CITY PARK (DIXIE) HOMES INC.

TRAFFIC IMPACT AND PARKING STUDY

2103-2119 Primate Road, 1351 & 1357 Wealthy Place, 2116 & 2112 Dixie Road

City of Mississauga Project No.: 2017-0294



FEBRUARY 2018

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February 2, 2018 Reference No. 2017-0294

Christopher Zeppa City Park (Dixie) Homes Inc. 950 Nashville Road Kleinburg, ON LOJ 1C0

Dear Mr. Zeppa:

Re: Traffic Impact and Parking Study 2103-2119 Primate Road, 1351 & 1357 Wealthy Place, 2116 & 2112 Dixie Road, City of Mississauga

Cole Engineering Group Ltd. ("COLE") was retained by City Park (Dixie) Homes Inc. (the "Owner") to undertake a Traffic Impact and Parking Study in support of Zoning By-law Amendment and Plan of Subdivision applications for a proposed residential development, located on the northwest quadrant of Dixie Road and North Service Road / Sherway Drive, in the City of Mississauga (the "City"), within the Region of Peel (the "Region").

This Traffic Impact and Parking Study detail the existing and future traffic conditions and the anticipated impact on the surrounding road network as a result of the proposed development. The study has concluded that the proposed development will have minimal impact to the operation of study area intersections throughout the study horizon periods, and no mitigation measures will be required as a result of the traffic generated from the site. There is also adequate maneuvering space provided for garbage and fire trucks to access / egress the site.

Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

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Table of Contents

1	Intro	pduction	1
	1.1	Study Approach	1
		1.1.1 Assessment of Unsignalized Intersection Operations	2
		1.1.2 Assessment of Signalized Intersection Operations	2
2	Prop	oosed Development	2
3	Exist	ting Traffic Conditions	3
	3.1	Existing Road Network	3
	3.2	Existing Transit Routes	3
	3.3	Existing Traffic Counts	3
	3.4	Existing Traffic Analysis	4
4	Futu	re Background Traffic	5
	4.1	Future Planned Roadway Improvements	5
	4.2	Future (2022) Background Traffic Analysis	
5	Futu	re Total Traffic	7
	5.1	Site Generated Traffic	7
	5.2	Site Trip Distribution	8
	5.3	Future Total Traffic Volumes	8
	5.4	Future (2022) Total Traffic Analysis	8
6	Site	Circulation	9
7	Park	ing Assessments	9
	7.1	Zoning By-law Parking Requirements	9
8	Tran	sportation Demand Management Plan	10
	8.1	TDM Programs	10
		8.1.1 Area Marketing Campaigns	
		8.1.2 Education Programs and Information Services	
		8.1.3 Walking / Cycling	
		8.1.4 Carpooling	
9	Cond	clusions	12

LIST OF TABLES

Table 3.1	Intersection Turning Movement Count Details	. 4
Table 3.2	Existing (2017) Weekday AM and PM Peak Hour Traffic Analysis	. 4
Table 4.1	Future (2022) Background Weekday AM and PM Peak Hour Traffic Analysis	. 6
Table 5.1	Non-Auto Modal Split Calculation	. 7
Table 5.2	Site Trip Generation	. 7
Table 5.3	Site Trip Distribution	. 8
Table 5.4	Future (2022) Total Weekday AM and PM Peak Hour Traffic Analysis	. 8
Table 7.1	City of Mississauga Zoning By-Law 0225-2007 Parking Requirement	. 9



LIST OF FIGURE

Site Location	Following Report
Proposed Site Plan	Following Report
Existing Road Network	Following Report
Existing (Balanced) Traffic Volumes	Following Report
Future Road Network	Following Report
Re-Assigned Existing Traffic Volumes	Following Report
Future (2022) Background Traffic Volumes	Following Report
Site Generated Traffic Volumes	Following Report
Future (2022) Total Traffic Volumes	Following Report
Fire Truck Site Circulation	Following Report
Garbage Truck Site Circulation	Following Report
	Site Location Proposed Site Plan Existing Road Network Existing (Balanced) Traffic Volumes Future Road Network Re-Assigned Existing Traffic Volumes Future (2022) Background Traffic Volumes Site Generated Traffic Volumes Future (2022) Total Traffic Volumes Future (2022) Total Traffic Volumes Fire Truck Site Circulation Garbage Truck Site Circulation

APPENDICES

Appendix A-1	Existing Transit Routes
Appendix A-2	Existing Traffic Movement Counts
Appendix B	Intersection Capacity Analysis Reports – Existing (2017) Traffic Conditions
Appendix C	Background Site Generated Trips
Appendix D	Intersection Capacity Analysis Reports - Future (2022) Background Traffic Conditions
Appendix E	Intersection Capacity Analysis Reports - Future (2022) Total Traffic Conditions



1 Introduction

Cole Engineering Group Ltd. ("COLE") was retained by City Park (Dixie) Homes Inc. (the "Owner") to undertake a Traffic Impact and Parking Study in support of Zoning By-law Amendments and Plan of Subdivision applications for a proposed residential development, located on the northwest quadrant of Dixie Road and North Service Road / Sherway Drive, in the City of Mississauga (the "City"), within the Region of Peel ("Peel"). The site location is shown in **Figure 1-1**.

This study includes the following activities:

- Focus on the intersections of:
 - Dixie Road and Primate Road (Unsignalized); and,
 - Dixie Road and Sherway Drive / North Service Road (Signalized).
- Assess the existing operations of the above-noted study area intersections during the weekday AM and PM peak hours;
- Assess the future background traffic operations for a five (5)-years (2022) horizon period incorporating traffic growth;
- Estimate site traffic based on information published in the *Trip Generation Manual, 9th Edition*, by the Institute of Transportation Engineers (ITE);
- Assess the future total traffic operations (including the anticipated site traffic) at the key study area intersections and accesses for the analysis period;
- Recommend improvements, if applicable, should capacity constraints be observed in the existing and future horizons;
- Review the functionality of the internal vehicular circulation to facilitate fire route / emergency services, as well as garbage collection activities related to the proposed development; and,
- Undertake a review of the proposed parking supply and loading requirements with respect to the City By-law.

1.1 Study Approach

The study's methodology and analysis reflect the City of Mississauga Traffic Impact Study Guidelines and Regional Guidelines for Using Synchro Version 7.73 Rev 8.

Weekday morning and afternoon peak period traffic volume counts were undertaken by Accu-Traffic Inc. on September 6, 2017, at the intersection of Dixie Road / Sherway Drive, and Dixie Road / Primate Road.

Future background traffic volumes for the 2022 horizon year, excluding the additional traffic volumes generated by the proposed development, consist of the following component: traffic growth from outside the study area in the vicinity of the subject development.

Site traffic was derived using information contained in the *Trip Generation*, 9th Edition, published by the Institute of Transportation Engineers (ITE), and distributed based on the existing traffic pattern and 2011 TTS data.

Future total traffic conditions were determined by the summation of the estimated traffic volumes generated by the site and the background traffic volumes for the 2022 full build-out horizon.



1.1.1 Assessment of Unsignalized Intersection Operations

The unsignalized intersection operational analysis in this report was also conducted using *Synchro 9.0* software, which employs the Highway Capacity Manual (HCM 2000) methodology. All parameters for the unsignalized intersection analysis were based on the Synchro default values. Synchro results for the unsignalized intersections are provided in HCM format.

The intersection operations are reported in two (2) ways:

- The volume to capacity (v/c) ratio which is represented numerically for signalized and unsignalized intersections; and,
- The level of service (LOS) which is indicated by a letter and is based on the average control delay per vehicle.

1.1.2 Assessment of Signalized Intersection Operations

Traffic operations conditions at signalized and unsignalized intersections were analyzed using *Synchro Version 9.0*, which incorporates the methodology outlined in the *Highway Capacity Manual* (HCM 2000). Analysis parameters and assumptions have been adopted in accordance with the Region's Synchro guidelines (*Regional Guidelines for Using Synchro- Version 7.73 Rev 8 dated December 2010*). This includes the following assumptions:

- Peak hour factors of 1.00 for all movements on all approaches;
- Ideal saturation flow rate based on Synchro default value of 1,900 vphpl for all movements;
- Heavy vehicle percentage based on the existing traffic volume;
- Existing signal timing and phasing provided by the City; and,
- 3.7m lane width for all through lanes and 3.5m for auxiliary turn lanes on all approaches.

2 Proposed Development

The subject lands are occupied by single dwelling units which will be demolished. The proposed site is to consist of approximately 26 dwelling units of which 18 will be common element condominium detached dwellings and eight (8) will be detached dwellings with frontage on Primate Road. The Site Plan shows a total of 97 parking spaces including 63 parking spaces for common elements townhouses (56 for residents and seven (7) visitor parking spaces), and 32 parking spaces (32 for residents) for the freehold single units the proposed Site Plan is provided in **Figure 2-1.** Access to the common element condominium detached dwellings will be from a common element condominium road extending from the existing Wealthy Place cul-de-sac.



3 Existing Traffic Conditions

3.1 Existing Road Network

The existing road network, lane configuration and traffic control for the study intersections are shown in **Figure 3-1**. The details are described as follows:

- **Primate Road** is a residential two (2) lane undivided roadway with an unposted speed limit of 50km/h. Development along the roadway consists of only residential units with no sidewalks along either side within the study area.
- **Dixie Road** also known as Peel Regional Road 4 (and also, as of 2016, Veterans Memorial Roadway) has a posted speed limit of 50km/h. There are sidewalks are available on either side of Dixie Road. Development along the roadway consists of only residential units.
- Wealthy Place is a residential two (2) lane undivided roadway with an unposted speed limit of 50km/h. Development along the roadway consists of only residential units with no sidewalks along either side within the study area.

3.2 Existing Transit Routes

Transit services are provided by Durham Region Transit (DRT) and Go Transit. Bus services that operate within the vicinity of the site are described below:

- **MiWay Route 4** travels mostly in the east-west direction with headways of approximately 25 minutes during peak periods. This route can connect the residents to Sherway Gardens to the east and Westdale mall to the west.
- **MiWay Route 5** travels mostly in the north-south direction with headways of approximately 25 minutes during peak periods. This route can connect the residents to Long Branch GO Station to the South and to it travels north up to Cardiff Boulevard.

Existing transit routes are provided in **Appendix A-1**.

3.3 Existing Traffic Counts

The existing traffic volumes, based on recent traffic movement counts obtained at the study area intersections are illustrated in **Figure 3-2** for the weekday AM and PM peak hours.

Traffic surveys were conducted by Accu-Traffic Inc. over a four (4)-hour period, which included the morning peak period (7:00 AM to 9:00 AM) and the evening peak period (4:00 PM to 6:00 PM).

The survey locations are summarized in **Table 3.1** and the survey data (Turning Movement Counts) is attached in **Appendix A-2**.



Intersection	Count Date	Count Hours	Peak Hours			
Dixie Road and Sherway Drive	Wednesday, September 6, 2017	7:00 AM to 9:00 AM 4:00 PM to 6:00 PM	7:45 AM to 8:45 AM 4:00 PM to 5:00 PM			
Dixie Road and Primate Road	Wednesday, September 6, 2017	7:00 AM to 9:00 AM 4:00 PM to 6:00 PM	7:45 AM to 8:45 AM 4:15 PM to 5:15 PM			

 Table 3.1
 Intersection Turning Movement Count Details

3.4 Existing Traffic Analysis

The existing traffic volumes for the weekday AM and PM peak hours are illustrated in **Figure 3-2**. These peak hour volumes were analyzed using the *Synchro 9.0* software which employs the 2000 Highway Capacity Methodology for the intersection analysis. The results of the existing intersection operations are summarized in **Table 3.2** below with level of service (LOS) and the volume to capacity (v/c) ratios for overall and individual movements. As per the City's Traffic Impact Study Guidelines, v/c ratios for overall signalized intersection operations, through movements, or shared through / turning movements greater than 0.85, and v/c ratios for exclusive movements greater than 0.90 have been shown in bold. The intersection capacity analysis reports under the existing conditions are presented in **Appendix B**.

latorroction	Kou Mouomont	LOS (v/c)		
Intersection	Key Movement		PM Peak	
	EB Left + Through	E (0.21)	E (0.26)	
Dixie Road and Primate Road	NB left	B (0.01)	B (0.00)	
	NB Through	A (0.30)	A (0.21)	
	SB Through + Right	A (0.50)	A (0.61)	
	Overall	F (1.33)	E (1.00)	
	EB Left	F (0.89)	F (0.92)	
	EB Through	F (0.91)	F (0.92)	
	EB Right	D (0.05)	E (0.18)	
	WB Left + Through	F (3.65)	F (1.27)	
North Service Road / Dixie Road and Dixie Road South / Sherway Drive	WB Right	E (0.15)	E (0.03)	
	NB Left	C (0.39)	B (0.51)	
	NB Through + Right	D (0.33)	C (0.21)	
	SB Left	D (0.43)	C (0.14)	
	SB Through	D (0.13)	C (0.15)	
	SB Right	E (0.93)	F (1.10)	

 Table 3.2
 Existing (2017) Weekday AM and PM Peak Hour Traffic Analysis

Based on the analysis conducted for the existing (2017) traffic conditions in the AM and PM peak hours, the following movements operate with high LOS.

North Service Road / Dixie Road and Dixie Road South / Sherway Drive:

- The Eastbound left movement along with the through movements operate with a level of service 'F' during the PM peak period. The movements also operate close to capacity (0.92) in the PM peak period;
- Westbound shared left and through movement operate over capacity with the level of service 'F' during both peak periods. The volume to capacity ratio during the morning peak period is 3.65 and 1.27 during the evening peak period; and,
- The Southbound right movement operates close to capacity with a v/c ratio of 0.93 in the AM peak period and level of service of 'E'. It operates over capacity with a v/c ratio of 1.10 in the PM peak period and a level of service of 'F'.

It is important to note that the intersection of North Service Road/Dixie Road & Dixie Road South / Sherway Drive is scheduled for re-alignment as described in the *Transportation Environmental Study Report-Queen Elizabeth Way (QEW) - from Evans Avenue to Cawthra Road* prepared by the MMM Group in January 2016. Details of the re-alignment are described in **Section 4.1**

4 Future Background Traffic

It is expected that the construction of the subject development will be fully completed by 2022 and therefore, for the purpose of this assessment a horizon year of 2022 was selected to represent full buildout of the subject site.

The future background traffic volumes consist of the following components:

- Background traffic growth from outside the study area; and,
- Traffic generated from other proposed developments in the vicinity of the study area.

Based on the available Average Annual Daily Traffic (AADT) volumes along Dixie Road (600m north of South Service Road) from 1996-2013, a 4% (northbound) and -1% (southbound) growth rate per annum year along Dixie Road was identified. To be more conservative, a 2% per annum growth rate (compounded) was being applied to the through movements along Dixie Road.

There is one (1) active background development immediately south of the proposed site located at 1503-1565 Edencrest Drive. The site is proposed to have 13 detached condominium dwellings on a common element road. A Traffic Impact Study was conducted for this development by the UEM Consulting. A summary of UEM's calculated site generated trips can be seen in **Appendix C.**

4.1 Future Planned Roadway Improvements

The road improvements outlined in the *Transportation Environmental Study Report-Queen Elizabeth Way* (*QEW*) - from Evans Avenue to Cawthra Road prepared by MMM Group in 2016 states that the existing Dixie Road interchange is to be realigned and replaced with a Parclo (Partial Cloverleaf) A2 configuration north of the QEW and a Parclo A4 configuration south of the QEW. To accommodate the change of interchange the following geometric changes are proposed for Dixie Road:

"The existing Dixie Road alignment will be shifted to the east of the existing Dixie Road Bridge in order to maintain traffic flow on the existing Dixie Road during construction and to minimize the property impacts. The proposed Dixie Road 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."



With the changes to Dixie Road, North Service Road is proposed to be reconfigured and realigned. The Environmental Study states that "East of Dixie Road, the North Service Road will no longer exist and will be replaced with a new QEW westbound off-ramp that connects to Dixie Road. The access to the existing North Service Road from Brentano Boulevard will be closed. Access to the North Service Road east of Dixie Road will be via the local roads to Sherway Drive."

The future lane configurations are shown in **Figure 4-1**. The existing traffic was also re-assigned to the future roadways in order to analyze the future scenarios. The re-assigned existing volumes are shown in **Figure 4-2**.

4.2 Future (2022) Background Traffic Analysis

The future (2022) background traffic volumes were analyzed using the *Synchro 9.0* software which employs the 2000 Highway Capacity Methodology for the intersection analysis. The results are summarized in **Table 4.1.** As per the City's Traffic Impact Study Guidelines, v/c ratios for overall signalized intersection operations, through movements, or shared through / turning movements greater than 0.85, and v/c ratios for exclusive movements greater than 0.90 have been shown in bold. The future (2022) background traffic volumes are illustrated in **Figure 4-3.** Detailed calculations are provided in **Appendix D**.

It should be noted that the future background traffic assessment completed based on the new road alignment described in **Section 4.1**.

Intersection	Key Movement	LOS (v/c)		
intersection	Key Wovement	AM Peak	PM Peak	
	EB Left + Through	E (0.26)	E (0.09)	
Divis Dood and Drimate Dood	NB left	B (0.01)	B (0.00)	
Dixie Road and Primate Road	NB Through	A (0.33)	A (0.24)	
	SB Through + Right	A (0.56)	A (0.67)	
	Overall	B (0.63)	A (0.65)	
	WB Left	B (0.31)	C (0.20)	
Dixie Road and Dixie Road South / Sherway	WB Right	B (0.47)	B (0.03)	
Drive (with the new road improvements)	NB Through + Right	A (0.55)	A (0.38)	
	SB Left	B (0.50)	A (0.16)	
	SB Through	B (0.69)	A (0.73)	

 Table 4.1
 Future (2022) Background Weekday AM and PM Peak Hour Traffic Analysis

Based on the analysis conducted for the future (2022) background traffic conditions in the AM and PM peak hours, all intersection movements are performing the good level of service and v/c ratios.



5 Future Total Traffic

5.1 Site Generated Traffic

Trip generation was undertaken using information contained in the *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers (ITE). Vehicle trips during the weekday AM and PM peak hours for the *Residential Condominium / Townhouse* (ITE land use code 230) for the proposed residential land uses were used.

Using the information contained in the 2011 Transportation Tomorrow Survey (TTS) for zones of households 3654 (Subject Zone), 3649, 3653, and 297 the modes of transportation within the study area are provided in **Table 5.1**. A trip reduction of 10% was used to account for public transit use and travel demand management measures

Zones	Auto Driver	Auto Passenger	Taxi Passenger	Transit Excluding GO Rail	GO Rail Only	Go Rail Joint Local Transit	Cycle	Walk	Total
3649	14344	2264	102	835	152	80	60	139	17999
3654	7819	918	28	442	178	0	101	39	9525
297	7060	999	0	1371	165	22	71	0	9688
3653	14222	2350	22	1815	82	138	57	69	18755
Total	43445	6531	152	4463	577	240	289	247	55944
Percent	78%	12%	0%	8%	1%	0%	1%	0%	100%
Non-Auto Reduction							10%		

Table 5.1 Non-Auto Modal Split Calculation

The trip rate used to calculate the gross trips is calculated using the average rate in the Trip Generation Manual since the average rate produced a greater number of trips that the regression equation. The summary of the trip generation is shown in **Table 5.2** below.

Table 5.2	Site Trip Generation
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	Land Use	Units	AM	Peak	Hour	PM	Peak I	Hour
	Code	Units	In	Out	Total	In	Out	Total
	Residential	Condominium / To	ownho	use				
Trip Rate (per unit)				0.62			0.54	
Directional Distribution		26	17%	83%	100%	67%	33%	100%
Gross Trips	230		3	15	18	13	7	20
Non-Auto (10%)			0	2	2	2	1	3
New Trips			3	13	16	9	5	14
Total Gross Trips				15	18	13	7	20
Tota	Total New Trips				16	9	5	14



The proposed development is expected to generate 16 two (2) way new trips (three (3) trips in / 13 trips out) during the weekday AM peak hour and 14 two (2) way new trips (nine (9) trips in / five (5) trips out) during the PM peak hour.

5.2 Site Trip Distribution

The trip distribution was based on existing turning movements in the vicinity of the site along with the 2011 TTS data analysis and presented in **Table 5.3**. Figure 5-1 illustrate the resulting site trip assignments.

	Direction (from / to)	Trip Distribution
North	Via Dixie Road	32%
South	Via Dixie Road	25%
West	Via North Service Road	43%
East	Via Sherway Drive	0%

Table 5.3Site Trip Distribution

5.3 Future Total Traffic Volumes

The future total traffic consists of future background traffic plus site-related traffic. The future total traffic volumes in the weekday AM and PM peak hours for the horizon year 2022 are illustrated in **Figure 5-2.**

5.4 Future (2022) Total Traffic Analysis

Intersection capacity analysis under the future (2022) total traffic conditions was completed using *Synchro 9* software which employs the 2000 Highway Capacity Methodology for the intersection analysis. The traffic analysis results for future (2022) total traffic are summarized in **Table 5.4** below. As per the City's Traffic Impact Study Guidelines, v/c ratios for overall signalized intersection operations, through movements, or shared through / turning movements greater than 0.85, and v/c ratios for exclusive movements greater than 0.90 have been shown in bold. The intersection capacity analysis under the future (2022) total traffic conditions are presented in **Appendix E**.

Intersection	Koy Moyomont	LOS	(v/c)
Intersection	Key Movement	AM Peak	PM Peak
	EB Left + Through	F (0.36)	E (0.15)
Dixie Road and Primate Road	NB left	B (0.02)	B (0.02)
	NB Through	A (0.33)	A (0.24)
	SB Through + Right	A (0.56)	A (0.67)
	Overall	B (0.63)	A (0.60)
	WB Left	B (0.31)	C (0.20)
Dixie Road and Dixie Road South / Sherway Drive	WB Right	B (0.47)	B (0.03)
(with the new road improvements)	NB Through + Right	A (0.55)	A (0.38)
(with the new road improvements)	SB Left	B (0.50)	A (0.16)
	SB Through	B (0.69)	A (0.73)

 Table 5.4
 Future (2022) Total Weekday AM and PM Peak Hour Traffic Analysis



Based on the analysis conducted for the future (2022) total traffic conditions in the AM and PM peak hours, all intersections are performing at a good level of service and v/c ratios.

No road network improvements are recommended or required in these conditions in the vicinity of the subject site other that recommended the road improvements outlined in the *Transportation Environmental Study Report-Queen Elizabeth Way (QEW) - from Evans Avenue to Cawthra Road* prepared by MMM Group in 2016.

6 Site Circulation

Based on Client discussion with MTO, given that the section of Dixie Road in the vicinity of the site falls within the MTO Controlled Access Highway (CAH) area, a site access is not permitted within the vicinity. As such, site access is provided through Wealthy Place.

Vehicle access routes for garbage trucks and fire trucks were assessed using *AutoTURN 10.0* analysis depicting the swept path of vehicles in relation to the proposed driveway system utilizing the Transportation Association of Canada's (TAC) design vehicles.

To ensure heavy vehicles maneuver throughout the subject site, a typical 12.80m fire truck and 12.00 garbage truck were used. **Figure 6-1** and **Figure 6-2** show the assessment for the fire truck and garbage truck respectively. As illustrated in the figures, adequate space is available for the trucks to circulate in the site / access / egress to / from the proposed site.

7 Parking Assessments

The site statistics provided by Flanagan Beresford and Patteson Architects dated November 3, 2017, for the proposed development, shows 97 parking spaces including 63 parking spaces for the common element townhouses (56 for residents and seven (7) visitor parking spaces), and 34 parking spaces for the freehold single units.

7.1 Zoning By-law Parking Requirements

To determine the adequacy of the proposed parking supply to service the proposed hotel development, the existing in force City Zoning By-law No. 0225-2007 Part 3 was reviewed and examined.

Based on the parking ratios noted above, parking for this site is required as noted in Table 7.1 below.

Land Use	Units	Parking Rate	Required Parking Space	Proposed Parking Space	Difference
Detached dwellings	8	2 spaces / unit	16		
Common Element detached dwellings (Condominium detached dwellings)	18	2 spaces / unit plus 0.25 visitor spaces / unit	41	97	40

 Table 7.1
 City of Mississauga Zoning By-Law 0225-2007 Parking Requirement

Based on the current City Zoning By-law, the proposed development is required to provide 16 parking spaces for detached dwellings and 41 parking spaces for Condominium common element condominium detached dwellings. The Site Plan illustrates 97 parking spaces, which technically satisfies the City's parking requirement.



8 Transportation Demand Management Plan

Transportation Demand Management (TDM) refers to a variety of strategies to reduce congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system. In short, TDM works to change how, when, where, and why people travel.

The TDM measures have been prepared to address the following required transportation demand management objectives:

- Provision of facilities / operations to minimize single occupant vehicle (SOV) access to the study area and encourage the use of alternate transportation modes, particularly transit; and,
- Identify the operational and financial roles and responsibilities of the landowner including program development, implementation and ongoing management and operations of the travel demand management plan / program.

TDM education and promotion related strategies support mobility by making the public aware of the options available and actively encourages the use of alternative transportation. These marketing initiatives may take the form of general marketing to targeted outreach. TDM marketing and promotion approaches include:

- Area marketing campaigns Promoting transit services, carpooling or other TDM;
- Education Programs Campaigns to inform the public about the specifics of services; and,
- Employer-Based Outreach Partnerships with employers to support TDM.

8.1 TDM Programs

8.1.1 Area Marketing Campaigns

Area marketing campaigns are premised on the objective of behavioral change. The methods of persuasion include conveying messages of:

- Personal benefit;
- Social benefit, and,
- Adhering to the "social norm".

It is recognized that individuals are more likely to change their current behavior or continue that behavior if it is the social norm amongst their peers.

One of the first area marketing TDM campaigns within the GTA was established by Metropolitan Toronto in 1994. The Diamond Lane Campaign was implemented in co-ordination with the expansion of the High Occupancy Lane network. The campaign included billboard, transit vehicle, radio, and newspaper ads. Transportation Management Association (TMA)'s can help facilitate TDM directives by developing promotional materials, advocate for funding, conduct transportation fairs, and many other things.



8.1.2 Education Programs and Information Services

The effectiveness of transportation systems to provide mobility to the public is only as good as the awareness of the public to the services provided. Education programs and information services (such as call-lines and internet-based route planners) can supplement marketing campaigns, increasing the commuter's understanding of their mobility options.

Miway provides <u>http://www.mississauga.ca/portal/miway</u> a map based navigator. Progressive trip planners including web-based trip data can add to the commuter's understanding of travel options by providing real-time information.

A Denver, Colorado TMA (Transportation Solutions) managed a program designed to improve ridership. Before-and-after surveys were to gauge the impact of the efforts. The results clearly demonstrated the direct impact of the project on improved perceptions of bus transportation in the area. The results showed an increase in awareness:

- 17% increase in those who "know which bus routes to take to work/school"; and,
- 19% increase in those who feel they have "the information I need to ride the bus".

8.1.3 Walking / Cycling

The City has a long-standing commitment to an off-road trail system, having built over 250km of pathways and trails in parks and greenspaces across the City. Pathways in the neighborhood parks provide cycling and walking friendly connections to schools, community centers, and libraries. In addition, cycling safety programs were offered such as CAN-BIKE courses and community safety workshops. The Road Safety Handbook was published and includes a chapter on cycling safety.

As identified in the Regions of Peel's Active Transportation Plan Implementation Strategy 2014 Program Update, Hanlan Feedermain Water Project and the City of Mississauga to improve walking and cycling facilities along Dixie Road, as a component of the Preferred Plan, MTO will be accommodating the Peel Region's request to extend their multi-use trail along Dixie Road from south of Kendall Road southerly through the study limits to the newly relocate Dixie Outlet Mall south entrance. As a result, a sidewalk on the east side and multi-use pedestrian / cyclist trail on the west side.

Based on the COLE's previously submitted TIS reports, a parking rate of 0.08 bicycle parking space per unit was used for short-term bicycle parking and a rate of 0.7 parking space per unit was used for long-term parking space. The long-term bicycle parking for common-element is been assumed to be covered with the provided garages. For short-term bicycle parking, two (2) parking spots are required. It is recommended that one (1) on-site bike rack, which can park two (2) bicycles, be provided for the detached dwellings and common element condominium detached dwellings.



8.1.4 Carpooling

The Smart Commute program has been established in the form of 10 transportation management associations (TMAs) across the GTHA. The Smart Commute TMAs are supported by Metrolinx to coordinate and implement TDM initiatives.

Smart Commute – the City is a TMA committed to reducing traffic congestion, improving air quality and advocating for sustainable transportation within the study area. Since inception in 2001, Smart Commute has collectively reduced approximately 1.2 million single-occupant vehicles (SOV) trips, which avoided more than 61 million vehicle kilometers traveled (VKT) and prevented the emission of over 14,000 tonnes of greenhouse gases (GHG) and 88 tonnes of smog-causing air pollutants. Smart Commute works to:

- Implement employee trip reduction programs at local workplaces;
- Decrease traffic congestion, and improve air quality and health by reducing vehicle emissions;
- Improve employee productivity and morale, and reduce employee turnover;
- Advocate for improved transit service, and increased local transportation infrastructure;
- Bus-only and cycling lanes, and a wider network of subway and light rapid transit;
- Promote the benefits of transit-supportive development and smart-growth strategies;
- Encourage legislative flexibility in support of high-value, cost-effective transportation strategies such as vanpools, telework, transit subsidies and shuttle services; and,
- Increase opportunities for TMA collaboration with business and government.

Smart Commute offers one-on-one support for staff to use sustainable modes of transportation and provides promotions and incentives on an on-going basis. A web-based car matching tool is provided to allow carpoolers to easily identify ride matching options among a large membership base and form carpooling arrangements.

9 Conclusions

The findings and conclusions of our analysis are represented as follows:

- The study area intersections are operating over capacity in the existing traffic conditions during both the AM and PM peak hours;
- With the new Dixie Road alignment, during both the AM and PM peak hours in the future background traffic conditions for the horizon year 2022, all the key intersections are expected to function below-capacity and with acceptable level of service;
- The proposed development is expected to generate 16 two (2) way new trips (three (3) trips in / 13 trips out) during the weekday AM peak hour and 14 two (2) way new trips (nine (9) trips in / five (5) trips out) during the PM peak hour;

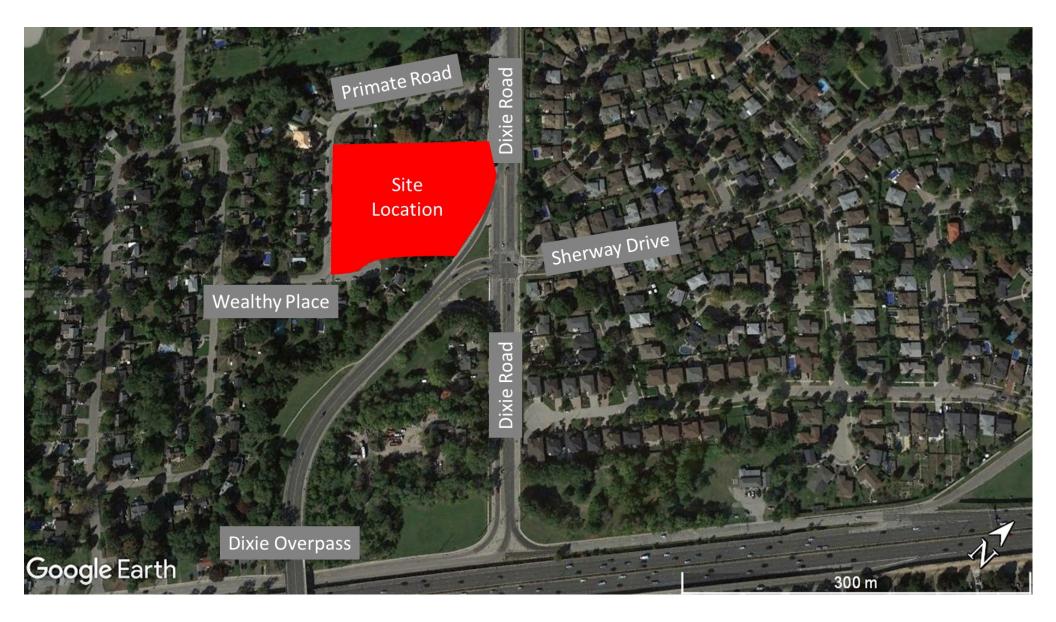


- The proposed development is expected to have a negligible impact on the surrounding road network as future total traffic is expected to operate in a similar fashion to the future background scenario (below-capacity and with acceptable level of service) in 2022 horizon years;
- The proposed development is required to provide 16 parking spaces for detached dwellings and 41 parking spaces for Condominium common element condominium detached dwellings. The Site Plan illustrates 97 parking spaces, which technically satisfies the City's parking requirement;
- Based on the AutoTurn assessment, adequate space is available for fire trucks and garbage trucks to access / egress from / to the proposed site; and,
- For short-term bicycle parking, two (2) parking spots are required. It is recommended that one (1) on-site bike rack, which can park two (2) bicycles be provided.

Based on the traffic analysis presented in this report, it is concluded that the existing road network has sufficient capacity to accommodate both the roadway growth and new traffic generated from the proposed development throughout the study horizon periods and no additional measures are required.



Traffic Impact and Parking Study









PROPOSE
PROPOSED RESIDE
2116 DIXIE ROAD AND
CITY OF
REGIOI

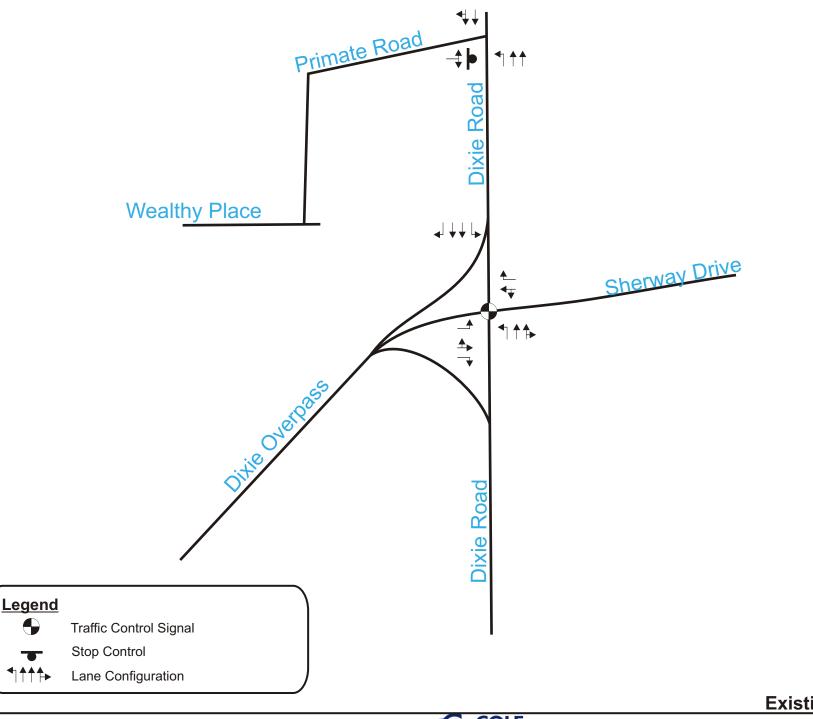
DATE: FEBRUARY, 2018

SCALE: N.T.S.

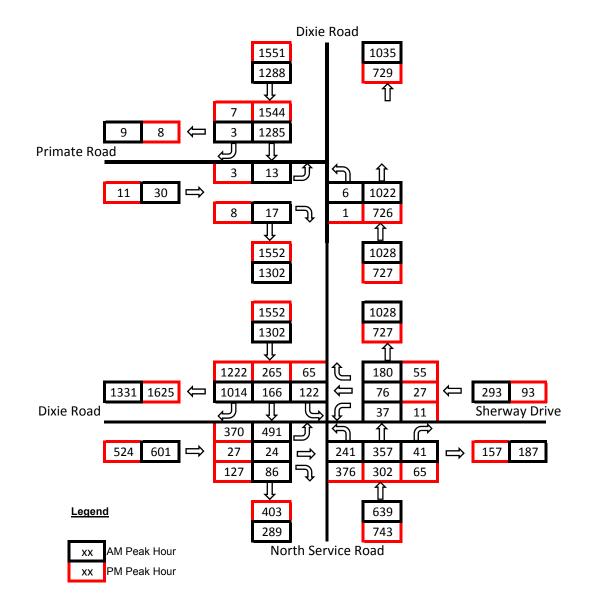
		\
SITE STATISTICS		
 12659.20 m² / 3.128 Ac/ 1.266 Ha TED LAND), DENING) NT - 1850.93 m² / 0.457 Ac/ 0.185 Ha 		
- 10808.27 m²/ 2.671 Ac/ 1.081 Ha	SUBJECT PROPERT	
- 8523.96 m ² / 2.106 Ac/ 0.852 Ha	KEY PLAN	-
AGE 1916.47 m ² 22.48%		
EN SPACE 3592.49 m² 42.15%		
YS, PARKING 3015.00 m ² iks) 35.37%		
NG @ 2 SPACES/UNIT REQUIRED PROVIDED t = 36 36 KING		
a driveway for units 5–11,18 08 attached garage for units 5–11,18 08 n driveway for units 1–4,12–17 20 attached garage for units 1–4,12–17 20		
PARKING PROVIDED 58 VG REQUIRED funit = 4.5 05		
PROVIDED 07 pe A accessible parking) 07 REQUIRED 41		
PROVIDED 63		
0.852 Ha $= 2115$ Gpr $= 2155$ Gpr $= 21555$ Gpr $= 2155$ Gpr $= 21555$ Gpr $= 215555$ Gpr $= 215555$ Gpr $= 2155555$ Gpr $= 21555555555555555555555555555555555555$		
21 STOREY luding curb) 7.4m 13.0m		
S- (FREEHOLD SINGLES LOTS 19-26)		
EA BUILDING DRIVEWAY LANDSCAPED COVERAGE AREA OPEN SPACE (m ^a) (m ^a) AREA (m ^a)		
2 101.12 (32.17%) 36.30 (11.55%) 176.90 (56.28%) 3 99.80 (36.16%) 36.30 (13.15%) 139.90 (50.69%)	11/00/2817 3P REXED AS PER SURVEY 04/15/0677 5P 046620 S/L 56063 TO 13/de 04/15/2017 5P 46083 L07 AREA STREETS	
3 123.48 (39.33%) 36.30 (11.56%) 154.20 (49.11%)	CM/LODY P Consult (in Alexa in Column CM/LODY P CANDID (in Alexa in Column SM(2007) P PMLMANET SET Run (i) who personality under SM(20207) Date P PMLMANET SET Run (i) who personality under SM(20207) Date PMLMANET SET Run (i) who personality under SM(20207) PMLMANET SET Run (i) who personality under SM(20207) Date PMLMANET SET RUN (i) who personality under SM(20207) PMLMANET SET Run (i) who personality under SM(20207)	-
NG @ 2 SPACES/LOT	Revisions Drown SP Date	-
KING	04/25/17 Checked	
a driveway for lots 19—26 16 attached garage for lots 19—26 16	Printed 11.03.17	
PARKING PROVIDED 32	161353-SP7.DWG The Architect has not been retained to corry out, general review of the work	
REQUIRED init = 2 02 PROVIDED 02	The Architect has not been retained to carry out, general review of the work end assumes no responsibility for the foliare of the contractor or sub-contractors to carry out, the work in accordance and the sub-contractor are to be reported to the Architect	
REQUIRED 18	Single pages of documents are not to be read independently of all pages of the Contract Documents. The contractor shall we'lly al dimensions on the Contract Documents. Any discrepancies prior to the commensament of the work.	
21 STOREY 34	Under no circumstances shall the Contractor or sub-contractors proceed in uncertainty.	
LOT LOT AREA LOT FRONTAGE NUMBER (m ²) (m)	1 Ianagan	
1 428.98 13.16 2 304.27 10.85 3 293.68 10.85 4 294.05 10.95 5 286.36 11.95	& patteson architects	
6 249.87 10.15 7 249.87 10.15	70 Siten Road, Unit, Wooskridge, Ontorio L4L 889 Tel. (905) 265-2685	
9 354.34 15.03 10 271.80 10.28	Fax. (905) 285-2885	
13 276.00 12.00 14 276.00 12.00 15 276.00 12.00	CITY PARK	
18 351.92 17.88	HOMES WEALTHY PLACE	
20 276.00 12.00 21 276.00 12.00 22 276.00 12.00 23 276.00 12.00	PROPOSED COMMON ELEMENT CONDOMINIUM SINGLE- DETACHED DEVELOPMENT	
24 276.00 12.00 25 276.00 12.00 25 276.00 12.00 26 313.98 12.99	(UNITS 1-18) & FREEHOLD SINGLE- DETACHED DEVELOPMENT	
* LOT AREA AND LOT FRONTAGE CALCULATIONS HAVE TO BE CONFIRMED BY OLS.	(LOTS 19-26)	
CONFIRMED BY OLS.	CITY OF MISSISSAUGA, ONTARIO	
	Steet SITE PLAN Scoles 1: 300	
	Sheet Number 16-1353-SP1	
SED SITE PLAN ENTIAL DEVELOMPENT D 1357 WEALTHY PLACE F MISSISSAUGA		
ON OF PEEL		
	PROJECT No.:	2017-0294
F	IGURE No.:	2-1

City of Mississauga

Traffic Impact and Parking Study



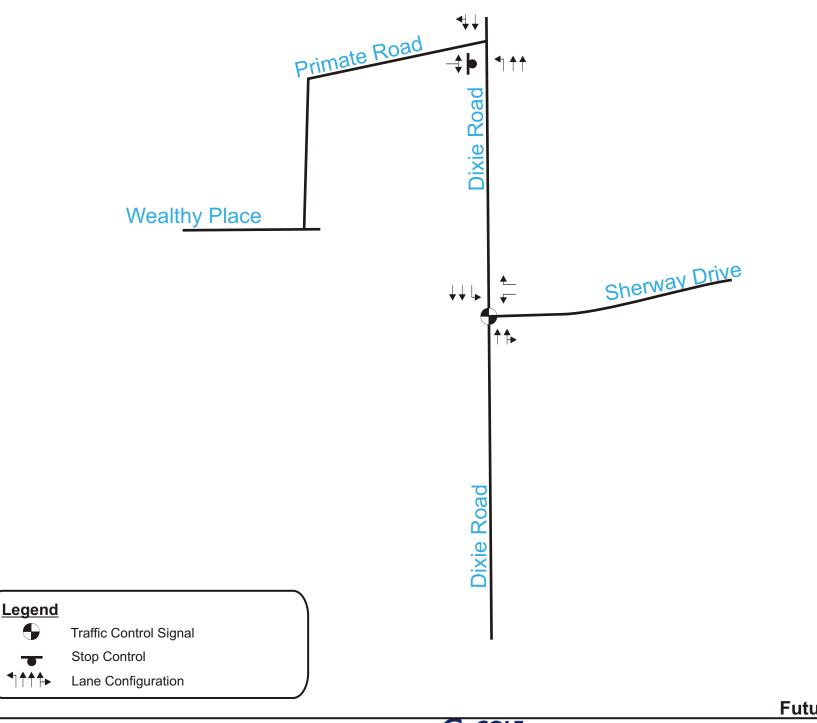




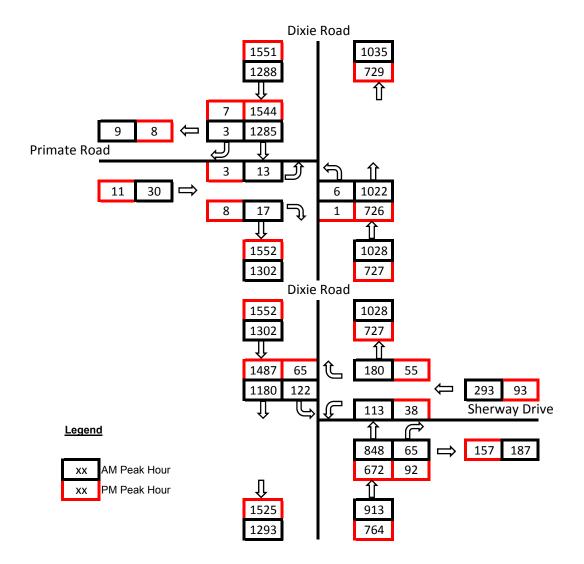


City of Mississauga

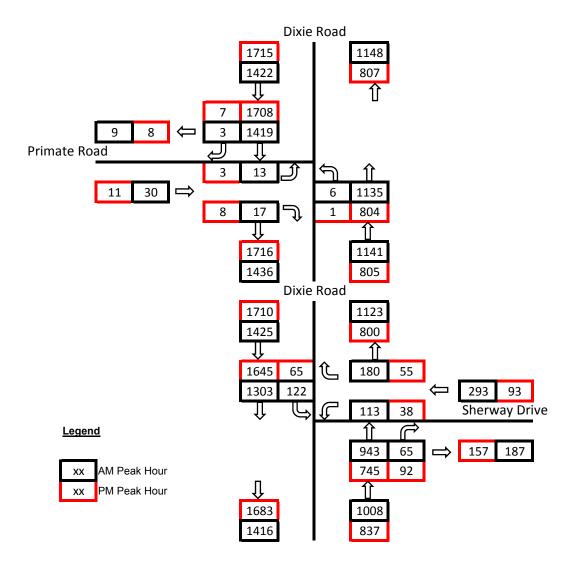
Traffic Impact and Parking Study



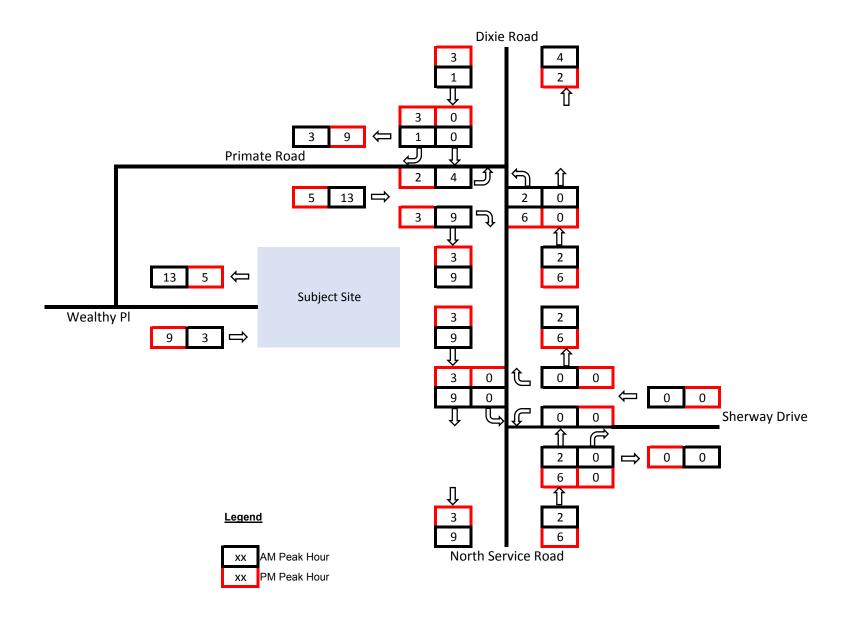




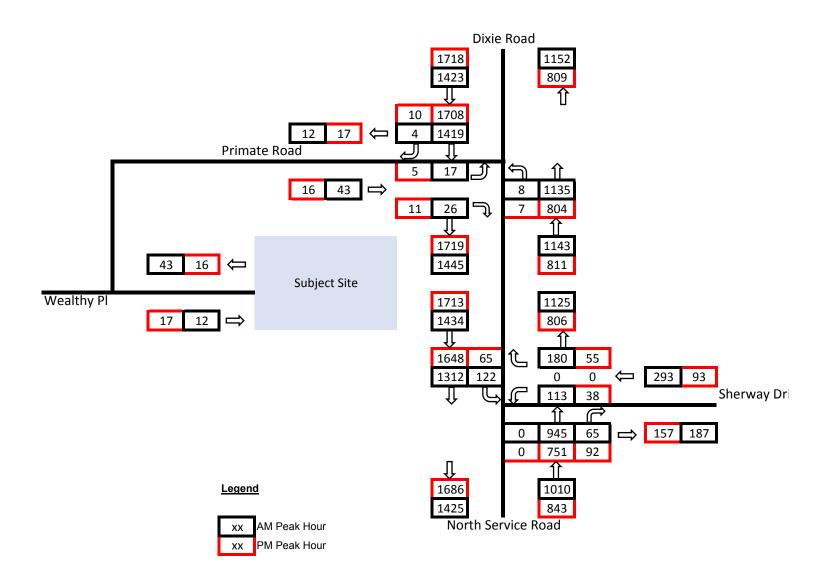




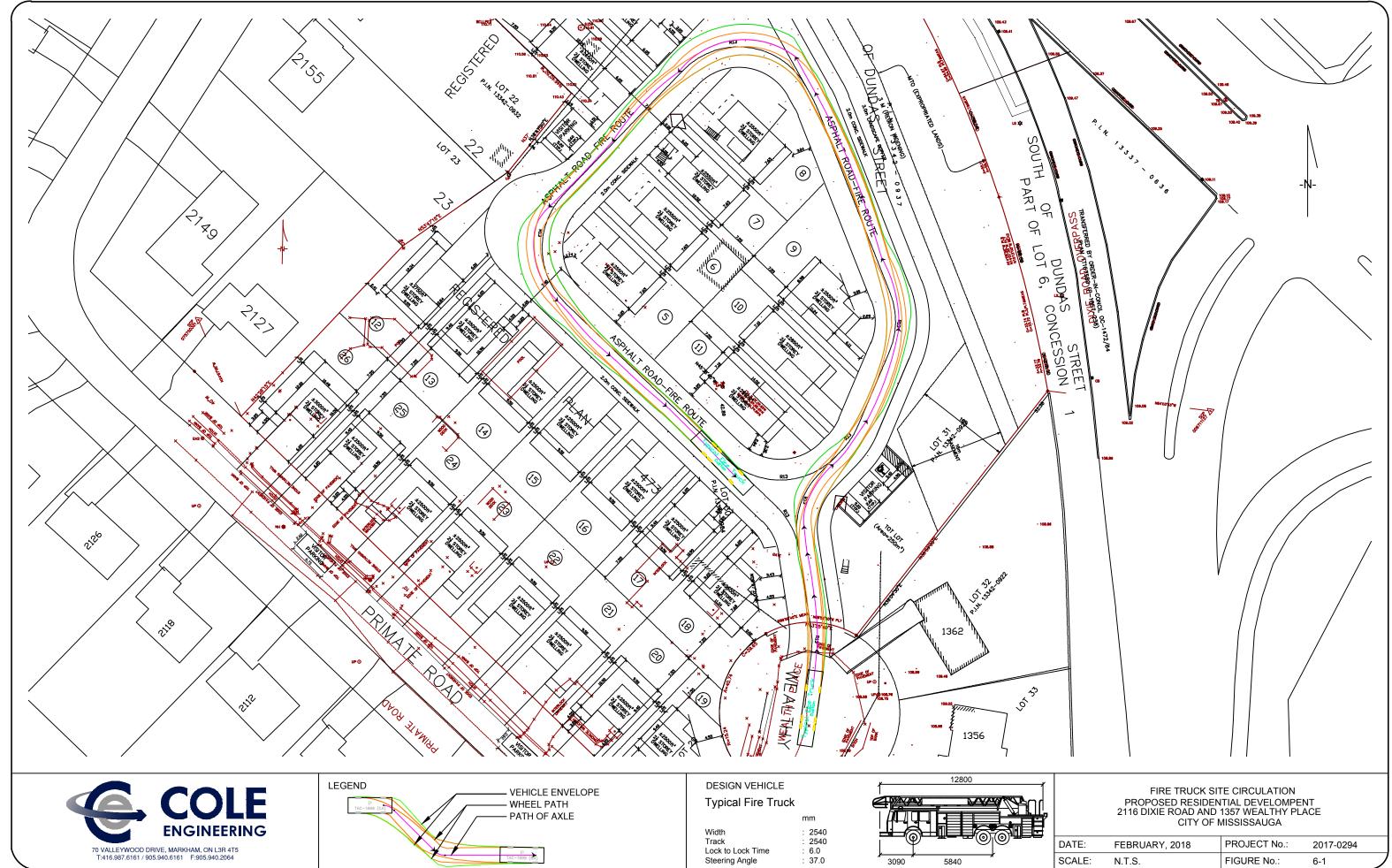




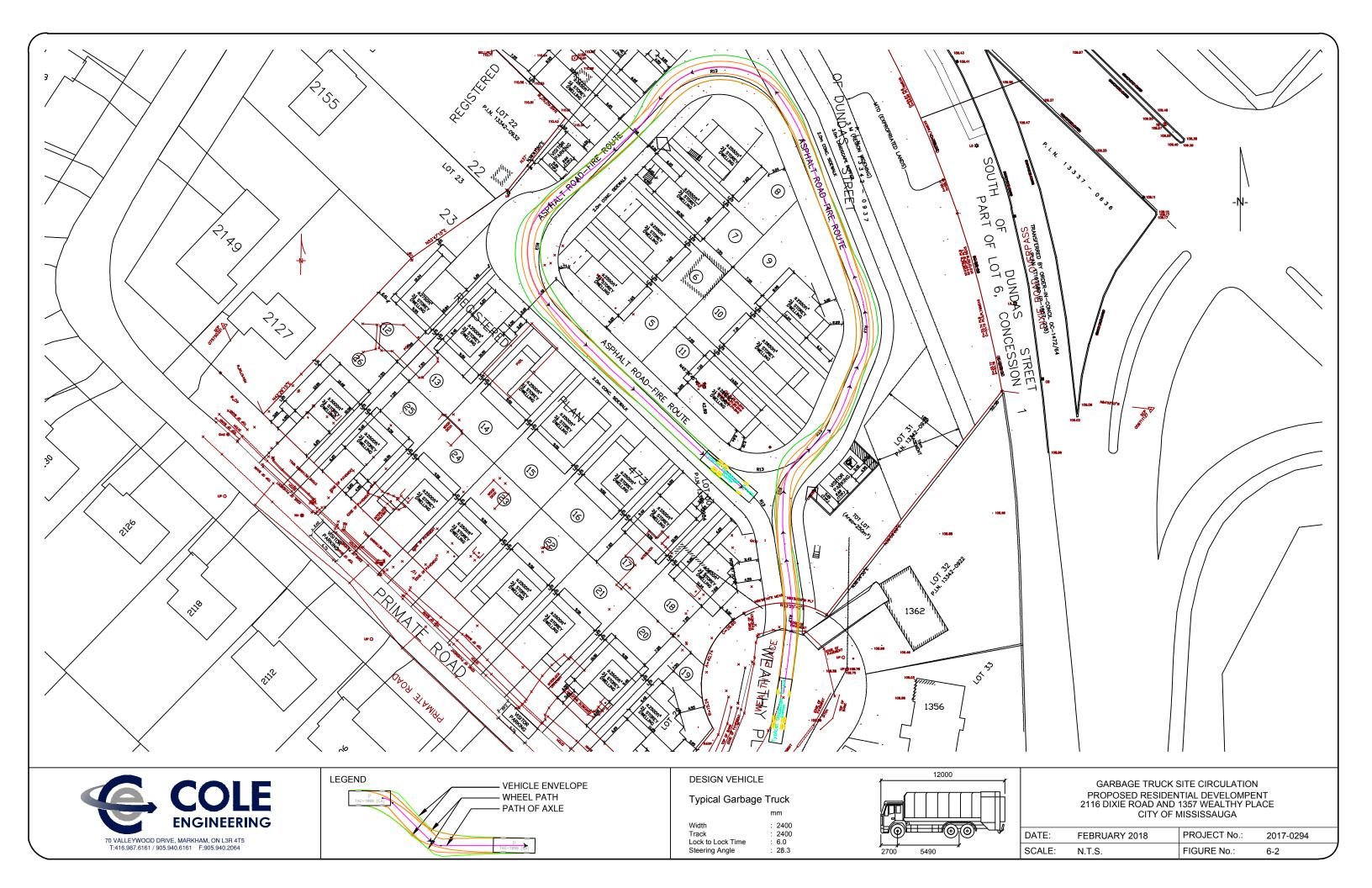








	LEGEND VEHICLE ENVELOPE	DESIGN VEHICLE Typical Fire Truck	
ENGINEERING	PATH OF AXLE	mm Width : 2540 Track : 2540	
70 VALLEYWOOD DRIVE, MARKHAM, ON L3R 4T5 T:416.987.6161 / 905.940.6161 F:905.940.2064		Lock to Lock Time : 6.0 Steering Angle : 37.0	3090 5840



APPENDIX A-1 Existing Transit Routes



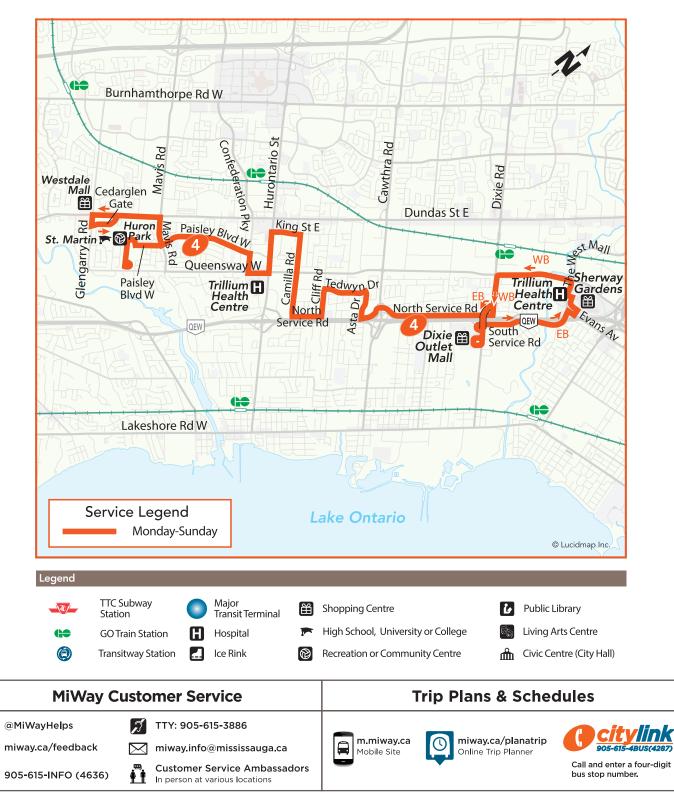


4 Sherway Gardens

Monday-Sunday Service

Effective: January 2, 2017

| (°. |





MISSISSAUGA





5 Dixie

Monday-Sunday Service

Effective: January 4, 2016





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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		٢	††	≜ †₽	-
Traffic Volume (veh/h)	17	26	8	1135	1419	4
Future Volume (Veh/h)	17	26	8	1135	1419	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	26	8	1135	1419	4
Pedestrians		20	Ŭ			
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)				NULL	NOTE	
Upstream signal (m)				164		
pX, platoon unblocked	0.83			104		
vC, conflicting volume	2004	712	1423			
vC1, stage 1 conf vol	2004	/12	1423			
vC2, stage 2 conf vol						
vCu, unblocked vol	1801	712	1423			
tC, single (s)	6.8	6.9	4.1			
	0.0	0.9	4.1			
tC, 2 stage (s)	2 E	2.2	<u></u>			
tF (s)	3.5	3.3	2.2			
p0 queue free %	71	93	98 40.4			
cM capacity (veh/h)	59	380	484			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	43	8	568	568	946	477
Volume Left	17	8	0	0	0	0
Volume Right	26	0	0	0	0	4
cSH	121	484	1700	1700	1700	1700
Volume to Capacity	0.36	0.02	0.33	0.33	0.56	0.28
Queue Length 95th (m)	10.1	0.4	0.0	0.0	0.0	0.0
Control Delay (s)	50.3	12.6	0.0	0.0	0.0	0.0
Lane LOS	F	В				
Approach Delay (s)	50.3	0.1			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utiliz	ation		49.4%	10		of Service
Analysis Period (min)			15			
Analysis Fendu (IIIII)			10			

Queues 2: Dixie Road & Sherway Drive

	4	×.	†	1	Ļ	
Lane Group	WBL	WBR	NBT	SBL	SBT	
Lane Configurations	۲	1	≜ †₽	٦	† †	
Traffic Volume (vph)	113	180	945	122	1312	
Future Volume (vph)	113	180	945	122	1312	
Lane Group Flow (vph)	113	180	1010	122	1312	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8	T CITI	2	T CITI	6	
Permitted Phases	0	8	2	6	U	
Detector Phase	8	8	2	6	6	
Switch Phase	0	0	2	0	0	
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	
. ,	8.0 31.6	31.6	8.0 26.0	8.0 26.0	8.0 26.0	
Minimum Split (s)		31.0	26.0 28.4	26.0	26.0 28.4	
Total Split (s)	31.6					
Total Split (%)	52.7%	52.7%	47.3%	47.3%	47.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.6	2.6	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	6.6	6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Мах	Max	Max	
v/c Ratio	0.26	0.43	0.51	0.46	0.64	
Control Delay	15.3	15.1	9.9	19.9	12.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.3	15.1	9.9	19.9	12.5	
Queue Length 50th (m)	6.8	8.9	25.7	5.8	38.2	
Queue Length 95th (m)	15.1	20.3	49.3	#27.2	#83.8	
Internal Link Dist (m)	101.9		50.0		140.1	
Turn Bay Length (m)		35.0		30.0		
Base Capacity (vph)	956	864	1980	266	2045	
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	0.12	0.21	0.51	0.46	0.64	
	0.12	5.21	0.01	0.10	0.01	
Intersection Summary						
Cycle Length: 60						
Actuated Cycle Length: 46.8						
Vatural Cycle: 65						
Control Type: Actuated-Unco						
# 95th percentile volume ex			leue may	be longe	er.	
Queue shown is maximum	n after two	o cycles.				
	. .		.			
	e Road &	Sherway	Drive			
Splits and Phases: 2: Dixie						
Splits and Phases: 2: Dixie						
▲						
[↑] ¢2					✓Ø8	

	<	×	1	1	1	Ļ		
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	1	1	≜ †⊅		<u> </u>	<u></u>		
Traffic Volume (vph)	113	180	945	65	122	1312		
Future Volume (vph)	113	180	945	65	122	1312		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width	3.5	3.5	3.7	3.7	3.5	3.7		
Total Lost time (s)	6.6	6.6	6.0		6.0	6.0		
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)	1785	1581	3423		1785	3544		
Flt Permitted	0.95	1.00	1.00		0.25	1.00		
Satd. Flow (perm)	1785	1581	3423		462	3544		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Adj. Flow (vph)	113	180	945	65	122	1312		
RTOR Reduction (vph)	0	29	6	0	0	0		
Lane Group Flow (vph)	113	151	1004	0	122	1312		
Heavy Vehicles (%)	0%	1%	6%	0%	0%	3%		
Turn Type	Prot	Perm	NA		Perm	NA		
Protected Phases	8	1 OIIII	2		1 OIIII	6		
Permitted Phases	Ŭ	8	-		6	U		
Actuated Green, G (s)	9.9	9.9	25.7		25.7	25.7		
Effective Green, g (s)	9.9	9.9	25.7		25.7	25.7		
Actuated g/C Ratio	0.21	0.21	0.53		0.53	0.53		
Clearance Time (s)	6.6	6.6	6.0		6.0	6.0		
Vehicle Extension (s)	5.0	5.0	5.0		5.0	5.0		
Lane Grp Cap (vph)	366	324	1825		246	1889		
v/s Ratio Prot	0.06	021	0.29		210	c0.37		
v/s Ratio Perm	0.00	c0.10	0.27		0.26	00.07		
v/c Ratio	0.31	0.47	0.55		0.50	0.69		
Uniform Delay, d1	16.2	16.8	7.4		7.1	8.3		
Progression Factor	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	1.0	2.2	1.2		7.0	2.1		
Delay (s)	17.3	19.1	8.6		14.1	10.5		
Level of Service	B	В	A		В	В		
Approach Delay (s)	18.4	D	8.6		D	10.8		
Approach LOS	B		A			В		
	D					D		
Intersection Summary								
HCM 2000 Control Delay			10.8	Н	CM 2000	Level of Servio	ce	
HCM 2000 Volume to Capa	city ratio		0.63					
Actuated Cycle Length (s)			48.2		um of lost			
Intersection Capacity Utiliza	ition		57.1%	IC	CU Level o	of Service		
Analysis Period (min)			15					

c Critical Lane Group

APPENDIX A-2 Existing Traffic Movement Counts



Morning Peak Diagram	Specified Period One Hour Peek
	Specified Period One Hour Peak From: 7:00:00 From: 7:45:00 To: 9:00:00 To: 8:45:00
Municipality:MississaugaSite #:1716900001Intersection:Dixie Rd & Sherway DrTFR File #:1Count date:6-Sep-17	Weather conditions: Person counted: Person prepared: Person checked:
North Entering: 1302 Trucks 17 3 0 2	Major Road:Dixie Rd runs N/S4 20 2381Heavys32 TrucksEast Leg Total:480 East Entering:238238Cars974 TotalsEast Peds:0 Peds Cross:0
Heavys Trucks Cars Totals	Dixie Rd N E Cars Trucks Heavys Totals 176 0 4 176 0 4 180 76 33 0 4 37 37
Heavys Trucks Cars Totals 20 2 469 491 1 0 23 24 4 0 82 86 25 2 574 Dixie Ro	Sherway Dr
West Peds: 0 Trucks 3 Tru West Entering: 601 Heavys 12 Heavys	ars 234 329 39 602 Peds Cross: ► cks 2 6 0 8 South Peds: 0 vys 5 8 2 15 South Leg Total: 914
Com	nents



Afternoon Peak Diagram	Specified Period One Hour Peak From: 16:00:00 From: 16:45:00 To: 18:00:00 To: 17:45:00
Municipality:MississaugaSite #:1716900001Intersection:Dixie Rd & Sherway DrTFR File #:1Count date:6-Sep-17	Weather conditions: Person counted: Person prepared: Person checked:
** Signalized Intersection ** North Leg Total: 2265 Heavys 10 1 0 11 North Entering: 1552 Trucks 7 0 0 North Peds: 2 Cars 1205 264 65 Peds Cross: Image: Construction of the section of	Major Road:Dixie Rd runs N/SHeavys14Trucks10Cars689Totals713
Heavys Trucks Cars Totals 14 8 1603 1625 Dixie Rd	kie Rd Cars Trucks Heavys Totals 55 0 0 55 27 27 0 0 11 0 93 0 0 11
Heavys Trucks Cars Totals 6 3 361 370 0 0 27 27 4 3 120 127 10 6 508 Dixie Rd	Sherway Dr Cars Trucks Heavys Totals 157 0 0 157
	rs 371 273 65 709 Peds Cross: ₩ (s 1 7 0 8 South Peds: 3



Total Count Diagram

Site #: 17169	ssauga 900001 Rd & Sherway D -17)r	Weather conditions: Person counted: Person prepared: Person checked:									
** Signalized Inters	ection **		Major Roa	ad: Dixie Rd	runs N/S							
North Leg Total: 8572 North Entering: 5113 North Peds: 4 Peds Cross: M	Trucks 47 Cars <u>3948</u>	7 0 5	07 4 952	Heavys 104 Trucks 42 Cars 3313 Totals 3459	East Leg Total: 1197 East Entering: 655 East Peds: 2 Peds Cross: X							
Heavys Trucks Cars Tota 113 54 5316 548	1		N E		CarsTrucksHeavysTotals3820738917804182790584639016							
Heavys Trucks Cars Tota 62 15 1709 1780 5 2 80 87	4 2		S	[vay Dr							
<u>11 3 366</u> 380 78 20 2155		Dixie Rd	句 仓		Cars Trucks Heavys Totals 524 2 16 542							
Peds Cross: X West Peds: 0 West Entering: 2253 West Leg Total: 7736	Cars 1178 Trucks 10 Heavys 28 Totals 1216	Truc Heav	ars 1190 1222 ks 7 27 ys <u>23 35</u> als 1220 1284	173 2585 0 34 2 60 175	Peds Cross:►South Peds:4South Entering:2679South Leg Total:3895							
		Comr	nents		•							
		Comr	nents									



Accu-Traffic Inc. Traffic Count Summary

1				IIUI								
Intersection:	Dixie Ro	& Sher	way Dr		Count	^{Date:} 6-Sep-17	Munic		ssissauę			
			ach Tot			North/South		Sout	h Appro	oach To	tals	
Hour	Includ	es Cars, T	rucks, & ⊢		Total	Total	Hour	Includ	es Cars, T	rucks, & ⊢		Total
Ending	Left	Thru	Right	Grand Total	Peds	Approaches	Ending	Left	Thru	Right	Grand Total	Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	61	125	954	1140	0	1728	8:00:00	258	308	22	588	0
9:00:00	90	159	840	1089	0	1737	9:00:00	224	389	35	648	0
16:00:00	0	0	0	0	0	0	16:00:00	0	0	0	0	0
17:00:00	62	220	1048	1330	0	2038	17:00:00	358	294	56	708	0
18:00:00	67	248	1239	1554	4	2289	18:00:00	380	293	62	735	4
Totolou	280	752	4004	E110	4	7792		1220	1284	175	2679	4
Totals:			<u>4081</u> ach Tota	5113	4		S Totals:			175 ach Tot		4
Hour	Includ	es Cars. T	rucks, & F	leavvs	Total	East/West	Hour	Includ	es Cars. T	rucks, & F	leavvs	Total
Ending				Grand	Peds	Total Approaches	Ending				Grand	Peds
7 00 00	Left	Thru	Right	Total			7 00 00	Left	Thru	Right	Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00 9:00:00	17 31	60 68	93 174	170 273	1	525	8:00:00 9:00:00	338 664	10	7 114	355	0
9.00.00 16:00:00		00			0	1079		664	28	0	806 0	0 0
						1 11	176777777					
	0 25	0	0	0 116	0	0 701	16:00:00 17:00:00	0 407	0 30	-		
17:00:00 18:00:00	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
18:00:00		0								-		
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
	25	0 25	66	116	0	701	17:00:00	407	30	148	585	0
18:00:00	25 11	0 25 29	66 56	116 96	0 1	701 603	17:00:00 18:00:00	407 377	30 19	148 111	585 507	00
	25	0 25	66 56 389	116 96 655	0 1 2	701 603 2908	17:00:00 18:00:00 W Totals:	407 377	30 19 87	148	585	0
18:00:00 Totals:	25 11 84	0 25 29 182	66 56 389 Calc	116 96 655 sulated V	0 1 2 Values f	701 603	17:00:00 18:00:00 W Totals: ossing Ma	407 377 <u>1786</u> ajor Stre	30 19 87 eet	148 111 380	585 507	00
18:00:00	25 11 84 nding:	0 25 29 182 7:00	66 56 389	116 96 655	0 1 2	701 603 2908	17:00:00 18:00:00 W Totals:	407 377	30 19 87	148 111	585 507	00



		Passeng	jer Cars -	North Ap	oproach			True	cks - Nort	h Approa	ach			Не	avys - No	orth App	oach		Pedes	strians
Interval	Le	eft	Th	ru	Riç	jht	Le	ft	Th	ru	Ri	ght	Le	eft	Tł	nru	Riç	ght	North	Cross
Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	5	5	10	10	177	177	0	0	1	1	3	3	0	0	0	0	5	5	0	0
7:30:00	12	7	45	35	387	210	0	0	1	0	7	4	0	0	1	1	11	6	0	0
7:45:00	21	9	82	37	614	227	0	0	1	0	13	6	0	0	3	2	21	10	0	0
8:00:00	59	38	119	37	907	293	0	0	2	1	17	4	2	2	4	1	30	9	0	0
8:15:00	105	46	162	43	1147	240	0	0	3	1	20	3	3	1	5	1	38	8	0	0
8:30:00	119	14	209	47	1367	220	0	0	4	1	24	4	4	1	6	1	48	10	0	0
8:45:00	136	17	241	32	1578	211	0	0	4	0	30	6	7	3	7	1	54	6	0	0
9:00:00	144	8	269	28	1703	125	0	0	6	2	33	3	7	0	9	2	58	4	0	0
9:15:00	144	0	269	0	1703	0	0	0	6	0	33	0	7	0	9	0	58	0	0	0
16:00:00	144	0	269	0	1703	0	0	0	6	0	33	0	7	0	9	0	58	0	0	0
16:15:00	161	17	316	47	1909	206	0	0	6	0	34	1	7	0	10	1	62	4	0	0
16:30:00	176	15	360	44	2140	231	0	0	6	0	36	2	9	2	11	1	66	4	0	0
16:45:00	190	14	418	58	2441	301	0	0	6	0	38	2	9	0	11	0	71	5	0	0
17:00:00	204	14	487	69	2730	289	0	0	6	0	38	0	9	0	11	0	74	3	0	0
17:15:00	219	15	547	60	3014	284	0	0	6	0	42	4	9	0	11	0	76	2	1	1
17:30:00	238	19	630	83	3331	317	0	0	6	0	44	2	9	0	12	1	79	3	2	1
17:45:00	255	17	682	52	3646	315	0	0	6	0	45	1	9	0	12	0	81	2	2	0
18:00:00	271	16	733	51	3948	302	0	0	7	1	47	2	9	0	12	0	86	5	4	2
18:15:00	271	0	733	0	3948	0	0	0	7	0	47	0	9	0	12	0	86	0	4	0
18:15:15	271	0	733	0	3948	0	0	0	7	0	47	0	9	0	12	0	86	0	4	0



		Passen	ger Cars ·	- East Ap	proach			Tru	cks - Eas	t Approa	ch			Н	eavys - Ea	ast Appro	oach		Pedes	trians
Interval	Le	eft	Th	ru	Riç	ght	Le	ft	Th	ru	Rig	ght	Le	eft	Th	nru	Riç	ght	East	Cross
Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	15	15	15	15	0	0	0	0	0	0	1	1	0	0	0	0	0	0
7:30:00	3	3	22	7	33	18	0	0	0	0	0	0	1	0	0	0	0	0	1	1
7:45:00	8	5	41	19	58	25	0	0	0	0	0	0	1	0	0	0	0	0	1	0
8:00:00	15	7	58	17	91	33	0	0	0	0	0	0	2	1	2	2	2	2	1	0
8:15:00	21	6	79	21	140	49	0	0	0	0	0	0	3	1	2	0	2	0	1	0
8:30:00	34	13	100	21	193	53	0	0	0	0	0	0	5	2	2	0	2	0	1	0
8:45:00	41	7	115	15	234	41	0	0	0	0	0	0	5	0	2	0	4	2	1	0
9:00:00	43	2	125	10	262	28	0	0	0	0	0	0	5	0	3	1	5	1	1	0
9:15:00	43	0	125	0	262	0	0	0	0	0	0	0	5	0	3	0	5	0	1	0
16:00:00	43	0	125	0	262	0	0	0	0	0	0	0	5	0	3	0	5	0	1	0
16:15:00	50	7	131	6	291	29	0	0	0	0	0	0	5	0	3	0	5	0	1	0
16:30:00	60	10	139	8	306	15	0	0	0	0	0	0	5	0	4	1	5	0	1	0
16:45:00	64	4	143	4	315	9	0	0	0	0	0	0	5	0	4	0	6	1	1	0
17:00:00	68	4	149	6	327	12	0	0	0	0	0	0	5	0	4	0	6	0	1	0
17:15:00	70	2	156	7	341	14	0	0	0	0	0	0	5	0	4	0	6	0	1	0
17:30:00	73	3	161	5	359	18	0	0	0	0	0	0	5	0	4	0	6	0	1	0
17:45:00	75	2	170	9	370	11	0	0	0	0	0	0	5	0	4	0	6	0	2	1
18:00:00	79	4	178	8	382	12	0	0	0	0	0	0	5	0	4	0	7	1	2	0
18:15:00	79	0	178	0	382	0	0	0	0	0	0	0	5	0	4	0	7	0	2	0
18:15:15	79	0	178	0	382	0	0	0	0	0	0	0	5	0	4	0	7	0	2	0



Le Cum 0 34 111 187 248 312 368 421 464	ft Incr 0 34 77 76 61 64 56 53	Cum 0 55 150 217 286 359 452	ru Incr 0 55 95 67 69 73	Rig Cum 0 1 4 7 20	Incr 0 1 3 3	Le Cum 0 0 0	Incr 0 0	Th Cum 0	ru Incr 0	Rig Cum	ght Incr	Le Cum	ft Incr	Th Cum	nru Incr	Rig Cum	iht Incr	South Cum	Cross Incr
0 34 111 187 248 312 368 421 464	0 34 77 76 61 64 56	0 55 150 217 286 359	0 55 95 67 69	0 1 4 7	0 1 3	0 0 0	0 0	0		Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
34 111 187 248 312 368 421 464	34 77 76 61 64 56	55 150 217 286 359	55 95 67 69	1 4 7	1 3	0 0	0		0					•••••					
111 187 248 312 368 421 464	77 76 61 64 56	150 217 286 359	95 67 69	4 7	3	0		-	0	0	0	0	0	0	0	0	0	0	0
187 248 312 368 421 464	76 61 64 56	217 286 359	67 69	7		-		2	2	0	0	4	4	5	5	0	0	0	0
248 312 368 421 464	61 64 56	286 359	69		3		0	7	5	0	0	6	2	9	4	0	0	0	0
312 368 421 464	64 56	359		20		0	0	7	0	0	0	8	2	13	4	0	0	0	0
368 421 464	56		73	20	13	0	0	7	0	0	0	10	2	15	2	2	2	0	0
421 464		452		25	5	1	1	9	2	0	0	10	0	17	2	2	0	0	0
464	53		93	43	18	2	1	12	3	0	0	12	2	18	1	2	0	0	0
	00	546	94	46	3	2	0	13	1	0	0	13	1	21	3	2	0	0	0
	43	662	116	55	9	4	2	14	1	0	0	14	1	21	0	2	0	0	0
464	0	662	0	55	0	4	0	14	0	0	0	14	0	21	0	2	0	0	0
464	0	662	0	55	0	4	0	14	0	0	0	14	0	21	0	2	0	0	0
552	88	739	77	68	13	5	1	14	0	0	0	15	1	23	2	2	0	0	0
633	81	811	72	80	12	5	0	18	4	0	0	17	2	24	1	2	0	0	0
722	89	876	65	91	11	6	1	18	0	0	0	18	1	26	2	2	0	0	0
815	93	945	69	111	20	7	1	19	1	0	0	18	0	27	1	2	0	0	0
906	91	1010	65		10	7	0	20	1	0	0	20	2	28	1	2	0	2	2
1003	97	1082	72	139	18	7	0	24	4	0	0	21	1	33	5	2	0	2	0
1093	90	1149	67	156	17	7	0	25	1	0	0	22	1	34	1	2	0	3	1
1190	97	1222	73	173	17	7	0	27	2	0	0	23	1	35	1	2	0	4	1
1190	0	1222	0	173		7	0	27	0	0	0	23	0	35	0	2	0	4	0
1190	0	1222	0	173	0	7	0	27	0	0	0	23	0	35	0	2	0	4	0
1 1 1 1	464 464 552 633 722 815 906 003 093 190 190	464 0 464 0 552 88 633 81 722 89 815 93 906 91 003 97 093 90 190 97 190 0	464 0 662 464 0 662 552 88 739 633 81 811 722 89 876 815 93 945 906 91 1010 003 97 1082 093 90 1149 190 97 1222 190 0 1222	464 0 662 0 464 0 662 0 552 88 739 77 633 81 811 72 722 89 876 65 815 93 945 69 906 91 1010 65 003 97 1082 72 093 90 1149 67 190 97 1222 73 190 0 1222 0	464 0 662 0 55 464 0 662 0 55 552 88 739 77 68 633 81 811 72 80 722 89 876 65 91 815 93 945 69 111 906 91 1010 65 121 003 97 1082 72 139 093 90 1149 67 156 190 97 1222 73 173 190 0 1222 0 173	464 0 662 0 55 0 464 0 662 0 55 0 552 88 739 77 68 13 633 81 811 72 80 12 722 89 876 65 91 11 815 93 945 69 111 20 906 91 1010 65 121 10 003 97 1082 72 139 18 093 90 1149 67 156 17 190 97 1222 73 173 17 190 0 1222 0 173 0	464 0 662 0 55 0 4 464 0 662 0 55 0 4 552 88 739 77 68 13 5 633 81 811 72 80 12 5 722 89 876 65 91 11 6 815 93 945 69 111 20 7 906 91 1010 65 121 10 7 003 97 1082 72 139 18 7 093 90 1149 67 156 17 7 190 97 1222 73 173 17 7 190 0 1222 0 173 0 7	464 0 662 0 55 0 4 0 464 0 662 0 55 0 4 0 552 88 739 77 68 13 5 1 633 81 811 72 80 12 5 0 722 89 876 65 91 11 6 1 815 93 945 69 111 20 7 1 906 91 1010 65 121 10 7 0 003 97 1082 72 139 18 7 0 093 90 1149 67 156 17 7 0 190 97 1222 73 173 17 0 0	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	464 0 662 0 55 0 4 0 14 0 464 0 662 0 55 0 4 0 14 0 552 88 739 77 68 13 5 1 14 0 633 81 811 72 80 12 5 0 18 4 722 89 876 65 91 11 6 1 18 0 815 93 945 69 111 20 7 1 19 1 906 91 1010 65 121 10 7 0 20 1 003 97 1082 72 139 18 7 0 24 4 093 90 1149 67 156 17 7 0 25 1 190 97 1222 73 173 17 7 0 27 2 190 0	464 0 662 0 55 0 4 0 14 0 0 464 0 662 0 55 0 4 0 14 0 0 552 88 739 77 68 13 5 1 14 0 0 633 81 811 72 80 12 5 0 18 4 0 722 89 876 65 91 11 6 1 18 0 0 815 93 945 69 111 20 7 1 19 1 0 906 91 1010 65 121 10 7 0 20 1 0 903 97 1082 72 139 18 7 0 24 4 0 93 90 1149 67 156 17 7 0 25 1 0 190 97 1222 73 173 </td <td>464 0 662 0 55 0 4 0 14 0 0 0 464 0 662 0 55 0 4 0 14 0 0 0 552 88 739 77 68 13 5 1 14 0 0 0 633 81 811 72 80 12 5 0 18 4 0 0 722 89 876 65 91 11 6 1 18 0 0 0 815 93 945 69 111 20 7 1 19 1 0 0 906 91 1010 65 121 10 7 0 20 1 0 0 903 97 1082 72 139 18 7 0 24 4 0 0 93 90 1149 67 156 17 7 0 25 <</td> <td>4640$662$0$55$0401400014$464$0$662$0$55$0401400014$552$$88$$739$$77$$68$$13$$5$114000015$633$$81$$811$$72$$80$$12$$5$0$18$$4$0017$722$$89$$876$$65$$91$11$6$1$18$00018$815$$93$$945$$69$$111$$20$$7$1$19$10018$906$$91$$1010$$65$$121$$10$$7$0$20$10020$003$$97$$1082$$72$$139$$18$$7$0$24$$4$0021$093$$90$$1149$$67$$156$$17$$7$0$25$10022$190$$97$$1222$$73$$173$$17$$7$$0$$27$$0$$0$$0$$23$</td> <td>464 0 662 0 55 0 4 0 14 0 0 0 14 0 464 0 662 0 55 0 4 0 14 0 0 0 14 0 552 88 739 77 68 13 5 1 14 0 0 0 15 1 633 81 811 72 80 12 5 0 18 4 0 0 17 2 722 89 876 65 91 11 6 1 18 0 0 0 18 1 815 93 945 69 111 20 7 1 19 1 0 0 18 0 906 91 1010 65 121 10 7 0 20 1 0 0 20 22 2 003 97 1082 72 139 18 7 0<</td> <td>464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 633 81 811 72 80 12 5 0 18 4 0 0 17 2 24 722 89 876 65 91 11 6 1 18 0 0 18 1 26 815 93 945 69 111 20 7 1 19 1 0 0 18 0 27 906 91 1010 65 121 10 7 0 20 1 0 0 21 1 33 003 97 108</td> <td>464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 2 633 81 811 72 80 12 5 0 18 44 0 0 17 2 24 1 722 89 876 65 91 11 6 1 18 0 0 18 1 26 2 815 93 945 69 111 20 7 1 19 1 0 0 18 0 27 1 906 91 1010 65 121 10 7 0 20 1 0 0 21</td> <td>464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 2 464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 2 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 2 2 633 81 811 72 80 12 5 0 18 4 0 0 17 2 24 1 2 722 89 876 65 91 11 6 1 18 0 0 18 1 26 2 2 815 93 945 69 111 20 7 1 19 1 0 0 18 0 27 1 2 906 91 1010 65 121 10 7</td> <td>464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 2 0 464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 2 0 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 2 2 0 633 81 811 72 80 12 5 0 18 4 0 0 17 2 24 1 2 0 722 89 876 65 91 11 6 1 18 0 0 18 1 26 2 2 0 815 93 945 69 111 20 7 1 19 1 0 0 20 2 28 1 2 0 906 9</td> <td>464 0 662 0 55 0 4 0 14 0 0 14 0 21 0 2 0 0 464 0 662 0 55 0 4 0 14 0 0 01 14 0 21 0 2 0 0 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 2 2 0 0 633 81 811 72 80 12 5 0 18 4 0 0 17 2 24 1 2 0 0 722 89 876 65 91 11 6 1 18 0 0 18 1 26 2 2 0 0 815 93 945 69 111 20 7 1 19 1 0 0 20 2 28 1 2</td>	464 0 662 0 55 0 4 0 14 0 0 0 464 0 662 0 55 0 4 0 14 0 0 0 552 88 739 77 68 13 5 1 14 0 0 0 633 81 811 72 80 12 5 0 18 4 0 0 722 89 876 65 91 11 6 1 18 0 0 0 815 93 945 69 111 20 7 1 19 1 0 0 906 91 1010 65 121 10 7 0 20 1 0 0 903 97 1082 72 139 18 7 0 24 4 0 0 93 90 1149 67 156 17 7 0 25 <	4640 662 0 55 0401400014 464 0 662 0 55 0401400014 552 88 739 77 68 13 5 114000015 633 81 811 72 80 12 5 0 18 4 0017 722 89 876 65 91 11 6 1 18 00018 815 93 945 69 111 20 7 1 19 10018 906 91 1010 65 121 10 7 0 20 10020 003 97 1082 72 139 18 7 0 24 4 0021 093 90 1149 67 156 17 7 0 25 10022 190 97 1222 73 173 17 7 0 27 0 0 0 23	464 0 662 0 55 0 4 0 14 0 0 0 14 0 464 0 662 0 55 0 4 0 14 0 0 0 14 0 552 88 739 77 68 13 5 1 14 0 0 0 15 1 633 81 811 72 80 12 5 0 18 4 0 0 17 2 722 89 876 65 91 11 6 1 18 0 0 0 18 1 815 93 945 69 111 20 7 1 19 1 0 0 18 0 906 91 1010 65 121 10 7 0 20 1 0 0 20 22 2 003 97 1082 72 139 18 7 0<	464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 633 81 811 72 80 12 5 0 18 4 0 0 17 2 24 722 89 876 65 91 11 6 1 18 0 0 18 1 26 815 93 945 69 111 20 7 1 19 1 0 0 18 0 27 906 91 1010 65 121 10 7 0 20 1 0 0 21 1 33 003 97 108	464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 2 633 81 811 72 80 12 5 0 18 44 0 0 17 2 24 1 722 89 876 65 91 11 6 1 18 0 0 18 1 26 2 815 93 945 69 111 20 7 1 19 1 0 0 18 0 27 1 906 91 1010 65 121 10 7 0 20 1 0 0 21	464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 2 464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 2 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 2 2 633 81 811 72 80 12 5 0 18 4 0 0 17 2 24 1 2 722 89 876 65 91 11 6 1 18 0 0 18 1 26 2 2 815 93 945 69 111 20 7 1 19 1 0 0 18 0 27 1 2 906 91 1010 65 121 10 7	464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 2 0 464 0 662 0 55 0 4 0 14 0 0 0 14 0 21 0 2 0 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 2 2 0 633 81 811 72 80 12 5 0 18 4 0 0 17 2 24 1 2 0 722 89 876 65 91 11 6 1 18 0 0 18 1 26 2 2 0 815 93 945 69 111 20 7 1 19 1 0 0 20 2 28 1 2 0 906 9	464 0 662 0 55 0 4 0 14 0 0 14 0 21 0 2 0 0 464 0 662 0 55 0 4 0 14 0 0 01 14 0 21 0 2 0 0 552 88 739 77 68 13 5 1 14 0 0 0 15 1 23 2 2 0 0 633 81 811 72 80 12 5 0 18 4 0 0 17 2 24 1 2 0 0 722 89 876 65 91 11 6 1 18 0 0 18 1 26 2 2 0 0 815 93 945 69 111 20 7 1 19 1 0 0 20 2 28 1 2



Interval				-	proach			nu	una - wes	st Approa	ich			не	avys - W	est Appr	Dach		i euea	trians
	Le	eft	Th	ru	Riç	ght	Le	ft	Th	ru	Ri	ght	Le	ft	Th	ru	Rig	ght	West	Cross
Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	47	47	1	1	3	3	1	1	0	0	0	0	4	4	2	2	1	1	0	0
7:30:00	107	60	2	1	4	1	3	2	0	0	0	0	6	2	2	0	1	0	0	0
7:45:00	216	109	3	1	4	0	3	0	0	0	0	0	15	9	2	0	1	0	0	0
8:00:00	317	101	8	5	6	2	3	0	0	0	0	0	18	3	2	0	1	0	0	0
8:15:00	414	97	15	7	12	6	4	1	0	0	0	0	25	7	2	0	1	0	0	0
8:30:00	561	147	23	8	42	30	4	0	0	0	0	0	30	5	3	1	5	4	0	0
8:45:00	685	124	26	3	86	44	5	1	0	0	0	0	35	5	3	0	5	0	0	0
9:00:00	951	266	32	6	116	30	7	2	1	1	0	0	44	9	5	2	5	0	0	0
9:15:00	951	0	32	0	116	0	7	0	1	0	0	0	44	0	5	0	5	0	0	0
16:00:00	951	0	32	0	116	0	7	0	1	0	0	0	44	0	5	0	5	0	0	0
16:15:00	1052	101	35	3	147	31	8	1	2	1	0	0	47	3	5	0	6	1	0	0
16:30:00	1174	122	43	8	180	33	11	3	2	0	0	0	52	5	5	0	7	1	0	0
16:45:00	1256	82	49	6	220	40	12	1	2	0	0	0	55	3	5	0	7	0	0	0
17:00:00	1339	83	61	12	261	41	13	1	2	0	0	0	57	2	5	0	8	1	0	0
17:15:00	1446	107	70	9	288	27	14	1	2	0	1	1	59	2	5	0	9	1	0	0
17:30:00	1528	82	72	2	319	31	15	1	2	0	3	2	60	1	5	0	10	1	0	0
17:45:00	1617	89	76	4	340	21	15	0	2	0	3	0	61	1	5	0	11	1	0	0
18:00:00	1709	92	80	4	366	26	15	0	2	0	3	0	62	1	5	0	11	0	0	0
18:15:00	1709	0	80	0	366	0	15	0	2	0	3	0	62	0	5	0	11	0	0	0
18:15:15	1709	0	80	0	366	0	15	0	2	0	3	0	62	0	5	0	11	0	0	0



Specified Period One Hour Peak
From: 7:00:00 From: 7:45:00 To: 9:00:00 To: 8:45:00
Weather conditions: Person counted: Person prepared: Person checked: Major Road: Dixie Rd runs N/S
Heavys 31 Heavys 31 Trucks 9 Cars <u>995</u> Totals 1035 ixie Rd N E S
↓ ↓ ars 6 982 988 Peds Cross: ⋈ ars 6 982 988 Peds Cross: ⋈ ys 0 31 31 South Peds: 0 als 6 1022 South Leg Total: 2323



One Hour Peak From: 17:00:00 To: 18:00:00
Peds Cross: ► South Peds: 0 South Entering: 727 South Leg Total: 2274



Total Count Diagram

Municipality: Missis Site #: 17169	sauga 00002	Weather conditions:	
Intersection: Dixie I TFR File #: 1 Count date: 6-Sep	Rd & Primate Rd -17	Person counted: Person prepared: Person checked:	
** Non-Signalized Ir	ntersection **	Major Road: Dixie Rd ru	ins N/S
North Leg Total:8565North Entering:5071North Peds:0Peds Cross:►Heavys Trucks CarsTota	Heavys 0 103 Trucks 0 54 Cars <u>19 4895</u> Totals 19 5052 Is	103 103 Heavys 103 54 1 Trucks 42 4914 Cars 3349 Totals 3494 Dixie Rd Image: Cars of the second se	
0 0 35 35 Prir Heavys Trucks Cars Tota 0 0 27 27	nate Rd		
0 0 47 47 0 0 74	\mathbf{r}	Dixie Rd	
Peds Cross: X West Peds: 4 West Entering: 74 West Leg Total: 109	Cars 4942 Trucks 54 Heavys 103 Totals 5099	Cars 16 3322 3338 Trucks 0 42 42 Heavys 0 103 103 Totals 16 3467	Peds Cross:▶South Peds:0South Entering:3483South Leg Total:8582
		Comments	



Accu-Traffic Inc. Traffic Count Summary

				IIMI								
Intersection:	Dixie Ro	& Prima	ate Rd		Count I	^{Date:} 6-Sep-17	Munio	^{sipality:} Mi	ssissauę	ga		
		h Appro				North/South			h Appro			
Hour	Includ	es Cars, T	rucks, & H	leavys Grand	Total	Total	Hour	Includ	es Cars, T I	rucks, & H	leavys Grand	Total
Ending	Left	Thru	Right	Total	Peds	Approaches	Ending	Left	Thru	Right	Total	Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	1119	0	1119	0	1867	8:00:00	2	746	0	748	0
9:00:00	0	1073	4	1077	0	2310	9:00:00	8	1225	0	1233	0
16:00:00 17:00:00	0 0	0 1321	0	0 1329	0 0	0 2104	16:00:00 17:00:00	0 5	0 770	0	0 775	0 0
18:00:00	0	1539	8 7	1546	0	2104	18:00:00	5 1	726	0 0	727	0
10.00.00	U	1009	,	1540	U	2275	10.00.00	'	120	U	121	U
Totals:	0	5052	19	5071	0	8554	S Totals:	16	3467	0	3483	0
		t Approa				East/West			t Appro			
Hour	Includ	es Cars, T	rucks, & H	eavys Grand	Total	Total	Hour	Includ	es Cars, T	rucks, & F	leavys Grand	Total
Ending	Left	Thru	Right	Total	Peds	Approaches	Ending	Left	Thru	Right	Total	Peds
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	0	0	0	0	27	8:00:00	9	0	18	27	1
9:00:00	0	0	0	0	0	23	9:00:00	10	0	13	23	0
16:00:00	0	0	0	0	0	0	16:00:00	0	0	0	0	0
17:00:00	0 0	0 0	0 0	0 0	0 0	13	17:00:00	5 3	0 0	8 8	13	1 2
18:00:00	0	0	0	0	0	11	18:00:00	3		ð	11	2
Totals:	0	0	0	0	0	74	W Totals:	27	0	47	74	4
101010.	<u> </u>					or Traffic Cr					17	T
Hours E	ndina:	7:00	8:00	9:00	16:00		17:00	18:00	0:00	0:00		
Crossing			9	10	0		5	3	0.00	0.00		
	,	-		-	-		-		-	-		



		Passeng	ger Cars -	North A	pproach			True	cks - Nort	h Approa	ach			Не	avys - No	orth Appr	oach		Pedes	trians
Interval	Le	eft	Th	ru	Rig	ght	Le	ft	Th	ru	Rig	ght	Le	eft	Th	ru	Riç	ght	North	Cross
Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	187	187	0	0	0	0	2	2	0	0	0	0	6	6	0	0	0	0
7:30:00	0	0	438	251	0	0	0	0	7	5	0	0	0	0	11	5	0	0	0	0
7:45:00	0	0	708	270	0	0	0	0	14	7	0	0	0	0	22	11	0	0	0	0
8:00:00	0	0	1066	358	0	0	0	0	20	6	0	0	0	0	33	11	0	0	0	0
8:15:00	0	0	1388	322	0	0	0	0	25	5	0	0	0	0	44	11	0	0	0	0
8:30:00	0	0	1667	279	2	2	0	0	30	5	0	0	0	0	54	10	0	0	0	0
8:45:00	0	0	1922	255	3	1	0	0	35	5	0	0	0	0	65	11	0	0	0	0
9:00:00	0	0	2080	158	4	1	0	0	40	5	0	0	0	0	72	7	0	0	0	0
9:15:00	0	0	2080	0	4	0	0	0	40	0	0	0	0	0	72	0	0	0	0	0
16:00:00	0	0	2080	0	4	0	0	0	40	0	0	0	0	0	72	0	0	0	0	0
16:15:00	0	0	2347	267	6	2	0	0	41	1	0	0	0	0	77	5	0	0	0	0
16:30:00	0	0	2639	292	7	1	0	0	43	2	0	0	0	0	84	7	0	0	0	0
16:45:00	0	0	3006	367	9	2	0	0	45	2	0	0	0	0	88	4	0	0	0	0
17:00:00	0	0	3377	371	12	3	0	0	45	0	0	0	0	0	91	3	0	0	0	0
17:15:00	0	0	3731	354	14	2	0	0	49	4	0	0	0	0	93	2	0	0	0	0
17:30:00	0	0	4146	415	15	1	0	0	51	2	0	0	0	0	97	4	0	0	0	0
17:45:00	0	0	4528	382	16	1	0	0	52	1	0	0	0	0	99	2	0	0	0	0
18:00:00	0	0	4895	367	19	3	0	0	54	2	0	0	0	0	103	4	0	0	0	0
18:15:00	0	0	4895	0	19	0	0	0	54	0	0	0	0	0	103	0	0	0	0	0
18:15:15	0	0	4895	0	19	0	0	0	54	0	0	0	0	0	103	0	0	0	0	0



		Passen	ger Cars ·	- East Ap	proach			Tru	cks - Eas	t Approa	ch			Не	eavys - E	ast Appr	oach		Pedes	trians
Interval	Le	əft	Th	ru	Ri	ght	Le	ft	Th	ru	Rig	ght	Le	əft	Th	iru	Rig	jht	East	Cross
Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



		Passeng	er Cars -		pproach			Truc	ks - Sout	h Appro	ach			He	avys - So	uth Appr	oach		Pedes	trians
Interval	Le	əft	Th	ru	Rig	ght	Le	ft	Th	ru	Rig	ght	Le	ft	Th	ru	Rig	ght	South	Cross
Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	115	115	0	0	0	0	3	3	0	0	0	0	9	9	0	0	0	0
7:30:00	0	0	292	177	0	0	0	0	8	5	0	0	0	0	16	7	0	0	0	0
7:45:00	2	2	495	203	0	0	0	0	8	0	0	0	0	0	30	14	0	0	0	0
8:00:00	2	0	700	205	0	0	0	0	9	1	0	0	0	0	37	7	0	0	0	0
8:15:00	4	2	923	223	0	0	0	0	12	3	0	0	0	0	45	8	0	0	0	0
8:30:00	8	4	1214	291	0	0	0	0	15	3	0	0	0	0	51	6	0	0	0	0
8:45:00	8	0	1477	263	0	0	0	0	17	2	0	0	0	0	61	10	0	0	0	0
9:00:00	10	2	1881	404	0	0	0	0	21	4	0	0	0	0	69	8	0	0	0	0
9:15:00	10	0	1881	0	0	0	0	0	21	0	0	0	0	0	69	0	0	0	0	0
16:00:00	10	0	1881	0	0	0	0	0	21	0	0	0	0	0	69	0	0	0	0	0
16:15:00	11	1	2091	210	0	0	0	0	22	1	0	0	0	0	75	6	0	0	0	0
16:30:00	13	2	2298	207	0	0	0	0	29	7	0	0	0	0	81	6	0	0	0	0
16:45:00	14	1	2455	157	0	0	0	0	30	1	0	0	0	0	87	6	0	0	0	0
17:00:00	15	1	2619	164	0	0	0	0	32	2	0	0	0	0	90	3	0	0	0	0
17:15:00	15	0	2807	188	0	0	0	0	34	2	0	0	0	0	93	3	0	0	0	0
17:30:00	16	1	2979	172	0	0	0	0	39	5	0	0	0	0	99	6	0	0	0	0
17:45:00	16	0	3147	168	0	0	0	0	40	1	0	0	0	0	100	1	0	0	0	0
18:00:00	16	0	3322	175	0	0	0	0	42	2	0	0	0	0	103	3	0	0	0	0
18:15:00	16	0	3322	0	0	0	0	0	42	0	0	0	0	0	103	0	0	0	0	0
18:15:15	16	0	3322	0	0	0	0	0	42	0	0	0	0	0	103	0	0	0	0	0



		Passen	ger Cars -	West Ap	proach			Tru	cks - Wes	st Approa	ach			He	eavys - W	est Appr	oach		Pedes	trians
Interval	Le	eft	Th	ru	Ri	ght	Le	ft	Th	ru	Ri	ght	Le	eft	Th	ru	Riç	ght	West	Cross
Time	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	2	2	0	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	4	2	0	0	12	6	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00:00	9	5	0	0	18	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:15:00	12	3	0	0	22	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:30:00	15	3	0	0	26	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:45:00	17	2	0	0	29	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0
9:00:00	19	2	0	0	31	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0
9:15:00	19	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:00:00	19	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16:15:00	20	1	0	0	34	3	0	0	0	0	0	0	0	0	0	0	0	0	2	1
16:30:00	22	2	0	0	35	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
16:45:00	22	0	0	0	38	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0
17:00:00	24	2	0	0	39	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
17:15:00	24	0	0	0	41	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
17:30:00	26	2	0	0	45	4	0	0	0	0	0	0	0	0	0	0	0	0	2	0
17:45:00	27	1	0	0	47	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
18:00:00	27	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2
18:15:00	27	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
18:15:15	27	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0

APPENDIX B Intersection Capacity Analysis Reports

Existing (2017) Traffic Conditions

HCM Unsignalized Intersection Capacity Analysis 1: Dixie Road & Primate Road

	٦	\mathbf{r}	•	Ť	Ļ	4
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		۲	††	≜t ≽	
Traffic Volume (veh/h)	13	17	1	726	1544	7
Future Volume (Veh/h)	13	17	1	726	1544	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	13	17	1	726	1544	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)				110110	110110	
Upstream signal (m)				176		
pX, platoon unblocked	0.96			170		
vC, conflicting volume	1912	776	1551			
vC1, stage 1 conf vol	1712	770	1001			
vC2, stage 2 conf vol						
vCu, unblocked vol	1868	776	1551			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	0.0	0.7	1.1			
tF (s)	3.5	3.3	2.2			
p0 queue free %	79	95	100			
cM capacity (veh/h)	63	345	433			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	30	1	363	363	1029	522
Volume Left	13	1	0	0	0	0
Volume Right	17	0	0	0	0	7
cSH	117	433	1700	1700	1700	1700
Volume to Capacity	0.26	0.00	0.21	0.21	0.61	0.31
Queue Length 95th (m)	6.7	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	46.1	13.3	0.0	0.0	0.0	0.0
Lane LOS	E	В				
Approach Delay (s)	46.1	0.0			0.0	
Approach LOS	E					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utiliza	ation		52.9%	IC	CU Level o	of Service
Analysis Period (min)			15			

Queues Existing 2017 PM Pe 2: North Service Road/Dixie Road & Dixie Road South/Sherway Drive

Existing 2017 PM Peak Hour-Baseline Scenario Drive 11/17/2017

	٨	→		1	+		•	t	1	Ţ	1	17720
Lane Group	EBL	EBT	EBR	▼ WBL	WBT	WBR	NBL	NBT	SBL	• SBT	SBR	
Lane Configurations	<u> </u>	4	1	11DL	<u>احتا</u> 4	1	<u> </u>		<u> </u>	<u>†</u> †	1	
Traffic Volume (vph)	370	27	127	11	27	55	376	302	65	265	1222	
Future Volume (vph)	370	27	127	11	27	55	376	302	65	265	1222	
Lane Group Flow (vph)	196	201	127	0	38	55	376	367	65	265	1222	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm	
Protected Phases	F CIIII	4	Feim	r enn	3	r ciiii	μπ+μ 1	2	Fenn	2	FCIIII	
Permitted Phases	4	4	4	3	5	3	2	Z	2	Z	2	
Detector Phase	4	4	4	3	3	3	1	2	2	2	2	
Switch Phase	4	4	4	3	3	3	1	Z	Z	Z	Z	
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	31.6	31.6	31.6	31.6	31.6	31.6	5.0 8.0	26.0	26.0	26.0	26.0	
	40.0	40.0	40.0	27.2	27.2	27.2	32.0	60.8	60.8	60.8	60.8	
Total Split (s)		40.0						38.0%	38.0%		38.0%	
Total Split (%) Yellow Time (s)	25.0%		25.0%	17.0%	17.0%	17.0%	20.0%			38.0%		
、	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.6	2.6	2.6	2.6	2.6 0.0	2.6 0.0	0.0	2.0	2.0	2.0 0.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0				0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.6	6.6	6.6	Lood	6.6	6.6	3.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag	
Lead-Lag Optimize?	Nissa	N 1	N.L	N I	N. 1	NLasa	Nesse					
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	
v/c Ratio	0.92	0.92	0.36		1.12	0.24	0.49	0.21	0.14	0.15	1.06	
Control Delay	107.7	107.5	19.6		250.9	5.6	17.4	26.5	30.9	27.1	60.4	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	107.7	107.5	19.6		250.9	5.6	17.4	26.5	30.9	27.1	60.4	
Queue Length 50th (m)	59.6	61.2	8.0		~12.1	0.0	50.6	31.6	10.8	23.2	~273.9	
Queue Length 95th (m)	#91.8	#93.8	25.2		#32.5	4.2	80.9	52.2	25.2	39.6	#351.4	
Internal Link Dist (m)		116.7			162.1	01.0	474.0	255.0	54.0	151.9		
Turn Bay Length (m)			30.0			21.0	171.0		56.0		30.0	
Base Capacity (vph)	262	268	408		46	278	825	1741	472	1810	1151	
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio	0.75	0.75	0.31		0.83	0.20	0.46	0.21	0.14	0.15	1.06	
ntersection Summary												
Cycle Length: 160												
Actuated Cycle Length: 160					-							
Offset: 67.2 (42%), Referen	ced to pha	se 2:NBS	B and 6:,	Start of (Green							
Vatural Cycle: 140												
Control Type: Actuated-Coc												
 Volume exceeds capaci 			cally infin	ite.								
Queue shown is maximu		,										
# 95th percentile volume			leue may	be longe	r.							
Queue shown is maximu	im after two	o cycles.										
Splits and Phases: 2: Nor	rth Service	Road/Div	vie Road A	& Dixie R	oad South	n/Sherwa	v Drive					
							Ø3					
1 101	60.8 s	/					93 S		40 s			_

HCM Unsignalized Intersection Capacity Analysis 1: Dixie Road & Primate Road

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		<u> </u>	† †	† ‡	
Traffic Volume (veh/h)	13	17	6	1022	1285	3
Future Volume (Veh/h)	13	17	6	1022	1285	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	13	17	6	1022	1285	3
Pedestrians	10		Ű		1200	Ŭ
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				176		
pX, platoon unblocked	0.93			175		
vC, conflicting volume	1810	644	1288			
vC1, stage 1 conf vol	1010	011	1200			
vC2, stage 2 conf vol						
vCu, unblocked vol	1717	644	1288			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	83	96	99			
cM capacity (veh/h)	76	420	545			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	30	6	511	511	857	431
Volume Left	13	6	0	0	0	0
Volume Right	17	0	0	0	0	3
cSH	141	545	1700	1700	1700	1700
Volume to Capacity	0.21	0.01	0.30	0.30	0.50	0.25
Queue Length 95th (m)	5.4	0.2	0.0	0.0	0.0	0.0
Control Delay (s)	37.2	11.7	0.0	0.0	0.0	0.0
Lane LOS	E	В				
Approach Delay (s)	37.2	0.1			0.0	
Approach LOS	E					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utiliza	ation		45.6%	IC	CU Level o	of Service
Analysis Period (min)			15			

Queues Existing 2017 AM 2: North Service Road/Dixie Road & Dixie Road South/Sherway Drive

Existing 2017 AM Peak Hour-Baseline Scenario Drive 11/17/2017

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ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
ane Configurations	۲	र्स	1		ę	1	۲	∱ ⊅	۲	††	1	
raffic Volume (vph)	491	24	86	37	76	180	241	357	122	166	1014	
uture Volume (vph)	491	24	86	37	76	180	241	357	122	166	1014	
ane Group Flow (vph)	255	260	86	0	113	180	241	398	122	166	1014	
urn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	NA	Perm	
Protected Phases		4			3		1	2		2		
Permitted Phases	4		4	3		3	2		2		2	
Detector Phase	4	4	4	3	3	3	1	2	2	2	2	
Switch Phase												
/inimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0	
/linimum Split (s)	31.6	31.6	31.6	31.6	31.6	31.6	8.0	26.0	26.0	26.0	26.0	
otal Split (s)	48.0	48.0	48.0	32.0	32.0	32.0	24.0	56.0	56.0	56.0	56.0	
otal Split (%)	30.0%	30.0%	30.0%	20.0%	20.0%	20.0%	15.0%	35.0%	35.0%	35.0%	35.0%	
fellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.6	2.6	2.6	2.6	2.6	2.6	0.0	2.0	2.0	2.0	2.0	
ost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
otal Lost Time (s)	6.6	6.6	6.6		6.6	6.6	3.0	6.0	6.0	6.0	6.0	
ead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag	
ead-Lag Optimize?	5	5	5					5	5	5	5	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max	
/c Ratio	0.89	0.91	0.19		3.53	0.46	0.38	0.33	0.43	0.13	0.96	
Control Delay	89.4	92.0	9.3		1230.3	13.4	26.2	40.4	48.7	38.3	32.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
otal Delay	89.4	92.0	9.3		1230.3	13.4	26.2	40.4	48.7	38.3	32.1	
Queue Length 50th (m)	75.0	76.9	0.0		~58.9	2.5	41.8	46.5	28.8	18.4	101.6	
Queue Length 95th (m)	#121.4	#124.5	12.7		#97.1	23.6	59.9	60.8	48.8	27.3	#207.7	
nternal Link Dist (m)		116.7			162.1			255.0		151.9		
urn Bay Length (m)			30.0			21.0	171.0		56.0		30.0	
Base Capacity (vph)	303	304	476		32	393	657	1206	282	1241	1051	
Starvation Cap Reductn	0	0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0		0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio	0.84	0.86	0.18		3.53	0.46	0.37	0.33	0.43	0.13	0.96	
ntersection Summary												
Cycle Length: 160												
Actuated Cycle Length: 160)											
Offset: 68.8 (43%), Referen	nced to pha	ise 2:NBS	B and 6:,	Start of (Green							
latural Cycle: 110												
Control Type: Actuated-Coo												
 Volume exceeds capac 	J		cally infin	ite.								
Queue shown is maximu												
⁴ 95th percentile volume			leue may	be longe	er.							
	um after tw	o cycles.										
Queue shown is maximu		5										
	rth Servico	5	vie Road	8, ∏ivi≏ P	nad Sout	n/Sharwa	v Driv≏					
	rth Service	5	kie Road	& Dixie R	oad Sout		y Drive	40				

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	۲	ب ا	1		4	1	٦	∱ î≽		۲	<u>††</u>	*
Traffic Volume (vph)	491	24	86	37	76	180	241	357	41	122	166	1014
Future Volume (vph)	491	24	86	37	76	180	241	357	41	122	166	1014
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.7	3.5	3.7	3.5
Total Lost time (s)	6.6	6.6	6.6		6.6	6.6	3.0	6.0		6.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	1685	1597		1890	1581	1767	3530		1785	3650	1551
Flt Permitted	0.68	0.67	1.00		0.10	1.00	0.65	1.00		0.44	1.00	1.00
Satd. Flow (perm)	1174	1174	1597		201	1581	1203	3530		831	3650	1551
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	491	24	86	37	76	180	241	357	41	122	166	1014
RTOR Reduction (vph)	0	0	65	0	0	143	0	5	0	0	0	524
Lane Group Flow (vph)	255	260	21	0	113	37	241	393	0	122	166	490
Heavy Vehicles (%)	4%	0%	0%	0%	0%	1%	1%	2%	0%	0%	0%	3%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm
Protected Phases		4			3		1	2			2	
Permitted Phases	4		4	3		3	2			2		2
Actuated Green, G (s)	39.1	39.1	39.1		25.4	25.4	73.3	54.4		54.4	54.4	54.4
Effective Green, g (s)	39.1	39.1	39.1		25.4	25.4	73.3	54.4		54.4	54.4	54.4
Actuated g/C Ratio	0.24	0.24	0.24		0.16	0.16	0.46	0.34		0.34	0.34	0.34
Clearance Time (s)	6.6	6.6	6.6		6.6	6.6	3.0	6.0		6.0	6.0	6.0
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)	286	286	390		31	250	617	1200		282	1241	527
v/s Ratio Prot							c0.05	0.11			0.05	
v/s Ratio Perm	0.22	c0.22	0.01		c0.56	0.02	0.13			0.15		c0.32
v/c Ratio	0.89	0.91	0.05		3.65	0.15	0.39	0.33		0.43	0.13	0.93
Uniform Delay, d1	58.4	58.7	46.3		67.3	58.0	27.2	39.2		40.9	36.5	51.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	28.9	31.8	0.1		1265.6	0.6	0.9	0.7		4.8	0.2	25.2
Delay (s)	87.3	90.6	46.4		1332.9	58.6	28.1	39.9		45.6	36.7	76.1
Level of Service	F	F	D		F	Е	С	D		D	D	E
Approach Delay (s)		82.9			550.0			35.5			68.2	
Approach LOS		F			F			D			E	
Intersection Summary												
HCM 2000 Control Delay			113.7	H	CM 2000	Level of	Service		F			
HCM 2000 Volume to Capa	city ratio		1.33									
Actuated Cycle Length (s)			160.0	Si	um of lost	t time (s)			22.2			
Intersection Capacity Utiliza	tion		96.6%	IC	U Level o	of Service	÷		F			
Analysis Period (min)			15									

c Critical Lane Group

2. NOTITI Service Road,					U norma	ay Drive	·				1 1/	17/2017
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	۲	با	1		Ł	7	٦	≜ î≽		۲	<u>††</u>	7
Traffic Volume (vph)	370	27	127	11	27	55	376	302	65	65	265	1222
Future Volume (vph)	370	27	127	11	27	55	376	302	65	65	265	1222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.7	3.5	3.5	3.7	3.5	3.5	3.7	3.7	3.5	3.7	3.5
Total Lost time (s)	6.6	6.6	6.6		6.6	6.6	3.0	6.0		6.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00		1.00	1.00	1.00	0.95		1.00	0.95	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00		0.99	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1630	1691	1597		1894	1581	1767	3496		1785	3650	1551
Flt Permitted	0.73	0.73	1.00		0.19	1.00	0.58	1.00		0.51	1.00	1.00
Satd. Flow (perm)	1257	1284	1597		364	1581	1082	3496		952	3650	1551
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	370	27	127	11	27	55	376	302	65	65	265	1222
RTOR Reduction (vph)	0	0	79	0	0	50	0	9	0	0	0	389
Lane Group Flow (vph)	196	201	48	0	38	5	376	358	0	65	265	833
Heavy Vehicles (%)	4%	0%	0%	0%	0%	1%	1%	2%	0%	0%	0%	3%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm
Protected Phases		4			3		1	2			2	
Permitted Phases	4		4	3		3	2			2		2
Actuated Green, G (s)	27.3	27.3	27.3		13.6	13.6	96.9	78.0		78.0	78.0	78.0
Effective Green, g (s)	27.3	27.3	27.3		13.6	13.6	96.9	78.0		78.0	78.0	78.0
Actuated g/C Ratio	0.17	0.17	0.17		0.08	0.08	0.61	0.49		0.49	0.49	0.49
Clearance Time (s)	6.6	6.6	6.6		6.6	6.6	3.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	0.2	0.2	0.2		0.2	0.2	0.2	0.2		0.2	0.2	0.2
Lane Grp Cap (vph)	214	219	272		30	134	736	1704		464	1779	756
v/s Ratio Prot							c0.06	0.10			0.07	
v/s Ratio Perm	0.16	c0.16	0.03		c0.10	0.00	0.25			0.07		c0.54
v/c Ratio	0.92	0.92	0.18		1.27	0.03	0.51	0.21		0.14	0.15	1.10
Uniform Delay, d1	65.2	65.2	56.7		73.2	67.2	15.8	23.4		22.6	22.7	41.0
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	38.2	38.0	0.1		254.4	0.0	0.3	0.3		0.6	0.2	64.2
Delay (s)	103.4	103.2	56.9		327.6	67.2	16.1	23.7		23.2	22.8	105.2
Level of Service	F	F	E		F	E	В	C		С	С	F
Approach Delay (s)		92.1			173.6			19.8			87.7	_
Approach LOS		F			F			В			F	
Intersection Summary												
HCM 2000 Control Delay			73.9	Н	CM 2000	Level of	Service		E			
HCM 2000 Volume to Capa	acity ratio		1.00						_			
Actuated Cycle Length (s)			160.0		um of los				22.2			
Intersection Capacity Utiliza	ation		117.0%	IC	CU Level	of Service))		Н			
Analysis Period (min)			15									

c Critical Lane Group

APPENDIX C Background Site Generated Trips

5.0 SITE TRAFFIC ANALYSIS

5.1 Trip Generation

Trip generation is the process that estimates the volume of vehicular traffic that can reasonably be expected to enter and leave a specific development. The generation analysis estimates vehicle trips for periods when traffic on the road network and/or when generation for the specific land use are at their highest daily levels. During other time periods, the estimated site traffic and/or the volume of traffic on the area roads are lower. This approach to the evaluation of development proposals allows for the traffic analysis to consider operations for more severe conditions than may be expected at other times. The process of estimating site traffic generally relies on the use of published information such as the trip generation material published by the Institute of Transportation Engineers (ITE)⁷. While the development is for condominium residential units, trip generation information for the Land Use Code 210 – Single Family Detached Housing was used since the development proposal is for detached units.

The Site Plan (reproduced herein as **Figure 2-1**) contemplates thirteen (13) units but since the existing residence at 1556 Marionville Drive will be demolished, the net effect of the proposed development is a total of 12 new residential dwelling units this residential neighbourhood. The trip generation for the proposed development is presented in **Table 5-1** and **Table 5-2**. Using the ITE trip rates, the proposed development is expected to generate an additional 21 two-way vehicle trips, or less, during the three design hours.

		Weekd	lay AM Pe	ak Hour	Weekda	y PM Pea	k Hour
		In	Out	Total	In	Out	Total
ITE Based Trip Genero	ation						
LUC 210	Vehicles	5	14	19	10	6	16
Unit Trip Rates	Vehicles/unit	0.42	1.17	1.59	0.83	0.50	1.32
Unit Trip Rates derive	ed from Locally gath	ered Traffi	ic Data	1	I	<u> </u>	
Unit Trip Rates	Vehicles/unit	0.50	1.00	1.50	0.50	0.33	0.83

Table 5-1 Trip Generation - Weekday Peak Hours

⁷ Institute of Transportation Engineers. *Trip Generation – An Informational Report*, 8th Edition, December 2008.



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		Weeł	tday AM Pe	ak Hour
		Ĭn	Out	Total
ITE Based Trip Gene	eration			
LUC 210	Vehicles	11	10	21
Unit Trip Rates	Vehicles/unit	0.92	0.83	1.75

Table 5-2 Trip Generation – Saturday Midday Peak Hour

Local trip rates were derived from the weekday traffic count collected at the intersection of Primate Road and Wealthy Place. As shown in **Table 5-1**, a comparison of the ITE unit trip rates and local trip rates reveals ITE trip rates are 13%-60% higher than the locally derived trip rates. Accordingly, the estimates of site traffic for the proposed development are considered very conservative and may overstate the traffic generating characteristics of the proposed development.

5.2 Trip Distribution and Assignment

The distribution is the process that is used to estimate where traffic enters and/or leaves the more detailed study area. Basic distribution data for the analysis was obtained from the 2006 Transportation Tomorrow Survey (2006 TTS), a comprehensive travel survey of households in the Greater Toronto Area and Hamilton Area, and from existing travel patterns at the study intersections. The assignment lays out the vehicle pathways for traffic travelling through the study area and in particular to and from the proposed development. The allocation of traffic to pathways is essentially dependent on the convenience and perceived safety offered by each pathway.

The general direction of approach for the traffic generated by the proposed development is presented in **Table 5-3**.

February 2011

Route		y Design ours	Saturday Design Hour								
	In	Out	In	Out							
Park Royale Boulevard to access QEW EB	0%	20%	0%	20%							
Dixie Road North for travel to North, West and East	90%	70%	60%	50%							
Dixie Road South	10%	10%	30%	10%							
Rometown Drive to access Dixie Outlet Mall	0%	0%	10%	20%							
Total	100%	100%	100%	100%							

Table 5-3 Direction of Approach

The site traffic assignment for the three design hours is illustrated in **Figure 5-1**.

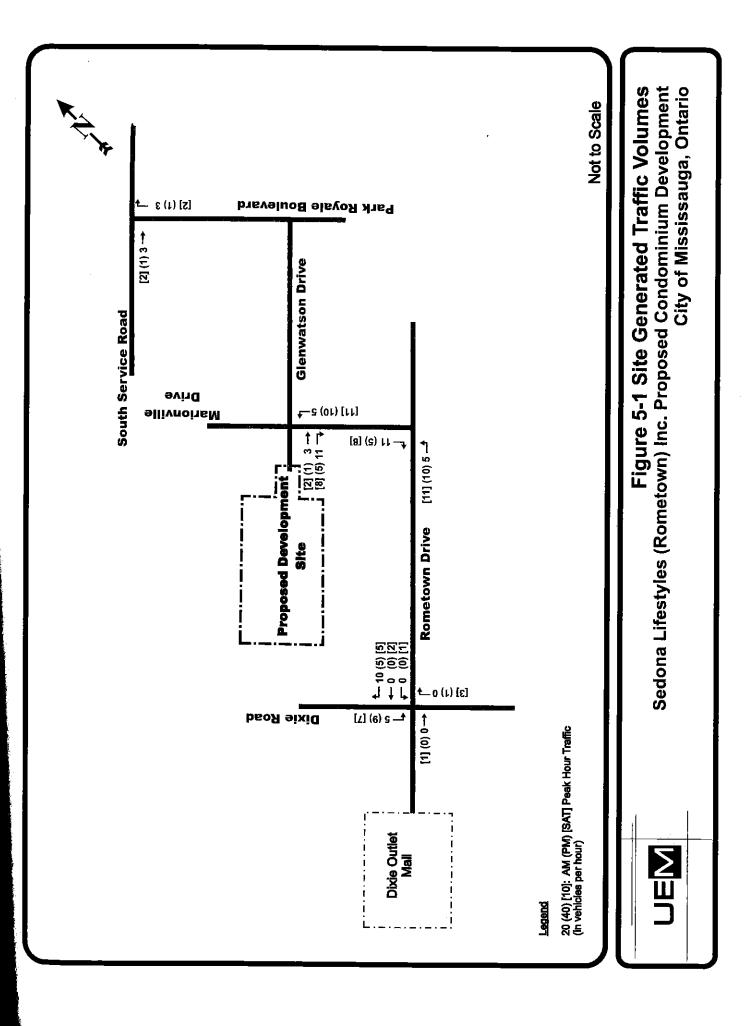
5.3 Total Traffic Volumes

Estimated total traffic is that traffic expected to use the area road network at the end of the planning horizon. The estimate is created by adding together the estimates of the future background traffic and the traffic generated by the proposed development. The information is presented in the form of turning movements at the key intersection. More detailed information on the traffic forecasting is provided in **Appendix E**.

The future (2016) total traffic volumes during the three design hours are illustrated in **Figure 5-2**.

The additional site traffic entering the intersection of Dixie Road and Rometown Drive is less than 1.3% of the total traffic expected to enter the intersection by 2016. Similarly, the additional site traffic entering the intersection of South Service Road and Park Royale Boulevard is less than 0.6% of the total traffic expected to enter the intersection by 2016. The addition of site traffic to the area road network is not considered significant.





APPENDIX D

Intersection Capacity Analysis Reports

Future (2022) Background Traffic Conditions

HCM Unsignalized Intersection Capacity Analysis 1: Dixie Road & Primate Road

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Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	¥		٦	<u>††</u>	∱ î⊮		
Traffic Volume (veh/h)	3	8	1	804	1708	7	
Future Volume (Veh/h)	3	8	1	804	1708	7	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	3	8	1	804	1708	7	
Pedestrians							
ane Width (m)							
Valking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Nedian type				None	None		
Nedian storage veh)							
Jpstream signal (m)				164			
X, platoon unblocked	0.94			101			
C, conflicting volume	2116	858	1715				
C1, stage 1 conf vol	2110	000	1710				
/C2, stage 2 conf vol							
Cu, unblocked vol	2057	858	1715				
C, single (s)	6.8	6.9	4.1				
C, 2 stage (s)	0.0	0.7					
F (s)	3.5	3.3	2.2				
0 queue free %	93	97	100				
CM capacity (veh/h)	46	304	375				
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	
/olume Total	11	1	402	402	1139	576	
/olume Left	3	1	0	0	0	0	
/olume Right	8	0	0	0	0	7	
SH	120	375	1700	1700	1700	1700	
/olume to Capacity	0.09	0.00	0.24	0.24	0.67	0.34	
Queue Length 95th (m)	2.1	0.1	0.0	0.0	0.0	0.0	
Control Delay (s)	38.1	14.6	0.0	0.0	0.0	0.0	
ane LOS	E	В					
Approach Delay (s)	38.1	0.0			0.0		
Approach LOS	E						
ntersection Summary							
Average Delay			0.2				
ntersection Capacity Utiliza	ation		57.4%	IC	CU Level o	of Service	В
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis 1: Dixie Road & Primate Road

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	٦	\rightarrow	1	†	Ŧ		
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	¥		ľ	<u>††</u>	<u></u> †î≽		
Traffic Volume (veh/h)	13	17	6	1135	1419	3	
Future Volume (Veh/h)	13	17	6	1135	1419	3	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	13	17	6	1135	1419	3	
Pedestrians							
_ane Width (m)							
Valking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Aedian storage veh)							
Jpstream signal (m)				164			
oX, platoon unblocked	0.83			101			
C, conflicting volume	2000	711	1422				
C1, stage 1 conf vol	2000	711	1722				
/C2, stage 2 conf vol							
Cu, unblocked vol	1796	711	1422				
C, single (s)	6.8	6.9	4.1				
C, 2 stage (s)	0.0	0.7	7.1				
F (s)	3.5	3.3	2.2				
0 queue free %	78	96	99				
cM capacity (veh/h)	60	380	485				
						05.0	
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2	
/olume Total	30	6	568	568	946	476	
/olume Left	13	6	0	0	0	0	
/olume Right	17	0	0	0	0	3	
SH	115	485	1700	1700	1700	1700	
/olume to Capacity	0.26	0.01	0.33	0.33	0.56	0.28	
Queue Length 95th (m)	6.8	0.3	0.0	0.0	0.0	0.0	
Control Delay (s)	47.1	12.5	0.0	0.0	0.0	0.0	
ane LOS	E	В					
Approach Delay (s)	47.1	0.1			0.0		
Approach LOS	E						
ntersection Summary							
Average Delay			0.6				
ntersection Capacity Utiliza	ation		49.3%	IC	CU Level o	of Service	А
Analysis Period (min)			15				

Queues 2: Dixie Road & Sherway Drive

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Lane Group	WBL	WBR	NBT	SBL	SBT	
Lane Configurations	۲	1	∱ Ъ	۲	††	
Traffic Volume (vph)	113	180	943	122	1303	
Future Volume (vph)	113	180	943	122	1303	
Lane Group Flow (vph)	113	180	1008	122	1303	
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)	31.6	31.6	26.0	26.0	26.0	
Total Split (s)	31.6	31.6	28.4	28.4	28.4	
Total Split (%)	52.7%	52.7%	47.3%	47.3%	47.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.6	2.6	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	6.6	6.0	6.0	6.0	
Lead/Lag	0.0	0.0	0.0	0.0	0.0	
Lead-Lag Optimize?						
Recall Mode	None	None	Мах	Мах	Max	
v/c Ratio	0.26	0.43	0.51	0.46	0.64	
Control Delay	15.3	15.1	9.9	19.8	12.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	15.3	15.1	9.9	19.8	12.4	
Queue Length 50th (m)	6.8	8.9	25.7	5.8	37.7	
Queue Length 95th (m)	15.1	20.3	49.3	#27.1	#82.8	
Internal Link Dist (m)	101.9	20.5	49.3 50.0	#Z7.1	#02.0 140.1	
	101.9	35.0	50.0	30.0	140.1	
Turn Bay Length (m)	054		1000		204E	
Base Capacity (vph)	956	864	1980	267	2045	
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	0.12	0.21	0.51	0.46	0.64	
Intersection Summary						
Cycle Length: 60						
Actuated Cycle Length: 46.8	3					
Natural Cycle: 65						
Control Type: Actuated-Unc						
# 95th percentile volume e			ueue may	be longe	er.	
Queue shown is maximu	m after two	o cycles.				
Splits and Phases: 2: Dix	ie Road &	Sherway	Drive			
		Sherway	DINC			
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Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	٢	1	≜ t≽		۲	<u>^</u>		
Traffic Volume (vph)	113	180	943	65	122	1303		
Future Volume (vph)	113	180	943	65	122	1303		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width	3.5	3.5	3.7	3.7	3.5	3.7		
Total Lost time (s)	6.6	6.6	6.0		6.0	6.0		
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)	1785	1581	3423		1785	3544		
Flt Permitted	0.95	1.00	1.00		0.25	1.00		
Satd. Flow (perm)	1785	1581	3423		463	3544		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Adj. Flow (vph)	113	180	943	65	122	1303		
RTOR Reduction (vph)	0	29	6	0	0	0		
Lane Group Flow (vph)	113	151	1002	0	122	1303		
Heavy Vehicles (%)	0%	1%	6%	0%	0%	3%		
Turn Type	Prot	Perm	NA		Perm	NA		
Protected Phases	8	1 Onn	2		1 OIIII	6		
Permitted Phases	Ū	8	-		6	Ū		
Actuated Green, G (s)	9.9	9.9	25.7		25.7	25.7		
Effective Green, g (s)	9.9	9.9	25.7		25.7	25.7		
Actuated g/C Ratio	0.21	0.21	0.53		0.53	0.53		
Clearance Time (s)	6.6	6.6	6.0		6.0	6.0		
Vehicle Extension (s)	5.0	5.0	5.0		5.0	5.0		
Lane Grp Cap (vph)	366	324	1825		246	1889		
v/s Ratio Prot	0.06	021	0.29		210	c0.37		
v/s Ratio Perm	0.00	c0.10	0.27		0.26	00.07		
v/c Ratio	0.31	0.47	0.55		0.50	0.69		
Uniform Delay, d1	16.2	16.8	7.4		7.1	8.3		
Progression Factor	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	1.0	2.2	1.2		7.0	2.1		
Delay (s)	17.3	19.1	8.6		14.1	10.4		
Level of Service	В	B	A		B	В		
Approach Delay (s)	18.4	D	8.6		U	10.7		
Approach LOS	B		A			B		
	D		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			D		
Intersection Summary								
HCM 2000 Control Delay			10.8	Н	CM 2000	Level of Servic	e	
HCM 2000 Volume to Capaci	ty ratio		0.63					
Actuated Cycle Length (s)			48.2		um of lost			
Intersection Capacity Utilizati	on		57.1%	IC	CU Level of	of Service		
Analysis Period (min)			15					

c Critical Lane Group

Queues 2: Dixie Road & Sherway Drive

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Lane Group	WBL	WBR	NBT	SBL	SBT	
Lane Configurations	ሻ	1	≜ †⊳	ሻ	††	
Traffic Volume (vph)	38	55	745	65	1645	
Future Volume (vph)	38	55	745	65	1645	
Lane Group Flow (vph)	38	55	837	65	1645	
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)	31.6	31.6	26.0	26.0	26.0	
Total Split (s)	31.6	31.6	28.4	28.4	28.4	
Total Split (%)	52.7%	52.7%	47.3%	47.3%	47.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.6	2.6	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	6.6	6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	Мах	Мах	Мах	
/c Ratio	0.11	0.16	0.34	0.14	0.64	
Control Delay	16.5	6.8	5.3	6.5	9.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Fotal Delay	16.5	6.8	5.3	6.5	9.9	
Queue Length 50th (m)	3.1	0.0	16.5	2.1	47.5	
Queue Length 95th (m)	7.0	5.6	27.6	7.2	#94.4	
nternal Link Dist (m)	101.9		50.0		140.1	
Furn Bay Length (m)		35.0		30.0		
Base Capacity (vph)	966	881	2498	462	2588	
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	0.04	0.06	0.34	0.14	0.64	
Intersection Summary						
Cycle Length: 60						
Actuated Cycle Length: 46.6						
Vatural Cycle: 75						
Control Type: Actuated-Unco						
# 95th percentile volume ex			ueue may	be longe	er.	
Queue shown is maximun	n atter two	o cycles.				
Splits and Phases: 2: Dixie	Road &	Sherway	Drive			
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Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	۲	1	≜ t}-		۲	<u>††</u>		
Traffic Volume (vph)	38	55	745	92	65	1645		
Future Volume (vph)	38	55	745	92	65	1645		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width	3.5	3.5	3.7	3.7	3.5	3.7		
Total Lost time (s)	6.6	6.6	6.0		6.0	6.0		
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)	1785	1581	3408		1785	3544		
Flt Permitted	0.95	1.00	1.00		0.34	1.00		
Satd. Flow (perm)	1785	1581	3408		633	3544		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Adj. Flow (vph)	38	55	745	92	65	1645		
RTOR Reduction (vph)	0	49	9	0	0	0		
Lane Group Flow (vph)	38	6	828	0	65	1645		
Heavy Vehicles (%)	0%	1%	6%	0%	0%	3%		
Turn Type	Prot	Perm	NA		Perm	NA		
Protected Phases	8		2			6		
Permitted Phases		8			6			
Actuated Green, G (s)	5.3	5.3	31.5		31.5	31.5		
Effective Green, g (s)	5.3	5.3	31.5		31.5	31.5		
Actuated g/C Ratio	0.11	0.11	0.64		0.64	0.64		
Clearance Time (s)	6.6	6.6	6.0		6.0	6.0		
Vehicle Extension (s)	5.0	5.0	5.0		5.0	5.0		
Lane Grp Cap (vph)	191	169	2173		403	2259		
v/s Ratio Prot	c0.02		0.24			c0.46		
v/s Ratio Perm		0.00			0.10			
v/c Ratio	0.20	0.03	0.38		0.16	0.73		
Uniform Delay, d1	20.1	19.8	4.3		3.6	6.1		
Progression Factor	1.00	1.00	1.00		1.00	1.00		
Incremental Delay, d2	1.1	0.2	0.5		0.9	2.1		
Delay (s)	21.2	19.9	4.8		4.5	8.2		
Level of Service	С	В	А		А	А		
Approach Delay (s)	20.4		4.8			8.0		
Approach LOS	С		А			А		
Intersection Summary								
HCM 2000 Control Delay			7.4	Ц	CM 2000	Level of Servic	2	
HCM 2000 Volume to Capa	acity ratio		0.65	1			J	
Actuated Cycle Length (s)			49.4	C	um of lost	t time (s)		
Intersection Capacity Utiliz	ation		49.4 62.6%			of Service		
Analysis Period (min)	adon		15	IC.				
			10					

c Critical Lane Group

APPENDIX E Intersection Capacity Analysis Reports

Future (2022) Total Traffic Conditions

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		۲	† †	≜ †⊅	-
Traffic Volume (veh/h)	5	11	7	804	1708	10
Future Volume (Veh/h)	5	11	7	804	1708	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	5	11	7	804	1708	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				164		
pX, platoon unblocked	0.94					
vC, conflicting volume	2129	859	1718			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2071	859	1718			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	96	98			
cM capacity (veh/h)	44	304	374			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	16	7	402	402	1139	579
Volume Left	5	7	0	0	0	0
Volume Right	11	0	0	0	0	10
cSH	107	374	1700	1700	1700	1700
Volume to Capacity	0.15	0.02	0.24	0.24	0.67	0.34
Queue Length 95th (m)	3.5	0.4	0.0	0.0	0.0	0.0
Control Delay (s)	44.6	14.8	0.0	0.0	0.0	0.0
Lane LOS	E	В				
Approach Delay (s)	44.6	0.1			0.0	
Approach LOS	E					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utiliza	ation		57.5%	IC	CU Level o	of Service
Analysis Period (min)			15			

Queues 2: Dixie Road & Sherway Drive

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Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations	<u> </u>	1	† Þ	<u> </u>	1001 11
Traffic Volume (vph)	38	55	751	65	1648
Future Volume (vph)	38	55	751	65	1648
Lane Group Flow (vph)	38	55	843	65	1648
Turn Type	Prot	Perm	NA	Perm	NA
Protected Phases	8	1 onn	2	1 onn	6
Permitted Phases	Ū	8	-	6	U
Detector Phase	8	8	2	6	6
Switch Phase	5	5	-	5	5
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	31.6	31.6	26.0	26.0	26.0
Total Split (s)	31.6	31.6	28.4	28.4	28.4
Total Split (%)	52.7%	52.7%	47.3%	47.3%	47.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.6	2.6	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6	6.6	6.0	6.0	6.0
Lead/Lag	0.0	0.0	0.0	0.0	0.0
Lead-Lag Optimize?					
Recall Mode	None	None	Мах	Мах	Мах
v/c Ratio	0.11	0.16	0.34	0.14	0.64
Control Delay	16.5	6.8	5.3	6.6	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	6.8	5.3	6.6	9.9
Queue Length 50th (m)	3.1	0.0	16.6	2.1	47.7
Queue Length 95th (m)	7.0	5.6	27.9	7.2	#94.5
Internal Link Dist (m)	101.9	5.0	50.0	1.2	# 74.3 140.1
Turn Bay Length (m)	101.7	35.0	50.0	30.0	1-10,1
Base Capacity (vph)	966	881	2497	459	2588
Starvation Cap Reductn	900 0	0	2497	439	2500
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductin	0	0	0	0	0
Reduced v/c Ratio	0.04	0.06	0.34	0.14	0.64
Intersection Summary	0.04	0.00	0.34	0.14	0.04
Cycle Length: 60					
Actuated Cycle Length: 46.6	5				
Natural Cycle: 75					
Control Type: Actuated-Unc					
# 95th percentile volume e	exceeds ca	ipacity, qi	ueue may	be longe	er.
Queue shown is maximu					
Splits and Phases: 2: Dix	ie Road &	Sherway	Drive		
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Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations	۲	1	≜ î≽		۲.	††			
Traffic Volume (vph)	38	55	751	92	65	1648			
Future Volume (vph)	38	55	751	92	65	1648			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
ane Width	3.5	3.5	3.7	3.7	3.5	3.7			
Total Lost time (s)	6.6	6.6	6.0		6.0	6.0			
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)	1785	1581	3408		1785	3544			
Flt Permitted	0.95	1.00	1.00		0.33	1.00			
Satd. Flow (perm)	1785	1581	3408		629	3544			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Adj. Flow (vph)	38	55	751	92	65	1648			
RTOR Reduction (vph)	0	49	9	0	0	0			
ane Group Flow (vph)	38	6	834	0	65	1648			
Heavy Vehicles (%)	0%	1%	6%	0%	0%	3%			
Furn Type	Prot	Perm	NA		Perm	NA			
Protected Phases	8		2			6			
Permitted Phases		8			6				
Actuated Green, G (s)	5.3	5.3	31.5		31.5	31.5			
Effective Green, g (s)	5.3	5.3	31.5		31.5	31.5			
Actuated g/C Ratio	0.11	0.11	0.64		0.64	0.64			
Clearance Time (s)	6.6	6.6	6.0		6.0	6.0			
Vehicle Extension (s)	5.0	5.0	5.0		5.0	5.0			
_ane Grp Cap (vph)	191	169	2173		401	2259			
/s Ratio Prot	c0.02		0.24			c0.47			
//s Ratio Perm		0.00			0.10				
//c Ratio	0.20	0.03	0.38		0.16	0.73			
Jniform Delay, d1	20.1	19.8	4.3		3.6	6.1			
Progression Factor	1.00	1.00	1.00		1.00	1.00			
ncremental Delay, d2	1.1	0.2	0.5		0.9	2.1			
Delay (s)	21.2	19.9	4.8		4.5	8.2			
_evel of Service	С	В	А		А	А			
Approach Delay (s)	20.4		4.8			8.0			
Approach LOS	С		А			А			
ntersection Summary									
ICM 2000 Control Delay			7.4	H	CM 2000	Level of Serv	/ice	А	
ICM 2000 Volume to Capa	city ratio		0.65						
Actuated Cycle Length (s)			49.4		um of lost			12.6	
Intersection Capacity Utiliza	ition		62.7%	IC	CU Level o	of Service		В	
Analysis Period (min)			15						

c Critical Lane Group