Slate Asset Management

TRANSPORTATION IMPACT STUDY

PROPOSED RESIDENTIAL DEVELOPMENT

Dixie Outlet Mall, City of Mississauga

December 2022

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RE: Transportation Impact Study
Proposed Residential Development
Dixie Outlet Mall, 1250 South Service Road, Mississauga, Ontario

LEA Consulting Ltd. is pleased to present the findings of our Transportation Impact Study for the proposed residential development located at Dixie Outlet Mall in the City of Mississauga. This transportation study has been prepared in support of the development application for the subject site. This report concludes that the traffic associated with the proposed development does not present any significant impact to intersection operations in the surrounding area. The report also includes a review of the parking and loading facilities proposed on-site, as well as a Transportation Demand Management Plan.

Please do not hesitate to contact the undersigned should you have any additional questions or concerns at ZGeorgis@lea.ca.

Yours truly,

LEA CONSULTING LTD.

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Encl: Attachment 1: Transportation Impact Study – Proposed Residential Development, Dixie Outlet Mall, City of Mississauga

Disclaimer

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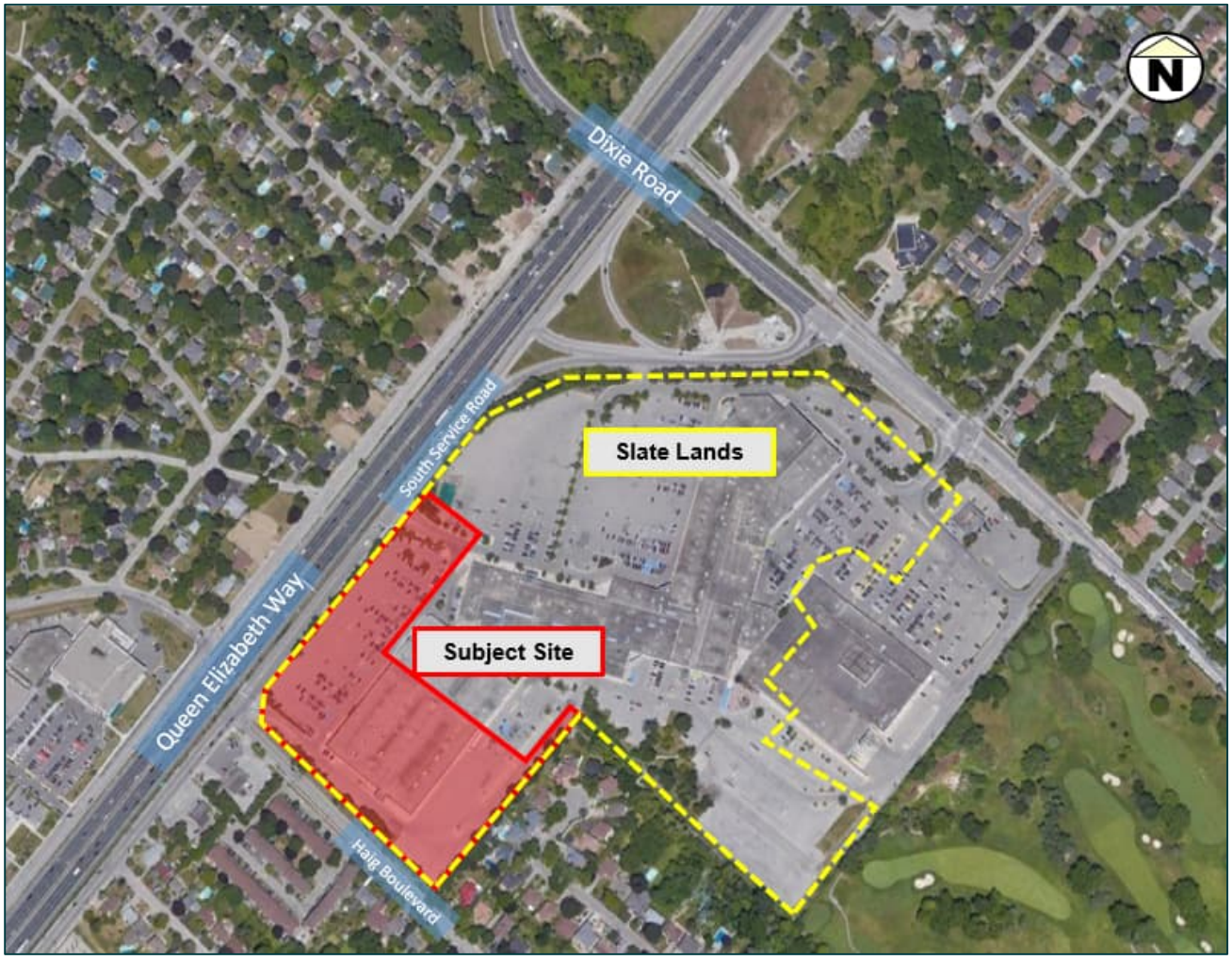
1 INTRODUCTION

LEA Consulting Ltd. (LEA) was retained by Slate Asset Management (Slate) to prepare a Transportation Impact Study (TIS) supporting the Official Plan Amendment and Rezoning applications for the proposed development located on the Dixie Outlet Mall lands.

Dixie Outlet Mall is located at 1250 South Service Road in the City of Mississauga. The proposed redevelopment (herein referred to as the "Subject Site") will take place on the westernmost portion of the Slate lands. The subject site and the Slate lands are shown in Figure 1-1.

Figure 1-1: Subject Site Location



Source: Google Earth Aerial Imagery (2020)

2 TRANSPORTATION CONTEXT & PROPOSED DEVELOPMENT

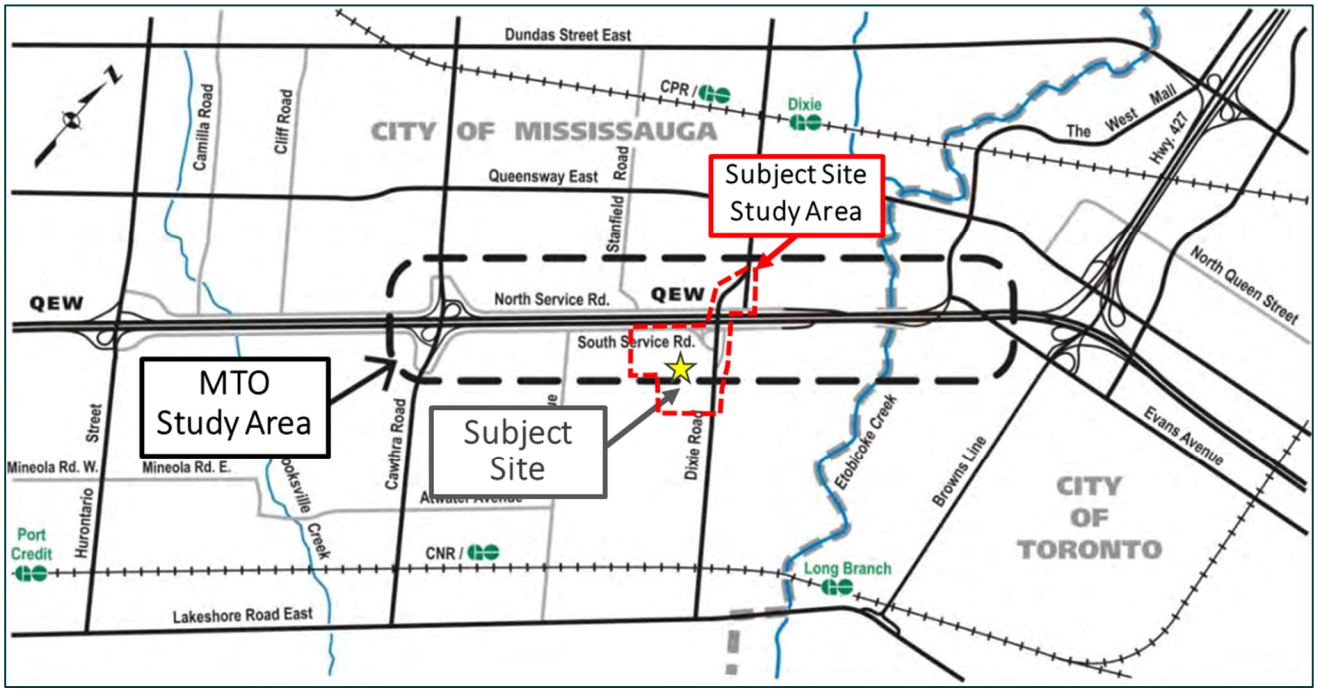
This section will describe how the transportation network in the study area is planned to change due to the MTO undertaking in the area that will introduce improvements to the QEW and its interchanges. An Environmental Assessment Study (EA Study) is associated with the undertaking and this section will discuss how the information from the study has been used within this report.

Also described is the proposed development, which will introduce new land uses and a new internal road connection. Construction of the planned MTO improvements is expected to be complete by 2026, and thus will be in place prior to the build out of the proposed development. As such, these offsite improvements are assumed to be in place for all analysis scenarios. Since the transportation context in the study area will change significantly between existing conditions and build-out, the existing conditions scenario will not be assessed in this TIS. Thus, only future background and future total scenarios will be studied.

2.1 CLASS EA STUDY & QEW IMPROVEMENTS

The MTO's study area for QEW improvements will include the QEW and the adjacent areas from east of Cawthra Road to east of Dixie Road, which overlaps with the study area of the subject site. The study area of the MTO undertaking and the study area of the subject site is shown in Figure 2-1.

Figure 2-1: Subject Site Study Area and MTO Undertaking Study Area



Source: Transportation Environmental Study Report QEW from Evans Avenue to Cawthra Road (January 2016)

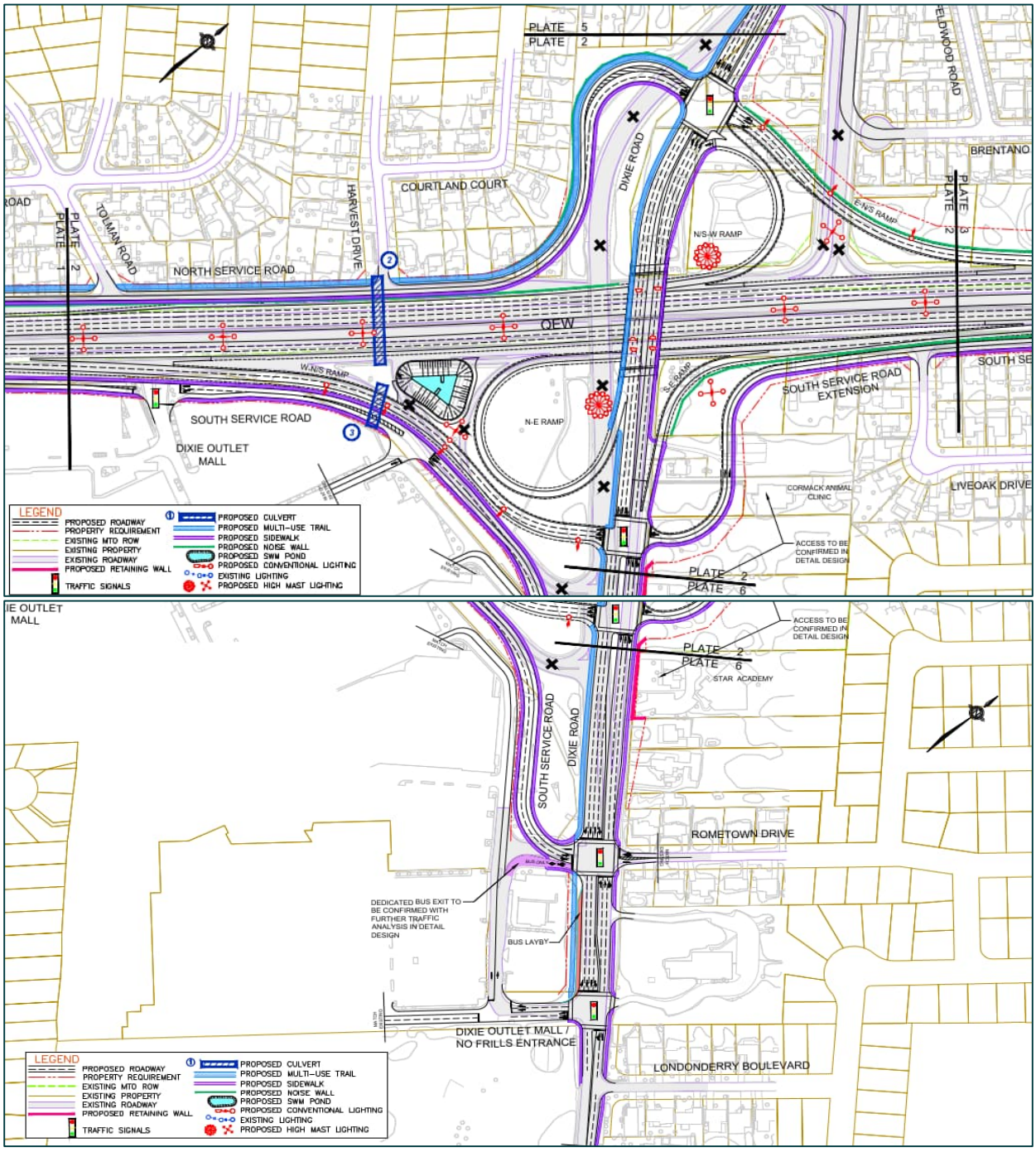
The key transportation improvements as part of the MTO undertaking include:

- Replacement of the QEW/Dixie Road underpass and reconfiguration of the QEW/Dixie Road interchange to a full-moves interchange including modifications to municipal roads;
- Replacement of the Ogden Pedestrian bridge and structural culvert west of Dixie Road;

- Realignment of local service roads;
- Localized QEW widening to accommodate operational and safety improvements and to maintain six lanes of traffic during construction;
- Modifications to/installation of retaining walls, noise barriers, sign-structures, traffic signals and illumination.

Within the subject site study area, the main road network changes will be brought on by the Dixie/QEW interchange improvements. These are to be implemented as part of the Final Preferred Alternative option which is discussed in the EA Study. Additionally, active transportation facilities are planned to be implemented along Dixie Road and the municipal roads. These improvements are illustrated on the Final Preferred Alternative drawings which are shown as Figure 2-2, and in more detail in Appendix A.

Figure 2-2: Plate 2 Showing Final Preferred Alternative Plan Plates 2 and 6



Source: Transportation Environmental Study Report QEW from Evans Avenue to Cawthra Road (January 2016)

2.2 UTILIZATION OF EA STUDY DATA AND INFORMATION

The transportation network review and traffic analysis within this report will utilize data and information from two key documents that are part of the EA Study. This is because the major changes to the existing road network have been approved and are nearing implementation. The two key documents that have been used are described below:

Transportation Environmental Study Report (herein referred to as the "TESR"):

- Completed in January 2016
- Outlines each of the alternatives and details the impacts of the Preferred Alternative

QEW Improvements from Evans Avenue to Cawthra Road Preliminary Design and Class Environmental Assessment Study Traffic Analysis Final Report (herein referred to as the "EA Traffic Report"):

- Completed in November 2016
- Explores the operations of the QEW and nearby intersections considering the implementation of the Preferred Alternative
- Refines the Preferred Alternative to obtain the Final Preferred Alternative design and forecasted traffic volumes

The TESR has mainly been used for background information purposes, whereas the EA Traffic Report has been used to obtain the anticipated 2031 traffic volumes, discussed at length in Section 3.

2.3 PROPOSED REDEVELOPMENT

The proposed redevelopment will involve the build out of three residential blocks and a block of parkland. The redevelopment will require partial demolition of the existing retail on-site but will primarily be constructed on the existing surface parking lot.

The proposed development will introduce three (3) residential blocks (5 towers with 9 to 25 stories) on the northwest portion of the site. The location of the future buildings is currently a surface parking lot for Dixie Mall. The development will also require the demolition of the westernmost part of the mall. New parkland and a temporary nursery garden separate the mall and the new residential buildings. The three residential buildings will share an underground parking garage, with an access on the ground floor of each building.

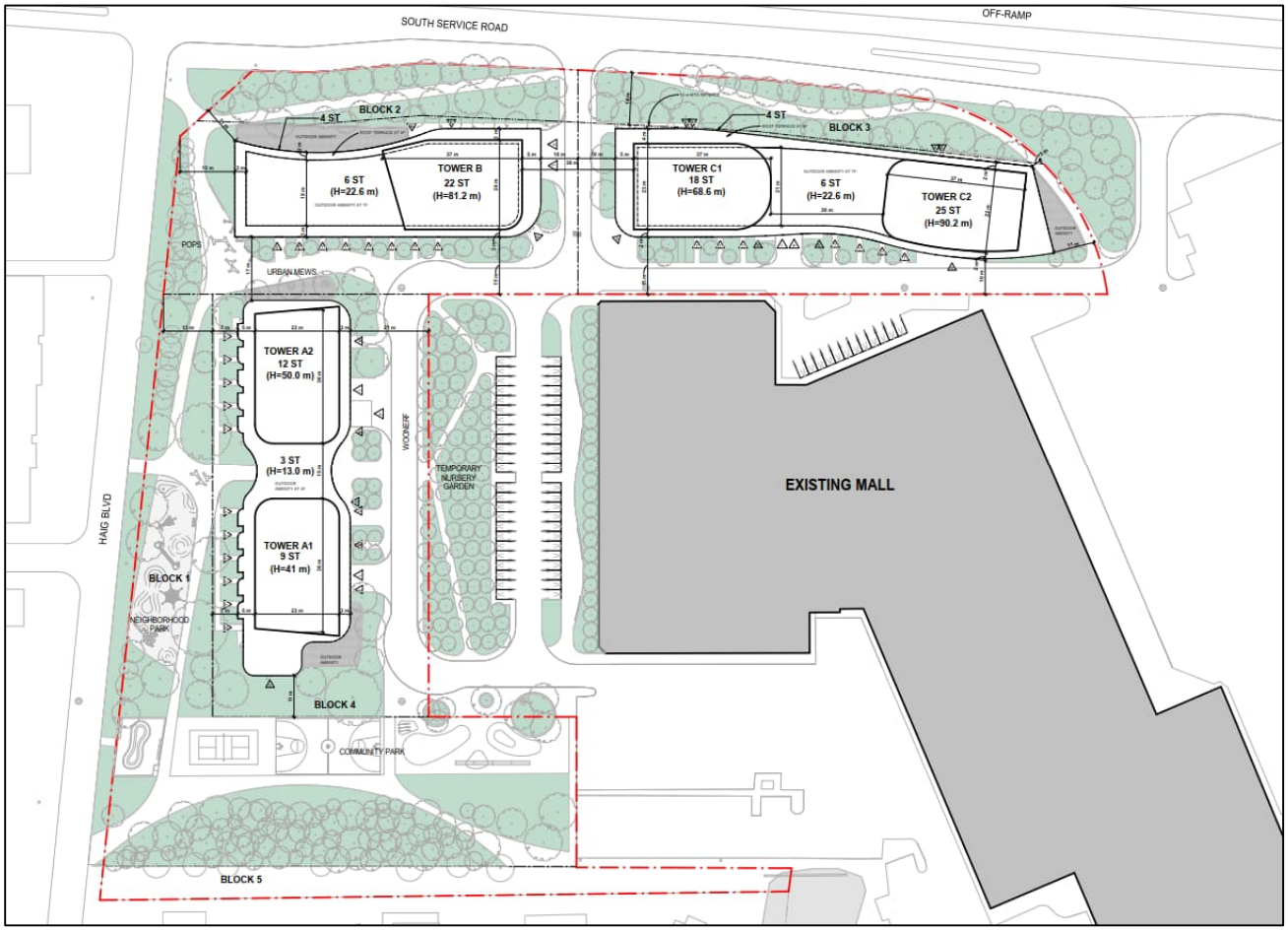
The statistical breakdown of the development is outlined in Table 2-1.

Table 2-1: Proposed Development Statistics

Land Use		Existing Site	Future Development	Difference
Residential		0 units	1,263 units	+ 1,263 units
Retail (Slate)	Ground Floor	43,367 m^2	34,760 m^2	- 8,607 m^2
	Basement	14,000 m^2	14,000 m^2	0
	Total	**57,367 m^2**	**48,760 m^2**	**- 8,607 m^2**
Retail - Entire Mall (Slate & Choice)	Ground Floor	56,200 m^2	47,593 m^2	- 8,607 m^2
	Basement	14,000 m^2	14,000 m^2	0
	Total	**70,200 m^2**	**61,593 m^2**	**- 8,607 m^2**

The concept plan showing the proposed site plan is illustrated in Figure 2-3.

Figure 2-3: Site Plan



Source: Giannone Petricone Associates Inc. Architects (December 15, 2022)

A ten-year horizon of 2031 will be utilized to assess future conditions of the development.

3 FUTURE BACKGROUND TRAFFIC CONDITIONS

This section will identify and detail the forthcoming changes to the study area as a result of the MTO undertaking with regards to the road, transit, cycling and pedestrian networks. The future background traffic conditions have been determined based on a 10-year horizon to the year 2031. This timeline was selected to account for changes to the road network due to the planned MTO improvements, as well as the change in traffic patterns, consistent with the EA Traffic Report.

As previously mentioned, construction of the planned MTO improvements is expected to be complete by 2026, and thus will be in place when the proposed development is built out.

3.1 ROAD NETWORK

Consistent with the EA Traffic Report, the study will analyze the following intersections during the following peak periods for analysis:

- Dixie Road & Sherway Drive (signalized) – AM & PM;
- Dixie Road & QEW Ramp / North Service Road (signalized) – AM & PM;
- Dixie Road & QEW Ramp / South Service Road (signalized) – AM & PM;
- Dixie Road & South Service Road / Rometown Drive (signalized) – AM & PM;
- Dixie Road & South Mall Entrance (signalized) – AM, PM & SAT;
- South Service Road & East Mall Entrance (unsignalized) – AM, PM & SAT;
- South Service Road & Mid Mall Entrance (signalized) – AM, PM & SAT; and
- South Service Road & West Mall Entrance / Haig Boulevard (signalized) – AM, PM & SAT.

The road network and lane configurations assumed for the future background analysis are illustrated in Figure 3-1, while the network assumed for the future total analysis is illustrated in Figure 3-2.

The following section provides a description of the major roadways within the study area. Future conditions are based on the planned QEW interchange reconfiguration discussed in Section 2.1

Figure 3-1: Future Background - Road Network and Lane Configuration

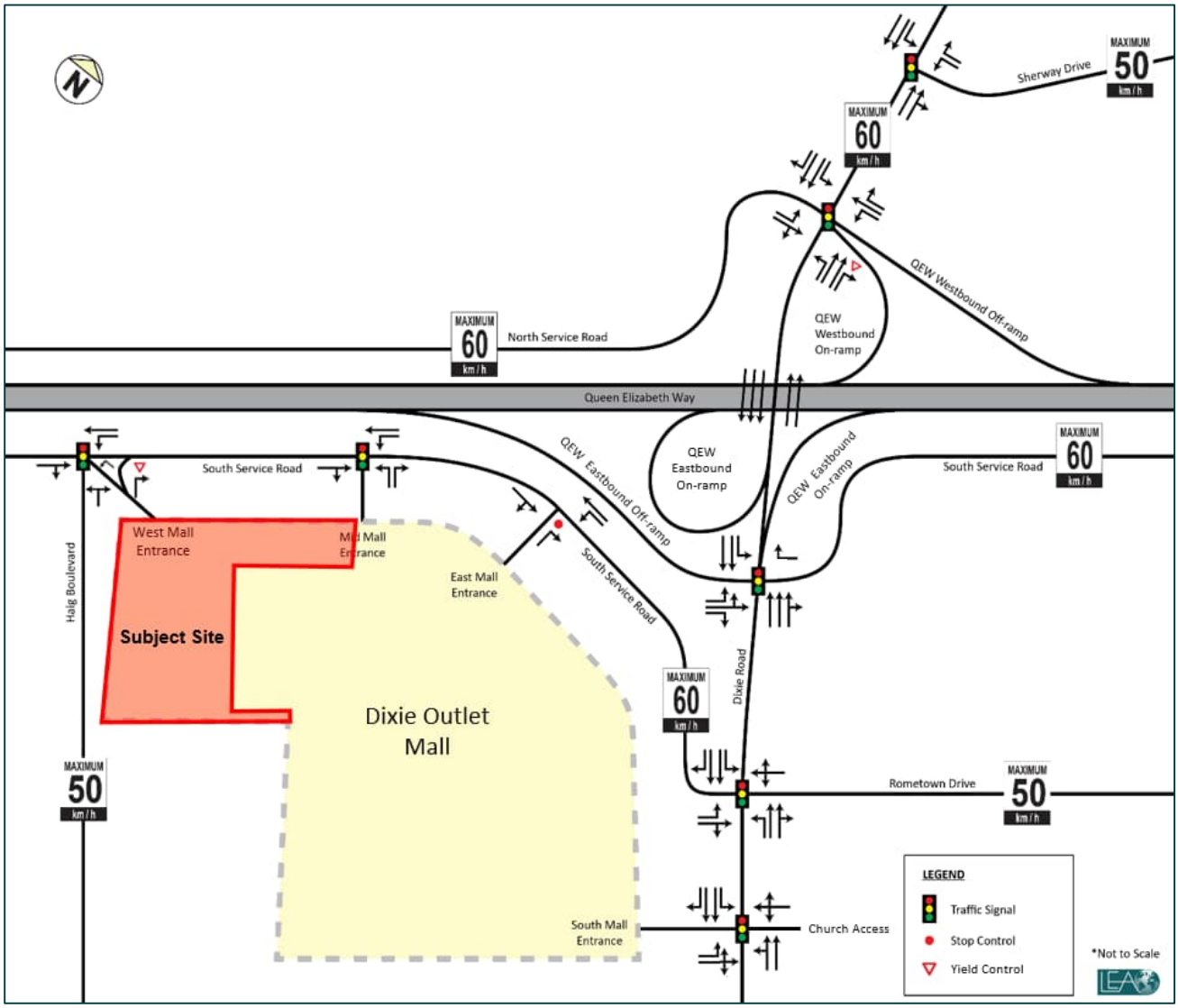
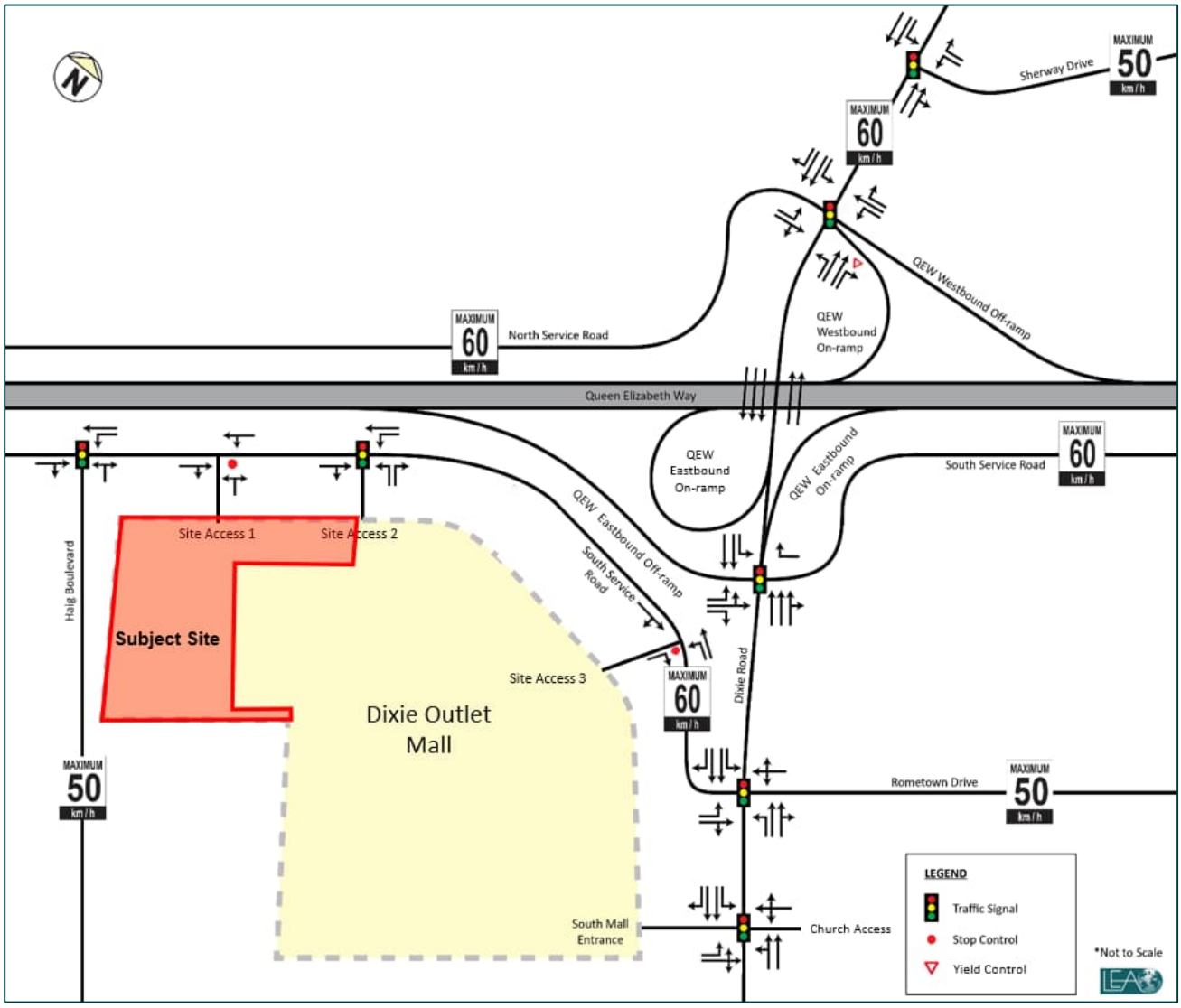


Figure 3-2: Future Total - Road Network and Lane Configuration



3.1.1 Roadways Undergoing Modifications from Existing Conditions

The following roadways are undergoing changes as a result of the MTO undertaking. Their future condition is described below.

Queen Elizabeth Way (QEW) is classified as an east-west highway and is part of the 400-series highways. The route extends between the Peace Bridge in the west and ends at Highway 427 in the east, under the jurisdiction of the MTO. It operates with a six-lane cross section (three lanes per direction) and a posted speed limit of 100 km/hr. The existing partial interchange at Dixie Road will be realigned and replaced with a Parclo (Partial Cloverleaf) A2 configuration north of the QEW and a Parclo A4 configuration south of the QEW. The Dixie Road Interchange will consist of two inner loop ramps, two outer ramps and one entrance ramp in the southeast quadrant.

Dixie Road is a north-south arterial road under the jurisdiction of Peel Region that runs from Lakeshore Road East to Olde Base Line Road. The future Dixie Road alignment within the study area will feature a roadway that operates mostly with a four-lane cross section (two lanes per direction) and provides auxiliary turning lanes at major intersections, and some minor intersections. The roadway operates with a posted speed of 60km/h with a multi-use trail planned for the west side of the road and a sidewalk planned for the east side. The alignment will match with existing roadway approximately 215m north of Sherway Drive north of the QEW and approximately 50m south of Londonderry Boulevard south of the QEW.

Sherway Drive is an east-west local road with a two-lane cross section (one lane per direction) under the jurisdiction of the City of Mississauga that extends from Dixie Road and ends at Etobicoke Creek. As there is no posted speed limit, Sherway Drive operates with a statutory speed limit of 50 km/h with sidewalks provided on both sides of the road. As a result of the proposed Dixie Road realignment, Sherway Drive will be extended to the west to connect to the new Dixie Road.

North Service Road is an east-west major collector road under the jurisdiction of the City of Mississauga that extends from Hurontario Street to Cawthra Road. The roadway operates with a posted speed limit of 60 km/h. As a result of the proposed Dixie Road interchange, North Service Road will no longer exist east of Dixie Road and will be replaced with a new QEW westbound off-ramp that connects to Dixie Road. Access to the existing North Service Road from Brentano Boulevard will be closed. The cross section will be two (2) lanes (one lane in each direction) in order to accommodate a new 3-4 m multi-use trail on the north side of the service road to accommodate pedestrians and public transportation services and a 1-2m sidewalk on the south side.

South Service Road is an east west major collector road under the jurisdiction of the City of Mississauga that extends from Hurontario Street to Park Royale Boulevard. The roadway operates with a posted speed limit of 60 km/h. As a result of the proposed Dixie Road interchange, South Service Road will be realigned west of Dixie Road. The proposed realignment intersects with Dixie Road directly across from Rometown Drive and the existing Dixie Outlet Mall main entrance at Dixie Road will be relocated south to the existing No Frills access which will be reconfigured to include a full moves signalized intersection and a dedicated right-turn lane in the southbound direction on Dixie Road. The Haig Boulevard & Dixie Outlet Mall entrance off of South Service Road will be modified during the redevelopment to no longer provide mall access. The signalized intersection of South Service Road & Site Access 2 will provide a new dedicated left turn lane from the westbound direction. Site Access 1 and Site Access 3 will have unsignalized intersections along South Service Road. East of Dixie Road, the South Service Road connection will be realigned to connect to Boxwood Way at Park Royale Boulevard.

South Mall Entrance/Church Access is an east-west private road with a four-lane cross section that will provide access to Dixie Mall west of Dixie Road and a two-lane cross section that will provide access to the existing church east of Dixie Road. Traffic signals will replace the existing stop-controlled intersection with Dixie Road as illustrated in the planned EA road network. The road is assumed to have a speed limit of 50 km/h.

3.1.2 Roadways to Remain Unchanged from Existing Conditions

The following roads will remain unchanged, and their description is listed below.

Rometown Drive is an east-west local road with a two-lane cross section (one lane per direction) under the jurisdiction of the City of Mississauga that extends from Dixie Road to Winterhaven Road. As there is no posted speed limit, Rometown Drive operates with a statutory speed limit of 50 km/h and there are no sidewalks provided on either side of the road.

Haig Boulevard is a north-south local road with a two-lane cross section (one lane per direction) under the jurisdiction of the City of Mississauga that extends from South Service Road to Lakeshore Road East. As there is no posted speed limit, Haig Boulevard operates with a statutory speed limit of 50 km/h. The existing intersection also connects to the West Mall Entrance, which will be removed as part of the redevelopment. In the area of the subject site, a sidewalk is provided on the west side of the street only.

3.1.3 Planned Site Access Changes

The following site access changes will occur during redevelopment along South Service Road.

Site Access 1 is a new north-south private driveway with a two-lane cross section (one lane per direction) that will serve the Subject Site. The road will form an unsignalized "T-intersection" with the new South Service Road alignment where a shared northbound left/right turn lane will be provided according to the planned EA road network. The road is assumed to have a speed limit of 50 km/h.

Site Access 2 is a north-south private driveway with a two-lane cross section (one lane per direction) that will serve the Subject Site and Dixie Mall. Site Access 2 will replace the existing Mid Mall Entrance and the intersection with South Service Road will be shifted slightly to the east. The road will form a signalized "T-intersection" with the new South Service Road alignment where dedicated northbound left and northbound right turn lanes, as well as a dedicated westbound left turn lane will be provided according to the planned EA road network. The road is assumed to have a speed limit of 50 km/h.

Site Access 3 is an east-west private driveway with a two-lane cross section (one lane per direction) that will provide access to Dixie Mall. Site Access 3 is formerly known as the East Mall Access. The road will form a right-in-right-out-left-in (RIROLI) intersection with the new South Service Road alignment where a stop sign will be present for vehicles seeking to exit to South Service Road. The road is assumed to have a speed limit of 50 km/h.

3.2 PEDESTRIAN NETWORK

The study area will be well-connected with a sidewalk network. Concrete sidewalks will be present on both sides of Dixie Road, Sherway Drive, North Service Road and South Service Road (west of Dixie Road). In addition, sidewalks will be provided on the south side of South Service Road Extension, east side of Dixie Road and on the west side of Haig Boulevard. Pedestrian crosswalks are provided at all signalized intersections for pedestrians to safely cross the street and access transit stops.

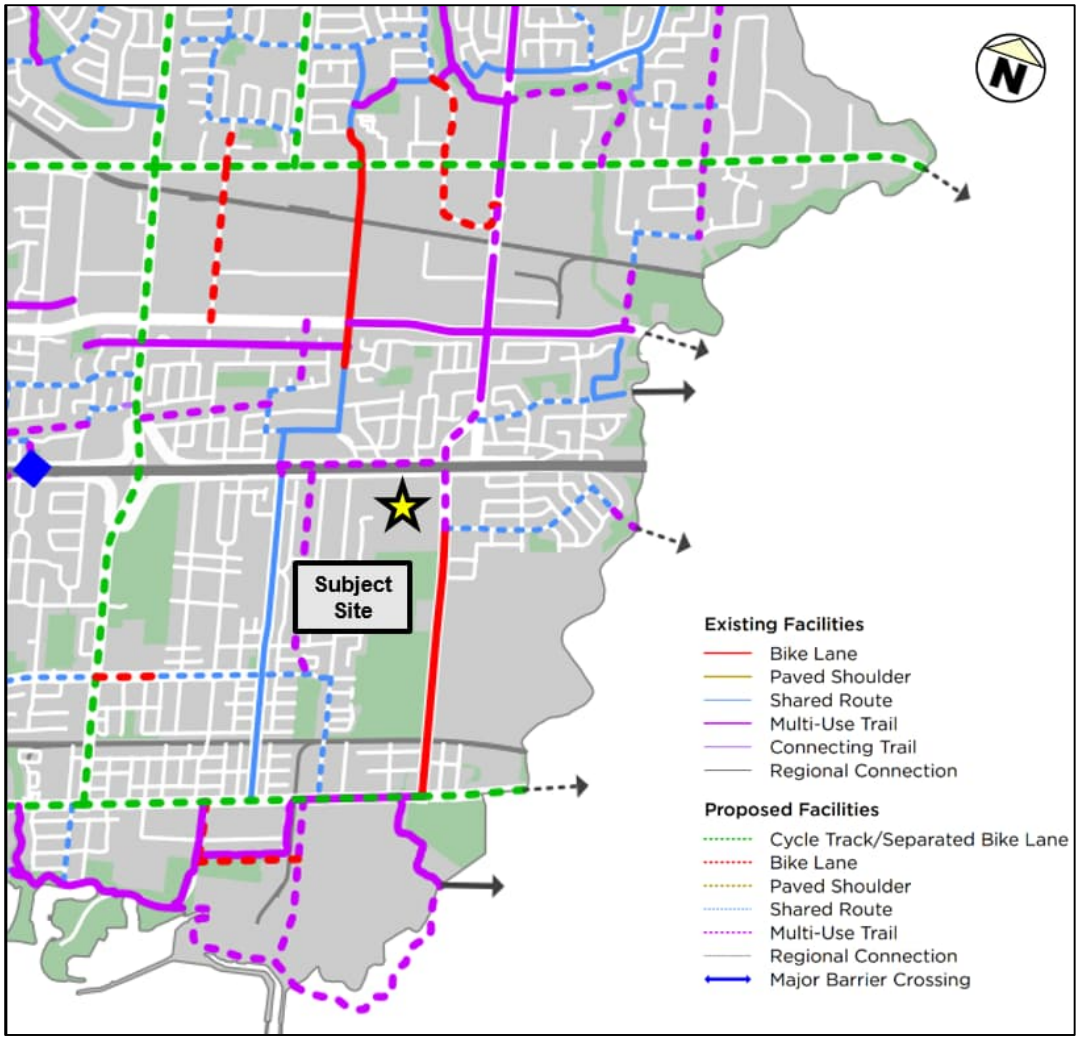
3.3 CYCLING NETWORK

As a result of the proposed Dixie Road realignment, a multi-use trail is proposed along the west side of Dixie Road and on the north side of North Service Road. This proposed facility is reflected in the *City of Mississauga Cycling Master Plan, 2018*, and listed as a Peel Region five-year implementation plan project.

The proposed multi-use trail will connect to existing bike lanes south on Dixie Road and an existing multi-use trail north on Dixie Road, providing a consistent connection between cycling facilities on Lakeshore Road East and along the waterfront to the south, and to key destinations along Dixie Road such as Dixie GO Station. The future cycling network will therefore enhance accessibility and cycling as a viable transportation mode to and from the subject site.

Other nearby facilities include an existing shared route along Ogden Avenue from South Service Road to Lakeshore Road East and a proposed multi-use trail along the QEW between Dixie Road and Ogden Avenue. The future cycling network as proposed is shown in Figure 3-3.

Figure 3-3: Existing and Proposed Cycling Network



Source: City of Mississauga Cycling Master Plan, 2018

3.4 TRANSIT FACILITIES

This section will describe the current transit services near the subject site along with the future transit services based on MiWay and GO Transit planned improvements. Additionally, future transit improvement opportunities will be touched upon and then discussed further.

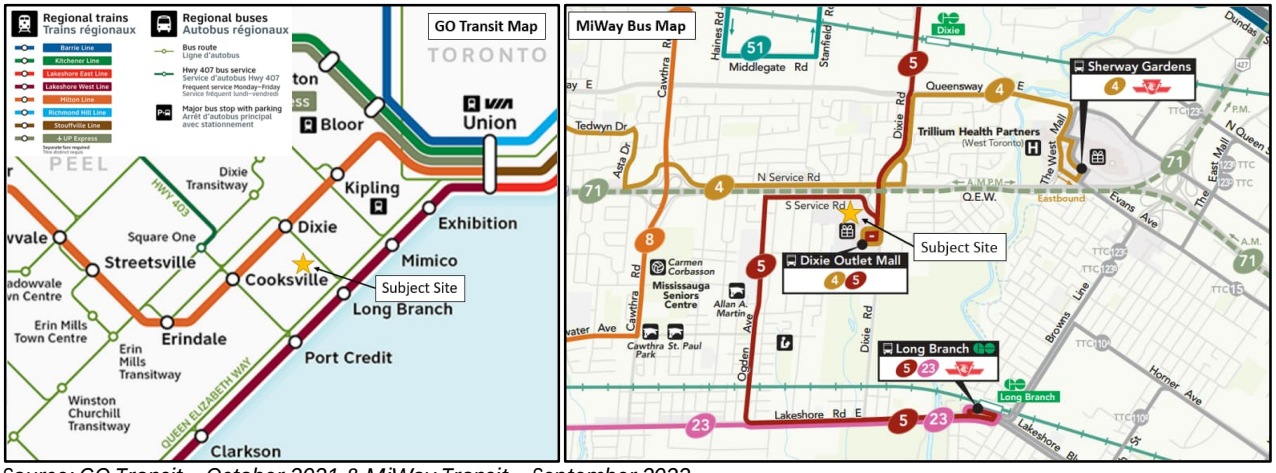
3.4.1 Existing Transit Facilities

The subject site is well serviced by local MiWay bus routes. These routes also provide connections to the GO Regional Transit System as well as the Toronto Transit Commission (TTC) Transit System. Currently, bus stops are present directly at the Dixie Mall Bus Terminal, providing excellent accessibility to the local transit network. Bus routes operating within the vicinity of the subject site also provide transit services to several key locations such as Long Branch GO Station and the Sherway Gardens Shopping Centre.

There are two GO Stations located near the subject site; the Long Branch GO Station (Lakeshore West Line) approximately 2 km to the south and the Dixie GO Station (Milton Line) approximately 2 km to the north. Long Branch GO Station provides connections to the TTC streetcar and bus routes. Whereas the Dixie GO Station provides connections to the GO Transit regional bus service that provides additional connections to several hubs throughout the GTA.

The current transit facilities near the subject are described below and shown in Figure 3-4.

Figure 3-4: Current GO Transit and MiWay Service Maps



Source: GO Transit – October 2021 & MiWay Transit – September 2022

4 Sherway Gardens – operates generally in an east-west direction between Cooksville GO and Sherway Gardens Bus Terminal. This route operates Monday-Sunday with approximately 35-minute headways. Route 4 provides connections to the Toronto Transit Commission (TTC) transit services via the Sherway Gardens bus terminal. Route 4 is accessible in the study area with the closest bus stop located at the Dixie Mall Bus Terminal.

5 Dixie – operates generally in a north-south direction along Dixie Road between Long Branch GO Station and the area of Lorimar Drive and Cardiff Boulevard. This route operates Monday-Sunday with approximately 15-minute headways during weekdays and 25-minute headways during weekends. Route 5 provides connections

to GO regional transit services via the Long Branch GO Station, and also connects to the Mississauga Transitway at Dixie. Route 5 is accessible in the study area with the closest bus stop located at the Dixie Mall Bus Terminal. South of the subject site, the route provides connections to both the 501 and 508 TTC streetcars, and the 110 and 123 TTC bus services to the Islington and Kipling subway stations, allowing for ease of transfer onto the TTC network.

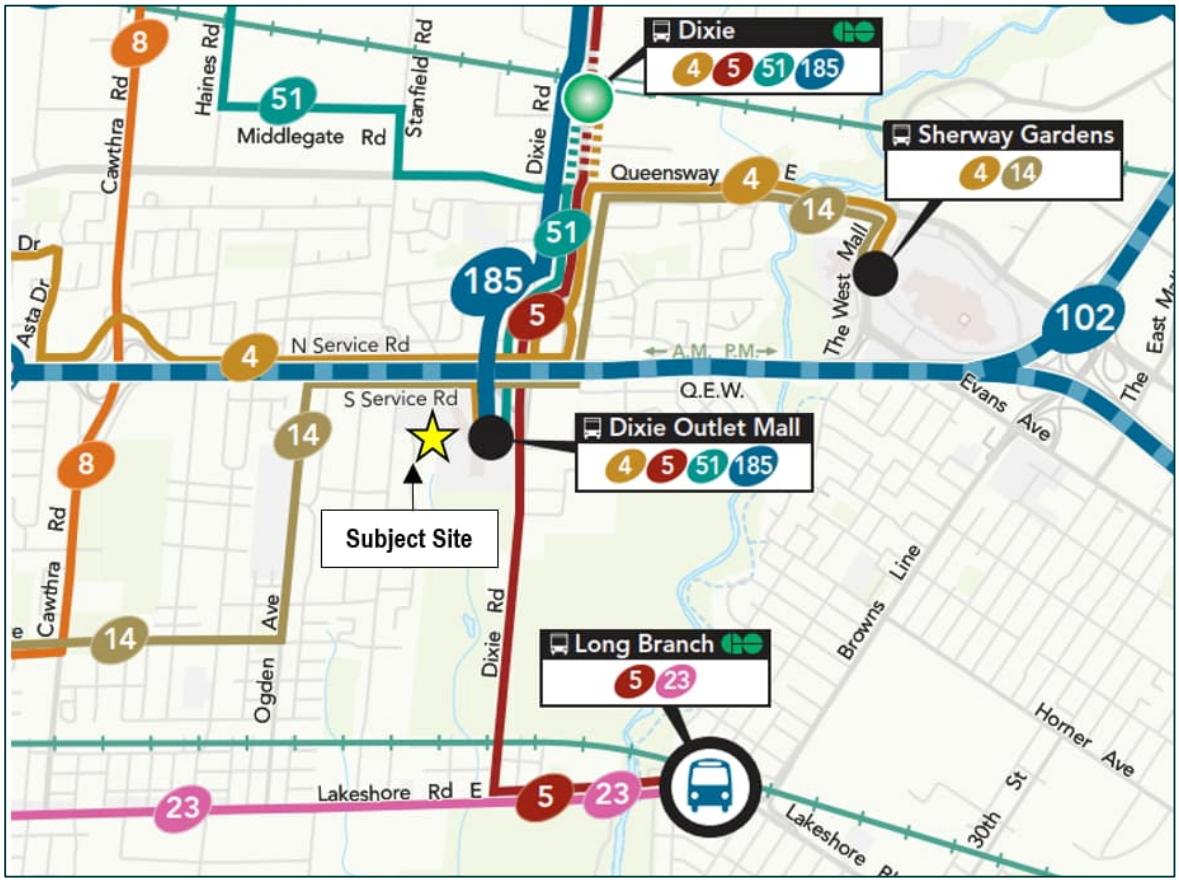
3.4.2 Future Transit Facilities

MiWay Proposed Route Network improvements will directly impact the transit opportunities near the subject site. The relevant improvements proposed include the following:

- Re-routing of 5 Dixie so that the route continues travelling on Dixie Road south of Dixie Mall as opposed to the current route that switches to Ogden Avenue via South Service at this location;
- 5 Dixie and 4 Sherway Gardens to provide direct connections to Dixie GO Station; and
- 51 Tomken routed to reach further south and connect to the Dixie Mall terminal.
- Addition of MiExpress Routes 185 on-site and 102 passing by the site.

These improvements are shown on Figure 3-5.

Figure 3-5: MiWay Proposed Route Network (2020)



Source: MiWay Transit – Accessed June 2021

Major improvements are planned for the Lakeshore West line as part of the Metrolinx GO Expansion Project which includes Regional Express Rail (RER) 15-minute train headway, more all-day service, more two-way service, and station improvements. The Metrolinx GO Expansion Full Business Case (Business Case), details such improvements for each line and sets the general timeline of completion as 2025-2030.

The improvements are planned to yield the following key performance objectives for the Lakeshore West line and more specifically Long Branch Station:

- Two-way all-day service between Union and Hamilton stations; and
- 15-minute service or better between Burlington and Union stations.

Station improvements at Long Branch GO including new tunnels, new entrance buildings, bike facilities including a secure bike storage room, and improved wayfinding, will improve the accessibility and comfort for travelers utilizing the station.

3.5 TRAFFIC DATA COLLECTION

As previously mentioned, traffic data was obtained from the EA Traffic Report. This is considered a reasonable approach because the forthcoming road network improvements as part of the Final Preferred Alternative for the Dixie/QEW interchange will ultimately change the traffic flow within the study area. The EA Traffic Report contains 2031 projections for 4 of the study area intersections and also contains 2013 turning movement counts for the Dixie Mall intersections.

It must be noted that the EA Traffic report volumes could not be compared with turning movement counts under existing conditions. This is because the study area intersections could not be counted due to changes in traffic patterns as a result of the COVID-19 pandemic. Furthermore, recent counts for the study area intersections were not available from the City.

Historical TMCs were obtained from the City and Region for some intersections in order to estimate corridor growth along Dixie and South Service roads.

A summary of the data utilized is shown in Table 3-1. The traffic volume figures within the EA Traffic report along with supplementary TMCs obtained from the City and Region and signal timing plans are provided in Appendix A.

Table 3-1: Traffic Data Utilization Summary

Location	Source	Peak Period
Dixie Road & Sherway Drive	EA Traffic Report (Final Preferred Alternative 2031 Volumes)	AM & PM
Dixie Road & QEW Ramp/North Service Road	EA Traffic Report (Final Preferred Alternative 2031 Volumes)	AM & PM
Dixie Road & QEW Ramp/South Service Road	EA Traffic Report (Final Preferred Alternative 2031 Volumes)	AM & PM
Dixie Road & South Service Road/Rometown Drive	EA Traffic Report (Final Preferred Alternative 2031 Volumes)	AM & PM
Dixie Road & South Mall Entrance	EA Traffic Report (2013 pre-Christmas Saturday Counts on Future Road Network)	Saturday
South Service Road & East Mall Entrance	EA Traffic Report (2013 pre-Christmas Saturday Counts on Future Road Network)	Saturday
South Service Road & Mid Mall Entrance	EA Traffic Report (2013 pre-Christmas Saturday Counts on Future Road Network)	Saturday
South Service Road & West Mall Entrance/Haig Boulevard	EA Traffic Report (2013 pre-Christmas Saturday Counts on Future Road Network)	Saturday
South Service Road & Haig Boulevard	City of Mississauga (June 1, 2010)	AM & PM
Dixie Road & South Service Access Road	*Region of Peel (February 13, 2018)*	AM & PM
Dixie Road & South Mall Entrance/Rometown Drive	*Region of Peel (November 7, 2017)*	AM & PM

Note: The italicized text in the table denotes counts that were utilized to calculate corridor growth along Dixie Road which was then used to estimate some 2031 volumes.

3.6 FUTURE BACKGROUND TRAFFIC VOLUMES

The future background traffic is not typical as a result of the EA traffic data not having AM and PM counts for the intersections surrounding Dixie Mall, and only containing Saturday pre-Christmas counts. As such, the EA traffic was supplemented with ITE estimation of the existing mall traffic. Additionally, traffic from the nearby Lakeview development has been included as it will have an effect on some of the study area intersections. This methodology is explained in detail within each of the following sub-sections.

3.6.1 Dixie Mall Traffic Volumes

The Dixie Mall traffic volumes to be placed on the road network for the three peak periods have been forecasted by utilizing trip rate data from the Institute of Transportation Engineers Trip Generation Manual, 11th Edition (ITE Manual). Whereas the distribution of the Dixie Mall traffic was obtained from the 2013 turning movement counts at the mall accesses extracted from the EA Traffic Report. The forecasted mall volumes were then assigned to the road network according to the distribution. The traffic volumes and ITE data used in obtaining them are shown in the detailed trip generation Section 4.

3.6.2 Estimated 2031 Future Background AM and PM Peak Hour Volumes

To complete the weekday AM and PM peak hour 2031 base volumes, the AM and PM peak hour volumes projected for Dixie Road & South Service Road/Rometown Drive (from the 2031 traffic volumes figure in the EA Traffic Report) were subsequently carried through the South Service Road intersections in addition to the Dixie Mall volumes forecasted at the accesses and the 2010 South Service Road & Haig Boulevard northbound

and southbound volumes. The Dixie Mall volumes and 2010 northbound and southbound volumes were not adjusted for growth as the mall traffic is not expected to increase in the future and Haig Boulevard is considered fully built out.

3.6.3 Estimated 2031 Future Background Saturday Peak Hour Volumes

The Saturday peak hour study area as per the TOR is only set to include the Dixie Mall access intersections and the Dixie Road & South Service Road / Rometown Drive intersection. However, it must be noted that only 2013 traffic TMCs for the mall access intersections were available. Therefore, in order to estimate the 2031 Saturday peak hour volumes, an estimate of the growth to Saturday peak hour volumes was undertaken. This was done by utilizing the existing PM peak hour turning movement counts to calculate corridor growth along Dixie Road at the links entering and exiting the subject site. PM volumes were chosen as they contain some discretionary trips, which are typically one of the main types of trips during Saturdays. This therefore provides the best estimate of Saturday peak hour traffic growth in the absence of any other Saturday counts.

The PM volumes from 2017 and 2018 City counts were compared with the 2031 Class EA Traffic Report PM volumes at the Dixie Road link between South Service Road and Rometown Drive. The comparison revealed that negative growth at the links and therefore it was concluded that the Saturday volumes are not expected to grow within the general area. As such, the 2013 Saturday volumes were utilized for the estimated 2031 Saturday volumes. This process was executed by taking the 2013 Dixie Road & South Service Road/Rometown Drive volumes and carrying them through the South Service Road intersections to the Dixie Mall intersections containing the traffic volumes generated by the mall. Lastly, the volumes were balanced at the links to complete the network volumes.

3.6.4 Background Developments

The future background traffic includes volumes from the 2031 Environmental Assessment (EA) traffic projection, which considers many of the background development applications in the area. The Lakeview Village development was also included because it directly impacts the study area intersections which were not included in the 2031 EA published prior.

Table 3-2 lists the Lakeview Village development statistics. The background development site traffic volumes were extracted from the Lakeview Village Traffic Consideration Report, and subsequently assigned to the road network within the study area. Excerpts from the traffic report are provided in Appendix B.

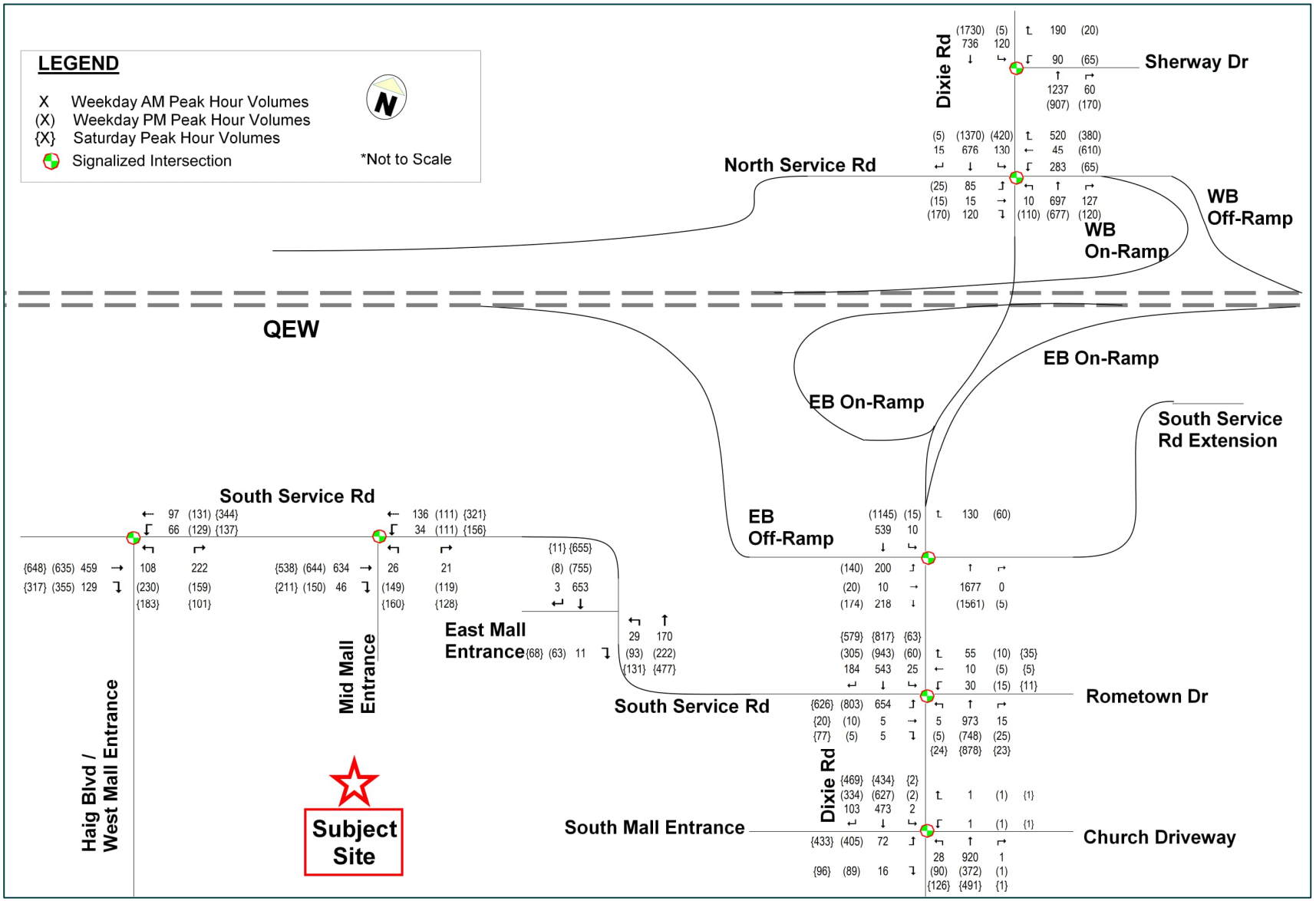
Table 3-2: Background Development Site Statistics

Development	Proposed Site Description	Site Statistics		Source (Date)
Lakeview Village	Masterplan Development	Townhouse	355 units	TMIG (June 2020)
		Condominium	7,695 units	
		Retail	147,078 ft^2	
		General Office	876,817 ft^2	
		Research and Development	867,807 ft^2	
		Recreational Community Center	194,278 ft^2	
		Hotel	191 rooms	

3.6.5 Future Background Traffic Volumes

The future background traffic volumes were developed as discussed in Section 3.6, including additional traffic from the Lakeview Village development. The future background traffic volumes are illustrated in Figure 3-6.

Figure 3-6: Future Background Traffic Volumes



4 SITE GENERATED TRAFFIC

The proposed redevelopment includes the build out of three residential land use blocks in the northwest section of the existing Dixie Mall area, while a large portion of Dixie Mall remains to the southeast. The existing and proposed site statistics are detailed in Table 4-1. A total of 1,263 residential units are included, replacing 8,607 m^2 of the existing mall. For the purposes of analysis, the number of residential units has been rounded up to 1,265. It should be noted that the entire mall area (Slate and Choice) has been used to calculate trips generated by the mall.

Table 4-1: Proposed Site Statistics

Land Use	Existing Site	Proposed (Addition: +, Demolition: -)	Future Development
Residential	0 units	+ 1,263 units	1,263 units
Entire Mall (Slate & Choice)	70,200 m^2	- 8,607 m^2	61,593 m^2

As discussed in Section 3.1, the mall entrances along South Service Road will be modified during the redevelopment. The West Mall Entrance located at the intersection of Haig Boulevard and South Service Road will be removed. A new driveway will be constructed approximately 90 m further northeast on South Service Road, identified in the analysis as Site Access 1. The Mid Mall Access on South Service Road will be shifted slightly northwest as well and is identified as Site Access 2. Finally, the existing East Mall Access will remain, and is identified as Site Access 3.

4.1 MODAL SPLIT

Local mode split percentages were obtained from the Transportation Tomorrow Survey (TTS) for Traffic Zone (TZ) 3649 which contains the subject site and nearby TZs 3653, 3648, 3654, 297, and 309. Table 4-2 shows the mode split for the subject site.

Table 4-2: Mode Split

Mode	Split
Transit	18%
Walk	7%
Bicycle	1%
Auto Driver	62%
Auto Passenger	12%
TOTAL	**100%**

4.2 TRIP GENERATION

The *Institute of Transportation Engineers Trip Generation Handbook, 11th Edition (ITE Manual)*, was utilized to forecast the site trips for the development. ITE LUC 820 and LUC 222 were used to calculate retail and residential trips, respectively.

It should be noted that ITE trip rates and equations are only for auto trip forecasting and do not contain person trip forecasting. Therefore, the person trips projected to be generated by the land uses of the site have been estimated by utilizing the methodology described in Appendix B of the *ITE Trip Generation Handbook 3rd Edition (ITE Handbook)*.

Following this methodology, ITE Vehicle Share rates and Vehicle Occupancy Rates as per Appendix B of the ITE Handbook were applied to the gross vehicle trips to determine the number of person trips. Next, the internal trips were forecasted using the internal capture methodology described in the ITE Handbook and the total auto trips for each land use. The internal trips were then subtracted from the auto trips to obtain the external trips for each land use. Finally, the local modal split was applied to determine the final number of vehicle trips generated by the site.

Rates applied to calculate the number of vehicle trips generated by the site, as well as the number of trips, are shown in Table 4-3.

Table 4-3: Subject Site Vehicle Trip Generation

Land Use	Description	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Existing Mall Trips (*LUC 820 – Shopping Center*) **70,200 m²**	Percentage Split	62%	38%	100%	48%	52%	100%	52%	43%	100%
	Vehicle Trip Rate	0.52	0.32	0.84	1.63	1.77	3.40	2.29	1.89	4.40
	Vehicle Trips	394	241	635	1233	1336	2569	1729	1430	3159
	ITE Vehicle Share	100%	100%		100%	99.8%		100%	99.8%	
	Vehicle Occupancy	1.17	1.16		1.21	1.18		1.21	1.18	
	Person Trips	461	280	741	1492	1580	3072	2092	1691	3783
	TTS Vehicle Share	62%	62%		62%	62%		62%	62%	
	Existing Vehicle Trips	**286**	**174**	**460**	**925**	**980**	**1905**	**1297**	**1048**	**2345**
Demolished Mall Portion **8,607 m² (Approx. 12%)**	**Reduction in Vehicle Trips**	**-35**	**-21**	**-56**	**-113**	**-120**	**-233**	**-159**	**-129**	**-288**
Residential (*LUC 222 – High-Rise Residential*) **1,265 Units**	Percentage Split	34%	66%	100%	56%	44%	100%	57%	43%	100%
	Trip Rate	0.12	0.22	0.34	0.26	0.20	0.46	0.21	0.15	0.36
	Vehicle Trips	143	278	421	319	251	570	254	192	446
	ITE Vehicle Share	100%	100%	-	100%	100%	-	96.3%	94.7%	-
	Vehicle Occupancy	1.00	1.00	-	1.00	1.00	-	1.15	1.21	-
	Person Trips	143	278	421	319	251	570	303	245	548
	Internal Reduction	3	3		146	105		139	102	
	Net Person Trips	**143**	**281**	**424**	**180**	**151**	**331**	**171**	**148**	**319**
	TTS Vehicle Share	62%	62%		62%	62%		62%	62%	
	Total New Vehicle Trips	**89**	**174**	**263**	**112**	**94**	**206**	**106**	**92**	**198**
Net New Site Trips		**54**	**153**	**207**	**-1**	**-26**	**-27**	**-53**	**-37**	**-90**

The development is anticipated to generate 207 net trips during the AM peak hour (54 inbound and 153 outbound), -27 net trips during the PM peak hour (-1 inbound and -26 outbound) and -90 net trips during the Saturday peak hour (-53 inbound and -37 outbound). The reduction in vehicle trips generated by the site is driven by the demolition of approximately 8,600 m² of retail space on the western portion of the mall, which particularly affects evening and weekend trips.

The trip generation for the entire site (existing and proposed) by mode is shown in Table 4-4.

Table 4-4: Subject Site Multi-Modal Trip Generation

Land Use	Description	Modal Split	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
All	External Person Trips	100%	544	524	1068	1384	1391	2775	1905	1664	3569
	Auto Driver Trips	62%	337	325	662	858	862	1720	1181	1032	2213
	Passenger Trip	12%	98	95	193	250	251	501	343	300	643
	Transit Trips	18%	65	64	129	166	167	333	230	200	430
	Pedestrian trips	7%	38	37	75	97	97	194	134	117	251
	Cycling Trips	1%	5	0	5	0	0	0	0	0	0

4.3 PROPOSED DEVELOPMENT AUTO TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution of site traffic for each of the peak periods was estimated using Transportation Tomorrow Survey (TTS) 2016 data for TZs 3653, 3649, 3648, 3654, 297, and 309. The data was filtered for trip purpose to match the appropriate land use, time of day, and origin and destination.

Trip assignment to the study area gateways was subsequently determined based on the trip origin and destination, site accesses and the most logical routing. Table 4-5 and Table 4-6 summarize the assumed trip distribution percentages for residential and retail site traffic. Additionally, a summary of the TTS data used are presented in Appendix C.

Table 4-5: Directional Trip Distribution of Residential Auto Trips

Gateway No.	Locations	AM		PM		SAT	
		IN	OUT	IN	OUT	IN	OUT
1	Dixie Rd (N of Sherway Dr)	40%	28%	33%	30%	18%	27%
2	QEW (W of Dixie Rd)	21%	20%	7%	26%	20%	24%
3	QEW (E of Dixie Rd)	28%	46%	54%	30%	53%	32%
4	Dixie Rd (S of Church Driveway/Street A)	5%	2%	4%	7%	4%	8%
5	S Service Rd (W of Haig Blvd)	6%	4%	2%	7%	5%	9%
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table 4-6: Directional Trip Distribution of Retail Auto Trips

Gateway No.	Locations	AM		PM		SAT	
		IN	OUT	IN	OUT	IN	OUT
1	Dixie Rd (N of Sherway Dr)	50%	27%	41%	28%	24%	30%
2	QEW (W of Dixie Rd)	24%	24%	25%	15%	21%	24%
3	QEW (E of Dixie Rd)	22%	32%	16%	47%	41%	31%
4	Dixie Rd (S of Church Driveway/Street A)	0%	8%	9%	5%	7%	7%
5	S Service Rd (W of Haig Blvd)	4%	9%	9%	5%	7%	8%
	Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

To conclude, the site-generated trips applied to the road network, are shown in Figure 4-1, Figure 4-2 and Figure 4-3.

Figure 4-1: Site Generated Traffic

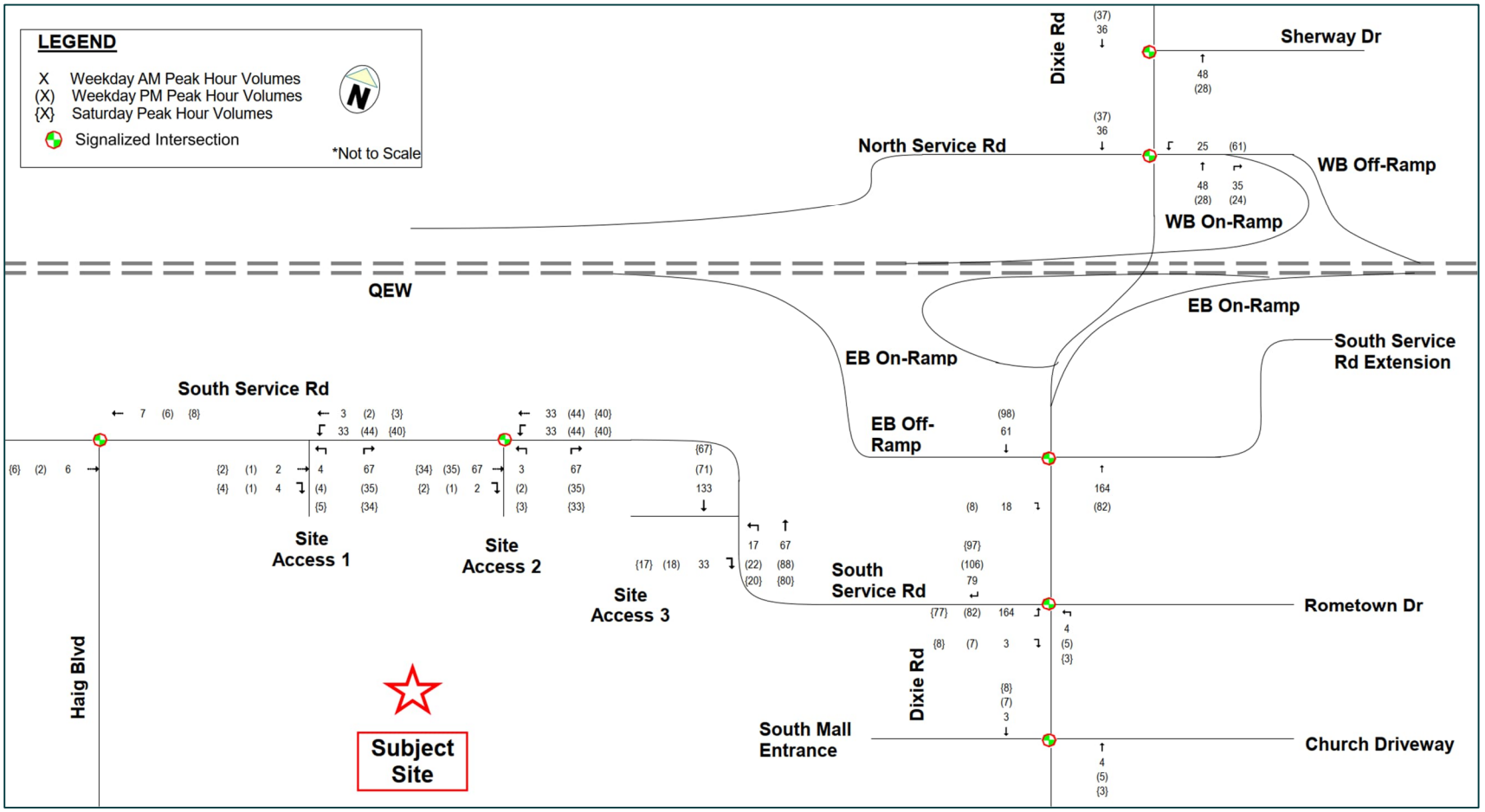


Figure 4-2: Retail Trips Removed from Network

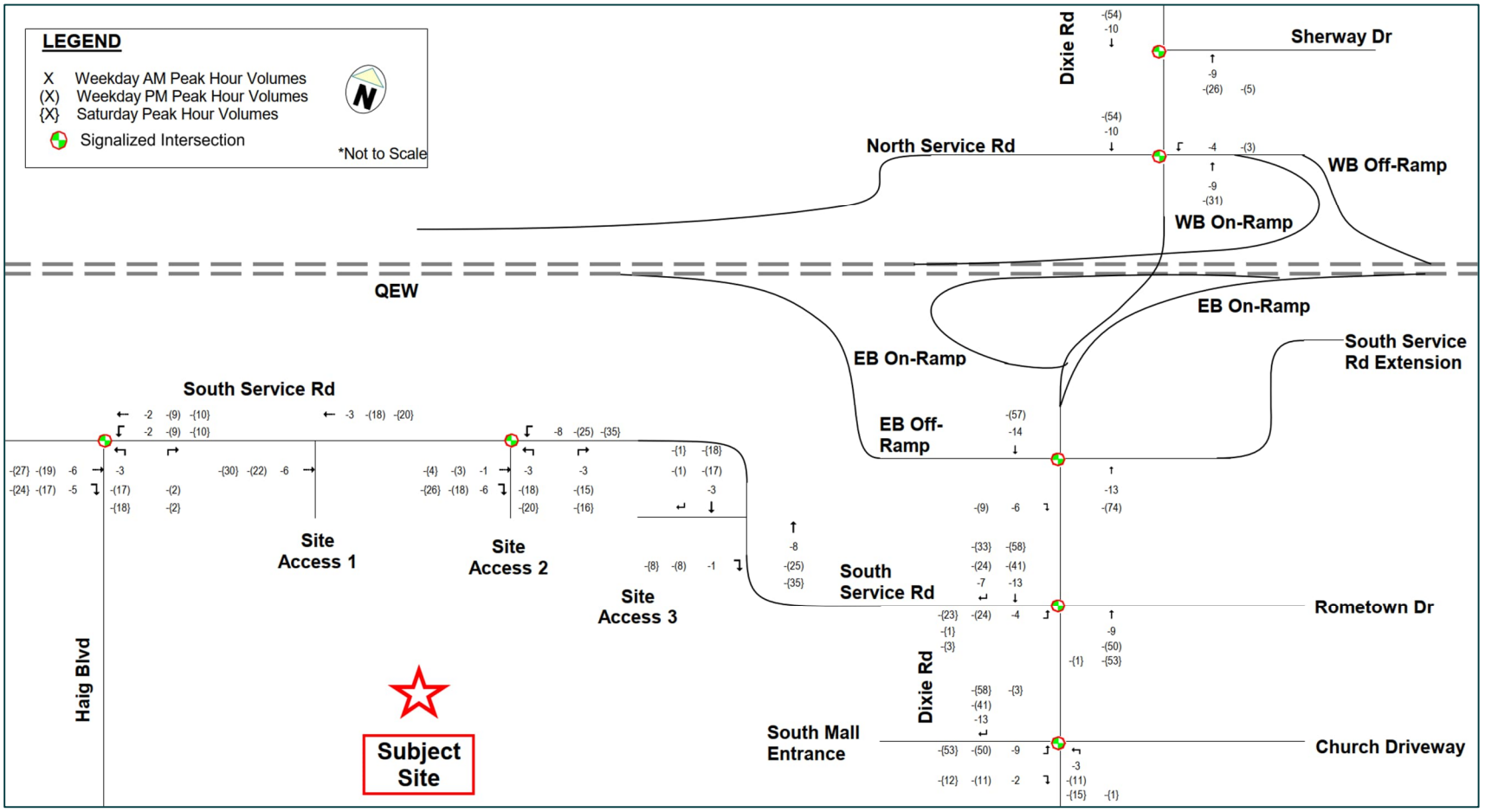
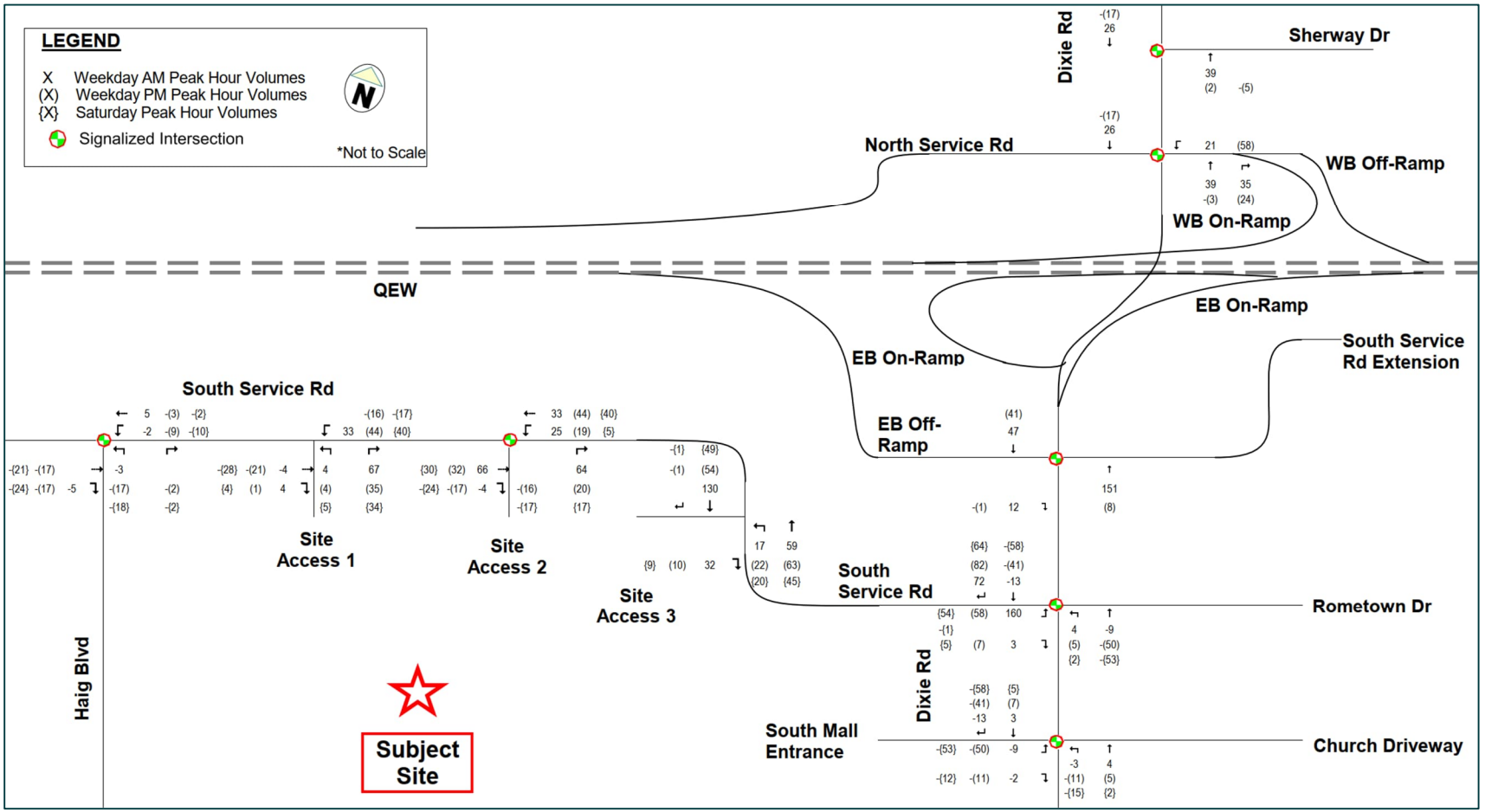


Figure 4-3: Net Site Generated Trips

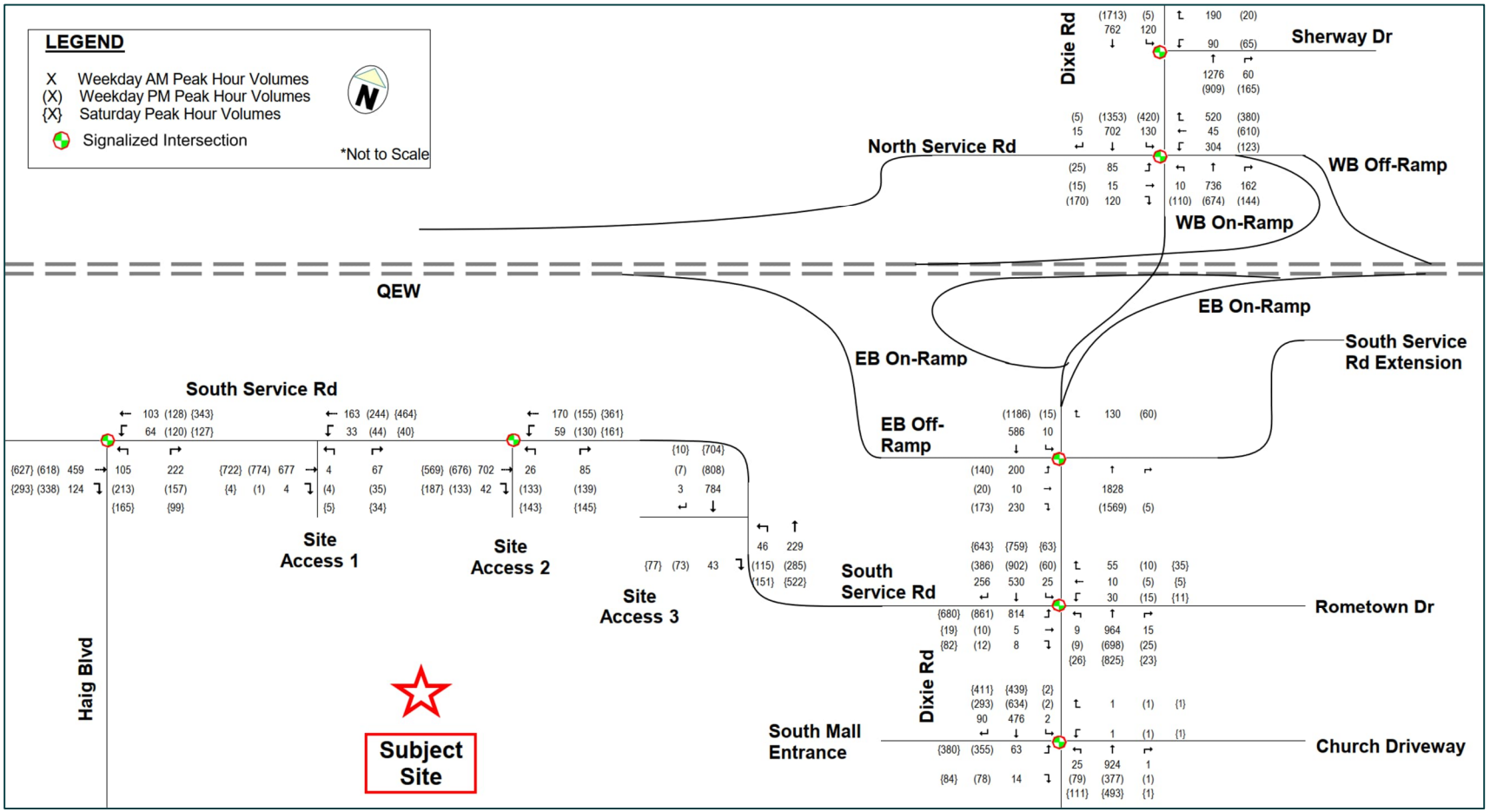


5 FUTURE TOTAL TRAFFIC CONDITIONS

The future total traffic analysis will assess the traffic impact of the development in the 2031 horizon year, by comparing results to the future background analysis. The purpose of such is to determine the adequacy of the proposed final road network and interim road network in servicing the site generated traffic.

The future total traffic volumes are composed of the 2031 future background traffic volumes with the site generated traffic added. These volumes are depicted in Figure 5-1.

Figure 5-1: Future Total Traffic Volumes



6 INTERSECTION CAPACITY ANALYSIS

The intersection capacity analysis was undertaken using Synchro version 11, which is based on the Highway Capacity Manual (2000) methodology and adhering to *The Corporation of the City of Mississauga Traffic Impact Study Guidelines* (Mississauga TIS Guidelines) and the Region of Peel's Traffic Impact Study Guidelines (Peel TIS Guidelines). The intersection capacity analysis was conducted for the weekday AM, PM and Saturday peak hours.

Intersection capacity analysis results are presented in Sections 6.4 and 6.5. Full details are provided in Appendix D and E, for future background analysis and future total analyses, respectively.

6.1 MISSISSAUGA AND PEEL TIS GUIDELINES

The Mississauga TIS Guidelines require that signalized intersections with the following characteristics shall be identified:

- V/C ratios for overall intersections operations, through movements or shared through/turning movements that are equal to 0.85 or above;
- V/C ratios for exclusive movements that are equal to 0.95 or above; or
- Queues for an individual movement that are projected to exceed available turning lane storage.

The Mississauga TIS Guidelines require that unsignalized intersections with the following characteristics shall be identified:

- Level of service, based on average delay per vehicle or on individual movements is LOS "E" or greater; or
- 95th Percentile queues for individual movements that exceed the available storage length.

The Peel TIS Guidelines require that the following be identified for signalized and unsignalized intersections:

- V/C ratios for overall intersections operations, through movements or shared through/turning movements that are equal to 0.90 or above;
- V/C ratios for exclusive movements that will exceed 1.00; or
- 95th Percentile queues for individual movements that exceed the available storage length.

6.2 SYNCHRO INPUT PARAMETERS

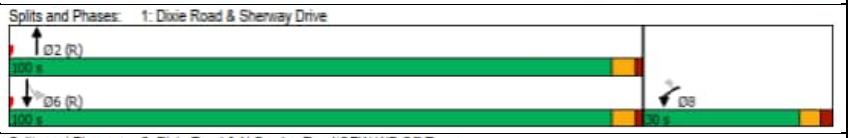
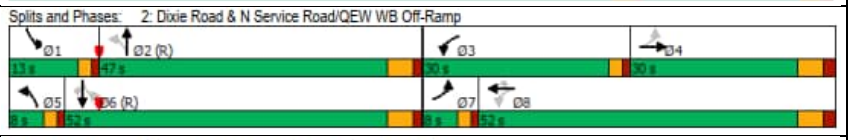
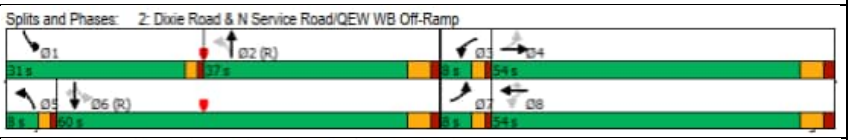
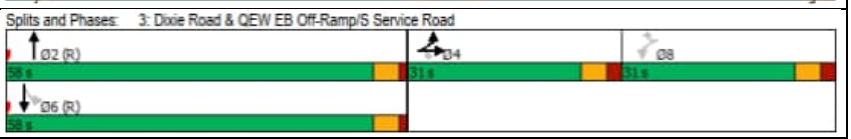
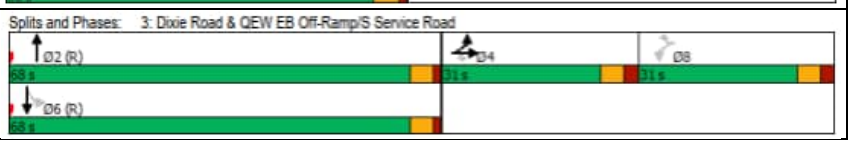
The input parameters assumed in the analysis along with the basis for each input is listed in point form below:

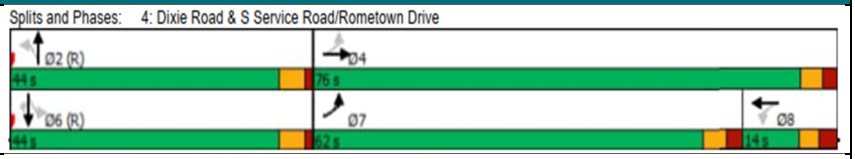
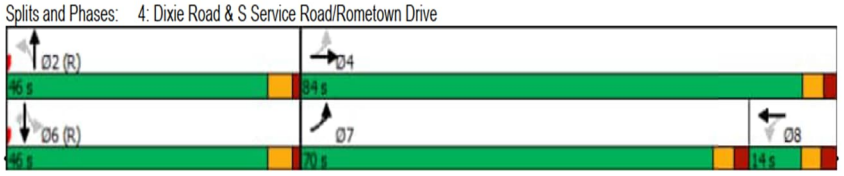
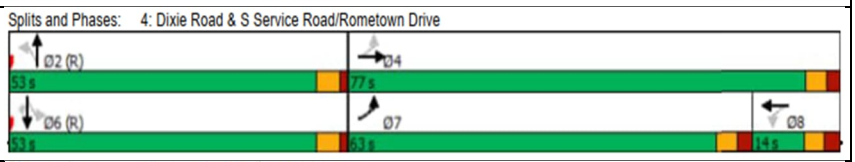
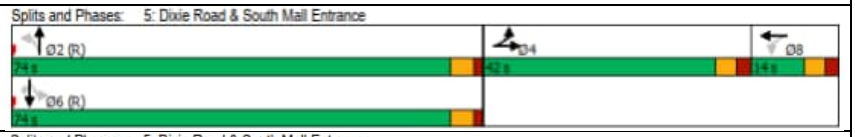
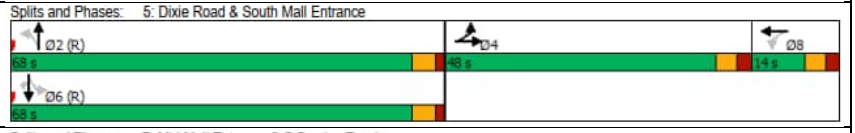
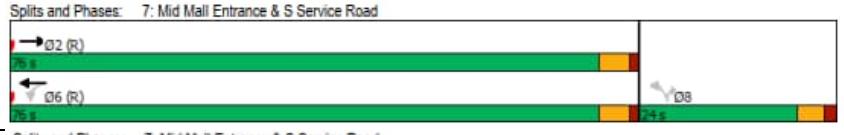
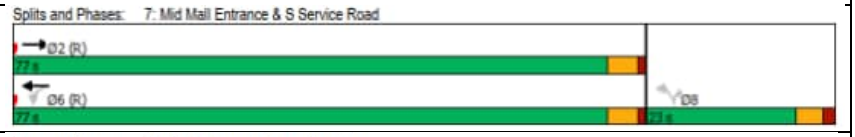
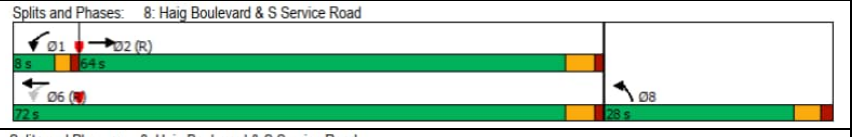
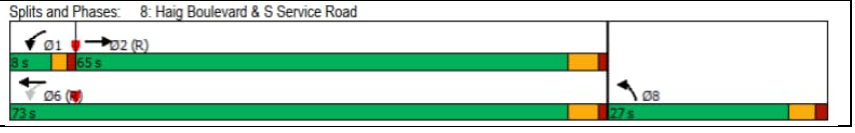
- The lane widths for Dixie Road, North Service Road and South Service Road are based on the final preferred cross-sections in the approved TESR, which shows a width of 3.5m.
- A peak hour factor (PHF) of 0.93 has been assumed for all study area intersections in accordance with the EA Traffic Report.
- A standard 2% was assumed for the heavy vehicle percentages at all movements for all intersections.

6.3 SIGNAL TIMING PLAN OPTIMIZATION

Signal timing plans have been obtained from the City and Region for all study area signalized intersections. Given that significant changes are forthcoming to the study area intersections, the corridor cycle lengths have been maintained for the peak hour periods but the splits within the signal timing plans (STP) have been optimized for future conditions. In most intersections the optimized weekday PM signal timing plans were also used for the Saturday peak. The proposed signal timing adjustments are detailed in Table 6-1.

Table 6-1: Signal Timing Adjustments

Intersection	Peak Period	Cycle Length	Splits
Dixie Road & Sherway Drive	Weekday AM	120	
	Weekday PM	130	
Dixie Road & QEW North Ramp Terminal/North Service Road	Weekday AM	120	
	Weekday PM	130	
Dixie Road & QEW EB Off-Ramp/South Service Road Extension	Weekday AM	120	
	Weekday PM	130	

Intersection	Peak Period	Cycle Length	Splits
Dixie Road & South Service Road/ Rometown Drive	Weekday AM	120	
	Weekday PM	130	
	Saturday	130	
Dixie Road & South Mall Entrance/ Church Access	Weekday AM	120	
	Weekday PM	130	
	Saturday	130	
Site Access 2 & South Service Road	Weekday AM	100	
	Weekday PM & Saturday	100	
Haig Boulevard & South Service Road	Weekday AM	100	
	Weekday PM	100	
	Saturday	100	

6.4 SIGNALIZED INTERSECTION CAPACITY ANALYSIS

The following tables show the results of the intersection capacity analysis at the signalized intersections in the study area. Critical movements are bolded.

Table 6-2: Intersection Capacity Analysis – Dixie Rd & Sherway Dr (AM Peak Hour)

AM	Future Background						AM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.55	10	B	-	-	Overall	-	0.58	11	B	-	-
WBL	90	0.42	50	D	22	38	WBL	90	0.41	50	D	22	38
WBR	**190**	**0.58**	**55**	**E**	**26**	**50**	**WBR**	**190**	**0.60**	**56**	**E**	**28**	**52**
NBTR	1297	0.51	4	A	27	39	NBTR	1336	0.53	5	A	41	42
SBL	120	0.54	14	B	10	39	SBL	120	0.58	16	B	11	45
SBT	736	0.29	4	A	24	41	SBT	762	0.30	4	A	26	42

Table 6-3: Intersection Capacity Analysis – Dixie Rd & Sherway Dr (PM Peak Hour)

PM	Future Background						PM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.62	5	A	-	-	Overall	-	0.62	5	A	-	-
WBL	**65**	**0.48**	**62**	**E**	**18**	**33**	**WBL**	**65**	**0.48**	**62**	**E**	**18**	**33**
WBR	20	0.01	55	D	0	9	WBR	20	0.01	55	D	0	9
NBTR	1077	0.40	2	A	15	8	NBTR	1074	0.40	2	A	15	8
SBL	5	0.01	2	A	0	1	SBL	5	0.01	2	A	0	1
SBT	1730	0.64	5	A	79	116	SBT	1713	0.63	5	A	77	113

The intersection of Dixie Road & Sherway Drive is expected to operate within capacity and acceptable levels of service during the AM and PM peak hours. It should be noted that the westbound right movement during the AM peak hour will operate at LOS E but an acceptable V/C ratio of 0.60, and the westbound left movement during the PM peak hour will operate at LOS E but an acceptable V/C ratio of 0.48. It should be noted that both critical movements operate similarly in the future background and future total scenarios, so it can be concluded that the congestion is attributed to background traffic.

Table 6-4: Intersection Capacity Analysis – Dixie Rd & North Service Road/QEW WB Off-Ramp (AM Peak Hour)

AM	Future Background						AM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.62	31	C	-	-	Overall	-	0.64	30	C	-	-
EBL	85	0.23	34	C	13	22	EBL	85	0.24	36	D	13	22
EBTR	135	0.13	41	D	3	21	EBTR	135	0.14	42	D	3	21
WBL	283	0.57	29	C	48	68	WBL	304	0.62	30	C	52	75
WBT	45	0.09	31	C	8	16	WBT	45	0.09	31	C	8	16
WBR	**520**	**0.83**	**53**	**D**	**78**	**115**	**WBR**	**520**	**0.83**	**53**	**D**	**79**	**117**
NBL	10	0.04	29	C	2	3	NBL	10	0.04	29	C	1	3
NBT	697	0.52	32	C	64	71	NBT	736	0.55	31	C	63	77
NBR	127	0.09	0	A	0	0	NBR	162	0.11	0	A	0	0
SBL	130	0.40	18	B	21	28	SBL	130	0.41	18	B	21	27
SBT	676	0.42	19	B	63	60	SBT	702	0.43	19	B	66	61
SBR	15	0.01	17	B	0	0	SBR	15	0.01	17	B	0	0

Table 6-5: Intersection Capacity Analysis – Dixie Rd & North Service Road/QEW WB Off-Ramp (PM Peak Hour)

PM	Future Background						PM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	**-**	**0.96**	**49**	**D**	**-**	**-**	**Overall**	**-**	**0.97**	**48**	**D**	**-**	**-**
EBL	25	0.28	34	C	4	10	EBL	25	0.28	34	C	4	10
EBTR	185	0.17	28	C	7	24	EBTR	185	0.19	28	C	10	28
WBL	65	0.16	24	C	11	20	WBL	123	0.29	25	C	21	34
WBT	**610**	**0.93**	**59**	**E**	**171**	**251**	**WBT**	**610**	**0.93**	**59**	**E**	**171**	**251**
WBR	380	0.37	30	C	19	51	WBR	380	0.37	30	C	19	51
NBL	110	0.81	73	E	17	54	NBL	110	0.81	74	E	16	54
NBT	677	0.83	53	D	100	108	NBT	674	0.83	51	D	100	100
NBR	120	0.08	0	A	0	0	NBR	144	0.10	0	A	0	0
SBL	**420**	**0.98**	**74**	**E**	**111**	**184**	**SBL**	**420**	**0.98**	**74**	**E**	**110**	**183**
SBT	**1370**	**0.96**	**48**	**D**	**190**	**234**	**SBT**	**1353**	**0.95**	**47**	**D**	**187**	**229**
SBR	5	0.00	22	C	0	0	SBR	5	0.00	22	C	0	0

The intersection of Dixie Road & North Service Road / QEW Westbound Off-Ramp is expected to operate within capacity during the AM peak hour. It should be noted that the westbound right turn movement is expected to operate with a V/C ratio of 0.83 and LOS D in both the future background and future total scenarios.

During the PM peak hour several capacity constraints are expected. The overall intersection is expected to operate at LOS D with a V/C ratio of 0.97. Critical movements include the westbound through (LOS E, V/C of 0.93), southbound left (LOS E, V/C of 0.98) and southbound through (LOS D, V/C of 0.95).

Critical movements at this intersection are already approaching capacity in the future background analysis scenario and thus are not significantly affected by the introduction of site-generated traffic.

Table 6-6: Intersection Capacity Analysis – Dixie Rd & South Service Road/QEW EB Off-Ramp (AM Peak Hour)

AM	Future Background						AM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.54	17	B	-	-	Overall	-	0.58	18	B	-	-
EBL	200	0.51	52	D	27	45	EBL	200	0.50	52	D	27	45
EBT	10	0.51	52	D	28	46	EBT	10	0.51	52	D	28	45
EBR	218	0.15	47	D	0	22	EBR	230	0.16	47	D	0	23
WBR	130	0.36	54	D	11	31	WBR	130	0.37	54	D	11	31
NBT	1677	0.57	10	A	60	80	NBT	1828	0.63	12	B	78	97
SBL	10	0.11	9	A	1	3	SBL	10	0.15	10	B	1	3
SBT	539	0.26	8	A	23	37	SBT	586	0.29	8	A	26	41

Table 6-7: Intersection Capacity Analysis – Dixie Rd & South Service Road/QEW EB Off-Ramp (PM Peak Hour)

PM	Future Background						PM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.47	13	B	-	-	Overall	-	0.48	13	B	-	-
EBL	**140**	**0.47**	**58**	**E**	**23**	**40**	**EBL**	**140**	**0.47**	**58**	**E**	**23**	**40**
EBT	**20**	**0.47**	**58**	**E**	**24**	**41**	**EBT**	**20**	**0.47**	**58**	**E**	**24**	**41**
EBR	174	0.12	53	D	0	22	EBR	173	0.12	53	D	0	22
WBR	**60**	**0.04**	**59**	**E**	**0**	**1**	**WBR**	**60**	**0.04**	**59**	**E**	**0**	**1**
NBTR	1566	0.47	8	A	65	78	NBTR	1574	0.47	8	A	64	83
SBL	15	0.11	4	A	1	1	SBL	15	0.11	4	A	1	1
SBT	1145	0.50	6	A	45	20	SBT	1186	0.51	6	A	46	28

The intersection of Dixie Road & South Service Road / QEW Eastbound Off-Ramp is expected to operate within capacity during the AM peak hour. During the PM peak hour, the intersection is expected to operate within capacity, however the eastbound left, eastbound through and westbound right movements, are expected to operate at LOS E but have acceptable V/C ratios. It should be noted that these critical movements operate similarly in the future background and future total scenarios, so it can be concluded that the congestion is attributed to background traffic.

Table 6-8: Intersection Capacity Analysis – Dixie Rd & South Service Road/Rometown Dr (AM Peak Hour)

AM	Future Background						AM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	**-**	**0.87**	**37**	**D**	**-**	**-**	**Overall**	**-**	**0.97**	**43**	**D**	**-**	**-**
EBL	654	0.79	25	C	114	165	**EBL**	**814**	**0.94**	**39**	**D**	**177**	**272**
EBTR	10	0.01	11	B	1	3	EBTR	13	0.01	10	A	1	3
WBLTR	**95**	**0.59**	**67**	**E**	**14**	**42**	**WBLTR**	**95**	**0.59**	**67**	**E**	**14**	**42**
NBL	5	0.03	24	C	1	2	NBL	9	0.06	27	C	2	5
NBTR	**988**	**0.90**	**49**	**D**	**140**	**178**	**NBTR**	**979**	**0.91**	**53**	**D**	**130**	**155**
SBL	25	0.44	47	D	4	14	SBL	25	0.44	49	D	4	11
SBT	543	0.49	26	C	44	85	SBT	530	0.52	29	C	43	83
SBR	184	0.13	37	D	0	16	SBR	256	0.18	45	D	4	22

The intersection of Dixie Road & South Service Road / Rometown Drive is expected to operate near capacity in the AM peak hour with an overall V/C ratio of 0.97 and LOS of D. Critical movements at the intersection are the eastbound left movement, which will operate with a V/C ratio of 0.94 and a LOS of D, the westbound left/through/right movement, which will operate at LOS E but have an acceptable V/C ratio of 0.59, and the northbound through/right movement, which will operate at LOS D and have a V/C of 0.91. It is also noted that the eastbound left movement is expected to have a 50th percentile queue of 177 m (39 vehicles) and 95th percentile queue of 272m (62 vehicles). Despite the queues, the delay of 39 seconds indicates that the queues are expected to be fully cleared in most cycles. The 95th percentile queue represents a worst-case scenario in comparison to the 50th percentile queue. Hence, this movement is expected to be operating sufficiently in the future.

Table 6-9: Intersection Capacity Analysis – Dixie Rd & South Service Road/Rometown Dr (PM Peak Hour)

PM	Future Background						PM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	**-**	**0.92**	**44**	**D**	**-**	**-**	**Overall**	**-**	**0.94**	**45**	**D**	**-**	**-**
EBL	**803**	**0.89**	**33**	**C**	**173**	**244**	**EBL**	**861**	**0.94**	**40**	**D**	**199**	**283**
EBTR	15	0.01	12	B	1	4	EBTR	22	0.02	11	B	1	5
WBLTR	**30**	**0.39**	**70**	**E**	**6**	**17**	**WBLTR**	**30**	**0.40**	**71**	**E**	**6**	**17**
NBL	5	0.09	45	D	1	3	NBL	9	0.18	48	D	2	7
NBTR	773	0.71	53	D	103	141	NBTR	723	0.65	48	D	84	123
SBL	60	0.64	59	E	11	41	SBL	60	0.52	48	D	11	31
SBT	**943**	**0.86**	**45**	**D**	**98**	**176**	**SBT**	**902**	**0.85**	**45**	**D**	**92**	**144**
SBR	305	0.28	45	D	11	35	SBR	386	0.34	50	D	16	39

In the PM peak hour, this intersection is also expected to operate near capacity with an overall V/C ratio of 0.94 and LOS of D. Critical movements at the intersection are the eastbound left movement, which will operate with a V/C ratio of 0.94 and LOS D, the westbound left/through/right movement, which will operate at LOS E but have an acceptable V/C ratio of 0.40, and the southbound through movement, which will operate with a V/C of 0.85 and LOS D. It is also noted that the eastbound left movement is expected to have a 50th percentile queue of 199m (44 vehicles) and 95th percentile queue of 283m (62 vehicles). Despite the queues,

the delay of 40 seconds indicates that the queues are expected to be fully cleared in most cycles. The 95th percentile queue represents a worst-case scenario in comparison to the 50th percentile queue. Hence, this movement is expected to be operating sufficiently in the future.

Table 6-10: Intersection Capacity Analysis – Dixie Rd & South Service Road/Rometown Dr (Saturday Peak Hour)

Sat	Future Background						Sat	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.79	36	D	-	-	Overall	-	0.80	36	D	-	-
EBL	626	0.80	30	C	128	176	EBL	680	0.84	31	C	147	202
EBTR	97	0.10	16	B	7	17	EBTR	101	0.09	14	B	6	15
WBLTR	**51**	**0.26**	**63**	**E**	**4**	**19**	**WBLTR**	**51**	**0.26**	**63**	**E**	**4**	**19**
NBL	24	0.20	35	C	5	13	NBL	26	0.21	36	D	5	16
NBTR	901	0.71	43	D	105	158	NBTR	848	0.67	43	D	85	139
SBL	63	0.66	61	E	16	43	SBL	63	0.57	51	D	15	37
SBT	817	0.64	34	C	104	128	SBT	759	0.63	36	D	95	117
SBR	579	0.40	30	C	0	27	SBR	643	0.44	33	C	0	30

Traffic during the Saturday peak hour at this intersection is expected operate sufficiently in the future, with the exception of the westbound left/through/right movement which will operate at LOS E but with an acceptable V/C ratio of 0.26. All other movements are expected to operate well. It is noted that the southbound left movement operates at LOS E in the future background scenario but is improved to LOS D in the future total scenario.

Table 6-11: Intersection Capacity Analysis – Dixie Rd & South Mall Entrance (AM Peak Hour)

AM	Future Background						AM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.40	7	A	-	-	Overall	-	0.39	7	A	-	-
EBL	**72**	**0.38**	**56**	**E**	**12**	**25**	**EBL**	**63**	**0.34**	**56**	**E**	**10**	**22**
EBTR	16	0.03	51	D	0	6	EBTR	14	0.03	52	D	0	5
WBLTR	**2**	**0.00**	**59**	**E**	**0**	**0**	**WBLTR**	**2**	**0.00**	**59**	**E**	**0**	**0**
NBLTR	949	0.41	5	A	27	71	NBLTR	950	0.40	5	A	26	69
SBL	2	0.01	3	A	0	0	SBL	2	0.01	3	A	0	0
SBT	473	0.19	4	A	19	8	SBT	476	0.19	4	A	22	9
SBR	103	0.07	5	A	2	0	SBR	90	0.06	4	A	2	0

Table 6-12: Intersection Capacity Analysis – Dixie Rd & South Mall Entrance (PM Peak Hour)

PM	Future Background						PM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.42	29	C	-	-	Overall	-	0.39	28	C	-	-
EBL	**405**	**0.73**	**55**	**E**	**72**	**96**	**EBL**	**355**	**0.71**	**57**	**E**	**63**	**87**
EBTR	89	0.59	49	D	51	75	EBTR	78	0.55	50	D	43	67
WBLTR	**2**	**0.00**	**64**	**E**	**0**	**0**	**WBLTR**	**2**	**0.00**	**64**	**E**	**0**	**0**
NBLTR	463	0.32	11	B	25	55	NBLTR	457	0.29	10	A	22	51
SBL	2	0.00	11	B	0	0	SBL	2	0.00	12	B	0	0
SBT	627	0.30	16	B	58	26	SBT	634	0.29	15	B	62	33
SBR	334	0.23	47	D	39	17	SBR	293	0.20	44	D	35	22

Table 6-13: Intersection Capacity Analysis – Dixie Rd & South Mall Entrance (Saturday Peak Hour)

Sat	Future Background						Sat	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.50	37	D	-	-	Overall	-	0.46	31	C	-	-
EBL	433	0.74	55	D	77	100	**EBL**	**380**	**0.72**	**56**	**E**	**67**	**92**
EBTR	96	0.61	48	D	56	81	EBTR	84	0.57	50	D	47	71
WBLTR	**2**	**0.00**	**64**	**E**	**0**	**0**	**WBLTR**	**2**	**0.00**	**64**	**E**	**0**	**0**
NBLTR	618	0.42	13	B	37	80	NBLTR	605	0.38	11	B	33	72
SBL	2	0.00	7	A	0	0	SBL	2	0.00	7	A	0	0
SBT	434	0.21	11	B	33	12	SBT	439	0.21	11	B	34	15
SBR	**469**	**0.32**	**75**	**E**	**50**	**26**	**SBR**	**411**	**0.28**	**58**	**E**	**36**	**17**

The intersection of Dixie Road & the South Mall Entrance is expected to operate within capacity and acceptable levels of service during all peak hours. It is noted that the eastbound left, westbound left/through/right and southbound right movements are expected to operate at LOS E but have acceptable V/C ratios. Furthermore, it should be noted that the critical movements in all peak hours operate similarly between the future background and future total scenarios, so it can be concluded that the congestion is attributed to background traffic.

Table 6-14: Intersection Capacity Analysis – Site Access 2 & South Service Road (AM Peak Hour)

AM	Future Background						AM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.46	5	A	-	-	Overall	-	0.51	8	A	-	-
EBTR	680	0.48	3	A	27	59	EBTR	744	0.53	5	A	70	49
WBL	34	0.07	2	A	1	3	WBL	59	0.13	2	A	2	6
WBT	136	0.09	2	A	5	9	WBT	170	0.12	2	A	6	12
NBL	26	0.27	48	D	5	14	NBL	26	0.21	45	D	5	14
NBR	21	0.01	44	D	0	8	NBR	85	0.06	43	D	0	15

Table 6-15: Intersection Capacity Analysis – Site Access 2 & South Service Road (PM Peak Hour)

PM	Future Background						PM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.63	12	B	-	-	Overall	-	0.63	14	B	-	-
EBTR	794	0.64	4	A	34	0	EBTR	809	0.65	9	A	112	114
WBL	111	0.34	7	A	7	20	WBL	130	0.40	8	A	8	25
WBT	111	0.09	4	A	6	13	WBT	155	0.12	4	A	8	17
NBL	149	0.57	43	D	31	49	NBL	133	0.53	43	D	27	44
NBR	119	0.17	37	D	5	20	NBR	139	0.10	37	D	0	16

Table 6-16: Intersection Capacity Analysis – Site Access 2 & South Service Road (Saturday Peak Hour)

Sat	Future Background						Sat	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.61	12	B	-	-	Overall	-	0.60	14	B	-	-
EBTR	749	0.61	4	A	32	0	EBTR	756	0.61	9	A	103	71
WBL	156	0.45	9	A	11	33	WBL	161	0.45	9	A	11	33
WBT	321	0.26	5	A	19	38	WBT	361	0.29	5	A	21	42
NBL	160	0.58	43	D	33	51	NBL	143	0.55	43	D	29	46
NBR	128	0.20	37	D	7	22	NBR	145	0.10	36	D	0	16

The intersection of Site Access 2 & South Service Road is expected to operate within capacity during all peak hours, with no critical movements identified.

Table 6-17: Intersection Capacity Analysis – Haig Blvd & West Mall Access & South Service Road (AM Peak Hour)

AM	Future Background						AM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	-	0.75	42	D	-	-	Overall	-	0.56	19	B	-	-
EBT	588	0.76	28	C	86	201	EBTR	583	0.52	10	A	54	109
WBL	66	0.23	13	B	3	14	WBL	64	0.16	6	A	4	12
WBT	97	0.09	8	A	4	18	WBT	103	0.09	5	A	6	15
NBLR	303	0.99	86	F	67	123	NBLR	327	0.71	43	D	46	69
NWL	24	0.37	53	D	5	13	-	-	-	-	-	-	-

The intersection of Haig Boulevard & West Mall Access / South Service Road is expected to operate sufficiently in the AM peak hour, with no critical movements identified in the future total scenario. The northbound left/right movement operates at LOS F in the future background scenario, but this is expected to improve with the introduction of the subject development in the future total scenario. This is primarily due to intersection reconfiguration at the mall access.

Table 6-18: Intersection Capacity Analysis – Haig Blvd & West Mall Access & South Service Road (PM Peak Hour)

PM	Future Background						PM	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	**-**	**1.09**	**153**	**F**	**-**	**-**	**Overall**	**-**	**0.96**	**49**	**D**	**-**	**-**
EBT	**990**	**1.40**	**218**	**F**	**294**	**372**	EBTR	**956**	**0.98**	**43**	**D**	**184**	**290**
WBL	129	0.67	41	D	21	46	**WBL**	**120**	**0.81**	**68**	**E**	**13**	**43**
WBT	131	0.14	8	A	21	10	WBT	128	0.11	8	A	5	34
NBLR	**235**	**0.95**	**83**	**F**	**52**	**101**	**NBLR**	**370**	**0.95**	**72**	**E**	**74**	**135**
NWL	136	0.56	44	D	28	47	-	-	-	-	-	-	-

During the PM peak hour, the overall intersection operates with LOS F and a V/C ratio of 1.09 in the future background scenario but is improved to LOS D and a V/C ratio of 0.96 in the future total scenario. Critical movements include the eastbound through/right (LOS D, V/C of 0.98), westbound left (LOS E, V/C of 0.81) and northbound left/right (LOS E, V/C of 0.95) movements. It is noted that the eastbound left/through/right movement is expected to demonstrate a 50th percentile queue of 184m (41 vehicles) and 95th percentile queue of 290m (64 vehicles). Despite the queue lengths, this movement is still expected to operate sufficiently as the delay of 43 seconds is less than 1 cycle length which indicates that all traffic can pass through the intersection sufficiently.

Table 6-19: Intersection Capacity Analysis – Haig Blvd & West Mall Access & South Service Road (Saturday Peak Hour)

Sat	Future Background						Sat	Future Total					
Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	50th Queue	95th Queue
Overall	**-**	**0.99**	**77**	**E**	**-**	**-**	**Overall**	**-**	**0.86**	**29**	**C**	**-**	**-**
EBT	**965**	**1.15**	**107**	**F**	**252**	**330**	**EBTR**	**920**	**0.91**	**31**	**C**	**163**	**268**
WBL	137	0.72	47	D	14	53	WBL	127	0.65	39	D	14	26
WBT	344	0.32	9	A	38	32	WBT	343	0.29	7	A	29	42
NBLR	118	0.95	111	F	26	63	NBLR	264	0.77	49	D	49	81
NWL	146	0.58	44	D	30	50	-	-	-	-	-	-	-

The Saturday peak hour analysis indicates that this intersection is expected to operate near capacity in the future total scenario with an overall V/C ratio of 0.86 and LOS of C, which is improved from the future background scenario. All movements will operate well in the future total scenario, with the exception of the eastbound through/right movement, which is expected to operate with a V/C ratio of 0.91 and LOS of C which has improved significantly in comparison to FB due to the intersection reconfiguration. Also, this movement is expected to have a 50th percentile queue of 163m (36 vehicles) and 95th percentile queue of 268 (60 vehicles) in the future. However, despite these queues, the delay time of 31 seconds indicates that all traffic will be able to progress through this intersection within 1 cycle. The northbound left/right movement also operates above capacity in the future background scenario but is mitigated in the future total scenario due to intersection reconfiguration that removes the west mall access.

6.5 UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS

The following tables show the results of the intersection capacity analysis at the unsignalized intersections in the study area.

Table 6-20: Intersection Capacity Analysis – South Service Rd & Site Access 3 (AM Peak Hour)

AM	Future Background					AM	Future Total				
Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue
EBR	12	0.03	13	B	1	EBR	46	0.13	17	C	4
NBL	31	0.04	9	A	1	NBL	49	0.07	10	B	2
NBT	183	0.11	0	A	0	NBT	246	0.14	0	A	0
SBTR	705	0.41	0	A	0	SBTR	846	0.50	0	A	0

Table 6-21: Intersection Capacity Analysis – South Service Rd & Site Access 3 (PM Peak Hour)

PM	Future Background					PM	Future Total				
Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue
EBR	68	0.18	17	C	5	EBR	78	0.23	19	C	7
NBL	100	0.13	11	B	4	NBL	124	0.18	11	B	5
NBT	239	0.14	0	A	0	NBT	306	0.18	0	A	0
SBTR	821	0.48	0	A	0	SBTR	877	0.52	0	A	0

Table 6-22: Intersection Capacity Analysis – South Service Rd & Site Access 3 (Saturday Peak Hour)

Sat	Future Background					Sat	Future Total				
Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue
EBR	73	0.16	15	B	5	EBR	84	0.21	16	C	6
NBL	141	0.17	10	B	5	NBL	164	0.21	11	B	6
NBT	513	0.30	0	A	0	NBT	567	0.33	0	A	0
SBTR	716	0.42	0	A	0	SBTR	776	0.46	0	A	0

The intersection of Site Access 3 & South Service Road is expected to operate within capacity during all peak hours, with no critical movements identified.

Table 6-23: Intersection Capacity Analysis – South Service Rd & Site Access 1 (AM Peak Hour)

AM	Future Background					AM	Future Total				
Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue
-	-	-	-	-	-	EBTR	732	0.43	0	A	0
-	-	-	-	-	-	WBLT	35	0.04	2	A	1
-	-	-	-	-	-	NBLR	76	0.18	16	C	5

Table 6-24: Intersection Capacity Analysis – South Service Rd & Site Access 1 (PM Peak Hour)

PM	Future Background					PM	Future Total				
Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue
-	-	-	-	-	-	EBTR	833	0.49	0	A	0
-	-	-	-	-	-	WBLT	47	0.07	2	A	2
-	-	-	-	-	-	NBLR	42	0.10	15	B	3

Table 6-25: Intersection Capacity Analysis – South Service Rd & Site Access 1 (Saturday Peak Hour)

Sat	Future Background					Sat	Future Total				
Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue	Mvmt	Vol	V/C	Delay (s)	LOS	95th Queue
-	-	-	-	-	-	EBTR	789	0.46	0.0	A	0
-	-	-	-	-	-	WBLT	43	0.06	2	A	2
-	-	-	-	-	-	NBLR	42	0.10	15	B	3

The intersection of Site Access 1 & South Service Road is expected to operate within capacity during all peak hours, with no critical movements identified.

7 PARKING AND LOADING ASSESSMENT

This section will discuss the vehicular and bicycle parking standards as well as loading standards from the City of Mississauga's Zoning By-law 0225-2007, which currently governs the parking requirements for the subject site.

Given the subject site's location, planning context, and future transportation context, parking rates that differ from the by-law are proposed for the subject development. The proposed parking rates and parking supply will be discussed, followed by an in-depth parking rationale (Section 7.3) and the proposed TDM Plan (Section 8) to support these rates. The proposed parking supply is expected to enable the proposed large-scale development to contribute to Mississauga's multi-modal city objective and goals towards efficient and effective use of parking resources.

It is expected that the details of the parking supply will be refined as the design advances. As such, the intent of this review is to ensure that the proposed total parking supply is appropriate. A further review of the parking strategy for the subject site is anticipated to occur at the Site Plan Application (SPA) stage.

7.1 VEHICLE PARKING ZONING BY-LAW REQUIREMENTS

The vehicle parking requirements for the proposed land uses have been determined based on the parking rates prescribed by the City of Mississauga's Zoning By-law 0225-2007, recently amended by By-law 0117-2022. The subject site is located in Parking Precinct 4, which covers the majority of the City outside designated transit-oriented areas.

Table 7-1 shows the by-law parking requirements for the development, including the new residential use proposed and the remaining mall area. Please note that the basement area was not included in calculations for required parking.

Table 7-1: By-law 0225-2007 Precinct 4 Parking Requirements

Land Use	Units/GFA (m^2)	Minimum Parking Rate	Minimum Required Parking
Residential	1,263	1.10	1,389
Visitor	1,263	The greater of 0.20 spaces per unit, or 5.4 spaces per 100 m^2 retail GFA	1,877
Retail (Remaining Mall – Slate only)	34,760		
		TOTAL	**3,266**

As shown in Table 7-1, the Slate lands will be required to provide a total of 3,266 parking spaces consisting of 1,389 spaces for residents and 1,877 spaces for retail and visitors.

7.2 PROPOSED VEHICLE PARKING RATE

Recognizing the subject site's location, site design, existing planning context, and the surrounding transportation network, reduced rates are proposed for the development. The proposed rates are summarized in Table 7-2.

Table 7-2: Proposed Parking Rates for the Development

Land Use	Units/GFA (m^2)	Proposed Parking Rate	Proposed Parking Spaces
Residential	1,263	0.9	1,137
Visitor	1,263	5.2 spaces per 100 m^2 retail GFA	1,821
Retail (Remaining Mall – Slate only)	34,760		
		TOTAL	**2,958**

The development proposes rates of 0.9 space per unit for residents, and the surface parking lot will provide a supply equivalent to 5.2 spaces per 100 m^2 retail GFA for visitors and retail. With the proposed supply, a minimum of 2,958 parking spaces will be provided, including 1,137 spaces for residents in the underground parking garage and 1,821 spaces for retail and visitors to be provided as surface parking on the Slate lands. With this proposed supply, the subject site will be deficient from Precinct 4 requirements by 308 spaces.

It should be noted that the by-law specifies that mixed-use developments may share residential visitor parking and retail parking as long as the shared parking supply is greater than both the required amount of visitor parking and required amount of retail parking as per the by-law. Due to Dixie Outlet Mall's ample retail parking supply in its surface lot, no visitor parking will be provided in the residential underground parking garage. Visitors will be expected to park in the adjacent retail parking lot on the Slate lands. Further discussion on the retail parking supply is provided in Section 7.3.2, including the results from a Parking Utilization Study undertaken at the mall.

It is noted that the proposed parking supply accounts for the removal of 210 spaces in the MTO 14m setback area. Given that these spaces do exist for use prior to the realignment of South Service Road, a total of 2,031 parking spaces will be available for use.

7.3 PROPOSED VEHICLE PARKING RATE RATIONALE

It is recognized that the proposed development will provide a parking supply that is deficient from the applicable Zoning By-law requirements. The following section will discuss the appropriateness of the proposed parking supply based on a review of applicable planning policy, the transportation context, and comparable precedent setting developments.

7.3.1 Planning Justification

The following planning policies and documents were reviewed to establish an understanding of the current planning and transportation context and objectives applicable to the subject site:

- Provincial Policy Statement, 2020
- A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020
- City of Mississauga Official Plan
- Lakeview Local Area Plan
- Mississauga Parking Master Plan and Implementation Strategy (PMPIS)

7.3.1.1 The Provincial Policy Statement (2020)

The Provincial Policy Statement (PPS) outlines the Ontario government's policies on land use planning and development direction. A key focus of the statement is to manage development to support population growth while minimizing impacts to the natural environment. For transportation systems, which are defined to

include parking, key directives include providing efficient systems to address project needs, efficiently using existing and planned infrastructure through TDM strategies, and minimizing the length and number of vehicle trips, and supporting use of transit and active transportation modes.

Under Section 3 of the Planning Act, all decisions affecting land use planning matters "shall be consisted with" the PPS. One of the key matters pertaining to PPS policies includes the promotion of transportation decisions that increase active transportation and transit usage. As stated under Section 1.8.1 b. of the PPS, planning authorities shall support land use and development patterns which: "promote the use of active transportation and transit in and between residential, employment (including commercial and industrial) and institutional uses and other areas;"

Through proposing reduced parking spaces for future residents and visitors, the proposed development is supporting a shift away from the provision of excess parking. The subject site is located in close proximity to local and regional transit serving the City of Mississauga and providing connections to adjacent municipalities, including the City of Toronto, and is located in an area exhibiting a non-auto driver mode split around 40% during both the AM and PM peak periods, as detailed under Section 4. Therefore, the decision to provide less parking aids to promote mobility options that are not automobile-dependent, such as active transportation and transit.

7.3.1.2 Growth Plan for the Greater Golden Horseshoe (2020)

The Growth Plan for the Greater Golden Horseshoe provides a framework for municipalities to better manage growth in the region that supports a high quality of life, environmental protection, as well as economic prosperity. The support of municipalities in land use choices is vital to achieving the long-term framework outlined by the Growth Plan. Some of the key issues listed in the Growth Plan includes:

- Reduce sprawl;
- Build complete communities that utilize transit to better connect where residents live, work, and play;
- Minimize the negative impacts of climate change.

By supplying a reduced parking supply for future residents and visitors of the subject site, the proposed development supports an increasing trend towards a reduction in car ownership. This benefits a range of members of the community, from younger individuals preferring to take advantage of transit and active transportation modes to travel to and from work, school, recreational, and shopping destinations, to elderly individuals preferring to walk shorter distances to access daily shopping and service needs. By planning for development that leverages the surrounding transit network and active transportation options, the proposed development discourages sprawl and limits the need for travelling long distances for daily needs. This change would also lower the negative environmental impact caused by vehicle usage. The proposed parking for this development aligns with transportation-related issues and goals outlined in the Growth Plan.

7.3.1.3 City of Mississauga Official Plan

The City's Official Plan sets out a framework for how the municipality will grow to the year 2031. The City of Mississauga Official Plan aims to direct growth in a sustainable manner that protects and enhances its natural and cultural heritage resources, as well as the urban form. The Official Plan's approach to land use planning focuses on strategic management of growth and integration of land use, transportation, and design.

The City plans to direct growth within locations supported by existing and planned higher order transit through high density and pedestrian-oriented development. In particular, one of the Plan's seven (7) guiding principles

includes "Create a Multi-Modal City", which speaks to prioritizing transit and implementing an efficient active transportation network for cyclists and pedestrians. Section 8.4 addresses parking specifically and recognizes it as a tool to help influence travel behaviour and choice of transportation modes.

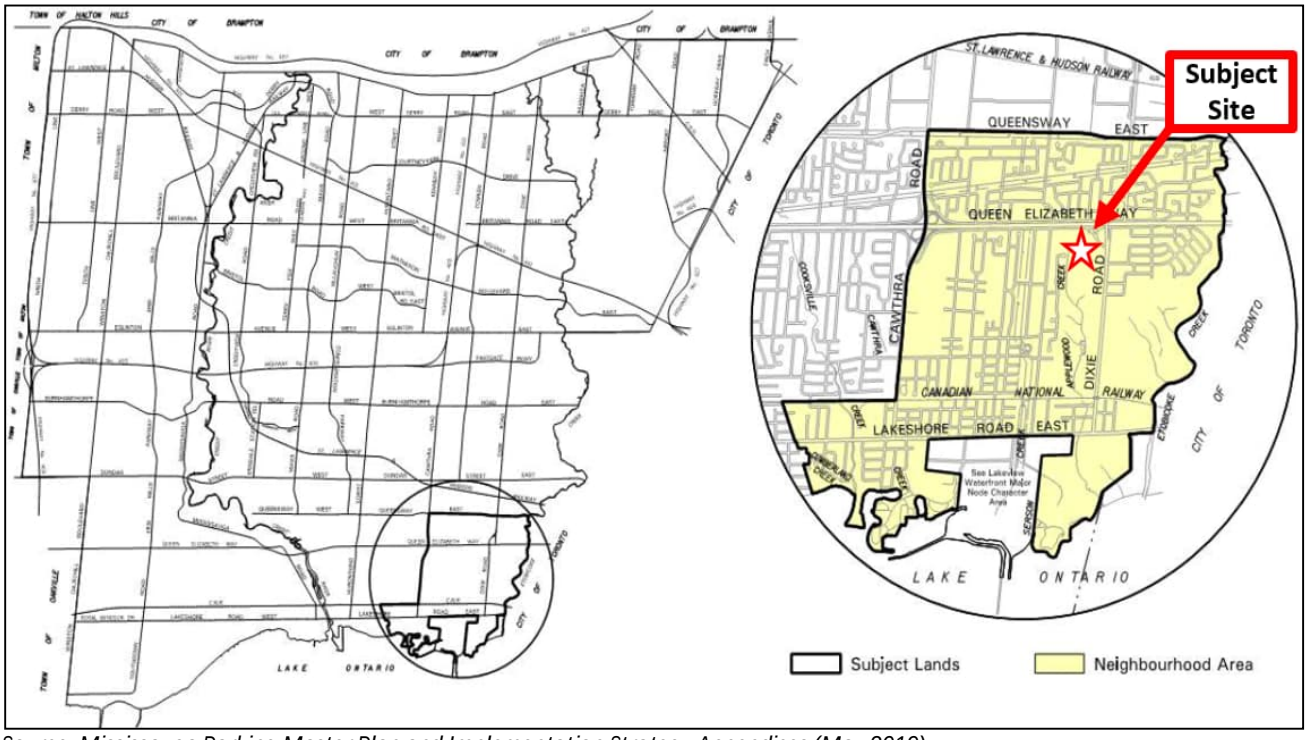
Specifically, Policy 8.4.3 states that "Consideration will be given to reducing off-street parking requirements for developments to reflect levels of vehicle ownership and usage, and as a means of encouraging the greater use of transit, cycling and walking…"

The reduced parking supply sought for the subject development is supportive of the City's Official Plan growth approach as it plans to leverage its location in proximity to the existing transit connections along Dixie Road, existing and proposed cycling facilities along Dixie Road, existing Dixie GO Train Station, and planned Lakeshore Road East higher order transit corridor. The proposed development will encourage future residents to utilize alternative transportation modes as opposed to vehicular travel.

7.3.1.4 Lakeview Local Area Plan

The purpose of the Lakeview Local Area Plan (LAP) is to introduce area specific policies that will advance the goals within Mississauga's strategic plan and official plan while considering the context and opportunities within the area. The defined boundaries of the Lakeview area are shown in Figure 7-1.

Figure 7-1: Lakeview Area Boundaries and Subject Site



Source: Mississauga Parking Master Plan and Implementation Strategy Appendices (May 2019)

Specifically, the LAP outlines policies that will help achieve Mississauga's important Multi-Modal City goal. These policies state that new developments will direct growth to support transit, help in developing walkable connected neighbourhoods, and promote sustainable neighbourhoods that will conserve, restore, and enhance the natural environment. The goals within such policies will in large part be achieved through vehicular parking strategies that include:

- Reduced parking requirements;
- Minimal surface parking; and
- Encouragement of underground parking.

The parking strategy of this proposed development clearly aligns with the parking strategies within the LAP. The parking spaces will be mostly located beneath each of the blocks and the proposed supply will represent a reduction from the requirements in-line with other major developments in the area. It is therefore anticipated that the parking strategy of this development will help achieve the goals within the LAP and for Mississauga as a whole.

7.3.1.5 Mississauga Parking Master Plan and Implementation Strategy (PMPIS)

Mississauga's PMPIS outlines how local parking will evolve as the City grows by setting parking goals, strategies, and implementation plans for various areas of the City. The PMPIS report document was approved by Mississauga City Council in June 2019. As of June 8, 2022, many of the recommendations of the PMPIS have been implemented through Zoning By-Law amendments 0117-2022 and 0118-2022 for vehicle parking and bicycle parking, respectively. This includes reduced parking rates and the introduction of parking precincts.

The PMPIS report provides policies that seek to manage parking through various measures, with one key measure being the reduction of parking supply for certain areas, classified through a precinct system. Precinct Policies categorize the City's areas into four precincts that each contain different parking strategies. Precinct 1 has the lowest minimum parking rates, while Precinct 4 has the highest. The areas that are recommended to have a parking reduction from the by-law rate are recommended to be areas with mixed land-uses, built forms that promote density, available nearby transit, high walkability, and developments with robust TDM measures.

This information relates to the proposed development because its location and the surrounding area is anticipated to contain many of the characteristics that the PMPIS recommends should result in a reduced parking supply from the by-law. Each of these characteristics and how they relate to the expected characteristics of the subject site are listed below:

- Mixed land use – Three residential buildings and a park area are introduced to supplement the existing on-site retail
- Walkability – Ample sidewalks and MUTs within the internal subject site network, with critical links to pedestrian and cycling infrastructure improvements planned for Dixie Road
- Built form – Dense development consisting of blocks with multiple buildings sharing a podium
- Transit availability – many MiWay bus connections to higher-order transit options and key destinations
- Robust TDM measures – Extensive TDM plan proposed for the subject site as detailed in Section 8

According to the Parking Precincts Map, the subject site is proposed to be located within Precinct 4, which covers the majority of the city. However, the development proposal will not meet the parking requirements of Precinct 4 as set out in the Zoning By-law.

The parking rates associated with each parking precinct are provided in Table 7-3. A discussion of precinct characteristics follows.

Table 7-3: Precinct Parking Rates Compared to Proposed Supply

Use	Units / GFA (m^2)	Precinct 2 Rate	Required Spaces	Precinct 3 Rate	Required Spaces	Precinct 4 Rate	Required Spaces	Proposed Spaces
Residential	1,263	0.9	1,137	1.0	1,263	1.1	1,389	**1,137**
Visitor	1,263	0.2	1,321	0.2	1,564	0.2	1,877	**1,821**
Retail	34,760	3.8 sp./100m^2		4.5 sp./100m^2		5.4 sp./100m^2		
Total			**2,458**		**2,827**		**3,266**	**2,958**

Note: Required spaces calculated include sharing between retail and residential visitors.

The proposed parking supply aligns more closely with the requirements of Precinct 2. Several factors, discussed below, support the argument that the subject site has characteristics of Precinct 2 over Precinct 4.

Precinct 4 Characteristics

Based on the draft parking precinct criteria and boundaries, Precinct 4 is not required to be an intensification area, nor is rapid transit connectivity required. Additionally, Precinct 4 is also assigned to areas that have limited walkability, with a Walk Score between 0 and 25, and limited or no accessibility for cyclists.

Precinct 2 Characteristics

Precinct 2 areas have more multi-modal features than Precinct 4 areas. There may be more public parking available, more mixed land use and high residential density, and several transportation demand management strategies, for sites that fall within Precinct 2.

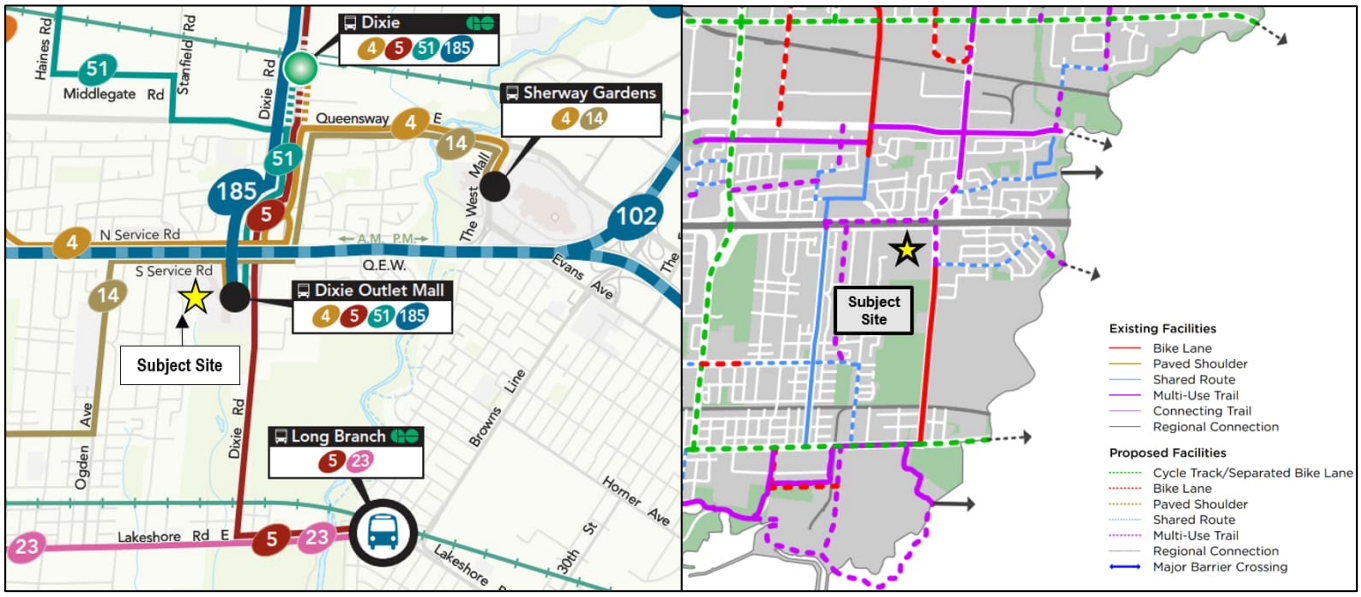
The subject site presents a lack of public parking facilities, however ample parking is provided in the Dixie Mall parking lot for visitors to use. As for land use, the proposed development will introduce residential intensification on-site, further aligning with Precinct 2 characteristics.

Although Dixie Outlet Mall does not lie within an Intensification Area as per the Mississauga Official Plan, the Lakeview Local Area Plan identifies the site as a good location for potential intensification with a transition to residential uses while retaining on-site retail, as set out in the development proposal. Several transportation demand management methods will be implemented on-site, as discussed in Section 8.

Finally, Precinct 2 is characterized by planned rapid transit service, high-frequency bus service, walk scores above 50 and moderate cycling accessibility. As detailed under Sections 3.2, 3.3 and 3.4, and shown in Figure 7-2, the subject site will have direct access to dedicated cycling facilities and transit service via Dixie Road.

The subject site will have direct connections to two GO Stations, Dixie GO and Long Branch GO, the latter of which is part of the Metrolinx GO Expansion Project and will operate two-way all-day service with 15-minute headways by 2025-2030. Both GO Stations will be within 10-15-minute connecting bus rides and less than 10-minute bicycle rides along dedicated cycling facilities, thereby facilitating first and last-mile connections via sustainable travel modes without the need for a personal vehicle.

Figure 7-2: Future Planned Transit and Cycling Network



Additionally, it should be noted that the Dixie Outlet Mall site has a Walk Score of 70, which indicates a very walkable environment where many errands can be accomplished on foot. This far exceeds the typical Walk Score threshold for Precinct 4, which falls between 0 and 25.

Subject Site Summary

The subject site will be accessible by local transit and dedicated cycling infrastructure and will have first and last-mile connections to higher order regional transit via transit and active transportation modes.

Given its context and development vision to provide higher density residential in proximity to mixed land uses and a multi-modal transportation network, the subject site is more aligned with Precinct 2 as compared to Precinct 4. It is recommended that the reduced parking rates proposed, aligning with Precinct 2, are appropriate for the development.

7.3.2 Retail Parking Justification

A parking utilization study was undertaken to better understand the existing retail parking demand for Dixie Mall. The parking utilization study was undertaken as per the *City of Mississauga's Terms of Reference for Parking Utilization Studies for Site Specific Applications*. The guidelines require parking utilization studies to be undertaken for a total of six (6) days across two (2) consecutive weeks.

Accordingly, the parking utilization survey was undertaken between October 28th and November 6th, 2022, to determine the utilization of the existing Dixie Outlet Mall parking lot in its entirety. Surveys were completed during business hours of Dixie Outlet Mall (10:00 am – 9:00 pm on weekdays, 10:00 am – 7:00 pm on Saturdays, 11:00 am – 6:00 pm on Sundays), with observations being made every half hour. The entire mall parking lot was studied, corresponding to a total retail GFA of 56,200 m^2. As the mall has been at 93% occupancy since 2018, a adjusted retail GFA of 52,266 m^2 was used to represent the occupied retail GFA, which was used to calculate the retail parking utilization on-site.

A map of the surveyed parking lot is provided in Figure 7-3.

Figure 7-3: Parking Utilization Study Boundaries

During the study, a total supply of 2,800 spaces was observed in the Dixie Mall parking lot. However, 240 spaces were obstructed due to construction, bringing the effective supply to 2,560 spaces. An unmarked paved area was also observed in Zone I (shown in Figure 7-3), estimated to provide approximately 225 spaces, but was not included in the supply as no vehicles were observed to park in the unmarked area. Overall, the effective supply of 2,560 spaces corresponds to a supply rate of 4.9 spaces per 100m^2 retail GFA.

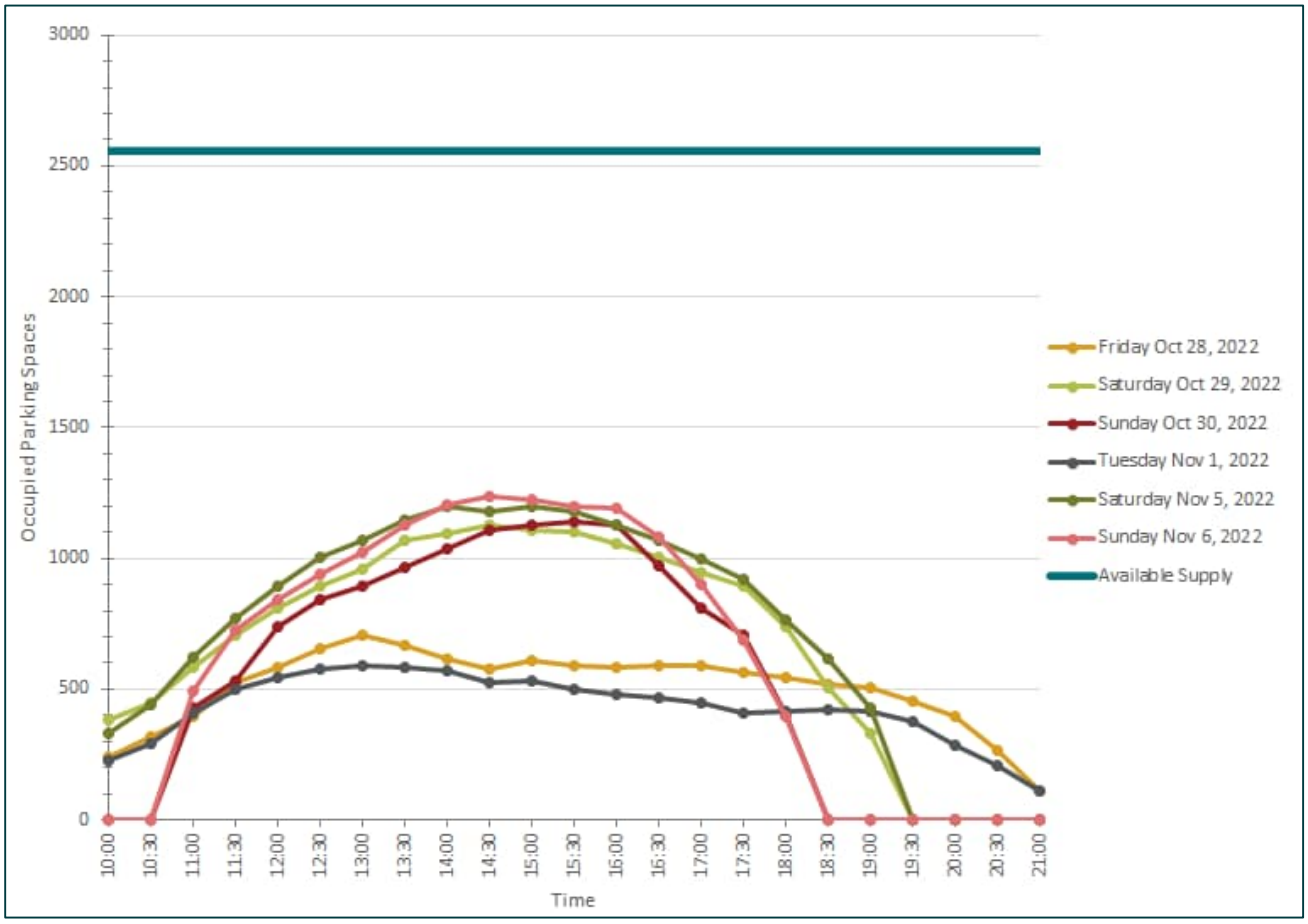
The highest parking utilization was observed on Sunday, November 6, 2022, at 2:30 pm. Results from the study are shown in Table 7-4 and Figure 7-4. The full study dataset is provided in Appendix F.

Table 7-4: Parking Utilization Study Results

Survey Date	Max Demand (spaces)	Utilization (spaces/100 m^2 GFA)	Utilization (spaces/100 m^2 GFA)– Monthly Adjustment Applied[1]
Friday Oct 28, 2022	706	1.35	1.78
Saturday Oct 29, 2022	1126	2.15	2.83
Sunday Oct 30, 2022	1142	2.18	2.87
Tuesday Nov 1, 2022	587	1.12	1.48
Saturday Nov 5, 2022	1199	2.29	3.02
Sunday Nov 6, 2022	1238	2.37	3.12

[1]Monthly adjustment factor for November applied as per *Urban Land Institute's Shared Parking* methodology for calculating maximum parking demand.

Figure 7-4: Parking Utilization Survey Data



During the survey, the maximum demand observed was only 2.37 spaces per 100m^2 retail GFA. Adjusting for time of year using the Monthly Adjustment Factor of 0.76 based on the *Urban Land Institute's Shared Parking* (see Appendix F), the maximum demand in the busiest season of the year (December) would be 3.12 spaces per 100m^2. It is noted that the retail parking demand is expected to remain around this level, as only minimal reductions in floor area will be made to the mall, no other significant changes.

As discussed in Sections 7.1 and 7.2, the required retail parking supply on Slate lands is 1,877 spaces according to Precinct 4 requirements (5.4 spaces per 100m^2). The proposed supply of 1,821 spaces on the Slate Lands (5.2 spaces per 100m^2) will be slightly below Precinct 4 requirements. However, it is expected that this supply would be more than sufficient for the maximum demand observed during LEA's six-day parking utilization study, 2.37 spaces per 100m^2 (December Adjustment – 3.12 spaces per 100m^2).

7.3.3 Residential Parking Justification

Several recent developments in Mississauga have sought to provide a reduced parking supplied for residential parking to support the City's Multi-Modal City and urban planning goals.

A review of development applications within the surrounding area, as well as those sharing a similar transportation context to the subject site, was conducted. This includes developments within Mississauga and the Etobicoke district of Toronto that have similar access to local surface transit and regional transit service.

Several development proposals with approved or sought reduced parking rates are summarized in Table 7-5. With respect to the approved application of 22-28 Ann St, the total parking rate was calculated based on the maximum units and parking rates permitted in the approved Zoning By-law (ZBL). For the other development applications, the rates presented are from their respective parking justification studies.

Table 7-5: Developments with Reduced Residential Parking Rates

Development Location	Status	Parking Rate spaces/unit		Basis of Parking Reduction
		Residential	Visitor	
City of Mississauga				
70 Mississauga Road South and 181 Lakeshore Road West (Port Credit) (Parking Precinct 2)	ZBA Recommended for Approval by Council	1.00	0.15	- 15-20-minute walk & 5-10-minute bike ride to Port Credit GO Station - Dense development with masterplan promoting multi-modal alternatives to reduce automobile dependency
1082 Lakeshore Road East (Lakeview Masterplan) (Parking Precinct 3)	Resident Parking Rates Supported by City in Response Memo	1.00	0.15	- Adjacent to Lakeshore West higher order transit corridor - Close to Dixie Road Bicycle Lanes - Dense development with masterplan promoting multi-modal alternatives to reduce automobile dependency
22-28 Ann Street (Parking Precinct 1)	ZBL Approved	1-Bed: 0.75 2-Bed: 0.90 3-Bed: 1.10	0.10	- Adjacent to Port Credit GO Station and 1 block from the Hurontario LRT
Square One Properties (Parking Precinct 1)	ZBA Under Review	1-Bed: 0.70 2-Bed: 0.90 3-Bed: 1.00	0.15	- Proximity to Downtown City Centre Transit terminal and future LRT
Etobicoke District (City of Toronto)				
1197 The Queensway (Etobicoke)	Approved & Closed	0.82	0.15	- Bus service along The Queensway; 15-minute bus ride to Kipling Station - Approx. 10-minute drive east from subject site
1193 The Queensway & 45 Zorra St	Approved & Closed	0.85	0.15	- Approved in 2014 - Large-scale development (~1,000 units) - Bus service along The Queensway & Kipling; 20-minute bus ride to Kipling Station
Average		1-Bed: 0.85 2-Bed: 0.91 3-Bed: 0.96	0.14	- Proximity to local/regional transit - Dense development promoting multi-modal transportation
Subject Site	Proposed	0.90	0, shared with retail parking	- Close to Lakeshore East future higher order transit corridor - Adjacent to future Dixie Road Bicycle Lanes providing direct connection to Dixie GO Station - 10-minute bike ride, 15-minute bus ride and 25-30-minute walk to Dixie GO Station - Dense development promoting multi-modal alternatives to reduce automobile dependency

The context of the site is anticipated to be similar to that of the precedent developments in multiple ways. Firstly, the conceptual design of the proposed development shares many similarities with the design elements of the Lakeview Masterplan development. Both developments are planned as dense, mixed-use communities that will provide an interconnected active transportation network. Additionally, the subject site shares similarities with the other precedent developments as each seek to add significant residential density to the surrounding community, while capitalizing on proposed or planned transit improvements underway.

Specifically, active transportation improvements adjacent to the site will be provided via implementation of the Dixie Road bicycle lanes from Rometown Drive to Lakeshore Road East along with a west side multi-use trail (MUT), east side sidewalk, and sidewalks along South Service Road. Additionally, improvements to the MiWay bus route in the area are proposed to include a re-routing of Route 5 so that it will travel along Dixie Road instead of Ogden Avenue South Service Road to Lakeshore Road East, making for a seamless connection to the future higher order transit planned for Lakeshore Road East. It is therefore anticipated that the area will become much less reliant on vehicles in the future, similar to the areas of the other developments listed in the table.

A clear trend of providing reduced residential parking is observed within each of the comparable developments. The average resident parking rates of such developments for each of the unit types is comparable to the proposed development's provision.

As previously mentioned, Mississauga's By-law 0225-2007 provides amended parking rates that reflect more appropriate rates for dense, compact, mixed-use built form in proximity to transit options. Despite this, lower rates are still being proposed and approved (i.e. 22-28 Ann Street). Since the subject site area is expected to exhibit these characteristics and enhance transit usage, it is anticipated that the proposed reduced parking supply is appropriate and can be based on the precedent developments also exhibiting these characteristics.

7.4 PARKING SUMMARY

Based on a review of the applicable planning policy and transportation context, as well as comparable developments providing reduced residential and visitor parking rates enclosed in this Parking Assessment, a reduction in parking is being sought based on a new set of proposed rates for the development. A summary of the by-law requirements and proposed parking supply is shown in Table 7-6.

Table 7-6: Parking Summary

Land Use	Units / GFA (m^2)	Minimum Parking Rate	Minimum Required Parking	Proposed Parking Rate	Proposed Parking Spaces
Residential	1,263	1.10 spaces/unit	1,389	0.90 spaces/unit	1,137
Visitor	1,263	The greater of 0.20 spaces per unit, or 5.4 spaces per 100 m^2 retail GFA	1,877	~5.2 spaces/100m^2	1,821
Retail (Remaining Mall – Slate only)	34,760				
		TOTAL	**3,266**		**2,958**

The proposed parking for the subject site includes 1,137 residential parking spaces, a rate of 0.9 spaces per unit. This is deficient from Precinct 4 residential requirements, but satisfies the requirements of Precinct 2. Retail and residential visitor parking will be shared, as per Mississauga Zoning By-law 0225-2007. A supply of 1,821 surface parking spaces will be provided for these non-residential uses, approximately 5.2 spaces per 100 m^2 retail GFA, surpassing the visitor requirement of 0.20 spaces per unit but slightly below the retail parking requirement of 5.4 spaces per 100 m^2 retail GFA. It should be noted that the maximum retail demand

observed on site was 3.12 spaces per m^2 retail GFA, so it is anticipated that the proposed supply will be sufficient.

Based on a review of applicable Mississauga planning policy, site context, observed parking demand, and precedent development parking rates either being sought or approved, the proposed rates are considered to be appropriate for the proposed development and will support and encourage travel to and from the subject site by alternative modes to the personal vehicle. Application of the proposed rates would support sustainable development of the subject site by avoiding an oversupply of parking and promoting non-single-occupant vehicle (non-SOV) travel for future residents and visitors of the proposed development.

In order to further support the pursued parking supply and encourage multi-mode travel to and from the subject site, a number of TDM measures have been recommended, as detailed in Section 8.

7.5 BICYCLE PARKING

The City of Mississauga Zoning By-law 0225-2007, recently amended by by-law 0118-2022 now requires bicycle parking for new developments. The required bicycle parking rates are shown in Table 7-7 .

Table 7-7: Subject Site Bicycle Parking Requirements

Use	Units / GFA (m^2)	Bicycle Parking Space Requirement		Bicycle Parking Spaces Required		
		Short Term Rate (spaces/unit or 100 m^2)	Long Term Rate (spaces/unit or 100 m^2)	Short Term	Long Term	Total
Residential	1,263	0.05	0.60	63	758	821
Retail	34,760	0.20	0.15	70	52	122
			TOTAL	**133**	**810**	**943**

In summary, a total of 943 bicycle parking spaces are required on the subject site. The development proposes to meet or exceed the by-law requirements for bicycle parking. Secure bike storage will be provided on the ground floor and first underground parking level of each residential building. Short-term at-grade bicycle parking already present on site will be supplemented as required.

7.6 LOADING REVIEW

The loading space requirements of the subject site are governed by the City's Zoning By-law 0225-2007. Loading spaces are required for each residential building. Table 7-8 lists the general loading requirements and proposed loading space supply.

Table 7-8: Zoning By-law 0225-2007 Requirements

Loading Space Requirement (ZBL 0225-2007)	Total Required Loading Spaces	Proposed Loading Spaces
One loading space per apartment buildings	3	5

A functional design review, including swept path diagrams demonstrating vehicular and loading functionality of the subject site and proposed development, are provided in Appendix G.

8 TRANSPORTATION DEMAND MANAGEMENT PLAN

Transportation Demand Management (TDM) is a set of strategies which strive towards more efficient transportation networks by influencing travel behavior and ultimately reducing the need for single-occupant-vehicle (SOV) travel. Effective TDM measures can reduce vehicle usage and encourage people to engage in more sustainable methods of travel.

The main objectives of this TDM plan include:

- Reduce vehicle dependence and the attractiveness of SOV trips;
- Increase the feasibility and attractiveness of walking, cycling, and transit modes of travel;
- Promote transit and carpooling programs that reduce SOV; and
- Ensure that all measures can be reasonably implemented and compliment the non-auto infrastructure in the surrounding area.

8.1 TDM-SUPPORTIVE ELEMENTS

TDM elements for the subject site have been planned in such a way that the design of the development itself will work to greatly encourage travel by active transportation and transit modes while reducing the need for vehicular travel. Elements planned, their anticipated effects and future recommended design strategies are discussed further below.

8.1.1 Land Use Strategy

The development form and land use strategy are crucial elements that directly affect the amount of travel, length of trips, and choice of travel mode. The goal for the development is to make non-SOV trips more viable.

The development concept indicates plans for compact residential blocks that will be supported with retail in the existing Dixie Outlet Mall. Potential future development on-site may contain retail or service retail and residential uses. Since such retail uses will be located either within a residential building or just blocks away, residents will be encouraged to walk to complete errands or leisure shopping activities.

These varying land uses are expected to attract a significant number of internal trips as mentioned in Section 4, which would likely be completed via walking or cycling and therefore reduce vehicular traffic on the surrounding road network.

Privately Owned Public Space (POPS) and gardens will also be provided as part of the proposed development. These pedestrian amenities will be located near the residential buildings to provide natural community space to residents and visitors.

Additional complimentary strategies that are recommended for the development include:

- Incorporate frequent entrances to buildings with active road level uses to increase permeability;
- Avoid long stretches of blank walls, berms or high fences adjacent to the street;
- Support areas with high levels of pedestrian activity through building setbacks and pedestrian amenities;

- Locate buildings close to transit stops and to higher levels of pedestrian activity and transit ridership; and
- Scale buildings to match their specific context. Transitions in building scale can enable higher-density uses close to transit stops while integrating with the scale and character of surrounding communities.

8.1.2 Pedestrian-Based Strategies

Ensure safe and convenient internal and external pedestrian connections: The proposed site plan ensures safe, comfortable and convenient pedestrian connections to key internal destinations such as the proposed park areas, retail, and bus stops on South Service Road. Connections are also provided to the future external pedestrian network which proposes sidewalks on both sides of South Service Road and the east side of Dixie Road, along with a multi-use trail (MUT) on the west side of Dixie Road. The pedestrian network will also provide key connections for residents and visitors to the nearby external MiWay along the perimeter of the subject site.

Provision of additional pedestrian facilities: The provision of additional pedestrian realm facilities that will enhance the experience and encourage residents and visitors to utilize walking as a mode of travel include the following:

- Crosswalks should be outlined through pavement markings at relevant intersections;
- Pedestrian facilities such as frequent benches, garbage bins, and lighting;
- Gardens and landscaped areas should frame high traffic pedestrian areas and meeting points; and
- Connections to Haig boulevard provided through the park fronting the street.

8.1.3 Cycling-Based Strategies

Provide cycling connections that facilitate first- and last-mile trips to and from higher order transit: As detailed in Section 3, a multi-use trail is proposed along the west side of Dixie Road and on the north side of North Service Road as part of the proposed Dixie Road realignment and Mississauga Cycling Plan.

This proposed multi-use trail will connect to existing bike lanes south on Dixie Road and an existing multi-use trail north on Dixie Road, providing a consistent connection between cycling facilities on Lakeshore Road East and along the waterfront to the south, and to higher order transit service via Dixie GO Station.

Provide short-term and long-term bicycle parking: Provision of bicycle parking facilities will support and encourage active transportation, while taking advantage of the planned cycling network nearby and within the broader area along Dixie Road. Short-term bicycle parking facilities should be located at-grade in a highly visible and convenient area close to building entrances and parks/gardens for residents and visitors. Long-term bicycle parking will be provided in secured and weather-protected locations, such as storage rooms and bicycle locker rooms located on the ground floor and first underground parking level of each building.

8.1.4 Transit Based Strategies

Support existing and future transit connections to and from the subject site: The subject site is located in an area with accessibility to surface transit provided by two MiWay bus routes that connect to nearby GO Transit services and TTC services. As detailed in Section 3.4, the subject site is serviced by existing bus routes along

South Service Road (Route 5), and Dixie Road (Route 4). Route 5 provides a connection to Long Branch GO Station along the Lakeshore West GO Line and the 508 TTC Streetcar Route to the south. Route 4 provides a connection to Dixie GO Station along the Milton GO Line to the north.

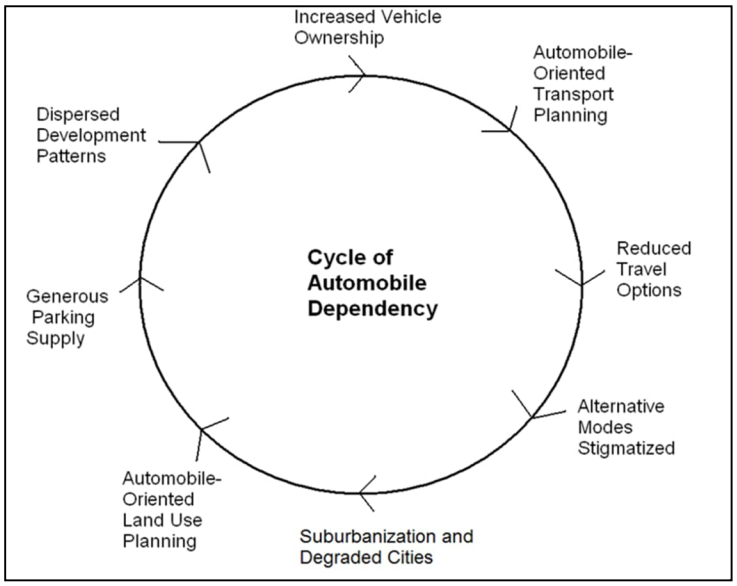
Access to regional transit service expansion and improvements: Major improvements are planned for the Lakeshore West and Milton GO Lines as part of the Metrolinx Regional Express Rail (RER) transit improvement plans. As indicated in GO Transit's 2020 strategic plan the current goal for the Lakeshore West Line and Milton Line is to provide 15-minute or better train service at Long Branch Station and Dixie Station. Additionally, express service during high-demand periods and off-peak service every 30 minutes, is also planned at both stations. Improvements are also planned for the MiWay network as a the MiWay Five 2021-2025 study is currently underway and seeks to improve connections to GO Stations and service concerns voiced by the public. The proximity of the subject site to the identified corridors increases the desirability of transit usage for future residents of the proposed development. Both existing and future transit routes allow for residents and visitors to travel throughout Mississauga and to nearby Toronto conveniently with numerous connections to amenities, attractions, schools and employment destinations.

8.1.5 Reduced Parking Supply

A reduced parking supply, more in line with the requirements of Precinct 2 according to Mississauga's Zoning By-law, is proposed for the subject site.

Parking supply can either encourage households to choose transit, or to purchase a vehicle. Figure 8-1 illustrates the self-reinforcing cycle of increased automobile dependency and urban sprawl, has been reinforced by many transportation and land use planning practices observed during the last century. This was generally unintended, reflecting a lack of consideration of the consequences behind these decisions. For example, when deciding the amount of parking required for a particular type of land use, traffic engineers generally determine minimum parking rates disregarding the additional sprawl that may result from these supply rates.

Figure 8-1: Cycle of Automobile Dependency and Related Effects



Source: Evaluating Transportation Land Use Impacts Considering the Impacts, Benefits and Costs of Different Land Use Development Patterns 27 (February 2017).

As displayed by the figure it has been recognized that an oversupply of parking is becoming problematic in areas with strong transit access and active transportation networks, wherein the availability of parking greatly reduces transit ridership, along with walking and cycling trips. Parking policies should be based on location, transit availability, context of the development, and strategic plans for the area outlined by the municipality. Mississauga addressed this issue though the Parking Masterplan and Implementation Strategy and associated zoning by-law amendments through recommending various parking reduction strategies for areas of the City with ample transit and active transportation options. Given that there are several transit and active transportation improvements planned for the area surrounding the subject site, there is substantial potential for a parking reduction strategy to reduce vehicle ownership and increase usage of the transit active transportation investments. Therefore, the provision of a reduced parking supply will be a key measure in ensuring that parking is not oversupplied, and vehicle dependency is not encouraged.

8.2 ADDITIONAL TDM-SUPPORTIVE MEASURES

This section reviews the provision of additional TDM strategies that cannot be explicitly viewed within the proposed development's conceptual plan and are recommended to supplement the strategies and recommendations of the previous section.

8.2.1 Travel and Parking-Based Strategies

Establish and promote Smart Commute travel management programs: Smart Commute is a program used by Metrolinx and the municipalities in the GTHA to help employers, residents, and commuters explore and try smart travel options such as walking, cycling, transit, and carpooling. It is recommended that the applicable aspects of the program be brought to the attention of the residents and measures may be put in place to encourage utilization of the program. This will encourage carpooling and reduce SOV trips from the proposed development.

Provision of carpool and car share spaces: Car share programs will be considered to encourage car sharing activities and to reduce the need for automobile ownership. Car share can be provided through an external partner that manages and maintains the logistics of the car share space. Car share spaces are expected to reduce vehicle ownership of residential developments and the overall parking demand that is generated. Additionally, the effectiveness of car share spaces is anticipated to increase as the density of the proposed development increases, and since the proposed development is anticipated to be built out as a compact dense community car share provisions would be ideal.

8.2.2 Additional Transit-Based Strategies

Provide public transit information to residents: Public transit information should be made available to residents, such as MiWay and GO Transit route maps and seven-day schedule timetables for nearby stops. Route and scheduling information could be provided as displays in the lobby, or through real-time updated digital displays in a central location in the building. This will increase the likelihood of new residents incorporating alternatives in their travel patterns when residing at the development.

8.2.3 Additional Cycling-Based Strategies

Promote and increase cycling awareness & multi-modal transportation: It is recommended that information packages be provided to residents to help encourage active transportation and increase awareness of different travel alternatives. The package should include information regarding the environmental and health

benefits of cycling, rules of the road, and maps of active transportation infrastructure available in the surrounding area.

Seek opportunities for Bike Share Programs: The applicant is encouraged to seek opportunities to partner with Mississauga and/or TTC Public Transit authorities, local universities and colleges, and Metrolinx to provide secure shared bike stations at the subject site. This will improve and promote cycling between the site and the nearby GO Stations.

8.2.4 TDM Summary

Table 8-1: Summary of Recommended TDM Measures Being Considered

Recommended TDM Measure	Benefits
Strategies Incorporated Within the Development	
Compact, Pedestrian-Oriented Land Use Strategy	+ Pedestrian entrances to retail entrances and parkland directly accessed from internal road network + Minimal conflicts (e.g. shared loading entrances) to improve pedestrian safety and comfort + Provides amenities on-site, reducing the need to travel far
Mixed-Use (Incl. Retail/Service Retail)	+ Encourages people to conduct activity within walking distance + Reduces reliance on personal automobile for day-to-day trips
Pedestrian Connections and Facilities	+ Creates a safe environment for active travel modes + Increases comfort for pedestrians on-site
Provide Short-Term and Long-Term Bicycle Parking Facilities	+ Encourages cycling as a travel mode
Reduced Vehicular Parking Supply	+ Encourages some residents to forgo auto ownership + Encourages travel behaviour to favour transit, active transportation, and ride/car sharing options from day one + Avoids oversupplying vehicles where travel demand can be accommodated by alternative travel modes
Access to Local and Regional Transit Improvements	+ Encourage travel by existing surface transit providing direct connections to additional MiWay, GO Transit and TTC service + Opportunity to capitalize on planned transit improvements (e.g. Lakeshore West RER, MiWay Express Service, etc.)
Additional Strategies to be Considered	
Provision of public transit info and/or programs such as Smart Commute	+ Improve knowledge about available transit options
Consider provision of carshare and/or carpool spaces	+ Provide flexibility for occasional vehicle use without need to own
Consider opportunities for future Bike Share programs	+ Provide flexibility to capitalize on future bike sharing programs

9 CONCLUSIONS

- The proposed development at Dixie Mall will introduce 3 residential blocks with 5 high-rise towers on the northwest portion of the site while the majority of the existing mall remains. The development will add 1,263 residential units to the site and reduce the retail GFA by approximately 8,600 m^2, leaving a remaining 48,760 m^2 of retail GFA on the Slate lands. It is noted that the remaining ground floor area of the Slate portion of the mall will be 34,760 m^2.
- The subject site lands are located within the study area for the Detail Design and Class Environmental Assessment Study (EA Study) for Contract 2 of improvements to the QEW from east of Cawthra Road to east of Dixie Road. The impacts of the proposed development have been assessed on the future transportation network brought upon the area as part of the EA Study improvements. It is noted that the existing traffic conditions utilizing the road network currently in place within the area has not been assessed because the EA Study improvements are imminent and will be fully in place by 2026. As such, the 2031 future background conditions are taken as the baseline traffic conditions and the site traffic is then layered onto this traffic condition to model future total traffic conditions.
- Access to the site is proposed via three driveways on South Service Road, as well as the connected parking lot of Dixie Outlet Mall.
- For the future background analysis, the signal timing plans have been adjusted since the intersections within the study area will change drastically from what is observed on-site today and the provided signal timing plans will no longer apply. However, the cycle length from such plans has been maintained while the splits have been adjusted to better serve the change in traffic patterns that will arise as a result of the reconfiguration of the area road network.
- Under future background conditions, all signalized intersections are generally expected to have acceptable operations, however several movements have been identified to operate at LOS E or have a V/C ratio above 0.85. The only intersection expected to operate over capacity (i.e. V/C > 1) is Haig Boulevard & West Mall Access / South Service Road. However, it is noted this intersection will be reconfigured in the future scenario, and operations are anticipated to improve. The unsignalized intersections are expected to perform well.
- The development is anticipated to generate 207 net trips during the AM peak hour (54 inbound and 153 outbound), -27 net trips during the PM peak hour (-1 inbound and -26 outbound) and -90 net trips during the Saturday peak hour (-53 inbound and -37 outbound). The reduction in vehicle trips generated by the site is driven by the demolition of approximately 8,600 square meters of retail space on the western portion of the mall.
- Under future total conditions the pressure at Haig Boulevard & West Mall Access / South Service Road is resolved, as V/C ratios decrease below 1 and LOS improves for many movements. At other signalized intersections that experience capacity constraints in the future background scenario, most movements exhibit better LOS and V/C in the future total scenario due to the modified site-generated traffic and intersection reconfigurations. The only intersection that is adversely affected by the site-generated traffic introduced in the future total scenario is Dixie Road & South Service Road / Rometown Drive in the AM and PM peak hours. An optimized signal timing plan has been proposed for this intersection in the future total scenario to mitigate the impact, and the intersection is still expected to operate within capacity during the future total scenario so no further mitigation measures

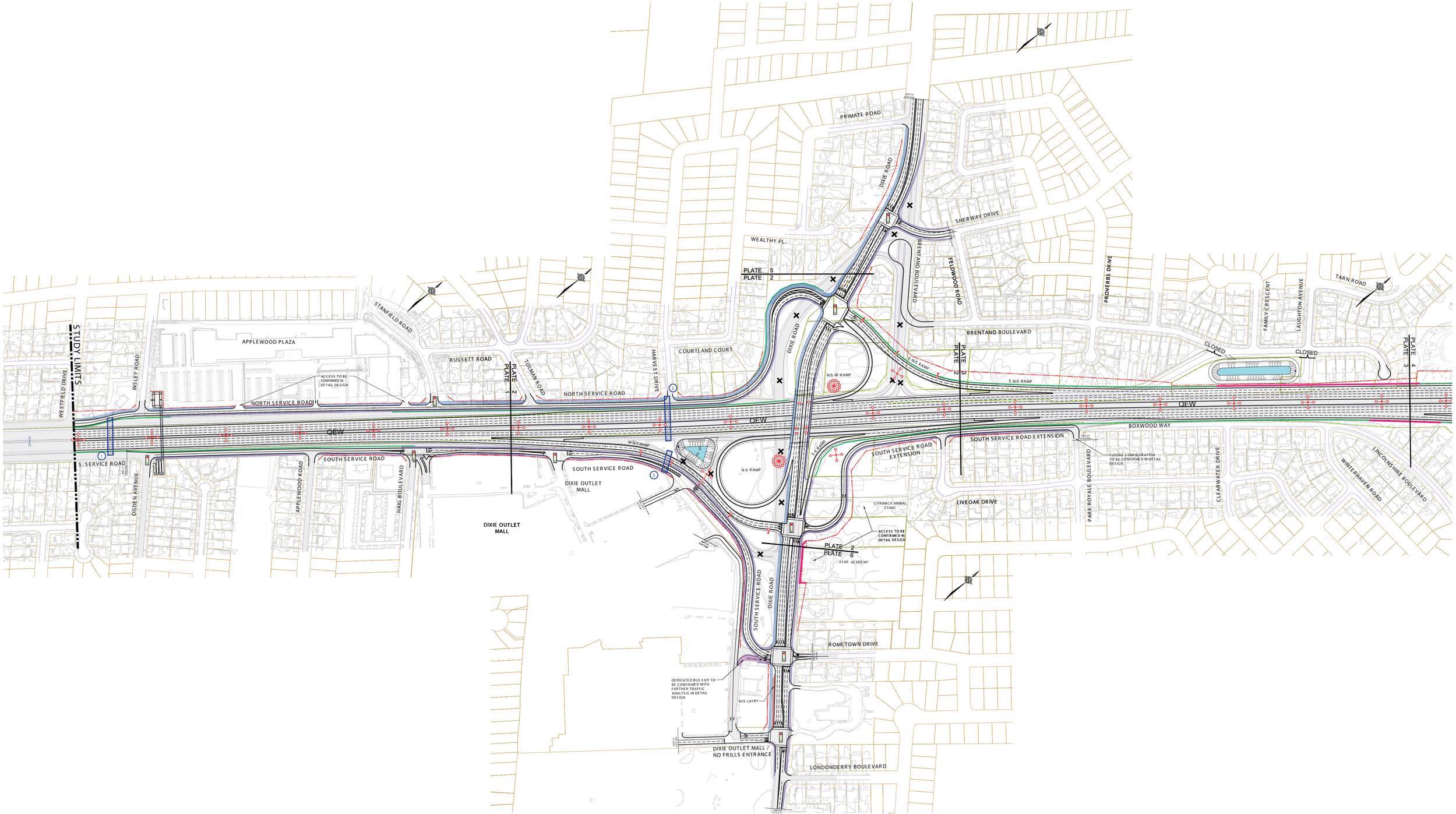
are proposed. All unsignalized intersections were observed to perform well under future total conditions.

- A proposed parking supply ratio of 0.9 spaces per unit is recommended for the residential parking. This represents a reduction from the Mississauga By-law 0225-2007 Precinct 4 parking rate requirements. However, with the review of approved and pursued parking supplies of nearby developments, the policy review, and proposed TDM measures, it is in our professional opinion that the proposed parking supply can accommodate the potential parking demand associated with the proposed development.
- The proposed parking supply of approximately 5.2 spaces per 100 m^2 retail GFA is recommended for non-residential parking. Residential visitors and retail will share this parking supply, as permitted by Zoning By-law 0225-2007. Based on a parking utilization study on-site, demand for retail parking is much lower than by-law requirements, with maximum demand observed to be 3.12 spaces per 100 m^2 retail GFA. Along with policy review and proposed TDM measures, the proposed parking supply is expected to satisfy demand from the development.
- A total of 133 short-term and 810 long-term bicycle parking spaces are required according to the rates identified within the amended City of Mississauga Zoning By-Law. The development will meet or exceed this requirement.
- A robust set of TDM measures is recommended for the subject site in order to facilitate the necessary change in travel behaviour sought for the area and reduce single occupant vehicle (SOV) trips generated by the proposed development. Such measures that are recommended include bicycle parking facilities, ample pedestrian connections, parks and active transportation infrastructure, promotion of multi-modal travel alternatives, and a reduced parking supply from the current by-law requirements.

APPENDIX A

Traffic Data and EA Information

PLANNED ROAD CONFIGURATION (QEW EA)


STUDY LIMITS
WESTFIELD DRIVE
INSLEY ROAD
APPLEWOOD PLAZA
STANFIELD ROAD
RUSSETT ROAD
TOLMAN ROAD
HARVEST DRIVE
COURTLAND COURT
PRIMATE ROAD
DIXIE ROAD
WEALTHY PL
SHERWAY DRIVE
BRENTANO BOULEVARD
FELOWOOD ROAD
PROVERBS DRIVE
FAMILY CRESCENT
LAUGHTON AVENUE
TARN ROAD
CLOSED
CLOSED
BRENTANO BOULEVARD
PLATE 5
PLATE 2
PLATE 1
PLATE 2
PLATE 2
PLATE 5
PLATE 4
PLATE 3
ACCESS TO BE CONFIRMED IN DETAIL DESIGN
NORTH SERVICE ROAD
NORTH SERVICE ROAD
QEW
QEW
QEW
N/S-W RAMP
E-N/S RAMP
E-N/S RAMP
W-N/S RAMP
E-E RAMP
N-E RAMP
S. SERVICE ROAD
OGDEN AVENUE
SOUTH SERVICE ROAD
APPLEWOOD ROAD
HAIG BOULEVARD
SOUTH SERVICE ROAD
DIXIE OUTLET MALL
DIXIE OUTLET MALL
SOUTH SERVICE ROAD EXTENSION
SOUTH SERVICE ROAD EXTENSION
BOXWOOD WAY
FUTURE CONFIGURATION TO BE CONFIRMED IN DETAIL DESIGN.
LIVEOAK DRIVE
PARK ROYALE BOULEVARD
CLEARWATER DRIVE
WINTERHAVEN ROAD
LINCOLNSHIRE BOULEVARD
CORMACK ANIMAL CLINIC
ACCESS TO BE CONFIRMED IN DETAIL DESIGN
PLATE 2
PLATE 6
STAR ACADEMY
SOUTH SERVICE ROAD
DIXIE ROAD
ROMETOWN DRIVE
DEDICATED BUS EXIT TO BE CONFIRMED WITH FURTHER TRAFFIC ANALYSIS IN DETAIL DESIGN
BUS LAYBY
DIXIE OUTLET MALL / NO FRILLS ENTRANCE
LONDONDERRY BOULEVARD

SIGNAL TIMING PLANS

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**October 22, 2020**	**Prepared Date**	**October 22, 2020**
Database Rev	**iNET**	**Completed By**	**BL**
Timing Card / Field rev	**-**	**Checked By**	**RC**

Location: **Dixie Road @ Sherway Drive**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Dixie Road - N/B P.P LT	5	0	0	3	0	17	15	20
2	Dixie Road - NB/SB	8	8	12	4.0	2.0	38	38	48
3	Sherway Drive - W/B P.P LT & W/B	8	10	15	4.0	2.6	27	27	27
4	Sherway Drive - E/B P.P LT & E/B	8	10	15	4.0	2.6	38	30	35
5	Not in use	-	-	-	-	-	-	-	-
6	Not in use	-	-	-	-	-	-	-	-
7	Not in use	-	-	-	-	-	-	-	-
8	Not in use	-	-	-	-	-	-	-	-

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
06:00 - 09:30	AM	120	80
09:30 - 15:00 19:30 - 03:00	OFF	110	102
15:00 - 19:30	PM	130	27

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**October 22, 2020**	**Prepared Date**	**October 22, 2020**
Database Rev	**iNET**	**Completed By**	**BL**
Timing Card / Field rev	**-**	**Checked By**	**RC**
Location	**Dixie Road @ South Service Road**		

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Not in use	-	-	-	-	-	-	-	-
2	Dixie Road - S/B	8	9	14	4.0	2.4	71	73	82
3	Not in use	-	-	-	-	-	-	-	-
4	Ring Balance - W/B	8	8	14	4.0	2.2	49	37	48
5	Not in use	-	-	-	-	-	-	-	-
6	Dixie Road - N/B	8	9	14	4.0	2.4	71	73	82
7	Not in use	-	-	-	-	-	-	-	-
8	South Service Road - E/B	8	0	0	4.0	0.0	49	37	48

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
06:00 - 09:30	AM	120	42
09:30 - 15:00 19:30 - 03:00	OFF	110	39
15:00 - 19:30	PM	130	117

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**October 22, 2020**	**Prepared Date**	**October 22, 2020**
Database Rev	**iNET**	**Completed By**	**BL**
Timing Card / Field rev	**-**	**Checked By**	**RC**

Location: **Dixie Road @ Rometown Drive / North Dixie Mall Entrance**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Not in use	-	-	-	-	-	-	-	-
2	Dixie Road - S/B	8	10	15	4.0	2.2	71	60	77
3	Not in use	-	-	-	-	-	-	-	-
4	Rometown Drive - W/B	8	11	22	4.0	2.3	49	50	53
5	Not in use	-	-	-	-	-	-	-	-
6	Dixie Road - N/B	8	10	15	4.0	2.2	71	60	77
7	Not in use	-	-	-	-	-	-	-	-
8	North Dixie Mall Entrance - E/B	8	11	22	4.0	2.3	49	50	53

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
06:00 - 09:30	AM	120	45
09:30 - 15:00 19:30 - 03:00	OFF	110	49
15:00 - 19:30	PM	130	113

Signal Timing Report

Runtime: 2020-10-28 11:10:10

Device: 0604

Region: Mississauga **Signal ID:** 0604 **Location:** SOUTH SERVICE ROAD E at Dixie Plaza Access

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	11	0	8	0	0	0	0
Ped Clear	Sec	0	17	0	8	0	0	0	0
Min Green	Sec	0	8	0	8	0	0	0	0
Passage	Sec	0.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	0	23	0	30	0	0	0	0
Maximum 2	Sec	0	23	0	30	0	0	0	0
Yellow Change	Sec	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	2.5	0.0	2.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit	0	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	0	Enabled Non Lock Det	0	0	0	0
[P2] Ring	Ring	0	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	100	100	100	0	0	0	0	0
Offset	Sec	47	85	99	0	0	0	0	0
Split	Split	1	2	3	0	0	0	0	0
Sequence	Sequence	1	1	1	0	0	0	0	0

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	75	0	25	0	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	55	0	45	0	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	75	0	25	0	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false	false

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F----------	---A--------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	123456789012345678901234567890 1	123456789012345678901234567890 1	123456789012345678901234567890 1	1-------	----------7--------	---------0----------	----------8-------	1----------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	Units	9	10	11	12	13	14	15	16
Month	Bit	--------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	--3----------	------7----------	----------2----------	----------	----------	----------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	7	9	16	18	3	0	0
Plan 1 Minute	Min	0	0	0	0	30	0	0	0
Plan 1 Action	Number	8	1	8	3	8	7	0	0
Plan 2 Hour	Hour	0	9	21	3	0	0	0	0
Plan 2 Minute	Min	0	0	30	0	0	0	0	0
Plan 2 Action	Number	8	2	8	7	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0	0	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

Signal Timing Report

Runtime: 2020-10-28 11:02:09

Device: 0603

Region: Mississauga **Signal ID:** 0603 **Location:** SOUTH SERVICE ROAD E at Haig Boulevard

Phase	Units	1	2	3	4	5	6	7	8
Walk	Sec	0	10	8	0	0	0	0	0
Ped Clear	Sec	0	13	8	0	0	0	0	0
Min Green	Sec	0	8	8	8	0	0	0	0
Passage	Sec	0.0	4.0	4.0	4.0	0.0	0.0	0.0	0.0
Maximum 1	Sec	0	27	20	20	0	0	0	0
Maximum 2	Sec	0	27	20	20	0	0	0	0
Yellow Change	Sec	3.0	4.0	4.0	4.0	3.0	4.0	3.0	4.0
Red Clearance	Sec	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0
Red Revert	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Added Initial	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before	Sec	0	0	0	0	0	0	0	0
Cars Before	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Min Gap	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[P2] Start Up	Enum	other	redClear	phaseNotOn	phaseNotOn	other	other	other	other
[P2] Options	Bit	0	Enabled Non-Actuated 1 Max Veh Recall Ped Recall Act Rest In Walk	Enabled Non Lock Det	Enabled Non Lock Det	0	0	0	0
[P2] Ring	Ring	0	1	1	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coord Pattern	Units	1	2	3	4	5	6	7	8
Cycle Time	Sec	100	100	100	0	0	0	0	0
Offset	Sec	51	95	4	0	0	0	0	0
Split	Split	1	2	3	0	0	0	0	0
Sequence	Sequence	1	1	1	0	0	0	0	0

Coord Split	Units	1	2	3	4	5	6	7	8
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	56	25	19	0	0	0	0
Split 1 - Coord	Enum	false	true	false	false	false	false	false	false
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	58	25	17	0	0	0	0
Split 2 - Coord	Enum	false	true	false	false	false	false	false	false
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	56	25	19	0	0	0	0
Split 3 - Coord	Enum	false	true	false	false	false	false	false	false

TB Schedule	Units	1	2	3	4	5	6	7	8
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F----------	---A--------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	------S	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	123456789012345678901234567890 1	123456789012345678901234567890 1	123456789012345678901234567890 1	1-------	----------7--------	---------0----------	----------8-------	1----------
Day Plan	Number	1	3	2	3	3	3	3	3

TB Schedule	Units	9	10	11	12	13	14	15	16
Month	Bit	--------A----	--------S---	---------O--	----------D	----------D	----------D	0	0
Day of Week	Bit	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS	SMTWTFS
Day of Month	Bit	--3----------	------7----------	----------2----------	----------	----------	----------	0	0
Day Plan	Number	3	3	3	3	3	3	0	0

TB Dayplan	Units	1	2	3	4	5	6	7	8
Plan 1 Hour	Hour	0	7	9	16	18	3	0	0
Plan 1 Minute	Min	0	0	0	0	30	0	0	0
Plan 1 Action	Number	8	1	8	3	8	7	0	0
Plan 2 Hour	Hour	0	9	21	3	0	0	0	0
Plan 2 Minute	Min	0	0	30	0	0	0	0	0
Plan 2 Action	Number	8	2	8	7	0	0	0	0
Plan 3 Hour	Hour	0	3	0	0	0	0	0	0
Plan 3 Minute	Min	0	0	0	0	0	0	0	0
Plan 3 Action	Number	8	7	0	0	0	0	0	0

TB Action	Units	1	2	3	4	5	6	7	8
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit	0	0	0	0	0	0	0	0
Spec. Functions	Bit	0	0	0	0	0	0	0	0

TURNING MOVEMENT COUNT DATA

Turning Movement Count (5 . DIXIE RD & CORMACK CRES) CustID: 00401605 MioID: 496694

Start Time	Southbound DIXIE RD					Northbound DIXIE RD					Eastbound CORMACK CRES					Int. Total (15 min)	Int. Total (1 hr)
	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	U-Turn	Peds	Approach Total	Left	Right	U-Turn	Peds	Approach Total		
07:00:00	52	107	0	0	159	3	43	0	1	46	21	5	0	0	26	231	
07:15:00	81	143	0	0	224	8	64	0	0	72	15	7	0	0	22	318	
07:30:00	71	156	0	0	227	10	71	1	0	82	36	8	0	0	44	353	
07:45:00	94	150	0	0	244	9	92	0	0	101	39	10	0	0	49	394	1296
08:00:00	90	165	0	0	255	12	100	0	0	112	62	6	0	0	68	435	1500
08:15:00	94	154	0	0	248	9	116	0	0	125	78	9	0	0	87	460	1642
08:30:00	113	117	0	0	230	7	129	0	0	136	40	11	0	0	51	417	1706
08:45:00	112	95	0	0	207	6	97	0	0	103	26	7	0	0	33	343	1655
BREAK																	
11:00:00	116	87	0	0	203	8	62	0	0	70	36	12	0	1	48	321	
11:15:00	135	95	0	0	230	5	59	0	0	64	22	12	0	0	34	328	
11:30:00	105	97	0	0	202	8	69	0	0	77	17	7	0	0	24	303	
11:45:00	117	126	0	0	243	6	80	1	3	87	33	8	0	1	41	371	1323
12:00:00	125	82	0	0	207	6	78	0	2	84	28	10	0	0	38	329	1331
12:15:00	167	120	0	0	287	3	70	0	0	73	34	11	0	0	45	405	1408
12:30:00	137	84	0	0	221	5	78	0	0	83	29	9	0	0	38	342	1447
12:45:00	118	97	0	0	215	6	88	0	0	94	35	6	0	0	41	350	1426
13:00:00	148	101	0	0	249	6	71	0	0	77	25	8	0	0	33	359	1456
13:15:00	163	106	0	0	269	8	80	0	0	88	23	10	0	0	33	390	1441
13:30:00	127	104	0	0	231	6	82	0	0	88	23	8	0	0	31	350	1449
13:45:00	125	110	0	0	235	6	77	0	0	83	24	10	0	0	34	352	1451
BREAK																	
15:00:00	143	171	0	0	314	14	85	0	2	99	26	8	0	3	34	447	
15:15:00	153	171	0	0	324	6	85	1	0	92	36	18	0	0	54	470	

15:30:00	156	184	0	0	340	5	83	0	0	88	37	11	0	0	48	476	
15:45:00	151	170	0	0	321	8	119	1	1	128	24	9	0	0	33	482	1875
16:00:00	130	183	0	0	313	8	103	0	0	111	27	13	1	0	41	465	1893
16:15:00	182	175	0	0	357	4	102	0	0	106	32	9	0	2	41	504	1927
16:30:00	154	197	0	0	351	7	102	0	0	109	30	6	0	1	36	496	1947
16:45:00	188	218	0	0	406	7	101	0	0	108	41	11	0	0	52	566	2031
17:00:00	205	227	0	0	432	4	100	0	0	104	29	13	0	2	42	578	2144
17:15:00	187	241	0	0	428	13	128	0	0	141	35	14	0	0	49	618	2258
17:30:00	174	250	0	0	424	6	73	1	0	80	26	16	0	0	42	546	2308
17:45:00	179	202	0	0	381	7	97	0	0	104	20	13	0	0	33	518	2260
Grand Total	4292	4685	0	0	8977	226	2784	5	9	3015	1009	315	1	10	1325	**13317**	-
Approach%	47.8%	52.2%	0%		-	7.5%	92.3%	0.2%		-	76.2%	23.8%	0.1%		-	**-**	-
Totals %	32.2%	35.2%	0%		67.4%	1.7%	20.9%	0%		22.6%	7.6%	2.4%	0%		9.9%	**-**	-
Heavy	272	95	0		-	64	169	1		-	24	47	0		-	**-**	-
Heavy %	6.3%	2%	0%		-	28.3%	6.1%	20%		-	2.4%	14.9%	0%		-	**-**	-
Bicycles	1	0	0		-	0	0	0		-	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%		-	0%	0%	0%		-	0%	0%	0%		-	**-**	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (-12.0 °C)

Start Time	Southbound DIXIE RD					Northbound DIXIE RD					Eastbound CORMACK CRES					Int. Total (15 min)
	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	U-Turn	Peds	Approach Total	Left	Right	U-Turn	Peds	Approach Total	
07:45:00	94	150	0	0	244	9	92	0	0	101	39	10	0	0	49	394
08:00:00	90	165	0	0	255	12	100	0	0	112	62	6	0	0	68	435
08:15:00	94	154	0	0	248	9	116	0	0	125	78	9	0	0	87	460
08:30:00	113	117	0	0	230	7	129	0	0	136	40	11	0	0	51	417
Grand Total	391	586	0	0	977	37	437	0	0	474	219	36	0	0	255	**1706**
Approach%	40%	60%	0%		-	7.8%	92.2%	0%		-	85.9%	14.1%	0%		-	-
Totals %	22.9%	34.3%	0%		57.3%	2.2%	25.6%	0%		27.8%	12.8%	2.1%	0%		14.9%	-
PHF	0.87	0.89	0		0.96	0.77	0.85	0		0.87	0.7	0.82	0		0.73	-
Heavy	54	14	0		68	11	27	0		38	9	10	0		19	-
Heavy %	13.8%	2.4%	0%		7%	29.7%	6.2%	0%		8%	4.1%	27.8%	0%		7.5%	-
Lights	337	572	0		909	26	410	0		436	210	26	0		236	-
Lights %	86.2%	97.6%	0%		93%	70.3%	93.8%	0%		92%	95.9%	72.2%	0%		92.5%	-
Single-Unit Trucks	38	8	0		46	2	11	0		13	1	0	0		1	-
Single-Unit Trucks %	9.7%	1.4%	0%		4.7%	5.4%	2.5%	0%		2.7%	0.5%	0%	0%		0.4%	-
Buses	15	6	0		21	9	14	0		23	8	10	0		18	-
Buses %	3.8%	1%	0%		2.1%	24.3%	3.2%	0%		4.9%	3.7%	27.8%	0%		7.1%	-
Articulated Trucks	1	0	0		1	0	2	0		2	0	0	0		0	-
Articulated Trucks %	0.3%	0%	0%		0.1%	0%	0.5%	0%		0.4%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

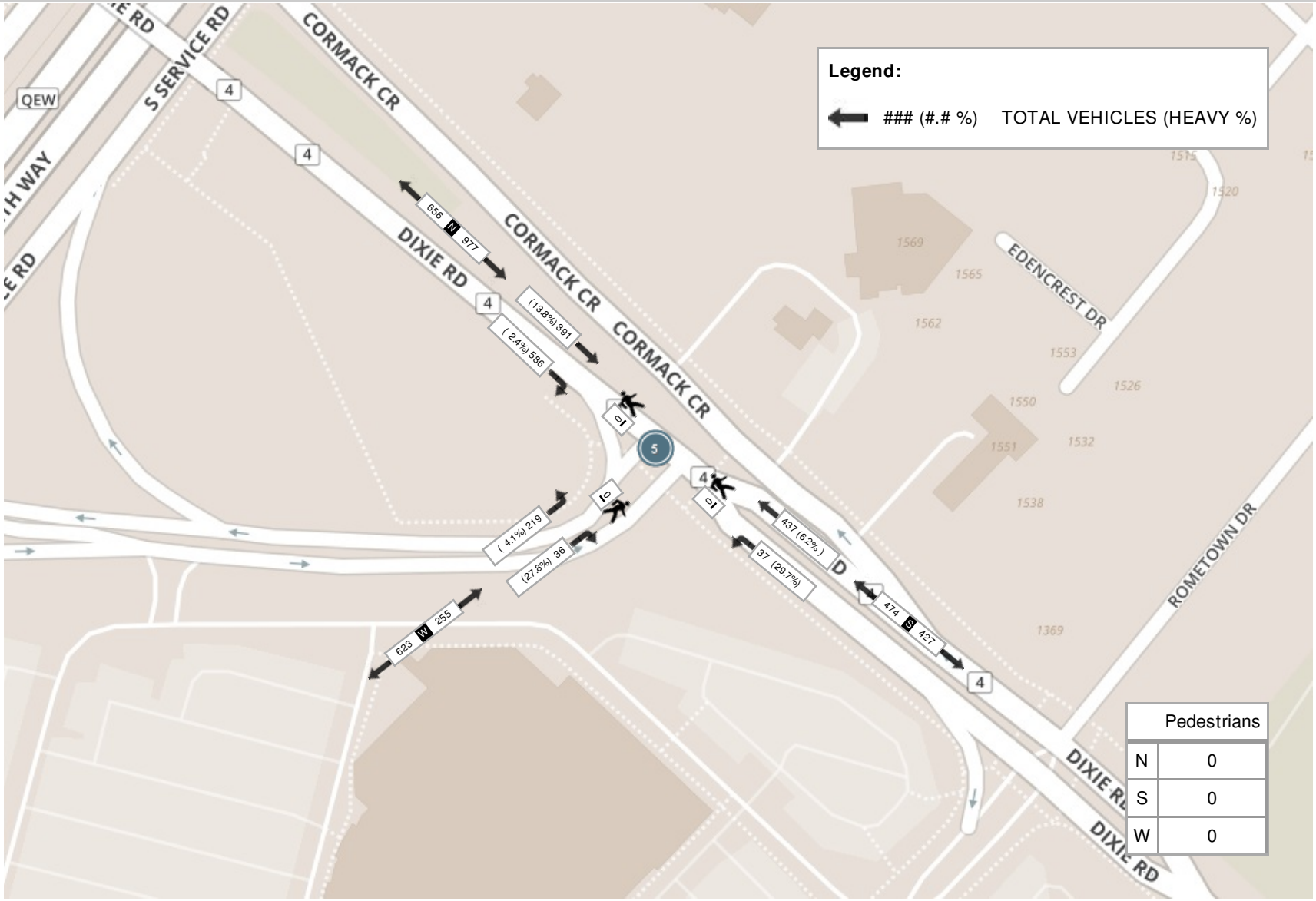
Peak Hour: 12:15 PM - 01:15 PM Weather: Mostly Cloudy (-5.0 °C)

Start Time	Southbound DIXIE RD					Northbound DIXIE RD					Eastbound CORMACK CRES					Int. Total (15 min)
	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	U-Turn	Peds	Approach Total	Left	Right	U-Turn	Peds	Approach Total	
12:15:00	167	120	0	0	287	3	70	0	0	73	34	11	0	0	45	405
12:30:00	137	84	0	0	221	5	78	0	0	83	29	9	0	0	38	342
12:45:00	118	97	0	0	215	6	88	0	0	94	35	6	0	0	41	350
13:00:00	148	101	0	0	249	6	71	0	0	77	25	8	0	0	33	359
Grand Total	570	402	0	0	972	20	307	0	0	327	123	34	0	0	157	**1456**
Approach%	58.6%	41.4%	0%		-	6.1%	93.9%	0%		-	78.3%	21.7%	0%		-	**-**
Totals %	39.1%	27.6%	0%		66.8%	1.4%	21.1%	0%		22.5%	8.4%	2.3%	0%		10.8%	**-**
PHF	0.85	0.84	0		0.85	0.83	0.87	0		0.87	0.88	0.77	0		0.87	**-**
Heavy	54	13	0		67	4	24	0		28	1	3	0		4	**-**
Heavy %	9.5%	3.2%	0%		6.9%	20%	7.8%	0%		8.6%	0.8%	8.8%	0%		2.5%	**-**
Lights	516	389	0		905	16	283	0		299	122	31	0		153	**-**
Lights %	90.5%	96.8%	0%		93.1%	80%	92.2%	0%		91.4%	99.2%	91.2%	0%		97.5%	**-**
Single-Unit Trucks	41	11	0		52	1	15	0		16	1	0	0		1	**-**
Single-Unit Trucks %	7.2%	2.7%	0%		5.3%	5%	4.9%	0%		4.9%	0.8%	0%	0%		0.6%	**-**
Buses	10	2	0		12	3	7	0		10	0	3	0		3	**-**
Buses %	1.8%	0.5%	0%		1.2%	15%	2.3%	0%		3.1%	0%	8.8%	0%		1.9%	**-**
Articulated Trucks	3	0	0		3	0	2	0		2	0	0	0		0	**-**
Articulated Trucks %	0.5%	0%	0%		0.3%	0%	0.7%	0%		0.6%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

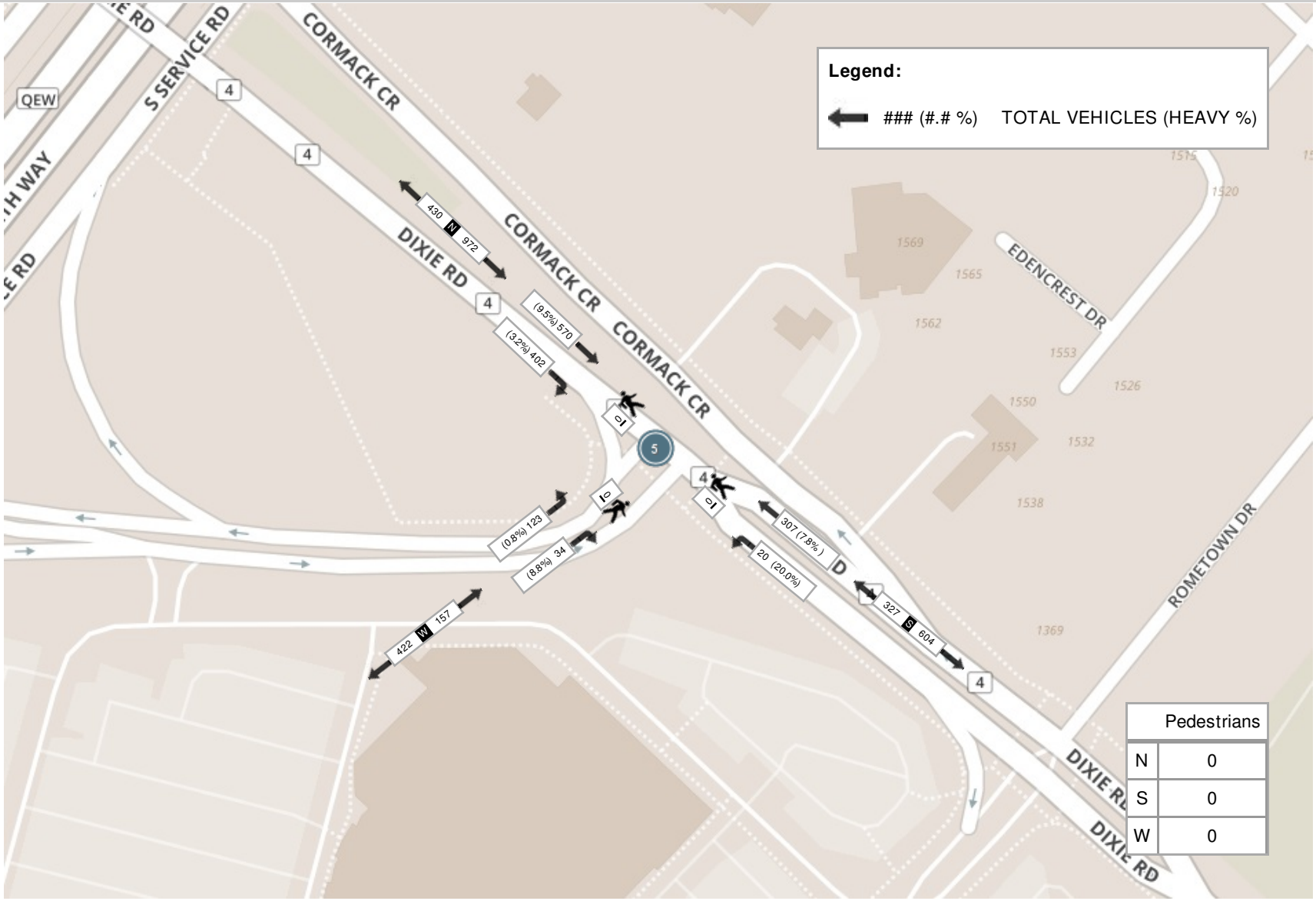
Peak Hour: 04:45 PM - 05:45 PM Weather: Mostly Cloudy (-4.0 °C)

Start Time	Southbound DIXIE RD					Northbound DIXIE RD					Eastbound CORMACK CRES					Int. Total (15 min)
	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	U-Turn	Peds	Approach Total	Left	Right	U-Turn	Peds	Approach Total	
16:45:00	188	218	0	0	406	7	101	0	0	108	41	11	0	0	52	566
17:00:00	205	227	0	0	432	4	100	0	0	104	29	13	0	2	42	578
17:15:00	187	241	0	0	428	13	128	0	0	141	35	14	0	0	49	618
17:30:00	174	250	0	0	424	6	73	1	0	80	26	16	0	0	42	546
Grand Total	754	936	0	0	1690	30	402	1	0	433	131	54	0	2	185	**2308**
Approach%	44.6%	55.4%	0%		-	6.9%	92.8%	0.2%		-	70.8%	29.2%	0%		-	-
Totals %	32.7%	40.6%	0%		73.2%	1.3%	17.4%	0%		18.8%	5.7%	2.3%	0%		8%	-
PHF	0.92	0.94	0		0.98	0.58	0.79	0.25		0.77	0.8	0.84	0		0.89	-
Heavy	20	8	0		28	8	12	0		20	1	7	0		8	-
Heavy %	2.7%	0.9%	0%		1.7%	26.7%	3%	0%		4.6%	0.8%	13%	0%		4.3%	-
Lights	734	928	0		1662	22	390	1		413	130	47	0		177	-
Lights %	97.3%	99.1%	0%		98.3%	73.3%	97%	100%		95.4%	99.2%	87%	0%		95.7%	-
Single-Unit Trucks	3	4	0		7	0	3	0		3	1	1	0		2	-
Single-Unit Trucks %	0.4%	0.4%	0%		0.4%	0%	0.7%	0%		0.7%	0.8%	1.9%	0%		1.1%	-
Buses	15	3	0		18	8	9	0		17	0	6	0		6	-
Buses %	2%	0.3%	0%		1.1%	26.7%	2.2%	0%		3.9%	0%	11.1%	0%		3.2%	-
Articulated Trucks	2	1	0		3	0	0	0		0	0	0	0		0	-
Articulated Trucks %	0.3%	0.1%	0%		0.2%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	100%		-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (-12.0 °C)

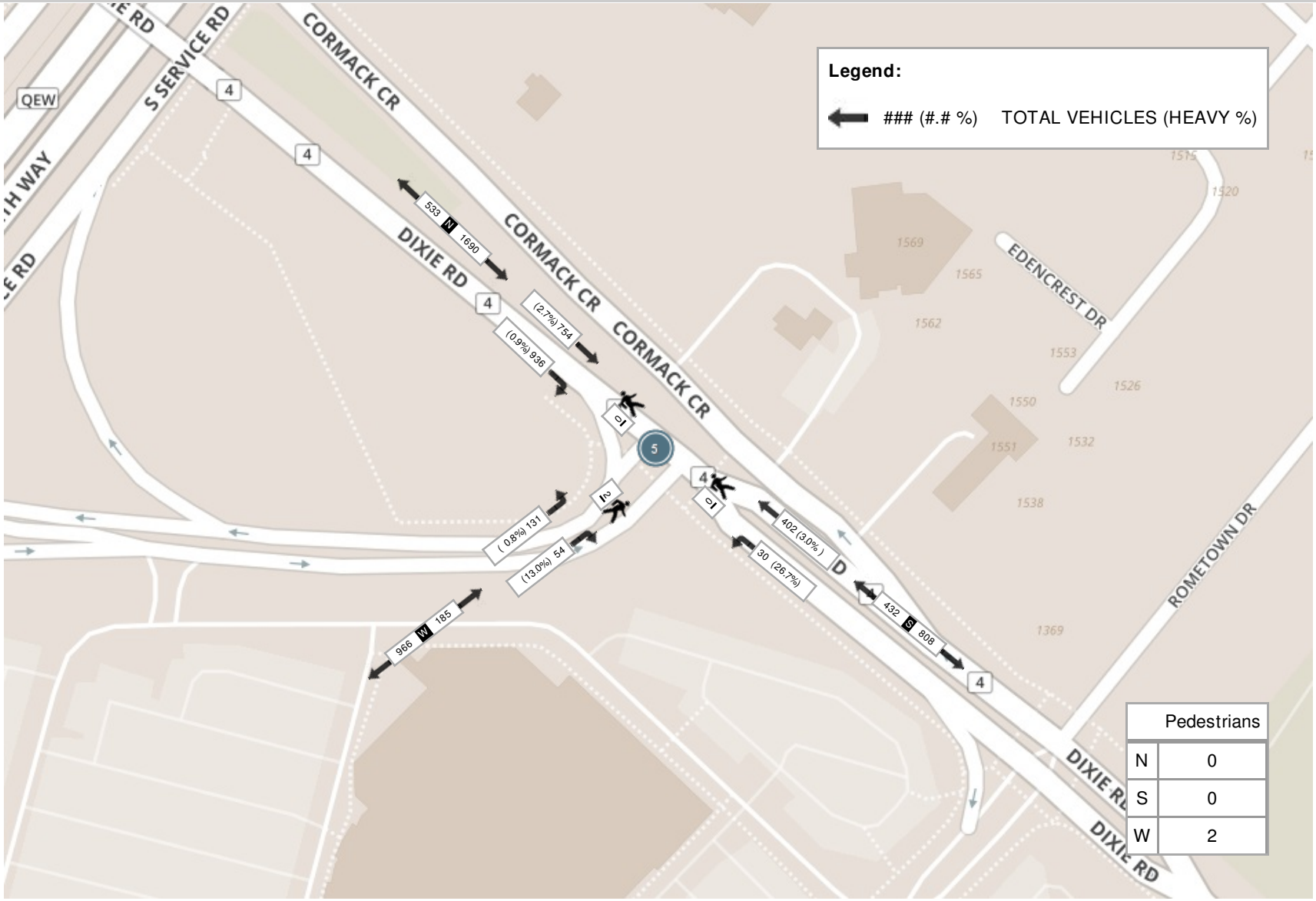


Peak Hour: 12:15 PM - 01:15 PM Weather: Mostly Cloudy (-5.0 °C)



Peel Region
10 Peel Centre Drive
Suite B - 4th Floor
Brampton ON, Canada, L6T 4B9

Peak Hour: 04:45 PM - 05:45 PM Weather: Mostly Cloudy (-4.0 °C)



Turning Movement Count (14 . DIXIE RD & SOUTH SERVICE RD) CustID: 00401731 MioID:

Start Time	Westbound					Northbound					Eastbound					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
07:00:00	0	0	0	0	0	0	82	0	0	82	274	1	0	0	275	357
07:15:00	0	2	0	0	2	0	92	0	0	92	302	0	0	0	302	396
07:30:00	0	6	0	0	6	1	104	0	0	105	304	0	0	0	304	415
07:45:00	0	7	0	0	7	0	77	0	0	77	342	3	0	0	345	429
Hourly	0	15	0	0	15	1	355	0	0	356	1222	4	0	0	1226	1597
08:00:00	0	11	0	0	11	6	83	0	0	89	316	4	0	0	320	420
08:15:00	0	12	0	0	12	10	94	0	0	104	306	10	0	0	316	432
08:30:00	0	6	0	0	6	4	92	0	0	96	254	1	0	0	255	357
08:45:00	0	10	0	0	10	4	83	0	0	87	223	2	0	0	225	322
Hourly	0	39	0	0	39	24	352	0	0	376	1099	17	0	0	1116	1531
BREAK																
11:00:00	0	3	0	0	3	5	37	0	0	42	100	1	0	0	101	146
11:15:00	0	3	0	0	3	3	55	0	0	58	124	0	0	0	124	185
11:30:00	0	2	0	0	2	6	41	0	0	47	117	0	0	0	117	166
11:45:00	0	2	0	0	2	5	43	0	0	48	121	2	0	0	123	173
Hourly	0	10	0	0	10	19	176	0	0	195	462	3	0	0	465	670
12:00:00	0	3	0	0	3	3	67	0	0	70	124	1	0	0	125	198
12:15:00	0	3	0	0	3	3	56	0	0	59	96	1	0	0	97	159
12:30:00	0	3	0	0	3	2	55	0	0	57	122	0	0	0	122	182
12:45:00	0	4	0	0	4	1	69	0	0	70	113	0	0	0	113	187
Hourly	0	13	0	0	13	9	247	0	0	256	455	2	0	0	457	726
13:00:00	0	2	0	0	2	1	53	0	0	54	139	2	0	0	141	197
13:15:00	0	5	0	0	5	5	56	0	0	61	131	1	0	1	132	198
13:30:00	0	5	0	0	5	1	42	0	0	43	96	1	0	0	97	145
13:45:00	0	1	0	0	1	2	41	0	0	43	116	0	0	0	116	160

Hourly	0	13	0	0	13	9	192	0	0	201	482	4	0	1	486	700
BREAK																
15:00:00	0	3	0	0	3	6	66	0	0	72	121	3	0	0	124	199
15:15:00	0	3	0	0	3	5	78	0	0	83	135	5	0	0	140	226
15:30:00	0	2	0	0	2	10	66	0	0	76	146	6	0	0	152	230
15:45:00	0	1	0	0	1	4	77	0	0	81	161	5	0	0	166	248
Hourly	0	9	0	0	9	25	287	0	0	312	563	19	0	0	582	903
16:00:00	0	3	0	0	3	9	108	0	0	117	214	4	0	0	218	338
16:15:00	0	3	0	0	3	9	66	0	0	75	205	0	0	0	205	283
16:30:00	0	5	0	0	5	13	58	0	0	71	158	0	0	0	158	234
16:45:00	0	4	0	0	4	10	45	0	0	55	199	1	0	1	200	259
Hourly	0	15	0	0	15	41	277	0	0	318	776	5	0	1	781	1114
17:00:00	0	4	0	0	4	11	76	0	0	87	232	1	0	0	233	324
17:15:00	0	7	0	0	7	13	64	0	0	77	190	1	0	0	191	275
17:30:00	0	6	0	0	6	12	50	0	0	62	189	0	0	0	189	257
17:45:00	0	5	0	0	5	7	46	0	0	53	128	0	0	0	128	186
Hourly	0	22	0	0	22	43	236	0	0	279	739	2	0	0	741	1042
Grand Total	0	136	0	0	136	171	2122	0	0	2293	5798	56	0	2	5854	**8283**
Approach%	0%	100%	0%		-	7.5%	92.5%	0%		-	99%	1%	0%		-	**-**
Totals %	0%	1.6%	0%		1.6%	2.1%	25.6%	0%		27.7%	70%	0.7%	0%		70.7%	**-**
Heavy	0	3	0		-	7	44	0		-	167	5	0		-	**-**
Heavy %	0%	2.2%	0%		-	4.1%	2.1%	0%		-	2.9%	8.9%	0%		-	**-**
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**

Peak Hour: 07:00 AM - 08:00 AM Weather: Moderate Rain (15.36 °C)

Start Time	Westbound					Northbound					Eastbound					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
07:00:00	0	0	0	0	0	0	82	0	0	82	274	1	0	0	275	357
07:15:00	0	2	0	0	2	0	92	0	0	92	302	0	0	0	302	396
07:30:00	0	6	0	0	6	1	104	0	0	105	304	0	0	0	304	415
07:45:00	0	7	0	0	7	0	77	0	0	77	342	3	0	0	345	429
Grand Total	0	15	0	0	15	1	355	0	0	356	1222	4	0	0	1226	**1597**
Approach%	0%	100%	0%		-	0.3%	99.7%	0%		-	99.7%	0.3%	0%		-	**-**
Totals %	0%	0.9%	0%		0.9%	0.1%	22.2%	0%		22.3%	76.5%	0.3%	0%		76.8%	**-**
PHF	0	0.54	0		0.54	0.25	0.85	0		0.85	0.89	0.33	0		0.89	**-**
Heavy	0	1	0		1	0	3	0		3	18	0	0		18	**-**
Heavy %	0%	6.7%	0%		6.7%	0%	0.8%	0%		0.8%	1.5%	0%	0%		1.5%	**-**
Lights	0	14	0		14	1	352	0		353	1204	4	0		1208	**-**
Lights %	0%	93.3%	0%		93.3%	100%	99.2%	0%		99.2%	98.5%	100%	0%		98.5%	**-**
Single-Unit Trucks	0	0	0		0	0	2	0		2	9	0	0		9	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.6%	0%		0.6%	0.7%	0%	0%		0.7%	**-**
Buses	0	1	0		1	0	1	0		1	8	0	0		8	**-**
Buses %	0%	6.7%	0%		6.7%	0%	0.3%	0%		0.3%	0.7%	0%	0%		0.7%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.1%	0%	0%		0.1%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

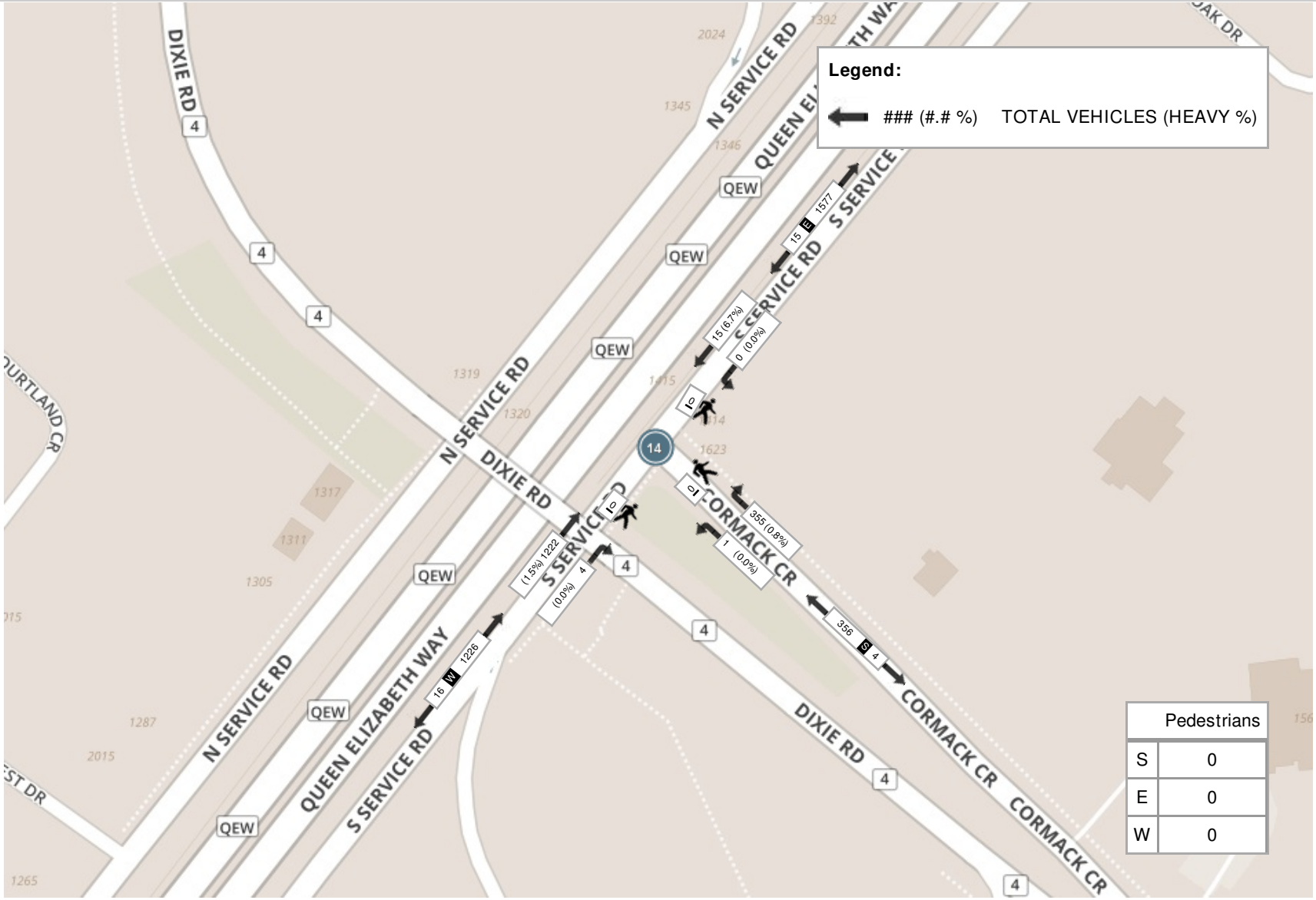
Peak Hour: 12:00 PM - 01:00 PM Weather: Broken Clouds (16.94 °C)

Start Time	Westbound					Northbound					Eastbound					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
12:00:00	0	3	0	0	3	3	67	0	0	70	124	1	0	0	125	198
12:15:00	0	3	0	0	3	3	56	0	0	59	96	1	0	0	97	159
12:30:00	0	3	0	0	3	2	55	0	0	57	122	0	0	0	122	182
12:45:00	0	4	0	0	4	1	69	0	0	70	113	0	0	0	113	187
Grand Total	0	13	0	0	13	9	247	0	0	256	455	2	0	0	457	**726**
Approach%	0%	100%	0%		-	3.5%	96.5%	0%		-	99.6%	0.4%	0%		-	**-**
Totals %	0%	1.8%	0%		1.8%	1.2%	34%	0%		35.3%	62.7%	0.3%	0%		62.9%	**-**
PHF	0	0.81	0		0.81	0.75	0.89	0		0.91	0.92	0.5	0		0.91	**-**
Heavy	0	0	0		0	2	8	0		10	27	1	0		28	**-**
Heavy %	0%	0%	0%		0%	22.2%	3.2%	0%		3.9%	5.9%	50%	0%		6.1%	**-**
Lights	0	13	0		13	7	239	0		246	428	1	0		429	**-**
Lights %	0%	100%	0%		100%	77.8%	96.8%	0%		96.1%	94.1%	50%	0%		93.9%	**-**
Single-Unit Trucks	0	0	0		0	2	6	0		8	19	1	0		20	**-**
Single-Unit Trucks %	0%	0%	0%		0%	22.2%	2.4%	0%		3.1%	4.2%	50%	0%		4.4%	**-**
Buses	0	0	0		0	0	2	0		2	6	0	0		6	**-**
Buses %	0%	0%	0%		0%	0%	0.8%	0%		0.8%	1.3%	0%	0%		1.3%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	2	0	0		2	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.4%	0%	0%		0.4%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

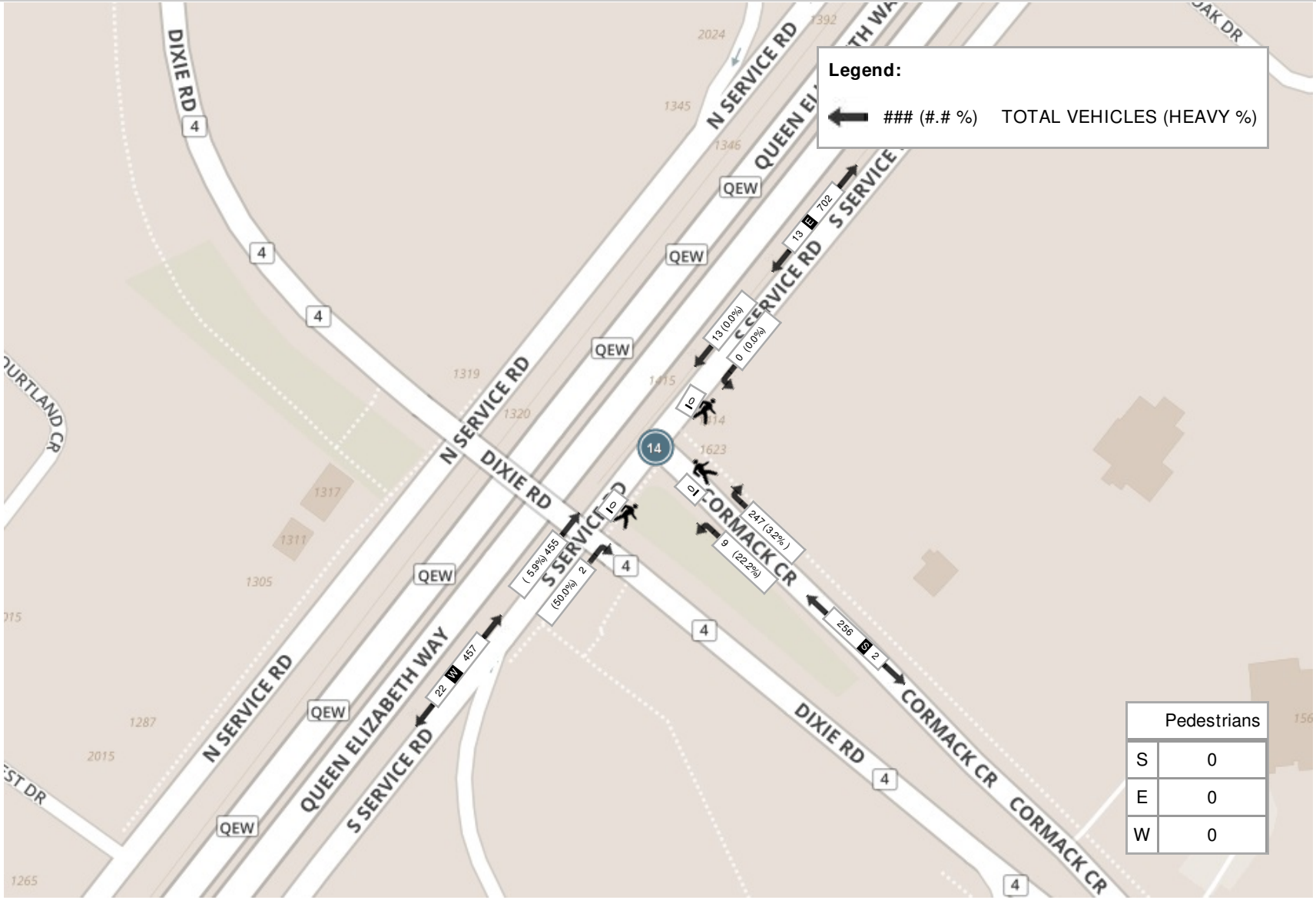
Peak Hour: 04:00 PM - 05:00 PM Weather: Scattered Clouds (20.41 °C)

Start Time	Westbound					Northbound					Eastbound					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
16:00:00	0	3	0	0	3	9	108	0	0	117	214	4	0	0	218	338
16:15:00	0	3	0	0	3	9	66	0	0	75	205	0	0	0	205	283
16:30:00	0	5	0	0	5	13	58	0	0	71	158	0	0	0	158	234
16:45:00	0	4	0	0	4	10	45	0	0	55	199	1	0	1	200	259
Grand Total	0	15	0	0	15	41	277	0	0	318	776	5	0	1	781	**1114**
Approach%	0%	100%	0%		-	12.9%	87.1%	0%		-	99.4%	0.6%	0%		-	-
Totals %	0%	1.3%	0%		1.3%	3.7%	24.9%	0%		28.5%	69.7%	0.4%	0%		70.1%	-
PHF	0	0.75	0		0.75	0.79	0.64	0		0.68	0.91	0.31	0		0.9	-
Heavy	0	1	0		1	1	6	0		7	15	0	0		15	-
Heavy %	0%	6.7%	0%		6.7%	2.4%	2.2%	0%		2.2%	1.9%	0%	0%		1.9%	-
Lights	0	14	0		14	40	271	0		311	761	5	0		766	-
Lights %	0%	93.3%	0%		93.3%	97.6%	97.8%	0%		97.8%	98.1%	100%	0%		98.1%	-
Single-Unit Trucks	0	0	0		0	0	4	0		4	8	0	0		8	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	1.4%	0%		1.3%	1%	0%	0%		1%	-
Buses	0	1	0		1	1	1	0		2	7	0	0		7	-
Buses %	0%	6.7%	0%		6.7%	2.4%	0.4%	0%		0.6%	0.9%	0%	0%		0.9%	-
Articulated Trucks	0	0	0		0	0	1	0		1	0	0	0		0	-
Articulated Trucks %	0%	0%	0%		0%	0%	0.4%	0%		0.3%	0%	0%	0%		0%	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	100%		-

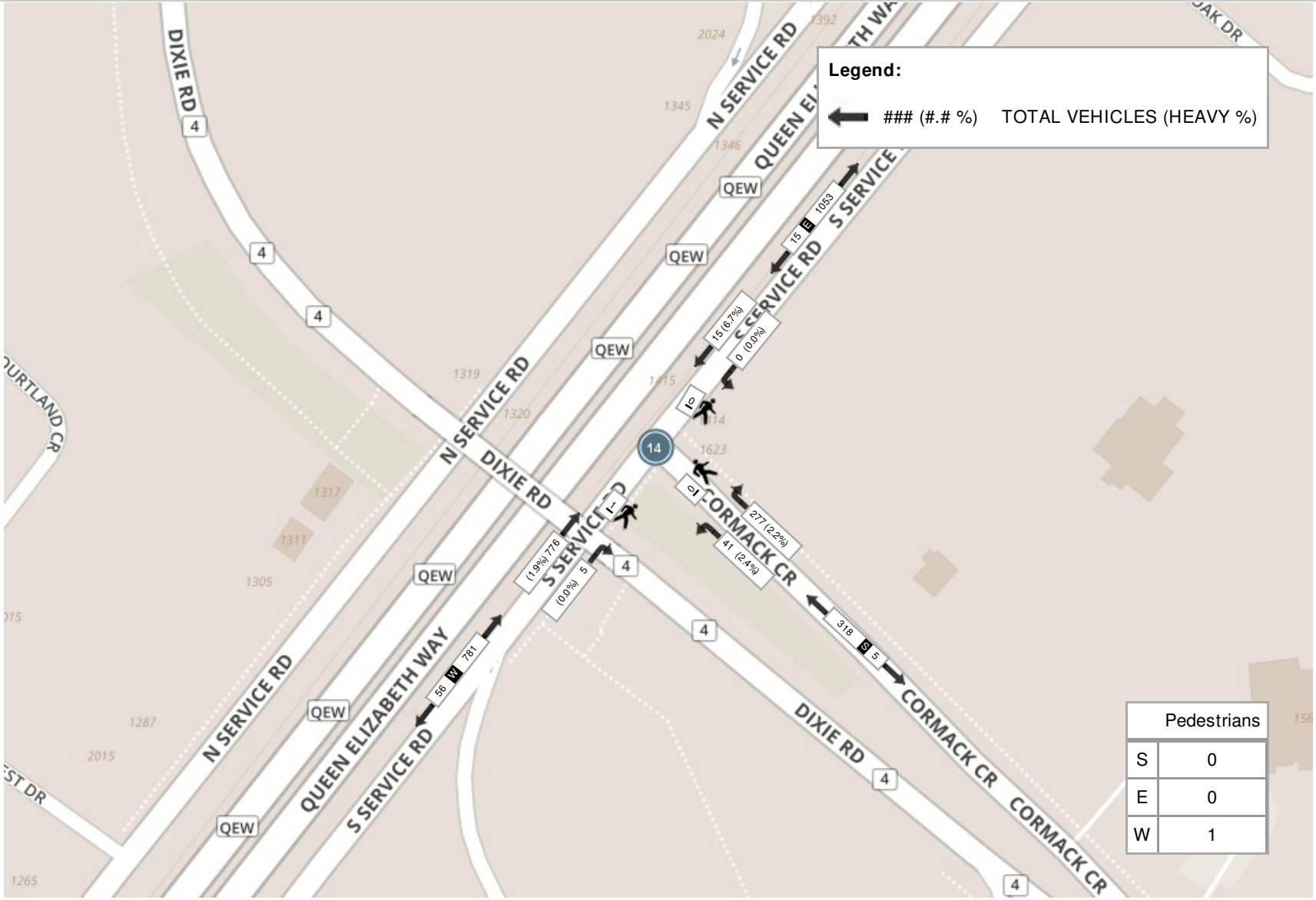
Peak Hour: 07:00 AM - 08:00 AM Weather: Moderate Rain (15.36 °C)



Peak Hour: 12:00 PM - 01:00 PM Weather: Broken Clouds (16.94 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Scattered Clouds (20.41 °C)



Turning Movement Count (15 . DIXIE RD & NORTH SERVICE RD) CustID: 00401918 MioID:

Start Time	Southbound					Westbound					Eastbound					Int. Total (15 min)
	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	UTurn	Peds	Approach Total	
07:00:00	0	18	0	0	18	32	129	0	0	161	34	0	0	0	34	213
07:15:00	0	30	0	0	30	51	118	0	0	169	46	0	0	0	46	245
07:30:00	0	31	0	0	31	105	119	0	0	224	64	0	0	0	64	319
07:45:00	0	42	0	0	42	138	148	0	0	286	66	0	0	0	66	394
Hourly	0	121	0	0	121	326	514	0	0	840	210	0	0	0	210	1171
08:00:00	0	54	0	0	54	172	160	0	0	332	84	0	0	0	84	470
08:15:00	0	65	0	0	65	162	170	0	0	332	73	0	0	0	73	470
08:30:00	0	65	0	0	65	160	129	0	0	289	68	0	0	0	68	422
08:45:00	0	59	0	0	59	151	118	0	0	269	42	0	0	0	42	370
Hourly	0	243	0	0	243	645	577	0	0	1222	267	0	0	0	267	1732
BREAK																
11:00:00	0	43	0	0	43	45	134	0	0	179	55	0	0	0	55	277
11:15:00	0	57	0	0	57	39	138	0	0	177	44	0	0	0	44	278
11:30:00	0	59	0	0	59	46	149	0	0	195	47	0	0	0	47	301
11:45:00	0	49	0	0	49	49	160	0	0	209	58	0	0	0	58	316
Hourly	0	208	0	0	208	179	581	0	0	760	204	0	0	0	204	1172
12:00:00	0	59	0	0	59	67	160	0	0	227	56	0	0	0	56	342
12:15:00	0	48	0	0	48	60	158	0	0	218	52	0	0	0	52	318
12:30:00	0	44	0	0	44	54	166	0	0	220	54	0	0	0	54	318
12:45:00	0	64	0	0	64	58	160	0	0	218	60	0	0	0	60	342
Hourly	0	215	0	0	215	239	644	0	0	883	222	0	0	0	222	1320
13:00:00	0	53	0	0	53	48	146	0	0	194	47	0	0	0	47	294
13:15:00	0	55	0	0	55	62	164	0	0	226	48	0	0	0	48	329
13:30:00	0	50	0	0	50	65	158	0	0	223	36	0	0	0	36	309
13:45:00	0	63	0	0	63	77	175	0	0	252	44	0	0	0	44	359

Hourly	0	221	0	0	221	252	643	0	0	895	175	0	0	0	175	1291
BREAK																
15:00:00	0	80	0	0	80	127	150	0	0	277	51	0	0	0	51	408
15:15:00	0	101	0	0	101	121	154	0	0	275	59	0	0	0	59	435
15:30:00	0	92	0	0	92	163	140	0	0	303	62	0	0	0	62	457
15:45:00	0	93	0	0	93	166	130	0	0	296	60	0	0	0	60	449
Hourly	0	366	0	0	366	577	574	0	0	1151	232	0	0	0	232	1749
16:00:00	0	111	0	0	111	160	127	0	0	287	57	0	0	0	57	455
16:15:00	0	94	0	0	94	172	114	0	0	286	58	0	0	0	58	438
16:30:00	0	103	0	0	103	151	122	0	0	273	35	0	0	0	35	411
16:45:00	0	99	0	0	99	176	112	0	0	288	57	0	0	0	57	444
Hourly	0	407	0	0	407	659	475	0	0	1134	207	0	0	0	207	1748
17:00:00	0	135	0	0	135	203	115	0	0	318	46	0	0	0	46	499
17:15:00	0	124	0	0	124	195	114	0	0	309	58	0	0	0	58	491
17:30:00	0	93	0	0	93	166	124	0	0	290	64	0	0	0	64	447
17:45:00	0	96	0	0	96	180	120	0	0	300	67	0	0	0	67	463
Hourly	0	448	0	0	448	744	473	0	0	1217	235	0	0	0	235	1900
Grand Total	0	2229	0	0	2229	3621	4481	0	0	8102	1752	0	0	0	1752	**12083**
Approach%	0%	100%	0%		-	44.7%	55.3%	0%		-	100%	0%	0%		-	**-**
Totals %	0%	18.4%	0%		18.4%	30%	37.1%	0%		67.1%	14.5%	0%	0%		14.5%	**-**
Heavy	0	53	0		-	40	251	0		-	55	0	0		-	**-**
Heavy %	0%	2.4%	0%		-	1.1%	5.6%	0%		-	3.1%	0%	0%		-	**-**
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Moderate Rain (15.36 °C)

Start Time	Southbound					Westbound					Eastbound					Int. Total (15 min)
	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	UTurn	Peds	Approach Total	
08:00:00	0	54	0	0	54	172	160	0	0	332	84	0	0	0	84	470
08:15:00	0	65	0	0	65	162	170	0	0	332	73	0	0	0	73	470
08:30:00	0	65	0	0	65	160	129	0	0	289	68	0	0	0	68	422
08:45:00	0	59	0	0	59	151	118	0	0	269	42	0	0	0	42	370
Grand Total	0	243	0	0	243	645	577	0	0	1222	267	0	0	0	267	**1732**
Approach%	0%	100%	0%		-	52.8%	47.2%	0%		-	100%	0%	0%		-	-
Totals %	0%	14%	0%		14%	37.2%	33.3%	0%		70.6%	15.4%	0%	0%		15.4%	-
PHF	0	0.93	0		0.93	0.94	0.85	0		0.92	0.79	0	0		0.79	-
Heavy	0	7	0		7	14	31	0		45	8	0	0		8	-
Heavy %	0%	2.9%	0%		2.9%	2.2%	5.4%	0%		3.7%	3%	0%	0%		3%	-
Lights	0	236	0		236	631	546	0		1177	259	0	0		259	-
Lights %	0%	97.1%	0%		97.1%	97.8%	94.6%	0%		96.3%	97%	0%	0%		97%	-
Single-Unit Trucks	0	3	0		3	8	22	0		30	2	0	0		2	-
Single-Unit Trucks %	0%	1.2%	0%		1.2%	1.2%	3.8%	0%		2.5%	0.7%	0%	0%		0.7%	-
Buses	0	4	0		4	6	6	0		12	6	0	0		6	-
Buses %	0%	1.6%	0%		1.6%	0.9%	1%	0%		1%	2.2%	0%	0%		2.2%	-
Articulated Trucks	0	0	0		0	0	3	0		3	0	0	0		0	-
Articulated Trucks %	0%	0%	0%		0%	0%	0.5%	0%		0.2%	0%	0%	0%		0%	-

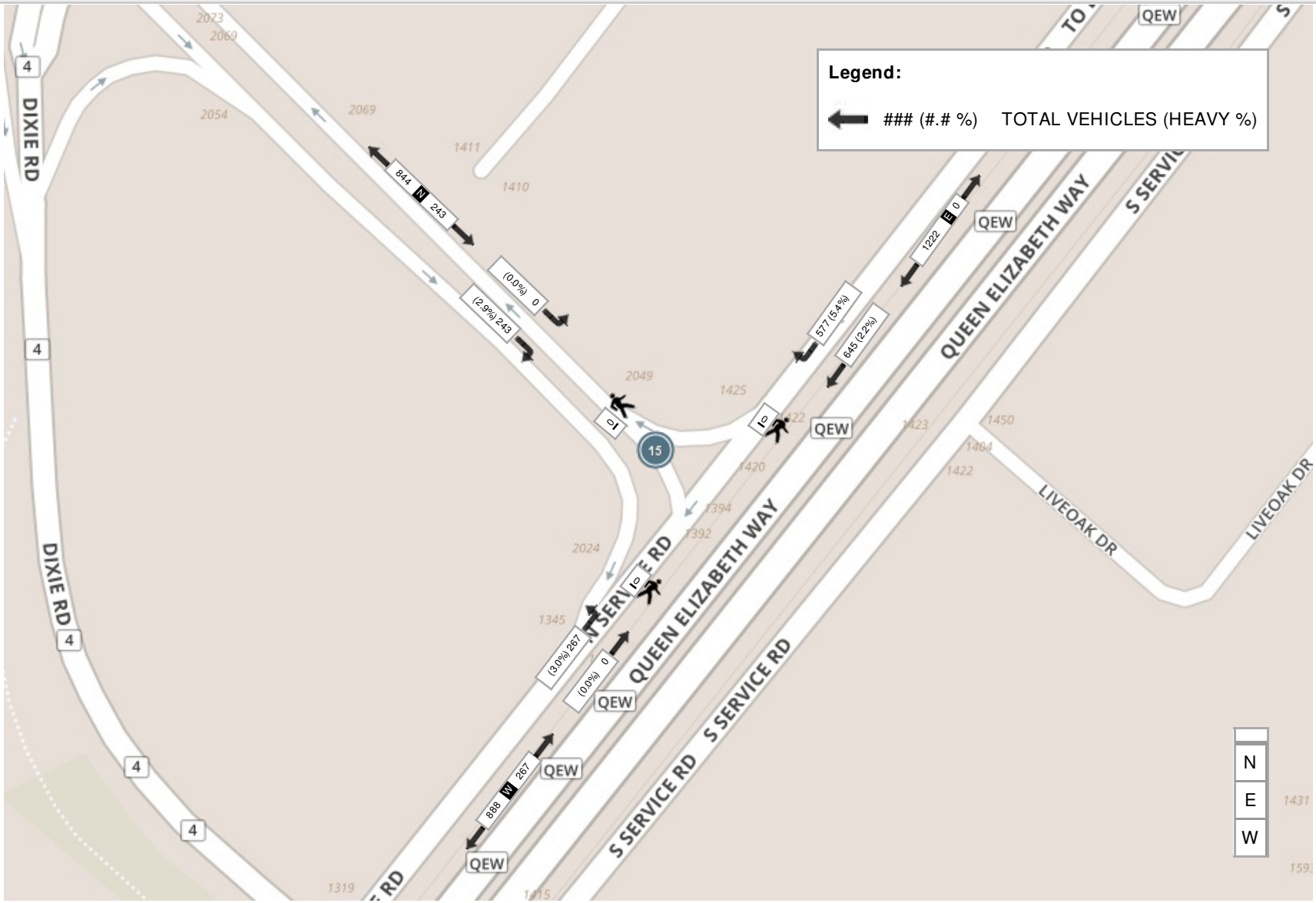
Peak Hour: 12:00 PM - 01:00 PM Weather: Broken Clouds (16.94 °C)

Start Time	Southbound					Westbound					Eastbound					Int. Total (15 min)
	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	UTurn	Peds	Approach Total	
12:00:00	0	59	0	0	59	67	160	0	0	227	56	0	0	0	56	342
12:15:00	0	48	0	0	48	60	158	0	0	218	52	0	0	0	52	318
12:30:00	0	44	0	0	44	54	166	0	0	220	54	0	0	0	54	318
12:45:00	0	64	0	0	64	58	160	0	0	218	60	0	0	0	60	342
Grand Total	0	215	0	0	215	239	644	0	0	883	222	0	0	0	222	**1320**
Approach%	0%	100%	0%		-	27.1%	72.9%	0%		-	100%	0%	0%		-	**-**
Totals %	0%	16.3%	0%		16.3%	18.1%	48.8%	0%		66.9%	16.8%	0%	0%		16.8%	**-**
PHF	0	0.84	0		0.84	0.89	0.97	0		0.97	0.93	0	0		0.93	**-**
Heavy	0	7	0		7	4	45	0		49	5	0	0		5	**-**
Heavy %	0%	3.3%	0%		3.3%	1.7%	7%	0%		5.5%	2.3%	0%	0%		2.3%	**-**
Lights	0	208	0		208	235	599	0		834	217	0	0		217	**-**
Lights %	0%	96.7%	0%		96.7%	98.3%	93%	0%		94.5%	97.7%	0%	0%		97.7%	**-**
Single-Unit Trucks	0	4	0		4	4	40	0		44	3	0	0		3	**-**
Single-Unit Trucks %	0%	1.9%	0%		1.9%	1.7%	6.2%	0%		5%	1.4%	0%	0%		1.4%	**-**
Buses	0	3	0		3	0	2	0		2	2	0	0		2	**-**
Buses %	0%	1.4%	0%		1.4%	0%	0.3%	0%		0.2%	0.9%	0%	0%		0.9%	**-**
Articulated Trucks	0	0	0		0	0	3	0		3	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0.5%	0%		0.3%	0%	0%	0%		0%	**-**

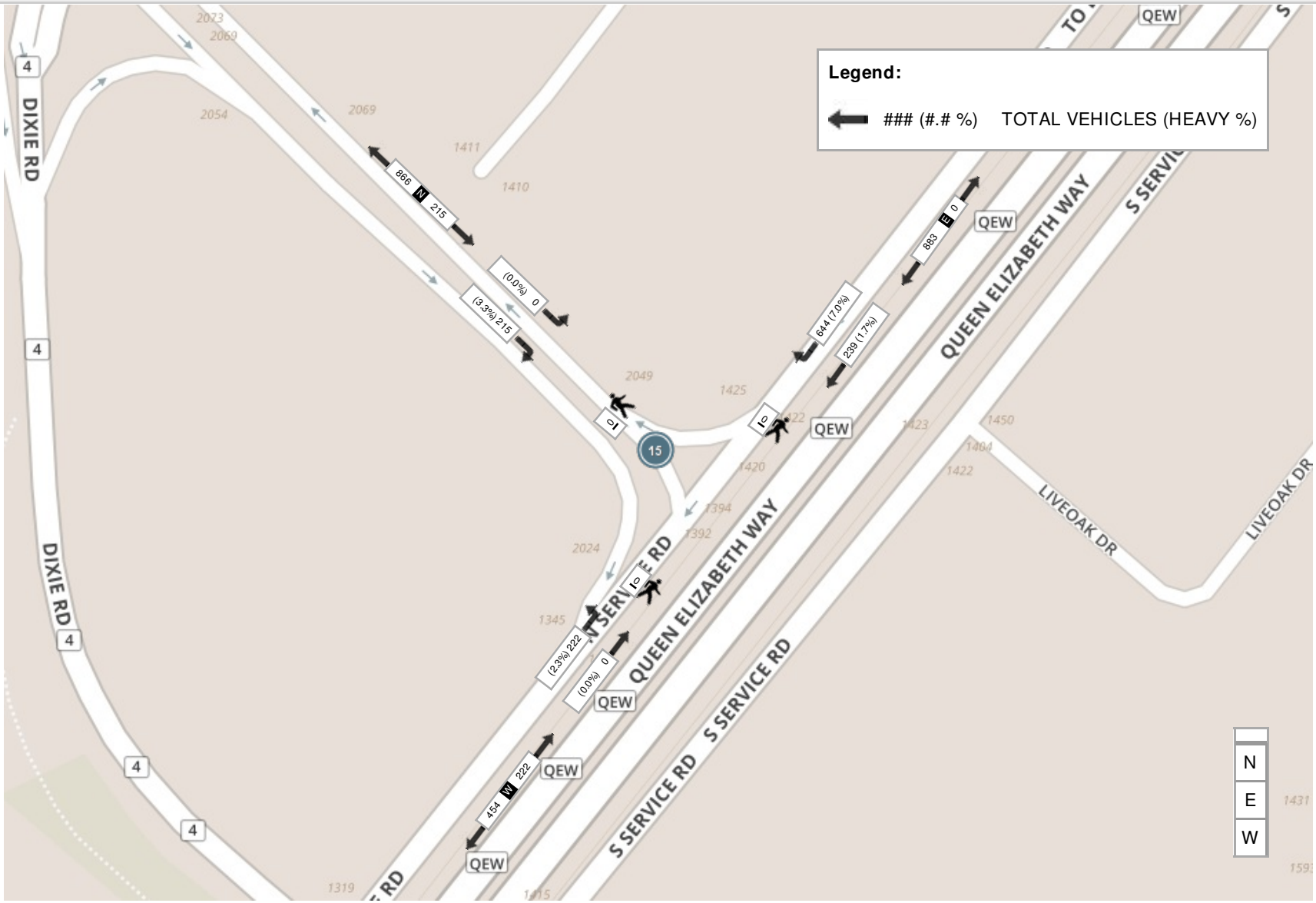
Peak Hour: 05:00 PM - 06:00 PM Weather: Scattered Clouds (20.41 °C)

Start Time	Southbound					Westbound					Eastbound					Int. Total (15 min)
	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	UTurn	Peds	Approach Total	
17:00:00	0	135	0	0	135	203	115	0	0	318	46	0	0	0	46	499
17:15:00	0	124	0	0	124	195	114	0	0	309	58	0	0	0	58	491
17:30:00	0	93	0	0	93	166	124	0	0	290	64	0	0	0	64	447
17:45:00	0	96	0	0	96	180	120	0	0	300	67	0	0	0	67	463
Grand Total	0	448	0	0	448	744	473	0	0	1217	235	0	0	0	235	**1900**
Approach%	0%	100%	0%		-	61.1%	38.9%	0%		-	100%	0%	0%		-	**-**
Totals %	0%	23.6%	0%		23.6%	39.2%	24.9%	0%		64.1%	12.4%	0%	0%		12.4%	**-**
PHF	0	0.83	0		0.83	0.92	0.95	0		0.96	0.88	0	0		0.88	**-**
Heavy	0	4	0		4	3	7	0		10	6	0	0		6	**-**
Heavy %	0%	0.9%	0%		0.9%	0.4%	1.5%	0%		0.8%	2.6%	0%	0%		2.6%	**-**
Lights	0	444	0		444	741	466	0		1207	229	0	0		229	**-**
Lights %	0%	99.1%	0%		99.1%	99.6%	98.5%	0%		99.2%	97.4%	0%	0%		97.4%	**-**
Single-Unit Trucks	0	0	0		0	2	5	0		7	4	0	0		4	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0.3%	1.1%	0%		0.6%	1.7%	0%	0%		1.7%	**-**
Buses	0	4	0		4	1	1	0		2	2	0	0		2	**-**
Buses %	0%	0.9%	0%		0.9%	0.1%	0.2%	0%		0.2%	0.9%	0%	0%		0.9%	**-**
Articulated Trucks	0	0	0		0	0	1	0		1	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0.2%	0%		0.1%	0%	0%	0%		0%	**-**

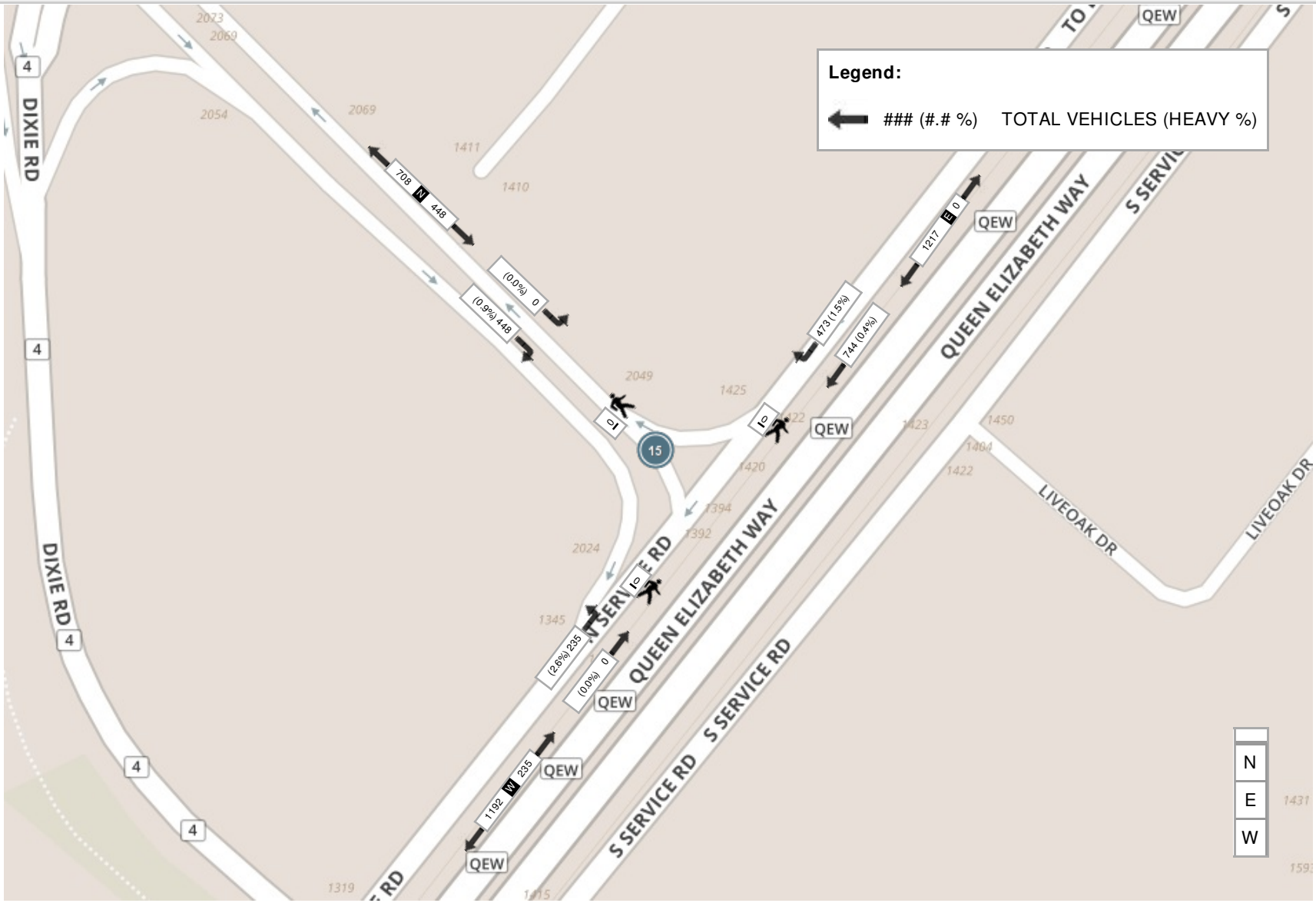
Peak Hour: 08:00 AM - 09:00 AM Weather: Moderate Rain (15.36 °C)



Peak Hour: 12:00 PM - 01:00 PM Weather: Broken Clouds (16.94 °C)



Peak Hour: 05:00 PM - 06:00 PM Weather: Scattered Clouds (20.41 °C)



Turning Movement Count (1 . DIXIE RD & ROMETOWN DR) CustID: 00401575 MioID: 470079

Start Time	Southbound DIXIE RD						Westbound ROMETOWN DR						Northbound DIXIE RD						Eastbound ROMETOWN DR						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
07:00:00	8	58	14	2	0	82	1	2	9	0	0	12	1	93	0	0	0	94	9	0	3	0	1	12	200
07:15:00	7	87	17	1	0	112	0	0	9	0	0	9	5	141	2	0	0	148	17	0	2	0	0	19	288
07:30:00	7	86	9	2	1	104	6	3	23	0	0	32	1	153	0	0	0	154	20	2	0	0	0	22	312
07:45:00	9	78	11	0	0	98	5	2	14	0	0	21	1	169	3	0	2	173	23	0	0	0	0	23	315
Hourly	31	309	51	5	1	396	12	7	55	0	0	74	8	556	5	0	2	569	69	2	5	0	1	76	1115
08:00:00	6	99	15	0	1	120	2	2	14	0	0	18	2	150	1	0	1	153	13	0	0	0	1	13	304
08:15:00	6	74	22	0	0	102	4	0	17	0	3	21	0	131	1	0	2	132	21	1	3	0	1	25	280
08:30:00	9	103	22	0	0	134	4	0	17	0	0	21	4	151	1	0	1	156	12	0	7	0	0	19	330
08:45:00	14	72	25	1	0	112	0	2	9	0	1	11	3	148	1	0	0	152	19	1	1	0	0	21	296
Hourly	35	348	84	1	1	468	10	4	57	0	4	71	9	580	4	0	4	593	65	2	11	0	2	78	1210
BREAK																									
11:00:00	9	60	82	0	0	151	1	2	8	0	2	11	9	74	1	0	1	84	31	2	4	0	0	37	283
11:15:00	7	73	80	0	0	160	1	1	5	0	0	7	2	82	0	0	0	84	42	0	5	0	0	47	298
11:30:00	8	108	66	0	0	182	2	1	5	0	0	8	4	79	2	0	0	85	34	2	4	0	0	40	315
11:45:00	9	93	64	1	0	167	1	3	7	0	1	11	8	96	3	0	2	107	44	0	5	0	1	49	334
Hourly	33	334	292	1	0	660	5	7	25	0	3	37	23	331	6	0	3	360	151	4	18	0	1	173	1230
12:00:00	5	74	71	1	3	151	1	1	6	0	0	8	7	106	4	0	0	117	46	4	2	0	0	52	328
12:15:00	13	74	58	0	2	145	1	2	6	0	1	9	9	81	3	0	2	93	40	0	1	0	2	41	288
12:30:00	10	77	71	1	1	159	1	0	6	0	0	7	8	77	1	0	0	86	35	1	4	0	0	40	292
12:45:00	18	81	56	1	0	156	2	4	10	0	0	16	10	85	4	0	0	99	40	0	5	0	0	45	316
Hourly	46	306	256	3	6	611	5	7	28	0	1	40	34	349	12	0	2	395	161	5	12	0	2	178	1224
13:00:00	12	80	69	1	0	162	0	1	11	0	1	12	3	87	5	0	0	95	48	1	13	0	0	62	331
13:15:00	7	82	75	1	0	165	1	2	10	0	0	13	3	80	1	0	2	84	58	2	7	0	1	67	329
13:30:00	13	76	72	0	2	161	0	1	7	0	2	8	2	115	3	0	1	120	55	4	5	0	0	64	353
13:45:00	11	75	69	1	1	156	3	1	10	0	0	14	3	96	2	0	0	101	54	6	6	0	0	66	337
Hourly	43	313	285	3	3	644	4	5	38	0	3	47	11	378	11	0	3	400	215	13	31	0	1	259	1350
BREAK																									
15:00:00	10	94	64	1	1	169	1	2	10	0	3	13	4	100	1	0	0	105	46	2	6	0	1	54	341
15:15:00	19	80	70	1	0	170	0	1	10	0	0	11	3	112	1	0	2	116	42	5	3	0	0	50	347
15:30:00	20	105	49	0	1	174	6	1	9	0	1	16	5	115	2	0	0	122	45	3	2	0	1	50	362
15:45:00	14	108	51	1	0	174	2	2	6	0	0	10	4	120	1	0	0	125	36	1	6	0	1	43	352
Hourly	63	387	234	3	2	687	9	6	35	0	4	50	16	447	5	0	2	468	169	11	17	0	3	197	1402

16:00:00	18	102	58	2	0	180	0	1	7	0	0	8	3	138	9	0	4	150	50	2	3	0	0	55	393
16:15:00	15	100	66	1	0	182	2	1	10	0	1	13	5	114	3	0	2	122	49	1	6	0	0	56	373
16:30:00	16	128	60	1	1	205	1	4	10	0	1	15	5	110	8	0	0	123	38	0	4	0	0	42	385
16:45:00	19	129	52	0	0	200	1	2	6	0	0	9	5	115	4	0	1	124	48	4	5	0	0	57	390
Hourly	68	459	236	4	1	767	4	8	33	0	2	45	18	477	24	0	7	519	185	7	18	0	0	210	1541
17:00:00	19	103	60	0	1	182	3	3	11	0	1	17	4	113	4	0	1	121	44	3	8	0	3	55	375
17:15:00	16	131	52	1	2	200	2	1	2	0	1	5	3	123	0	0	0	126	34	1	3	0	1	38	369
17:30:00	23	125	47	1	0	196	3	3	4	0	0	10	6	103	6	0	0	115	47	1	2	0	0	50	371
17:45:00	18	135	65	0	0	218	0	0	6	0	1	6	7	107	2	0	1	116	26	4	4	0	0	34	374
Hourly	76	494	224	2	3	796	8	7	23	0	3	38	20	446	12	0	2	478	151	9	17	0	4	177	1489
Grand Total	395	2950	1662	22	17	5029	57	51	294	0	20	402	139	3564	79	0	25	3782	1166	53	129	0	14	1348	**10561**
Approach%	7.9%	58.7%	33%	0.4%		-	14.2%	12.7%	73.1%	0%		-	3.7%	94.2%	2.1%	0%		-	86.5%	3.9%	9.6%	0%		-	**-**
Totals %	3.7%	27.9%	15.7%	0.2%		47.6%	0.5%	0.5%	2.8%	0%		3.8%	1.3%	33.7%	0.7%	0%		35.8%	11%	0.5%	1.2%	0%		12.8%	**-**
Heavy	19	294	26	0		-	8	1	13	0		-	5	157	1	0		-	135	1	6	0		-	**-**
Heavy %	4.8%	10%	1.6%	0%		-	14%	2%	4.4%	0%		-	3.6%	4.4%	1.3%	0%		-	11.6%	1.9%	4.7%	0%		-	**-**
Bicycles	0	2	2	0		-	0	0	0	0		-	0	1	0	0		-	0	1	0	0		-	**-**
Bicycle %	0%	0.1%	0.1%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	1.9%	0%	0%		-	**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (2.1 °C)

Start Time	Southbound DIXIE RD						Westbound ROMETOWN DR						Northbound DIXIE RD						Eastbound ROMETOWN DR						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
08:00:00	6	99	15	0	1	120	2	2	14	0	0	18	2	150	1	0	1	153	13	0	0	0	1	13	304
08:15:00	6	74	22	0	0	102	4	0	17	0	3	21	0	131	1	0	2	132	21	1	3	0	1	25	280
08:30:00	9	103	22	0	0	134	4	0	17	0	0	21	4	151	1	0	1	156	12	0	7	0	0	19	330
08:45:00	14	72	25	1	0	112	0	2	9	0	1	11	3	148	1	0	0	152	19	1	1	0	0	21	296
Grand Total	35	348	84	1	1	468	10	4	57	0	4	71	9	580	4	0	4	593	65	2	11	0	2	78	**1210**
Approach%	7.5%	74.4%	17.9%	0.2%		-	14.1%	5.6%	80.3%	0%		-	1.5%	97.8%	0.7%	0%		-	83.3%	2.6%	14.1%	0%		-	**-**
Totals %	2.9%	28.8%	6.9%	0.1%		38.7%	0.8%	0.3%	4.7%	0%		5.9%	0.7%	47.9%	0.3%	0%		49%	5.4%	0.2%	0.9%	0%		6.4%	**-**
PHF	0.63	0.84	0.84	0.25		0.87	0.63	0.5	0.84	0		0.85	0.56	0.96	1	0		0.95	0.77	0.5	0.39	0		0.78	**-**
Heavy	4	48	9	0		61	4	0	3	0		7	2	17	0	0		19	19	0	2	0		21	**-**
Heavy %	11.4%	13.8%	10.7%	0%		13%	40%	0%	5.3%	0%		9.9%	22.2%	2.9%	0%	0%		3.2%	29.2%	0%	18.2%	0%		26.9%	**-**
Lights	31	300	75	1		407	6	4	54	0		64	7	563	4	0		574	46	2	9	0		57	**-**
Lights %	88.6%	86.2%	89.3%	100%		87%	60%	100%	94.7%	0%		90.1%	77.8%	97.1%	100%	0%		96.8%	70.8%	100%	81.8%	0%		73.1%	**-**
Single-Unit Trucks	4	24	7	0		35	1	0	1	0		2	1	13	0	0		14	2	0	0	0		2	**-**
Single-Unit Trucks %	11.4%	6.9%	8.3%	0%		7.5%	10%	0%	1.8%	0%		2.8%	11.1%	2.2%	0%	0%		2.4%	3.1%	0%	0%	0%		2.6%	**-**
Buses	0	24	0	0		24	3	0	2	0		5	1	4	0	0		5	17	0	2	0		19	**-**
Buses %	0%	6.9%	0%	0%		5.1%	30%	0%	3.5%	0%		7%	11.1%	0.7%	0%	0%		0.8%	26.2%	0%	18.2%	0%		24.4%	**-**
Articulated Trucks	0	0	2	0		2	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	2.4%	0%		0.4%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	9.1%		-	-	-	-	27.3%		-	-	-	-	27.3%		-	-	-	-	18.2%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	9.1%		-	-	-	-	9.1%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

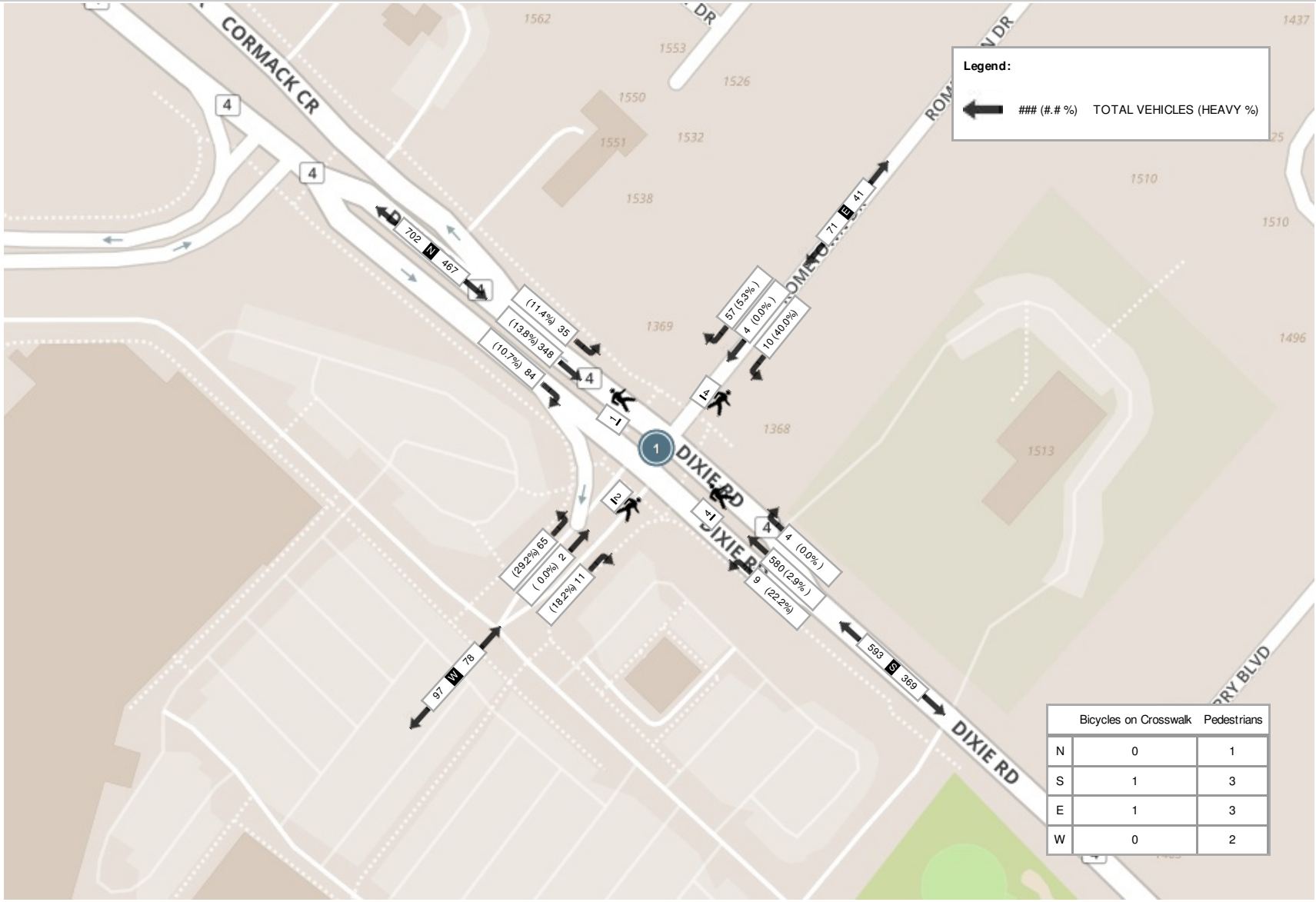
Peak Hour: 01:00 PM - 02:00 PM Weather: Mostly Cloudy (7 °C)

Start Time	Southbound DIXIE RD						Westbound ROMETOWN DR						Northbound DIXIE RD						Eastbound ROMETOWN DR						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
13:00:00	12	80	69	1	0	162	0	1	11	0	1	12	3	87	5	0	0	95	48	1	13	0	0	62	331
13:15:00	7	82	75	1	0	165	1	2	10	0	0	13	3	80	1	0	2	84	58	2	7	0	1	67	329
13:30:00	13	76	72	0	2	161	0	1	7	0	2	8	2	115	3	0	1	120	55	4	5	0	0	64	353
13:45:00	11	75	69	1	1	156	3	1	10	0	0	14	3	96	2	0	0	101	54	6	6	0	0	66	337
Grand Total	43	313	285	3	3	644	4	5	38	0	3	47	11	378	11	0	3	400	215	13	31	0	1	259	**1350**
Approach%	6.7%	48.6%	44.3%	0.5%		-	8.5%	10.6%	80.9%	0%		-	2.8%	94.5%	2.8%	0%		-	83%	5%	12%	0%		-	**-**
Totals %	3.2%	23.2%	21.1%	0.2%		47.7%	0.3%	0.4%	2.8%	0%		3.5%	0.8%	28%	0.8%	0%		29.6%	15.9%	1%	2.3%	0%		19.2%	**-**
PHF	0.83	0.95	0.95	0.75		0.98	0.33	0.63	0.86	0		0.84	0.92	0.82	0.55	0		0.83	0.93	0.54	0.6	0		0.97	**-**
Heavy	2	35	1	0		38	0	0	1	0		1	0	23	0	0		23	14	0	0	0		14	**-**
Heavy %	4.7%	11.2%	0.4%	0%		5.9%	0%	0%	2.6%	0%		2.1%	0%	6.1%	0%	0%		5.8%	6.5%	0%	0%	0%		5.4%	**-**
Lights	41	278	284	3		606	4	5	37	0		46	11	355	11	0		377	201	13	31	0		245	**-**
Lights %	95.3%	88.8%	99.6%	100%		94.1%	100%	100%	97.4%	0%		97.9%	100%	93.9%	100%	0%		94.3%	93.5%	100%	100%	0%		94.6%	**-**
Single-Unit Trucks	1	21	0	0		22	0	0	1	0		1	0	22	0	0		22	3	0	0	0		3	**-**
Single-Unit Trucks %	2.3%	6.7%	0%	0%		3.4%	0%	0%	2.6%	0%		2.1%	0%	5.8%	0%	0%		5.5%	1.4%	0%	0%	0%		1.2%	**-**
Buses	0	14	1	0		15	0	0	0	0		0	0	0	0	0		0	11	0	0	0		11	**-**
Buses %	0%	4.5%	0.4%	0%		2.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	5.1%	0%	0%	0%		4.2%	**-**
Articulated Trucks	1	0	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	2.3%	0%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	30%		-	-	-	-	30%		-	-	-	-	30%		-	-	-	-	10%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	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	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 04:00 PM - 05:00 PM Weather: Mostly Cloudy (6.1 °C)

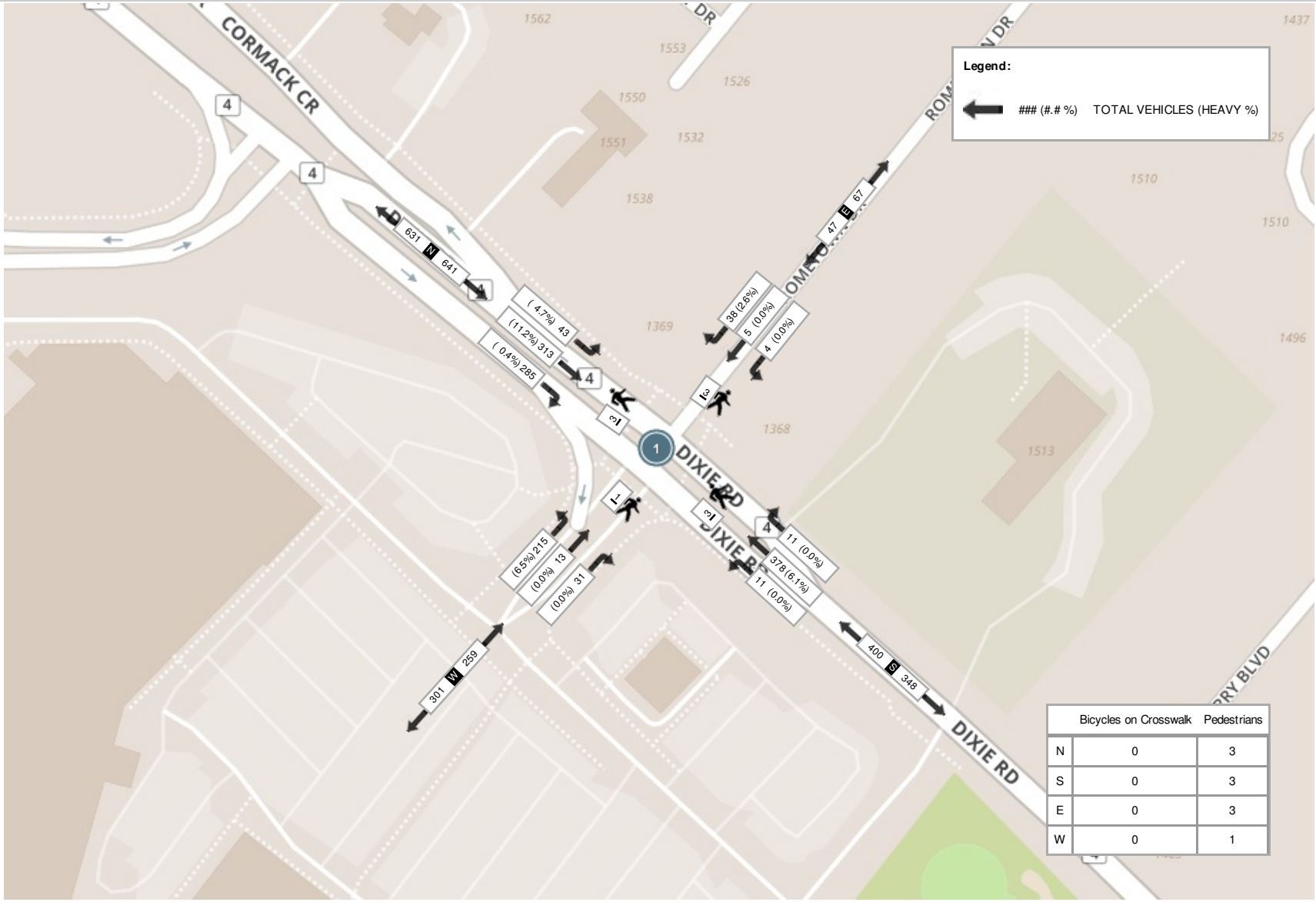
Start Time	Southbound DIXIE RD						Westbound ROMETOWN DR						Northbound DIXIE RD						Eastbound ROMETOWN DR						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
16:00:00	18	102	58	2	0	180	0	1	7	0	0	8	3	138	9	0	4	150	50	2	3	0	0	55	393
16:15:00	15	100	66	1	0	182	2	1	10	0	1	13	5	114	3	0	2	122	49	1	6	0	0	56	373
16:30:00	16	128	60	1	1	205	1	4	10	0	1	15	5	110	8	0	0	123	38	0	4	0	0	42	385
16:45:00	19	129	52	0	0	200	1	2	6	0	0	9	5	115	4	0	1	124	48	4	5	0	0	57	390
Grand Total	68	459	236	4	1	767	4	8	33	0	2	45	18	477	24	0	7	519	185	7	18	0	0	210	**1541**
Approach%	8.9%	59.8%	30.8%	0.5%		-	8.9%	17.8%	73.3%	0%		-	3.5%	91.9%	4.6%	0%		-	88.1%	3.3%	8.6%	0%		-	**-**
Totals %	4.4%	29.8%	15.3%	0.3%		49.8%	0.3%	0.5%	2.1%	0%		2.9%	1.2%	31%	1.6%	0%		33.7%	12%	0.5%	1.2%	0%		13.6%	**-**
PHF	0.89	0.89	0.89	0.5		0.94	0.5	0.5	0.83	0		0.75	0.9	0.86	0.67	0		0.87	0.93	0.44	0.75	0		0.92	**-**
Heavy	1	26	0	0		27	0	1	1	0		2	0	23	1	0		24	17	0	0	0		17	**-**
Heavy %	1.5%	5.7%	0%	0%		3.5%	0%	12.5%	3%	0%		4.4%	0%	4.8%	4.2%	0%		4.6%	9.2%	0%	0%	0%		8.1%	**-**
Lights	67	433	236	4		740	4	7	32	0		43	18	454	23	0		495	168	7	18	0		193	**-**
Lights %	98.5%	94.3%	100%	100%		96.5%	100%	87.5%	97%	0%		95.6%	100%	95.2%	95.8%	0%		95.4%	90.8%	100%	100%	0%		91.9%	**-**
Single-Unit Trucks	0	7	0	0		7	0	1	0	0		1	0	14	0	0		14	1	0	0	0		1	**-**
Single-Unit Trucks %	0%	1.5%	0%	0%		0.9%	0%	12.5%	0%	0%		2.2%	0%	2.9%	0%	0%		2.7%	0.5%	0%	0%	0%		0.5%	**-**
Buses	1	18	0	0		19	0	0	1	0		1	0	3	1	0		4	16	0	0	0		16	**-**
Buses %	1.5%	3.9%	0%	0%		2.5%	0%	0%	3%	0%		2.2%	0%	0.6%	4.2%	0%		0.8%	8.6%	0%	0%	0%		7.6%	**-**
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	6	0	0		6	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.2%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	1.3%	0%	0%		1.2%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	6	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	10%		-	-	-	-	20%		-	-	-	-	60%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	10%		-	-	-	-	0%		**-**
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Partly Cloudy (2.1 °C)



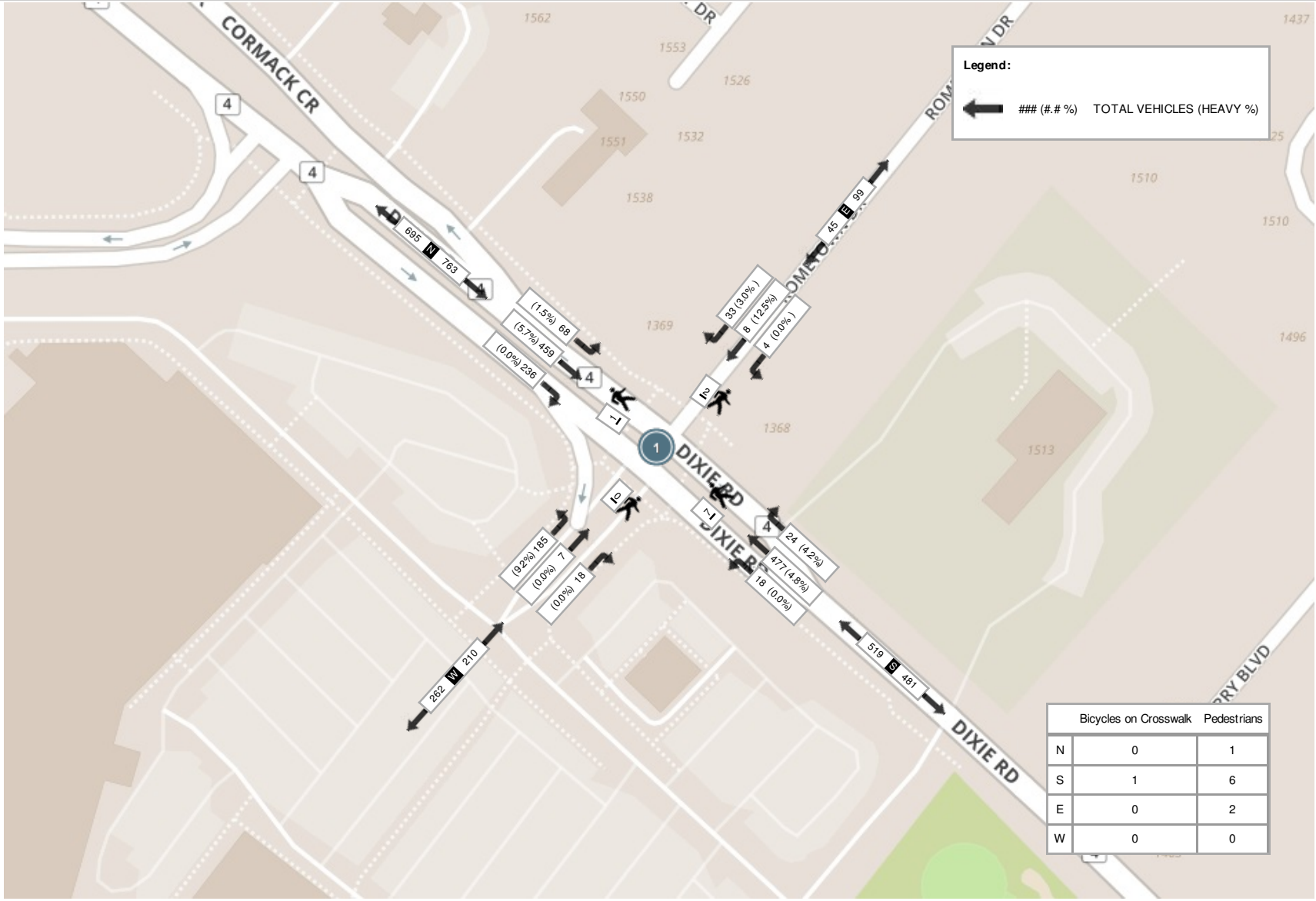
	Bicycles on Crosswalk	Pedestrians
N	0	1
S	1	3
E	1	3
W	0	2

Peak Hour: 01:00 PM - 02:00 PM Weather: Mostly Cloudy (7 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	3
S	0	3
E	0	3
W	0	1

Peak Hour: 04:00 PM - 05:00 PM **Weather: Mostly Cloudy (6.1 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	1
S	1	6
E	0	2
W	0	0

Turning Movement Count (7 . DIXIE RD & SHERWAY DR) CustID: 00402188 MioID: 496528

Start Time	Southbound DIXIE RD						Westbound SHERWAY DRIVE						Northbound DIXIE RD						Eastbound SHERWAY DRIVE						Int. Total (15 min)	Int. Total (1 hr)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total		
07:00:00	2	5	132	0	0	139	1	9	14	0	0	24	34	76	2	1	0	113	56	1	10	0	0	67	343	
07:15:00	3	15	150	0	0	168	3	11	19	0	0	33	59	119	1	0	0	179	53	2	13	0	0	68	448	
07:30:00	8	15	157	0	0	180	5	18	22	0	0	45	47	121	7	0	0	175	88	1	20	0	0	109	509	
07:45:00	25	16	172	0	0	213	7	27	29	0	0	63	59	124	20	0	0	203	103	5	25	0	0	133	612	1912
08:00:00	38	11	159	0	0	208	8	25	56	0	0	89	69	151	30	1	0	251	136	5	21	0	0	162	710	2279
08:15:00	27	19	170	0	1	216	14	18	56	0	0	88	63	154	14	0	0	231	136	6	41	0	0	183	718	2549
08:30:00	10	19	158	1	0	188	12	13	25	0	0	50	59	177	9	0	0	245	130	2	41	0	0	173	656	2696
08:45:00	19	17	125	1	3	162	2	12	21	0	0	35	62	170	9	0	0	241	103	1	25	7	0	136	574	2658
BREAK																										
11:00:00	8	21	131	0	0	160	4	8	10	0	0	22	64	67	5	0	0	136	75	4	10	0	0	89	407	
11:15:00	10	29	147	1	0	187	3	7	15	0	0	25	77	88	7	0	1	172	65	3	17	0	1	85	469	
11:30:00	9	23	141	0	0	173	2	6	15	0	0	23	59	84	7	0	0	150	66	2	19	0	0	87	433	
11:45:00	10	27	161	1	0	199	1	6	7	0	0	14	75	102	8	0	0	185	81	1	22	0	0	104	502	1811
12:00:00	6	38	141	0	1	185	3	7	7	0	2	17	70	107	7	0	0	184	87	5	25	0	0	117	503	1907
12:15:00	7	22	172	0	0	201	4	10	8	0	0	22	92	106	7	0	0	205	69	3	24	0	0	96	524	1962
12:30:00	13	18	139	0	0	170	6	5	9	0	0	20	75	91	13	0	0	179	82	4	15	0	0	101	470	1999
12:45:00	6	31	146	0	0	183	5	7	9	0	0	21	79	96	7	0	0	182	102	3	24	0	0	129	515	2012
13:00:00	6	27	151	1	0	185	0	1	9	0	0	10	89	103	11	0	0	203	67	2	19	0	0	88	486	1995
13:15:00	5	25	186	1	0	217	2	5	8	0	0	15	83	87	11	0	0	181	95	1	22	0	0	118	531	2002
13:30:00	6	31	165	0	0	202	1	1	2	0	0	4	60	86	6	0	0	152	82	1	26	0	0	109	467	1999
13:45:00	9	23	138	0	0	170	2	6	6	0	0	14	92	84	17	0	0	193	73	1	20	0	0	94	471	1955
BREAK																										
15:00:00	22	40	179	0	1	241	6	9	8	0	0	23	114	95	17	0	1	226	91	5	21	0	1	117	607	
15:15:00	45	47	220	0	0	312	8	8	31	0	0	47	116	106	23	0	0	245	77	6	25	0	0	108	712	
15:30:00	29	46	215	2	3	292	5	12	27	0	0	44	97	95	32	0	0	224	84	6	34	0	0	124	684	
15:45:00	20	50	231	1	0	302	10	7	33	0	0	50	84	66	19	0	0	169	103	8	36	0	0	147	668	2671
16:00:00	18	54	229	0	1	301	9	2	32	0	0	43	88	69	20	1	1	178	86	6	26	0	0	118	640	2704
16:15:00	12	51	266	0	1	329	3	4	14	0	0	21	77	87	13	0	0	177	98	7	35	0	0	140	667	2659
16:30:00	14	86	273	0	0	373	3	2	15	0	0	20	92	58	15	0	0	165	81	1	33	0	0	115	673	2648
16:45:00	14	73	301	0	0	388	1	7	9	0	0	17	96	80	15	0	0	191	101	5	37	0	0	143	739	2719
17:00:00	16	51	311	0	0	378	4	8	10	0	0	22	92	64	14	0	1	170	106	3	28	0	0	137	707	2786
17:15:00	17	65	345	0	0	427	1	5	7	0	0	13	94	64	18	0	0	176	102	7	34	0	0	143	759	2878

17:30:00	11	71	321	0	0	403	4	7	10	0	0	21	76	64	17	1	0	158	80	7	26	0	0	113	695	2900
17:45:00	13	75	304	0	1	392	2	9	6	0	0	17	79	67	18	0	0	164	91	4	27	0	0	122	695	2856
Grand Total	458	1141	6236	9	12	7844	141	282	549	0	2	972	2472	3108	419	4	4	6003	2849	118	801	7	2	3775	**18594**	-
Approach%	5.8%	14.5%	79.5%	0.1%		-	14.5%	29%	56.5%	0%		-	41.2%	51.8%	7%	0.1%		-	75.5%	3.1%	21.2%	0.2%		-	**-**	-
Totals %	2.5%	6.1%	33.5%	0%		42.2%	0.8%	1.5%	3%	0%		5.2%	13.3%	16.7%	2.3%	0%		32.3%	15.3%	0.6%	4.3%	0%		20.3%	**-**	-
Heavy	15	16	227	0		-	10	5	14	0		-	136	160	12	0		-	150	6	32	0		-	**-**	-
Heavy %	3.3%	1.4%	3.6%	0%		-	7.1%	1.8%	2.6%	0%		-	5.5%	5.1%	2.9%	0%		-	5.3%	5.1%	4%	0%		-	**-**	-
Bicycles	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	1	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0.1%	0%		-	**-**	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Scattered Clouds (-12.0 °C)

Start Time	Southbound DIXIE RD						Westbound SHERWAY DRIVE						Northbound DIXIE RD						Eastbound SHERWAY DRIVE						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
07:45:00	25	16	172	0	0	213	7	27	29	0	0	63	59	124	20	0	0	203	103	5	25	0	0	133	612
08:00:00	38	11	159	0	0	208	8	25	56	0	0	89	69	151	30	1	0	251	136	5	21	0	0	162	710
08:15:00	27	19	170	0	1	216	14	18	56	0	0	88	63	154	14	0	0	231	136	6	41	0	0	183	718
08:30:00	10	19	158	1	0	188	12	13	25	0	0	50	59	177	9	0	0	245	130	2	41	0	0	173	656
Grand Total	100	65	659	1	1	825	41	83	166	0	0	290	250	606	73	1	0	930	505	18	128	0	0	651	**2696**
Approach%	12.1%	7.9%	79.9%	0.1%		-	14.1%	28.6%	57.2%	0%		-	26.9%	65.2%	7.8%	0.1%		-	77.6%	2.8%	19.7%	0%		-	-
Totals %	3.7%	2.4%	24.4%	0%		30.6%	1.5%	3.1%	6.2%	0%		10.8%	9.3%	22.5%	2.7%	0%		34.5%	18.7%	0.7%	4.7%	0%		24.1%	-
PHF	0.66	0.86	0.96	0.25		0.95	0.73	0.77	0.74	0		0.81	0.91	0.86	0.61	0.25		0.93	0.93	0.75	0.78	0		0.89	-
Heavy	6	1	37	0		44	5	4	4	0		13	22	22	3	0		47	28	2	4	0		34	-
Heavy %	6%	1.5%	5.6%	0%		5.3%	12.2%	4.8%	2.4%	0%		4.5%	8.8%	3.6%	4.1%	0%		5.1%	5.5%	11.1%	3.1%	0%		5.2%	-
Lights	94	64	622	1		781	36	79	162	0		277	228	584	70	1		883	477	16	124	0		617	-
Lights %	94%	98.5%	94.4%	100%		94.7%	87.8%	95.2%	97.6%	0%		95.5%	91.2%	96.4%	95.9%	100%		94.9%	94.5%	88.9%	96.9%	0%		94.8%	-
Single-Unit Trucks	0	1	20	0		21	0	0	0	0		0	17	12	0	0		29	9	0	1	0		10	-
Single-Unit Trucks %	0%	1.5%	3%	0%		2.5%	0%	0%	0%	0%		0%	6.8%	2%	0%	0%		3.1%	1.8%	0%	0.8%	0%		1.5%	-
Buses	6	0	16	0		22	5	4	4	0		13	4	4	3	0		11	17	2	3	0		22	-
Buses %	6%	0%	2.4%	0%		2.7%	12.2%	4.8%	2.4%	0%		4.5%	1.6%	0.7%	4.1%	0%		1.2%	3.4%	11.1%	2.3%	0%		3.4%	-
Articulated Trucks	0	0	1	0		1	0	0	0	0		0	1	6	0	0		7	2	0	0	0		2	-
Articulated Trucks %	0%	0%	0.2%	0%		0.1%	0%	0%	0%	0%		0%	0.4%	1%	0%	0%		0.8%	0.4%	0%	0%	0%		0.3%	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	-	100%		-	-	-	-	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	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

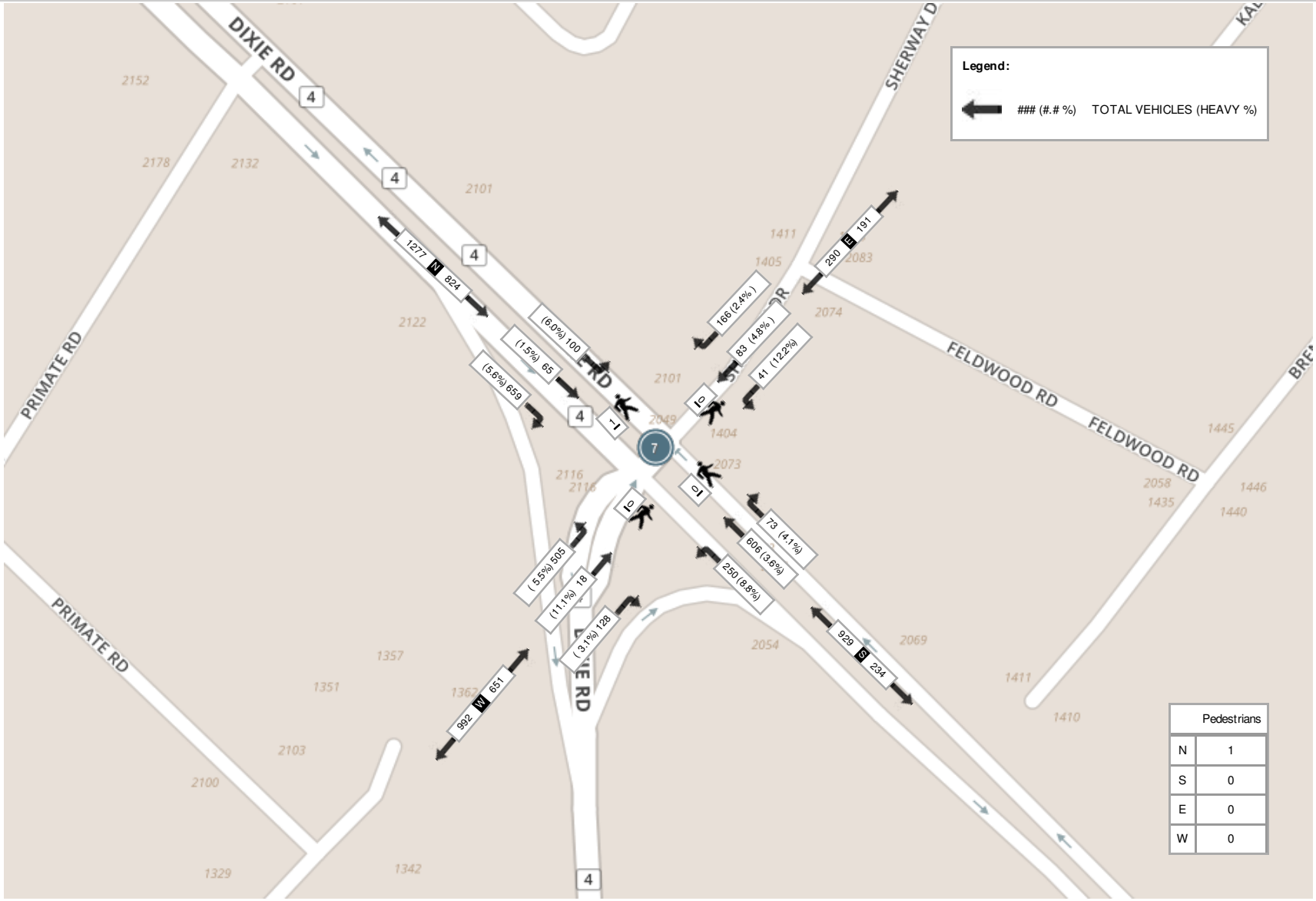
Peak Hour: 12:00 PM - 01:00 PM Weather: Mostly Cloudy (-5.0 °C)

Start Time	Southbound DIXIE RD						Westbound SHERWAY DRIVE						Northbound DIXIE RD						Eastbound SHERWAY DRIVE						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
12:00:00	6	38	141	0	1	185	3	7	7	0	2	17	70	107	7	0	0	184	87	5	25	0	0	117	503
12:15:00	7	22	172	0	0	201	4	10	8	0	0	22	92	106	7	0	0	205	69	3	24	0	0	96	524
12:30:00	13	18	139	0	0	170	6	5	9	0	0	20	75	91	13	0	0	179	82	4	15	0	0	101	470
12:45:00	6	31	146	0	0	183	5	7	9	0	0	21	79	96	7	0	0	182	102	3	24	0	0	129	515
Grand Total	32	109	598	0	1	739	18	29	33	0	2	80	316	400	34	0	0	750	340	15	88	0	0	443	**2012**
Approach%	4.3%	14.7%	80.9%	0%		-	22.5%	36.3%	41.3%	0%		-	42.1%	53.3%	4.5%	0%		-	76.7%	3.4%	19.9%	0%		-	-
Totals %	1.6%	5.4%	29.7%	0%		36.7%	0.9%	1.4%	1.6%	0%		4%	15.7%	19.9%	1.7%	0%		37.3%	16.9%	0.7%	4.4%	0%		22%	-
PHF	0.62	0.72	0.87	0		0.92	0.75	0.73	0.92	0		0.91	0.86	0.93	0.65	0		0.91	0.83	0.75	0.88	0		0.86	-
Heavy	1	5	37	0		43	2	1	1	0		4	28	27	2	0		57	19	1	2	0		22	-
Heavy %	3.1%	4.6%	6.2%	0%		5.8%	11.1%	3.4%	3%	0%		5%	8.9%	6.8%	5.9%	0%		7.6%	5.6%	6.7%	2.3%	0%		5%	-
Lights	31	104	561	0		696	16	28	32	0		76	288	373	32	0		693	321	14	86	0		421	-
Lights %	96.9%	95.4%	93.8%	0%		94.2%	88.9%	96.6%	97%	0%		95%	91.1%	93.3%	94.1%	0%		92.4%	94.4%	93.3%	97.7%	0%		95%	-
Single-Unit Trucks	1	4	26	0		31	1	1	1	0		3	25	23	1	0		49	13	1	0	0		14	-
Single-Unit Trucks %	3.1%	3.7%	4.3%	0%		4.2%	5.6%	3.4%	3%	0%		3.8%	7.9%	5.8%	2.9%	0%		6.5%	3.8%	6.7%	0%	0%		3.2%	-
Buses	0	0	7	0		7	1	0	0	0		1	2	2	1	0		5	3	0	2	0		5	-
Buses %	0%	0%	1.2%	0%		0.9%	5.6%	0%	0%	0%		1.3%	0.6%	0.5%	2.9%	0%		0.7%	0.9%	0%	2.3%	0%		1.1%	-
Articulated Trucks	0	1	4	0		5	0	0	0	0		0	1	2	0	0		3	3	0	0	0		3	-
Articulated Trucks %	0%	0.9%	0.7%	0%		0.7%	0%	0%	0%	0%		0%	0.3%	0.5%	0%	0%		0.4%	0.9%	0%	0%	0%		0.7%	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%	-	-	-	-	33.3%		-	-	-	-	66.7%		-	-	-	-	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	-	-
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-

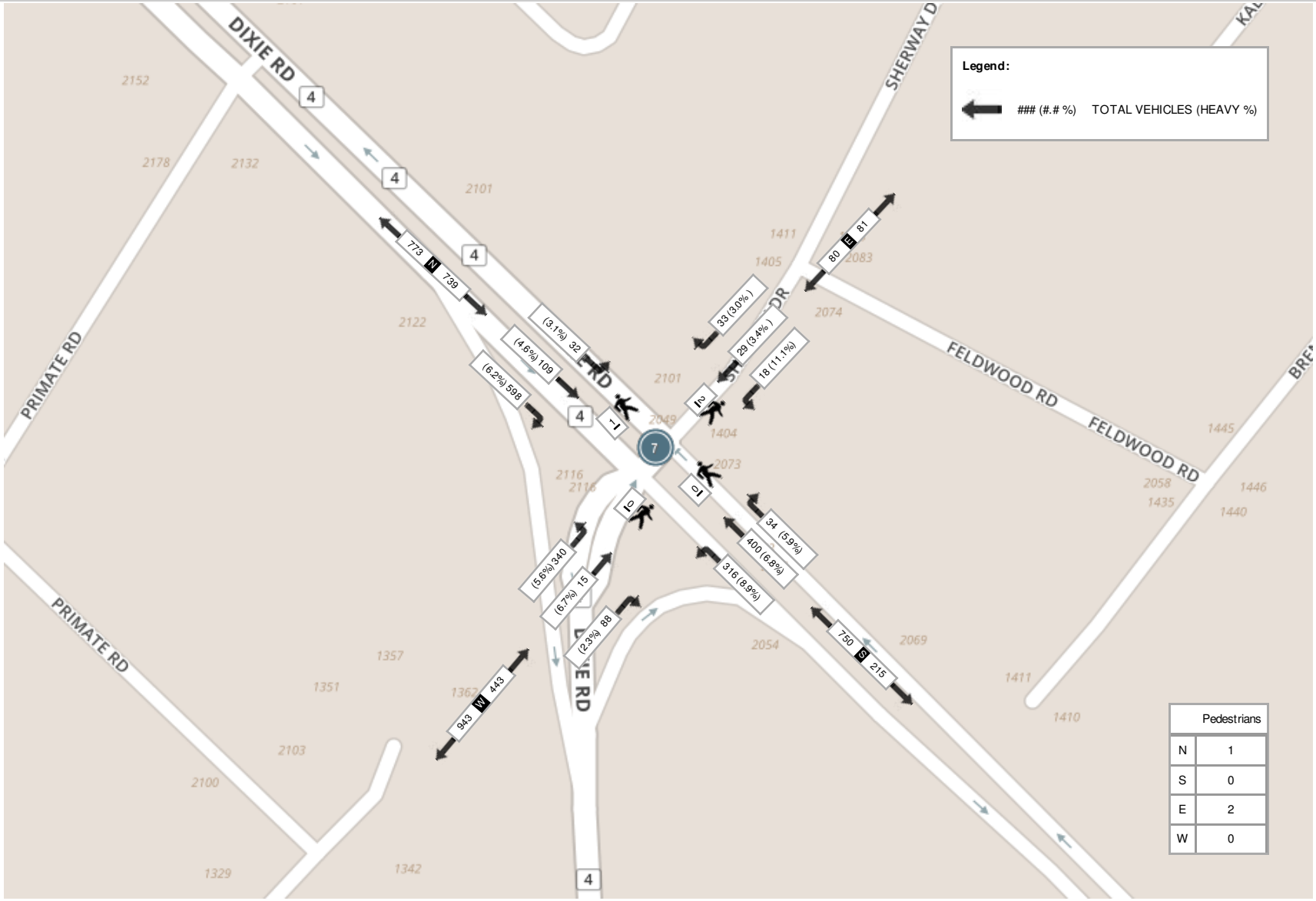
Peak Hour: 04:45 PM - 05:45 PM Weather: Mostly Cloudy (-4.0 °C)

Start Time	Southbound DIXIE RD						Westbound SHERWAY DRIVE						Northbound DIXIE RD						Eastbound SHERWAY DRIVE						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
16:45:00	14	73	301	0	0	388	1	7	9	0	0	17	96	80	15	0	0	191	101	5	37	0	0	143	739
17:00:00	16	51	311	0	0	378	4	8	10	0	0	22	92	64	14	0	1	170	106	3	28	0	0	137	707
17:15:00	17	65	345	0	0	427	1	5	7	0	0	13	94	64	18	0	0	176	102	7	34	0	0	143	759
17:30:00	11	71	321	0	0	403	4	7	10	0	0	21	76	64	17	1	0	158	80	7	26	0	0	113	695
Grand Total	58	260	1278	0	0	1596	10	27	36	0	0	73	358	272	64	1	1	695	389	22	125	0	0	536	**2900**
Approach%	3.6%	16.3%	80.1%	0%		-	13.7%	37%	49.3%	0%		-	51.5%	39.1%	9.2%	0.1%		-	72.6%	4.1%	23.3%	0%		-	**-**
Totals %	2%	9%	44.1%	0%		55%	0.3%	0.9%	1.2%	0%		2.5%	12.3%	9.4%	2.2%	0%		24%	13.4%	0.8%	4.3%	0%		18.5%	**-**
PHF	0.85	0.89	0.93	0		0.93	0.63	0.84	0.9	0		0.83	0.93	0.85	0.89	0.25		0.91	0.92	0.79	0.84	0		0.94	**-**
Heavy	1	0	22	0		23	0	0	0	0		0	5	7	0	0		12	9	0	4	0		13	**-**
Heavy %	1.7%	0%	1.7%	0%		1.4%	0%	0%	0%	0%		0%	1.4%	2.6%	0%	0%		1.7%	2.3%	0%	3.2%	0%		2.4%	**-**
Lights	57	260	1256	0		1573	10	27	36	0		73	353	265	64	1		683	380	22	121	0		523	**-**
Lights %	98.3%	100%	98.3%	0%		98.6%	100%	100%	100%	0%		100%	98.6%	97.4%	100%	100%		98.3%	97.7%	100%	96.8%	0%		97.6%	**-**
Single-Unit Trucks	1	0	7	0		8	0	0	0	0		0	1	4	0	0		5	4	0	0	0		4	**-**
Single-Unit Trucks %	1.7%	0%	0.5%	0%		0.5%	0%	0%	0%	0%		0%	0.3%	1.5%	0%	0%		0.7%	1%	0%	0%	0%		0.7%	**-**
Buses	0	0	12	0		12	0	0	0	0		0	4	1	0	0		5	5	0	4	0		9	**-**
Buses %	0%	0%	0.9%	0%		0.8%	0%	0%	0%	0%		0%	1.1%	0.4%	0%	0%		0.7%	1.3%	0%	3.2%	0%		1.7%	**-**
Articulated Trucks	0	0	3	0		3	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0.2%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.3%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

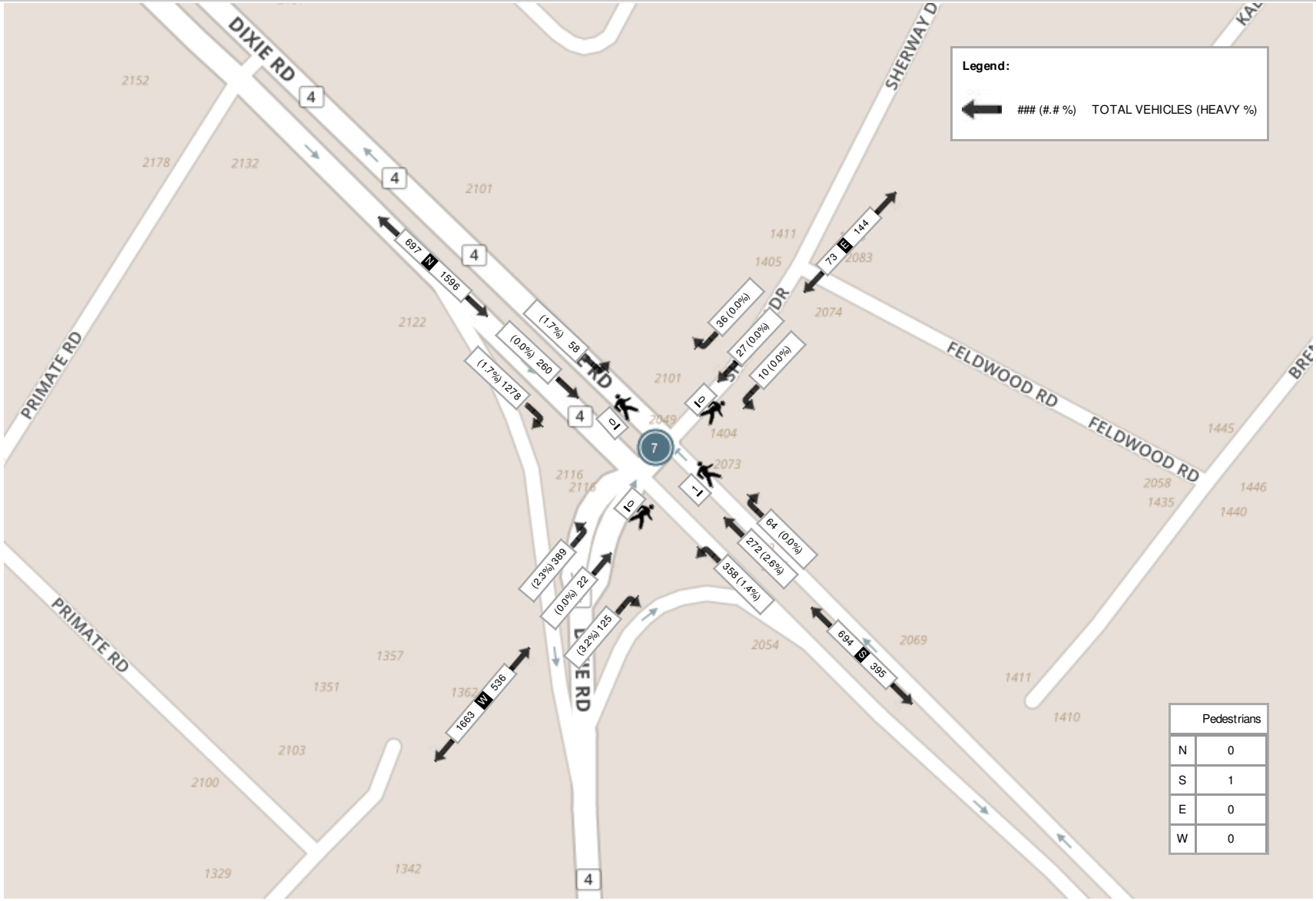
Peak Hour: 07:45 AM - 08:45 AM **Weather: Scattered Clouds (-12.0 °C)**



Peak Hour: 12:00 PM - 01:00 PM **Weather: Mostly Cloudy (-5.0 °C)**



Peak Hour: 04:45 PM - 05:45 PM **Weather: Mostly Cloudy (-4.0 °C)**



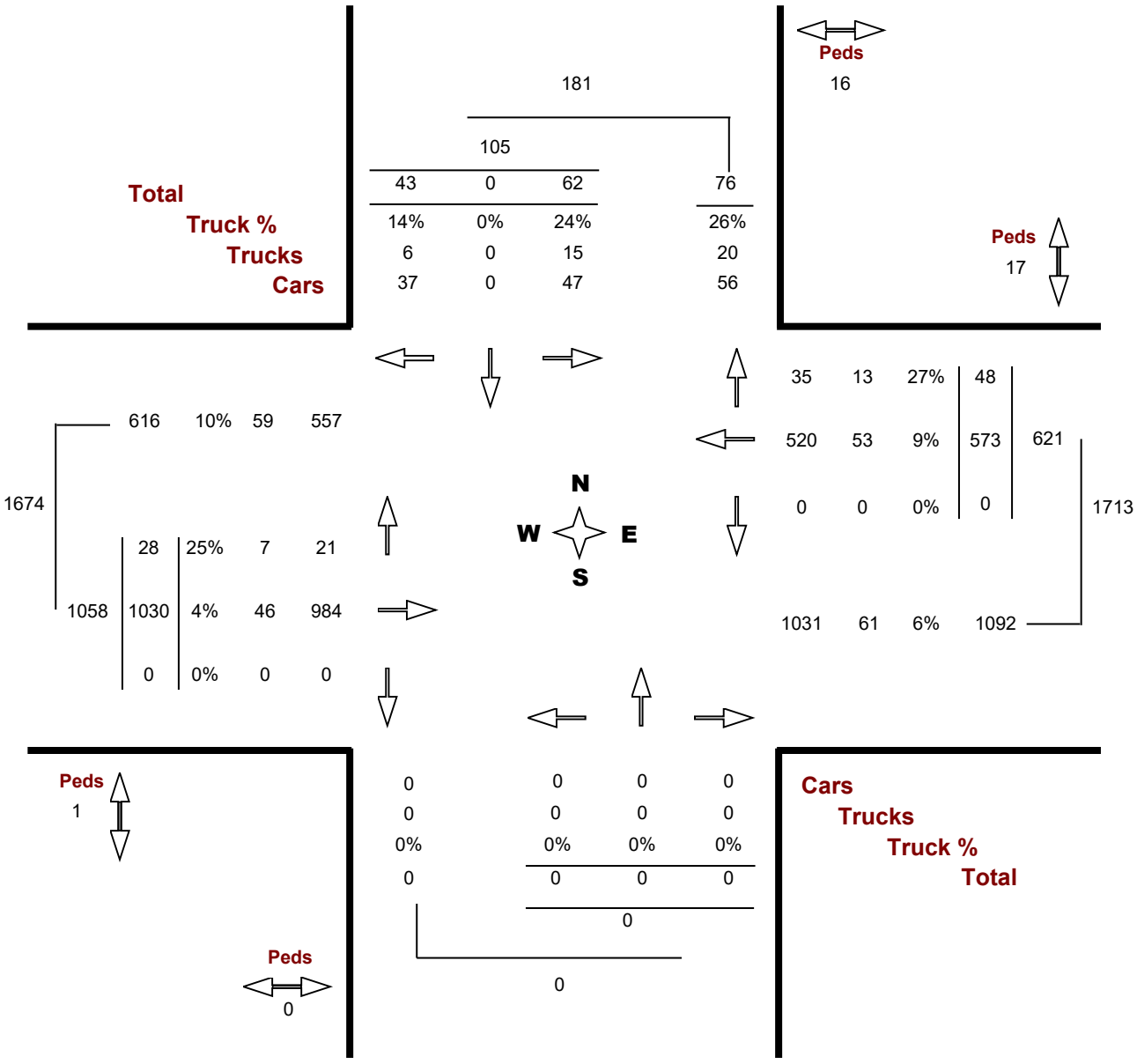
Turning Movements Report - AM Period

Location..... HAIG BLVD @ LAKESHORE RD E

Municipality..... Mississauga **GeoID.....** 351752

Count Date..... Tuesday, 11 November, 201 **Peak Hour.....** 07:45 AM — 08:45 AM

Road 1 HAIG BLVD **Road 2** LAKESHORE RD E



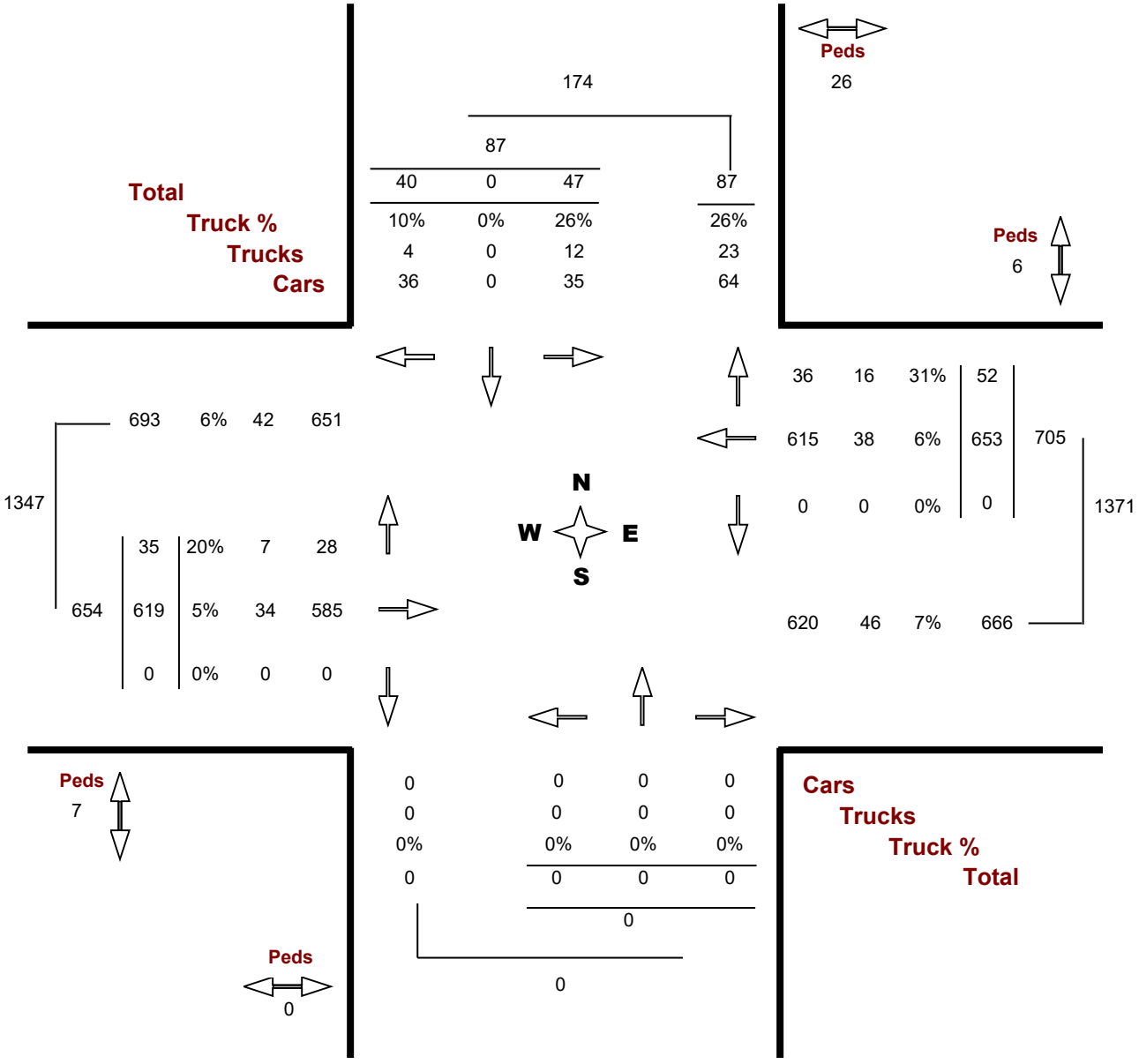
Turning Movements Report - MD Period

Location..... HAIG BLVD @ LAKESHORE RD E

Municipality..... Mississauga **GeoID.....** 351752

Count Date..... Tuesday, 11 November, 201 **Peak Hour.....** 01:00 PM — 02:00 PM

Road 1 HAIG BLVD **Road 2** LAKESHORE RD E



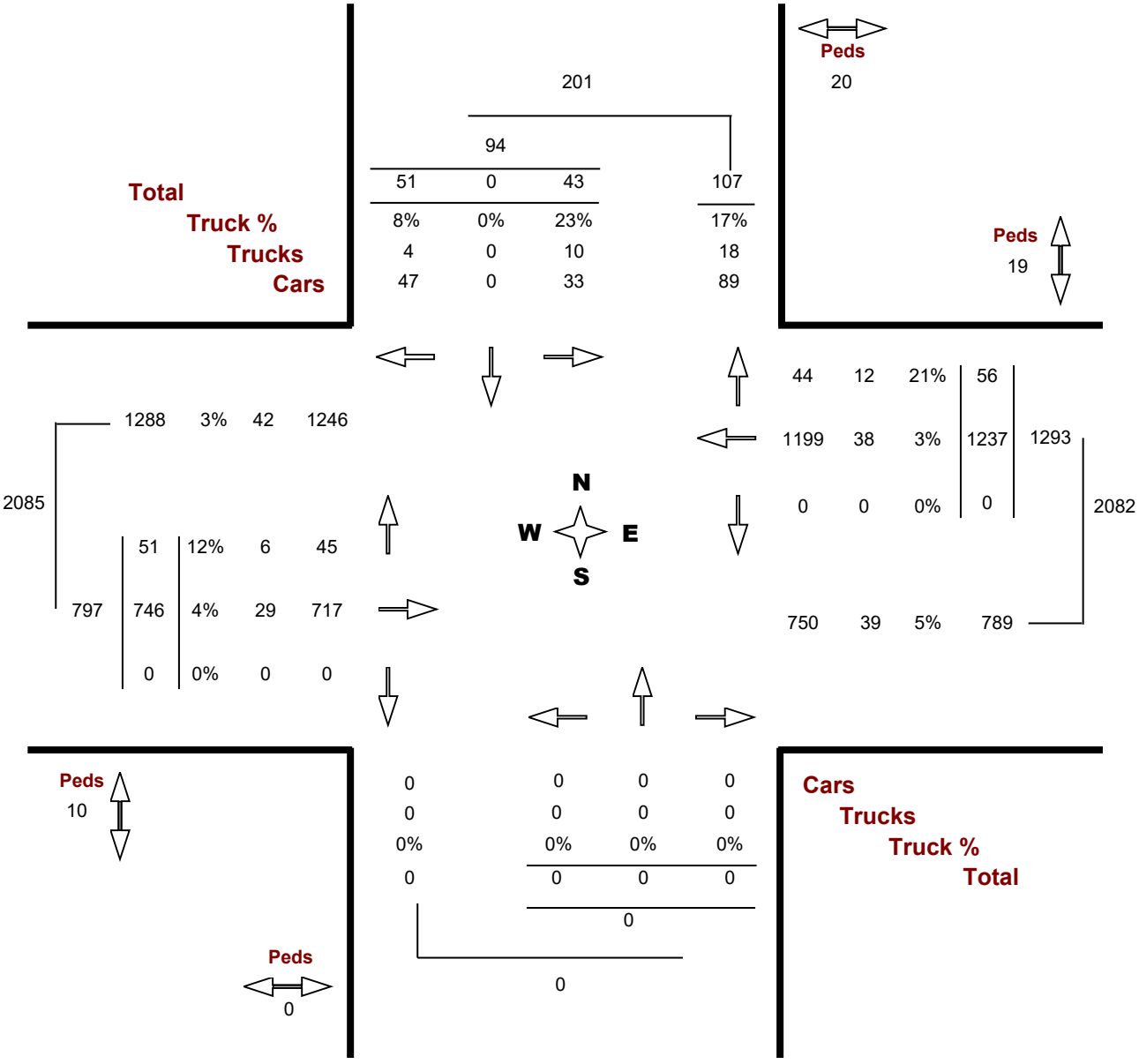
Turning Movements Report - PM Period

Location..... HAIG BLVD @ LAKESHORE RD E

Municipality..... Mississauga **GeoID.....** 351752

Count Date..... Tuesday, 11 November, 201 **Peak Hour.....** 04:30 PM — 05:30 PM

Road 1 HAIG BLVD **Road 2** LAKESHORE RD E



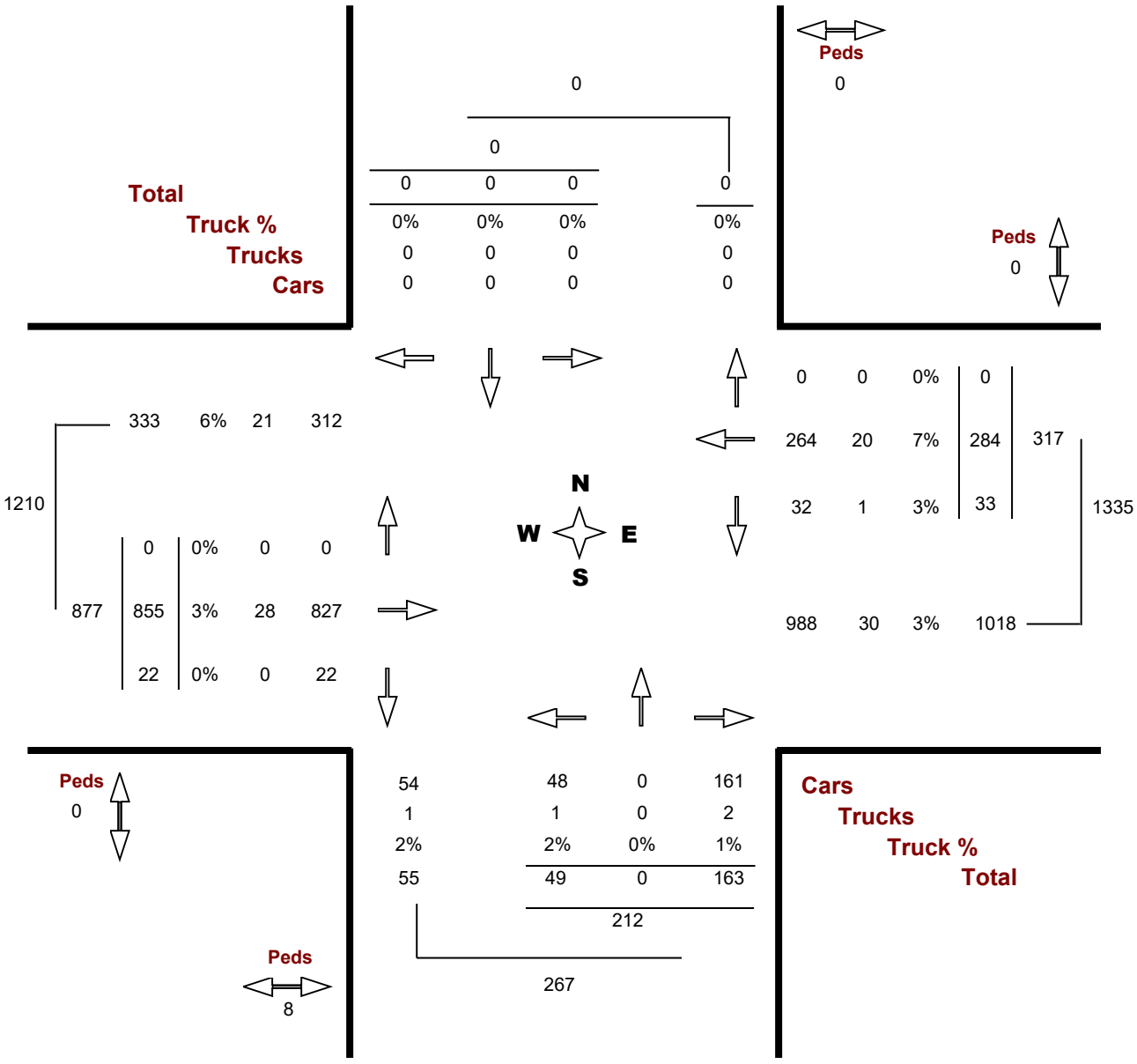
Turning Movements Report - AM Period

Location..... HAIG BLVD @ SOUTH SERVICE RD

Municipality..... Mississauga **GeoID.....** 351430

Count Date..... Tuesday, 01 June, 2010 **Peak Hour.....** 07:45 AM — 08:45 AM

Road 1 SOUTH SERVICE RD **Road 2** HAIG BLVD



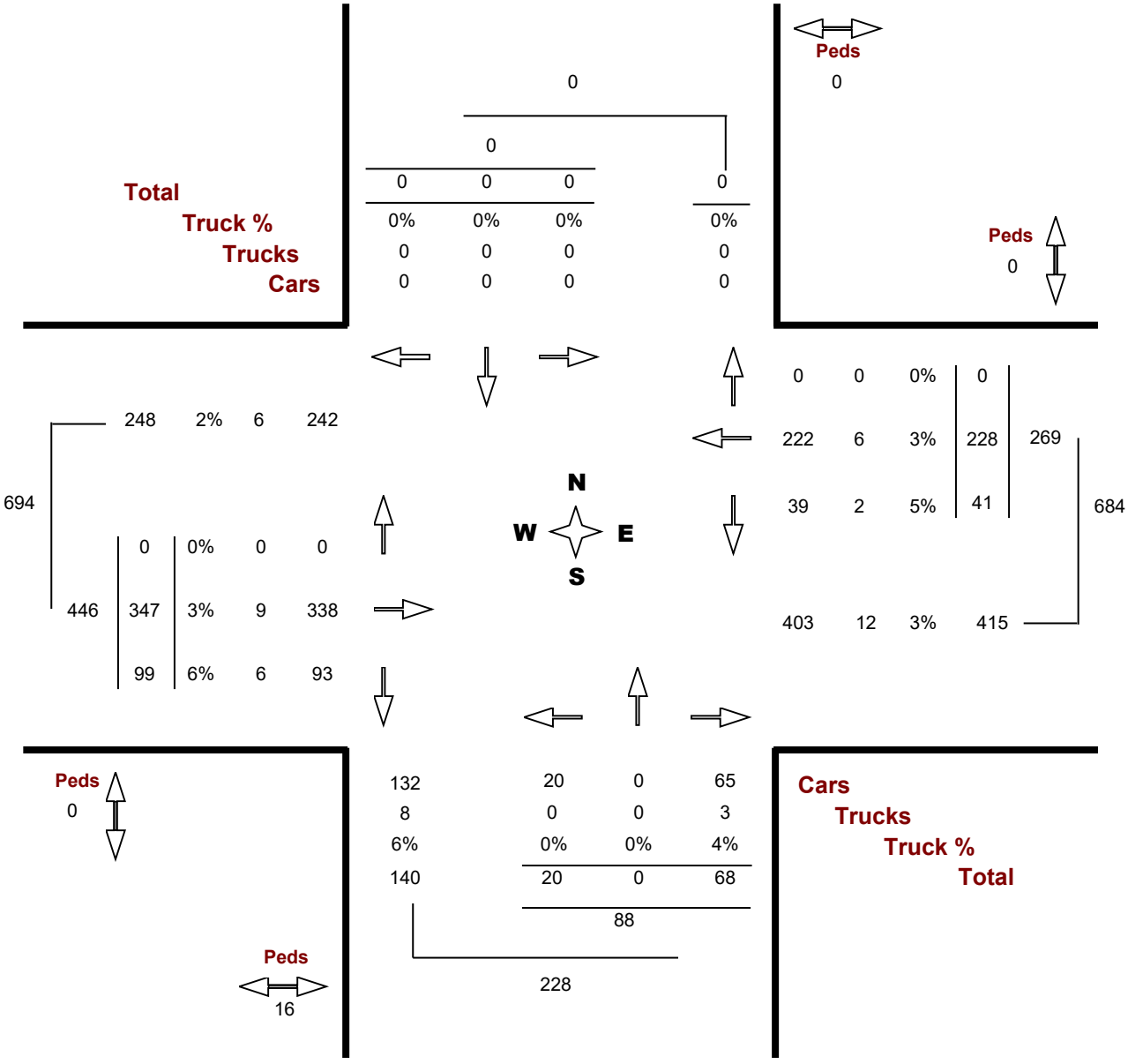
Turning Movements Report - MD Period

Location..... HAIG BLVD @ SOUTH SERVICE RD

Municipality..... Mississauga **GeoID.....** 351430

Count Date..... Tuesday, 01 June, 2010 **Peak Hour.....** 12:00 PM — 01:00 PM

Road 1 SOUTH SERVICE RD **Road 2** HAIG BLVD



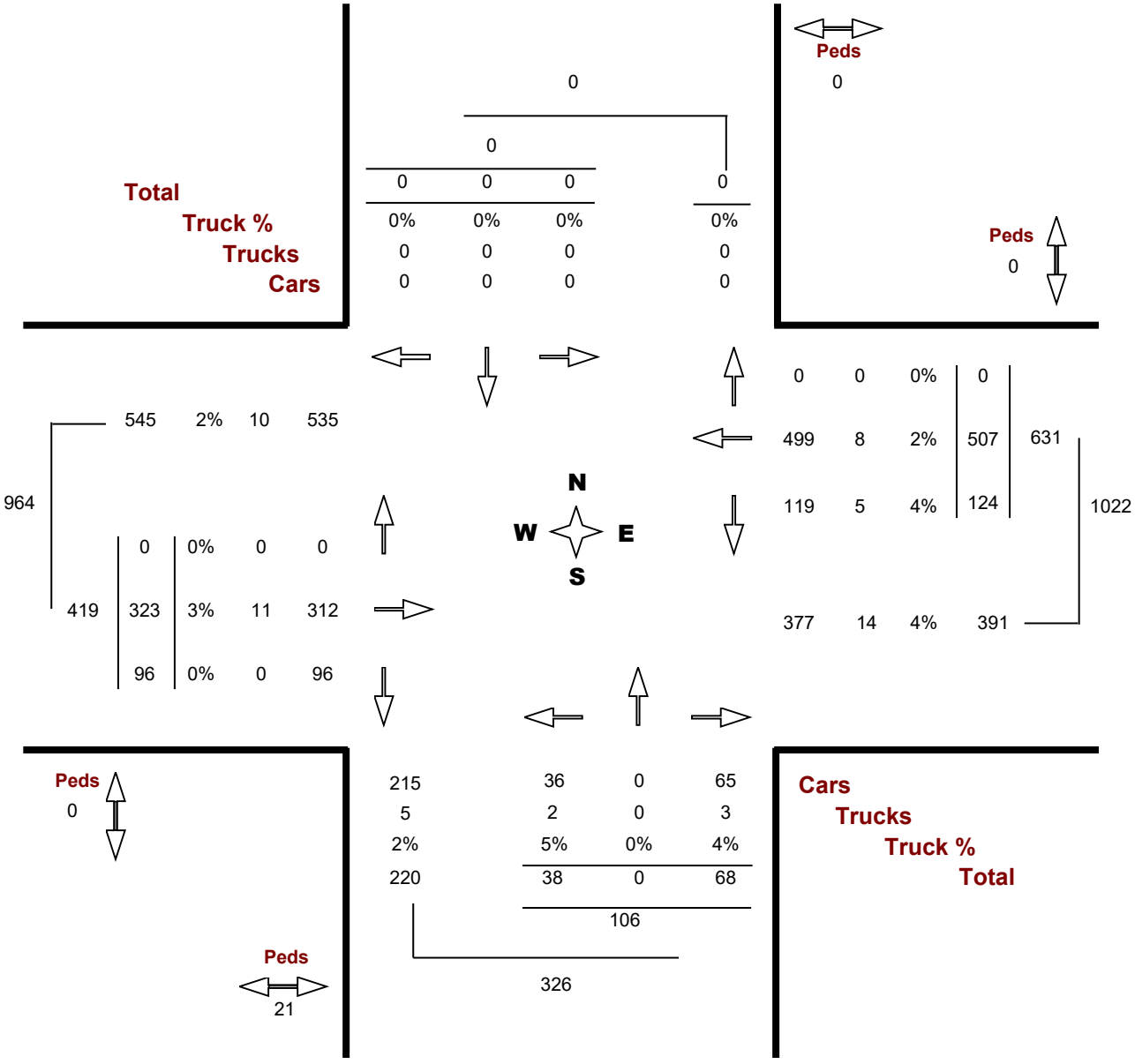
Turning Movements Report - PM Period

Location..... HAIG BLVD @ SOUTH SERVICE RD

Municipality..... Mississauga **GeoID.....** 351430

Count Date..... Tuesday, 01 June, 2010 **Peak Hour.....** 04:45 PM — 05:45 PM

Road 1 SOUTH SERVICE RD **Road 2** HAIG BLVD



APPENDIX B

Background Developments

7.3.1 Multi-Modal Demand Forecasting

The presence of mixed land uses within the development (residential, retail, office, etc.) was taken into consideration in order to determine the peak hour vehicular traffic generated by Lakeview Village. The residential component of site traffic was determined based on a first principles assessment of the site using a person trip methodology. Vehicular traffic generated by non-residential land uses was calculated using ITE 10th edition methodology. Finally, considerations were made for additional adjustments to vehicular trips due to the multi-use nature of the Lakeview Village development and the close proximity of residential, retail, and office uses.

As previously mentioned in Section 1.2, the Lakeview Village Land Use Plan and Development Phasing Concept adopted in this study was developed based on the latest Development Master Plan 'DMP 4.0', submitted in October 2019 by LCPL. The build-out land uses for the Lakeview Lands that have been utilized for the traffic analysis detailed in this report are based on the current Development Master Plan 4.0 elements but refined to align with planning documents recently submitted to the City, specifically the Draft Plan of Subdivision application submitted in December 2019.

It should be noted that DMP 4.0 proposes a total of 8,026 residential units, while the Draft Plan of Subdivision proposes 8,050 residential units. For the purposes of our study, the 'extra' 24 residential units were assumed to be a mix of mid-rise and high-rise residential units. The non-residential components of the latest Lakeview Plan proposed in DMP 4.0 have been faithfully incorporated into the traffic analysis 'as-is'.

Please note that the previous version of this report (August, 2019) analyzed the Lakeview Village development based on 9,700 residential units compared to the current 8,050 (a decrease of 1,650 units). A summary of the previous 9,700-unit analysis has been provided in this report to continue to present this more conservative operational assessment and to confirm that the higher unit count continues to be supported. Similar non-residential uses and G.F.A. statistics were used for both the current DMP 4.0 and August 2019 analyses.

7.3.2 Residential Trip Generation

The residential multi-modal trip demand was based on the planned number of residential units and estimated occupancy levels. Transportation Tomorrow Survey (TTS) 2011 data was then used to develop residential travel demand for each travel mode (e.g. auto-driver, transit, walk, cycle, etc.) during both the a.m. and p.m. peak hours using person trip methodology.

Residential trip demand was calculated based on the overall number of residential units planned for the development and site traffic was assigned to the road network according to the ultimate buildout for the 2031 and 2041 analysis. A total of 8,050 residential units were planned for the development at the time this report was written.

Table 7-1 details the number of units assigned to each type of residential dwelling and the assumed number of residents based on person per unit (PPU) rates outlined in the City of Mississauga's 2019 Development Charges Background Study, dated April 2019.

The number of residents living in each type of residential dwelling was calculated based on the associated PPU rate listed in the Development Charges study. An overall average occupancy rate of 1.96 PPU was based on the dwelling unit mix, which includes the classification of 67% of all apartments as "small apartments" (units less than 700 square feet). Assuming all 9,700 units will be occupied, 18,956 residents would be living in the Lakeview Village community upon full buildout. Based on 2011 TTS data, Port Credit and the Lakeview area have current occupancy rates of 1.64 and 1.90 people per unit, respectively. As such, an average occupancy of 1.96 people per unit in Lakeview Village is a more conservative estimate than existing occupancy levels.

Table 7-1 – Residential Unit Types

Type of Unit	Number of Units	Persons per Unit (PPU)	Resident Population
Town House	355	3.13	1,111
Apartment	2,539	2.74	6,957
Small Apartment	5,156	1.49	7,682
Total	**8,050**	**1.96**	**15,750**

TTS data was collected to determine the percentage of residents that are expected to travel during the a.m. and p.m. hours using all modes of transportation. TTS data was also used to determine the modal split of individuals traveling during the peak hours and what percentage of travel is inbound and outbound. Detailed TTS data and calculations can be found in Appendix C.

TTS data was collected for the Lakeview area south of the Lakeshore West Rail Corridor to analyze existing travel patterns in the area surrounding Lakeview Village. In addition to the data collected for the Lakeview area, TTS data for Port Credit was also collected and analyzed as a proxy site. Lakeview TTS data was collected from 2006 GTA Traffic Zones 3642, 3643, 3875, and 3876, while Port Credit data was taken from traffic zone 3877.

Port Credit was used as a proxy site for Lakeview Village due to its high residential density, variety of dwelling unit types, and mixed-use retail and office buildings. The residential and mixed-use composition of the Port Credit area is similar to what is planned for the Lakeview Village development. Port Credit is located approximately 3 km to the west of the Lakeview site via Lakeshore Road, representing a similar regional context and exposure to alternative travel modes.

TMIG acknowledges that the current levels of transit connectivity in Port Credit and the Lakeview area vary greatly, in particular with the influence of a GO train station in Port Credit to draw additional transit routes and alternative transportation modes to the area. However, it is expected the introduction of BRT service and city-wide transit initiatives will drive a shift in the existing Lakeview mode split, and transit ridership levels similar to those currently observed in Port Credit can be achieved in the Lakeview area. Similarly, it can be expected that existing transit usage levels in Port Credit will also increase in the future.

Although Port Credit can be considered a viable proxy site for Lakeview Village, the TTS data gathered for the existing Lakeview area and Port Credit were averaged in order to present a more conservative analysis. The averaged data points include the transportation mode splits and percentage of residents traveling during the peak hours, as per 2011 TTS data.

Table 7-2 details the person trip methodology used to forecast residential trip generation of the entire Lakeview Village site based on the averaged Lakeview and Port Credit TTS data. The total residential-based auto-driver trips shown in Table 7-2 include minor adjustments to trip volumes due to interaction with the retail and office land uses within the site. The multi-use adjustment methodology will be discussed in Section 7.3.4.

Based on Table 7-2, the residential component of the Lakeview Village development is expected to generate 1,595 new two-way auto-driver trips during the a.m. peak hour consisting of 401 inbound and 1,194 outbound trips. During the p.m. peak hour, the development is expected to generate 1,966 new two-way auto-driver trips consisting of 1,202 inbound and 764 outbound trips. As stated previously, these total vehicle trip volumes take into account minor adjustments due to interactions with mixed-use nodes within the site that will not require the use of a vehicle trip by residents.

Table 7-2 – Residential Site Trip Generation

Component	Residential Peak Hour Trip Generation					
Number of Units	8,050					
Occupancy	Assume 100% Occupancy					
	Unit Occupancy of 1.96 person/unit					
Number of Residents	15,750					
Residential Trips[1]	Assumed % of residents travelling during the weekday AM peak hour		18.0%	Assumed % of residents travelling during the weekday PM peak hour		20.5%
	# trips during AM peak		2,835	# trips during PM peak		3,229
Modal Split[2]	Split Percentage		Trips	Split Percentage		Trips
Transit	22.5%		638	17.5%		566
Auto-Driver	57.5%		1,630	65.0%		2,099
Auto-Passenger	12.5%		354	15.0%		484
Walk	6.5%		184	1.5%		48
Cycle	1.0%		28	1.0%		32
Directional Distribution[3]	Inbound	Outbound	Total	Inbound	Outbound	Total
	25%	75%	100%	61%	39%	100%
Person Trips						
Transit	160	479	639	345	221	566
Auto-Driver	408	1,223	1,631	1,280	819	2,099
Auto-Passenger	89	266	355	295	189	484
Walk	46	138	184	29	19	48
Cycle	7	21	28	20	12	32
Total Trips	710	2,127	2,837	1,969	1,260	3,229
Auto Trip Rate (veh trips/unit)	0.05	0.15	0.20	0.16	0.10	0.26
Total Auto-Driver Trips used for analysis[4]	**401**	**1,194**	**1,595**	**1,202**	**764**	**1,966**

Notes:
1. Based on 2011 TTS Data for apartment and townhouse dwelling units within 2006 GTA Traffic Zone 3877
2. Based on 2011 TTS Data for residential trips to/from apartment and townhouse dwelling units within 2006 GTA Traffic Zone 3877
3. Directional Distribution based on average of ITE 10e Multi-family Housing LUC 221 (mid-rise) and 222 (High-rise)
4. Mixed-use adjustments hae been applied to the total auto-driver volumes used for analysis and will be discussed in Section 7.3.4.

7.3.3 Non-Residential Trip Generation

Non-residential site traffic was developed using ITE 10th edition trip generation rates. Table 7-3 lists the types of Land Use Codes (LUC) that were applied to each non-residential use. The non-residential components of the latest Lakeview Plan proposed in DMP 4.0 have been incorporated into our traffic model.

The gross trips of the non-residential uses planned within Lakeview Village were calculated using ITE 10th edition trip generation rates with mixed-use adjustments and transit reductions applied. Based on the mode splits obtained from the averaged Lakeview and Port Credit TTS 2011 data, a transit reduction of 22.5% was applied to the a.m. peak hour trips, and 17.5% was applied to the p.m. peak hour trips. Table 7-4 and Table 7-5 summarize the estimated total trip generation of the non-residential component of the site in 2031 and 2041, respectively. It is important to note that the trip totals presented in Table 7-4 and Table 7-5 take into account minor adjustments due to the interaction of residential and non-residential uses within the site that will not warrant a vehicle trip. This mixed-use adjustment is discussed in Section 7.3.4 in greater detail.

Due to the physical layout of the development site, only the multi-use node at Lakeshore Road East and Hydro Road was considered eligible to attract pass-by trips from existing traffic. However, its close proximity to a signalized intersection with median-running BRT bus lanes make it a problematic location for cars to enter and exit the multi-use node without considerable deviations to their travel route along Lakeshore Road.

The relatively close spacing of 170 metres between the signalized intersections of Hydro Road and Haig Boulevard on Lakeshore Road makes the placement of a mid-block access to Lakeshore Road unlikely. The main access to the multi-use node will likely be placed on the east side of Hydro Road. Southbound traffic from Lakeshore Road seeking to turn left into the mixed-use node may have to contend with the peak hour northbound queue from the Hydro Road and Lakeshore Road intersection extending past the access point. As such, the analysis did not consider the addition of pass-by traffic to the multi-use node due to its anticipated lack of ease of access.

Table 7-3 – Lakeview Village Non-Residential Land Use Statistics

ITE Land Use Code	Proposed G.F.A. (sq. ft.) or # of Rooms
LUC 820 – Retail, Shopping Center	147,078 G.F.A.
LUC 710 – General Office Building	876,817 G.F.A.
LUC 760 – Research and Development Center	876,807 G.F.A.
LUC 495 – Recreational Community Center	194,278 G.F.A.
LUC 310 – Hotel	191 Rooms

TMIG investigated developing non-residential 'person trip' based generation rates instead of the more traditional methods of GFA-based trip rates presented in this report. However, TMIG maintains that using GFA-based ITE trip generation rates for the non-residential component of the Lakeview Village development is the most appropriate course of action at this time based on the minimal amount of non-residential 'person-derived' trip data available (the GFA-based method is represented by many more surveys, and therefore carries more legitimacy and credibility).

Furthermore, many other assumptions and/or data sets would be needed to provide a wholesome trip generation exercise for non-residential uses in addition to using Floor Space per Worker (FSW) rates. Some examples of additional assumptions and information that would need to be determined are:

- Varying shift start and end times for workers that effect the percentage of total employees traveling during the adjacent street peak hours (unpredictable based on current breakdown of land uses)
- Volume of customers and patrons traveling to non-residential uses during the adjacent street peak hours is not determined by the number of employees (customer volumes are highly driven by the type of land use, of which such level of detail is not yet available)
- The percentage of people both living and working within the development, i.e. highly likely to be non-auto based trips

Table 7-4 – 2031 Non-Residential Site Trip Generation

Land Use	Parameter	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Retail	Gross Trips	140	85	225	347	376	723
	Mixed-Use Adjustments	66	37	103	63	106	169
	Transit Reduction	17	11	28	50	47	97
	New Trips	57	37	94	234	223	457
Office	Gross Trips	732	119	851	143	753	896
	Mixed-Use Adjustments	40	25	65	40	34	74
	Transit Reduction	156	21	177	18	126	144
	New Trips	536	73	609	85	593	678
Research & Development	Gross Trips	276	92	368	65	365	430
	Mixed-Use Adjustments	15	20	35	18	16	34
	Transit Reduction	59	16	75	8	61	69
	New Trips	202	56	258	39	288	327
Community Center	Gross Trips	174	90	264	190	215	405
	Mixed-Use Adjustments	0	0	0	0	0	0
	Transit Reduction	39	20	59	33	38	71
	New Trips	135	70	205	157	177	334
Hotel	Gross Trips	53	37	90	60	57	117
	Mixed-Use Adjustments	0	0	0	0	0	0
	Transit Reduction	0	0	0	0	0	0
	New Trips	53	37	90	60	57	117
Total	New Trips	983	273	1,256	575	1,338	1,913

- An employee could make multiple trips to and from, or within the development in a given hour e.g. deliveries, running errands for a company, morning check-in before working off-site, etc.
- A customer could enter and exit the site within a given peak hour.

A greater degree of detail can be applied to non-residential trip generation at a later date, such as at site plan application level when the specific tenant or non-residential use is known with greater certainty. As stated previously, the total non-residential vehicle trip volumes take into account minor adjustments due to the interaction of mixed-use nodes and residential areas within the site that will not require the use of a vehicle trip by residents. In 2031, Including mixed-use adjustments and transit reductions, the non-residential component of the Lakeview Village development is expected to generate 1,256 new two-way auto-driver trips during the a.m. peak hour consisting of 983 inbound and 273 outbound trips. During the p.m. peak hour, the development is expected to generate 1,913 new two-way auto-driver trips consisting of 575 inbound and 1,338 outbound trips.

7.3.4 Mixed-Use Considerations and Adjustments

An integral part of the vision for Lakeview Village is to design a community that is multi-modal in nature. In addition to providing the infrastructure, such as bicycle lanes and multi-use pathways, creating destinations within the community that are within walking distance of residential areas is a key consideration in the planning process.

The presence of multi-use nodes throughout the development will encourage residents to use an alternate mode of transportation to reach their destination. This will aid in reducing auto-driver trips generated that travel from one destination to another within the site itself. To account for the interaction of residential and non-residential uses present within the site, the study adopted the mixed-use development trip generation methodology presented in chapter 6 of the ITE 3rd edition Trip Generation Handbook.

The ITE mixed-use development trip generation methodology looks at on-site land use pairs within a multi-use development to determine internal capture volumes. The types of land uses that can be applied to this method are:

- Office
- Retail
- Restaurant
- Cinema/Entertainment
- Residential
- Hotel

In the context of the Lakeview Village development, residential, retail, and office land uses were considered as a part of the multi-use internal capture calculations. The cultural hub, although likely to attract a high number of trips internal from Lakeview Village, is expected to generate the majority of its trips outside of the peak hours. The ITE method provides internal capture percentages that have been observed between land-use pairs and identifies the demand of internal person trips in each direction between land uses. The lower of the two-person trip demands between a land use pair is then used to adjust the number of trips generated by a given land use by separating generated trips into internal and external trips.

The internal capture calculations performed on site trips generated during the 2031 a.m. and p.m. peak hour by residential, retail, and office land uses are in Appendix D.

The internal capture adjustments that were applied to the total vehicle trips generated by the residential and non-residential components of the Lakeview Village development are summarized in Table 7-2 and Table 7-4, respectively.

Table 7-5 – 2041 Non-Residential Site Trip Generation

Land Use	Parameter	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Retail	Gross Trips	140	85	225	347	376	723
	Mixed-Use Adjustments	66	37	106	63	106	169
	Transit Reduction	17	11	28	50	47	97
	New Trips	57	37	94	234	223	457
Office	Gross Trips	732	119	851	143	753	896
	Mixed-Use Adjustments	36	20	56	31	30	61
	Transit Reduction	157	22	179	20	127	147
	New Trips	539	77	616	92	596	688
Research & Development	Gross Trips	276	92	368	65	365	430
	Mixed-Use Adjustments	14	16	30	14	14	28
	Transit Reduction	59	17	76	9	61	70
	New Trips	203	59	262	42	290	332
Community Center	Gross Trips	174	90	264	190	215	405
	Mixed-Use Adjustments	0	0	0	0	0	0
	Transit Reduction	39	20	59	33	38	71
	New Trips	135	70	205	157	177	334
Hotel	Gross Trips	53	37	90	60	57	117
	Mixed-Use Adjustments	0	0	0	0	0	0
	Transit Reduction	53	37	90	60	57	117
	New Trips	47	32	79	56	54	110
Total	**New Trips**	**987**	**280**	**1,267**	**585**	**1,343**	**1,928**

In 2031, with transit and internal capture adjustments taken into consideration, the Lakeview Village development is expected to generate a total of 2,851 new two-way auto-driver trips during the a.m. peak hour consisting of 1,384 inbound and 1,467 outbound trips. During the p.m. peak hour, the development is expected to generate 3,879 new two-way auto-driver trips consisting of 1,777 inbound and 2,102 outbound trips.

As discussed in the background development trip generation section of this report, Section 7.5.2, the northern portion of the Serson Innovation Corridor (herein referred to as Serson North), located north of Serson Creek, is expected to be constructed by the 2041 planning horizon. Although the northern Serson extension is not a part of the Lakeview Village development, its placement directly east of the mixed-use node at Hydro Road and Lakeshore Road East will allow for direct interaction between the developments in 2041.

The Lakeview Village mixed-use internal capture calculations were recreated for the 2041 scenario with the interaction between the Lakeview Village multi-use node and the office component of Serson North taken into account. The 2041 mixed-use internal capture calculations are located in Appendix D. Table 7-6 provides a comparison of the 2031 and 2041 site traffic volumes. The 2041 site traffic volumes were produced by updating the 2031 site volume calculations with the 2041 mixed-use internal capture volumes.

In 2041, with transit and internal capture adjustments taken into consideration, the Lakeview Village development is expected to generate 2,857 new two-way auto-driver trips during the a.m. peak hour consisting of 1,388 inbound and 1,469 outbound trips. During the p.m. peak hour, the development is expected to generate 3,890 new two-way auto-driver trips consisting of 1,783 inbound and 2,107 outbound trips.

Table 7-6 – 2031 and 2041 Total Residential and Non-Residential Site Trip Generation

Year	Parameter	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
2031	Residential Trips	401	1,194	1,595	1,202	764	1,966
	Non-Residential Trips	983	273	1,256	575	1,338	1,913
	Total Trips	**1,384**	**1,467**	**2,851**	**1,777**	**2,102**	**3,879**
2041	Residential Trips	401	1,189	1,590	1,198	764	1,962
	Non-Residential Trips	987	280	1,267	585	1,343	1,928
	Total Trips	**1,388**	**1,469**	**2,857**	**1,783**	**2,107**	**3,890**

Table 7-7 – Site Trip Distribution

Direction To/From		AM Peak Hour		PM Peak Hour	
		In (%)	Out (%)	In (%)	Out (%)
East	Dixie Road	12	15	12	10
	Brown's Line	13	20	23	10
West	Cawthra Road	30	20	15	25
	Lakeshore Road west of Cawthra Road	25	25	30	35
North	Alexandra Avenue	0	2	0	2
	Ogden Avenue	13	12	13	12
	Haig Boulevard	7	6	7	6
Total		**100**	**100**	**100**	**100**

7.3.5 Site Trip Distribution and Assignment

The distribution of site traffic was derived from 2011 TTS data for the Lakeview Village study area (2006 GTA Traffic Zones 3642, 3643, 3875, and 3876). Site traffic for each development phase was assigned a north-south

route from the Lakeview Village site to Lakeshore Road East before being distributed to the larger road network according to the directional splits presented in Table 7-7. TTS data used to develop the distribution of site traffic can be found in Appendix C.

As presented in Table 7-7, there are several entrance/exit points to/from the site to the east, west, and north. Although the majority of traffic is identified as having an origin/destination to the east or west of the site, many of these routes require travel to/from the QEW north of the study area. Interchanges at Cawthra Road and Dixie Road (which will be converted to a full moves interchange before 2031) provide motorists direct access to both Cawthra Road and Dixie Road, but also the South Service Road. Using the south service road, motorists are able to access three additional north-south roads that connect to Lakeshore Road to the south; Alexandra Avenue, Ogden Avenue, and Haig Boulevard.

It was assumed that traffic would not travel south to the Lakeview Village development via Alexandra Avenue upon the conversion of its intersection at Lakeshore Road East to right-in/right-out operations to accommodate the median-running BRT lanes. A southbound vehicle on Alexandra would be required to turn right at Lakeshore Road and travel west, away from the Lakeview Village development, before either turning left or performing a U-turn at East Avenue to access a north-south route into the Lakeview site. Accordingly, it was assumed that southbound traffic from South Service Road would use a more direct, convenient route to Lakeview Village, such as Ogden Avenue or Haig Boulevard.

As will be discussed in further detail in Section 7.6.2, Ogden Avenue and Haig Boulevard are currently classified as a major and minor collector roads, respectively, as documented in the Mississauga Official Plan Amendment 89. Although these local north-south roads do not currently attract a significant number of trips as an alternative to Cawthra Road and Dixie Road, as confirmed through discussions with City staff, both Ogden Avenue and Haig Boulevard have the potential to accommodate additional traffic as collector roads. Some of this infiltration will be due to existing and future capacity constraints at Cawthra Road and Dixie Road.

The conversion of the existing QEW and Dixie Road interchange to a full-moves interchange has the potential to attract additional trips to Dixie Road in the future. However, the recent reduction of Dixie Road from two travel lanes in each direction to one lane south of Londonderry Boulevard must also be considered. The loss of a travel lane in each direction has provided space for bicycle lanes to promote active transportation in the area, however, Dixie Road's vehicular capacity has been diminished by the reduction of lanes.

Accordingly, changes to existing travel patterns were considered to account for increased congestion along Dixie Road and at the intersection of Dixie Road and Lakeshore Road East. Despite the small detour to access the Dixie Road or Cawthra Road interchanges via South Service Road, Lakeview Village traffic will view the north-south roads, such as Ogden Avenue, as a viable and attractive option when compared to the anticipated increase in congestion along Lakeshore Road East, Dixie Road, and Cawthra Road. As such, a non-trivial amount of north-south traffic is expected to make use of the South Service Road, via Ogden Avenue and Haig Boulevard, to access the QEW interchanges.

It was assumed that all the transportation infrastructure required to accommodate the full build-out of the Lakeview Village development will be implemented by 2031.

The estimated site trips generated by the Lakeview Village development in 2031 and 2041 were assigned to the study area road network for the weekday a.m. and p.m. peak hours as shown in Figure 7-1 and Figure 7-2 respectively.

Existing traffic patterns along Rangeview Road were assumed to be unchanged in 2031, as the Rangeview Estates background development will not be complete until the 2041 planning horizon. Adjustments made to Rangeview Road traffic patterns in 2041 are discussed in Section 7.5.1.2 of this report.

7.3.6 Transit Trip Generation

As seen in Table 7-2 and Table 7-4 of Section 7.3, transit reductions of 22.5% and 17.5% were applied to site traffic during the a.m. and p.m. peak hours, respectively. The transit reductions were applied to both residential and non-residential trips generated by Lakeview Village. The total transit trips that will originate or be destined for Lakeview Village are summarized in Table 7-8.

Calculations were performed to determine the number of buses and associated headways required to service the transit demand of Lakeview Village. Both the BRT route along Lakeshore Road East and the local route servicing the Lakeview Village site were considered.

Table 7-8 – Lakeview Village Estimated Transit Ridership

Generator of Transit Ridership	AM Peak Hour		PM Peak Hour	
	IN	OUT	IN	OUT
Residential	160	479	345	221
Retail	17	11	50	47
Office	156	21	18	126
R&D	59	16	8	61
Recreation Center	39	20	33	38
Hotel	0	0	0	0
Total	**431**	**547**	**454**	**493**

Table 7-9 – Nova Bus LFS Diesel and LFS Arctic Passenger Capacities

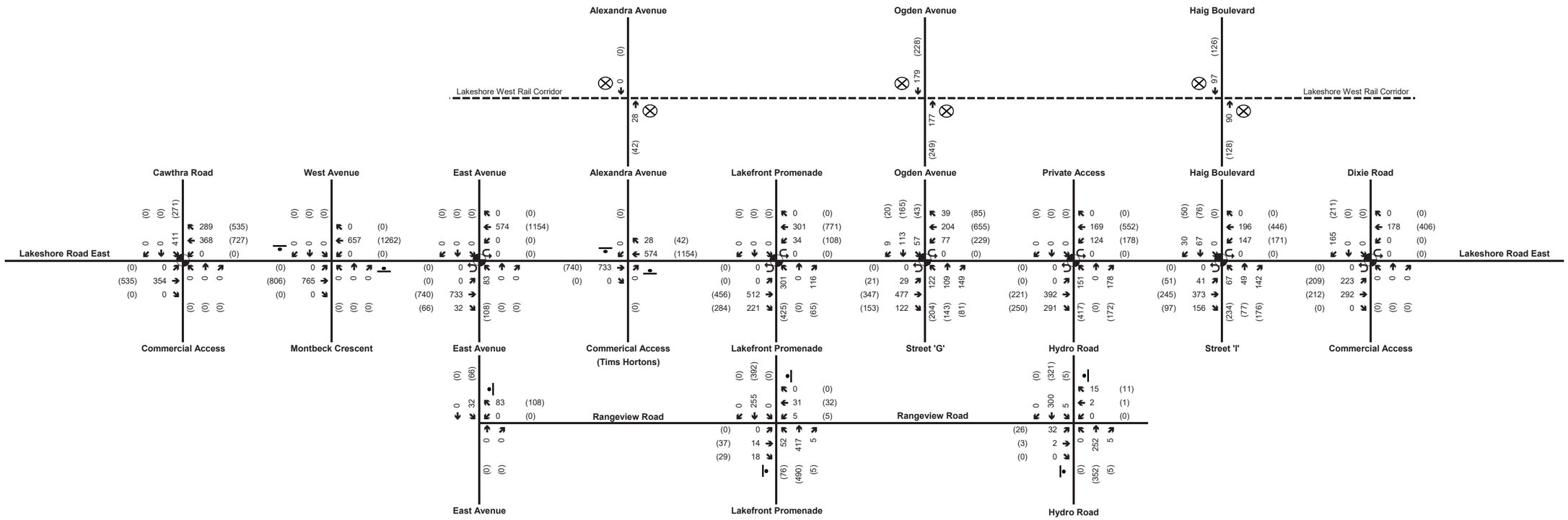
Type of Capacity	LFS Diesel 40′ (Local Route)	LFS Artic 62′ (BRT Route)
Seating Capacity	Up to 41 passengers	Up to 62 passengers
Loading Capacity (max. seated and standing)	Up to 80 passengers	Up to 112 passengers
Average	Up to 61 passengers	Up to 87 passengers

For the purpose of calculations, capacity statistics for bus models from MiWay's most recent Nova Bus order were taken from the manufacturer's website. The local route was assumed to run 40′ Nova Bus LFS models, while the BRT was assumed to run 62′ articulated Nova Bus LFS Artic models. Bus specification summary sheets for both Nova Bus models can be found in Appendix H.

A range of capacities were considered, as each will provide a varying degree of passenger comfort and the minimum number of buses required to cover the transit demand of the development. MiWay staff will be able to perform more detailed calculations in the future to optimize the number of buses required for each route based on MiWay guidelines for capacity and passenger comfort levels. Table 7-9 summarizes the range of passenger capacities used to calculate the required number of buses for each route.

In order to reach the BRT route, residents and employees of Lakeview Village may either walk or cycle north to Lakeshore Road East or use the proposed local bus loop circulating through the site along the planned collector road network. To account for transit users that will use active transportation options to reach the BRT route, it was assumed that any residents or employees located north of Street 'B' would use alternate transportation methods to reach Lakeshore Road East.

2031 SITE TRAFFIC VOLUMES



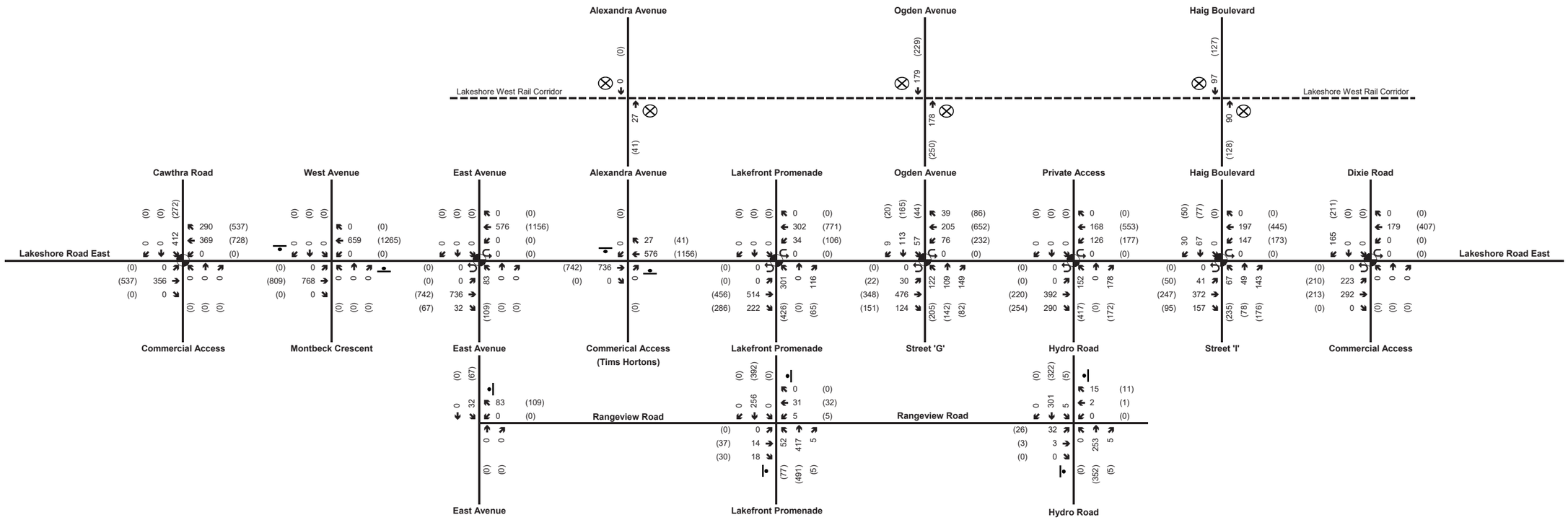
LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes
Signalized Intersection
Stop Control
Railroad Crossing

NOT TO SCALE

Figure 7-1 – 2031 Site Traffic Volumes

2041 SITE TRAFFIC VOLUMES



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes
Signalized Intersection
Stop Control
Railroad Crossing

NOT TO SCALE

Figure 7-2 – 2041 Site Traffic Volumes

Table 7-10 – Reduced Lakeview Village Local Transit Ridership

Ridership Description	AM Peak Hour		PM Peak Hour	
	IN	OUT	IN	OUT
Total Lakeview Village Ridership	431	547	454	493
Active Transportation Reduction	80	97	78	88
Local Loop Transit Ridership	351	450	376	405
Percentage of Total Lakeview Village Ridership removed from Local Loop	19%	18%	17%	18%

Table 7-11 – Local Transit Loop Route – Minimum Operational Requirements

Capacity Level	Capacity (passengers)	Number of Nova Bus LFS 40′ Required (Min. Headway in minutes)					
		AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Seating	41	9 (7)	11 (5)	20 (--)	10 (6)	10 (6)	20 (--)
Average	61	6 (10)	8 (8)	14 (--)	7 (9)	7 (9)	14 (--)
Loading	80	5 (12)	6 (10)	11 (--)	5 (12)	6 (10)	11 (--)

Table 7-12 – Adjusted Auto-Driver Directional Splits Applied to Transit Trips

Direction To/From	AM Peak Hour		PM Peak Hour	
	IN	OUT	IN	OUT
East via Dixie Road, Brown's Line, and Lakeshore Road	35%	45%	45%	30%
West via Cawthra Road and Lakeshore Road	65%	55%	55%	70%
North via Ogden Avenue and Haig Boulevard	0%	0%	0%	0%
Total	100%	100%	100%	100%

Table 7-13 – Lakeshore Road BRT Route – Minimum Operational Requirements

Capacity Level	Capacity (passengers)	Number of Nova Bus LFS Artic 62′ Required (Min. Headway in minutes)							
		Eastbound				Westbound			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		IN	OUT	IN	OUT	IN	OUT	IN	OUT
Seating	62	5 (12)	4 (15)	5 (12)	3 (20)	3 (20)	5 (12)	4 (15)	6 (10)
Average	87	4 (15)	3 (20)	3 (20)	2 (30)	2 (30)	4 (15)	3 (20)	4 (15)
Loading	112	3 (20)	3 (20)	3 (20)	2 (30)	2 (30)	3 (20)	2 (30)	4 (15)

Table 7-10 details the transit ridership reductions made to the local transit loop route to account for the use of active transportation to reach the planned BRT/local transit service. Overall, approximately 19% or less of the total transit ridership generated by Lakeview Village is estimated to be within 450m of Lakeshore Road East. It was assumed that this 19% or less ridership will use active transportation instead of the local transit loop to reach the Lakeshore BRT/local transit service.

It was assumed that all Lakeview Transit users would utilize the Lakeshore Road BRT line to travel to their destinations, transfer to other MiWay routes, or travel to either Long Branch GO, or Port Credit GO to access other transit providers such as the TTC or Metrolinx (GO trains and buses). As such, the ridership numbers shown in Table 7-8 were used without any reductions for BRT calculations.

The ridership and bus model capacity for each route was used to determine the number of buses required during the a.m. and p.m. peak hours, along with the corresponding minimum headway. It is important to note that these calculations only took into account ridership to and from the Lakeview Village site. In reality, a greater number of buses and smaller headways between buses will be required to account for any existing and future ridership demand in the Lakeview area and along the Lakeshore Road corridor.

Table 7-11 summarizes the calculations performed for the local loop bus route through the Lakeview Village site. On average, a total of 14 Nova Bus LFS 40′ buses will be required to meet demand during both the a.m. and p.m. peak hour. To accommodate the estimated Lakeview Village transit ridership, the average minimum headway required between buses during the a.m. peak hour is eight minutes, and nine minutes during the p.m. peak hour.

As a part of determining the minimum operational requirements for the BRT route, the directional splits applied to the auto-driver component of trips generated by Lakeview Village were also applied to the transit trips. The 20% of traffic that was assigned to the north was divided evenly between the east and west, as the BRT will connect to north-south local routes at both Cawthra Road and Dixie Road, to the west and east of the site, respectively. Table 7-12 provides the adjusted directional splits that were applied to transit trips after adjusting the northern component of the original auto-driver directional splits.

The directional splits presented in Table 7-12 were applied to the Lakeview Village transit trips to determine the number of 62′ articulated buses that would be needed in the eastbound and westbound directions during the a.m. and p.m. peak hours. The minimum operational requirements for the BRT route to support the Lakeview Village transit demand are summarized in Table 7-13.

At an average capacity level, a maximum of four eastbound buses with minimum headways of 15 minutes will be required during the a.m. and p.m. peak hours. On average, a maximum of four westbound buses during both the a.m. and p.m. peak hours would be required to operate at minimum headways of 15 minutes to accommodate the estimated Lakeview Village transit ridership.

7.4 2031 Business as Usual Sensitivity

TMIG analyzed a 'Business as Usual' (BAU) scenario at the 2031 planning horizon to determine the potential impacts of development in the area (including full build-out of Lakeview Village) without the planned BRT service along the Lakeshore Road corridor.

To identify the effects of the median-running BRT service not being in place by the projected 2031 full build-out of Lakeview Village, the following assumptions were made to create the 2031 Total BAU model:

- No exclusive median-running BRT lanes;
- No right-in/right-out intersections within study area;
- 2018 existing lane configurations will be maintained with the exception of modifications to the south legs of Lakefront Promenade, Ogden Avenue, and Hydro Road at Lakeshore Road East to accommodate Lakeview Village traffic demand;
- Signalization of Hydro Road and Lakeshore Road East;
- 2018 existing signal timings optimized; and
- Lakeview Village site trip generation updated to reflect the existing modal split (with lower transit / active transportation usage) during a.m. and p.m. peak hours.

7.4.1 BAU Multi-Modal Demand Forecasting

The site trip generation methodology presented in Section 7.3.1 of this report was also used to determine the number of trips that would be generated by the Lakeview Village development at full-build out if the BRT route was not in place within the study area.

While the 2031 Total trip generation calculations made use of modal splits based on averaged 2011 TTS data from Port Credit and the Lakeview area, the 2031 Total BAU trip generation calculations used a modal split derived solely from 2011 TTS data for the Lakeview area. A comparison of modal split values for Port Credit and the Lakeview area, and an average of both is presented in Table 7-14.

As shown in Table 7-14, The 2031 BAU trip generation had a transit reduction of 15% applied to both the a.m. and p.m. peak hour traffic, a decrease of 7.5% and 2.5% respectively when compared to the transit modal splits applied to the 2031 Total trip generation. To keep the results of the 2031 Total and 2031 Total BAU a.m. scenarios directly comparable, the assumed percentage of Lakeview Village residents traveling during the a.m. and p.m. peak hours remained the same as the values derived for the 2031 Total residential trip generation.

Table 7-15 summarizes the residential person-trip calculations performed for the 2031 BAU scenario, and Table 7-16 shows the ITE 10th edition trip generation results for the non-residential land uses with the new transit modal split values applied. Finally, Table 7-17 provides the total residential and non-residential trips used for the purposes of analysis.

Table 7-14 – 2011 TTS Modal Splits for Port Credit and Lakeview

Mode of Transportation	Port Credit[1]		Lakeview[2]		Average	
	AM	PM	AM	PM	AM	PM
Transit	30.0%	20.0%	15.0%	15.0%	22.5%	17.5%
Auto-Driver	60.0%	60.0%	55.0%	70.0%	57.5%	65.0%
Auto-Passenger	5.0%	15.0%	20.0%	15.0%	12.5%	15.0%
Walk	3.0%	3.0%	10.0%	0.0%	6.5%	1.5%
Cycle	2.0%	2.0%	0.0%	0.0%	1.0%	1.0%
Total	100%	100%	100%	100%	100%	100%

Notes:
1. Based on 2011 TTS Data for residential trips to/from apartment and townhouse dwelling units within 2006 GTA Traffic Zones 3877
2. Based on 2011 TTS Data for residential trips to/from apartment and townhouse dwelling units within 2006 GTA Traffic Zones 3642, 3643, 3875, and 3876

Table 7-15 – 2031 BAU Residential Site Trip Generation

Component	Residential Peak Hour Trip Generation					
Number of Units	8,050					
Occupancy	Assume 100% Occupancy					
	Unit Occupancy of 1.96 persons/unit					
Number of Residents	15,750					
Residential Trips[1]	Assumed % of residents traveling during the weekday AM peak hour		18%	Assumed % of residents traveling during the weekday PM peak hour		20.5%
	# trips during AM peak		2,835	# trips during PM peak		3,229
Modal Split[2]	Split Percentage		Trips	Split Percentage		Trips
Transit	15%		425	15%		484
Auto-Driver	55%		1,559	70%		2,260
Auto-Passenger	20%		567	15%		484
Walk	10%		284	0%		0
Cycle	0%		0	0%		0
Directional Distribution[3]	Inbound	Outbound	Total	Inbound	Outbound	Total
	25%	75%	100%	61%	39%	100%
Person Trips						
Transit	106	319	425	295	189	484
Auto-Driver	390	1,169	1,559	1,379	881	2,260
Auto-Passenger	142	425	567	295	189	484
Walk	71	213	284	0	0	0
Cycle	0	0	0	0	0	0
Total Trips	709	2,126	2,835	1,969	1,259	3,228
Auto Trip Rate (veh trips/unit)	0.05	0.15	0.19	0.17	0.11	0.28
Total Auto-Driver Trips used for analysis[4]	**383**	**1,141**	**1,524**	**1,295**	**821**	**2,116**

Notes:
1. Based on 2011 TTS Data for apartment and townhouse dwelling units within 2006 GTA Traffic Zone 3642, 3643, 3875, 3876, and 3877
2. Based on 2011 TTS Data for residential trips to/from apartment and townhouse dwelling units within 2006 GTA Traffic Zones 3642, 3643, 3875, 3876, and 3877
3. Directional Distribution based on average of ITE 10e Multi-family Housing LUC 221 (mid-rise) and 222 (High-rise)
4. Mixed-use adjustments have been applied to the total auto-driver volumes used for analysis and will be discussed in Section 7.3.4.

Table 7-16 – 2031 BAU Non-Residential Site Trip Generation

Land Use	Parameter	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Retail	Gross Trips	140	85	225	347	376	723
	Mixed-Use Adjustment	66	37	103	63	106	169
	Transit	11	7	18	43	40	83
	New Trips	63	41	104	241	230	471
Office	Gross Trips	732	119	851	143	753	896
	Mixed-Use Adjustment	40	25	65	40	34	74
	Transit	104	14	118	15	108	123
	New Trips	588	80	668	88	611	699
Research & Development	Gross Trips	276	92	368	65	365	430
	Mixed-Use Adjustment	15	20	35	18	16	34
	Transit	39	11	50	7	52	59
	New Trips	222	61	283	40	297	337
Community Center	Gross Trips	174	90	264	190	215	405
	Mixed-Use Adjustment	0	0	0	0	0	0
	Transit	26	13	39	28	32	60
	New Trips	148	77	225	162	183	345
Hotel	Gross Trips	53	37	90	60	57	117
	Mixed-Use Adjustment	0	0	0	0	0	0
	Transit	0	0	0	0	0	0
	New Trips	53	37	90	60	57	117
Total	New Trips	1,074	296	1,370	591	1,378	1,969

Table 7-17 – 2031 BAU Total Residential and Non-Residential Site Trip Generation

Year	Parameter	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
2031 BAU	Residential Trips	383	1,141	1,524	1,295	821	2,116
	Non-Residential Trips	1,074	296	1,370	591	1,378	1,969
	Total Trips	**1,457**	**1,437**	**2,894**	**1,886**	**2,199**	**4,085**

7.4.2 Trip Distribution and Assignment

The site trip distribution and assignment methodology presented in Section 7.3.5 of this report was also applied to the trips that would be generated by the Lakeview Village development at full-build out if the BRT route was not in place within the study area.

The estimated site trips generated by the Lakeview Village development under the 2031 BAU scenario were assigned to the study area road network for the weekday a.m. and p.m. peak hours as shown in Figure 7-3.

7.5 Background Developments

7.5.1 Rangeview Estates

The Rangeview Estates development north of Lakeview Village lands is made up of parcels of land not owned by LCPL but are included in the Lakeview Major Node Character Area of the City's Official Plan. These parcels are subject to the City's MOP policies and have the potential to develop over a longer period of time compared to Lakeview Village, as they contain existing businesses, and development will require the sale and land assembly of various parcels. During pre-consultation with City transportation staff, it was determined that the Rangeview Estates development will commence construction post 2031 and will reach full-build out by the 2041 planning horizon.

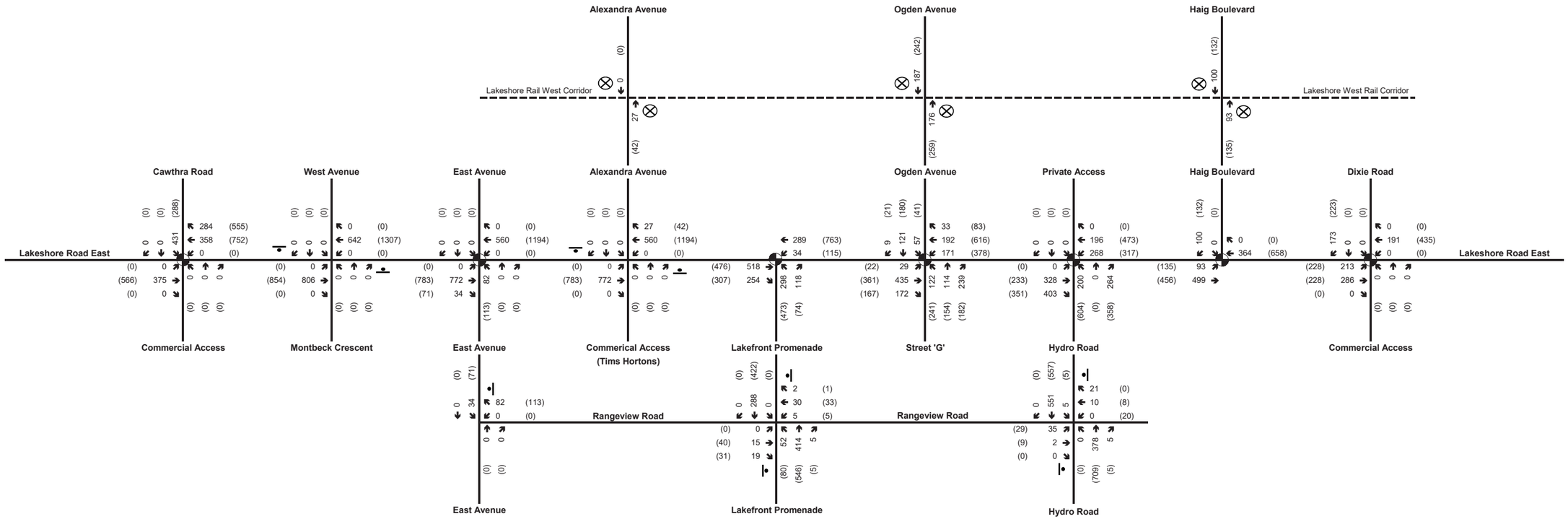
The Rangeview Estates development will span from East Avenue in the west to Hydro Road in the east. Lakeshore Road East acts as the Lakeview Village development's northern boundary, and its limits abut Lakeview Village lands south of Rangeview Road. Figure 7-4 details the extent of the Rangeview Estate lands and its location relative to the Lakeview Village development.

7.5.1.1 Trip Generation

The Rangeview Estates site has been envisioned as a mixed-use development, comprised of residential, retail, and commercial uses. While site statistics for the Rangeview Estates development are still preliminary, the site statistics have been extracted from 'Inspiration Lakeview Conceptual Municipal Servicing Strategy – Appendix A & C', dated July 23, 2014, prepared by TMIG (2014 TMIG Servicing Strategy), see Appendix E, and were used for trip generation purposes. The total commercial GFA proposed was 59,502ft^2 located within Private Parcel Areas #4 and #5, as summarized in 2014 TMIG Servicing Strategy Appendix A & C.

The Lakeview Waterfront OPA provides for a mixed-use community that includes a wide range and mix of uses including residential, employment, institutional, recreational, park and open space. The distribution of land uses reflects opportunities on Lakeshore Road providing visibility for commercial uses. Comparison of the 2014 TMIG Servicing Strategy land use assumptions with MOPA89 observed an increase in the total mixed-use development lands proposed along Lakeshore Road East. The 34,800ft^2 commercial GFA estimated for Private Parcel #4 was therefore doubled to reflect mixed-uses located in Private Parcel #3. As a result, the Rangeview Estates total mixed-use GFA estimates increased from 59,502ft^2 to 94,303ft^2 and subsequently

2031 BUSINESS AS USUAL
SITE TRAFFIC VOLUMES



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes
Signalized Intersection
Stop Control
Railroad Crossing

NOT TO SCALE

Figure 7-3 – 2031 Business as Usual Site Traffic Volumes

Figure 7-4 – Rangeview Estates Site Location

split in half between office and retail commercial uses. The estimated Rangeview Estates land use summary is presented in Table 7-18.

The same trip generation methodology applied to the Lakeview Village development was also applied to the Rangeview Estates lands. Trips produced by the residential component of the site were developed on a person trip basis using 2011 TTS data, drawing upon Port Credit's modal split patterns as a proxy site to account for the higher-order transit that is planned for the Lakeshore Road corridor.

Table 7-18 – Rangeview Estates Land Use Summary

Land Use	Number of Units or GFA (ft^2)
Residential	2,981 Units
Retail	47,151 ft^2
Office	47,152 ft^2

Source: Inspiration Lakeview Conceptual Municipal Servicing Strategy – Appendix C

The average PPU rate was adjusted to reflect the estimated residential unit mix of Rangeview Estates instead of the Lakeview Village PPU. It was assumed that no townhouses will be built in Rangeview Estates lands, but only apartments. A standard 40% of the units were assumed to be "small apartments" with 700 ft2 G.F.A. or less, as per the City of Mississauga's Development Charges Study. These assumptions resulted in a PPU of 2.18.

Table 7-19 summarizes the trip generation results of the residential component of the Rangeview Estates development. The residential trip generation methodology is discussed in greater detail in Section 7.3.2 of this report.

Table 7-19 – Rangeview Estates Residential Site Trip Generation

Component	Residential Peak Hour Trip Generation					
Number of Units	2,981					
Occupancy	Assume 100% Occupancy					
	Unit Occupancy of 2.18 persons/unit					
Number of Residents	6,492					
Residential Trips[1]	Assumed % of residents traveling during the weekday AM peak hour		18.0%	Assumed % of residents traveling during the weekday PM peak hour		20.5%
	# trips during AM peak		1,169	# trips during PM peak		1,331
Modal Split[2]	Split Percentage		Trips	Split Percentage		Trips
Transit	22.5%		263	17.5%		233
Auto-Driver	57.5%		672	65.0%		865
Auto-Passenger	12.5%		146	15.0%		200
Walk	6.5%		76	1.5%		20
Cycle	1.0%		12	1.0%		13
Directional Distribution[3]	Inbound	Outbound	Total	Inbound	Outbound	Total
	25%	75%	100%	61%	39%	100%
Person Trips						
Transit	66	197	263	142	91	233
Auto-Driver	168	504	672	528	337	865
Auto-Passenger	37	110	147	122	78	200
Walk	19	57	76	12	8	20
Cycle	3	9	12	8	5	13
Total Trips	293	877	1,170	812	519	1,331
Auto Trip Rate (veh trips/unit)	0.06	0.17	0.23	0.18	0.11	0.29
Mixed-use Adjustment	3	6	9	28	13	41
Total Auto-Driver Trips used for analysis[4]	**165**	**498**	**663**	**500**	**324**	**824**

Notes:
1. Based on 2011 TTS Data for apartment and townhouse dwelling units within 2006 GTA Traffic Zone 3877
2. Based on 2011 TTS Data for residential trips to/from apartment and townhouse dwelling units within 2006 GTA Traffic Zone 3877
3. Directional Distribution based on average of ITE 10e Multi-family Housing LUC 221 (mid-rise) and 222 (High-rise)
4. Mixed-use adjustments have been applied to the total auto-driver volumes used for analysis and will be discussed in Section 7.3.4.

Accordingly, the residential component of Rangeview Estates is expected to generate 663 new two-way auto-driver trips during the a.m. peak hour consisting of 165 inbound and 498 outbound trips. During the p.m. peak hour, the development is expected to generate 824 new two-way auto-driver trips consisting of 500 inbound and 324 outbound trips. These total vehicle trip volumes do not take into account minor adjustments due to interactions with mixed-use nodes within the site that will not require the use of a vehicle trip by residents.

Non-residential site traffic was developed using ITE 10th edition trip generation rates. The gross non-residential site trips were then adjusted based on mixed-use calculations and the transit component of the modal splits applied to the site – 22.5% transit in the a.m. peak hour, and 17.5% transit in the p.m. peak hour. Table 7-20 summarizes the gross trips generated by ITE 10th edition trip generation rates and the total number of new trips after adjustments were made to account for mixed-use interaction and transit use.

The non-residential component of Rangeview Estates is expected to generate 169 new two-way auto-driver trips during the a.m. peak hour consisting of 119 inbound and 50 outbound trips. During the p.m. peak hour, the non-residential uses are expected to generate 237 new two-way auto-driver trips consisting of 109 inbound and 128 outbound trips. These total vehicle trip volumes take into account minor adjustments due to the interaction of mixed-use nodes and residential areas within the site that will not require the use of a vehicle trip by residents.

As summarized in Table 7-21, with transit and internal capture adjustments taken into consideration, the Rangeview Estates development is expected to generate 832 new two-way auto-driver trips during the a.m. peak hour consisting of 284 inbound and 548 outbound trips. During the p.m. peak hour, the development is expected to generate 1,061 new two-way auto-driver trips consisting of 609 inbound and 452 outbound trips.

7.5.1.2 Trip Distribution and Assignment

Before the 2041 Rangeview Estates site traffic was assigned to the study area road network, the existing Rangeview traffic was removed from the road network's background traffic.

The process to remove the existing Rangeview traffic from the study area was based on existing traffic volumes and travel patterns along Rangeview Road. The following general assumptions were used to guide the process of removing existing Rangeview Road traffic:

- Only existing Rangeview Road traffic attributable to the light industrial uses with accesses to Rangeview Road were removed. In theory, additional traffic could have been removed from Lakeshore Road East (due to the light industrial uses with accesses to Lakeshore Road being a part of the Rangeview Estates land as well. However, it would prove difficult to identify all traffic currently associated with these uses from TMCs alone).
- Traffic accessing Rangeview Road via East Ave was removed, however, traffic accessing the Lakeview Water Treatment plant remained and was re-routed as required.
- Traffic accessing Rangeview Road via Hydro Road was removed, as was the traffic traveling to/from the lands south of Rangeview Road via Hydro Road.
- Traffic at the Lakefront Promenade intersection was removed or rerouted based on whether it was traveling to/from the Lakefront Promenade recreational uses located south of Rangeview Road.
- Existing traffic that was removed from Rangeview Road was also removed from Lakeshore Road East to the extents of the study area.

Figure 7-5 illustrates the removal of existing traffic volumes generated by the existing Rangeview Estates lands to account for the shift in traffic patterns upon redevelopment of Rangeview Estates within the 2041 planning horizon.

Table 7-20 – Rangeview Estates Non-Residential Site Trip Generation

Land Use Code	Parameter	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Retail (LUC 820 – Retail, Shopping Center)	Gross Trips	109	66	175	150	162	312
	Mixed-Use Adjustment	12	8	20	24	45	69
	Transit Reduction	22	13	35	22	20	42
	New Trips	75	45	120	104	97	201
Office (LUC 710 – General Office Building)	Gross Trips	61	10	71	9	47	56
	Mixed-Use Adjustment	4	3	7	2	10	12
	Transit Reduction	13	2	15	2	6	8
	New Trips	44	5	49	5	31	36
Total	**New Trips**	**119**	**50**	**169**	**109**	**128**	**237**

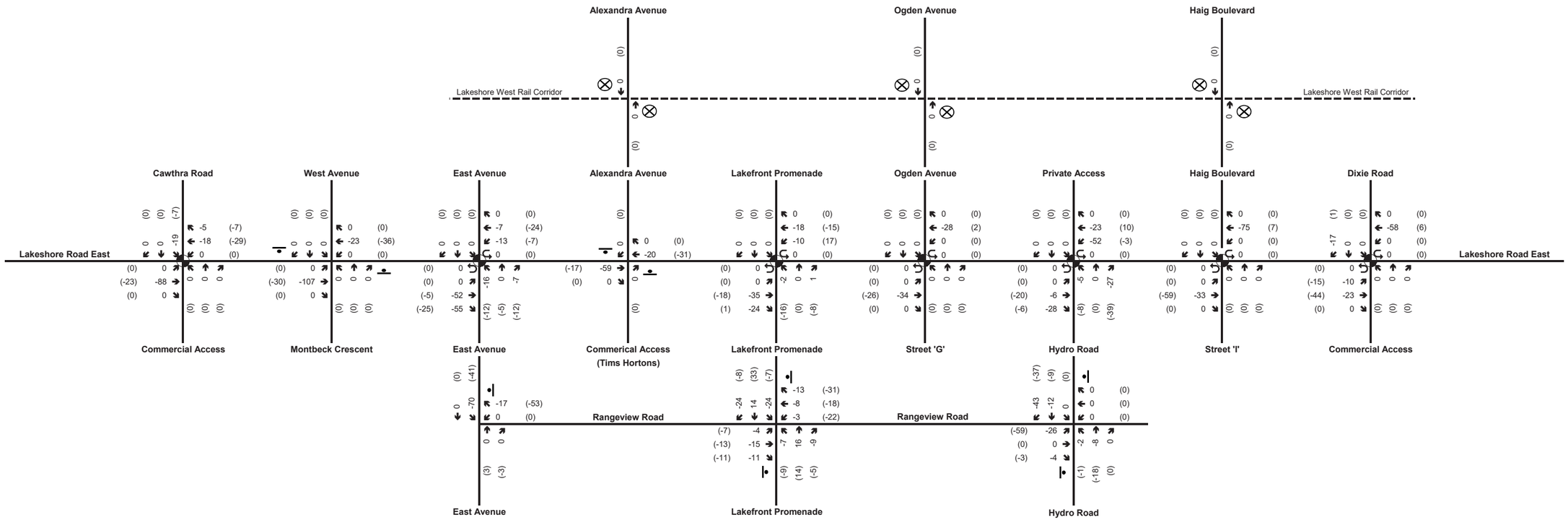
Table 7-21 – Rangeview Estates Residential and Non-Residential Total Site Trip Generation

Year	Parameter	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
2041	Residential	165	498	663	500	324	824
	Non-Residential	119	50	169	109	128	237
	Total Trips	**284**	**548**	**832**	**608**	**452**	**1,061**

Table 7-22 – Rangeview Estates North-South Trip Distribution

North-South Access Location	AM Peak Hour Inbound / Outbound Traffic	PM Peak Hour Inbound / Outbound Traffic
East Avenue	20%	20%
Lakeshore R-I/R-O Access	5%	5%
Lakefront Promenade	30%	30%
Ogden Avenue	30%	30%
Hydro Road	14%	14%
Haig Boulevard	1%	1%

REROUTING AND REMOVAL
OF EXISTING RANGEVIEW ROAD TRAFFIC



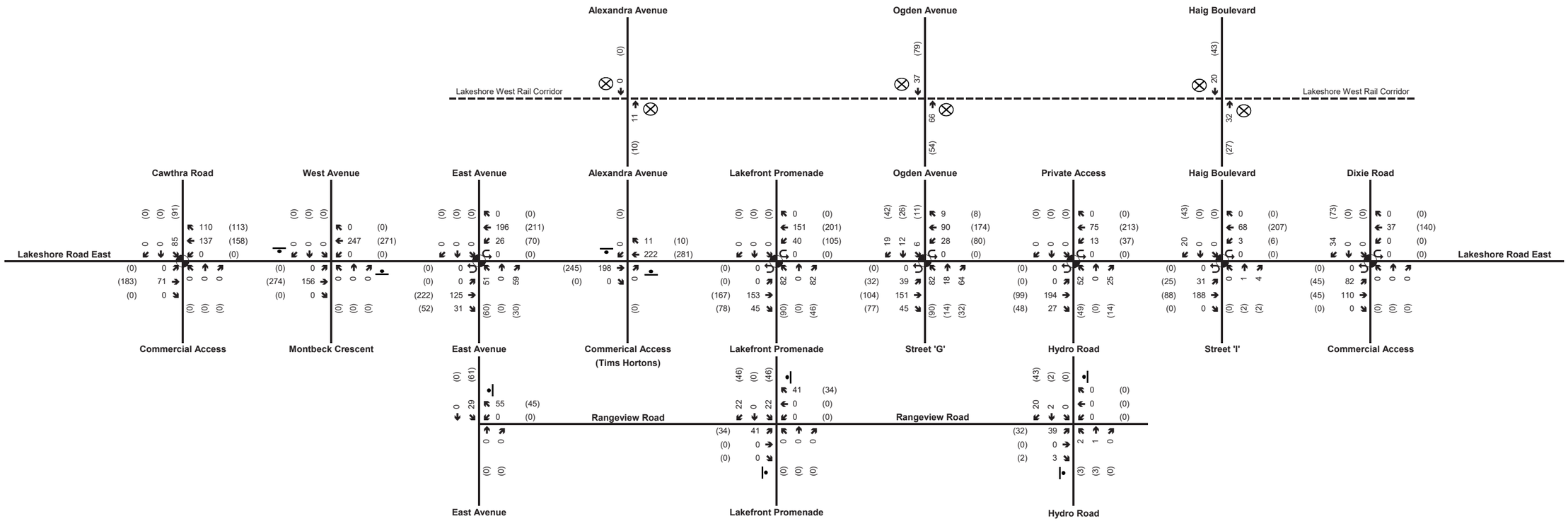
LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes
Signalized Intersection
Stop Control
Railroad Crossing

NOT TO SCALE

Figure 7-5 – Removal of Existing Rangeview Road Traffic

2041 RANGEVIEW ESTATES
SITE TRAFFIC VOLUMES



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes
Signalized Intersection
Stop Control
Railroad Crossing

NOT TO SCALE

Figure 7-6 – 2041 Rangeview Estates Site Traffic Volumes

Figure 7-7 – Serson North Site Location

Rangeview Estates site traffic was assigned to the study area road network in a similar fashion as the trip assignment method used for Lakeview Village site traffic. In 2041, it was assumed that Rangeview Estates traffic would have access to 6 different roads/accesses that provide connections to the development south of Lakeshore Road East.

East Avenue, Lakefront Promenade, Ogden Avenue, Hydro Road, and Haig Boulevard were all considered as connecting roads to Lakeshore Road East. The sixth access point is a mid-block right-in/right-out access that will directly connect Rangeview Estates to Lakeshore Road East. The direct access to Lakeshore Road East was assumed to be located half way between the signalized intersections at East Avenue and Lakefront Promenade.

The Rangeview Estates site traffic was first assigned to one of the north-south access points to Lakeshore Road East and then assigned to travel east, west, or north based on the overall directional splits presented in Table 7-7 that were developed from existing traffic patterns as per 2011 TTS data. Table 7-22 summarizes the percentage of Rangeview Estates site traffic that was assigned to each north-south access during the a.m. and p.m. peak hours. Detailed Rangeview Estates trip assignment calculations are located in Appendix F.

The estimated site trips generated by the Rangeview Estates development in 2041 were assigned to the study area road network for the weekday a.m. and p.m. peak hours as shown in Figure 7-6.

7.5.2 Serson North

The Serson North campus will act as an extension of the southern portion of the Serson Innovation Corridor built on LCPL lands. For the purposes of this study, it has been assumed that construction of Serson North will begin post 2031 and be fully built-out by the 2041 planning horizon. As shown in Figure 7-7, Serson North is located south of Lakeshore Road East, north of Serson Creek. The eastern boundary of Serson North is defined by the existing access road (Fergus Ave) to the Lakeview Wastewater Treatment plant.

Table 7-23 – Serson North Total Site Trip Generation

Land Use Code	G.F.A. (sq. ft.)	Parameter	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
Research & Development (LUC 760 – Office, R&D Center)	224,428	Gross Trips	71	23	94	17	93	110
		Mixed-Use Adjustment	3	3	6	4	4	8
		Transit Reduction	15	4	19	2	16	18
		New Trips	53	16	69	11	73	84
Office (LUC 710 – General Office Building)	224,427	Gross Trips	204	33	237	39	206	245
		Mixed-Use Adjustment	10	6	16	9	8	17
		Transit Reduction	44	6	50	5	35	40
		New Trips	150	21	171	25	163	188
Total	**448,855**	**New Trips**	**203**	**37**	**240**	**36**	**236**	**272**

7.5.2.1 Trip Generation

The specific land use of Serson North has yet to be decided, but it has been envisioned to be a hub of innovation and research that could work cooperatively with the potential post-secondary/research and development campus located in Serson South. For the purposes of this study, it was assumed that half of the planned GFA of Serson North would be office space, and the other half used as research and development space.

Serson North site traffic was developed using ITE 10th edition trip generation rates. The gross site trips were then adjusted based on the transit component of the modal splits applied to the site – 22.5% transit in the a.m. peak hour, and 17.5% transit in the p.m. peak hour.

The Serson North development is not planned as a mixed-use development. However, if viewed as an extension of Serson South, the office land use within Serson North will interact with the Lakeview Village development as if it were a part of a mixed-use development. This is especially true if the mixed-use node at the intersection of Lakeshore Road East and Hydro Road, directly west of the Serson North, is taken into consideration. As such, the office component of the Serson North development was incorporated into the Lakeview Village ITE internal capture calculations for the 2041 planning horizon.

Table 7-23 summarizes the gross number of vehicle trips generated by the ITE 10th edition trip generation rates based on Serson North GFA estimates that were extracted from the 2014 TMIG Servicing Strategy – Appendix C. Mixed-use internal capture adjustments and transit reductions were applied to the gross trips generated by the development.

In 2041, with transit and mixed-use adjustments taken into consideration, the Serson North development is expected to generate 240 new two-way auto-driver trips during the a.m. peak hour consisting of 203 inbound and 37 outbound trips. During the p.m. peak hour, the development is expected to generate 272 new two-way auto-driver trips consisting of 36 inbound and 236 outbound trips.

7.5.2.2 Trip Distribution and Assignment

Trip assignment of Serson North traffic was approached with a methodology similar to that of the Rangeview Estates development. First, possible north-south connections from the site to Lakeshore Road East were identified and traffic assigned proportionately before then being assigned to travel east, west, or north from

the site to the boundaries of the study area.

Two main points of access to Lakeshore Road East from Serson North were considered; a full-moves intersection at Haig Boulevard, and a right-in/right-out access opposite of Fergus Avenue. Based on this assumption, all westbound and northbound traffic exiting the Serson North site would default to using the full-moves intersection at Haig Boulevard to avoid performing an eastbound U-turn at Dixie Road. Assignment of all outbound west and north traffic to Haig Boulevard represents a worst-case scenario at the Lakeshore Road East intersections as the analysis assumes there will be no dispersion of site traffic through Lakeview Village and further west before accessing Lakeshore Road East.

Given that the main access to the Serson North development will be located on Haig Boulevard, the directional splits determined from 2011 TTS data were adjusted to account for cars travelling to/from the north being more likely to use Haig Boulevard versus Ogden Avenue to access Serson North directly. The overall percentage of cars travelling to/from the north remained the same.

Table 7-24 shows the adjustments made to the original site trip distribution values developed for Lakeview Village. Adjusted numbers are in bold, with the corresponding original values in parentheses. Detailed Serson North trip assignment calculations can be found in Appendix G.

The estimated site trips generated by Serson North in 2041 were assigned to the study area road network for the weekday a.m. and p.m. peak hours as shown in Figure 7-8.

Table 7-24 – Serson North Site Trip Distribution

Direction To/From		AM Peak Hour		PM Peak Hour	
		IN (%)	OUT (%)	IN (%)	OUT (%)
East	Dixie Road	12	15	12	10
	Brown's Line	13	20	23	10
West	Cawthra Road	30	20	15	25
	Lakeshore Road west of Cawthra Road	25	25	30	35
North	Alexandra Avenue	0	2	0	2
	Ogden Avenue	**7** (13)	**6** (12)	**7** (13)	**6** (12)
	Haig Boulevard	**13** (7)	**12** (6)	**13** (7)	**12** (6)

7.6 Traffic Infiltration

During TMIG's initial consultation with City of Mississauga staff, it was requested that the potential infiltration of Lakeview Village traffic into the neighbourhoods north of Lakeshore Road East be investigated. The impacts of converting several intersections along Lakeshore Road East to right-in/right-out operations due to the median-running BRT lanes were also considered.

Overall, traffic pattern changes due to the BRT lane conversion, new site trips generated by Lakeview Village, and additional traffic generated by the Rangeview Estates and Serson North background developments will be the main contributors of traffic infiltration into the northern study area neighbourhoods.

7.6.1 Lakeshore Road East BRT Conversion

The installation of median-running BRT lanes on Lakeshore Road East in the study area will require eight intersections to be converted to right-in/right-out (RI/RO) operations. These Lakeshore Road East intersections are:

- Greaves Avenue;
- Westmount Avenue;
- Alexandra Avenue;
- Meredith Avenue;
- Edgeleigh Avenue;
- Strathy Avenue;
- Orchard Road; and
- Fergus Avenue.

Of these eight intersections, only Alexandra Avenue provides a continuous north-south connection between Lakeshore Road East and the QEW's South Service Road. While some traffic will still use Alexandra Avenue as a north-south connection to Lakeshore Road East, its conversion to RI/RO operations at Lakeshore will make it a less desirable route than other north-south roads through the northern Lakeview neighbourhood, such as Ogden Avenue and Haig Boulevard. Traffic patterns specific to these north-south roads is discussed in greater detail in Section 7.6.2.

To account for a shift in existing traffic patterns at intersections subject to right-in/right-out conversion, through and left-turning traffic from the north and south legs were re-routed. These trips were either re-routed to the closest full-moves intersection, or they were converted to a right-turn movement before making a U-turn manoeuvre at a downstream full-moves intersection to return to their intended direction of travel within the network.

Existing eastbound and westbound left-turning traffic were also re-routed from RI/RO intersections by either performing a U-turn manoeuvre or completing a left-turn at a full-moves intersection. In general, vehicles that were re-routed from intersections converted to RI/RO operations only made use of the northern local road network as needed to navigate to their intended destination.

The re-routing of vehicles at each RI/RO intersection was dependent upon the proximity of the intersection to a full-moves intersection and the level of connectivity to the broader local road network north of Lakeshore Road East. As such, unique re-routing assignments were required at each RI/RO intersection. A detailed summary of re-routing decisions for each RI/RO intersection can be found in Appendix J.

Figure 7-9 details the shift in existing traffic patterns due to the RI/RO conversion of eight intersections. Positive and negative traffic volume adjustments throughout the study area network are shown.

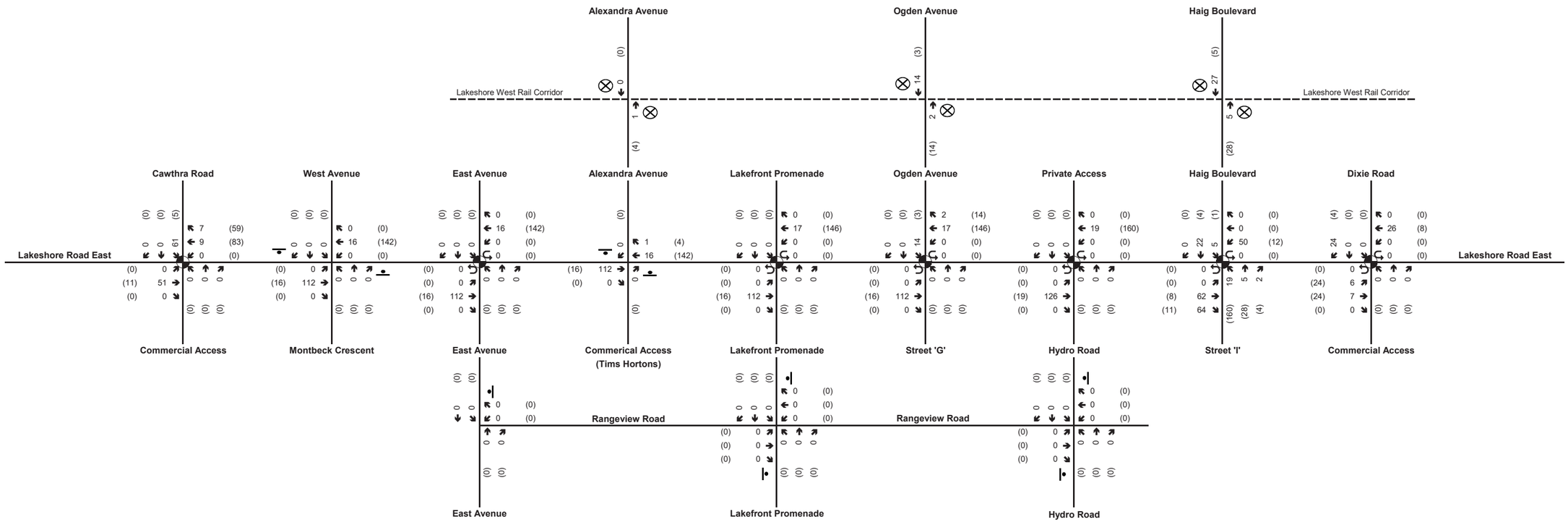
7.6.2 2031 Traffic Infiltration

Based on existing traffic patterns in the Lakeview area, as determined from 2011 TTS data, 20% of Lakeview Village site traffic was assumed to be traveling to/from the northern boundary of the study area. The north-south Lakeview Village site traffic was assigned to Alexandra Avenue, Ogden Avenue, and Haig Boulevard as detailed in Table 7-25.

The existing peak hour volume of northbound and southbound traffic at the intersections of the three north-south roads and Lakeshore Road East are listed in Table 7-26. The volume of traffic added or removed at these intersections is also listed in Table 7-26, which includes changes to traffic patterns due to RI/RO conversions and projected 2031 Lakeview Village site traffic volumes.

The highest anticipated increase of north-south traffic volume in 2031 is predicted to occur along Ogden

SERSON NORTH 2041
SITE TRAFFIC VOLUMES



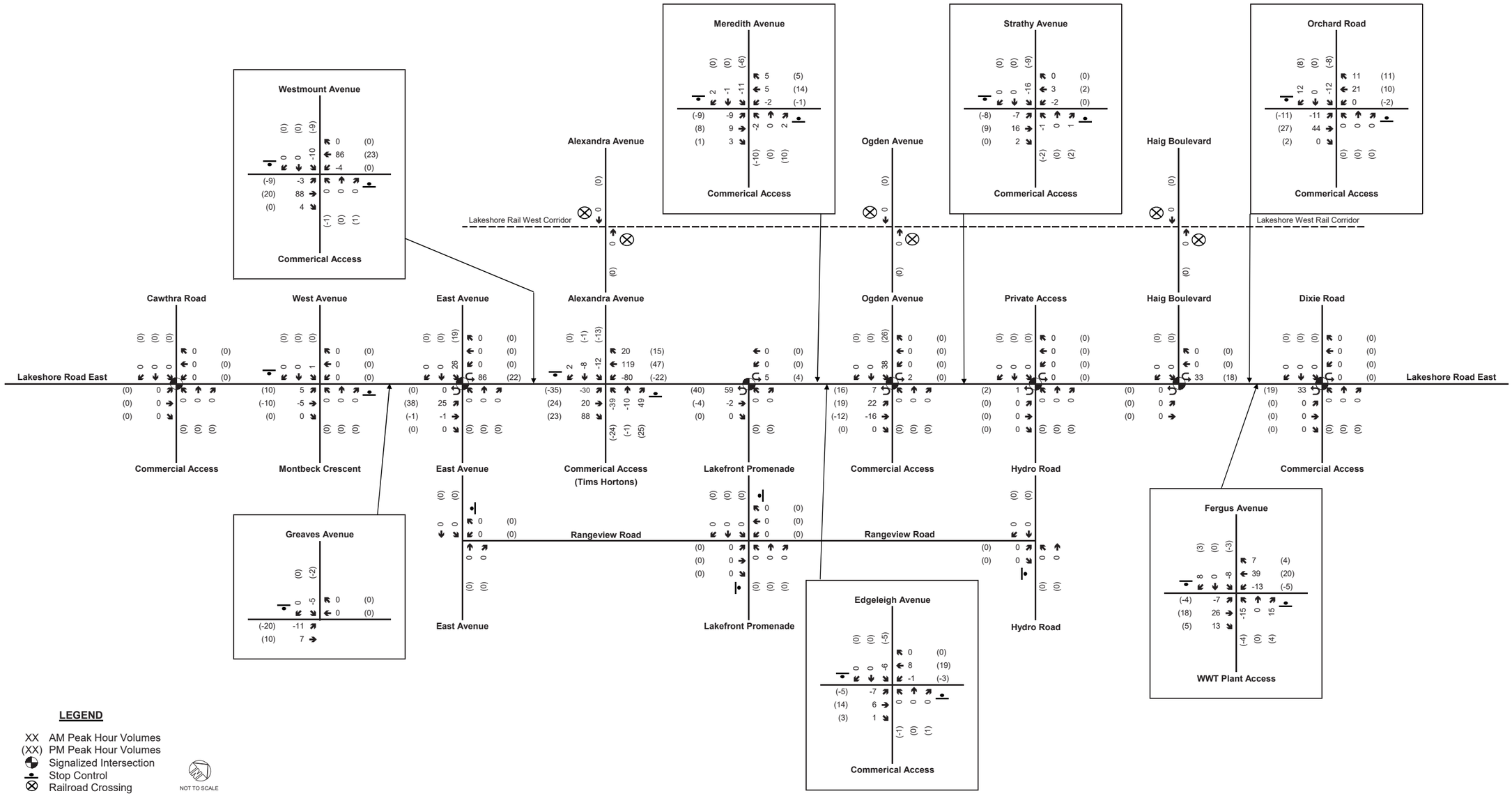
LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes
Signalized Intersection
Stop Control
Railroad Crossing

NOT TO SCALE

Figure 7-8 – Serson North 2041 Site Traffic Volumes

RIGHT-IN / RIGHT-OUT CONVERSION
EXISTING TRAFFIC VOLUME ADJUSTMENTS



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes
Signalized Intersection
Stop Control
Railroad Crossing

NOT TO SCALE

Figure 7-9 – Right-In / Right-Out Conversion Existing Traffic Volume Adjustments

Avenue during both the a.m. and p.m. peak hours, with between 206 and 284 additional trips added to each direction. Compared to Ogden Avenue, Haig Boulevard is expected to experience a smaller increase in traffic, with between 90 to 128 additional peak hour trips in either direction.

Ogden Avenue is predicted to experience percent increases between existing traffic and 2031 total traffic that range between approximately 170% and 379% during the a.m. and p.m. peak hours. Haig Boulevard is predicted to experience a generally lower range of percent increases, approximately between 119% and 274%.

TMIG acknowledges that when compared to relatively low existing volumes, that the number of vehicle trips added to Ogden Avenue and Haig Boulevard in 2031 are a significant change from the current status quo vehicular operations on these roads. However, as per the City of Mississauga's Official Plan, Schedule 5, Ogden Avenue and Haig Boulevard are currently classified as a major and minor collector road, respectively, and these projected volumes are consistent with the typical volumes expected along these types of roads.

Figure 7-10 is an excerpt from the Mississauga Official Plan Amendment 89 document and identifies both the existing and future road classifications within the vicinity of Lakeview Village.

According to Table 2.6.5 in Chapter 2 of the Transportation Association of Canada's (TAC) Geometric Design Guide for Canadian Roads, a local residential road will have a typical traffic volume of approximately 1,000 vehicles per day whereas a residential collector will typically see approximately 8,000 vehicles per day. A copy of TAC's Table 2.6.5: Characteristics of Urban Roads has been provided in Appendix K.

Table 7-25 – 2031 North-South Site Trip Distribution

Direction To/From		AM Peak Hour		PM Peak Hour	
		IN (%)	OUT (%)	IN (%)	OUT (%)
North	Alexandra Avenue	0	2	0	2
	Ogden Avenue	13	12	13	12
	Haig Boulevard	7	6	7	6
	Total	20	20	20	20

Table 7-26 – 2031 North-South Traffic Volume Comparison – Lakeview Village

Planning Horizon / Traffic Volume Source	Alexandra Avenue		Ogden Avenue		Haig Boulevard	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
2018 Existing (Baseline)	65	56	121	86	60	61
	(79)	(39)	(109)	(67)	(108)	(46)
2031 BRT Re-route and Lakeview Village	8	-18	206	217	90	97
	(21)	(-14)	(284)	(254)	(128)	(126)
2031 Total	73	38	327	303	150	158
	(100)	(25)	(393)	(321)	(236)	(172)
2031 Total Percent Increase	12.3%	-32.1%	170.2%	252.3%	150.0%	159.0%
	(26.6%)	(-35.9%)	(260.6%)	(379.1%)	(118.5%)	(273.9%)

A.M. Peak Hour (P.M. Peak Hour)

The existing 2018 and future 2031 peak hour traffic volumes were used to estimate daily traffic volumes for Alexandra Avenue, Ogden Avenue, and Haig Boulevard. A typical peak hour to AADT conversion formula was applied to estimate the daily volumes; a.m. and p.m. peak hour volumes were added together and divided by 20% (a long-standing Ministry of Transportation methodology for estimating daily volumes). The results are presented in Table 7-27.

Due to the conversion of Alexandra Avenue to right-in/right-out operations at Lakeshore Road East, the daily volume of cars traveling along Alexandra Avenue is expected to marginally decrease from 1,195 to 1,180 vehicles per day. Ogden Avenue is predicted to see an increase from 1,915 existing trips to 6,720 trips in 2031, while Haig Boulevard is expected to see an increase from 1,375 to 3,580 vehicles per day.

Table 7-27 – Existing and 2031 North-South Daily Traffic Volume Comparison

Road	TAC Road Classification (Vehicles / Day)	Daily Volume (Vehicles / Day)	
		Existing	2031
Alexandra Avenue	Local Residential (< 1,000)	1,195	1,180
Ogden Avenue	Residential Collector (< 8,000)	1,915	6,720
Haig Boulevard	Residential Collector (< 8,000)	1,375	3,580

Although there will be a notable increase in traffic along Ogden Avenue and Haig Boulevard in 2031 compared to existing conditions, the estimated daily volume of traffic will be well below TAC's expectation of approximately 8,000 vehicles per day on residential collector roads. Alexandra Avenue will continue to operate at similar traffic volume levels in 2031 compared to existing traffic (an overall decrease of 15 vehicles). Based on TAC Guidelines, the estimated increase in traffic along Ogden Avenue and Haig Boulevard under projected 2031 traffic conditions is acceptable.

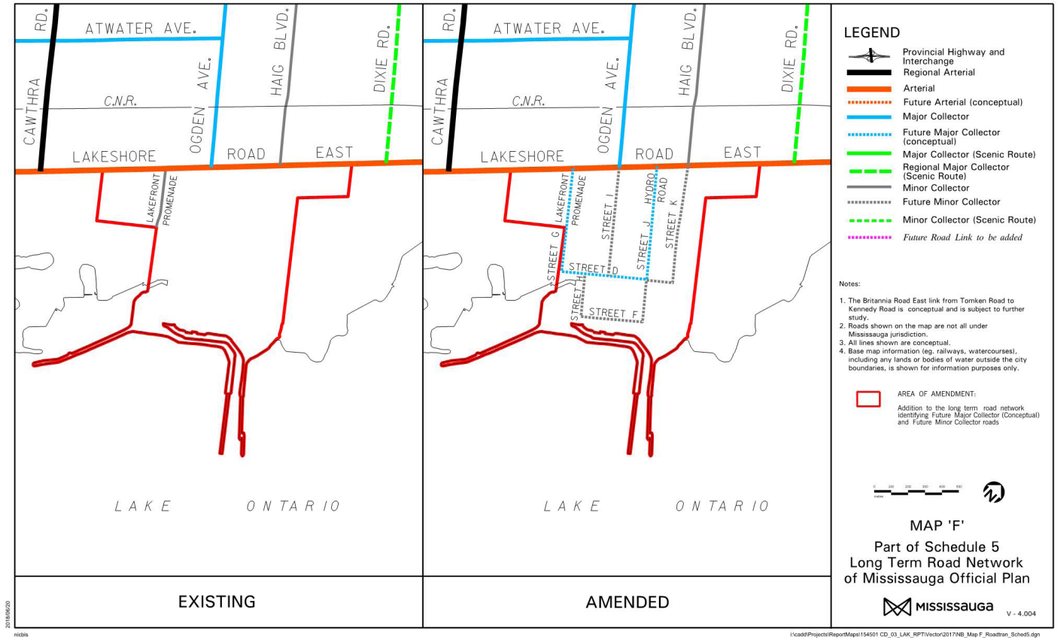


Figure 7-10 – Map 'F', Schedule 5 of MOPA 89 – Lakeview Long Term Road Network

Source: MOPA89

7.6.3 2041 Traffic Infiltration

In addition to Lakeview Village site traffic, the 2041 planning horizon includes traffic generated by the Rangeview Estates and Serson North background developments. Following a similar site traffic assignment methodology as Lakeview Village, 20% of the total vehicle trips generated by the background developments were assumed to be traveling to/from the northern boundary of the study area. The north-south Lakeview Village and background development site traffic was assigned to Alexandra Avenue, Ogden Avenue, and Haig Boulevard as detailed in Table 7-28.

Of note, the assumed percentage of Serson North site traffic traveling on Haig Boulevard was adjusted, compared to Lakeview Village and Rangeview Estates north-south traffic distribution, to account for the south leg of Haig Boulevard providing a direct connection between the Serson Innovation Corridor and Lakeshore Road East. The percentage of Serson North site traffic traveling on Alexandra Avenue and Ogden Avenue was updated accordingly to maintain the overall 20% of site traffic assigned to the three north-south roads.

Table 7-29 compares existing traffic volumes to the total volume of 2041 traffic added to Alexandra Avenue, Ogden Avenue, and Haig Boulevard. The additional 2041 traffic volumes include changes to traffic patterns due to RI/RO conversions, projected 2041 Lakeview Village site traffic, and traffic generated by background developments. A more detailed breakdown of the volume calculations presented in Table 7-26 and Table 7-29 can be found in Appendix L.

The highest anticipated increase of north-south traffic volume in 2041 is predicted to occur along Ogden Avenue during both the a.m. and p.m. peak hours, with between 268 and 353 additional trips added to each direction. Compared to Ogden Avenue, Haig Boulevard is expected to experience a smaller increase in traffic, with between 127 to 183 additional peak hour trips in either direction.

Ogden Avenue is predicted to experience percent increases between existing traffic and 2041 total traffic that range between approximately 227% and 503% during the a.m. and p.m. peak hours. Haig Boulevard is predicted to experience a generally lower range of percent increases, approximately between 169% and 380%.

Using the same methodology outlined in Section 7.6.2., the existing and future 2041 AADT volumes for Alexandra Avenue, Ogden Avenue, and Haig Boulevard were estimated using the existing 2018 and future 2041 peak hour traffic volumes. The resulting AADT estimates are presented in Table 7-30.

In 2041, daily traffic traveling on Alexandra Avenue is expected to experience a slight increase from 1,195 to 1,300 vehicles per day, a total of 105 additional vehicles per day compared to existing volumes, and is only marginally more than the typical daily volume of 1,000 vehicles on local residential roads according to TAC. Ogden Avenue is predicted to see an increase from 1,915 existing trips to 8,080 trips in 2041, while Haig Boulevard is expected to see an increase from 1,375 to 4,520 vehicles per day.

Alexandra Avenue, Ogden Avenue, and Haig Boulevard are expected to see an estimated increase of 120, 1,360, and 940 vehicles per day, respectively, between 2031 and 2041. Despite the additional increase in traffic from 2031 to 2041 due to background developments, the estimated daily volumes on Ogden Avenue and Haig Boulevard are expected to fall within TAC's typical expectations of daily traffic volumes (approximately 8,000 vehicles) on a residential collector road. Based on TAC's typical daily traffic volumes along residential collectors, theoretical "at-capacity" daily traffic volumes may occur on some local roadways, however, significant operational impacts to these roadways on an hour-to-hour basis are not expected to occur.

Table 7-28 – 2041 North-South Site Trip Distribution

Direction To/From		2041 – Lakeview Village and Rangeview Estates		2041 – Serson North	
		IN (%)	OUT (%)	IN (%)	OUT (%)
North	Alexandra Avenue	0 (0)	2 (2)	0 (0)	2 (2)
	Ogden Avenue	13 (13)	12 (12)	7 (7)	6 (6)
	Haig Boulevard	7 (7)	6 (6)	13 (13)	12 (12)
	Total	**20 (20)**	**20 (20)**	**20 (20)**	**20 (20)**

A.M. Peak Hour (P.M. Peak Hour)

Table 7-29 – 2041 North-South Site Traffic Volume Comparison – Lakeview Village

Planning Horizon / Traffic Volume Source	Alexandra Avenue		Ogden Avenue		Haig Boulevard	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
2018 Existing (Baseline)	65	56	121	86	60	61
	(79)	(39)	(109)	(67)	(108)	(46)
2041 New Trips	19	-18	275	268	127	144
	(34)	(-14)	(353)	(337)	(183)	(175)
2041 Total	**84**	**38**	**396**	**354**	**187**	**205**
	(113)	**(25)**	**(462)**	**(404)**	**(291)**	**(221)**
2041 Total Percent Increase	29.2%	-32.1%	227.3%	311.6%	211.7%	236.1%
	(43.0%)	(-35.9%)	(323.9%)	(503.0%)	(169.4%)	(380.4%)

A.M. Peak Hour (P.M. Peak Hour)

Table 7-30 – Existing and 2041 North-South Daily Traffic Volume Comparison

Road	TAC Road Classification (Vehicles / Day)	Daily Volume (Vehicles / Day)	
		Existing	2041
Alexandra Avenue	Local Residential (< 1,000)	1,195	1,300
Ogden Avenue	Residential Collector (< 8,000)	1,915	8,080
Haig Boulevard	Residential Collector (< 8,000)	1,375	4,520

APPENDIX C

TTS Data

OUTBOUND

Tue Jun 25 2019 12:33:33 GMT-0400 (Eastern Daylight Time) - Run Time: 1796ms

Cross Tabulation Query Form - Trip - 2016 v1.1

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

Filters:
(2006 GTA zone of origin - gta06_orig In 3649 and 3654
Start time of trip - start_time In 600-900
and
Primary travel mode of trip - mode_prime In D M)

Trip 2016
Table:

	3649	3654	ALL	Dist	Assignment	2
PD 1 of Toronto	389	52	441	7%	QEW EB	QEW EB
PD 2 of Toronto	101	0	101	2%	QEW EB	QEW EB
PD 3 of Toronto	79	81	160	2%	QEW EB	QEW EB
PD 4 of Toronto	109	0	109	2%	QEW EB	QEW EB
PD 5 of Toronto	58	22	80	1%	QEW EB	QEW EB
PD 6 of Toronto	0	18	18	0%	QEW EB	QEW EB
PD 7 of Toronto	197	205	402	6%	Dixie SB	Dixie SB
PD 8 of Toronto	210	209	419	6%	QEW EB	QEW EB
PD 9 of Toronto	118	53	171	3%	QEW EB	QEW EB
PD 10 of Toronto	0	38	38	1%	QEW EB	QEW EB
PD 11 of Toronto	46	34	80	1%	QEW EB	QEW EB
PD 13 of Toronto	105	18	123	2%	QEW EB	QEW EB
PD 14 of Toronto	9	0	9	0%	QEW EB	QEW EB
Ajax	0	24	24	0%	QEW EB	QEW EB
Markham	0	17	17	0%	QEW EB	QEW EB
Vaughan	9	51	60	1%	QEW EB	QEW EB
Caledon	7	49	56	1%	QEW EB	QEW EB
Brampton	38	105	143	2%	QEW EB	QEW EB
Halton Hills	34	0	34	1%	QEW WB	QEW WB
Milton	0	18	18	0%	QEW WB	QEW WB
Oakville	145	183	328	5%	QEW WB	QEW WB
Burlington	17	0	17	0%	QEW WB	QEW WB
Hamilton	27	28	55	1%	QEW WB	QEW WB
Niagara-on-the-Lake	13	0	13	0%	QEW WB	QEW WB
St. Catharines	21	0	21	0%	QEW WB	QEW WB
Muskoka	0	8	8	0%	QEW EB	QEW EB
3602	12	0	12	0%	QEW WB	QEW WB
3604	15	0	15	0%	QEW WB	QEW WB
3605	42	38	80	1%	Dixie NB	Dixie NB
3606	0	35	35	1%	Dixie NB	Dixie NB
3609	24	0	24	0%	Dixie NB	Service WB
3612	11	0	11	0%	Dixie NB	Service WB
3613	11	0	11	0%	QEW WB	Service WB
3621	11	0	11	0%	Dixie NB	Service WB
3622	0	16	16	0%	Dixie NB	Dixie NB
3629	29	0	29	0%	QEW EB	QEW EB
3632	11	0	11	0%	QEW WB	Service WB
3633	17	27	44	1%	QEW WB	QEW WB
3634	0	8	8	0%	QEW WB	QEW WB
3635	37	22	59	1%	QEW WB	QEW WB
3639	32	18	50	1%	Dixie SB	Dixie SB
3640	15	0	15	0%	Dixie SB	Dixie SB
3641	36	0	36	1%	Dixie SB	Dixie SB
3642	26	8	34	1%	Dixie SB	Dixie SB
3643	52	17	69	1%	Dixie SB	Dixie SB
3645	8	0	8	0%	Dixie SB	Dixie SB
3647	32	27	59	1%	Dixie SB	Dixie SB
3648	59	0	59	1%	Dixie SB	Dixie SB
3649	348	165	513	8%	Service WB	Haig SB
3650	52	0	52	1%	QEW WB	Dixie SB
3651	18	0	18	0%	QEW WB	QEW WB
3653	34	8	42	1%	Service WB	Service WB
3654	31	155	186	3%	Dixie NB	Dixie NB
3657	0	70	70	1%	Service WB	Service WB
3659	51	41	92	1%	Service WB	Service WB
3660	72	22	94	1%	Dixie NB	Dixie NB
3664	15	31	46	1%	QEW WB	Service WB
3665	0	51	51	1%	Dixie NB	Service WB
3667	29	0	29	0%	Dixie NB	Service WB
3668	10	0	10	0%	Dixie NB	Service WB
3669	13	0	13	0%	Dixie NB	Dixie NB
3670	0	35	35	1%	Dixie NB	Dixie NB
3671	15	0	15	0%	QEW WB	Service WB
3674	18	0	18	0%	Dixie NB	Dixie NB
3675	38	0	38	1%	Dixie NB	Dixie NB
3677	20	0	20	0%	QEW WB	Service WB
3678	0	24	24	0%	Service WB	Service WB
3680	0	42	42	1%	Dixie NB	Service WB
3682	19	0	19	0%	Dixie NB	Dixie NB
3686	0	10	10	0%	Service WB	Service WB
3689	0	48	48	1%	QEW WB	Service WB
3690	22	16	38	1%	Dixie NB	Service WB
3691	35	0	35	1%	QEW WB	Service WB
3692	0	29	29	0%	QEW WB	Service WB
3693	86	0	86	1%	Dixie NB	Service WB
3697	0	36	36	1%	Dixie NB	Dixie NB
3698	22	0	22	0%	Dixie NB	Dixie NB
3699	40	0	40	1%	Dixie NB	Dixie NB
3700	21	37	58	1%	Dixie NB	Service WB
3702	39	26	65	1%	QEW EB	QEW EB
3704	17	0	17	0%	QEW EB	QEW EB
3705	17	0	17	0%	QEW EB	QEW EB
3710	11	0	11	0%	QEW EB	QEW EB
3715	7	0	7	0%	QEW WB	Service WB
3717	0	23	23	0%	QEW WB	Service WB
3721	0	17	17	0%	QEW EB	QEW EB
3724	27	0	27	0%	Service WB	Service WB
3809	0	23	23	0%	QEW WB	QEW WB
3810	21	0	21	0%	QEW WB	QEW WB
3814	37	0	37	1%	QEW WB	Service WB
3815	0	18	18	0%	QEW WB	Service WB
3816	31	0	31	0%	QEW EB	QEW EB
3818	0	11	11	0%	QEW EB	QEW EB
3821	29	0	29	0%	QEW EB	QEW EB
3825	0	32	32	0%	QEW EB	QEW EB
3828	25	0	25	0%	QEW EB	Service WB
3834	60	26	86	1%	Dixie NB	Dixie NB
3835	27	0	27	0%	Dixie NB	Dixie NB
3843	26	0	26	0%	Service WB	Service WB
3847	0	8	8	0%	Service WB	Service WB
3849	24	0	24	0%	Service WB	Service WB
3851	27	0	27	0%	Service WB	Service WB
3854	0	17	17	0%	Service WB	Service WB
3862	32	0	32	0%	Service WB	Service WB
3863	88	34	122	2%	Service WB	Service WB
3864	0	12	12	0%	Service WB	Service WB
3870	52	36	88	1%	QEW WB	QEW WB
3874	16	32	48	1%	Dixie NB	Dixie NB
3876	9	0	9	0%	Dixie SB	Dixie SB
3877	7	0	7	0%	Dixie SB	Dixie SB
3878	17	0	17	0%	Dixie SB	Dixie SB
3879	40	0	40	1%	Dixie SB	Dixie SB

ASSIGNMENT 1

Row Labels	Sum of Dist
Dixie NB	18%
Dixie SB	12%
QEW EB	36%
QEW WB	17%
Service WB	16%
Grand Total	**100%**

Row Labels	Sum of Dist
Dixie NB	12%
Dixie SB	13%
Haig SB	8%
QEW EB	36%
QEW WB	12%
Service WB	19%
Grand Total	**1**

WEEKDAY AM OUTBOUND

Dixie NB	15%
Dixie SB	13%
Haig SB	4%
QEW EB	35%
QEW WB	15%
Service WB	18%

WEEKDAY PM OUTBOUND = WEEKDAY AM INBOUND (INVERSE DIRECTIONS)

Dixie NB	15%
Dixie SB	15%
QEW EB	10%
QEW WB	25%
Service WB	35%

INBOUND

Tue Jun 25 2019 12:44:39 GMT-0400 (Eastern Daylight Time) - Run Time: 2029ms

Cross Tabulation Query Form - Trip - 2016 v1.1

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

Filters:
(2006 GTA zone of destination - gta06_dest In 364 3654
and
Start time of trip - start_time In 600-900
and
Primary travel mode of trip - mode_prime In D M)

Trip 2016
Table:

	3649	3654	ALL	Dist	Assignment
PD 1 of Toronto	68	0	68	2%	QEW WB
PD 2 of Toronto	22	51	73	2%	QEW WB
PD 5 of Toronto	0	18	18	0%	QEW WB
PD 6 of Toronto	32	0	32	1%	QEW WB
PD 7 of Toronto	118	112	230	5%	Dixie NB
PD 8 of Toronto	51	110	161	4%	QEW WB
PD 9 of Toronto	7	0	7	0%	QEW WB
Oshawa	44	0	44	1%	QEW WB
Vaughan	0	12	12	0%	QEW WB
Brampton	40	45	85	2%	QEW EB
Halton Hills	61	0	61	1%	QEW EB
Milton	28	42	70	2%	QEW EB
Oakville	122	46	168	4%	QEW EB
Burlington	69	15	84	2%	QEW EB
Stoney Creek	34	0	34	1%	QEW EB
Hamilton	95	56	151	3%	QEW EB
Kitchener	0	13	13	0%	QEW EB
Orangeville	16	0	16	0%	Service EB
New Tecumseth	0	55	55	1%	QEW WB
Brant	9	0	9	0%	QEW EB
3602	12	0	12	0%	QEW EB
3604	57	0	57	1%	Service EB
3606	21	53	74	2%	Service EB
3632	29	0	29	1%	QEW EB
3633	21	0	21	0%	QEW EB
3638	24	0	24	1%	Service EB
3640	11	0	11	0%	Dixie NB
3641	14	0	14	0%	Dixie NB
3642	59	21	80	2%	Dixie NB
3643	128	0	128	3%	Dixie NB
3645	18	0	18	0%	Dixie NB
3646	21	0	21	0%	Dixie NB
3647	15	0	15	0%	Dixie NB
3648	125	11	136	3%	Dixie NB
3649	348	31	379	9%	Service EB
3650	58	67	125	3%	QEW EB
3651	18	0	18	0%	QEW EB
3652	16	0	16	0%	QEW EB
3654	165	155	320	7%	Dixie SB
3656	5	0	5	0%	Service EB
3657	6	70	76	2%	Service EB
3658	0	7	7	0%	Service EB
3659	16	11	27	1%	Dixie SB
3662	0	18	18	0%	QEW EB
3663	18	0	18	0%	QEW EB
3664	0	31	31	1%	Service EB
3667	46	0	46	1%	Service EB
3668	10	14	24	1%	Service EB
3669	106	32	138	3%	Dixie SB
3672	40	0	40	1%	Service EB
3673	0	13	13	0%	Service EB
3674	20	26	46	1%	Dixie SB
3675	38	38	76	2%	Dixie SB
3677	20	0	20	0%	Service EB
3679	0	50	50	1%	Service EB
3680	0	21	21	0%	Dixie SB
3681	18	0	18	0%	Dixie SB
3682	19	0	19	0%	Dixie SB
3686	35	10	45	1%	Service EB
3687	17	0	17	0%	Service EB
3689	15	48	63	1%	Service EB
3690	22	0	22	1%	Service EB
3691	35	0	35	1%	Service EB
3694	29	0	29	1%	Service EB
3714	0	12	12	0%	QEW EB
3715	6	0	6	0%	QEW EB
3716	30	14	44	1%	QEW EB
3722	28	0	28	1%	Service EB
3724	27	0	27	1%	Service EB
3810	50	0	50	1%	QEW EB
3811	46	0	46	1%	QEW EB
3842	0	47	47	1%	Service EB
3844	39	0	39	1%	Service EB
3854	45	0	45	1%	Service EB
3862	32	0	32	1%	Service EB
3863	88	34	122	3%	Service EB
3870	0	36	36	1%	QEW EB
3874	0	32	32	1%	Dixie SB
3876	9	0	9	0%	Dixie NB

ASSIGNMENT 1

Row Labels	Sum of Dist
Dixie NB	15%
Dixie SB	16%
QEW EB	26%
QEW WB	11%
Service EB	32%
Grand Total	**100%**

WEEKDAY AM INBOUND

Dixie NB	15%
Dixie SB	15%
QEW EB	25%
QEW WB	10%
Service EB	35%

WEEKDAY PM INBOUND = WEEKDAY AM OUTBOUND (INVERSE DIRECTIONS)

Dixie NB	13%
Dixie SB	15%
Haig NB	4%
QEW EB	15%
QEW WB	35%
Service EB	18%

APPENDIX D

Future Background Capacity Analysis

AM PEAK

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	90	190	1237	120	736
Future Volume (vph)	90	190	1237	120	736
Lane Group Flow (vph)	97	204	1395	129	791
Turn Type	Prot	Perm	NA	Perm	NA
Protected Phases	8		2		6
Permitted Phases		8		6	
Detector Phase	8	8	2	6	6
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	27.4	27.4	24.0	24.0	24.0
Total Split (s)	28.0	28.0	92.0	92.0	92.0
Total Split (%)	23.3%	23.3%	76.7%	76.7%	76.7%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	2.1	2.1	1.3	1.3	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.42	0.70	0.51	0.54	0.29
Control Delay	51.8	38.4	4.4	16.8	4.5
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	51.8	38.4	4.7	16.8	4.5
Queue Length 50th (m)	22.4	25.6	27.2	10.1	24.2
Queue Length 95th (m)	37.5	49.7	38.8	39.1	40.6
Internal Link Dist (m)	91.7		117.1		171.7
Turn Bay Length (m)				30.0	
Base Capacity (vph)	329	372	2714	238	2731
Starvation Cap Reductn	0	0	647	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.55	0.67	0.54	0.29

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Dixie Road & Sherway Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	90	190	1237	60	120	736
Future Volume (vph)	90	190	1237	60	120	736
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1750	1566	3475		1750	3500
Flt Permitted	0.95	1.00	1.00		0.17	1.00
Satd. Flow (perm)	1750	1566	3475		306	3500
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	204	1330	65	129	791
RTOR Reduction (vph)	0	83	2	0	0	0
Lane Group Flow (vph)	97	121	1393	0	129	791
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	15.9	15.9	93.7		93.7	93.7
Effective Green, g (s)	15.9	15.9	93.7		93.7	93.7
Actuated g/C Ratio	0.13	0.13	0.78		0.78	0.78
Clearance Time (s)	5.4	5.4	5.0		5.0	5.0
Vehicle Extension (s)	5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	231	207	2713		238	2732
v/s Ratio Prot	0.06		0.40			0.23
v/s Ratio Perm		c0.08			c0.42	
v/c Ratio	0.42	0.58	0.51		0.54	0.29
Uniform Delay, d1	47.8	48.9	4.8		5.0	3.7
Progression Factor	1.00	1.00	0.70		1.00	1.00
Incremental Delay, d2	2.6	6.4	0.6		8.6	0.3
Delay (s)	50.4	55.3	4.0		13.6	4.0
Level of Service	D	E	A		B	A
Approach Delay (s)	53.7		4.0			5.3
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

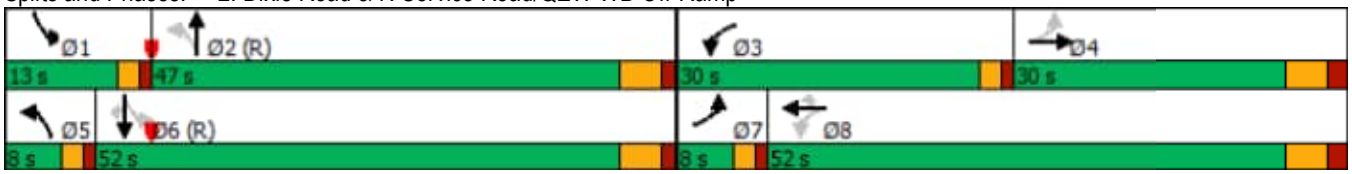
c Critical Lane Group

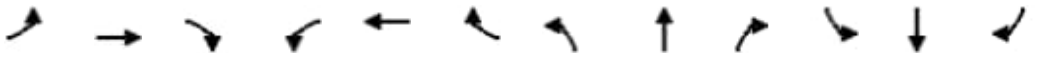
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	85	15	283	45	520	10	697	127	130	676	15
Future Volume (vph)	85	15	283	45	520	10	697	127	130	676	15
Lane Group Flow (vph)	91	145	304	48	559	11	749	137	140	727	16
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		Free	6		6
Detector Phase	7	4	3	8	8	5	2		1	6	6
Switch Phase											
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	5.0	8.0		5.0	8.0	8.0
Minimum Split (s)	8.0	29.7	8.0	29.7	29.7	8.0	25.1		8.0	25.1	25.1
Total Split (s)	8.0	30.0	30.0	52.0	52.0	8.0	47.0		13.0	52.0	52.0
Total Split (%)	6.7%	25.0%	25.0%	43.3%	43.3%	6.7%	39.2%		10.8%	43.3%	43.3%
Yellow Time (s)	2.0	3.7	2.0	3.7	3.7	2.0	3.7		2.0	3.7	3.7
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	1.4		1.0	1.4	1.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	5.7	3.0	5.7	5.7	3.0	5.1		3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
v/c Ratio	0.21	0.35	0.55	0.09	0.88	0.03	0.52	0.09	0.39	0.40	0.02
Control Delay	21.4	11.1	26.8	27.0	36.8	23.2	34.9	0.1	18.8	19.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	21.4	11.1	26.8	27.0	36.9	23.2	34.9	0.1	18.8	20.1	0.1
Queue Length 50th (m)	12.6	3.1	48.4	8.4	77.6	1.5	64.4	0.0	20.7	62.5	0.0
Queue Length 95th (m)	21.7	20.8	67.5	15.8	115.0	m3.0	71.1	0.0	27.6	60.2	0.0
Internal Link Dist (m)		121.9		96.5			233.5			117.1	
Turn Bay Length (m)	100.0		75.0			100.0		50.0	75.0		50.0
Base Capacity (vph)	433	452	584	710	756	392	1487	1566	364	1827	830
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	429	0
Spillback Cap Reductn	0	0	0	0	2	0	31	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.32	0.52	0.07	0.74	0.03	0.51	0.09	0.38	0.52	0.02

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Dixie Road & N Service Road/QEW WB Off-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	15	120	283	45	520	10	697	127	130	676	15
Future Volume (vph)	85	15	120	283	45	520	10	697	127	130	676	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.7		3.0	5.7	5.7	3.0	5.1	4.0	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	*1.00	1.00	1.00	*1.00	1.00
Frt	1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1750	1596		1750	1842	1566	1750	3684	1566	1750	3684	1566
Flt Permitted	0.73	1.00		0.52	1.00	1.00	0.38	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	1337	1596		954	1842	1566	706	3684	1566	460	3684	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	91	16	129	304	48	559	11	749	137	140	727	16
RTOR Reduction (vph)	0	104	0	0	0	175	0	0	0	0	0	8
Lane Group Flow (vph)	91	41	0	304	48	384	11	749	137	140	727	8
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		Free	6		6
Actuated Green, G (s)	33.1	23.2		48.3	35.4	35.4	47.7	46.7	120.0	60.9	56.9	56.9
Effective Green, g (s)	33.1	23.2		48.3	35.4	35.4	47.7	46.7	120.0	60.9	56.9	56.9
Actuated g/C Ratio	0.28	0.19		0.40	0.29	0.29	0.40	0.39	1.00	0.51	0.47	0.47
Clearance Time (s)	3.0	5.7		3.0	5.7	5.7	3.0	5.1		3.0	5.1	5.1
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	402	308		530	543	461	289	1433	1566	353	1746	742
v/s Ratio Prot	0.02	0.03		c0.11	0.03		0.00	c0.20		c0.04	0.20	
v/s Ratio Perm	0.04			0.13		c0.25	0.01		0.09	0.16		0.00
v/c Ratio	0.23	0.13		0.57	0.09	0.83	0.04	0.52	0.09	0.40	0.42	0.01
Uniform Delay, d1	33.2	40.1		26.1	30.6	39.5	21.9	28.1	0.0	17.4	20.7	16.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.30	1.11	1.00	0.92	0.90	1.00
Incremental Delay, d2	0.6	0.4		2.4	0.1	13.5	0.1	1.2	0.1	1.5	0.7	0.0
Delay (s)	33.8	40.5		28.5	30.8	53.0	28.7	32.4	0.1	17.5	19.3	16.7
Level of Service	C	D		C	C	D	C	C	A	B	B	B
Approach Delay (s)		37.9			43.7			27.4			19.0	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

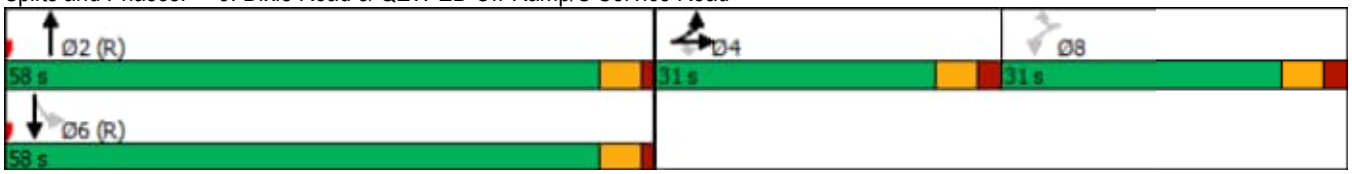
c Critical Lane Group

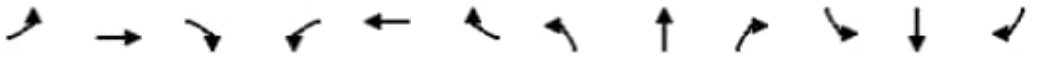
Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	200	10	218	130	1677	10	539
Future Volume (vph)	200	10	218	130	1677	10	539
Lane Group Flow (vph)	112	114	234	140	1803	11	580
Turn Type	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	4	4			2		6
Permitted Phases			4	8		6	
Detector Phase	4	4	4	8	2	6	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.0	31.0	31.0	31.0	24.0	24.0	24.0
Total Split (s)	31.0	31.0	31.0	31.0	58.0	58.0	58.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	48.3%	48.3%	48.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.3	1.3	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0	5.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.51	0.51	0.57	0.59	0.57	0.11	0.26
Control Delay	55.3	55.4	11.2	29.0	10.5	12.1	8.8
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	55.3	55.4	11.2	29.0	10.9	12.1	8.8
Queue Length 50th (m)	27.4	28.0	0.0	10.8	59.7	0.8	23.2
Queue Length 95th (m)	44.9	45.7	22.3	30.5	80.2	m2.6	36.9
Internal Link Dist (m)		138.8			128.3		133.8
Turn Bay Length (m)			75.0	7.5		100.0	
Base Capacity (vph)	346	348	511	400	3151	98	2193
Starvation Cap Reductn	0	0	0	0	638	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.33	0.46	0.35	0.72	0.11	0.26

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Dixie Road & QEW EB Off-Ramp/S Service Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	10	218	0	0	130	0	1677	0	10	539	0
Future Volume (vph)	200	10	218	0	0	130	0	1677	0	10	539	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0			6.0		5.0		5.0	5.0	
Lane Util. Factor	0.95	0.95	1.00			1.00		0.91		1.00	0.95	
Frt	1.00	1.00	0.85			0.85		1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00			1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1662	1674	1566			1566		5029		1750	3500	
Flt Permitted	0.95	0.96	1.00			1.00		1.00		0.08	1.00	
Satd. Flow (perm)	1662	1674	1566			1566		5029		156	3500	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	215	11	234	0	0	140	0	1803	0	11	580	0
RTOR Reduction (vph)	0	0	203	0	0	85	0	0	0	0	0	0
Lane Group Flow (vph)	112	114	31	0	0	55	0	1803	0	11	580	0
Turn Type	Split	NA	Perm	Perm		Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4	8		8				6		
Actuated Green, G (s)	16.0	16.0	16.0			11.8		75.2		75.2	75.2	
Effective Green, g (s)	16.0	16.0	16.0			11.8		75.2		75.2	75.2	
Actuated g/C Ratio	0.13	0.13	0.13			0.10		0.63		0.63	0.63	
Clearance Time (s)	6.0	6.0	6.0			6.0		5.0		5.0	5.0	
Vehicle Extension (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Lane Grp Cap (vph)	221	223	208			153		3151		97	2193	
v/s Ratio Prot	0.07	c0.07						c0.36			0.17	
v/s Ratio Perm			0.02			c0.04				0.07		
v/c Ratio	0.51	0.51	0.15			0.36		0.57		0.11	0.26	
Uniform Delay, d1	48.3	48.4	46.0			50.6		13.0		9.0	10.0	
Progression Factor	1.00	1.00	1.00			1.00		0.71		0.71	0.76	
Incremental Delay, d2	3.8	3.9	0.7			3.0		0.4		2.2	0.3	
Delay (s)	52.1	52.3	46.7			53.6		9.6		8.6	7.9	
Level of Service	D	D	D			D		A		A	A	
Approach Delay (s)		49.4			53.6			9.6			7.9	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		

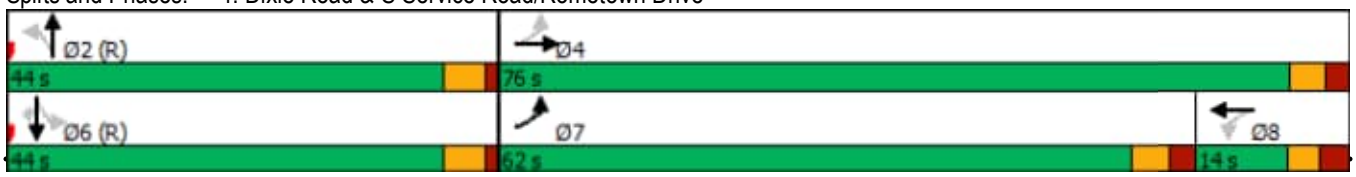
c Critical Lane Group

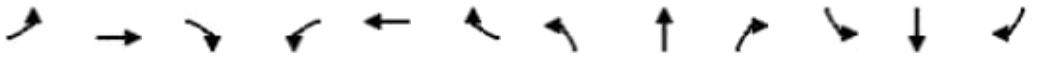
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	654	5	30	10	5	973	25	543	184
Future Volume (vph)	654	5	30	10	5	973	25	543	184
Lane Group Flow (vph)	703	10	0	102	5	1062	27	584	198
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	7	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	32.6	32.6	13.8	13.8	25.1	25.1	25.1	25.1	25.1
Total Split (s)	62.0	76.0	14.0	14.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	51.7%	63.3%	11.7%	11.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.8	2.8	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.8	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.79	0.01		0.71	0.03	0.90	0.44	0.49	0.30
Control Delay	26.4	7.7		58.8	26.0	49.8	53.2	27.1	6.6
Queue Delay	0.0	0.0		0.0	0.0	42.4	0.0	0.0	0.0
Total Delay	26.4	7.7		58.8	26.0	92.2	53.2	27.1	6.6
Queue Length 50th (m)	114.0	0.5		14.2	0.9	140.1	3.9	44.3	0.2
Queue Length 95th (m)	164.5	2.9		#41.9	m2.4	#178.1	m#14.4	85.0	15.5
Internal Link Dist (m)		127.8		67.7		95.9		128.3	
Turn Bay Length (m)					50.0		100.0		
Base Capacity (vph)	900	1001		144	196	1184	61	1187	662
Starvation Cap Reductn	0	0		0	0	209	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	0.78	0.01		0.71	0.03	1.09	0.44	0.49	0.30

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Dixie Road & S Service Road/Rometown Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	654	5	5	30	10	55	5	973	15	25	543	184
Future Volume (vph)	654	5	5	30	10	55	5	973	15	25	543	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.93			0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1750	1704			1672		1750	3492		1750	3500	1566
Flt Permitted	0.42	1.00			0.89		0.31	1.00		0.10	1.00	1.00
Satd. Flow (perm)	766	1704			1513		576	3492		181	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	703	5	5	32	11	59	5	1046	16	27	584	198
RTOR Reduction (vph)	0	2	0	0	41	0	0	1	0	0	0	131
Lane Group Flow (vph)	703	8	0	0	61	0	5	1061	0	27	584	67
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	68.6	68.6			8.2		40.7	40.7		40.7	40.7	40.7
Effective Green, g (s)	68.6	68.6			8.2		40.7	40.7		40.7	40.7	40.7
Actuated g/C Ratio	0.57	0.57			0.07		0.34	0.34		0.34	0.34	0.34
Clearance Time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	885	974			103		195	1184		61	1187	531
v/s Ratio Prot	c0.36	0.00						c0.30			0.17	
v/s Ratio Perm	c0.09				0.04		0.01			0.15		0.04
v/c Ratio	0.79	0.01			0.59		0.03	0.90		0.44	0.49	0.13
Uniform Delay, d1	19.0	11.1			54.3		26.4	37.6		30.8	31.5	27.4
Progression Factor	1.00	1.00			1.00		0.92	1.03		0.86	0.80	1.34
Incremental Delay, d2	5.7	0.0			13.0		0.2	10.2		20.8	1.4	0.5
Delay (s)	24.7	11.1			67.3		24.4	48.9		47.4	26.4	37.0
Level of Service	C	B			E		C	D		D	C	D
Approach Delay (s)		24.5			67.3			48.8			29.7	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

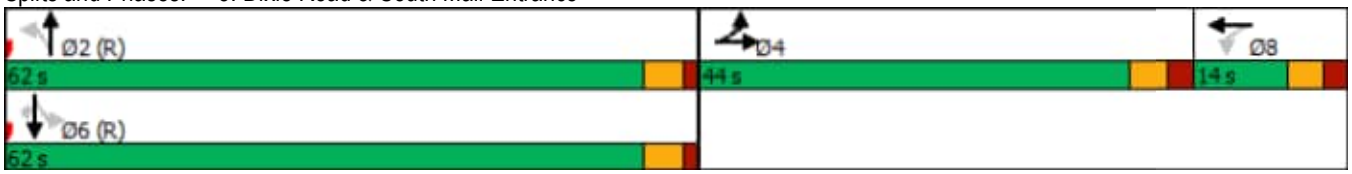
c Critical Lane Group

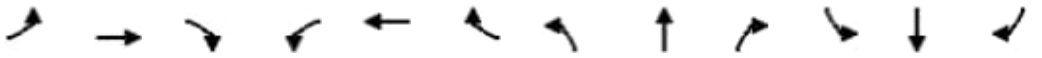
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	72	0	1	0	28	920	2	473	103
Future Volume (vph)	72	0	1	0	28	920	2	473	103
Lane Group Flow (vph)	48	46	0	2	0	1020	2	509	111
Turn Type	Split	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	4		8		2		6	
Permitted Phases			8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.6	31.6	13.6	13.6	24.1	24.1	24.1	24.1	24.1
Total Split (s)	44.0	44.0	14.0	14.0	62.0	62.0	62.0	62.0	62.0
Total Split (%)	36.7%	36.7%	11.7%	11.7%	51.7%	51.7%	51.7%	51.7%	51.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.6		5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.32	0.22		0.01		0.38	0.01	0.18	0.08
Control Delay	55.8	7.3		0.0		4.6	4.0	3.7	1.5
Queue Delay	0.0	0.0		0.0		0.3	0.0	0.2	0.0
Total Delay	55.8	7.3		0.0		4.9	4.0	3.9	1.5
Queue Length 50th (m)	11.8	0.0		0.0		27.0	0.1	19.4	1.7
Queue Length 95th (m)	24.5	6.2		0.0		70.5	m0.1	7.8	m0.0
Internal Link Dist (m)		53.7		34.6		197.2		95.9	
Turn Bay Length (m)							25.0		
Base Capacity (vph)	531	560		185		2684	398	2898	1316
Starvation Cap Reductn	0	0		0		0	0	1487	0
Spillback Cap Reductn	0	20		0		952	0	0	0
Storage Cap Reductn	0	0		0		0	0	0	0
Reduced v/c Ratio	0.09	0.09		0.01		0.59	0.01	0.36	0.08

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Dixie Road & South Mall Entrance





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	0	16	1	0	1	28	920	1	2	473	103
Future Volume (vph)	72	0	16	1	0	1	28	920	1	2	473	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00			0.95		1.00	0.95	1.00
Frt	1.00	0.94			0.93			1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97			0.98			1.00		0.95	1.00	1.00
Satd. Flow (prot)	1662	1602			1676			3494		1750	3500	1566
Flt Permitted	0.95	0.97			1.00			0.93		0.26	1.00	1.00
Satd. Flow (perm)	1662	1602			1718			3239		482	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	77	0	17	1	0	1	30	989	1	2	509	111
RTOR Reduction (vph)	0	42	0	0	2	0	0	0	0	0	0	25
Lane Group Flow (vph)	48	4	0	0	0	0	0	1020	0	2	509	86
Turn Type	Split	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		6
Actuated Green, G (s)	9.3	9.3			1.6			92.8		92.8	92.8	92.8
Effective Green, g (s)	9.3	9.3			1.6			92.8		92.8	92.8	92.8
Actuated g/C Ratio	0.08	0.08			0.01			0.77		0.77	0.77	0.77
Clearance Time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0			5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	128	124			22			2504		372	2706	1211
v/s Ratio Prot	c0.03	0.00									0.15	
v/s Ratio Perm					c0.00			c0.31		0.00		0.05
v/c Ratio	0.38	0.03			0.00			0.41		0.01	0.19	0.07
Uniform Delay, d1	52.6	51.2			58.4			4.5		3.1	3.6	3.3
Progression Factor	1.00	1.00			1.00			1.00		0.87	1.06	1.44
Incremental Delay, d2	3.8	0.2			0.0			0.5		0.0	0.1	0.1
Delay (s)	56.4	51.4			58.5			5.0		2.7	4.0	4.8
Level of Service	E	D			E			A		A	A	A
Approach Delay (s)		53.9			58.5			5.0			4.1	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	11	29	170	653	3
Future Volume (Veh/h)	0	11	29	170	653	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	12	31	183	702	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				343	210	
pX, platoon unblocked	0.89	0.89	0.89			
vC, conflicting volume	948	704	705			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	881	606	608			
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	97	96			
cM capacity (veh/h)	272	443	865			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	12	31	183	705
Volume Left	0	31	0	0
Volume Right	12	0	0	3
cSH	443	865	1700	1700
Volume to Capacity	0.03	0.04	0.11	0.41
Queue Length 95th (m)	0.7	0.9	0.0	0.0
Control Delay (s)	13.4	9.3	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.4	1.3		0.0
Approach LOS	B			

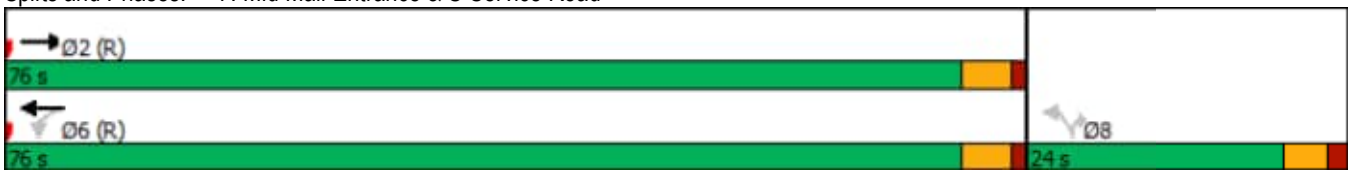
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	634	34	136	26	21
Future Volume (vph)	634	34	136	26	21
Lane Group Flow (vph)	731	37	146	28	23
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	2		6		
Permitted Phases		6		8	8
Detector Phase	2	6	6	8	8
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	22.8	22.8	22.8	22.9	22.9
Total Split (s)	76.0	76.0	76.0	24.0	24.0
Total Split (%)	76.0%	76.0%	76.0%	24.0%	24.0%
Yellow Time (s)	3.7	3.7	3.7	3.3	3.3
All-Red Time (s)	1.1	1.1	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.9	4.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.46	0.06	0.09	0.17	0.14
Control Delay	3.7	2.2	1.8	43.8	18.1
Queue Delay	0.1	0.0	0.0	0.0	0.0
Total Delay	3.8	2.2	1.8	43.8	18.1
Queue Length 50th (m)	27.1	1.1	4.5	5.4	0.0
Queue Length 95th (m)	m59.2	3.3	9.1	13.8	7.6
Internal Link Dist (m)	194.3		186.2	63.4	
Turn Bay Length (m)		30.0			15.0
Base Capacity (vph)	1597	584	1610	334	317
Starvation Cap Reductn	165	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.06	0.09	0.08	0.07

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Mid Mall Entrance & S Service Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	634	46	34	136	26	21
Future Volume (vph)	634	46	34	136	26	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		4.8	4.8	4.9	4.9
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1811		1750	1827	1750	1566
Flt Permitted	1.00		0.36	1.00	0.95	1.00
Satd. Flow (perm)	1811		664	1827	1750	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	682	49	37	146	28	23
RTOR Reduction (vph)	1	0	0	0	0	22
Lane Group Flow (vph)	730	0	37	146	28	1
Bus Blockages (#/hr)	2	0	0	2	0	0
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	84.3		84.3	84.3	6.0	6.0
Effective Green, g (s)	84.3		84.3	84.3	6.0	6.0
Actuated g/C Ratio	0.84		0.84	0.84	0.06	0.06
Clearance Time (s)	4.8		4.8	4.8	4.9	4.9
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1526		559	1540	105	93
v/s Ratio Prot	c0.40			0.08		
v/s Ratio Perm			0.06		c0.02	0.00
v/c Ratio	0.48		0.07	0.09	0.27	0.01
Uniform Delay, d1	2.1		1.3	1.3	44.9	44.2
Progression Factor	1.25		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6		0.2	0.1	2.8	0.1
Delay (s)	3.2		1.5	1.5	47.7	44.4
Level of Service	A		A	A	D	D
Approach Delay (s)	3.2			1.5	46.2	
Approach LOS	A			A	D	

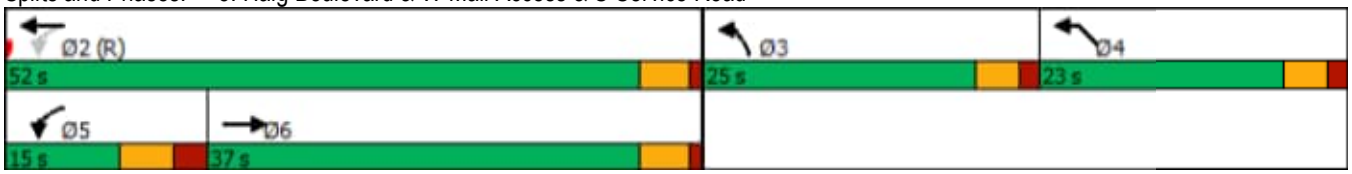
Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

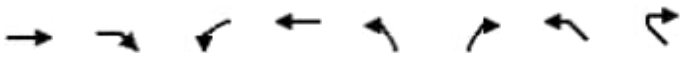
Lane Group	EBT	WBL	WBT	NBL	NWL
Lane Configurations					
Traffic Volume (vph)	459	66	97	84	24
Future Volume (vph)	459	66	97	84	24
Lane Group Flow (vph)	633	71	104	325	26
Turn Type	NA	pm+pt	NA	Prot	Prot
Protected Phases	6	5	2	3	4
Permitted Phases		2			
Detector Phase	6	5	2	3	4
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	22.8	14.5	22.8	22.9	22.9
Total Split (s)	37.0	15.0	52.0	25.0	23.0
Total Split (%)	37.0%	15.0%	52.0%	25.0%	23.0%
Yellow Time (s)	3.7	4.0	3.7	3.3	3.3
All-Red Time (s)	1.1	2.5	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	6.5	4.8	4.9	4.9
Lead/Lag	Lag	Lead		Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes
Recall Mode	Max	None	C-Max	None	None
v/c Ratio	0.70	0.21	0.09	0.99	0.16
Control Delay	28.0	10.1	8.2	88.1	43.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	10.1	8.2	88.1	43.8
Queue Length 50th (m)	85.6	3.1	4.2	66.6	5.0
Queue Length 95th (m)	#200.9	13.9	18.0	#123.1	13.1
Internal Link Dist (m)	108.8		194.3	37.0	41.8
Turn Bay Length (m)		42.0			
Base Capacity (vph)	906	344	1181	329	316
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	0.70	0.21	0.09	0.99	0.08

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 105
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Haig Boulevard & W Mall Access & S Service Road





Movement	EBT	EBR	WBL	WBT	NBL	NBR	NWL	NWR
Lane Configurations								
Traffic Volume (vph)	459	129	66	97	84	219	24	0
Future Volume (vph)	459	129	66	97	84	219	24	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		6.5	4.8	4.9		4.9	
Lane Util. Factor	1.00		1.00	1.00	1.00		1.00	
Frt	0.97		1.00	1.00	0.90		1.00	
Flt Protected	1.00		0.95	1.00	0.99		0.95	
Satd. Flow (prot)	1773		1750	1842	1640		1750	
Flt Permitted	1.00		0.18	1.00	0.99		0.95	
Satd. Flow (perm)	1773		337	1842	1640		1750	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	494	139	71	104	90	235	26	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	633	0	71	104	325	0	26	0
Bus Blockages (#/hr)	2	0	0	0	0	0	0	0
Turn Type	NA		pm+pt	NA	Prot		Prot	
Protected Phases	6		5	2	3		4	
Permitted Phases			2					
Actuated Green, G (s)	47.0		61.2	61.2	20.1		4.1	
Effective Green, g (s)	47.0		61.2	61.2	20.1		4.1	
Actuated g/C Ratio	0.47		0.61	0.61	0.20		0.04	
Clearance Time (s)	4.8		6.5	4.8	4.9		4.9	
Vehicle Extension (s)	5.0		5.0	5.0	5.0		5.0	
Lane Grp Cap (vph)	833		315	1127	329		71	
v/s Ratio Prot	c0.36		c0.02	0.06	c0.20		c0.01	
v/s Ratio Perm			0.12					
v/c Ratio	0.76		0.23	0.09	0.99		0.37	
Uniform Delay, d1	21.8		12.9	8.0	39.8		46.7	
Progression Factor	1.00		0.92	0.93	1.00		1.00	
Incremental Delay, d2	6.5		0.8	0.2	46.2		6.6	
Delay (s)	28.3		12.6	7.6	86.0		53.3	
Level of Service	C		B	A	F		D	
Approach Delay (s)	28.3			9.6	86.0		53.3	
Approach LOS	C			A	F		D	

Intersection Summary			
HCM 2000 Control Delay	42.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.1
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

PM PEAK

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	65	20	907	5	1730
Future Volume (vph)	65	20	907	5	1730
Lane Group Flow (vph)	70	22	1158	5	1860
Turn Type	Prot	Perm	NA	Perm	NA
Protected Phases	8		2		6
Permitted Phases		8		6	
Detector Phase	8	8	2	6	6
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	27.4	27.4	24.0	24.0	24.0
Total Split (s)	30.0	30.0	100.0	100.0	100.0
Total Split (%)	23.1%	23.1%	76.9%	76.9%	76.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	2.1	2.1	1.3	1.3	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.42	0.13	0.40	0.01	0.62
Control Delay	62.1	20.7	2.1	2.6	5.3
Queue Delay	0.7	0.0	0.3	0.0	0.6
Total Delay	62.8	20.7	2.4	2.6	5.9
Queue Length 50th (m)	18.1	0.0	15.0	0.2	78.6
Queue Length 95th (m)	33.0	8.6	7.6	1.1	115.5
Internal Link Dist (m)	91.7		117.1		171.7
Turn Bay Length (m)				30.0	
Base Capacity (vph)	331	314	2920	364	2985
Starvation Cap Reductn	0	0	961	0	0
Spillback Cap Reductn	110	0	0	0	666
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.07	0.59	0.01	0.80

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 1: Dixie Road & Sherway Drive

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	65	20	907	170	5	1730
Future Volume (vph)	65	20	907	170	5	1730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1750	1566	3417		1750	3500
Flt Permitted	0.95	1.00	1.00		0.23	1.00
Satd. Flow (perm)	1750	1566	3417		427	3500
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	70	22	975	183	5	1860
RTOR Reduction (vph)	0	20	7	0	0	0
Lane Group Flow (vph)	70	2	1151	0	5	1860
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	10.8	10.8	108.8		108.8	108.8
Effective Green, g (s)	10.8	10.8	108.8		108.8	108.8
Actuated g/C Ratio	0.08	0.08	0.84		0.84	0.84
Clearance Time (s)	5.4	5.4	5.0		5.0	5.0
Vehicle Extension (s)	5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	145	130	2859		357	2929
v/s Ratio Prot	c0.04		0.34			c0.53
v/s Ratio Perm		0.00			0.01	
v/c Ratio	0.48	0.01	0.40		0.01	0.64
Uniform Delay, d1	56.9	54.7	2.6		1.7	3.7
Progression Factor	1.00	1.00	0.65		1.00	1.00
Incremental Delay, d2	5.2	0.1	0.3		0.1	1.1
Delay (s)	62.1	54.8	2.0		1.8	4.8
Level of Service	E	D	A		A	A
Approach Delay (s)	60.4		2.0			4.7
Approach LOS	E		A			A

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Queues

2: Dixie Road & N Service Road/QEW WB Off-Ramp

Future Background PM (2031)

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	25	15	65	610	380	110	677	120	420	1370	5
Future Volume (vph)	25	15	65	610	380	110	677	120	420	1370	5
Lane Group Flow (vph)	27	199	70	656	409	118	728	129	452	1473	5
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		Free	6		6
Detector Phase	7	4	3	8	8	5	2		1	6	6
Switch Phase											
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	5.0	8.0		5.0	8.0	8.0
Minimum Split (s)	8.0	29.7	8.0	29.7	29.7	8.0	25.1		8.0	25.1	25.1
Total Split (s)	8.0	54.0	8.0	54.0	54.0	8.0	37.0		31.0	60.0	60.0
Total Split (%)	6.2%	41.5%	6.2%	41.5%	41.5%	6.2%	28.5%		23.8%	46.2%	46.2%
Yellow Time (s)	2.0	3.7	2.0	3.7	3.7	2.0	3.7		2.0	3.7	3.7
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	1.4		1.0	1.4	1.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	5.7	3.0	5.7	5.7	3.0	5.1		3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
v/c Ratio	0.22	0.29	0.15	0.93	0.52	0.79	0.81	0.08	0.97	0.94	0.01
Control Delay	24.0	8.2	21.5	60.2	10.6	61.1	50.4	0.1	69.2	44.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	39.9	0.0
Total Delay	24.0	8.2	21.5	60.2	10.6	61.1	50.4	0.1	69.6	84.8	0.0
Queue Length 50th (m)	4.0	6.9	10.5	171.4	19.3	16.7	100.4	0.0	~111.1	190.0	0.0
Queue Length 95th (m)	9.8	24.2	20.0	#250.9	50.7	#54.1	108.3	0.0	#183.9	#233.6	m0.0
Internal Link Dist (m)		121.9		96.5			233.5			117.1	
Turn Bay Length (m)	100.0		75.0			100.0		50.0	75.0		50.0
Base Capacity (vph)	125	689	469	704	784	150	904	1566	466	1563	706
Starvation Cap Reductn	0	0	0	0	0	0	0	0	1	211	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.29	0.15	0.93	0.52	0.79	0.81	0.08	0.97	1.09	0.01

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

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

Natural Cycle: 110

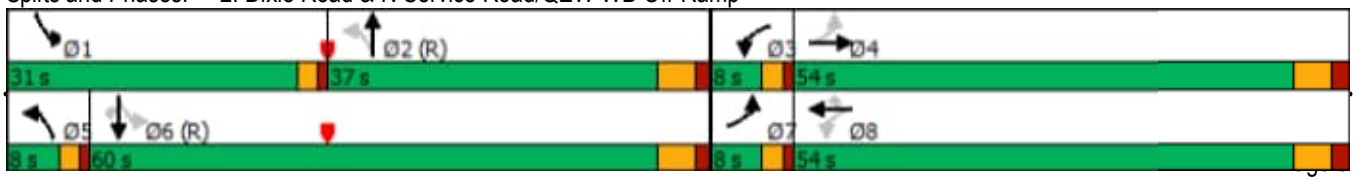
Control Type: Actuated-Coordinated

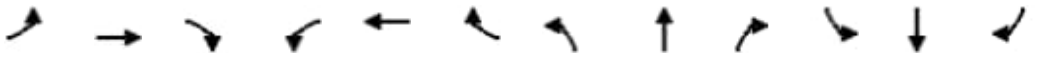
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Splits and Phases: 2: Dixie Road & N Service Road/QEW WB Off-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	15	170	65	610	380	110	677	120	420	1370	5
Future Volume (vph)	25	15	170	65	610	380	110	677	120	420	1370	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.7		3.0	5.7	5.7	3.0	5.1	4.0	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	*1.00	1.00	1.00	*1.00	1.00
Frt	1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1750	1588		1750	1842	1566	1750	3684	1566	1750	3684	1566
Flt Permitted	0.08	1.00		0.56	1.00	1.00	0.13	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	152	1588		1038	1842	1566	239	3684	1566	228	3684	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	16	183	70	656	409	118	728	129	452	1473	5
RTOR Reduction (vph)	0	100	0	0	0	187	0	0	0	0	0	3
Lane Group Flow (vph)	27	99	0	70	656	222	118	728	129	452	1473	2
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		Free	6		6
Actuated Green, G (s)	51.6	48.6		53.6	49.6	49.6	37.4	30.8	130.0	63.6	54.0	54.0
Effective Green, g (s)	51.6	48.6		53.6	49.6	49.6	37.4	30.8	130.0	63.6	54.0	54.0
Actuated g/C Ratio	0.40	0.37		0.41	0.38	0.38	0.29	0.24	1.00	0.49	0.42	0.42
Clearance Time (s)	3.0	5.7		3.0	5.7	5.7	3.0	5.1		3.0	5.1	5.1
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	97	593		449	702	597	145	872	1566	460	1530	650
v/s Ratio Prot	c0.01	0.06		0.00	c0.36		0.04	0.20		c0.23	0.40	
v/s Ratio Perm	0.10			0.06		0.14	0.19		c0.08	c0.26		0.00
v/c Ratio	0.28	0.17		0.16	0.93	0.37	0.81	0.83	0.08	0.98	0.96	0.00
Uniform Delay, d1	30.2	27.2		23.5	38.6	29.0	38.2	47.2	0.0	38.5	37.0	22.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.16	0.93	1.00	1.07	0.94	1.00
Incremental Delay, d2	3.3	0.3		0.3	20.2	0.8	29.1	8.6	0.1	33.0	13.4	0.0
Delay (s)	33.5	27.5		23.8	58.8	29.8	73.4	52.7	0.1	74.3	48.4	22.3
Level of Service	C	C		C	E	C	E	D	A	E	D	C
Approach Delay (s)		28.2			46.2			48.2			54.4	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	95.9%	ICU Level of Service	F
Analysis Period (min)	15		

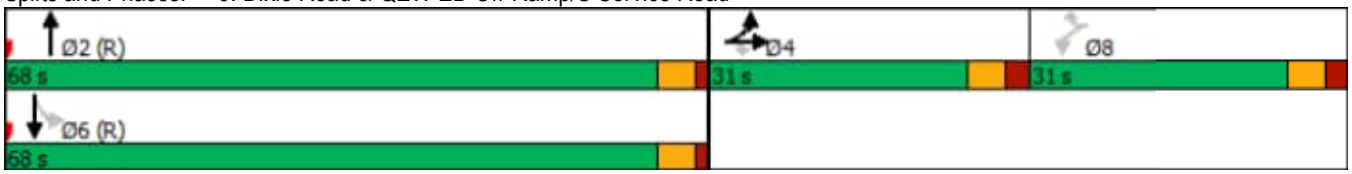
c Critical Lane Group

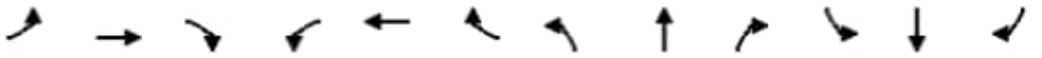
Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	140	20	174	60	1561	15	1145
Future Volume (vph)	140	20	174	60	1561	15	1145
Lane Group Flow (vph)	86	87	187	65	1683	16	1231
Turn Type	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	4	4			2		6
Permitted Phases			4	8		6	
Detector Phase	4	4	4	8	2	6	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.0	31.0	31.0	31.0	24.0	24.0	24.0
Total Split (s)	31.0	31.0	31.0	31.0	68.0	68.0	68.0
Total Split (%)	23.8%	23.8%	23.8%	23.8%	52.3%	52.3%	52.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.3	1.3	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0	5.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.47	0.47	0.55	0.31	0.47	0.11	0.49
Control Delay	61.7	61.5	13.4	3.9	8.5	5.2	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	61.7	61.5	13.4	3.9	8.8	5.2	6.4
Queue Length 50th (m)	23.3	23.5	0.0	0.0	65.4	1.1	44.6
Queue Length 95th (m)	40.0	40.5	21.7	0.8	77.9	m0.6	m19.5
Internal Link Dist (m)		138.8			128.3		133.8
Turn Bay Length (m)			75.0	7.5		100.0	
Base Capacity (vph)	319	324	452	397	3615	148	2516
Starvation Cap Reductn	0	0	0	0	1030	0	0
Spillback Cap Reductn	0	0	3	0	0	0	66
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.27	0.42	0.16	0.65	0.11	0.50

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Dixie Road & QEW EB Off-Ramp/S Service Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	20	174	0	0	60	0	1561	5	15	1145	0
Future Volume (vph)	140	20	174	0	0	60	0	1561	5	15	1145	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0			6.0		5.0		5.0	5.0	
Lane Util. Factor	0.95	0.95	1.00			1.00		0.91		1.00	0.95	
Frt	1.00	1.00	0.85			0.85		1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00			1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1662	1687	1566			1566		5027		1750	3500	
Flt Permitted	0.95	0.96	1.00			1.00		1.00		0.11	1.00	
Satd. Flow (perm)	1662	1687	1566			1566		5027		207	3500	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	22	187	0	0	65	0	1678	5	16	1231	0
RTOR Reduction (vph)	0	0	166	0	0	62	0	0	0	0	0	0
Lane Group Flow (vph)	86	87	21	0	0	3	0	1683	0	16	1231	0
Turn Type	Split	NA	Perm	Perm		Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4	8		8				6		
Actuated Green, G (s)	14.3	14.3	14.3			6.4		92.3		92.3	92.3	
Effective Green, g (s)	14.3	14.3	14.3			6.4		92.3		92.3	92.3	
Actuated g/C Ratio	0.11	0.11	0.11			0.05		0.71		0.71	0.71	
Clearance Time (s)	6.0	6.0	6.0			6.0		5.0		5.0	5.0	
Vehicle Extension (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Lane Grp Cap (vph)	182	185	172			77		3569		146	2485	
v/s Ratio Prot	c0.05	0.05						0.33			c0.35	
v/s Ratio Perm			0.01			c0.00				0.08		
v/c Ratio	0.47	0.47	0.12			0.04		0.47		0.11	0.50	
Uniform Delay, d1	54.3	54.3	52.2			58.9		8.2		5.9	8.4	
Progression Factor	1.00	1.00	1.00			1.00		0.95		0.54	0.66	
Incremental Delay, d2	4.0	3.9	0.7			0.5		0.3		0.8	0.4	
Delay (s)	58.3	58.2	52.8			59.3		8.1		4.0	6.0	
Level of Service	E	E	D			E		A		A	A	
Approach Delay (s)		55.4			59.3			8.1			5.9	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		

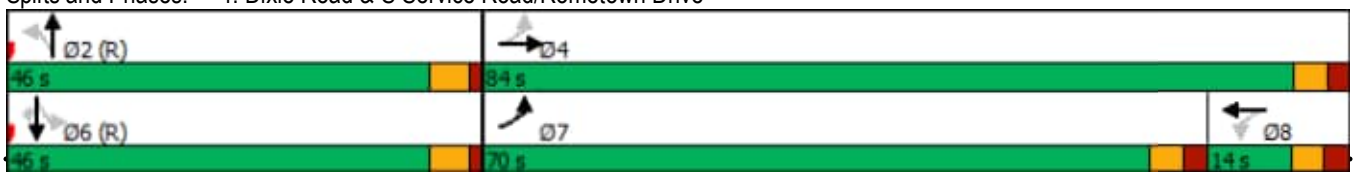
c Critical Lane Group

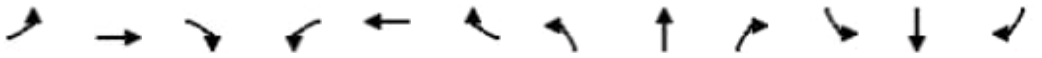
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	803	10	15	5	5	748	60	943	305
Future Volume (vph)	803	10	15	5	5	748	60	943	305
Lane Group Flow (vph)	863	16	0	32	5	831	65	1014	328
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	7	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	32.6	32.6	13.8	13.8	25.1	25.1	25.1	25.1	25.1
Total Split (s)	70.0	84.0	14.0	14.0	46.0	46.0	46.0	46.0	46.0
Total Split (%)	53.8%	64.6%	10.8%	10.8%	35.4%	35.4%	35.4%	35.4%	35.4%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.8	2.8	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.8	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.91	0.02		0.32	0.08	0.67	0.61	0.82	0.45
Control Delay	38.7	8.1		51.2	50.2	51.5	60.0	42.6	11.7
Queue Delay	0.0	0.0		0.0	0.0	3.1	0.0	0.6	0.2
Total Delay	38.7	8.1		51.2	50.2	54.6	60.0	43.2	11.9
Queue Length 50th (m)	172.7	1.1		5.5	1.0	103.1	10.8	98.4	11.1
Queue Length 95th (m)	#244.2	4.3		16.7	m3.1	140.5	#41.1	#175.6	35.2
Internal Link Dist (m)		127.8		67.7		95.9		128.3	
Turn Bay Length (m)					50.0		100.0		
Base Capacity (vph)	950	1060		102	59	1237	107	1242	731
Starvation Cap Reductn	0	0		0	0	295	0	53	66
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	0.91	0.02		0.31	0.08	0.88	0.61	0.85	0.49

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Dixie Road & S Service Road/Rometown Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	803	10	5	15	5	10	5	748	25	60	943	305
Future Volume (vph)	803	10	5	15	5	10	5	748	25	60	943	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.95			0.95		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1750	1756			1714		1750	3483		1750	3500	1566
Flt Permitted	0.66	1.00			0.83		0.09	1.00		0.16	1.00	1.00
Satd. Flow (perm)	1209	1756			1464		168	3483		303	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	863	11	5	16	5	11	5	804	27	65	1014	328
RTOR Reduction (vph)	0	2	0	0	11	0	0	2	0	0	0	181
Lane Group Flow (vph)	863	14	0	0	21	0	5	829	0	65	1014	147
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	75.5	75.5			4.9		43.8	43.8		43.8	43.8	43.8
Effective Green, g (s)	75.5	75.5			4.9		43.8	43.8		43.8	43.8	43.8
Actuated g/C Ratio	0.58	0.58			0.04		0.34	0.34		0.34	0.34	0.34
Clearance Time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	971	1019			55		56	1173		102	1179	527
v/s Ratio Prot	c0.44	0.01						0.24			c0.29	
v/s Ratio Perm	c0.07				0.01		0.03			0.21		0.09
v/c Ratio	0.89	0.01			0.39		0.09	0.71		0.64	0.86	0.28
Uniform Delay, d1	22.7	11.5			61.1		29.5	37.5		36.4	40.2	31.5
Progression Factor	1.00	1.00			1.00		1.42	1.32		0.96	0.94	1.40
Incremental Delay, d2	10.7	0.0			9.3		2.9	3.3		24.1	7.5	1.2
Delay (s)	33.4	11.5			70.4		44.6	53.0		58.9	45.3	45.4
Level of Service	C	B			E		D	D		E	D	D
Approach Delay (s)		33.0			70.4			53.0			45.9	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

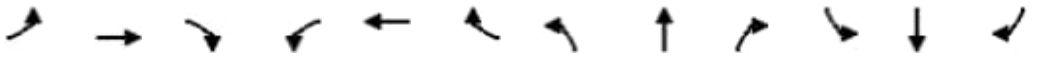
c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	405	0	1	0	90	372	2	627	334
Future Volume (vph)	405	0	1	0	90	372	2	627	334
Lane Group Flow (vph)	270	261	0	2	0	498	2	674	359
Turn Type	Split	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	4		8		2		6	
Permitted Phases			8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.6	31.6	13.6	13.6	24.1	24.1	24.1	24.1	24.1
Total Split (s)	42.0	42.0	14.0	14.0	74.0	74.0	74.0	74.0	74.0
Total Split (%)	32.3%	32.3%	10.8%	10.8%	56.9%	56.9%	56.9%	56.9%	56.9%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.6		5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.73	0.64		0.01		0.31	0.00	0.29	0.31
Control Delay	57.7	40.3		0.0		11.2	14.5	15.2	7.0
Queue Delay	0.0	0.1		0.0		0.3	0.0	0.6	0.9
Total Delay	57.7	40.4		0.0		11.4	14.5	15.8	7.9
Queue Length 50th (m)	71.7	51.0		0.0		24.6	0.3	58.4	39.1
Queue Length 95th (m)	95.7	75.4		0.0		55.3	m0.1	25.8	m16.6
Internal Link Dist (m)		53.7		34.6		197.2		95.9	
Turn Bay Length (m)							25.0		
Base Capacity (vph)	470	499		171		1638	563	2364	1174
Starvation Cap Reductn	0	0		0		0	0	1219	547
Spillback Cap Reductn	0	13		0		534	0	0	0
Storage Cap Reductn	0	0		0		0	0	0	0
Reduced v/c Ratio	0.57	0.54		0.01		0.45	0.00	0.59	0.57

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Dixie Road & South Mall Entrance



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	0	89	1	0	1	90	372	1	2	627	334
Future Volume (vph)	405	0	89	1	0	1	90	372	1	2	627	334
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00			0.95		1.00	0.95	1.00
Frt	1.00	0.94			0.93			1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97			0.98			0.99		0.95	1.00	1.00
Satd. Flow (prot)	1662	1603			1676			3465		1750	3500	1566
Flt Permitted	0.95	0.97			1.00			0.69		0.45	1.00	1.00
Satd. Flow (perm)	1662	1603			1718			2426		835	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	435	0	96	1	0	1	97	400	1	2	674	359
RTOR Reduction (vph)	0	50	0	0	2	0	0	0	0	0	0	130
Lane Group Flow (vph)	270	211	0	0	0	0	0	498	0	2	674	229
Turn Type	Split	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		6
Actuated Green, G (s)	29.1	29.1			1.6			83.0		83.0	83.0	83.0
Effective Green, g (s)	29.1	29.1			1.6			83.0		83.0	83.0	83.0
Actuated g/C Ratio	0.22	0.22			0.01			0.64		0.64	0.64	0.64
Clearance Time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0			5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	372	358			21			1548		533	2234	999
v/s Ratio Prot	c0.16	0.13									0.19	
v/s Ratio Perm					c0.00			c0.21		0.00		0.15
v/c Ratio	0.73	0.59			0.00			0.32		0.00	0.30	0.23
Uniform Delay, d1	46.8	45.1			63.4			10.7		8.5	10.5	10.0
Progression Factor	1.00	1.00			1.00			1.00		1.23	1.46	4.64
Incremental Delay, d2	8.4	3.8			0.0			0.6		0.0	0.2	0.3
Delay (s)	55.1	48.9			63.5			11.2		10.5	15.6	46.5
Level of Service	E	D			E			B		B	B	D
Approach Delay (s)		52.1			63.5			11.2			26.3	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	63	93	222	755	8
Future Volume (Veh/h)	0	63	93	222	755	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	68	100	239	812	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				343	210	
pX, platoon unblocked	0.78	0.78	0.78			
vC, conflicting volume	1256	816	821			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1185	621	626			
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	82	87			
cM capacity (veh/h)	140	379	742			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	68	100	239	821
Volume Left	0	100	0	0
Volume Right	68	0	0	9
cSH	379	742	1700	1700
Volume to Capacity	0.18	0.13	0.14	0.48
Queue Length 95th (m)	5.2	3.7	0.0	0.0
Control Delay (s)	16.6	10.6	0.0	0.0
Lane LOS	C	B		
Approach Delay (s)	16.6	3.1		0.0
Approach LOS	C			

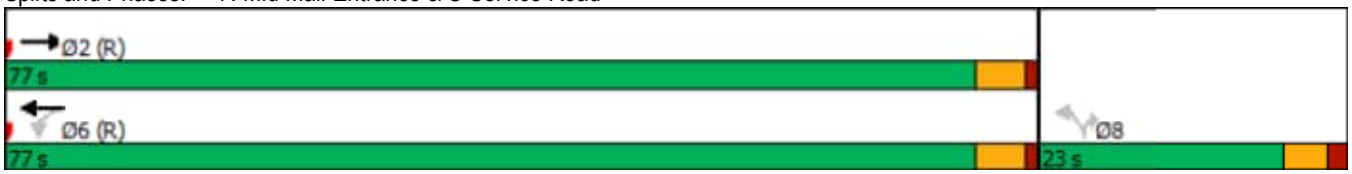
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	644	111	111	149	119
Future Volume (vph)	644	111	111	149	119
Lane Group Flow (vph)	853	119	119	160	128
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	2		6		
Permitted Phases		6		8	8
Detector Phase	2	6	6	8	8
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	22.8	22.8	22.8	22.9	22.9
Total Split (s)	77.0	77.0	77.0	23.0	23.0
Total Split (%)	77.0%	77.0%	77.0%	23.0%	23.0%
Yellow Time (s)	3.7	3.7	3.7	3.3	3.3
All-Red Time (s)	1.1	1.1	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.9	4.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.64	0.34	0.09	0.57	0.38
Control Delay	4.6	8.4	4.3	46.0	14.1
Queue Delay	0.7	0.0	0.0	0.0	0.0
Total Delay	5.3	8.4	4.3	46.0	14.1
Queue Length 50th (m)	33.6	7.0	5.7	30.5	4.8
Queue Length 95th (m)	m0.0	19.7	12.8	48.7	20.1
Internal Link Dist (m)	194.3		186.2	63.4	
Turn Bay Length (m)		30.0			15.0
Base Capacity (vph)	1341	358	1367	328	376
Starvation Cap Reductn	198	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.33	0.09	0.49	0.34

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Mid Mall Entrance & S Service Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	644	150	111	111	149	119
Future Volume (vph)	644	150	111	111	149	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		4.8	4.8	4.9	4.9
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1781		1750	1827	1750	1566
Flt Permitted	1.00		0.26	1.00	0.95	1.00
Satd. Flow (perm)	1781		479	1827	1750	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	692	161	119	119	160	128
RTOR Reduction (vph)	8	0	0	0	0	85
Lane Group Flow (vph)	845	0	119	119	160	43
Bus Blockages (#/hr)	2	0	0	2	0	0
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	74.2		74.2	74.2	16.1	16.1
Effective Green, g (s)	74.2		74.2	74.2	16.1	16.1
Actuated g/C Ratio	0.74		0.74	0.74	0.16	0.16
Clearance Time (s)	4.8		4.8	4.8	4.9	4.9
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1321		355	1355	281	252
v/s Ratio Prot	c0.47			0.07		
v/s Ratio Perm			0.25		c0.09	0.03
v/c Ratio	0.64		0.34	0.09	0.57	0.17
Uniform Delay, d1	6.3		4.4	3.6	38.7	36.2
Progression Factor	0.61		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		2.5	0.1	4.3	0.7
Delay (s)	4.1		7.0	3.7	43.1	36.9
Level of Service	A		A	A	D	D
Approach Delay (s)	4.1			5.3	40.3	
Approach LOS	A			A	D	

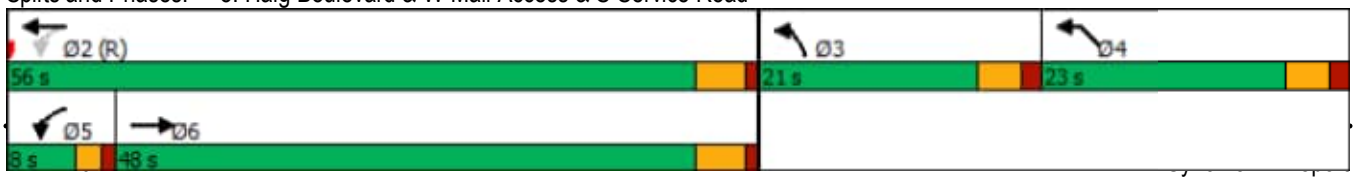
Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

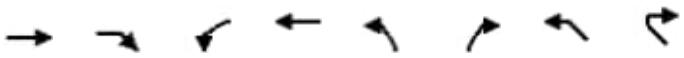
Lane Group	EBT	WBL	WBT	NBL	NWL
Lane Configurations					
Traffic Volume (vph)	635	129	131	94	136
Future Volume (vph)	635	129	131	94	136
Lane Group Flow (vph)	1065	139	141	253	146
Turn Type	NA	pm+pt	NA	Prot	Prot
Protected Phases	6	5	2	3	4
Permitted Phases		2			
Detector Phase	6	5	2	3	4
Switch Phase					
Minimum Initial (s)	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	22.8	8.0	22.8	12.9	22.9
Total Split (s)	48.0	8.0	56.0	21.0	23.0
Total Split (%)	48.0%	8.0%	56.0%	21.0%	23.0%
Yellow Time (s)	3.7	2.0	3.7	3.3	3.3
All-Red Time (s)	1.1	1.0	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	3.0	4.8	4.9	4.9
Lead/Lag	Lag	Lead		Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes
Recall Mode	Max	None	C-Max	None	None
v/c Ratio	1.40	0.66	0.14	0.95	0.56
Control Delay	214.8	36.8	8.7	86.3	47.5
Queue Delay	0.0	0.0	0.0	14.3	0.0
Total Delay	214.8	36.8	8.7	100.6	47.5
Queue Length 50th (m)	~294.2	20.6	21.1	51.6	27.9
Queue Length 95th (m)	#372.3	#45.7	10.2	#100.5	46.7
Internal Link Dist (m)	108.8		194.3	37.0	41.8
Turn Bay Length (m)		42.0			
Base Capacity (vph)	760	210	1001	267	316
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	2	0	0	17	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.41	0.66	0.14	1.01	0.46

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Haig Boulevard & W Mall Access & S Service Road





Movement	EBT	EBR	WBL	WBT	NBL	NBR	NWL	NWR
Lane Configurations								
Traffic Volume (vph)	635	355	129	131	94	141	136	0
Future Volume (vph)	635	355	129	131	94	141	136	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		3.0	4.8	4.9		4.9	
Lane Util. Factor	1.00		1.00	1.00	1.00		1.00	
Frt	0.95		1.00	1.00	0.92		1.00	
Flt Protected	1.00		0.95	1.00	0.98		0.95	
Satd. Flow (prot)	1739		1750	1842	1660		1750	
Flt Permitted	1.00		0.09	1.00	0.98		0.95	
Satd. Flow (perm)	1739		158	1842	1660		1750	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	683	382	139	141	101	152	146	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1065	0	139	141	253	0	146	0
Bus Blockages (#/hr)	2	0	0	0	0	0	0	0
Turn Type	NA		pm+pt	NA	Prot		Prot	
Protected Phases	6		5	2	3		4	
Permitted Phases			2					
Actuated Green, G (s)	43.7		54.4	54.4	16.1		14.9	
Effective Green, g (s)	43.7		54.4	54.4	16.1		14.9	
Actuated g/C Ratio	0.44		0.54	0.54	0.16		0.15	
Clearance Time (s)	4.8		3.0	4.8	4.9		4.9	
Vehicle Extension (s)	5.0		5.0	5.0	5.0		5.0	
Lane Grp Cap (vph)	759		208	1002	267		260	
v/s Ratio Prot	c0.61		c0.05	0.08	c0.15		c0.08	
v/s Ratio Perm			0.31					
v/c Ratio	1.40		0.67	0.14	0.95		0.56	
Uniform Delay, d1	28.1		21.2	11.3	41.5		39.5	
Progression Factor	1.00		1.47	0.69	1.00		1.00	
Incremental Delay, d2	189.3		10.0	0.3	41.5		4.5	
Delay (s)	217.5		41.0	8.1	83.0		44.0	
Level of Service	F		D	A	F		D	
Approach Delay (s)	217.5			24.4	83.0		44.0	
Approach LOS	F			C	F		D	

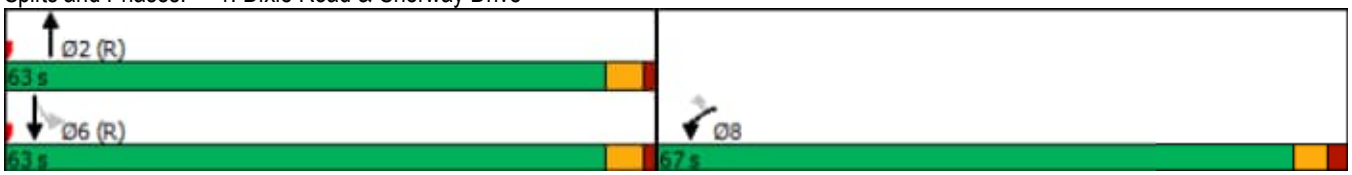
Intersection Summary			
HCM 2000 Control Delay	152.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.6
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

SATURDAY PEAK

Lane Group	Ø2	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	8.0	8.0	8.0
Minimum Split (s)	24.0	24.0	27.4
Total Split (s)	63.0	63.0	67.0
Total Split (%)	48%	48%	52%
Yellow Time (s)	3.7	3.7	3.3
All-Red Time (s)	1.3	1.3	2.1
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Min	C-Min	None
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
Queue Length 50th (m)			
Queue Length 95th (m)			
Internal Link Dist (m)			
Turn Bay Length (m)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 1: Dixie Road & Sherway Drive



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type	Prot	Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Vehicle Extension (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A		A		A	

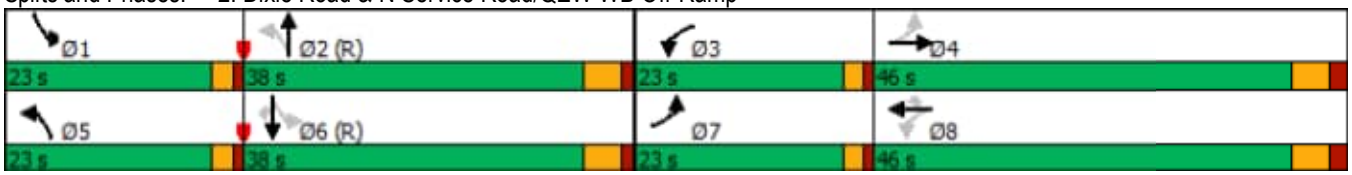
Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

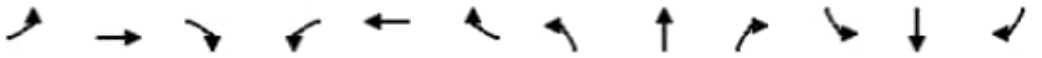
c Critical Lane Group

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Lane Configurations								
Traffic Volume (vph)								
Future Volume (vph)								
Lane Group Flow (vph)								
Turn Type								
Protected Phases	1	2	3	4	5	6	7	8
Permitted Phases								
Detector Phase								
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	8.0	25.1	8.0	29.7	8.0	25.1	8.0	29.7
Total Split (s)	23.0	38.0	23.0	46.0	23.0	38.0	23.0	46.0
Total Split (%)	18%	29%	18%	35%	18%	29%	18%	35%
Yellow Time (s)	2.0	3.7	2.0	3.7	2.0	3.7	2.0	3.7
All-Red Time (s)	1.0	1.4	1.0	2.0	1.0	1.4	1.0	2.0
Lost Time Adjust (s)								
Total Lost Time (s)								
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	C-Min	None	None
v/c Ratio								
Control Delay								
Queue Delay								
Total Delay								
Queue Length 50th (m)								
Queue Length 95th (m)								
Internal Link Dist (m)								
Turn Bay Length (m)								
Base Capacity (vph)								
Starvation Cap Reductn								
Spillback Cap Reductn								
Storage Cap Reductn								
Reduced v/c Ratio								

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 2: Dixie Road & N Service Road/QEW WB Off-Ramp





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt		Perm	pm+pt		Free	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		Free	6		6
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

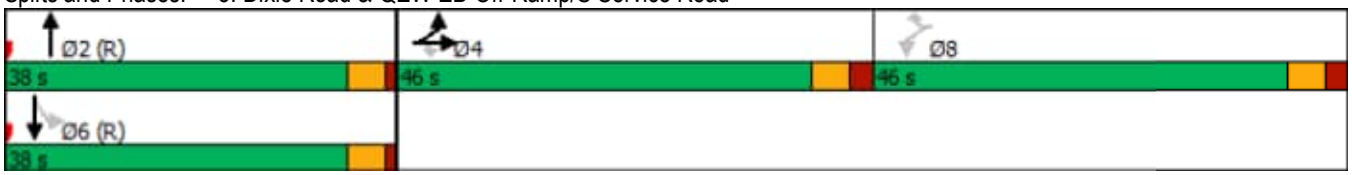
Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	Ø2	Ø4	Ø6	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	8.0	7.0	8.0	8.0
Minimum Split (s)	24.0	31.0	24.0	31.0
Total Split (s)	38.0	46.0	38.0	46.0
Total Split (%)	29%	35%	29%	35%
Yellow Time (s)	3.7	3.7	3.7	3.7
All-Red Time (s)	1.3	2.3	1.3	2.3
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	None	C-Min	None
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Dixie Road & QEW EB Off-Ramp/S Service Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Split		Perm	Perm		Perm				Perm		
Protected Phases	4	4						2			6	
Permitted Phases			4	8		8				6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

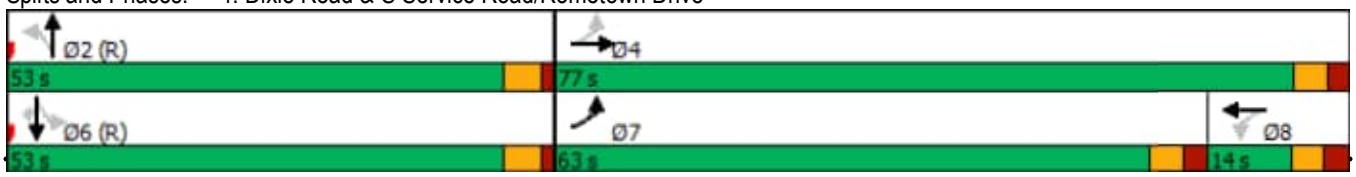
c Critical Lane Group

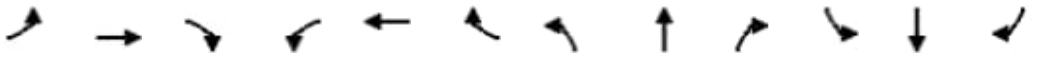
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	626	20	11	5	24	878	63	817	579
Future Volume (vph)	626	20	11	5	24	878	63	817	579
Lane Group Flow (vph)	673	105	0	55	26	969	68	878	623
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	7	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	32.6	32.6	13.8	13.8	25.1	25.1	25.1	25.1	25.1
Total Split (s)	63.0	77.0	14.0	14.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	48.5%	59.2%	10.8%	10.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.8	2.8	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.8	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.81	0.12		0.43	0.19	0.69	0.64	0.63	0.62
Control Delay	32.8	8.7		36.2	44.7	48.9	64.9	34.8	5.2
Queue Delay	0.0	0.0		0.0	0.0	5.4	0.0	1.2	0.3
Total Delay	32.8	8.7		36.2	44.7	54.3	64.9	36.0	5.5
Queue Length 50th (m)	128.0	7.4		4.4	4.8	101.7	15.5	104.2	0.0
Queue Length 95th (m)	175.5	16.7		18.6	m11.0	162.5	#42.7	128.4	27.2
Internal Link Dist (m)		127.8		67.7		95.9		128.3	
Turn Bay Length (m)					50.0		100.0		
Base Capacity (vph)	850	911		129	135	1398	106	1403	1001
Starvation Cap Reductn	0	0		0	0	363	0	294	76
Spillback Cap Reductn	0	0		0	0	0	0	29	0
Storage Cap Reductn	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.12		0.43	0.19	0.94	0.64	0.79	0.67

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Dixie Road & S Service Road/Rometown Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	626	20	77	11	5	35	24	878	23	63	817	579
Future Volume (vph)	626	20	77	11	5	35	24	878	23	63	817	579
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	1.00
Frt	1.00	0.88			0.91		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1750	1624			1652		1750	3486		1750	3500	1566
Flt Permitted	0.49	1.00			0.89		0.18	1.00		0.14	1.00	1.00
Satd. Flow (perm)	908	1624			1495		337	3486		265	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	673	22	83	12	5	38	26	944	25	68	878	623
RTOR Reduction (vph)	0	21	0	0	36	0	0	1	0	0	0	379
Lane Group Flow (vph)	673	84	0	0	19	0	26	968	0	68	878	244
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	68.3	68.3			6.5		51.0	51.0		51.0	51.0	51.0
Effective Green, g (s)	68.3	68.3			6.5		51.0	51.0		51.0	51.0	51.0
Actuated g/C Ratio	0.53	0.53			0.05		0.39	0.39		0.39	0.39	0.39
Clearance Time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	839	853			74		132	1367		103	1373	614
v/s Ratio Prot	c0.35	0.05						c0.28			0.25	
v/s Ratio Perm	c0.08				0.01		0.08			0.26		0.16
v/c Ratio	0.80	0.10			0.26		0.20	0.71		0.66	0.64	0.40
Uniform Delay, d1	24.1	15.4			59.4		26.0	33.2		32.4	32.0	28.4
Progression Factor	1.00	1.00			1.00		1.41	1.37		1.00	1.00	1.00
Incremental Delay, d2	6.3	0.1			3.8		2.7	2.6		28.6	2.3	1.9
Delay (s)	30.4	15.5			63.2		39.4	48.2		61.0	34.3	30.4
Level of Service	C	B			E		D	D		E	C	C
Approach Delay (s)		28.4			63.2			48.0			33.9	
Approach LOS		C			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	86.2%	ICU Level of Service	E
Analysis Period (min)	15		

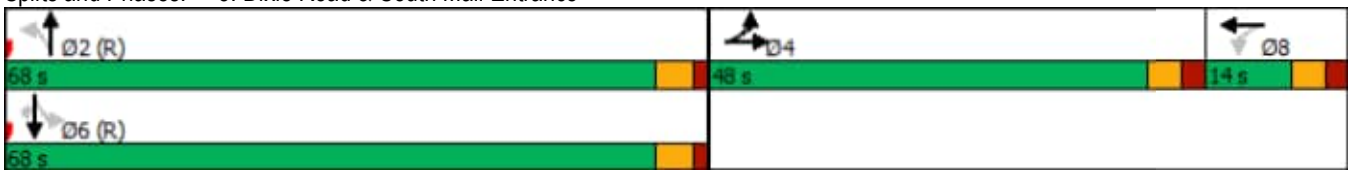
c Critical Lane Group

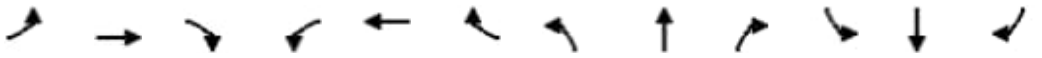
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	607	0	1	0	155	317	2	328	575
Future Volume (vph)	607	0	1	0	155	317	2	328	575
Lane Group Flow (vph)	405	392	0	2	0	509	2	353	618
Turn Type	Split	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	4		8		2		6	
Permitted Phases			8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.6	31.6	13.6	13.6	24.1	24.1	24.1	24.1	24.1
Total Split (s)	48.0	48.0	14.0	14.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	36.9%	36.9%	10.8%	10.8%	52.3%	52.3%	52.3%	52.3%	52.3%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.6		5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.79	0.73		0.01		0.35	0.00	0.17	0.53
Control Delay	52.4	40.7		0.0		16.9	17.5	16.9	17.9
Queue Delay	2.2	1.8		0.0		0.4	0.0	0.0	1.8
Total Delay	54.6	42.5		0.0		17.3	17.5	16.9	19.7
Queue Length 50th (m)	104.7	83.5		0.0		33.8	0.3	28.4	94.6
Queue Length 95th (m)	131.5	110.8		0.0		68.1	m0.2	15.7	69.6
Internal Link Dist (m)		53.7		34.6		197.2		95.9	
Turn Bay Length (m)							25.0		
Base Capacity (vph)	567	589		171		1480	477	2100	1186
Starvation Cap Reductn	0	0		0		0	0	0	387
Spillback Cap Reductn	70	84		0		507	0	0	0
Storage Cap Reductn	0	0		0		0	0	0	0
Reduced v/c Ratio	0.81	0.78		0.01		0.52	0.00	0.17	0.77

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Dixie Road & South Mall Entrance





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	607	0	134	1	0	1	155	317	1	2	328	575
Future Volume (vph)	607	0	134	1	0	1	155	317	1	2	328	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00			0.95		1.00	0.95	1.00
Frt	1.00	0.94			0.93			1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97			0.98			0.98		0.95	1.00	1.00
Satd. Flow (prot)	1662	1603			1676			3442		1750	3500	1566
Flt Permitted	0.95	0.97			1.00			0.71		0.43	1.00	1.00
Satd. Flow (perm)	1662	1603			1718			2468		796	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	653	0	144	1	0	1	167	341	1	2	353	618
RTOR Reduction (vph)	0	45	0	0	2	0	0	0	0	0	0	275
Lane Group Flow (vph)	405	347	0	0	0	0	0	509	0	2	353	343
Turn Type	Split	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		6
Actuated Green, G (s)	40.0	40.0			1.6			72.1		72.1	72.1	72.1
Effective Green, g (s)	40.0	40.0			1.6			72.1		72.1	72.1	72.1
Actuated g/C Ratio	0.31	0.31			0.01			0.55		0.55	0.55	0.55
Clearance Time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0			5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	511	493			21			1368		441	1941	868
v/s Ratio Prot	c0.24	0.22									0.10	
v/s Ratio Perm					c0.00			0.21		0.00		c0.22
v/c Ratio	0.79	0.70			0.00			0.37		0.00	0.18	0.39
Uniform Delay, d1	41.2	39.8			63.4			16.2		12.9	14.3	16.5
Progression Factor	1.00	1.00			1.00			1.00		1.00	1.17	9.81
Incremental Delay, d2	9.4	5.7			0.0			0.8		0.0	0.2	1.1
Delay (s)	50.6	45.4			63.5			17.0		13.0	16.9	163.1
Level of Service	D	D			E			B		B	B	F
Approach Delay (s)		48.1			63.5			17.0			109.8	
Approach LOS		D			E			B			F	

Intersection Summary			
HCM 2000 Control Delay	67.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	95	161	447	628	15
Future Volume (Veh/h)	0	95	161	447	628	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	102	173	481	675	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				343	210	
pX, platoon unblocked	0.86	0.86	0.86			
vC, conflicting volume	1510	683	691			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1512	554	563			
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	78	80			
cM capacity (veh/h)	91	459	871			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	102	173	481	691
Volume Left	0	173	0	0
Volume Right	102	0	0	16
cSH	459	871	1700	1700
Volume to Capacity	0.22	0.20	0.28	0.41
Queue Length 95th (m)	6.7	5.9	0.0	0.0
Control Delay (s)	15.1	10.2	0.0	0.0
Lane LOS	C	B		
Approach Delay (s)	15.1	2.7		0.0
Approach LOS	C			

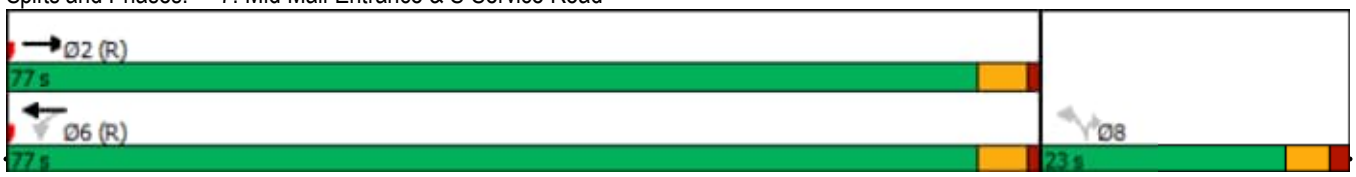
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	465	191	256	222	178
Future Volume (vph)	465	191	256	222	178
Lane Group Flow (vph)	776	205	275	239	191
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	2		6		
Permitted Phases		6		8	8
Detector Phase	2	6	6	8	8
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	22.8	22.8	22.8	22.9	22.9
Total Split (s)	77.0	77.0	77.0	23.0	23.0
Total Split (%)	77.0%	77.0%	77.0%	23.0%	23.0%
Yellow Time (s)	3.7	3.7	3.7	3.3	3.3
All-Red Time (s)	1.1	1.1	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.9	4.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.62	0.56	0.21	0.71	0.50
Control Delay	6.1	14.5	5.7	50.2	21.7
Queue Delay	0.6	0.0	0.0	0.0	0.0
Total Delay	6.6	14.5	5.7	50.2	21.7
Queue Length 50th (m)	43.1	18.7	17.8	44.9	15.5
Queue Length 95th (m)	m8.9	37.6	24.5	#83.1	38.4
Internal Link Dist (m)	194.3		186.2	63.4	
Turn Bay Length (m)		30.0			15.0
Base Capacity (vph)	1288	378	1332	349	393
Starvation Cap Reductn	194	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.54	0.21	0.68	0.49

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Mid Mall Entrance & S Service Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	465	257	191	256	222	178
Future Volume (vph)	465	257	191	256	222	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		4.8	4.8	4.9	4.9
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.95		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1740		1750	1827	1750	1566
Flt Permitted	1.00		0.28	1.00	0.95	1.00
Satd. Flow (perm)	1740		519	1827	1750	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	500	276	205	275	239	191
RTOR Reduction (vph)	21	0	0	0	0	82
Lane Group Flow (vph)	755	0	205	275	239	109
Bus Blockages (#/hr)	2	0	0	2	0	0
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	71.0		71.0	71.0	19.3	19.3
Effective Green, g (s)	71.0		71.0	71.0	19.3	19.3
Actuated g/C Ratio	0.71		0.71	0.71	0.19	0.19
Clearance Time (s)	4.8		4.8	4.8	4.9	4.9
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1235		368	1297	337	302
v/s Ratio Prot	c0.43			0.15		
v/s Ratio Perm			0.40		c0.14	0.07
v/c Ratio	0.61		0.56	0.21	0.71	0.36
Uniform Delay, d1	7.4		7.0	5.0	37.7	35.0
Progression Factor	0.81		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		6.0	0.4	8.3	1.6
Delay (s)	6.2		12.9	5.3	46.1	36.6
Level of Service	A		B	A	D	D
Approach Delay (s)	6.2			8.6	41.8	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Queues

8: Haig Boulevard & W Mall Access & S Service Road

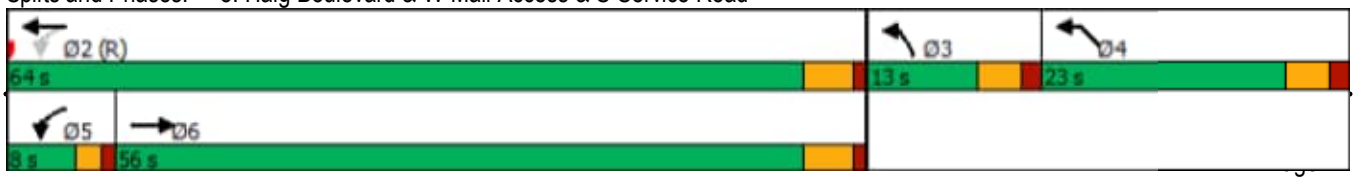
Future Background Sat (2031)

Lane Group	EBT	WBL	WBT	NBL	NWL
Lane Configurations					
Traffic Volume (vph)	613	137	342	37	199
Future Volume (vph)	613	137	342	37	199
Lane Group Flow (vph)	1047	147	368	128	214
Turn Type	NA	pm+pt	NA	Prot	Prot
Protected Phases	6	5	2	3	4
Permitted Phases		2			
Detector Phase	6	5	2	3	4
Switch Phase					
Minimum Initial (s)	8.0	5.0	8.0	8.0	8.0
Minimum Split (s)	22.8	8.0	22.8	12.9	22.9
Total Split (s)	56.0	8.0	64.0	13.0	23.0
Total Split (%)	56.0%	8.0%	64.0%	13.0%	23.0%
Yellow Time (s)	3.7	2.0	3.7	3.3	3.3
All-Red Time (s)	1.1	1.0	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	3.0	4.8	4.9	4.9
Lead/Lag	Lag	Lead		Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes
Recall Mode	Max	None	C-Max	None	None
v/c Ratio	1.18	0.79	0.33	0.96	0.73
Control Delay	117.7	49.4	10.2	116.6	54.4
Queue Delay	0.0	0.0	0.0	3.4	0.0
Total Delay	117.7	49.4	10.2	120.0	54.4
Queue Length 50th (m)	~257.2	17.4	46.9	26.5	41.2
Queue Length 95th (m)	#334.9	m#43.6	24.5	#63.8	#68.0
Internal Link Dist (m)	108.8		194.3	37.0	41.8
Turn Bay Length (m)		42.0			
Base Capacity (vph)	888	186	1114	133	316
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	2	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.18	0.79	0.33	0.98	0.68

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Haig Boulevard & W Mall Access & S Service Road



Movement	EBT	EBR	EBR2	WBL	WBT	NBL	NBR	NWL	NWR
Lane Configurations									
Traffic Volume (vph)	613	0	361	137	342	37	82	199	0
Future Volume (vph)	613	0	361	137	342	37	82	199	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8			3.0	4.8	4.9		4.9	
Lane Util. Factor	1.00			1.00	1.00	1.00		1.00	
Frt	0.95			1.00	1.00	0.91		1.00	
Flt Protected	1.00			0.95	1.00	0.98		0.95	
Satd. Flow (prot)	1736			1750	1842	1645		1750	
Flt Permitted	1.00			0.07	1.00	0.98		0.95	
Satd. Flow (perm)	1736			136	1842	1645		1750	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	659	0	388	147	368	40	88	214	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1047	0	0	147	368	128	0	214	0
Bus Blockages (#/hr)	2	0	0	0	0	0	0	0	0
Turn Type	NA			pm+pt	NA	Prot		Prot	
Protected Phases	6			5	2	3		4	
Permitted Phases				2					
Actuated Green, G (s)	51.2			60.5	60.5	8.1		16.8	
Effective Green, g (s)	51.2			60.5	60.5	8.1		16.8	
Actuated g/C Ratio	0.51			0.60	0.60	0.08		0.17	
Clearance Time (s)	4.8			3.0	4.8	4.9		4.9	
Vehicle Extension (s)	5.0			5.0	5.0	5.0		5.0	
Lane Grp Cap (vph)	888			183	1114	133		294	
v/s Ratio Prot	c0.60			c0.05	0.20	c0.08		c0.12	
v/s Ratio Perm				0.43					
v/c Ratio	1.18			0.80	0.33	0.96		0.73	
Uniform Delay, d1	24.4			24.0	9.7	45.8		39.4	
Progression Factor	1.00			1.43	0.92	1.00		1.00	
Incremental Delay, d2	92.2			22.9	0.7	67.0		10.6	
Delay (s)	116.6			57.1	9.7	112.8		50.0	
Level of Service	F			E	A	F		D	
Approach Delay (s)	116.6				23.2	112.8		50.0	
Approach LOS	F				C	F		D	

Intersection Summary			
HCM 2000 Control Delay	83.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.6
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

APPENDIX E

Future Total Capacity Analysis

AM PEAK

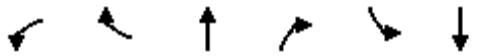
1: Dixie Road & Sherway Drive

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	90	190	1276	120	762
Future Volume (vph)	90	190	1276	120	762
Lane Group Flow (vph)	97	204	1437	129	819
Turn Type	Prot	Perm	NA	Perm	NA
Protected Phases	8		2		6
Permitted Phases		8		6	
Detector Phase	8	8	2	6	6
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	27.4	27.4	24.0	24.0	24.0
Total Split (s)	28.0	28.0	92.0	92.0	92.0
Total Split (%)	23.3%	23.3%	76.7%	76.7%	76.7%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	2.1	2.1	1.3	1.3	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.41	0.71	0.53	0.58	0.30
Control Delay	51.2	40.7	5.0	19.9	4.6
Queue Delay	0.0	0.0	0.4	0.0	0.0
Total Delay	51.2	40.7	5.4	19.9	4.6
Queue Length 50th (m)	22.3	27.6	40.6	10.9	26.2
Queue Length 95th (m)	37.5	51.9	41.8	45.4	42.3
Internal Link Dist (m)	91.5		117.1		171.7
Turn Bay Length (m)				30.0	
Base Capacity (vph)	329	366	2704	223	2721
Starvation Cap Reductn	0	0	658	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.56	0.70	0.58	0.30

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 1: Dixie Road & Sherway Drive



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	90	190	1276	60	120	762
Future Volume (vph)	90	190	1276	60	120	762
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1750	1566	3476		1750	3500
Flt Permitted	0.95	1.00	1.00		0.16	1.00
Satd. Flow (perm)	1750	1566	3476		288	3500
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	204	1372	65	129	819
RTOR Reduction (vph)	0	76	2	0	0	0
Lane Group Flow (vph)	97	128	1435	0	129	819
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	16.3	16.3	93.3		93.3	93.3
Effective Green, g (s)	16.3	16.3	93.3		93.3	93.3
Actuated g/C Ratio	0.14	0.14	0.78		0.78	0.78
Clearance Time (s)	5.4	5.4	5.0		5.0	5.0
Vehicle Extension (s)	5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	237	212	2702		223	2721
v/s Ratio Prot	0.06		0.41			0.23
v/s Ratio Perm		c0.08			c0.45	
v/c Ratio	0.41	0.60	0.53		0.58	0.30
Uniform Delay, d1	47.4	48.8	5.1		5.4	3.9
Progression Factor	1.00	1.00	0.79		1.00	1.00
Incremental Delay, d2	2.4	7.0	0.6		10.5	0.3
Delay (s)	49.8	55.8	4.6		15.9	4.2
Level of Service	D	E	A		B	A
Approach Delay (s)	53.9		4.6			5.8
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

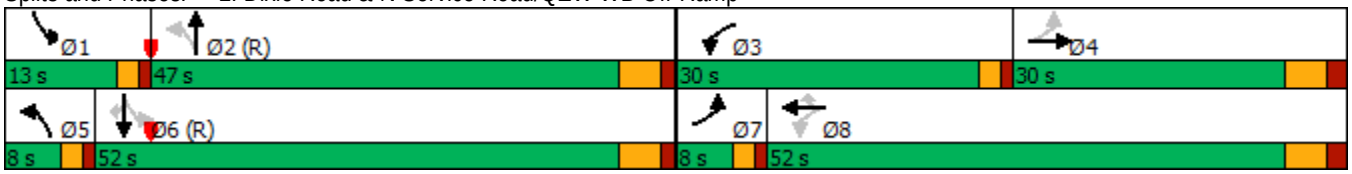
2: Dixie Road & N Service Road/QEW WB Off-Ramp

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	85	15	304	45	520	10	736	162	130	702	15
Future Volume (vph)	85	15	304	45	520	10	736	162	130	702	15
Lane Group Flow (vph)	91	145	327	48	559	11	791	174	140	755	16
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		Free	6		6
Detector Phase	7	4	3	8	8	5	2		1	6	6
Switch Phase											
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	5.0	8.0		5.0	8.0	8.0
Minimum Split (s)	8.0	29.7	8.0	29.7	29.7	8.0	25.1		8.0	25.1	25.1
Total Split (s)	8.0	30.0	30.0	52.0	52.0	8.0	47.0		13.0	52.0	52.0
Total Split (%)	6.7%	25.0%	25.0%	43.3%	43.3%	6.7%	39.2%		10.8%	43.3%	43.3%
Yellow Time (s)	2.0	3.7	2.0	3.7	3.7	2.0	3.7		2.0	3.7	3.7
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	1.4		1.0	1.4	1.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	5.7	3.0	5.7	5.7	3.0	5.1		3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
v/c Ratio	0.22	0.37	0.59	0.09	0.88	0.03	0.55	0.11	0.40	0.41	0.02
Control Delay	23.3	11.7	28.4	26.8	37.4	22.7	33.0	0.1	18.5	19.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	23.3	11.7	28.4	26.8	37.4	22.7	33.0	0.1	18.5	19.4	0.1
Queue Length 50th (m)	12.5	3.2	52.4	8.4	79.0	1.4	62.5	0.0	20.9	65.9	0.0
Queue Length 95th (m)	22.2	21.1	74.7	15.8	117.1	m2.9	77.2	0.0	26.9	61.0	0.0
Internal Link Dist (m)		122.0		96.4			233.4			117.1	
Turn Bay Length (m)	100.0		75.0			100.0		50.0	75.0		50.0
Base Capacity (vph)	407	438	577	710	752	383	1480	1566	351	1832	832
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	413	0
Spillback Cap Reductn	0	0	0	0	2	0	38	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.33	0.57	0.07	0.75	0.03	0.55	0.11	0.40	0.53	0.02

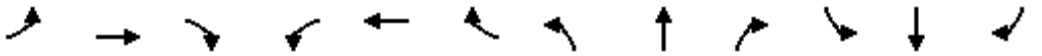
Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Dixie Road & N Service Road/QEW WB Off-Ramp



2: Dixie Road & N Service Road/QEW WB Off-Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	15	120	304	45	520	10	736	162	130	702	15
Future Volume (vph)	85	15	120	304	45	520	10	736	162	130	702	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.7		3.0	5.7	5.7	3.0	5.1	4.0	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	*1.00	1.00	1.00	*1.00	1.00
Frt	1.00	0.87		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1750	1596		1750	1842	1566	1750	3684	1566	1750	3684	1566
Flt Permitted	0.73	1.00		0.51	1.00	1.00	0.37	1.00	1.00	0.23	1.00	1.00
Satd. Flow (perm)	1337	1596		934	1842	1566	678	3684	1566	427	3684	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	91	16	129	327	48	559	11	791	174	140	755	16
RTOR Reduction (vph)	0	105	0	0	0	169	0	0	0	0	0	8
Lane Group Flow (vph)	91	40	0	327	48	390	11	791	174	140	755	8
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		Free	6		6
Actuated Green, G (s)	31.0	21.9		47.9	35.8	35.8	48.1	47.1	120.0	61.3	57.3	57.3
Effective Green, g (s)	31.0	21.9		47.9	35.8	35.8	48.1	47.1	120.0	61.3	57.3	57.3
Actuated g/C Ratio	0.26	0.18		0.40	0.30	0.30	0.40	0.39	1.00	0.51	0.48	0.48
Clearance Time (s)	3.0	5.7		3.0	5.7	5.7	3.0	5.1		3.0	5.1	5.1
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	376	291		529	549	467	280	1445	1566	341	1759	747
v/s Ratio Prot	0.02	0.02		c0.12	0.03		0.00	c0.21		c0.04	0.20	
v/s Ratio Perm	0.04			0.13		c0.25	0.02		0.11	0.17		0.00
v/c Ratio	0.24	0.14		0.62	0.09	0.83	0.04	0.55	0.11	0.41	0.43	0.01
Uniform Delay, d1	34.8	41.1		26.8	30.3	39.3	21.7	28.2	0.0	17.4	20.6	16.5
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.33	1.05	1.00	0.91	0.88	1.00
Incremental Delay, d2	0.7	0.4		3.1	0.1	13.5	0.1	1.2	0.1	1.6	0.7	0.0
Delay (s)	35.5	41.6		29.9	30.5	52.8	28.9	30.9	0.1	17.5	18.8	16.5
Level of Service	D	D		C	C	D	C	C	A	B	B	B
Approach Delay (s)		39.2			43.6			25.4			18.6	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

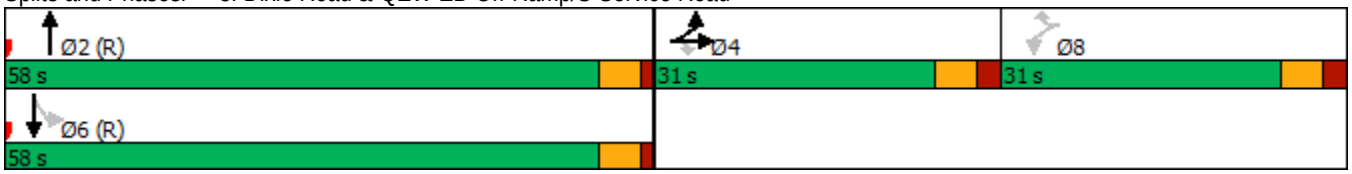
3: Dixie Road & QEW EB Off-Ramp/S Service Road

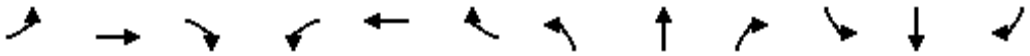
Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	200	10	230	130	1828	10	586
Future Volume (vph)	200	10	230	130	1828	10	586
Lane Group Flow (vph)	112	114	247	140	1966	11	630
Turn Type	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	4	4			2		6
Permitted Phases			4	8		6	
Detector Phase	4	4	4	8	2	6	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.0	31.0	31.0	31.0	24.0	24.0	24.0
Total Split (s)	31.0	31.0	31.0	31.0	58.0	58.0	58.0
Total Split (%)	25.8%	25.8%	25.8%	25.8%	48.3%	48.3%	48.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.3	1.3	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0	5.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.50	0.50	0.58	0.59	0.63	0.14	0.29
Control Delay	54.7	54.9	11.1	29.3	12.7	14.5	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Total Delay	54.7	54.9	11.1	29.3	13.1	14.5	9.2
Queue Length 50th (m)	27.4	28.0	0.0	11.1	78.4	0.8	26.0
Queue Length 95th (m)	44.5	45.2	22.6	30.7	m97.0	m2.7	41.3
Internal Link Dist (m)		138.9			128.3		133.9
Turn Bay Length (m)			75.0	7.5		100.0	
Base Capacity (vph)	346	348	521	399	3141	76	2186
Starvation Cap Reductn	0	0	0	0	588	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.33	0.47	0.35	0.77	0.14	0.29

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Dixie Road & QEW EB Off-Ramp/S Service Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	10	230	0	0	130	0	1828	0	10	586	0
Future Volume (vph)	200	10	230	0	0	130	0	1828	0	10	586	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0			6.0		5.0		5.0	5.0	
Lane Util. Factor	0.95	0.95	1.00			1.00		0.91		1.00	0.95	
Frt	1.00	1.00	0.85			0.85		1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00			1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1662	1674	1566			1566		5029		1750	3500	
Flt Permitted	0.95	0.96	1.00			1.00		1.00		0.07	1.00	
Satd. Flow (perm)	1662	1674	1566			1566		5029		121	3500	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	215	11	247	0	0	140	0	1966	0	11	630	0
RTOR Reduction (vph)	0	0	214	0	0	84	0	0	0	0	0	0
Lane Group Flow (vph)	112	114	33	0	0	56	0	1966	0	11	630	0
Turn Type	Split	NA	Perm	Perm		Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4	8		8				6		
Actuated Green, G (s)	16.2	16.2	16.2			11.8		75.0		75.0	75.0	
Effective Green, g (s)	16.2	16.2	16.2			11.8		75.0		75.0	75.0	
Actuated g/C Ratio	0.13	0.13	0.13			0.10		0.62		0.62	0.62	
Clearance Time (s)	6.0	6.0	6.0			6.0		5.0		5.0	5.0	
Vehicle Extension (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Lane Grp Cap (vph)	224	225	211			153		3143		75	2187	
v/s Ratio Prot	0.07	c0.07						c0.39			0.18	
v/s Ratio Perm			0.02			c0.04				0.09		
v/c Ratio	0.50	0.51	0.16			0.37		0.63		0.15	0.29	
Uniform Delay, d1	48.1	48.2	45.9			50.6		13.9		9.3	10.3	
Progression Factor	1.00	1.00	1.00			1.00		0.80		0.71	0.77	
Incremental Delay, d2	3.6	3.7	0.7			3.1		0.4		3.7	0.3	
Delay (s)	51.8	51.9	46.6			53.7		11.5		10.3	8.2	
Level of Service	D	D	D			D		B		B	A	
Approach Delay (s)		49.1			53.7			11.5			8.2	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

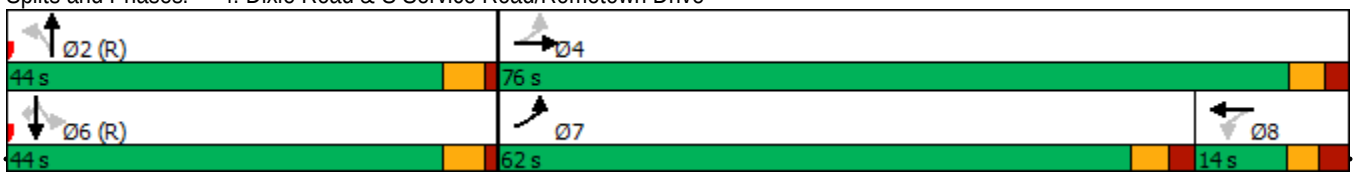
4: Dixie Road & S Service Road/Rometown Drive

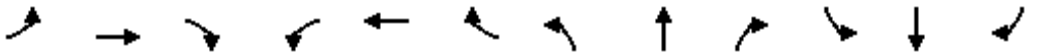
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	814	5	30	10	9	964	25	530	256
Future Volume (vph)	814	5	30	10	9	964	25	530	256
Lane Group Flow (vph)	875	14	0	102	10	1053	27	570	275
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	7	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	32.6	32.6	13.8	13.8	25.1	25.1	25.1	25.1	25.1
Total Split (s)	62.0	76.0	14.0	14.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)	51.7%	63.3%	11.7%	11.7%	36.7%	36.7%	36.7%	36.7%	36.7%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.8	2.8	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.8	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.94	0.01		0.71	0.06	0.91	0.44	0.52	0.40
Control Delay	41.2	6.6		58.8	27.1	52.2	51.8	28.6	6.9
Queue Delay	0.0	0.0		0.0	0.0	47.4	0.0	0.0	0.0
Total Delay	41.2	6.6		58.8	27.1	99.6	51.8	28.6	6.9
Queue Length 50th (m)	176.6	0.5		14.2	1.7	130.2	3.9	43.3	3.5
Queue Length 95th (m)	#272.2	3.4		#41.9	m4.9	#155.2	m#10.7	83.4	22.2
Internal Link Dist (m)		110.6		67.6		95.8		128.3	
Turn Bay Length (m)					50.0		100.0		
Base Capacity (vph)	928	995		144	182	1192	63	1134	693
Starvation Cap Reductn	0	0		0	0	249	0	0	0
Spillback Cap Reductn	0	0		0	0	43	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.01		0.71	0.05	1.12	0.43	0.50	0.40

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Dixie Road & S Service Road/Rometown Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	814	5	8	30	10	55	9	964	15	25	530	256
Future Volume (vph)	814	5	8	30	10	55	9	964	15	25	530	256
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Lane Util. Factor	1.00	1.00			1.00		1.00	*1.00		1.00	0.95	1.00
Frt	1.00	0.90			0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1750	1664			1672		1750	3676		1750	3500	1566
Flt Permitted	0.42	1.00			0.89		0.31	1.00		0.11	1.00	1.00
Satd. Flow (perm)	766	1664			1511		563	3676		195	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	875	5	9	32	11	59	10	1037	16	27	570	275
RTOR Reduction (vph)	0	4	0	0	41	0	0	1	0	0	0	189
Lane Group Flow (vph)	875	10	0	0	61	0	10	1052	0	27	570	86
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	71.6	71.6			8.2		37.7	37.7		37.7	37.7	37.7
Effective Green, g (s)	71.6	71.6			8.2		37.7	37.7		37.7	37.7	37.7
Actuated g/C Ratio	0.60	0.60			0.07		0.31	0.31		0.31	0.31	0.31
Clearance Time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	929	992			103		176	1154		61	1099	491
v/s Ratio Prot	c0.45	0.01						c0.29			0.16	
v/s Ratio Perm	c0.11				0.04		0.02			0.14		0.06
v/c Ratio	0.94	0.01			0.59		0.06	0.91		0.44	0.52	0.18
Uniform Delay, d1	21.5	9.8			54.3		28.7	39.6		32.8	33.7	29.9
Progression Factor	1.00	1.00			1.00		0.93	1.03		0.86	0.80	1.46
Incremental Delay, d2	17.6	0.0			13.0		0.6	11.8		20.7	1.7	0.7
Delay (s)	39.2	9.8			67.3		27.3	52.5		49.0	28.6	44.5
Level of Service	D	A			E		C	D		D	C	D
Approach Delay (s)		38.7			67.3			52.3			34.3	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	43.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

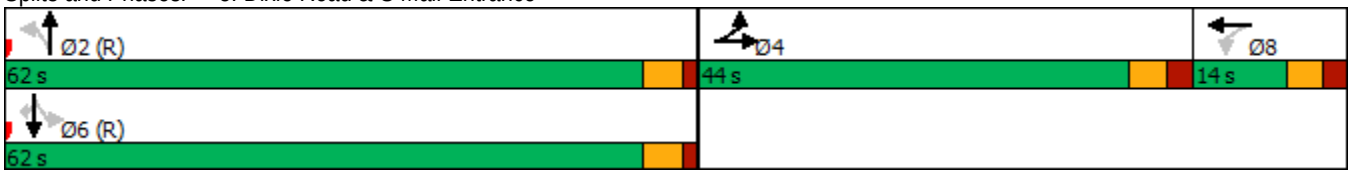
5: Dixie Road & S Mall Entrance

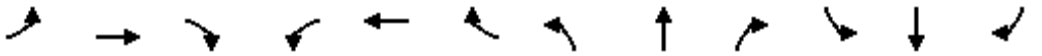
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	63	0	1	0	25	924	2	476	90
Future Volume (vph)	63	0	1	0	25	924	2	476	90
Lane Group Flow (vph)	42	41	0	2	0	1022	2	512	97
Turn Type	Split	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	4		8		2		6	
Permitted Phases			8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.6	31.6	13.6	13.6	24.1	24.1	24.1	24.1	24.1
Total Split (s)	44.0	44.0	14.0	14.0	62.0	62.0	62.0	62.0	62.0
Total Split (%)	36.7%	36.7%	11.7%	11.7%	51.7%	51.7%	51.7%	51.7%	51.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.6		5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.29	0.20		0.01		0.38	0.01	0.18	0.07
Control Delay	55.5	5.9		0.0		4.4	4.0	3.6	1.5
Queue Delay	0.0	0.0		0.0		0.3	0.0	0.2	0.0
Total Delay	55.5	5.9		0.0		4.7	4.0	3.8	1.5
Queue Length 50th (m)	10.4	0.0		0.0		26.3	0.2	22.2	2.4
Queue Length 95th (m)	22.3	4.5		0.0		69.0	m0.1	8.6	m0.0
Internal Link Dist (m)		53.7		34.7		197.1		95.8	
Turn Bay Length (m)							25.0		
Base Capacity (vph)	531	560		185		2706	400	2910	1318
Starvation Cap Reductn	0	0		0		0	0	1490	0
Spillback Cap Reductn	0	19		0		928	0	0	0
Storage Cap Reductn	0	0		0		0	0	0	0
Reduced v/c Ratio	0.08	0.08		0.01		0.57	0.01	0.36	0.07

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Dixie Road & S Mall Entrance



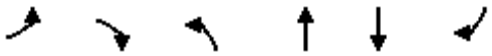


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	0	14	1	0	1	25	924	1	2	476	90
Future Volume (vph)	63	0	14	1	0	1	25	924	1	2	476	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00			0.95		1.00	0.95	1.00
Frt	1.00	0.95			0.93			1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97			0.98			1.00		0.95	1.00	1.00
Satd. Flow (prot)	1662	1603			1676			3495		1750	3500	1566
Flt Permitted	0.95	0.97			1.00			0.93		0.26	1.00	1.00
Satd. Flow (perm)	1662	1603			1718			3253		481	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	68	0	15	1	0	1	27	994	1	2	512	97
RTOR Reduction (vph)	0	38	0	0	2	0	0	0	0	0	0	22
Lane Group Flow (vph)	42	3	0	0	0	0	0	1022	0	2	512	75
Turn Type	Split	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		6
Actuated Green, G (s)	8.9	8.9			1.6			93.2		93.2	93.2	93.2
Effective Green, g (s)	8.9	8.9			1.6			93.2		93.2	93.2	93.2
Actuated g/C Ratio	0.07	0.07			0.01			0.78		0.78	0.78	0.78
Clearance Time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0			5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	123	118			22			2526		373	2718	1216
v/s Ratio Prot	c0.03	0.00									0.15	
v/s Ratio Perm					c0.00			c0.31		0.00		0.05
v/c Ratio	0.34	0.03			0.00			0.40		0.01	0.19	0.06
Uniform Delay, d1	52.8	51.5			58.4			4.4		3.0	3.5	3.1
Progression Factor	1.00	1.00			1.00			1.00		0.90	1.08	1.37
Incremental Delay, d2	3.5	0.2			0.0			0.5		0.0	0.1	0.1
Delay (s)	56.2	51.7			58.5			4.8		2.7	3.9	4.4
Level of Service	E	D			E			A		A	A	A
Approach Delay (s)		54.0			58.5			4.8			4.0	
Approach LOS		D			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

6: S Service Road & Site Access 3



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	43	46	229	784	3
Future Volume (Veh/h)	0	43	46	229	784	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	46	49	246	843	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				341	210	
pX, platoon unblocked	0.84	0.84	0.84			
vC, conflicting volume	1188	844	846			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1131	723	725			
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	87	93			
cM capacity (veh/h)	177	360	741			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	46	49	246	846
Volume Left	0	49	0	0
Volume Right	46	0	0	3
cSH	360	741	1700	1700
Volume to Capacity	0.13	0.07	0.14	0.50
Queue Length 95th (m)	3.5	1.7	0.0	0.0
Control Delay (s)	16.5	10.2	0.0	0.0
Lane LOS	C	B		
Approach Delay (s)	16.5	1.7		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	702	59	170	26	85
Future Volume (vph)	702	59	170	26	85
Lane Group Flow (vph)	800	63	183	28	91
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	2		6		
Permitted Phases		6		8	8
Detector Phase	2	6	6	8	8
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	22.8	22.8	22.8	22.9	22.9
Total Split (s)	76.0	76.0	76.0	24.0	24.0
Total Split (%)	76.0%	76.0%	76.0%	24.0%	24.0%
Yellow Time (s)	3.7	3.7	3.7	3.3	3.3
All-Red Time (s)	1.1	1.1	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.9	4.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.52	0.13	0.12	0.17	0.40
Control Delay	5.0	2.9	2.2	43.3	14.3
Queue Delay	0.3	0.0	0.0	0.0	0.0
Total Delay	5.3	2.9	2.2	43.3	14.3
Queue Length 50th (m)	69.5	2.0	5.8	5.4	0.0
Queue Length 95th (m)	49.3	5.7	12.0	13.7	14.5
Internal Link Dist (m)	72.7		186.3	28.7	
Turn Bay Length (m)		30.0			30.0
Base Capacity (vph)	1531	502	1542	334	372
Starvation Cap Reductn	226	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.13	0.12	0.08	0.24

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 31 (31%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 7: Site Access 2 & S Service Road

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	702	42	59	170	26	85
Future Volume (vph)	702	42	59	170	26	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		4.8	4.8	4.9	4.9
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1813		1750	1827	1750	1566
Flt Permitted	1.00		0.32	1.00	0.95	1.00
Satd. Flow (perm)	1813		595	1827	1750	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	755	45	63	183	28	91
RTOR Reduction (vph)	1	0	0	0	0	84
Lane Group Flow (vph)	799	0	63	183	28	7
Bus Blockages (#/hr)	2	0	0	2	0	0
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	82.5		82.5	82.5	7.8	7.8
Effective Green, g (s)	82.5		82.5	82.5	7.8	7.8
Actuated g/C Ratio	0.82		0.82	0.82	0.08	0.08
Clearance Time (s)	4.8		4.8	4.8	4.9	4.9
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1495		490	1507	136	122
v/s Ratio Prot	c0.44			0.10		
v/s Ratio Perm			0.11		c0.02	0.00
v/c Ratio	0.53		0.13	0.12	0.21	0.06
Uniform Delay, d1	2.7		1.7	1.7	43.2	42.7
Progression Factor	1.19		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2		0.5	0.2	1.6	0.4
Delay (s)	4.5		2.3	1.9	44.8	43.1
Level of Service	A		A	A	D	D
Approach Delay (s)	4.5			2.0	43.5	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	459	64	103	105
Future Volume (vph)	459	64	103	105
Lane Group Flow (vph)	627	69	111	352
Turn Type	NA	Perm	NA	Prot
Protected Phases	2		6	8
Permitted Phases		6		
Detector Phase	2	6	6	8
Switch Phase				
Minimum Initial (s)	8.0	8.0	8.0	8.0
Minimum Split (s)	22.8	22.8	22.8	22.9
Total Split (s)	61.0	61.0	61.0	39.0
Total Split (%)	61.0%	61.0%	61.0%	39.0%
Yellow Time (s)	3.7	3.7	3.7	3.3
All-Red Time (s)	1.1	1.1	1.1	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.9
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	C-Min	None
v/c Ratio	0.52	0.16	0.09	0.77
Control Delay	10.9	7.7	6.2	34.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.9	7.7	6.2	34.4
Queue Length 50th (m)	54.1	3.9	6.0	45.8
Queue Length 95th (m)	108.8	11.7	14.9	69.4
Internal Link Dist (m)	108.7		97.5	36.9
Turn Bay Length (m)		42.0		
Base Capacity (vph)	1209	435	1247	637
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	0.52	0.16	0.09	0.55

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 92 (92%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Splits and Phases: 8: Haig Boulevard & S Service Road

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	459	124	64	103	105	222
Future Volume (vph)	459	124	64	103	105	222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		4.8	4.8	4.9	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.91	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	1775		1750	1842	1647	
Flt Permitted	1.00		0.35	1.00	0.98	
Satd. Flow (perm)	1775		642	1842	1647	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	494	133	69	111	113	239
RTOR Reduction (vph)	7	0	0	0	90	0
Lane Group Flow (vph)	620	0	69	111	262	0
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA		Perm	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			6			
Actuated Green, G (s)	67.8		67.8	67.8	22.5	
Effective Green, g (s)	67.8		67.8	67.8	22.5	
Actuated g/C Ratio	0.68		0.68	0.68	0.22	
Clearance Time (s)	4.8		4.8	4.8	4.9	
Vehicle Extension (s)	5.0		5.0	5.0	5.0	
Lane Grp Cap (vph)	1203		435	1248	370	
v/s Ratio Prot	c0.35			0.06	c0.16	
v/s Ratio Perm			0.11			
v/c Ratio	0.52		0.16	0.09	0.71	
Uniform Delay, d1	8.0		5.8	5.5	35.7	
Progression Factor	1.00		0.86	0.87	1.00	
Incremental Delay, d2	1.6		0.8	0.1	7.6	
Delay (s)	9.5		5.8	4.9	43.3	
Level of Service	A		A	A	D	
Approach Delay (s)	9.5			5.3	43.3	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	677	4	33	163	4	67
Future Volume (Veh/h)	677	4	33	163	4	67
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	728	4	35	175	4	72
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	122			97		
pX, platoon unblocked			0.84		0.84	0.84
vC, conflicting volume			732		975	730
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			587		865	585
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		98	83
cM capacity (veh/h)			831		262	430

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	732	210	76
Volume Left	0	35	4
Volume Right	4	0	72
cSH	1700	831	416
Volume to Capacity	0.43	0.04	0.18
Queue Length 95th (m)	0.0	1.1	5.3
Control Delay (s)	0.0	2.0	15.6
Lane LOS		A	C
Approach Delay (s)	0.0	2.0	15.6
Approach LOS			C

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

PM PEAK

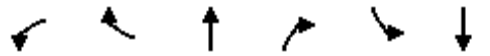
1: Dixie Road & Sherway Drive

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	65	20	909	5	1713
Future Volume (vph)	65	20	909	5	1713
Lane Group Flow (vph)	70	22	1154	5	1842
Turn Type	Prot	Perm	NA	Perm	NA
Protected Phases	8		2		6
Permitted Phases		8		6	
Detector Phase	8	8	2	6	6
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	27.4	27.4	24.0	24.0	24.0
Total Split (s)	30.0	30.0	100.0	100.0	100.0
Total Split (%)	23.1%	23.1%	76.9%	76.9%	76.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	2.1	2.1	1.3	1.3	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.4	5.4	5.0	5.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.42	0.13	0.39	0.01	0.62
Control Delay	62.1	20.7	2.1	2.6	5.2
Queue Delay	0.3	0.0	0.3	0.0	0.3
Total Delay	62.4	20.7	2.4	2.6	5.5
Queue Length 50th (m)	18.1	0.0	14.5	0.2	77.0
Queue Length 95th (m)	33.0	8.6	7.6	1.1	113.1
Internal Link Dist (m)	91.5		117.1		171.7
Turn Bay Length (m)				30.0	
Base Capacity (vph)	331	314	2923	366	2985
Starvation Cap Reductn	0	0	973	0	0
Spillback Cap Reductn	73	0	0	0	444
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.07	0.59	0.01	0.72

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 1: Dixie Road & Sherway Drive



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	65	20	909	165	5	1713
Future Volume (vph)	65	20	909	165	5	1713
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4	5.0		5.0	5.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1750	1566	3419		1750	3500
Flt Permitted	0.95	1.00	1.00		0.23	1.00
Satd. Flow (perm)	1750	1566	3419		429	3500
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	70	22	977	177	5	1842
RTOR Reduction (vph)	0	20	7	0	0	0
Lane Group Flow (vph)	70	2	1147	0	5	1842
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)	10.8	10.8	108.8		108.8	108.8
Effective Green, g (s)	10.8	10.8	108.8		108.8	108.8
Actuated g/C Ratio	0.08	0.08	0.84		0.84	0.84
Clearance Time (s)	5.4	5.4	5.0		5.0	5.0
Vehicle Extension (s)	5.0	5.0	5.0		5.0	5.0
Lane Grp Cap (vph)	145	130	2861		359	2929
v/s Ratio Prot	c0.04		0.34			c0.53
v/s Ratio Perm		0.00			0.01	
v/c Ratio	0.48	0.01	0.40		0.01	0.63
Uniform Delay, d1	56.9	54.7	2.6		1.7	3.6
Progression Factor	1.00	1.00	0.66		1.00	1.00
Incremental Delay, d2	5.2	0.1	0.3		0.1	1.0
Delay (s)	62.1	54.8	2.0		1.8	4.7
Level of Service	E	D	A		A	A
Approach Delay (s)	60.4		2.0			4.7
Approach LOS	E		A			A

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

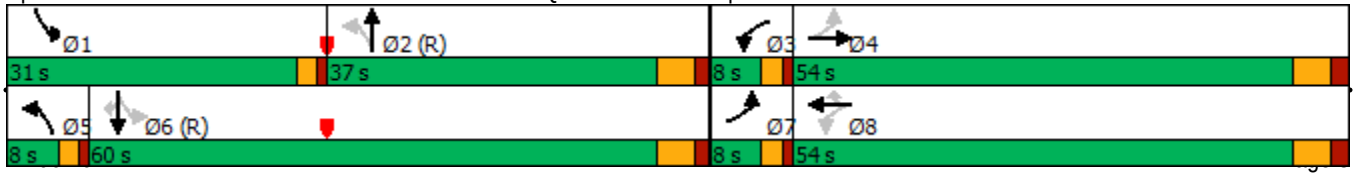
2: Dixie Road & N Service Road/QEW WB Off-Ramp

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	25	15	123	610	380	110	674	144	420	1353	5
Future Volume (vph)	25	15	123	610	380	110	674	144	420	1353	5
Lane Group Flow (vph)	27	199	132	656	409	118	725	155	452	1455	5
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm
Protected Phases	7	4	3	8		5	2		1	6	
Permitted Phases	4		8		8	2		Free	6		6
Detector Phase	7	4	3	8	8	5	2		1	6	6
Switch Phase											
Minimum Initial (s)	5.0	8.0	5.0	8.0	8.0	5.0	8.0		5.0	8.0	8.0
Minimum Split (s)	8.0	29.7	8.0	29.7	29.7	8.0	25.1		8.0	25.1	25.1
Total Split (s)	8.0	54.0	8.0	54.0	54.0	8.0	37.0		31.0	60.0	60.0
Total Split (%)	6.2%	41.5%	6.2%	41.5%	41.5%	6.2%	28.5%		23.8%	46.2%	46.2%
Yellow Time (s)	2.0	3.7	2.0	3.7	3.7	2.0	3.7		2.0	3.7	3.7
All-Red Time (s)	1.0	2.0	1.0	2.0	2.0	1.0	1.4		1.0	1.4	1.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	5.7	3.0	5.7	5.7	3.0	5.1		3.0	5.1	5.1
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Min		None	C-Min	C-Min
v/c Ratio	0.21	0.30	0.29	0.93	0.52	0.78	0.80	0.10	0.97	0.93	0.01
Control Delay	23.9	10.1	24.1	60.2	10.6	61.4	49.1	0.1	68.3	43.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	35.8	0.0
Total Delay	23.9	10.1	24.1	60.2	10.6	61.4	49.1	0.1	68.7	79.3	0.0
Queue Length 50th (m)	4.0	9.8	20.7	171.4	19.3	16.1	99.7	0.0	~110.3	186.6	0.0
Queue Length 95th (m)	9.8	27.7	34.1	#250.9	50.7	#54.3	99.6	0.0	#183.1	#228.6	m0.0
Internal Link Dist (m)		122.0		96.4			233.4			117.1	
Turn Bay Length (m)	100.0		75.0			100.0		50.0	75.0		50.0
Base Capacity (vph)	126	679	458	704	784	151	907	1566	467	1563	706
Starvation Cap Reductn	0	0	0	0	0	0	0	0	1	213	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.29	0.29	0.93	0.52	0.78	0.80	0.10	0.97	1.08	0.01

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Dixie Road & N Service Road/QEW WB Off-Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	15	170	123	610	380	110	674	144	420	1353	5
Future Volume (vph)	25	15	170	123	610	380	110	674	144	420	1353	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.7		3.0	5.7	5.7	3.0	5.1	4.0	3.0	5.1	5.1
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	*1.00	1.00	1.00	*1.00	1.00
Frt	1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1750	1588		1750	1842	1566	1750	3684	1566	1750	3684	1566
Flt Permitted	0.08	1.00		0.55	1.00	1.00	0.13	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	155	1588		1012	1842	1566	238	3684	1566	233	3684	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	16	183	132	656	409	118	725	155	452	1455	5
RTOR Reduction (vph)	0	91	0	0	0	187	0	0	0	0	0	3
Lane Group Flow (vph)	27	108	0	132	656	222	118	725	155	452	1455	2
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Free	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		Free	6		6
Actuated Green, G (s)	50.6	47.6		54.6	49.6	49.6	37.5	30.9	130.0	63.6	54.0	54.0
Effective Green, g (s)	50.6	47.6		54.6	49.6	49.6	37.5	30.9	130.0	63.6	54.0	54.0
Actuated g/C Ratio	0.39	0.37		0.42	0.38	0.38	0.29	0.24	1.00	0.49	0.42	0.42
Clearance Time (s)	3.0	5.7		3.0	5.7	5.7	3.0	5.1		3.0	5.1	5.1
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	97	581		453	702	597	145	875	1566	460	1530	650
v/s Ratio Prot	0.01	0.07		c0.01	c0.36		0.04	0.20		c0.22	0.39	
v/s Ratio Perm	0.10			0.11		0.14	0.19		0.10	c0.26		0.00
v/c Ratio	0.28	0.19		0.29	0.93	0.37	0.81	0.83	0.10	0.98	0.95	0.00
Uniform Delay, d1	30.5	28.0		24.7	38.6	29.0	37.9	47.0	0.0	38.2	36.7	22.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.19	0.91	1.00	1.07	0.94	1.00
Incremental Delay, d2	3.3	0.3		0.7	20.2	0.8	29.1	8.2	0.1	33.1	11.9	0.0
Delay (s)	33.8	28.4		25.4	58.8	29.8	74.1	51.1	0.1	74.0	46.5	22.3
Level of Service	C	C		C	E	C	E	D	A	E	D	C
Approach Delay (s)		29.0			45.2			45.9			53.0	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		

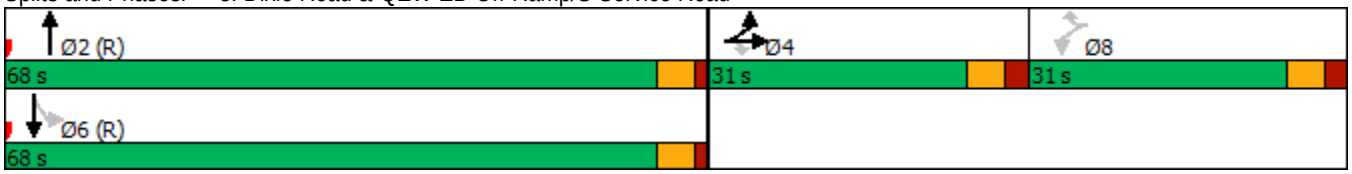
c Critical Lane Group

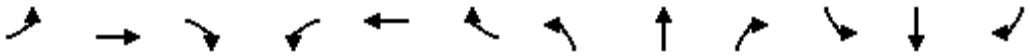
Lane Group	EBL	EBT	EBR	WBR	NBT	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	140	20	173	60	1569	15	1186
Future Volume (vph)	140	20	173	60	1569	15	1186
Lane Group Flow (vph)	86	87	186	65	1692	16	1275
Turn Type	Split	NA	Perm	Perm	NA	Perm	NA
Protected Phases	4	4			2		6
Permitted Phases			4	8		6	
Detector Phase	4	4	4	8	2	6	6
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.0	31.0	31.0	31.0	24.0	24.0	24.0
Total Split (s)	31.0	31.0	31.0	31.0	68.0	68.0	68.0
Total Split (%)	23.8%	23.8%	23.8%	23.8%	52.3%	52.3%	52.3%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.3	1.3	1.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	5.0	5.0
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min
v/c Ratio	0.47	0.47	0.55	0.31	0.47	0.11	0.51
Control Delay	61.7	61.5	13.4	3.9	8.8	5.8	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	61.7	61.5	13.4	3.9	9.0	5.8	6.7
Queue Length 50th (m)	23.3	23.5	0.0	0.0	64.2	1.0	46.0
Queue Length 95th (m)	40.0	40.5	21.8	0.8	m82.8	m0.8	m27.5
Internal Link Dist (m)		138.9			128.3		133.9
Turn Bay Length (m)			75.0	7.5		100.0	
Base Capacity (vph)	319	324	451	397	3615	146	2516
Starvation Cap Reductn	0	0	0	0	970	0	0
Spillback Cap Reductn	0	0	3	0	0	0	58
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.27	0.42	0.16	0.64	0.11	0.52

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Dixie Road & QEW EB Off-Ramp/S Service Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	20	173	0	0	60	0	1569	5	15	1186	0
Future Volume (vph)	140	20	173	0	0	60	0	1569	5	15	1186	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0			6.0		5.0		5.0	5.0	
Lane Util. Factor	0.95	0.95	1.00			1.00		0.91		1.00	0.95	
Frt	1.00	1.00	0.85			0.85		1.00		1.00	1.00	
Flt Protected	0.95	0.96	1.00			1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1662	1687	1566			1566		5027		1750	3500	
Flt Permitted	0.95	0.96	1.00			1.00		1.00		0.11	1.00	
Satd. Flow (perm)	1662	1687	1566			1566		5027		204	3500	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	151	22	186	0	0	65	0	1687	5	16	1275	0
RTOR Reduction (vph)	0	0	166	0	0	62	0	0	0	0	0	0
Lane Group Flow (vph)	86	87	20	0	0	3	0	1692	0	16	1275	0
Turn Type	Split	NA	Perm	Perm		Perm		NA		Perm	NA	
Protected Phases	4	4						2			6	
Permitted Phases			4	8		8				6		
Actuated Green, G (s)	14.3	14.3	14.3			6.4		92.3		92.3	92.3	
Effective Green, g (s)	14.3	14.3	14.3			6.4		92.3		92.3	92.3	
Actuated g/C Ratio	0.11	0.11	0.11			0.05		0.71		0.71	0.71	
Clearance Time (s)	6.0	6.0	6.0			6.0		5.0		5.0	5.0	
Vehicle Extension (s)	5.0	5.0	5.0			5.0		5.0		5.0	5.0	
Lane Grp Cap (vph)	182	185	172			77		3569		144	2485	
v/s Ratio Prot	c0.05	0.05						0.34			c0.36	
v/s Ratio Perm			0.01			c0.00				0.08		
v/c Ratio	0.47	0.47	0.12			0.04		0.47		0.11	0.51	
Uniform Delay, d1	54.3	54.3	52.2			58.9		8.2		5.9	8.6	
Progression Factor	1.00	1.00	1.00			1.00		0.98		0.60	0.67	
Incremental Delay, d2	4.0	3.9	0.6			0.5		0.3		0.9	0.4	
Delay (s)	58.3	58.2	52.8			59.3		8.3		4.4	6.2	
Level of Service	E	E	D			E		A		A	A	
Approach Delay (s)		55.4			59.3			8.3			6.2	
Approach LOS		E			E			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

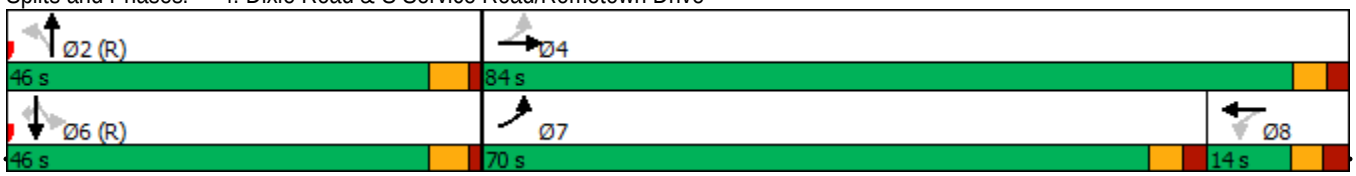
4: Dixie Road & S Service Road/Rometown Drive

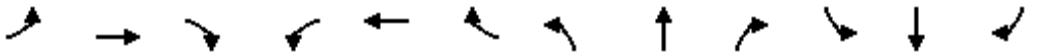
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	861	10	15	5	9	698	60	902	386
Future Volume (vph)	861	10	15	5	9	698	60	902	386
Lane Group Flow (vph)	926	24	0	32	10	778	65	970	415
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	7	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	32.6	32.6	13.8	13.8	25.1	25.1	25.1	25.1	25.1
Total Split (s)	70.0	84.0	14.0	14.0	46.0	46.0	46.0	46.0	46.0
Total Split (%)	53.8%	64.6%	10.8%	10.8%	35.4%	35.4%	35.4%	35.4%	35.4%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.8	2.8	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.8	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.96	0.02		0.32	0.17	0.61	0.50	0.80	0.53
Control Delay	46.1	6.5		51.2	52.9	46.6	48.6	42.2	11.0
Queue Delay	0.0	0.0		0.0	0.0	2.1	0.0	0.8	0.3
Total Delay	46.1	6.5		51.2	52.9	48.7	48.6	42.9	11.3
Queue Length 50th (m)	199.3	1.1		5.5	2.0	84.2	10.7	91.7	15.5
Queue Length 95th (m)	#282.5	4.8		16.7	m6.9	122.8	#30.8	#144.3	38.9
Internal Link Dist (m)		110.6		67.6		95.8		128.3	
Turn Bay Length (m)					50.0		100.0		
Base Capacity (vph)	967	1026		102	59	1266	131	1208	776
Starvation Cap Reductn	0	0		0	0	334	0	64	74
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	0.96	0.02		0.31	0.17	0.83	0.50	0.85	0.59

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Dixie Road & S Service Road/Rometown Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	861	10	12	15	5	10	9	698	25	60	902	386
Future Volume (vph)	861	10	12	15	5	10	9	698	25	60	902	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Lane Util. Factor	1.00	1.00			1.00		1.00	*1.00		1.00	0.95	1.00
Frt	1.00	0.92			0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1750	1692			1714		1750	3665		1750	3500	1566
Flt Permitted	0.66	1.00			0.83		0.09	1.00		0.21	1.00	1.00
Satd. Flow (perm)	1209	1692			1457		173	3665		379	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	926	11	13	16	5	11	10	751	27	65	970	415
RTOR Reduction (vph)	0	5	0	0	11	0	0	2	0	0	0	243
Lane Group Flow (vph)	926	19	0	0	21	0	10	776	0	65	970	172
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	76.7	76.7			4.9		42.6	42.6		42.6	42.6	42.6
Effective Green, g (s)	76.7	76.7			4.9		42.6	42.6		42.6	42.6	42.6
Actuated g/C Ratio	0.59	0.59			0.04		0.33	0.33		0.33	0.33	0.33
Clearance Time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	987	998			54		56	1200		124	1146	513
v/s Ratio Prot	c0.48	0.01						0.21			c0.28	
v/s Ratio Perm	c0.08				0.01		0.06			0.17		0.11
v/c Ratio	0.94	0.02			0.40		0.18	0.65		0.52	0.85	0.34
Uniform Delay, d1	23.4	11.0			61.1		31.2	37.3		35.5	40.7	33.0
Progression Factor	1.00	1.00			1.00		1.34	1.23		0.97	0.93	1.45
Incremental Delay, d2	16.3	0.0			9.7		6.5	2.5		13.3	6.9	1.6
Delay (s)	39.6	11.1			70.8		48.3	48.2		47.5	44.9	49.5
Level of Service	D	B			E		D	D		D	D	D
Approach Delay (s)		38.9			70.8			48.2			46.3	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	99.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

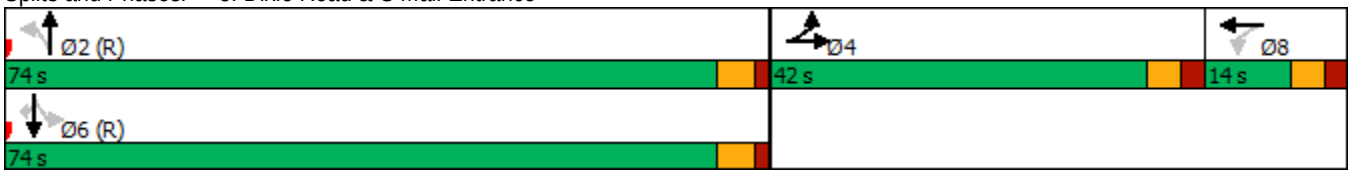
5: Dixie Road & S Mall Entrance

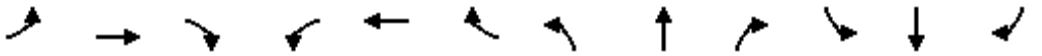
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	355	0	1	0	79	377	2	634	293
Future Volume (vph)	355	0	1	0	79	377	2	634	293
Lane Group Flow (vph)	237	229	0	2	0	491	2	682	315
Turn Type	Split	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	4		8		2		6	
Permitted Phases			8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.6	31.6	13.6	13.6	24.1	24.1	24.1	24.1	24.1
Total Split (s)	42.0	42.0	14.0	14.0	74.0	74.0	74.0	74.0	74.0
Total Split (%)	32.3%	32.3%	10.8%	10.8%	56.9%	56.9%	56.9%	56.9%	56.9%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.6		5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.71	0.61		0.01		0.28	0.00	0.28	0.27
Control Delay	59.5	39.7		0.0		9.6	17.0	14.8	7.1
Queue Delay	0.0	0.0		0.0		0.1	0.0	0.6	0.9
Total Delay	59.5	39.7		0.0		9.6	17.0	15.4	8.0
Queue Length 50th (m)	63.1	42.6		0.0		22.2	0.3	61.5	35.0
Queue Length 95th (m)	86.8	66.6		0.0		50.5	m0.1	33.1	m21.6
Internal Link Dist (m)		53.7		34.7		197.1		95.8	
Turn Bay Length (m)							25.0		
Base Capacity (vph)	465	495		171		1757	589	2435	1185
Starvation Cap Reductn	0	0		0		0	0	1303	591
Spillback Cap Reductn	0	6		0		249	0	0	0
Storage Cap Reductn	0	0		0		0	0	0	0
Reduced v/c Ratio	0.51	0.47		0.01		0.33	0.00	0.60	0.53

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Dixie Road & S Mall Entrance

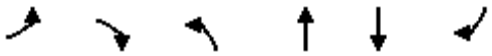




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	355	0	78	1	0	1	79	377	1	2	634	293
Future Volume (vph)	355	0	78	1	0	1	79	377	1	2	634	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00			0.95		1.00	0.95	1.00
Frt	1.00	0.94			0.93			1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97			0.98			0.99		0.95	1.00	1.00
Satd. Flow (prot)	1662	1603			1676			3469		1750	3500	1566
Flt Permitted	0.95	0.97			1.00			0.72		0.46	1.00	1.00
Satd. Flow (perm)	1662	1603			1718			2526		848	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	382	0	84	1	0	1	85	405	1	2	682	315
RTOR Reduction (vph)	0	52	0	0	2	0	0	0	0	0	0	107
Lane Group Flow (vph)	237	177	0	0	0	0	0	491	0	2	682	208
Turn Type	Split	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		6
Actuated Green, G (s)	26.1	26.1			1.6			86.0		86.0	86.0	86.0
Effective Green, g (s)	26.1	26.1			1.6			86.0		86.0	86.0	86.0
Actuated g/C Ratio	0.20	0.20			0.01			0.66		0.66	0.66	0.66
Clearance Time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0			5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	333	321			21			1671		560	2315	1035
v/s Ratio Prot	c0.14	0.11									c0.19	
v/s Ratio Perm					c0.00			0.19		0.00		0.13
v/c Ratio	0.71	0.55			0.00			0.29		0.00	0.29	0.20
Uniform Delay, d1	48.4	46.7			63.4			9.2		7.5	9.2	8.6
Progression Factor	1.00	1.00			1.00			1.00		1.61	1.63	5.11
Incremental Delay, d2	8.6	3.5			0.0			0.4		0.0	0.2	0.3
Delay (s)	57.1	50.1			63.5			9.7		12.0	15.3	44.2
Level of Service	E	D			E			A		B	B	D
Approach Delay (s)		53.7			63.5			9.7			24.4	
Approach LOS		D			E			A			C	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	73	115	285	808	7
Future Volume (Veh/h)	0	73	115	285	808	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	78	124	306	869	8
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				341	210	
pX, platoon unblocked	0.77	0.77	0.77			
vC, conflicting volume	1427	873	877			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1405	682	687			
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	77	82			
cM capacity (veh/h)	97	345	695			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	78	124	306	877
Volume Left	0	124	0	0
Volume Right	78	0	0	8
cSH	345	695	1700	1700
Volume to Capacity	0.23	0.18	0.18	0.52
Queue Length 95th (m)	6.8	5.2	0.0	0.0
Control Delay (s)	18.5	11.3	0.0	0.0
Lane LOS	C	B		
Approach Delay (s)	18.5	3.3		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	676	130	155	133	139
Future Volume (vph)	676	130	155	133	139
Lane Group Flow (vph)	870	140	167	143	149
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	2		6		
Permitted Phases		6		8	8
Detector Phase	2	6	6	8	8
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	22.8	22.8	22.8	22.9	22.9
Total Split (s)	77.0	77.0	77.0	23.0	23.0
Total Split (%)	77.0%	77.0%	77.0%	23.0%	23.0%
Yellow Time (s)	3.7	3.7	3.7	3.3	3.3
All-Red Time (s)	1.1	1.1	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.9	4.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.65	0.40	0.12	0.53	0.41
Control Delay	9.9	9.4	4.2	45.5	9.3
Queue Delay	1.2	0.0	0.0	0.0	0.0
Total Delay	11.1	9.4	4.2	45.5	9.3
Queue Length 50th (m)	111.5	8.4	7.7	27.3	0.0
Queue Length 95th (m)	m113.6	25.0	17.1	44.1	16.1
Internal Link Dist (m)	72.7		186.3	28.7	
Turn Bay Length (m)		30.0			30.0
Base Capacity (vph)	1355	354	1379	326	413
Starvation Cap Reductn	260	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.79	0.40	0.12	0.44	0.36

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 75 (75%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Site Access 2 & S Service Road

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	676	133	130	155	133	139
Future Volume (vph)	676	133	130	155	133	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		4.8	4.8	4.9	4.9
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1787		1750	1827	1750	1566
Flt Permitted	1.00		0.26	1.00	0.95	1.00
Satd. Flow (perm)	1787		471	1827	1750	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	727	143	140	167	143	149
RTOR Reduction (vph)	6	0	0	0	0	126
Lane Group Flow (vph)	864	0	140	167	143	23
Bus Blockages (#/hr)	2	0	0	2	0	0
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	74.9		74.9	74.9	15.4	15.4
Effective Green, g (s)	74.9		74.9	74.9	15.4	15.4
Actuated g/C Ratio	0.75		0.75	0.75	0.15	0.15
Clearance Time (s)	4.8		4.8	4.8	4.9	4.9
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1338		352	1368	269	241
v/s Ratio Prot	c0.48			0.09		
v/s Ratio Perm			0.30		c0.08	0.01
v/c Ratio	0.65		0.40	0.12	0.53	0.10
Uniform Delay, d1	6.1		4.5	3.5	39.0	36.3
Progression Factor	1.29		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9		3.3	0.2	3.7	0.4
Delay (s)	8.7		7.8	3.6	42.6	36.7
Level of Service	A		A	A	D	D
Approach Delay (s)	8.7			5.6	39.6	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	618	120	128	213
Future Volume (vph)	618	120	128	213
Lane Group Flow (vph)	1028	129	138	398
Turn Type	NA	pm+pt	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases		6		
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	8.0	5.0	8.0	8.0
Minimum Split (s)	22.8	8.0	22.8	22.9
Total Split (s)	64.0	8.0	72.0	28.0
Total Split (%)	64.0%	8.0%	72.0%	28.0%
Yellow Time (s)	3.7	2.0	3.7	3.3
All-Red Time (s)	1.1	1.0	1.1	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	3.0	4.8	4.9
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None
v/c Ratio	0.98	0.79	0.11	0.96
Control Delay	43.7	55.3	7.9	70.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	43.7	55.3	7.9	70.6
Queue Length 50th (m)	183.8	13.0	4.7	74.3
Queue Length 95th (m)	#289.6	#42.5	33.6	#134.9
Internal Link Dist (m)	108.7		97.5	36.9
Turn Bay Length (m)		42.0		
Base Capacity (vph)	1049	163	1237	416
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	0.98	0.79	0.11	0.96

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Haig Boulevard & S Service Road

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	618	338	120	128	213	157
Future Volume (vph)	618	338	120	128	213	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		3.0	4.8	4.9	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.95		1.00	1.00	0.94	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1740		1750	1842	1688	
Flt Permitted	1.00		0.06	1.00	0.97	
Satd. Flow (perm)	1740		118	1842	1688	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	665	363	129	138	229	169
RTOR Reduction (vph)	20	0	0	0	27	0
Lane Group Flow (vph)	1008	0	129	138	371	0
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases			6			
Actuated Green, G (s)	59.2		67.2	67.2	23.1	
Effective Green, g (s)	59.2		67.2	67.2	23.1	
Actuated g/C Ratio	0.59		0.67	0.67	0.23	
Clearance Time (s)	4.8		3.0	4.8	4.9	
Vehicle Extension (s)	5.0		5.0	5.0	5.0	
Lane Grp Cap (vph)	1030		160	1237	389	
v/s Ratio Prot	c0.58		c0.04	0.07	c0.22	
v/s Ratio Perm			0.50			
v/c Ratio	0.98		0.81	0.11	0.95	
Uniform Delay, d1	19.8		24.2	5.8	37.9	
Progression Factor	1.00		1.69	1.31	1.00	
Incremental Delay, d2	23.4		27.2	0.2	34.3	
Delay (s)	43.2		68.0	7.8	72.2	
Level of Service	D		E	A	E	
Approach Delay (s)	43.2			36.9	72.2	
Approach LOS	D			D	E	

Intersection Summary			
HCM 2000 Control Delay	49.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	774	1	44	244	4	35
Future Volume (Veh/h)	774	1	44	244	4	35
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	832	1	47	262	4	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	122			97		
pX, platoon unblocked			0.47		0.51	0.47
vC, conflicting volume			833		1188	832
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			83		543	82
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			93		98	92
cM capacity (veh/h)			713		239	460

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	833	309	42
Volume Left	0	47	4
Volume Right	1	0	38
cSH	1700	713	423
Volume to Capacity	0.49	0.07	0.10
Queue Length 95th (m)	0.0	1.7	2.6
Control Delay (s)	0.0	2.3	14.5
Lane LOS		A	B
Approach Delay (s)	0.0	2.3	14.5
Approach LOS			B

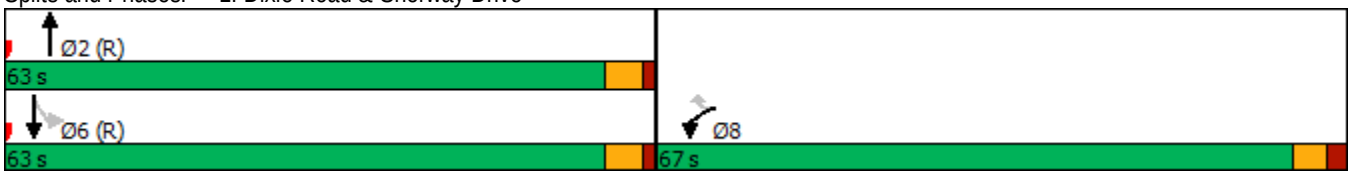
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		

SATURDAY PEAK

Lane Group	Ø2	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Lane Group Flow (vph)			
Turn Type			
Protected Phases	2	6	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	8.0	8.0	8.0
Minimum Split (s)	24.0	24.0	27.4
Total Split (s)	63.0	63.0	67.0
Total Split (%)	48%	48%	52%
Yellow Time (s)	3.7	3.7	3.3
All-Red Time (s)	1.3	1.3	2.1
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	C-Min	C-Min	None
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
Queue Length 50th (m)			
Queue Length 95th (m)			
Internal Link Dist (m)			
Turn Bay Length (m)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated

Splits and Phases: 1: Dixie Road & Sherway Drive



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type	Prot	Perm			Perm	
Protected Phases	8		2			6
Permitted Phases		8			6	
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Vehicle Extension (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A		A		A	

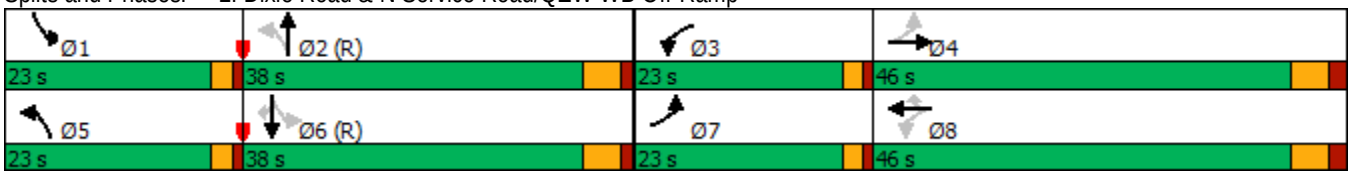
Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Lane Configurations								
Traffic Volume (vph)								
Future Volume (vph)								
Lane Group Flow (vph)								
Turn Type								
Protected Phases	1	2	3	4	5	6	7	8
Permitted Phases								
Detector Phase								
Switch Phase								
Minimum Initial (s)	5.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	8.0	25.1	8.0	29.7	8.0	25.1	8.0	29.7
Total Split (s)	23.0	38.0	23.0	46.0	23.0	38.0	23.0	46.0
Total Split (%)	18%	29%	18%	35%	18%	29%	18%	35%
Yellow Time (s)	2.0	3.7	2.0	3.7	2.0	3.7	2.0	3.7
All-Red Time (s)	1.0	1.4	1.0	2.0	1.0	1.4	1.0	2.0
Lost Time Adjust (s)								
Total Lost Time (s)								
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	C-Min	None	None
v/c Ratio								
Control Delay								
Queue Delay								
Total Delay								
Queue Length 50th (m)								
Queue Length 95th (m)								
Internal Link Dist (m)								
Turn Bay Length (m)								
Base Capacity (vph)								
Starvation Cap Reductn								
Spillback Cap Reductn								
Storage Cap Reductn								
Reduced v/c Ratio								

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Splits and Phases: 2: Dixie Road & N Service Road/QEW WB Off-Ramp



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	pm+pt			pm+pt		Perm	pm+pt		Free	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		Free	6		6
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

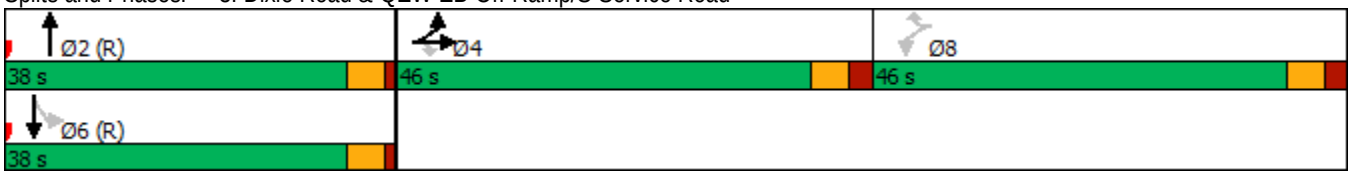
Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

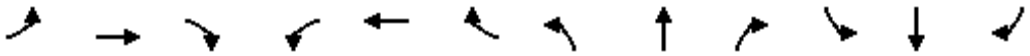
c Critical Lane Group

Lane Group	Ø2	Ø4	Ø6	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	2	4	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	8.0	7.0	8.0	8.0
Minimum Split (s)	24.0	31.0	24.0	31.0
Total Split (s)	38.0	46.0	38.0	46.0
Total Split (%)	29%	35%	29%	35%
Yellow Time (s)	3.7	3.7	3.7	3.7
All-Red Time (s)	1.3	2.3	1.3	2.3
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	None	C-Min	None
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
Queue Length 50th (m)				
Queue Length 95th (m)				
Internal Link Dist (m)				
Turn Bay Length (m)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				
Reduced v/c Ratio				

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Splits and Phases: 3: Dixie Road & QEW EB Off-Ramp/S Service Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Split		Perm	Perm		Perm				Perm		
Protected Phases	4	4						2			6	
Permitted Phases			4	8		8				6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

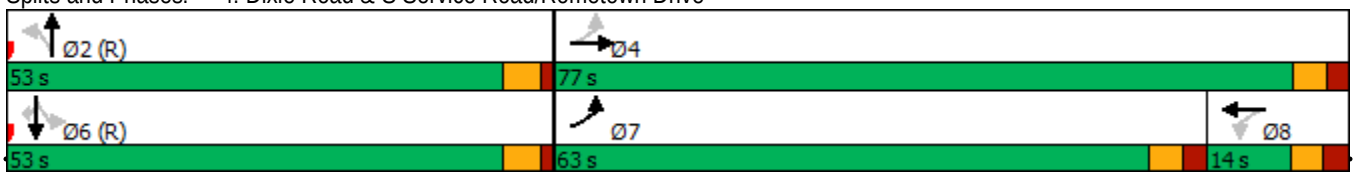
4: Dixie Road & S Service Road/Rometown Drive

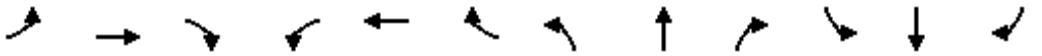
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	680	19	11	5	26	825	63	759	643
Future Volume (vph)	680	19	11	5	26	825	63	759	643
Lane Group Flow (vph)	731	108	0	55	28	912	68	816	691
Turn Type	pm+pt	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	7	4		8		2		6	
Permitted Phases	4		8		2		6		6
Detector Phase	7	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	32.6	32.6	13.8	13.8	25.1	25.1	25.1	25.1	25.1
Total Split (s)	63.0	77.0	14.0	14.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	48.5%	59.2%	10.8%	10.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Yellow Time (s)	3.3	3.3	3.0	3.0	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.8	2.8	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.8	5.1	5.1	5.1	5.1	5.1
Lead/Lag	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes		Yes	Yes					
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.84	0.12		0.43	0.20	0.65	0.56	0.61	0.67
Control Delay	34.2	7.4		36.2	39.0	42.9	53.9	35.7	5.8
Queue Delay	0.0	0.0		0.0	0.0	2.4	0.0	1.0	0.4
Total Delay	34.2	7.4		36.2	39.0	45.2	53.9	36.7	6.2
Queue Length 50th (m)	146.8	6.3		4.4	4.7	84.7	14.6	94.7	0.0
Queue Length 95th (m)	201.9	15.4		18.6	m15.9	138.5	#36.8	117.2	29.5
Internal Link Dist (m)		110.6		67.6		95.8		128.3	
Turn Bay Length (m)					50.0		100.0		
Base Capacity (vph)	869	929		129	142	1437	125	1369	1033
Starvation Cap Reductn	0	0		0	0	378	0	301	70
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	0.84	0.12		0.43	0.20	0.86	0.54	0.76	0.72

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Dixie Road & S Service Road/Rometown Drive





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	680	19	82	11	5	35	26	825	23	63	759	643
Future Volume (vph)	680	19	82	11	5	35	26	825	23	63	759	643
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Lane Util. Factor	1.00	1.00			1.00		1.00	*1.00		1.00	0.95	1.00
Frt	1.00	0.88			0.91		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1750	1617			1652		1750	3669		1750	3500	1566
Flt Permitted	0.49	1.00			0.89		0.20	1.00		0.17	1.00	1.00
Satd. Flow (perm)	908	1617			1493		366	3669		321	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	731	20	88	12	5	38	28	887	25	68	816	691
RTOR Reduction (vph)	0	25	0	0	36	0	0	2	0	0	0	434
Lane Group Flow (vph)	731	83	0	0	19	0	28	910	0	68	816	257
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	70.9	70.9			6.5		48.4	48.4		48.4	48.4	48.4
Effective Green, g (s)	70.9	70.9			6.5		48.4	48.4		48.4	48.4	48.4
Actuated g/C Ratio	0.55	0.55			0.05		0.37	0.37		0.37	0.37	0.37
Clearance Time (s)	5.6	5.6			5.8		5.1	5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	874	881			74		136	1365		119	1303	583
v/s Ratio Prot	c0.38	0.05						c0.25			0.23	
v/s Ratio Perm	c0.08				0.01		0.08			0.21		0.16
v/c Ratio	0.84	0.09			0.26		0.21	0.67		0.57	0.63	0.44
Uniform Delay, d1	23.4	14.2			59.4		27.7	34.1		32.5	33.4	30.6
Progression Factor	1.00	1.00			1.00		1.19	1.19		1.00	1.00	1.00
Incremental Delay, d2	7.8	0.1			3.8		3.2	2.4		18.4	2.3	2.4
Delay (s)	31.2	14.3			63.2		36.2	43.0		50.9	35.7	33.1
Level of Service	C	B			E		D	D		D	D	C
Approach Delay (s)		29.0			63.2			42.8			35.2	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	87.7%	ICU Level of Service	E
Analysis Period (min)	15		

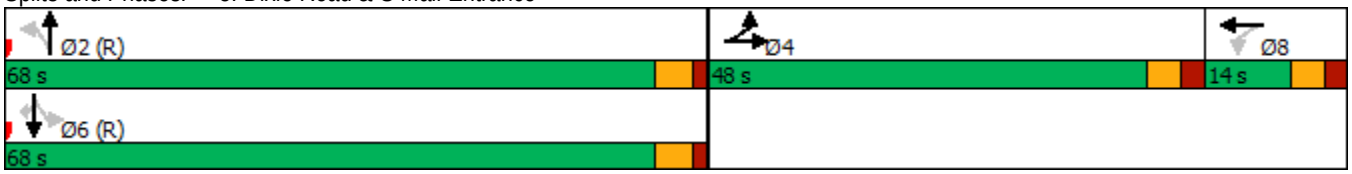
c Critical Lane Group

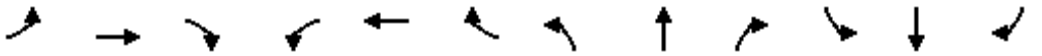
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	380	0	1	0	111	493	2	439	411
Future Volume (vph)	380	0	1	0	111	493	2	439	411
Lane Group Flow (vph)	254	245	0	2	0	650	2	472	442
Turn Type	Split	NA	Perm	NA	Perm	NA	Perm	NA	Perm
Protected Phases	4	4		8		2		6	
Permitted Phases			8		2		6		6
Detector Phase	4	4	8	8	2	2	6	6	6
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.6	31.6	13.6	13.6	24.1	24.1	24.1	24.1	24.1
Total Split (s)	48.0	48.0	14.0	14.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	36.9%	36.9%	10.8%	10.8%	52.3%	52.3%	52.3%	52.3%	52.3%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4	1.4
Lost Time Adjust (s)	0.0	0.0		0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.6	5.6		5.6		5.1	5.1	5.1	5.1
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min
v/c Ratio	0.72	0.63		0.01		0.36	0.00	0.20	0.37
Control Delay	58.6	40.0		0.0		11.1	10.5	11.0	8.0
Queue Delay	0.0	0.0		0.0		0.1	0.0	0.3	0.8
Total Delay	58.6	40.0		0.0		11.1	10.5	11.3	8.7
Queue Length 50th (m)	67.3	46.7		0.0		32.9	0.3	34.1	36.0
Queue Length 95th (m)	91.5	70.8		0.0		71.9	m0.2	15.0	16.7
Internal Link Dist (m)		53.7		34.7		197.1		95.8	
Turn Bay Length (m)							25.0		
Base Capacity (vph)	542	566		171		1795	476	2394	1210
Starvation Cap Reductn	0	0		0		0	0	1293	456
Spillback Cap Reductn	0	5		0		248	0	0	0
Storage Cap Reductn	0	0		0		0	0	0	0
Reduced v/c Ratio	0.47	0.44		0.01		0.42	0.00	0.43	0.59

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Dixie Road & S Mall Entrance

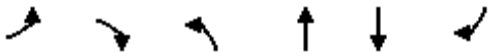




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	380	0	84	1	0	1	111	493	1	2	439	411
Future Volume (vph)	380	0	84	1	0	1	111	493	1	2	439	411
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Lane Util. Factor	0.95	0.95			1.00			0.95		1.00	0.95	1.00
Frt	1.00	0.94			0.93			1.00		1.00	1.00	0.85
Flt Protected	0.95	0.97			0.98			0.99		0.95	1.00	1.00
Satd. Flow (prot)	1662	1603			1676			3467		1750	3500	1566
Flt Permitted	0.95	0.97			1.00			0.75		0.38	1.00	1.00
Satd. Flow (perm)	1662	1603			1718			2624		696	3500	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	409	0	90	1	0	1	119	530	1	2	472	442
RTOR Reduction (vph)	0	51	0	0	2	0	0	0	0	0	0	155
Lane Group Flow (vph)	254	194	0	0	0	0	0	650	0	2	472	287
Turn Type	Split	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	4	4			8			2			6	
Permitted Phases				8			2			6		6
Actuated Green, G (s)	27.6	27.6			1.6			84.5		84.5	84.5	84.5
Effective Green, g (s)	27.6	27.6			1.6			84.5		84.5	84.5	84.5
Actuated g/C Ratio	0.21	0.21			0.01			0.65		0.65	0.65	0.65
Clearance Time (s)	5.6	5.6			5.6			5.1		5.1	5.1	5.1
Vehicle Extension (s)	5.0	5.0			5.0			5.0		5.0	5.0	5.0
Lane Grp Cap (vph)	352	340			21			1705		452	2275	1017
v/s Ratio Prot	c0.15	0.12									0.13	
v/s Ratio Perm					c0.00			c0.25		0.00		0.18
v/c Ratio	0.72	0.57			0.00			0.38		0.00	0.21	0.28
Uniform Delay, d1	47.6	45.9			63.4			10.6		8.0	9.2	9.8
Progression Factor	1.00	1.00			1.00			1.00		0.93	1.19	5.85
Incremental Delay, d2	8.7	3.7			0.0			0.6		0.0	0.2	0.6
Delay (s)	56.3	49.5			63.5			11.2		7.4	11.2	57.6
Level of Service	E	D			E			B		A	B	E
Approach Delay (s)		53.0			63.5			11.2			33.6	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.3
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	77	151	522	704	10
Future Volume (Veh/h)	0	77	151	522	704	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	84	164	567	765	11
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				341	210	
pX, platoon unblocked	0.82	0.82	0.82			
vC, conflicting volume	1666	770	776			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1702	610	616			
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	79	79			
cM capacity (veh/h)	66	405	789			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	84	164	567	776
Volume Left	0	164	0	0
Volume Right	84	0	0	11
cSH	405	789	1700	1700
Volume to Capacity	0.21	0.21	0.33	0.46
Queue Length 95th (m)	6.2	6.2	0.0	0.0
Control Delay (s)	16.2	10.8	0.0	0.0
Lane LOS	C	B		
Approach Delay (s)	16.2	2.4		0.0
Approach LOS	C			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	569	161	361	143	145
Future Volume (vph)	569	161	361	143	145
Lane Group Flow (vph)	813	173	388	154	156
Turn Type	NA	Perm	NA	Perm	Perm
Protected Phases	2		6		
Permitted Phases		6		8	8
Detector Phase	2	6	6	8	8
Switch Phase					
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	22.8	22.8	22.8	22.9	22.9
Total Split (s)	77.0	77.0	77.0	23.0	23.0
Total Split (%)	77.0%	77.0%	77.0%	23.0%	23.0%
Yellow Time (s)	3.7	3.7	3.7	3.3	3.3
All-Red Time (s)	1.1	1.1	1.1	1.6	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	4.8	4.8	4.9	4.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
v/c Ratio	0.61	0.45	0.29	0.55	0.41
Control Delay	10.2	10.5	5.3	45.6	9.0
Queue Delay	0.5	0.0	0.0	0.0	0.0
Total Delay	10.7	10.5	5.3	45.6	9.0
Queue Length 50th (m)	103.4	11.3	21.4	29.4	0.0
Queue Length 95th (m)	m71.0	32.7	41.5	46.4	16.3
Internal Link Dist (m)	72.7		186.3	28.7	
Turn Bay Length (m)		30.0			30.0
Base Capacity (vph)	1337	387	1371	329	421
Starvation Cap Reductn	189	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.71	0.45	0.28	0.47	0.37

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Site Access 2 & S Service Road

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	569	187	161	361	143	145
Future Volume (vph)	569	187	161	361	143	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		4.8	4.8	4.9	4.9
Lane Util. Factor	1.00		1.00	1.00	1.00	1.00
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	1766		1750	1827	1750	1566
Flt Permitted	1.00		0.28	1.00	0.95	1.00
Satd. Flow (perm)	1766		516	1827	1750	1566
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	612	201	173	388	154	156
RTOR Reduction (vph)	11	0	0	0	0	131
Lane Group Flow (vph)	802	0	173	388	154	25
Bus Blockages (#/hr)	2	0	0	2	0	0
Turn Type	NA		Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases			6		8	8
Actuated Green, G (s)	74.3		74.3	74.3	16.0	16.0
Effective Green, g (s)	74.3		74.3	74.3	16.0	16.0
Actuated g/C Ratio	0.74		0.74	0.74	0.16	0.16
Clearance Time (s)	4.8		4.8	4.8	4.9	4.9
Vehicle Extension (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1312		383	1357	280	250
v/s Ratio Prot	c0.45			0.21		
v/s Ratio Perm			0.34		c0.09	0.02
v/c Ratio	0.61		0.45	0.29	0.55	0.10
Uniform Delay, d1	6.1		5.0	4.2	38.7	35.9
Progression Factor	1.35		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		3.8	0.5	3.9	0.4
Delay (s)	9.3		8.8	4.7	42.6	36.2
Level of Service	A		A	A	D	D
Approach Delay (s)	9.3			6.0	39.4	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	627	127	343	165
Future Volume (vph)	627	127	343	165
Lane Group Flow (vph)	989	137	369	283
Turn Type	NA	pm+pt	NA	Prot
Protected Phases	2	1	6	8
Permitted Phases		6		
Detector Phase	2	1	6	8
Switch Phase				
Minimum Initial (s)	8.0	5.0	8.0	8.0
Minimum Split (s)	22.8	8.0	22.8	22.9
Total Split (s)	65.0	8.0	73.0	27.0
Total Split (%)	65.0%	8.0%	73.0%	27.0%
Yellow Time (s)	3.7	2.0	3.7	3.3
All-Red Time (s)	1.1	1.0	1.1	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.8	3.0	4.8	4.9
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Min	None	C-Min	None
v/c Ratio	0.91	0.64	0.29	0.78
Control Delay	31.5	28.3	7.9	49.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.5	28.3	7.9	49.4
Queue Length 50th (m)	162.6	14.3	28.6	48.5
Queue Length 95th (m)	#267.9	#26.0	41.7	#80.6
Internal Link Dist (m)	108.7		97.5	36.9
Turn Bay Length (m)		42.0		
Base Capacity (vph)	1081	214	1293	396
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	0.91	0.64	0.29	0.71

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 8: Haig Boulevard & S Service Road

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	627	293	127	343	165	99
Future Volume (vph)	627	293	127	343	165	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.8		3.0	4.8	4.9	
Lane Util. Factor	1.00		1.00	1.00	1.00	
Frt	0.96		1.00	1.00	0.95	
Flt Protected	1.00		0.95	1.00	0.97	
Satd. Flow (prot)	1749		1750	1842	1696	
Flt Permitted	1.00		0.09	1.00	0.97	
Satd. Flow (perm)	1749		158	1842	1696	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	674	315	137	369	177	106
RTOR Reduction (vph)	16	0	0	0	22	0
Lane Group Flow (vph)	973	0	137	369	261	0
Bus Blockages (#/hr)	2	0	0	0	0	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	6	8	
Permitted Phases			6			
Actuated Green, G (s)	60.9		70.2	70.2	20.1	
Effective Green, g (s)	60.9		70.2	70.2	20.1	
Actuated g/C Ratio	0.61		0.70	0.70	0.20	
Clearance Time (s)	4.8		3.0	4.8	4.9	
Vehicle Extension (s)	5.0		5.0	5.0	5.0	
Lane Grp Cap (vph)	1065		211	1293	340	
v/s Ratio Prot	c0.56		c0.04	0.20	c0.15	
v/s Ratio Perm			0.41			
v/c Ratio	0.91		0.65	0.29	0.77	
Uniform Delay, d1	17.2		18.7	5.6	37.7	
Progression Factor	1.00		1.60	1.23	1.00	
Incremental Delay, d2	13.3		8.7	0.5	11.6	
Delay (s)	30.5		38.8	7.3	49.3	
Level of Service	C		D	A	D	
Approach Delay (s)	30.5			15.9	49.3	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.7
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	722	4	40	464	5	34
Future Volume (Veh/h)	722	4	40	464	5	34
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	785	4	43	504	5	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	122			97		
pX, platoon unblocked			0.53		0.60	0.53
vC, conflicting volume			789		1377	787
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			162		760	158
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		98	92
cM capacity (veh/h)			753		213	471

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	789	547	42
Volume Left	0	43	5
Volume Right	4	0	37
cSH	1700	753	412
Volume to Capacity	0.46	0.06	0.10
Queue Length 95th (m)	0.0	1.5	2.7
Control Delay (s)	0.0	1.5	14.7
Lane LOS		A	B
Approach Delay (s)	0.0	1.5	14.7
Approach LOS			B

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		

APPENDIX F

Parking Utilization Study – Survey Data

DIXIE OUTLET MALL - PARKING UTILIZATION SUMMARY

PROJECT NO.: 19373.230

Notes: Zone D is under construction

there is an unmarked area in Zone I, which roughly estimates to 225 spaces, NOT accounted for in the supply

SURVEY DATE: Friday Oct 28, 2022

ZONE	SUPPLY	OBSTRUCTED	AVAILABLE	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00
A	393	60	333	44	53	61	82	88	97	109	110	106	106	107	104	102	96	90	78	75	77	81	68	65	47	25
B	459	62	397	10	12	10	24	31	39	48	41	43	37	34	34	35	37	37	41	38	34	35	31	19	13	4
C	423	0	423	41	57	66	106	117	134	146	137	129	123	124	124	126	124	125	122	120	127	123	110	87	64	22
D	118	118	0	under construction																						
E	85	0	85	2	0	2	4	11	12	20	10	19	9	9	5	2	4	7	3	5	2	3	2	2	2	2
F	219	0	219	40	62	103	120	154	179	201	185	166	137	143	144	146	165	162	176	159	161	161	135	121	69	26
G	290	0	290	58	76	92	114	107	110	105	103	77	78	104	92	85	84	81	78	86	64	55	63	59	41	9
H	35	0	35	1	0	2	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0
I	430	0	430	34	40	43	48	51	56	55	55	55	54	59	57	67	61	63	46	42	36	29	29	25	22	14
J	348	0	348	13	18	17	24	23	25	22	26	23	29	27	30	20	21	21	21	19	19	19	17	15	10	6
TOTAL	2800	240	2560	243	318	396	522	582	652	706	667	618	574	607	590	583	592	587	566	544	520	506	455	393	268	108

SURVEY DATE: Saturday Oct 29, 2022

ZONE	SUPPLY	OBSTRUCTED	AVAILABLE	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00
A	393	60	333	67	70	83	99	110	140	162	159	170	166	145	147	149	145	150	146	132	99	65	0	0	0	0
B	459	62	397	21	26	24	33	36	49	63	62	81	95	100	97	88	72	60	52	47	32	20	0	0	0	0
C	423	0	423	83	92	101	154	181	205	238	302	291	291	291	284	272	261	253	246	153	101	85	0	0	0	0
D	118	118	0	under construction																						
E	85	0	85	5	3	2	3	9	9	8	13	11	10	15	16	13	5	6	3	6	5	3	0	0	0	0
F	219	0	219	50	90	165	183	217	223	217	209	214	224	227	232	221	233	228	224	211	158	79	0	0	0	0
G	290	0	290	79	83	102	116	125	139	131	167	182	180	169	166	172	167	143	141	120	75	52	0	0	0	0
H	35	0	35	0	1	1	0	0	1	1	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0
I	430	0	430	48	54	77	85	92	89	105	112	100	107	98	99	96	80	71	54	50	22	19	0	0	0	0
J	348	0	348	29	27	27	36	42	37	34	41	43	53	60	56	46	41	33	27	18	15	11	0	0	0	0
TOTAL	2800	240	2560	382	446	582	709	812	892	959	1066	1093	1126	1105	1098	1058	1005	945	893	737	507	334	0	0	0	0

SURVEY DATE: Sunday Oct 30, 2022

ZONE	SUPPLY	OBSTRUCTED	AVAILABLE	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00
A	393	60	333	0	0	61	71	118	121	143	156	170	191	202	205	193	162	147	137	77	0	0	0	0	0	0
B	459	62	397	0	0	17	23	46	50	54	58	69	73	77	89	81	64	49	44	18	0	0	0	0	0	0
C	423	0	423	0	0	71	82	122	146	181	202	226	239	242	248	253	223	201	191	80	0	0	0	0	0	0
D	118	118	0	under construction																						
E	85	0	85	0	0	4	2	5	7	9	6	7	5	8	5	5	3	6	4	2	0	0	0	0	0	0
F	219	0	219	0	0	98	149	201	223	219	230	232	238	236	233	235	212	203	172	99	0	0	0	0	0	0
G	290	0	290	0	0	83	102	118	161	146	159	166	180	178	192	199	178	109	86	74	0	0	0	0	0	0
H	35	0	35	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I	430	0	430	0	0	68	78	95	98	107	111	120	129	137	126	122	96	67	57	38	0	0	0	0	0	0
J	348	0	348	0	0	24	22	34	36	36	44	48	53	50	44	36	33	31	18	14	0	0	0	0	0	0
TOTAL	2800	240	2560	0	0	426	529	739	842	895	967	1039	1108	1130	1142	1124	971	813	709	402	0	0	0	0	0	0

SURVEY DATE: Tuesday Nov 1, 2022

ZONE	SUPPLY	OBSTRUCTED	AVAILABLE	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00
A	393	60	333	49	57	62	79	90	111	118	110	99	97	94	90	85	81	77	68	65	72	77	71	67	51	24
B	459	62	397	14	19	30	27	21	23	27	27	29	25	23	24	27	20	21	22	24	26	24	21	18	14	6
C	423	0	423	47	68	83	94	115	117	122	124	120	119	115	115	111	109	95	91	93	90	88	81	64	35	21
D	118	118	0	under construction																						
E	85	0	85	4	6	5	5	9	9	4	11	7	9	5	3	2	5	3	1	3	0	5	3	2	0	0
F	219	0	219	40	53	113	152	167	178	172	165	151	137	152	138	125	121	116	106	110	129	116	98	66	52	27
G	290	0	290	52	59	65	89	88	79	78	82	97	73	77	67	71	68	68	63	65	57	57	60	30	22	10
H	35	0	35	0	0	1	0	1	2	0	0	0	0	1	1	0	0	0	0	1	0	1	1	1	0	0
I	430	0	430	5	9	31	35	38	40	47	45	49	48	42	43	41	45	45	36	33	28	26	25	25	25	17
J	348	0	348	18	18	18	18	18	18	19	19	18	20	23	19	19	20	20	22	21	18	18	16	15	10	8
TOTAL	2800	240	2560	229	289	408	499	547	577	587	583	570	528	532	500	481	469	445	409	415	420	412	376	288	209	113

SURVEY DATE: Saturday Nov 5, 2022

ZONE	SUPPLY	OBSTRUCTED	AVAILABLE	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00
A	393	60	333	57	71	101	132	149	160	183	205	226	229	228	208	199	195	186	183	177	141	80	0	0	0	0
B	459	62	397	18	30	38	49	56	59	65	70	70	66	72	75	80	78	71	65	49	33	17	0	0	0	0
C	423	0	423	55	87	137	173	216	235	275	298	317	321	328	324	320	296	283	267	203	163	87	0	0	0	0
D	118	118	0	under construction																						
E	85	0	85	5	7	10	12	13	15	10	9	19	17	15	14	4	5	3	2	4	2	1	0	0	0	0
F	219	0	219	47	92	126	163	211	232	230	233	235	231	234	233	231	226	209	210	180	150	103	0	0	0	0
G	290	0	290	89	87	100	109	113	168	166	181	174	157	159	148	136	118	107	83	75	65	81	0	0	0	0
H	35	0	35	0	0	1	1	1	1	2	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0
I	430	0	430	41	46	81	98	102	93	100	115	113	110	118	129	111	101	89	70	46	40	36	0	0	0	0
J	348	0	348	20	23	27	32	36	38	39	37	44	46	45	49	47	52	50	40	30	24	21	0	0	0	0
TOTAL	2800	240	2560	332	443	621	769	897	1001	1070	1149	1199	1177	1199	1181	1129	1071	998	920	764	618	426	0	0	0	0

SURVEY DATE: Sunday Nov 6, 2022

ZONE	SUPPLY	OBSTRUCTED	AVAILABLE	10:00	10:30	11:00	11:30	12:00	12:30	13:00	13:30	14:00	14:30	15:00	15:30	16:00	16:30	17:00	17:30	18:00	18:30	19:00	19:30	20:00	20:30	21:00
A	393	60	333	0	0	68	141	177	200	210	223	235	241	231	216	231	201	175	137	55	0	0	0	0	0	0
B	459	62	397	0	0	21	45	55	61	63	67	82	91	91	89	79	67	61	58	27	0	0	0	0	0	0
C	423	0	423	0	0	61	158	192	213	247	285	303	318	316	304	291	263	208	144	63	0	0	0	0	0	0
D	118	118	0	under construction																						
E	85	0	85	0	0	5	7	10	6	7	9	12	7	7	5	8	12	9	3	4	0	0	0	0	0	0
F	219	0	219	0	0	130	153	189	200	228	231	233	233	235	234	234	234	181	151	111	0	0	0	0	0	0
G	290	0	290	0	0	117	116	111	126	129	165	180	181	179	186	184	161	137	90	47	0	0	0	0	0	0
H	35	0	35	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0
I	430	0	430	0	0	69	81	84	95	93	97	111	113	109	107	104	95	88	72	65	0	0	0	0	0	0
J	348	0	348	0	0	23	23	25	37	44	51	49	53	57	56	60	52	39	33	21	0	0	0	0	0	0
TOTAL	2800	240	2560	0	0	494	724	843	938	1021	1128	1205	1238	1226	1198	1192	1085	898	688	393	0	0	0	0	0	0

SUMMARY

retail GFA: 56,200

retail occupancy: 93% *email from Slate Asset Management on Nov 28, 2022: "we pulled historic occupancy info for Dixie, and we've been at 93% occupancy since 2018. Please use this to recalibrate the observed parking utilization rate"*

occupied retail GFA: 52266 sq.m.

Survey Date	Max Demand	Utilization (sps/100 s.m. GFA)	Adjusted Utilization
Friday Oct 28, 2022	706	1.35	1.78
Saturday Oct 29, 2022	1126	2.15	2.83
Sunday Oct 30, 2022	1142	2.18	2.87
Tuesday Nov 1, 2022	587	1.12	1.48
Saturday Nov 5, 2022	1199	2.29	3.02
Sunday Nov 6, 2022	1238	2.37	3.12

Existing Supply	2800	
Existing Supply Rate	5.36	
Existing Unobstructed Supply	2560	
Available Supply Rate	4.90	
Max Demand	1238	
Max Utilization (sps/100 s.m. GFA)	2.37	
Monthly Adjustment Factor	0.76	
Max Utilization - Adjusted	3.12	
	0	
Slate Supply	2476	(from LEA count)
	0	
Spaces to be removed (MTO)	210	(from gpa analysis)
Spaces to be removed	493	(from gpa analysis)
Spaces added	48	(from site plan)
Total Future Supply	2145	(based on LEA count)
Slate Future Supply	1821	(based on LEA count)

FIGURE 2-3 **Monthly Adjustment Factors**

Land use	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec[1]	Notes
Retail														
Retail	59%	61%	70%	67%	72%	72%	70%	73%	66%	69%	76%	100%	85%	5
Employee	69%	71%	79%	77%	82%	82%	80%	83%	76%	78%	86%	100%	95%	
Supermarket/grocery	93%	86%	94%	92%	97%	94%	96%	95%	92%	95%	95%	100%	95%	6
Employee	100%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Pharmacy	89%	85%	92%	89%	91%	89%	89%	90%	88%	92%	89%	100%	95%	6
Employee	99%	95%	100%	99%	100%	98%	98%	99%	98%	100%	98%	100%	100%	
Discount stores/ superstores	72%	72%	79%	76%	81%	79%	79%	81%	74%	79%	85%	100%	90%	6
Employee	82%	82%	88%	86%	91%	89%	89%	91%	84%	89%	95%	100%	100%	
Home improvement stores/garden	63%	62%	79%	90%	100%	92%	87%	84%	80%	85%	80%	75%	65%	6
Employee	72%	71%	89%	100%	100%	100%	97%	94%	90%	94%	90%	85%	75%	
Food and beverage														
Fine/casual dining	88%	87%	98%	94%	99%	94%	96%	96%	89%	93%	89%	100%	95%	6
Employee	99%	98%	100%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	
Family restaurant	88%	87%	98%	94%	99%	94%	96%	96%	89%	93%	89%	100%	95%	6
Employee	99%	98%	100%	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	
Fast casual/fast food/ food court/food halls	85%	85%	97%	95%	99%	98%	100%	100%	93%	96%	92%	96%	95%	6
Employee	96%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Bar/lounge/nightclub	87%	87%	100%	93%	97%	94%	97%	96%	94%	98%	92%	96%	95%	7
Employee	95%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Entertainment and institutions														
Family entertainment (weekdays)[2]	20%	26%	36%	50%	23%	45%	87%	68%	22%	25%	20%	48%	100%	8
Employee	50%	50%	50%	60%	50%	55%	97%	78%	50%	50%	50%	58%	100%	
Family entertainment (weekends)	79%	90%	91%	100%	60%	70%	72%	76%	70%	72%	74%	60%	80%	8
Employee	89%	100%	100%	100%	70%	80%	82%	86%	80%	82%	84%	70%	90%	
Active entertainment	79%	90%	91%	100%	60%	70%	72%	76%	70%	72%	74%	60%	100%	8
Employee	89%	100%	100%	100%	70%	80%	82%	86%	80%	82%	84%	70%	100%	
Amusement park/ water park	79%	90%	91%	100%	60%	70%	72%	76%	70%	72%	74%	60%	100%	8
Employee	89%	100%	100%	100%	70%	80%	82%	86%	80%	82%	84%	70%	100%	
Adult active entertainment	85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%	8
Employee	95%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
All movies (weekdays)[2]	50%	50%	45%	33%	55%	50%	75%	55%	25%	25%	55%	55%	100%	5
Employee	60%	60%	55%	50%	65%	60%	85%	65%	50%	50%	65%	65%	100%	
All movies (weekends)	25%	40%	60%	35%	70%	75%	75%	45%	35%	40%	80%	90%	100%	
Employee	50%	50%	70%	50%	80%	85%	85%	55%	50%	50%	90%	100%	100%	
Live theater	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	100%	100%	5
Employee	75%	70%	90%	100%	95%	90%	85%	80%	75%	85%	90%	85%	100%	
Outdoor amphitheater	0%	0%	0%	10%	100%	100%	100%	100%	100%	50%	10%	10%	0%	5
Employee	10%	10%	10%	50%	100%	100%	100%	100%	100%	60%	50%	50%	10%	

(continued on next page)

FIGURE 2-3 (continued)

Land use	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec[1]	Notes
Entertainment and institutions (continued)														
Public park/ destination open space	25%	25%	50%	75%	100%	100%	100%	100%	100%	100%	75%	75%	25%	5
Employee	50%	50%	60%	85%	100%	100%	100%	100%	100%	100%	85%	85%	50%	
Museum/aquarium (weekdays)[2]	20%	26%	36%	50%	23%	45%	87%	68%	22%	25%	20%	48%	100%	8
Employee	50%	50%	50%	60%	50%	55%	97%	78%	50%	50%	50%	58%	100%	
Museum/aquarium (weekends)	79%	90%	91%	100%	60%	70%	72%	76%	70%	72%	74%	60%	80%	
Employee	89%	100%	100%	100%	70%	80%	82%	86%	80%	82%	84%	70%	90%	
Arena	90%	100%	100%	100%	100%	75%	0%	0%	60%	65%	90%	100%	95%	8
Employee	100%	100%	100%	100%	100%	100%	10%	10%	75%	75%	100%	100%	100%	
Pro football stadium[3]	0%	0%	0%	0%	90%	90%	90%	90%	100%	100%	100%	100%	100%	8
Employee	10%	10%	10%	10%	10%	10%	10%	100%	100%	100%	100%	100%	100%	
Pro baseball stadium	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	8
Employee	10%	10%	25%	90%	100%	100%	100%	100%	100%	100%	10%	10%	10%	
Health club	100%	95%	85%	70%	65%	65%	65%	70%	80%	85%	85%	100%	95%	9
Employee	100%	100%	95%	80%	75%	75%	75%	80%	90%	95%	95%	100%	10%	
Public library	75%	75%	80%	85%	90%	90%	90%	90%	95%	95%	90%	65%	50%	8
Employee	85%	85%	85%	90%	95%	95%	90%	95%	100%	100%	95%	65%	50%	
Convention center[4]	75%	100%	90%	55%	60%	50%	45%	75%	80%	85%	100%	100%	0%	8
Employee	85%	100%	100%	65%	70%	60%	55%	85%	90%	95%	100%	100%	0%	
Hotel and residential														
Hotel-business	60%	75%	90%	100%	95%	95%	95%	85%	90%	95%	80%	60%	55%	10,11
Hotel-leisure	80%	90%	100%	100%	90%	90%	100%	100%	75%	75%	75%	50%	100%	
Hotel employees	Use same factor as guests for type of hotel													
Restaurant/lounge	85%	86%	95%	92%	96%	95%	98%	99%	91%	96%	93%	100%	95%	
All meeting banquet (<100 sq ft/key)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Convention (>100 sq ft/key)	75%	100%	90%	55%	60%	50%	45%	75%	80%	85%	100%	100%	0%	
Restaurant/meeting employees	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Residential unreserved residents	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	100%	8
Reserved residents	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Visitor	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	100%	
Active senior housing	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	8
Residents	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

(continued on next page)

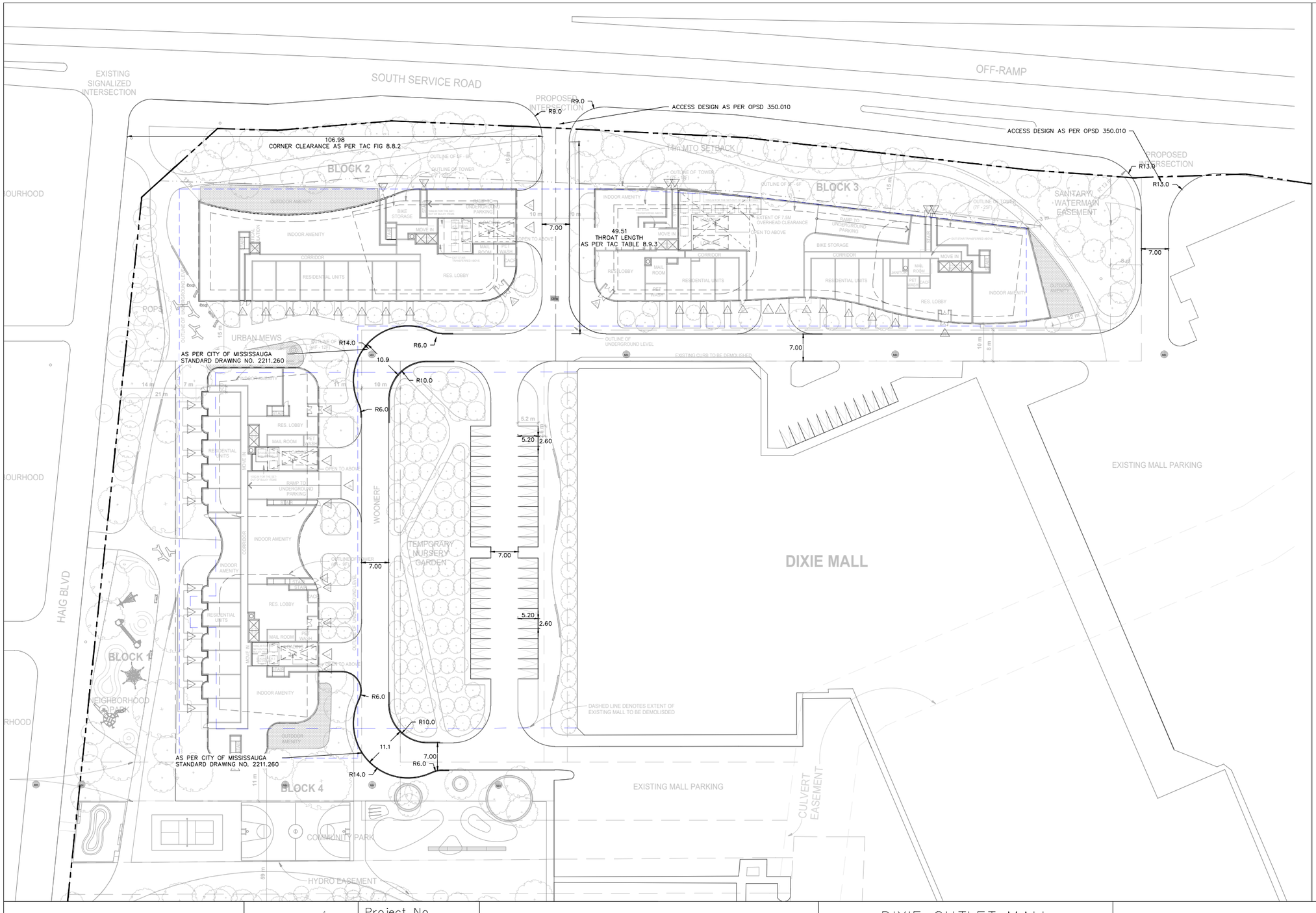
FIGURE 2-3 (continued)

Land use	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Late Dec[1]	Notes
							Office							
Office	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	12
Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Employee	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	
Open plan/ high-density office	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	12
Reserved	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Employee	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	
Medical/dental office	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	5
Employee	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	
Daycare center	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	5
Employee	100%	100%	100%	100%	100%	100%	95%	95%	100%	100%	100%	100%	80%	
Bank (drive-in branch)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	5
Employee	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

1. December = December 1–24; Late December = December 25–31.
2. Land uses particularly affected by school year on weekdays.
3. Because there is only one weeknight game and no Saturday games per NFL team September through November, and activity patterns are modified at adjacent uses, this category is not considered a design day for parking planning.
4. Many convention centers are completely dark in Late December.
5. Developed by team members from a combination of sources.
6. U.S. Census Bureau Unadjusted Estimates of Retail Sales, 2008–2017.
7. U.S. Census Bureau Unadjusted Estimates of Retail Sales, 2012–2017.
8. Confidential data provided by facility managers.
9. John W. Dorsett, "Parking Requirements for Health Clubs," *The Parking Professional*, April 2004.
10. https://catalog.data.gov/dataset/monthly-hotel-occupancy-b2f97.
11. https://www.statista.com/statistics/206546/us-hotels-occupancy-rate-by-month/.
12. Parking Study conducted by Patton Harris Rust & Associates for the Peterson Companies, 2001.

APPENDIX G

Functional Design Review



NOTES:

1. AS PER CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007 SECTION 3.1.1.4, MINIMUM DIMENSIONS
   1.1. FOR A PARKING SPACE WITH A PARKING ANGLE EXCEEDING 15 DEGREES, IT SHALL HAVE AN UNOBSTRUCTED MIN. WIDTH OF 2.6M AND MIN. LENGTH OF 5.2M.
   1.2. FOR A PARKING SPACE WITH A PARKING ANGLE NOT EXCEEDING 15 DEGREES, IT SHALL HAVE AN UNOBSTRUCTED MIN. WIDTH OF 2.6M AND MIN. LENGTH OF 6.7M.
   1.3. THE MIN. WIDTH OF A PARKING SPACE SHALL BE INCREASED TO 2.75M WHERE THE LENGHT OF ONE SIDE OF THE PARKING SPACE ABUTS A BUILDING/STRUCTURE THAT EXTENDS 1.0M.
2. THE MINIMUM WIDTH OF PARKING SPACE SHALL BE INCREASED TO 2.75M WHERE THE LENGTH OF ONE SIDE OF THE PARKING SPACE ABUTS A STRUCTURE (COLUMS WALLS), EXCEPT FOR A STRUCTURE THAT EXTENDS 1.0M OR LESS INTO THE FRONT OR REAR OF PARKING SPACE. REFER TO ILLUSTRATION NO. 13 – SECTION 1.3 OF CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007
3. PROVIDE REQUIRED NUMBER OF ACCESSIBLE SPACES AS PER CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007. REFER TO ILLUSTRATION NO. 15 – SECTION 3.1.1.4
4. THE MINIMUM AISLE WIDTH SHALL BE 7.0m. REFER TO SECTION 3.1.1.5 OF CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007

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Project No. 19373

Date DEC. 16, 2022

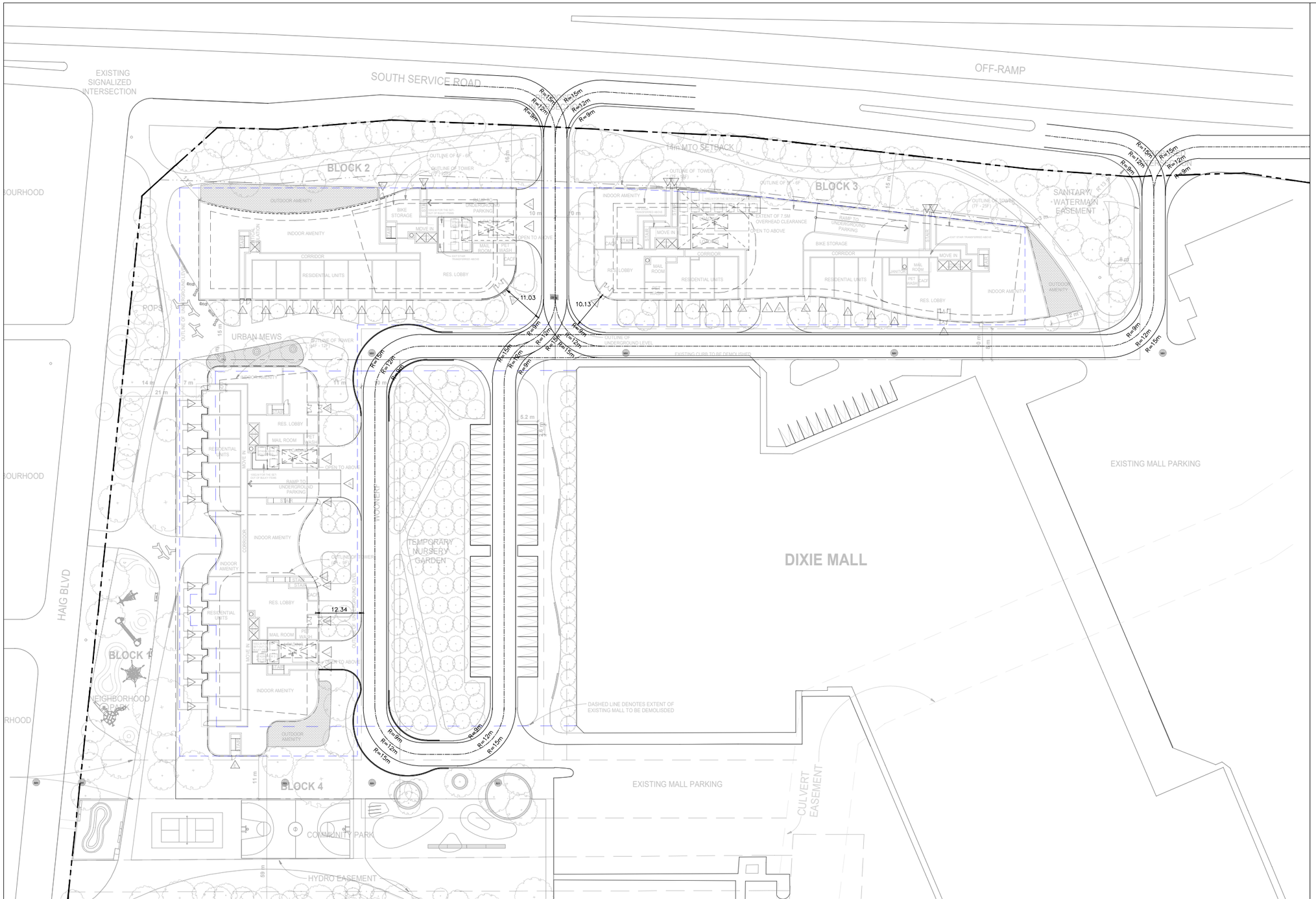
DRAFT
FOR DISCUSSION

DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

10 0 10 20 30m
1:1000

FUNCTIONAL REVIEW
GENERAL ARRANGEMENT

Drawing No. 000



NOTES:

AS PER THE ONTARIO BUILDING CODE 3.2.5

1. 5.1 LOCATION OF ACCESS ROUTES – ACCESS ROUTES SHALL BE LOCATED SO THAT THE PRINCIPAL ENTRANCE AND EVERY ACCESS OPENING ARE LOCATED NOT LESS THAN 3m AND NOT MORE THAN 15m FROM THE CLOSEST PORTION OF THE ACCESS ROUTE
2. 6.1 ACCESS ROUTE DESIGN – A PORTION OF A ROADWAY PROVIDED AS A REQUIRED ACCESS ROUTE FOR FIRE DEPARTMENT USE SHALL:
   (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. TRAVEL DISTANCE FROM THE PRIMARY ENTRANCE OF BUILDING TO THE FIRE ROUTE SHALL NOT BE LESS THAN 3.0M AND NOT MORE THAN 15.0M. REFER TO ONTARIO BUILDING CODE 3.2.5.5 FOR DETAILS.
4. AS PER ONTARIO BUILDING CODE 3.2.5.5(2) AND 3.2.5.5(3), A 45M UNOBSTRUCTED PATH OF TRAVEL FROM THE FIRE TRUCK TO THE PRINCIPAL ENTRANCE OF THE BUILDING IS REQUIRED.

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Date DEC. 16, 2022

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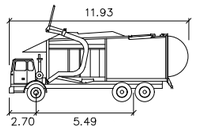
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

10 0 10 20 30m
1:1000

FIRE ROUTE REVIEW

Drawing No. 001



Garbage Peel (2020)

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

FORWARD IN
REVERSE OUT

SOUTH SERVICE ROAD

OFF-RAMP

PROPOSED INTERSECTION

14m MTO SETBACK

BLOCK 2

BLOCK 3

BLOCK 4

10SQ.M FOR THE SET-OUT OF BULKY ITEMS

STAGING FOR 6 4CU.YD.(2.03X2.01m) BINS TO BE SHOWN AS DEMONSTRATED

BINS TO BE MOVED TO TO KEEP THE TRUCK PATH CLEAR

STAGING FOR 11 4CU.YD.(2.03X2.01m) BINS TO BE SHOWN AS DEMONSTRATED

10SQ.M FOR THE SET-OUT OF BULKY ITEMS

STAGING FOR 3 4CU.YD.(2.03X2.01m) BINS TO BE SHOWN AS DEMONSTRATED

10SQ.M FOR THE SET-OUT OF BULKY ITEMS

STAGING FOR 3 4CU.YD.(2.03X2.01m) BINS TO BE SHOWN AS DEMONSTRATED

SANITARY, WATERMAIN EASEMENT

EXISTING MALL PARKING

DIXIE MALL

TEMPORARY NURSERY GARDEN

DASHED LINE DENOTES EXTENT OF EXISTING MALL TO BE DEMOLISDED

CULVERT EASEMENT

HYDRO EASEMENT

COMMUNITY PARK

URBAN MEWS

HAIG BLVD

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

1. ACCESS ROAD – MIN. 6m ROADWAY WIDTH AND MIN. 4.4m CLEAR HEIGHT ALONG ACCESS ROAD
2. COLLECTION POINT – CONCEALED
   - 2.1. MIN. 18m HEAD-ON APPROACH MIN. 6m WIDE CONCRETE PAD AND MIN. 7.5m OVERHEAD CLEARANCE
   - 2.2. EXTEND CONCRETE APRON MIN. 1.5m OUTSIDE OF THE COLLECTION POINT
   - 2.3. MIN. 7.5m OVERHEAD CLEARANCE
   - 2.4. PROVIDE 10SQ.M FOR THE SET-OUT OF BULKY ITEMS.
3. ASSUME 4yd³ BINS USED [APPENDIX 6].
4. AS PER THE CITY OF MISSISSAUGA ZONING BY-LAW 3.1.4.4 LOADING SPACE – MIN. 3.5m IN WIDTH & 9m IN LENGTH
5. 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. WARNING SIGN TO BE MOUNTED BELOW THE FLASH LIGHT.

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

WATCH FOR TURNING TRUCKS WHEN FLASHING

4 cu.yd. BINS REQUIRED			
	BLOCK 2	BLOCK 3	BLOCK 4
UNITS	357	610	298
COMPACTED GARBAGE	5	9	5
RECYCCLABLE MATERIALS	6	11	5
TOTAL	11	20	10

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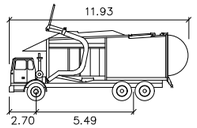
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

10 0 10 20 30m
1:1000

LOADING REVIEW
CITY GARBAGE TRUCK
ENTRY PATH

Drawing No. 002



Garbage Peel (2020)

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

FORWARD IN
REVERSE OUT

SOUTH SERVICE ROAD
OFF-RAMP
PROPOSED INTERSECTION
14m MTO SETBACK
BLOCK 2
BLOCK 3
BLOCK 4
10SQ.M FOR THE SET-OUT OF BULKY ITEMS
STAGING FOR 6 4CU.YD.(2.03X2.01m) BINS TO BE SHOWN AS DEMONSTRATED
STAGING FOR 11 4CU.YD.(2.03X2.01m) BINS TO BE SHOWN AS DEMONSTRATED
BINS TO BE MOVED TO TO KEEP THE TRUCK PATH CLEAR
STAGING FOR 3 4CU.YD.(2.03X2.01m) BINS TO BE SHOWN AS DEMONSTRATED
SANITARY/ WATERMAIN EASEMENT
URBAN MEWS
POPS
TEMPORARY NURSERY GARDEN
DIXIE MALL
EXISTING MALL PARKING
DASHED LINE DENOTES EXTENT OF EXISTING MALL TO BE DEMOLISDED
CULVERT EASEMENT
HYDRO EASEMENT
COMMUNITY PARK
HAIG BLVD
EIGHBORHOOD
RHOOD
OURHOOD

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

1. ACCESS ROAD – MIN. 6m ROADWAY WIDTH AND MIN. 4.4m CLEAR HEIGHT ALONG ACCESS ROAD
2. COLLECTION POINT – INDOOR [APPENDIX 4]
   - 2.1. MIN. 18m HEAD-ON APPROACH MIN. 6m WIDE CONCRETE PAD AND MIN. 7.5m OVERHEAD CLEARANCE
   - 2.2. EXTEND CONCRETE APRON MIN. 1.5m OUTSIDE OF THE COLLECTION POINT
   - 2.3. 2m DEEP FOR 3yd³ AND 3m DEEP FOR 4 & 6yd³ BINS OR ASSIGN PROPERTY MANAGEMENT STAFF TO JOCKEY BINS TO COLLECTION POINT. IF THE STAFF IS NOT VISIBLE TO THE VEHICLE DRIVER, THE VEHICLE WILL NOT ENTER THE SITE (REFER TO 4.3.1)
   - 2.4. MIN. 7.5m OVERHEAD CLEARANCE
3. ASSUME 4yd³ BINS USED [APPENDIX 6].
4. AS PER THE CITY OF MISSISSAUGA ZONING BY-LAW 3.1.4.4 LOADING SPACE – MIN. 3.5m IN WIDTH & 9m IN LENGTH
5. 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. WARNING SIGN TO BE MOUNTED BELOW THE FLASH LIGHT.

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

WATCH FOR TURNING TRUCKS WHEN FLASHING

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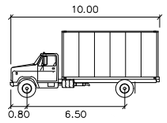
FOR DISCUSSION

DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

10 0 10 20 30m
1:1000

LOADING REVIEW
CITY GARBAGE TRUCK
EXIT PATH

Drawing No. 003



MSU

meters

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

FORWARD IN
REVERSE OUT

SOUTH SERVICE ROAD

OFF-RAMP

PROPOSED INTERSECTION

14m MTO SETBACK

PROPOSED INTERSECTION

BLOCK 2

BLOCK 3

BLOCK 4

SANITARY/ WATERMAIN EASEMENT

URBAN MEWS

TEMPORARY NURSERY GARDEN

DIXIE MALL

EXISTING MALL PARKING

DASHED LINE DENOTES EXTENT OF EXISTING MALL TO BE DEMOLISHED

CULVERT EASEMENT

HAIG BLVD

NEIGHBORHOOD PARK

COMMUNITY PARK

HYDRO EASEMENT

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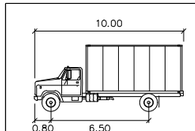
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

10 0 10 20 30m
1:1000

LOADING REVIEW
MSU
ENTRY PATH

Drawing No. 004



MSU

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

FORWARD IN
REVERSE OUT

SOUTH SERVICE ROAD

OFF-RAMP

PROPOSED INTERSECTION

PROPOSED INTERSECTION

14m MTO SETBACK

BLOCK 2

BLOCK 3

BLOCK 4

BLOCK 1

SANITARY/ WATERMAIN EASEMENT

URBAN MEWS

ROPS

HAIG BLVD

TEMPORARY NURSERY GARDEN

DIXIE MALL

EXISTING MALL PARKING

DASHED LINE DENOTES EXTENT OF EXISTING MALL TO BE DEMOLISHED

CULVERT EASEMENT

HYDRO EASEMENT

COMMUNITY PARK

OUTDOOR AMENITY

INDOOR AMENITY

CORRIDOR

RESIDENTIAL UNITS

RES. LOBBY

MAIL ROOM

BIKE STORAGE

MOVE IN

RAMP TO UNDERGROUND PARKING

OUTLINE OF TOWER (7F - 25F)

OUTLINE OF 2F - 6F

OUTLINE OF TOWER (2F - 12F)

EXTENT OF 7.5M OVERHEAD CLEARANCE

OPEN TO ABOVE

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19373

Date
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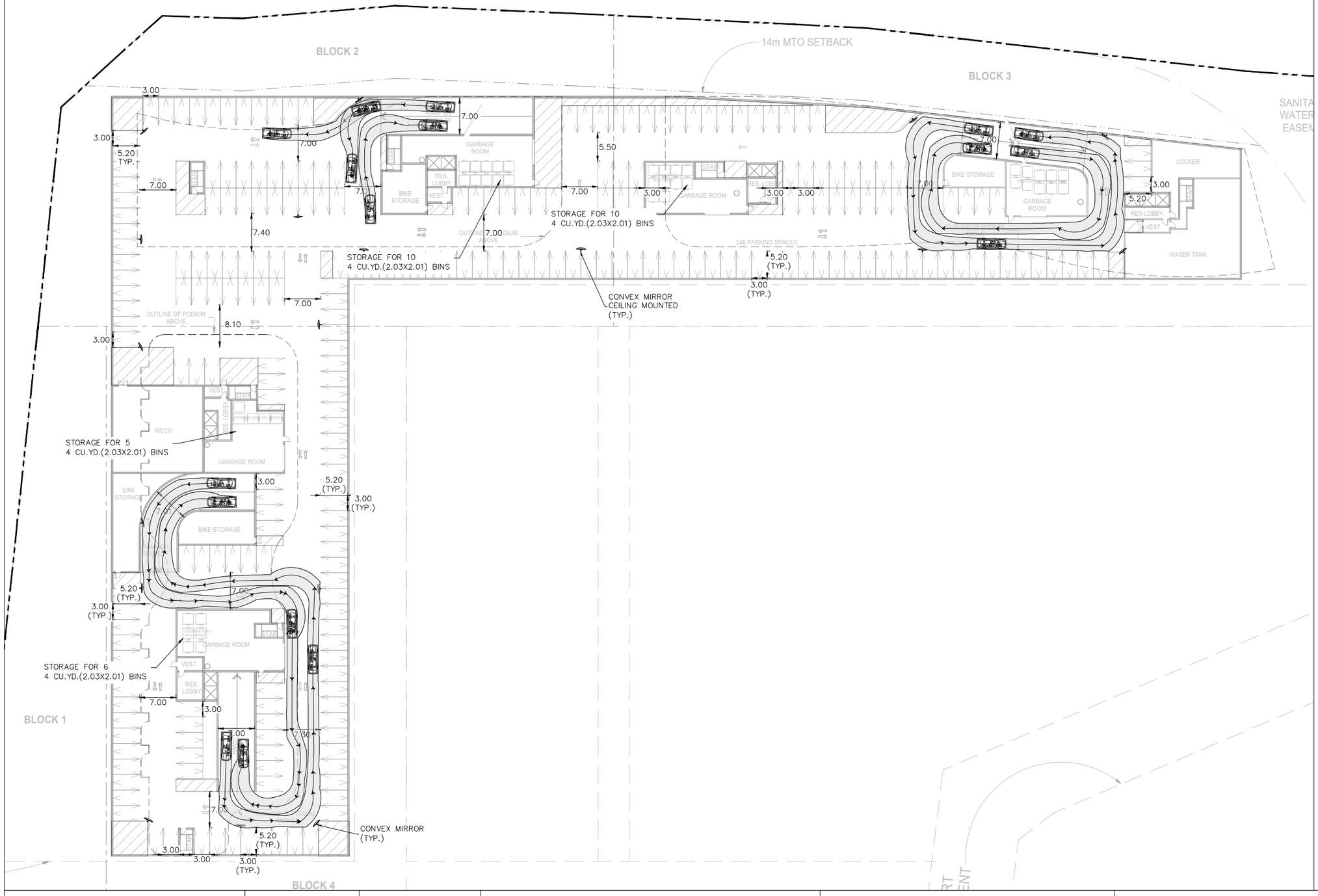
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

10 0 10 20 30m
1:1000

LOADING REVIEW
MSU
EXIT PATH

Drawing No.
005



NOTES:

1. AS PER CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007 SECTION 3.1.1.4, MINIMUM DIMENSIONS
   - 1.1. FOR A PARKING SPACE WITH A PARKING ANGLE EXCEEDING 15 DEGREES, IT SHALL HAVE AN UNOBSTRUCTED MIN. WIDTH OF 2.6M AND MIN. LENGTH OF 5.2M.
   - 1.2. FOR A PARKING SPACE WITH A PARKING ANGLE NOT EXCEEDING 15 DEGREES, IT SHALL HAVE AN UNOBSTRUCTED MIN. WIDTH OF 2.6M AND MIN. LENGTH OF 6.7M.
   - 1.3. THE MIN. WIDTH OF A PARKING SPACE SHALL BE INCREASED TO 2.75M WHERE THE LENGTH OF ONE SIDE OF THE PARKING SPACE ABUTS A BUILDING/STRUCTURE THAT EXTENDS 1.0M.
2. THE MINIMUM WIDTH OF PARKING SPACE SHALL BE INCREASED TO 2.75M WHERE THE LENGTH OF ONE SIDE OF THE PARKING SPACE ABUTS A STRUCTURE (COLUMS WALLS), EXCEPT FOR A STRUCTURE THAT EXTENDS 1.0M OR LESS INTO THE FRONT OR REAR OF PARKING SPACE. REFER TO ILLUSTRATION NO. 13 – SECTION 1.3 OF CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007
3. PROVIDE REQUIRED NUMBER OF ACCESSIBLE SPACES AS PER CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007. REFER TO ILLUSTRATION NO. 15 – SECTION 3.1.1.4
4. THE MINIMUM AISLE WIDTH SHALL BE 7.0m. REFER TO SECTION 3.1.1.5 OF CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007
5. ACCESSIBLE PARKING TO BE CONFIRMED.

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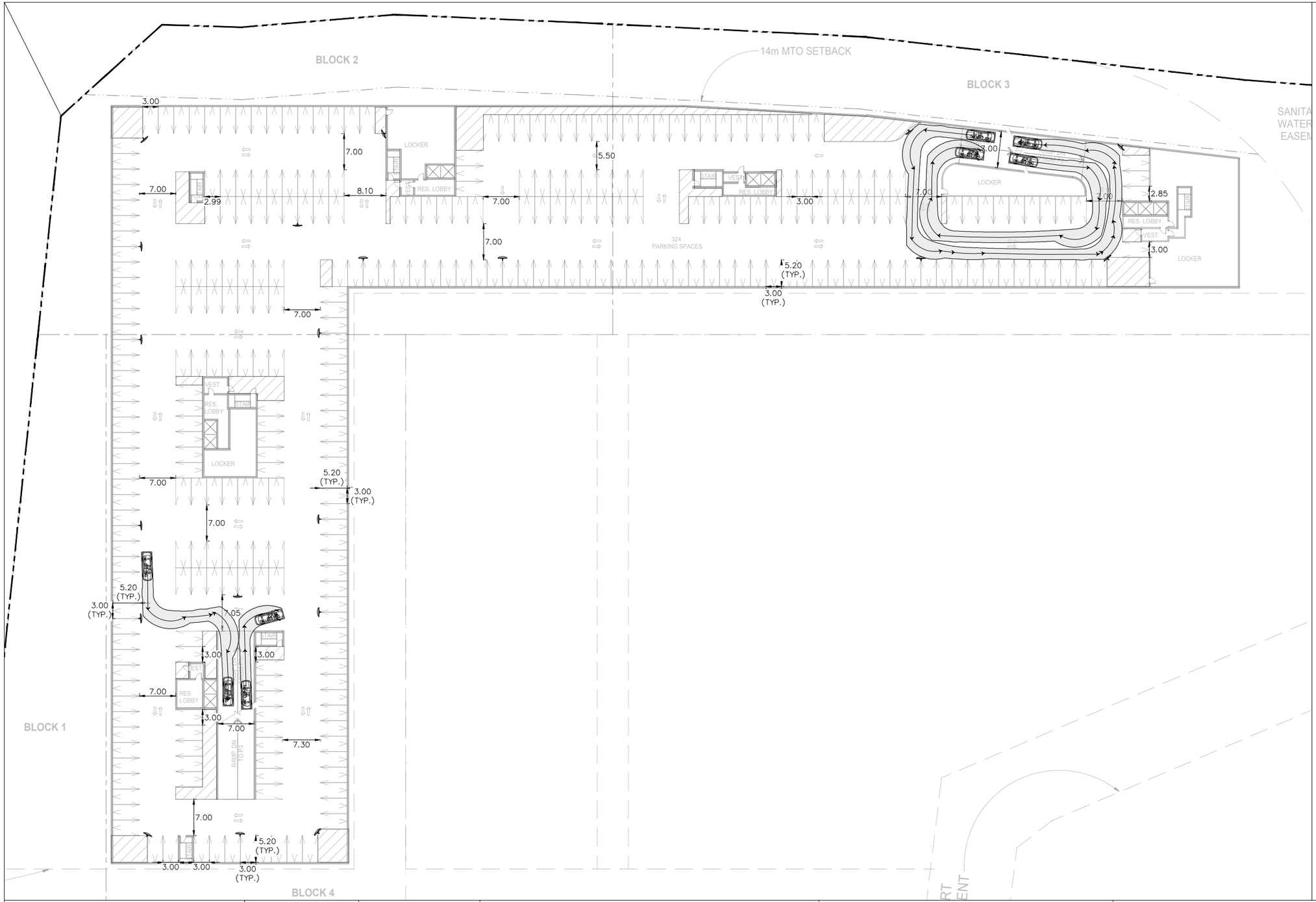
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

7.5 0 7.5 15 22.5m
1:750

PARKING REVIEW
LEVEL P1

Drawing No. 006



NOTES:

1. AS PER CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007 SECTION 3.1.1.4, MINIMUM DIMENSIONS
   1.1. FOR A PARKING SPACE WITH A PARKING ANGLE EXCEEDING 15 DEGREES, IT SHALL HAVE AN UNOBSTRUCTED MIN. WIDTH OF 2.6M AND MIN. LENGTH OF 5.2M.
   1.2. FOR A PARKING SPACE WITH A PARKING ANGLE NOT EXCEEDING 15 DEGREES, IT SHALL HAVE AN UNOBSTRUCTED MIN. WIDTH OF 2.6M AND MIN. LENGTH OF 6.7M.
   1.3. THE MIN. WIDTH OF A PARKING SPACE SHALL BE INCREASED TO 2.75M WHERE THE LENGHT OF ONE SIDE OF THE PARKING SPACE ABUTS A BUILDING/STRUCTURE THAT EXTENDS 1.0M.
2. THE MINIMUM WIDTH OF PARKING SPACE SHALL BE INCREASED TO 2.75M WHERE THE LENGTH OF ONE SIDE OF THE PARKING SPACE ABUTS A STRUCTURE (COLUMS WALLS), EXCEPT FOR A STRUCTURE THAT EXTENDS 1.0M OR LESS INTO THE FRONT OR REAR OF PARKING SPACE. REFER TO ILLUSTRATION NO. 13 – SECTION 1.3 OF CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007
3. PROVIDE REQUIRED NUMBER OF ACCESSIBLE SPACES AS PER CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007. REFER TO ILLUSTRATION NO. 15 – SECTION 3.1.1.4
4. THE MINIMUM AISLE WIDTH SHALL BE 7.0m. REFER TO SECTION 3.1.1.5 OF CITY OF MISSISSAUGA ZONING BY–LAW 0225–2007
5. ACCESSIBLE PARKING TO BE CONFIRMED.

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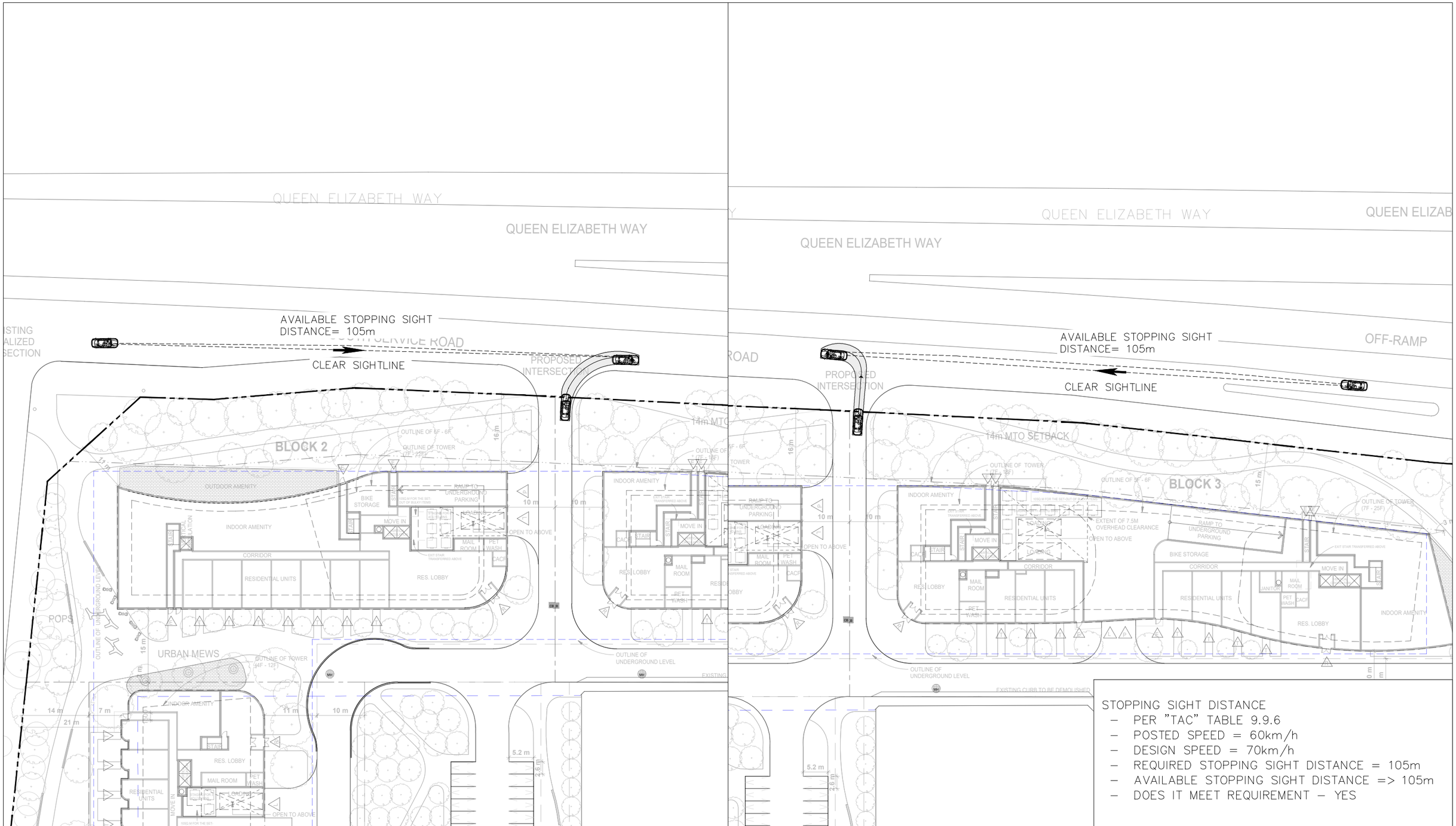
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

7.5 0 7.5 15 22.5m
1: 750

PARKING REVIEW
LEVEL P2

Drawing No. 007



STOPPING SIGHT DISTANCE
- PER "TAC" TABLE 9.9.6
- POSTED SPEED = 60km/h
- DESIGN SPEED = 70km/h
- REQUIRED STOPPING SIGHT DISTANCE = 105m
- AVAILABLE STOPPING SIGHT DISTANCE => 105m
- DOES IT MEET REQUIREMENT – YES

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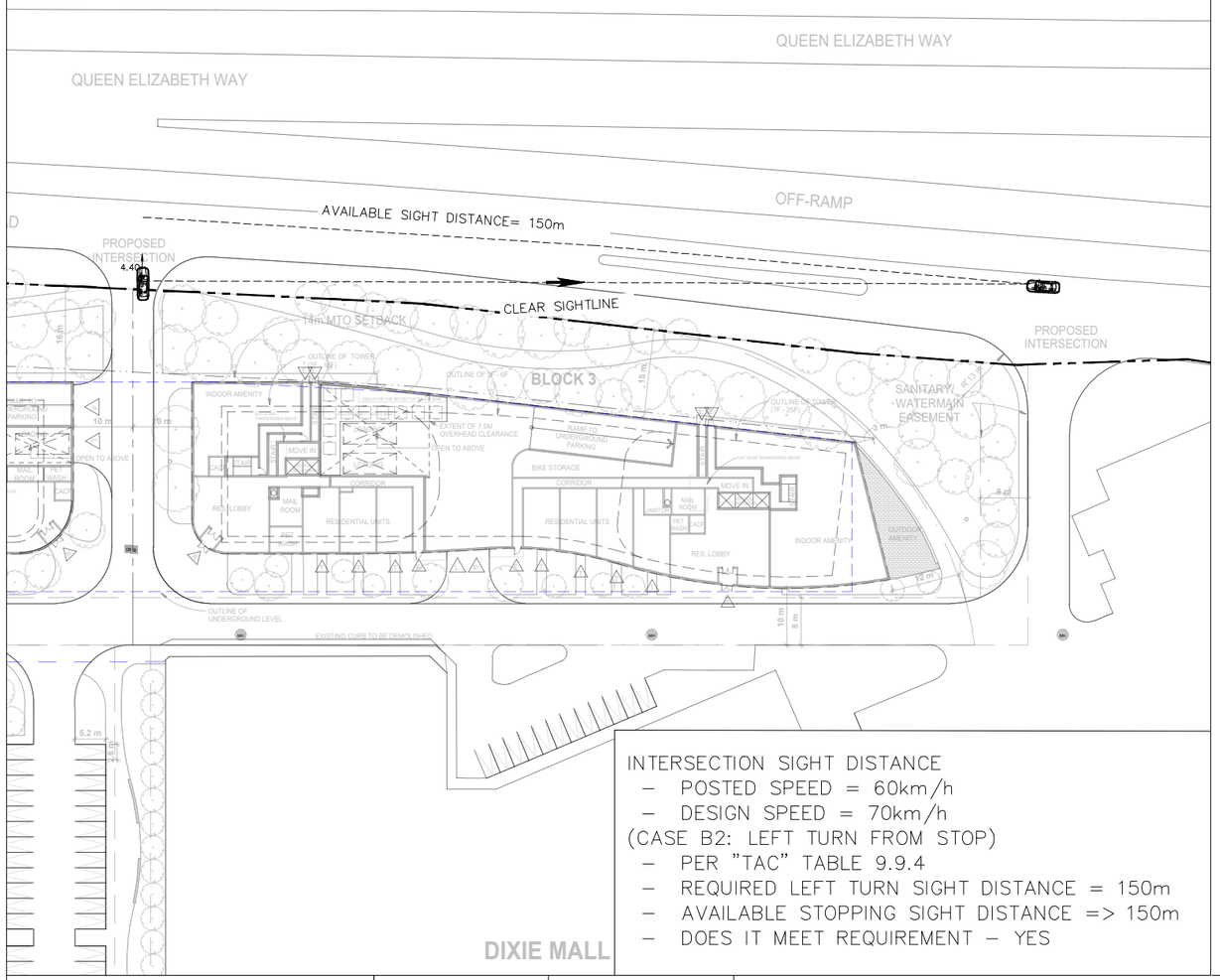
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

7.5 0 7.5 15 22.5m
1: 750

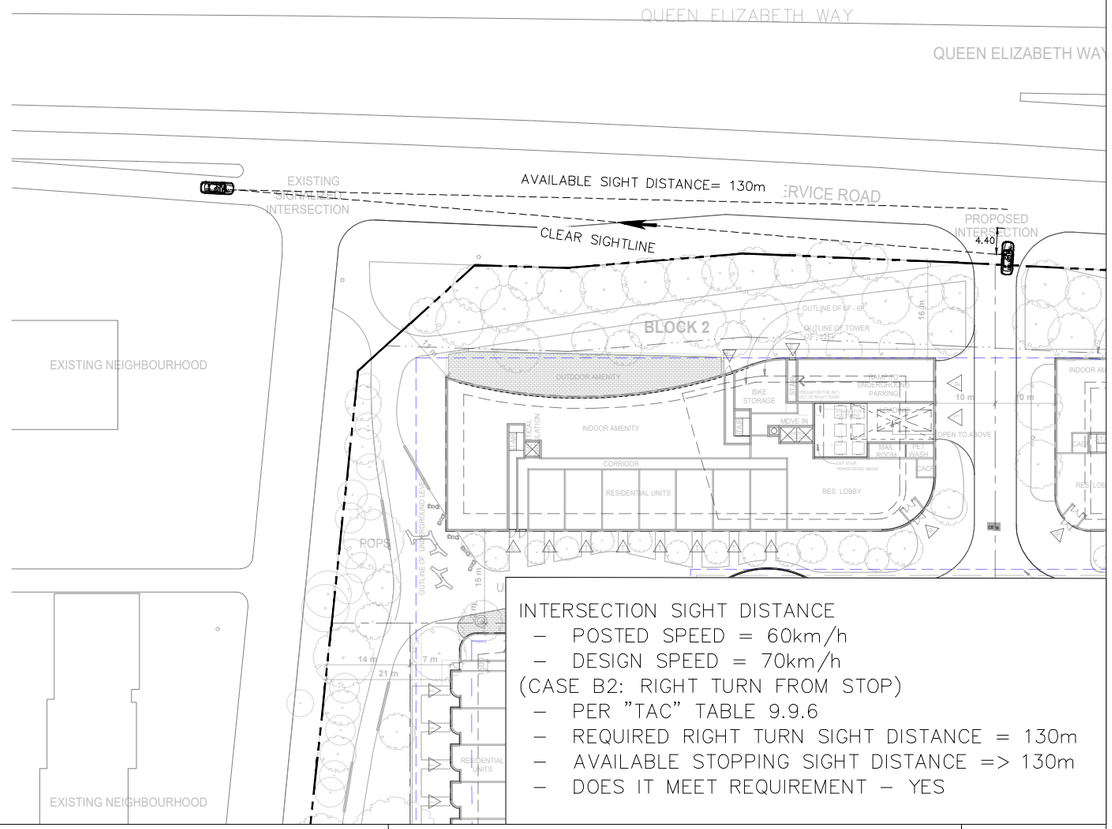
SIGHT LINE ANALYSIS
STOPPING SIGHT DISTANCE (SSD)
ACCESS 1

Drawing No. 008



INTERSECTION SIGHT DISTANCE
- POSTED SPEED = 60km/h
- DESIGN SPEED = 70km/h

(CASE B2: LEFT TURN FROM STOP)
- PER "TAC" TABLE 9.9.4
- REQUIRED LEFT TURN SIGHT DISTANCE = 150m
- AVAILABLE STOPPING SIGHT DISTANCE => 150m
- DOES IT MEET REQUIREMENT – YES



INTERSECTION SIGHT DISTANCE
- POSTED SPEED = 60km/h
- DESIGN SPEED = 70km/h

(CASE B2: RIGHT TURN FROM STOP)
- PER "TAC" TABLE 9.9.6
- REQUIRED RIGHT TURN SIGHT DISTANCE = 130m
- AVAILABLE STOPPING SIGHT DISTANCE => 130m
- DOES IT MEET REQUIREMENT – YES

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Date DEC. 16, 2022

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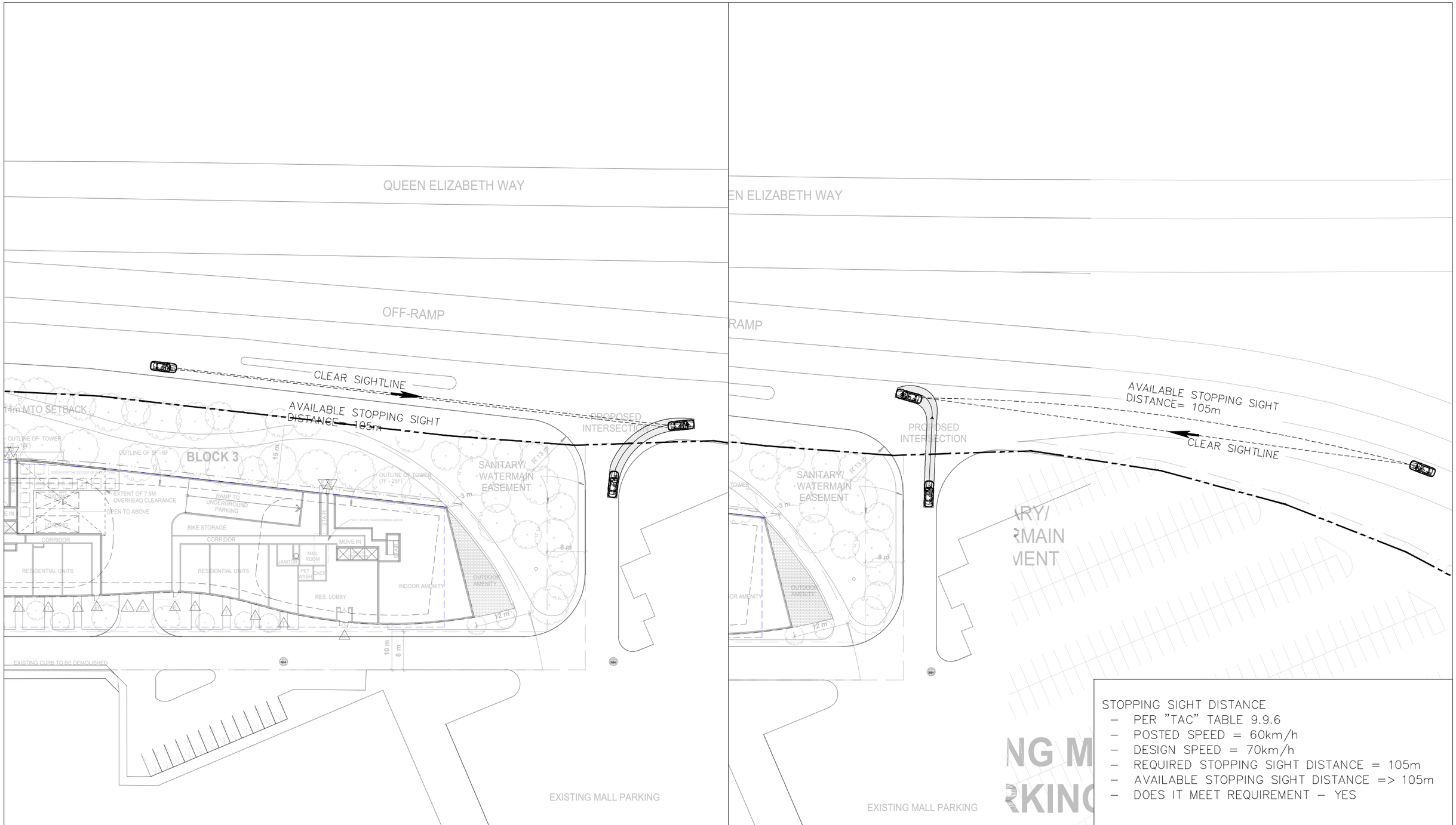
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

7.5 0 7.5 15 22.5m
1: 750

SIGHT LINE ANALYSIS
INTERSECTION SIGHT DISTANCE (ISD)
ACCESS 1

Drawing No. 009



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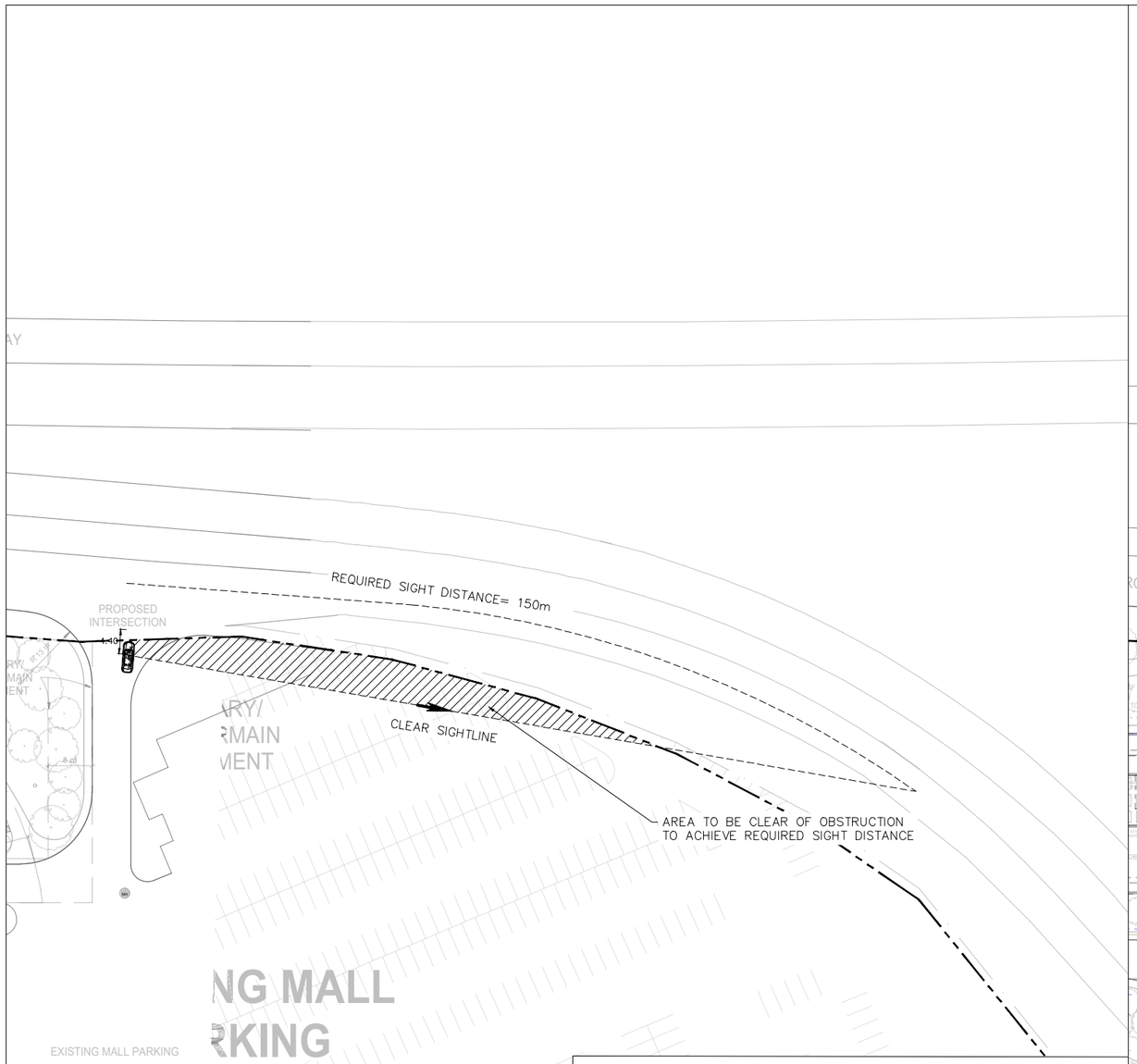
DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

7.5 0 7.5 15 22.5m
1: 750

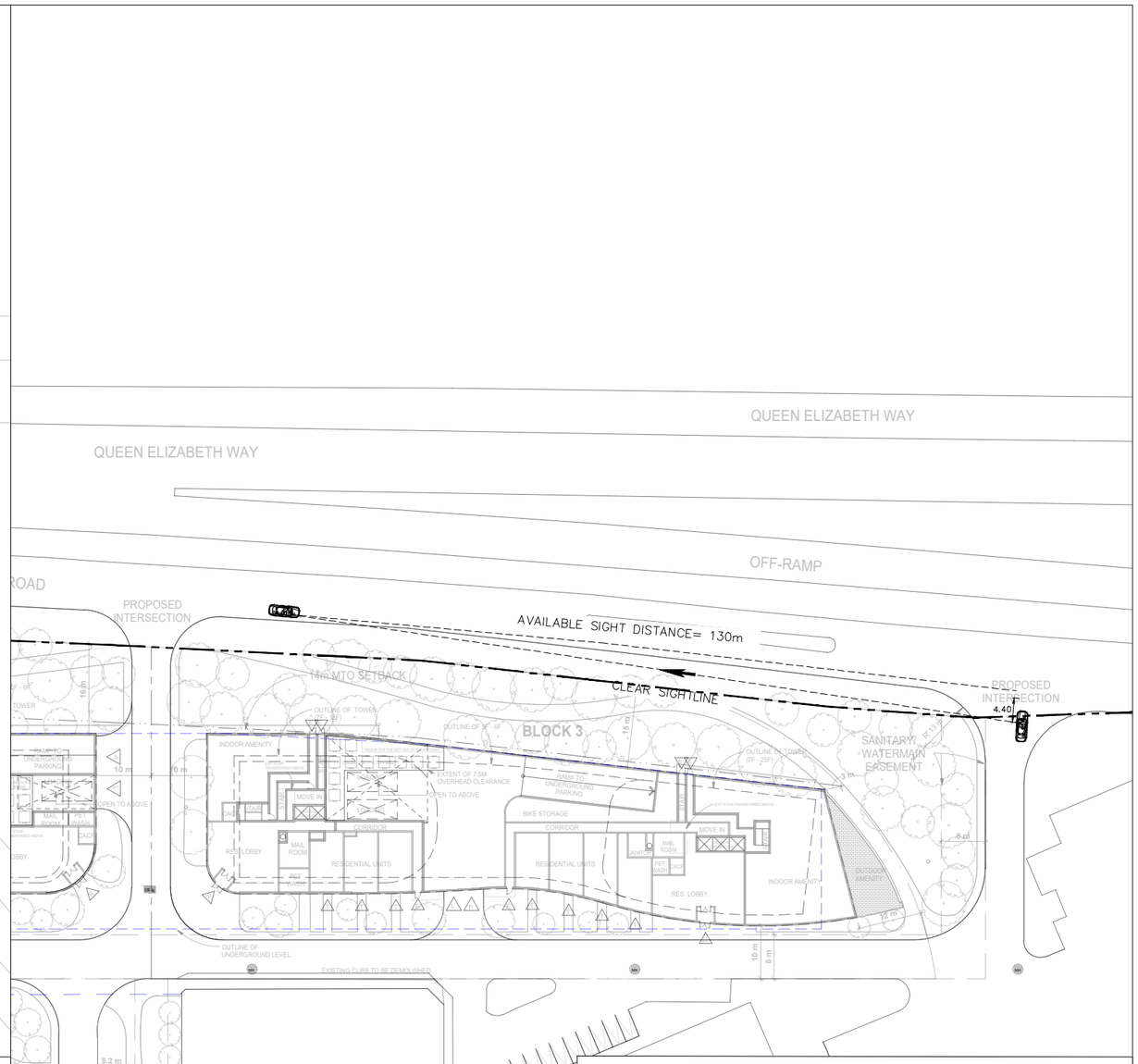
SIGHT LINE ANALYSIS
STOPPING SIGHT DISTANCE (SSD)
ACCESS 2

Drawing No. 010



INTERSECTION SIGHT DISTANCE
- POSTED SPEED = 60km/h
- DESIGN SPEED = 70km/h

(CASE B2: LEFT TURN FROM STOP)
- PER "TAC" TABLE 9.9.4
- REQUIRED LEFT TURN SIGHT DISTANCE = 150m
- AVAILABLE STOPPING SIGHT DISTANCE = 52m
- DOES IT MEET REQUIREMENT – NO



INTERSECTION SIGHT DISTANCE
- POSTED SPEED = 60km/h
- DESIGN SPEED = 70km/h

(CASE B2: RIGHT TURN FROM STOP)
- PER "TAC" TABLE 9.9.6
- REQUIRED RIGHT TURN SIGHT DISTANCE = 130m
- AVAILABLE STOPPING SIGHT DISTANCE => 130m
- DOES IT MEET REQUIREMENT – YES

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Date DEC. 16, 2022

DRAFT
FOR DISCUSSION

DIXIE OUTLET MALL
MISSISSAUGA ONTARIO

7.5 0 7.5 15 22.5m
1: 750

SIGHT LINE ANALYSIS
INTERSECTION SIGHT DISTANCE(ISD)
ACCESS 2

Drawing No. 011