:55:21	0:04:30		5
Personal	Drop-off	Court	21:54:48	21:56:35	0:01:47		4
Personal	Drop-off	On-street	21:55:38	21:58:15	0:02:37		3
Personal	Drop-off	On-street	21:55:53	21:56:59	0:01:06		3
Personal	Drop-off	On-street	21:59:27	21:59:44	0:00:17		1
			# of vehicles		315		13
			Average Duration		0:10:28		18:49:40

Pick-Up/Drop-Off Survey: 1369 Bloor Street West

Project # 20097

Date Thursday, April 27, 2023

1369 Bloor St W - Front Entrance Off Bloor St W - AM & PM Peak Hours				
Time Arrive	Time Departed		Reason	Vehicle Type
7:09:30	7:09:40	0:00:10	Pick-Up	Uber/Carpool
16:18:46	16:20:02	0:01:16	Drop-Off	Uber/Carpool
16:25:39	16:41:00	0:15:21	Pick-Up	Uber/Carpool
16:46:32	16:52:50	0:06:18	Drop-Off	UberEats
Total 4	Avg. Duration:	0:05:46		

1369 Bloor St W - Back Entrance Off Merchant Ln - AM & PM Peak Hours				
Time Arrive	Time Departed		Reason	Vehicle Type
7:01:00	7:07:20	0:06:20	Drop-off	Voila
7:55:10	7:56:10	0:01:00	Drop-off	Uber/Lyft
8:17:11	8:22:33	0:05:22	Pick-Up	Wheelchair Accessible transit Inc.
8:33:01	8:33:23	0:00:22	Pick-Up	Carpool
8:36:06	8:36:30	0:00:24	Pick-Up	Uber/Lyft
8:56:10	8:56:25	0:00:15	Drop-off	Carpool
16:06:21	16:25:02	0:18:41	Drop-off	Amazon
16:34:01	16:47:20	0:13:19	Drop-off	Walmart
16:36:00	16:37:10	0:01:10	Drop-off	Beck Taxi
16:44:02	16:51:23	0:07:21	Drop-off	DHL
16:58:08	17:07:12	0:09:04	Drop-off	UberEats
17:03:04	17:03:35	0:00:31	Pick-Up	Uber/Lyft
17:24:04	17:29:29	0:05:25	Drop-off	UberEats
17:35:20	17:35:55	0:00:35	Pick-Up	Uber/Lyft
17:37:07	17:38:11	0:01:04	Pick-Up	Uber/Lyft
17:49:14	17:51:02	0:01:48	Pick-Up	Uber/Lyft
Total 16	Avg. Duration:	0:04:33		

0:04:47

Notes
Person walks down from stairs between proxy site & neighbouring site, not sure which site they are coming from?

Notes
Groceries
Groceries

PUDO Dwell Time Summary

Project # 25282/210
Location: 386 & 388 Yonge Street, Toronto
Date: Thursday May 22nd, 2025
Observers: JC, SM

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes		Accum-ulation:
	Passenger Drop-Off		8:35:26	8:35:41	0:00:15	PUDO loop	Personal		1
	Package Delivery		8:37:22	8:41:30	0:04:08	On-Sidewalk (Gerrard St W)	Personal		1
	Pick-Up		8:51:18	8:52:02	0:00:44	Yonge Street	Personal		1
	Unknown		9:00:15	9:01:33	0:01:18	On-Sidewalk (Yonge St)	Personal		1
	Unknown		9:02:47	9:06:18	0:03:31	On-Sidewalk (Yonge St)	Personal		1
	Pick-Up		9:04:11	9:04:43	0:00:32	Yonge Street	Personal		2
	Passenger Pick-Up		9:04:50	9:07:37	0:02:47	PUDO loop	Personal		2
	Passenger Pick-Up		9:18:26	9:24:54	0:06:28	PUDO loop	Personal		1
	Work		9:31:38	9:43:33	0:11:55	On-Sidewalk (Yonge St)	Pick-up Truck		1
	Food Delivery		9:32:55	9:39:50	0:06:55	Yonge Street	Personal		2
	Unknown		9:36:46	9:46:44	0:09:58	On-Sidewalk (Yonge St)	Personal		3
	Unknown		9:45:16	9:55:20	0:10:04	On-Sidewalk (Yonge St)	Personal		2
	Drop-Off		9:49:40	9:49:49	0:00:09	Yonge Street	Personal		2
	Drop-Off		9:55:41	9:55:49	0:00:08	Yonge Street	Personal		1
	Unknown		9:57:35	10:03:50	0:06:15	On-Sidewalk (Yonge St)	Personal		1
	Unknown		10:13:54	10:22:17	0:08:23	On-Sidewalk (Yonge St)	Personal		1
	Pick-Up		10:25:22	10:26:14	0:00:52	Yonge Street	Personal		1
	Unknown		10:27:41	10:28:36	0:00:55	On-Sidewalk (Yonge St)	Personal		1
	Food Delivery		10:35:20	10:46:53	0:11:33	PUDO loop	Personal		1
	Food Delivery		10:39:30	10:50:09	0:10:39	On-Sidewalk (Yonge St)	Personal		2
	Food Delivery		10:39:46	10:47:05	0:07:17	On-Sidewalk (Yonge St)	Personal		3
	Package Delivery		10:42:39	10:49:36	0:06:57	On-Sidewalk (Yonge St)	Pick-up Truck		4
	Pick-Up		10:53:16	11:00:06	0:06:50	Yonge Street	Personal		1
	Passenger Pick-Up		11:03:20	11:03:38	0:00:18	Gerrard Street West	Personal		1
	Drop-Off		11:19:14	11:19:20	0:00:06	On-Sidewalk (Yonge St)	Personal		1
	Moving/Loading		11:34:31	13:17:39	1:43:08	PUDO loop	Van		1
	Passenger Drop-Off		11:37:23	11:41:14	0:03:51	Gerrard Street West	Personal		2
	Pick-Up		11:49:00	11:49:26	0:00:26	Yonge Street	Personal		2
	Unknown		12:10:00	12:16:45	0:06:45	On-Sidewalk (Yonge St)	Personal		2
	Moving/Loading		12:10:29	17:21:53	5:11:24	On-Sidewalk (Gerrard St W)	Van		3
	Pick-Up		12:34:49	12:35:23	0:00:34	Yonge Street	Personal		3
	Drop-Off		12:38:02	12:38:10	0:00:08	Yonge Street	Personal		3
	Package Delivery		12:39:01	12:45:10	0:06:09	On-Sidewalk (Yonge St)	Van		3
	Unknown		12:51:49	13:05:04	0:13:15	On-Sidewalk (Yonge St)	Personal		3
	Work		12:51:53	12:54:12	0:02:19	On-Sidewalk (Yonge St)	Van		4
	Moving/Loading		12:58:20	16:11:54	3:13:34	Gerrard Street West	Personal		4
	Package Delivery		12:58:45	13:59:05	1:00:20	Yonge Street	Truck		5
	Drop-Off		12:58:54	12:59:05	0:00:11	Yonge Street	Personal		6
	Food Delivery		13:01:42	13:06:28	0:04:46	On-Sidewalk (Yonge St)	Personal		6
	Unknown		13:08:00	13:15:30	0:07:30	On-Sidewalk (Yonge St)	Personal		5
	Passenger Pick-Up		13:19:45	13:21:16	0:01:31	Gerrard Street West	Personal		4
	Drop-Off		13:30:18	13:30:29	0:00:11	Yonge Street	Personal		4
	Food Delivery		13:31:39	13:37:56	0:06:17	On-Sidewalk (Yonge St)	Personal		4
	Pick-Up		13:42:59	13:48:12	0:05:17	On-Sidewalk (Yonge St)	Personal		4
	Unknown		13:50:03	14:01:30	0:11:27	On-Sidewalk (Yonge St)	Personal		4
	Drop-Off		13:54:31	13:55:05	0:00:34	Yonge Street	Personal		5
	Drop-Off		14:08:30	14:09:44	0:01:14	On-Sidewalk (Yonge St)	Personal		3
	Food Delivery		14:14:19	14:20:15	0:05:56	On-Sidewalk (Yonge St)	Personal		3
	Passenger Pick-Up		14:20:22	14:28:56	0:08:34	PUDO loop	Personal		3
	Food Delivery		14:22:56	14:32:57	0:10:01	Gerrard Street West	Personal		4
	Drop-Off		14:26:22	14:26:30	0:00:08	Yonge Street	Personal		5
	Pick-Up		14:31:26	14:31:38	0:00:12	Yonge Street	Personal		4
	Package Delivery		14:32:00	14:50:25	0:18:25	Yonge Street	Truck		4
	Drop-Off		14:34:28	14:34:53	0:00:25	Yonge Street	Personal		4
	Passenger Pick-Up		14:38:43	14:40:04	0:01:21	Gerrard Street West	Personal		4
	Food Delivery		14:40:33	14:45:03	0:04:30	PUDO loop	Personal		4
	Drop-Off		14:50:07	14:50:27	0:00:20	Yonge Street	Personal		4
	Unknown		14:50:39	14:59:56	0:09:17	On-Sidewalk (Yonge St)	Personal		3
	Passenger Pick-Up		14:59:57	15:02:07	0:02:10	Gerrard Street West	Personal		3
	Passenger Pick-Up		15:01:59	15:06:06	0:04:13	PUDO loop	Personal		4
	Food Delivery		15:04:44	15:10:30	0:05:46	On-Sidewalk (Yonge St)	Personal		4
	Food Delivery		15:17:04	15:25:00	0:07:56	PUDO loop	Personal		3
	Drop-Off		15:21:40	15:21:50	0:00:11	Yonge Street	Personal		4
	Drop-Off		15:25:30	15:26:04	0:00:34	Yonge Street	Personal		3
	Unknown		15:39:42	15:52:07	0:12:25	On-Sidewalk (Yonge St)	Personal		3
	Passenger Pick-Up		15:40:52	15:42:14	0:01:22	PUDO loop	Personal		4
	Passenger Drop-Off		15:42:40	15:44:09	0:01:29	PUDO loop	Personal		4
	Pick-Up		15:45:50	15:46:10	0:00:20	Yonge Street	Personal		4
	Food Delivery		16:02:46	16:09:00	0:06:14	On-Sidewalk (Yonge St)	Personal		3
	Drop-Off		16:14:01	16:17:56	0:03:55	Yonge Street	Personal		2
	Passenger Drop-Off		16:19:25	16:22:44	0:03:19	On-Sidewalk (Gerrard St W)	Personal		2
	Passenger Pick-Up		16:24:27	16:31:30	0:07:03	Gerrard Street West	Personal		2
	Pick-Up		16:24:41	16:25:15	0:00:34	Yonge Street	Personal		3
	Unknown		16:28:23	16:52:02	0:23:39	On-Sidewalk (Yonge St)	Personal		3
	Food Delivery		16:34:13	16:37:35	0:03:22	On-Sidewalk (Yonge St)	Personal		3
	Food Delivery		16:35:12	16:44:02	0:08:50	On-Sidewalk (Yonge St)	Personal		4
	Drop-Off		16:46:05	16:46:37	0:00:32	On-Sidewalk (Yonge St)	Personal		3
	Drop-Off		16:52:50	16:53:00	0:00:10	Yonge Street	Personal		2
	Food Delivery		16:54:00	17:05:05	0:11:05	On-Sidewalk (Yonge St)	Personal		2
	Passenger Drop-Off		16:54:18	16:54:43	0:00:25	Gerrard Street West	Personal		3
	Passenger Pick-Up		17:04:25	17:20:50	0:16:25	PUDO loop	Personal		3
	Drop-Off		17:14:53	17:15:08	0:00:15	Yonge Street	Personal		3
	Pick-Up		17:26:32	17:28:21	0:01:50	Yonge Street	Personal		1
	Passenger Pick-Up		17:27:00	17:34:14	0:07:14	Gerrard Street West	Personal		2
	Drop-Off		17:28:44	17:29:40	0:00:56	Yonge Street	Personal		2
	Passenger Pick-Up		17:30:00	17:46:08	0:15:36	PUDO loop	Personal		2
	Passenger Pick-Up		17:34:37	17:42:32	0:07:55	Gerrard Street West	Personal		2
	Food Delivery		18:12:48	18:24:10	0:11:22	On-Sidewalk (Yonge St)	Personal		1
	Pick-Up		18:15:40	18:17:30	0:01:50	Yonge Street	Personal		1
	Food Delivery		18:50:22	18:57:00	0:06:37	On-Sidewalk (Yonge St)	Personal		1
	Passenger Drop-Off		18:55:27	18:56:11	0:00:44	Gerrard Street West	Personal		2
	Food Delivery		19:13:41	19:17:18	0:03:37	On-Sidewalk (Yonge St)	Personal		1
	Drop-Off		19:21:26	19:21:39	0:00:14	Yonge Street	Personal		1
	Drop-Off		19:25:36	19:25:49	0:00:13	Yonge Street	Personal		1
	Package Delivery		19:33:39	19:41:51	0:08:12	On-Sidewalk (Gerrard St W)	Personal		1
	Food Delivery		19:44:06	19:49:09	0:05:03	Gerrard Street West	Personal		1
	Package Delivery		19:46:37	19:52:10	0:05:33	On-Sidewalk (Yonge St)	Personal		2
	Food Delivery		19:52:21	19:58:35	0:06:14	PUDO loop	Personal		1
	Package Delivery		20:05:03	20:10:37	0:05:34	On-Sidewalk (Yonge St)	Personal		1
	Pick-Up		20:06:02	20:06:49	0:00:47	Yonge Street	Personal		2
	Pick-Up		20:20:16	20:21:21	0:01:05	Yonge Street	Personal		1
	Package Delivery		20:24:26	20:51:33	0:27:07	On-Sidewalk (Yonge St)	Personal		1
	Passenger Pick-Up		20:33:00	20:40:37	0:07:37	PUDO loop	Personal		2
	Item Delivery		20:48:36	20:52:34	0:03:58	Gerrard Street West	Personal		2
	Pick-Up		20:51:20	20:55:56	0:04:36	On-Sidewalk (Yonge St)	Personal		3
	Passenger Drop-Off		20:56:04	20:56:40	0:00:36	PUDO loop	Personal		1
	Food Delivery		21:07:20	21:15:20	0:08:00	On-Sidewalk (Yonge St)	Personal		1
	Package Delivery		21:30:31	21:35:40	0:05:09	Yonge Street	Personal		1
	Drop-Off		21:33:10	21:33:34	0:00:24	Yonge Street	Personal		2
	Passenger Pick-Up		21:35:19	21:37:24	0:02:05	PUDO loop	Personal		2
	Food Delivery		21:42:08	21:46:31	0:04:23	Yonge Street	Personal		1
	Pick-Up		21:50:00	21:50:37	0:00:37	Yonge Street	Personal		1
	Drop-Off		21:50:43	21:51:30	0:00:47	Yonge Street	Personal		1
			# of vehicles		113			max	6
			Average Duration		0:10:37			at	12:58:54
									13:01:42

PUDO Dwell Time Summary

Project # 25282/210
Location: 386 & 388 Yonge Street, Toronto
Date: Saturday May 24th, 2025
Observers: JC, SM

Spot #	Purpose	Origin / Destination	Survey Time 8:00:00 Time Arrived	22:00 Time Depart	Duration	Location	Notes	Accum-ulation:
	Package Delivery		8:13:04	8:18:49	0:05:45	On-Sidewalk (Yonge St)	Van	1
	Pick-up		8:36:16	8:38:38	0:02:22	Yonge Street	Personal	1
	Item Pick-Up		8:44:11	8:52:31	0:08:20	Gerrard Street West	Personal	1
	Pick-up		8:54:00	8:54:08	0:00:08	Yonge Street	Personal	1
	Pick-up		9:12:04	9:18:04	0:06:00	Yonge Street	Personal	1
	Pick-up		9:14:48	9:21:20	0:06:32	Yonge Street	Personal	2
	Pick-up		9:19:24	9:20:19	0:00:55	Yonge Street	Personal	2
	Pick-up		9:25:00	9:25:16	0:00:16	Yonge Street	Personal	1
	Pick-up		9:42:00	9:47:08	0:05:08	Yonge Street	Personal	1
	Passenger Pick-Up		9:52:06	9:58:43	0:06:37	Gerrard Street West	Personal	1
	Pick-up		9:57:56	9:58:09	0:00:13	Yonge Street	Personal	2
	Passenger Pick-Up		9:59:37	10:02:12	0:02:35	PUDO loop	Personal	1
	Passenger Drop-Off		10:09:50	10:10:13	0:00:23	PUDO loop	Personal	1
	Drop-off		10:47:04	10:47:23	0:00:19	Yonge Street	Personal	1
	Package Delivery		10:48:57	10:57:21	0:08:24	On-Sidewalk (Yonge St)	Truck	1
	Food Delivery		10:50:15	10:53:30	0:03:15	On-Sidewalk (Yonge St)	Personal	2
	Package Delivery		11:11:25	11:19:26	0:08:01	Yonge Street	Truck	1
	Pick-up		11:21:36	11:21:49	0:00:13	Yonge Street	Personal	1
	Passenger Drop-Off		11:26:35	11:27:48	0:01:13	Gerrard Street West	Personal	1
	Passenger Pick-Up		11:46:12	11:47:41	0:01:29	PUDO loop	Personal	1
	Drop-off		11:46:23	11:46:35	0:00:12	Yonge Street	Personal	2
	Passenger Drop-Off		11:48:39	11:48:55	0:00:16	PUDO loop	Personal	1
	Drop-off		11:51:02	11:51:18	0:00:16	Yonge Street	Personal	1
	Drop-off		12:14:39	12:14:47	0:00:08	Yonge Street	Personal	1
	Package Delivery		12:28:34	13:40:36	1:12:02	On-Sidewalk (Yonge St)	Van	1
	Package Delivery		12:35:55	12:46:27	0:10:32	On-Sidewalk (Yonge St)	Van	2
	Food Delivery		12:48:00	13:00:51	0:12:51	On-Sidewalk (Yonge St)	Personal	2
	Passenger Pick-Up		13:01:29	13:02:27	0:00:58	PUDO loop	Personal	2
	Food Delivery		13:30:14	13:37:47	0:07:33	On-Sidewalk (Yonge St)	Personal	2
	Pick-up		13:44:10	13:44:39	0:00:29	Yonge Street	Personal	1
	Passenger Pick-Up		14:05:06	14:13:15	0:08:09	Gerrard Street West	Personal	1
	Passenger Drop-Off		14:09:35	14:09:50	0:00:15	Gerrard Street West	Personal	2
	Food Delivery		14:15:10	14:23:23	0:08:13	PUDO loop	Personal	1
	Passenger Pick-Up		14:17:28	14:19:17	0:01:49	Gerrard Street West	Personal	2
	Passenger Pick-Up		14:20:00	14:30:03	0:10:03	Gerrard Street West	Personal	2
	Food Delivery		14:24:15	14:48:00	0:23:45	On-Sidewalk (Yonge St)	Personal	2
	Package Delivery		14:31:10	14:37:33	0:06:23	Yonge Street	Van	2
	Drop-off		14:35:30	14:35:56	0:00:26	Yonge Street	Personal	3
	Passenger Pick-Up		14:59:21	15:02:20	0:02:59	PUDO loop	Personal	1
	Passenger Pick-Up		15:03:02	15:22:25	0:19:23	PUDO loop	Personal	1
	Pick-up		15:18:38	15:20:17	0:01:39	On-Sidewalk (Yonge St)	Personal	2
	Drop-off		15:45:12	15:45:20	0:00:08	Yonge Street	Personal	1
	Drop-off		15:49:13	15:49:24	0:00:11	Yonge Street	Personal	1
	Drop-off		15:57:22	15:57:30	0:00:08	Yonge Street	Personal	1
	Food Delivery		16:14:31	16:36:41	0:22:10	PUDO loop	Personal	1
	Package Delivery		16:22:57	17:15:19	0:52:22	Gerrard Street West	Van	2
	Food Delivery		16:37:35	16:53:15	0:15:40	On-Sidewalk (Yonge St)	Personal	2
	Passenger Drop-Off		16:41:28	16:43:04	0:01:36	PUDO loop	Personal	3
	Pick-up		17:04:09	17:05:31	0:01:22	Yonge Street	Personal	2
	Food Delivery		17:29:01	17:37:42	0:08:41	On-Sidewalk (Yonge St)	Personal	1
	Drop-off		17:29:45	17:34:30	0:04:45	On-Sidewalk (Yonge St)	Personal	2
	Passenger Pick-Up		17:34:58	17:50:30	0:15:32	PUDO loop	Personal	2
	Drop-off		17:44:46	17:45:22	0:00:36	Yonge Street	Personal	2
	Drop-off		17:47:40	17:49:35	0:01:55	Yonge Street	Personal	2
	Drop-off		17:57:27	17:58:12	0:00:45	Yonge Street	Personal	1
	Drop-off		18:17:20	18:18:10	0:00:50	Yonge Street	Personal	1
	Food Delivery		18:32:57	18:52:19	0:19:22	Gerrard Street West	Personal	1
	Passenger Pick-Up		18:37:58	18:43:06	0:05:08	Gerrard Street West	Personal	2
	Passenger Drop-Off		18:47:21	18:50:36	0:03:15	Gerrard Street West	Personal	2
	Pick-up		18:48:00	18:48:45	0:00:45	Yonge Street	Personal	3
	Unknown		19:01:30	19:03:28	0:01:58	Yonge Street	Personal	1
	Drop-off		19:18:11	19:18:23	0:00:12	Yonge Street	Personal	1
	Drop-off		19:21:24	19:21:40	0:00:16	Yonge Street	Personal	1
	Passenger Drop-Off		19:43:02	19:44:07	0:01:05	PUDO loop	Personal	1
	Drop-off		19:58:40	19:59:01	0:00:21	Yonge Street	Personal	1
	Food Delivery		19:59:54	20:06:25	0:06:31	PUDO loop	Personal	1
	Food Delivery		20:11:41	20:19:19	0:07:38	PUDO loop	Personal	1
	Drop-off		20:19:42	20:21:49	0:02:07	Yonge Street	Personal	1
	Pick-up		20:20:49	20:22:21	0:01:32	Yonge Street	Personal	2
	Drop-off		20:35:55	20:36:17	0:00:22	Yonge Street	Personal	1
	Food Delivery		20:36:21	20:41:57	0:05:36	On-Sidewalk (Yonge St)	Personal	1
	Food Delivery		20:56:34	21:02:16	0:05:42	On-Sidewalk (Yonge St)	Personal	1
	Passenger Drop-Off		21:30:41	21:33:08	0:02:27	PUDO loop	Personal	1
	Food Delivery		21:35:00	21:40:55	0:05:55	On-Sidewalk (Yonge St)	Personal	1
	Food Delivery		21:41:50	21:46:12	0:04:22	On-Sidewalk (Yonge St)	Personal	1
	Drop-off		21:47:52	21:48:06	0:00:14	Yonge Street	Personal	1
	Passenger Pick-Up		21:47:53	21:48:19	0:00:26	PUDO loop	Personal	2
	Package Delivery		21:54:23	21:59:59	0:05:36	Yonge Street	Personal	1
	Pick-up		21:54:29	21:55:36	0:01:07	Yonge Street	Personal	2
			# of vehicles		79			max 3
			Average Duration		0:05:53			at 14:35:30

Space accomodation for Short-term Visitor Parking Spaces (Guildwood GO Redevelopment, Toronto - Building A)

Units		710	
Number of Spaces	K	3	
Arrival Rate	λ	9.0	veh/hr
Average Service Time	$1/\mu$	5.40	min
Service Rate	μ	11.11	veh/hr
	ρ	0.81	
*formulas do not work when	ρ /K >= 1	0.270052	

			Number of Parking Spaces					
	K		1	2	3	4	5	6
Probability of No Vehicles		P_0	0.190	0.423	0.443	0.445	0.445	0.445
Expected or Average Vehicles in Queue		Q	3.457	0.159	0.020	0.003	0.000	0.000
	1	P_1	0.154	0.343	0.359	0.360	0.360	0.361
	2	P_2		0.139	0.145	0.146	0.146	0.146
Probability of n Vehicles in System	3	P_3			0.039	0.039	0.039	0.039
	4	P_4				0.008	0.008	0.008
	5	P_5					0.001	0.001
	6	P_6						0.000
Probability of n<= K #Spaces Vehicles		n<=K	34%	91%	99%	100%	100%	100%
Probability of n> K			66%	9.5%	1%	0%	0%	0%

Space accomodation for Short-term Visitor Parking Spaces (Guildwood GO Redevelopment, Toronto - Buildings B & C)

Units		1824	
Number of Spaces	K	5	
Arrival Rate	λ	23.0	veh/hr
Average Service Time	1/μ	5.40	min
Service Rate	μ	11.11	veh/hr
	ρ	2.07	
*formulas do not work when	ρ /K >= 1	0.41408	

			Number of Parking Spaces					
		K	1	2	3	4	5	6
Probability of No Vehicles		P_0	-1.070	-0.017	0.100	0.121	0.125	0.131
Expected or Average Vehicles in Queue		Q	-4.005	-30.971	1.065	0.206	0.048	0.012
	1	P_1	-2.216	-0.036	0.207	0.250	0.259	0.272
	2	P_2		-0.037	0.215	0.259	0.268	0.281
Probability of n Vehicles in System	3	P_3			0.148	0.179	0.185	0.194
	4	P_4				0.092	0.096	0.100
	5	P_5					0.040	0.042
	6	P_6						0.014
Probability of n<= K #Spaces Vehicles		n<=K	-329%	-9%	67%	90%	97%	103%
Probability of n> K			429%	109.0%	33%	10%	3%	-3%