APPENDIX G:
TRANSPORTATION IMPACT STUDY

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22 February 2021
Project: (190027)

Town of Oakville
1225 Trafalgar Road
Oakville ON L6H 0H3

c/o Sajecki Planning

RE: HOSPITAL DISTRICT – TRANSPORTATION IMPACT STUDY
REVISED DEVELOPMENT BLOCK DENSITY
ADDENDUM LETTER

Introduction

This letter is an Addendum to the study "Hospital District – Transportation Impact Study", authored by Paradigm Transportation Solutions Limited, dated August 2020, herein referred to as the August 2020 TIS. This addendum letter has been prepared to address revisions to the development block density for the Hospital District lands.

As informed by Sajecki Planning, per Town of Oakville Council direction the previously identified development precincts have been eliminated. Specifically, all development blocks outside of the Hospital lands are now identified as Area 1 and subsequently the Hospital lands are designated as Area 2.

In addition, the following changes have occurred:

- The mixed-use threshold for the newly designated Area 1 lands have been adjusted to:
  - 60% (non-residential) and 40% (residential), applicable to all development blocks.
- Increased Floor Space Index (FSI) for Blocks 41, 42, and 43 (the former Innovation Precinct):
  - Block 41 – Increased from 2.0 to 2.5;
  - Block 42 – Increased from 2.5 to 3.0; and
  - Block 43 – Increased from 2.0 to 2.5.

The new density calculations results in changes to the area development statistics and the associated vehicle trip generation as previously calculated in Section 3.3 of the August 2020 TIS report. The changes are documented below.

Hospital District Site Trip Generation

Development Statistics

Table 1 below reflects the updated area development statistics and replaces Table 3.1 of the August 2020 TIS for the Hospital District lands.

Figure 1 illustrates the revised block divisions and replaces Figure 3.2.

TABLE 1: REVISED AREA DEVELOPMENT STATISTICS

Parcel ID	Residential (mid-rise) Units	Office Area	Retail Area
11	Per respective transportation study		
12 – 15	610	256,597.73 SF	109,940.46 SF
21 – 24	570	68,441.03 SF	68,441.03 SF
25 – 27	360	43,292.02 SF	43,292.02 SF
31 – 36	603	289,982.23 SF	144,990.95 SF
41 – 43	958	287,593.06 SF	115,037.24 SF
44	Per respective transportation study		
51 – 52	Oakville Trafalgar Memorial Hospital – Existing and Operational		
53	Erinoak Kids Facility – Existing and Operational		

Trip Generation Data

The methodology as documented within the August 2020 TIS remains unchanged. Vehicle trips generated by the Hospital District lands during the weekday AM and PM, and Saturday peak hours were estimated using data contained within the Institute of Transportation Engineers (ITE) publication, "Trip Generation Manual, 10th Edition" and the same land use codes (LUCs) as noted.

Table 2 presents the vehicle trips generated by the Hospital District lands with the revised area development statistics and replaces Table 3.2 of the August 2020 TIS. Minor discrepancies are noted due to rounding.

TABLE 2: REVISED HOSPITAL DISTRICT TRIP GENERATION

Block	Trip Type	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
11	Base	13	24	36	25	21	46	38	24	62
	Non-Auto Reduction (27%)	3	6	10	7	6	12	10	6	17
	Internal Reduction (50%)	0	0	0	0	0	0	0	0	0
	Sub-Total	*9*	*17*	*26*	*18*	*15*	*34*	*28*	*17*	*45*
12, 13, 14, 15	Base	347	226	573	399	550	949	460	434	894
	Non-Auto Reduction (27%)	94	61	155	108	149	256	124	117	241
	Internal Reduction (50%)	23	14	38	73	80	153	94	87	181
	Sub-Total	*230*	*151*	*381*	*218*	*322*	*540*	*242*	*230*	*472*
21, 22, 23, 24	Base	167	177	344	281	294	576	300	290	590
	Non-Auto Reduction (27%)	45	48	93	76	79	155	81	78	159
	Internal Reduction (50%)	15	9	23	46	49	95	58	54	112
	Sub-Total	*107*	*120*	*227*	*160*	*165*	*325*	*161*	*158*	*319*
25, 26, 27	Base	114	114	228	180	188	368	191	185	376
	Non-Auto Reduction (27%)	31	31	62	49	51	99	52	50	101
	Internal Reduction (50%)	9	6	15	29	31	60	37	34	71
	Sub-Total	*74*	*77*	*151*	*102*	*106*	*208*	*103*	*101*	*204*
31, 32, 33, 34, 35, 36	Base	394	241	635	467	647	1114	550	517	1066
	Non-Auto Reduction (27%)	106	65	171	126	175	301	148	139	288
	Internal Reduction (50%)	31	19	50	97	105	202	124	114	238
	Sub-Total	*256*	*157*	*413*	*244*	*368*	*612*	*278*	*263*	*541*
41, 42, 43	Base	528	363	892	610	867	1,476	887	776	1,662
	Non-Auto Reduction (27%)	143	98	241	165	234	399	239	209	449
	Internal Reduction (50%)	24	15	39	77	83	160	98	91	189
	Sub-Total	*361*	*250*	*611*	*368*	*549*	*917*	*549*	*476*	*1,025*
44	Base	867	223	1,090	377	1,078	1,455	842	650	1,492
	Non-Auto Reduction (27%)	234	60	294	102	291	393	227	176	403
	Internal Reduction (50%)	0	0	0	0	0	0	0	0	0
	Sub-Total	*633*	*163*	*796*	*275*	*787*	*1,062*	*615*	*475*	*1,090*
Total		***1,671***	***935***	***2,606***	***1,386***	***2,312***	***3,698***	***1,974***	***1,719***	***3,693***

Trip Generation Differences

In comparison to the previous August 2020 TIS trip generation the following is noted:

- Under the AM peak hour, a total reduction of 35 vehicle trips;
- Under the PM peak hour, a total increase of 153 vehicle trips; and
- Under the Saturday peak hour, a total increase of 168 vehicle trips.

Table 3 provides summary of the differences in calculated vehicle trip generation resulting from the changes in development statistics.

TABLE 2: REVISED HOSPITAL DISTRICT TRIP GENERATION

Parcel	Scenario	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
11	2020 August TIS	9	17	26	18	15	34	28	17	45
	2021 Revised	9	17	26	18	15	34	28	17	45
	Difference	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
12, 13, 14, 15	2020 August TIS	210	171	381	227	299	526	240	232	472
	2021 Revised	230	151	381	218	322	540	242	230	472
	Difference	*+20*	*-20*	*+1*	*-9*	*+23*	*+14*	*+2*	*-2*	*0*
21, 22, 23, 24	2020 August TIS	105	209	314	222	164	386	198	203	401
	2021 Revised	107	120	227	160	165	325	161	158	319
	Difference	*+2*	*-89*	*-87*	*-62*	*+1*	*-61*	*-37*	*-45*	*-82*
25, 26, 27	2020 August TIS	73	134	207	143	106	249	126	129	255
	2021 Revised	74	77	151	102	106	208	103	101	204
	Difference	*+1*	*-57*	*-56*	*-41*	*0*	*-41*	*-23*	*-28*	*-51*
31, 32, 33, 34, 35, 36	2020 August TIS	256	157	413	244	368	612	278	263	541
	2021 Revised	256	157	413	244	368	612	278	263	541
	Difference	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
41, 42, 43	2020 August TIS	238	266	504	320	356	676	374	347	721
	2021 Revised	361	250	611	368	549	917	549	476	1,025
	Difference	*+123*	*-16*	*+107*	*+48*	*+193*	*+241*	*+175*	*+129*	*+304*
44	2020 August TIS	633	163	796	275	787	1,062	615	475	1,090
	2021 Revised	633	163	796	275	787	1,062	615	475	1,090
	Difference	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Total	*2020 August TIS*	*1,525*	*1,116*	*2,641*	*1,451*	*2,094*	*3,545*	*1,859*	*1,666*	*3,525*
	2021 Revised	*1,671*	*935*	*2,606*	*1,386*	*2,312*	*3,698*	*1,974*	*1,719*	*3,693*
	Difference	***+146***	***-181***	***-35***	***-65***	***+218***	***+153***	***+115***	***+53***	***+168***

Impact of Revised Development Statistics

Based on the differences in vehicle trip generation, the calculated decreases/increases are not anticipated to result in significant changes to the previously documented operational results and findings.

Once the additional vehicle trips are distributed through the adjacent study area transportation network, any additional impact is anticipated to be imperceptible. As such, there would be no significant deviation from the operational analysis previously documented. Therefore, the original findings and conclusions within the August 2020 TIS remain unchanged.

Yours truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED

Adrian Soo
B.A.Sc., P.Eng., MITE
Senior Project Manager

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Hospital District Lands – Block Divisions

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Hospital District Transportation Impact Study

Paradigm Transportation Solutions Limited

August 2020

Project Summary

Project Number
190027

August 2020

Client
Town of Oakville
1225 Trafalgar Road
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c/o Sajecki Planning

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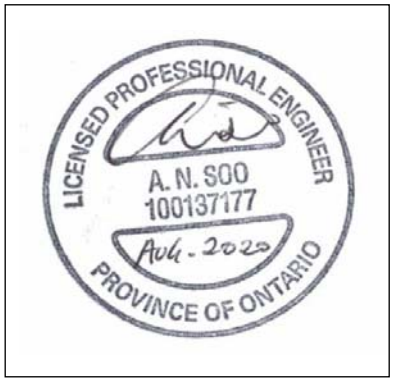
Hospital District Transportation Impact Study

Signatures and Seals



Signature

Engineer's Seal

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Executive Summary

Content

The Town of Oakville has retained Sajecki Planning (Prime Consultant), in association with Paradigm Transportation Solutions Limited (Paradigm) to prepare a Transportation Impact Study (TIS) in support of the Hospital District review. This report documents the existing and future conditions of the adjacent transportation network. The study scope was developed through pre-consultation discussions and correspondence with staff of Halton Region and the Town of Oakville.

The focus of the study is on identifying the road and traffic control improvements that would be required to accommodate the preferred development scenario for the Hospital District.

This report summarizes the existing and future conditions, documenting the existing study area road system, current and projected traffic conditions, operational deficiencies, and constraints experienced by the public travelling at the intersections within the study area, if any. The operational deficiencies and constraints identified will be fundamental to the process of identifying remedial measures required under full development of the Hospital District lands.

Findings

The findings of the Transportation Impact Study are as follows:

- Under existing conditions, the Hospital District lands are served by a road network comprising Halton Region arterial roads and Town of Oakville arterial and local roads. The arterial roads also provide convenient connections to the provincial freeway system to the north (Highway 407) and south of the site (Highway 403/Queen Elizabeth Way);
- Under future conditions, there are several planned improvements to the Regional road network. Including the widening of William Halton Parkway from two to four lanes between Third Line and Bronte Road, the extension of William Halton Parkway as a new four lane roadway between Third Line and Neyagawa Boulevard, and the widening of Bronte Road from four to six lanes between Highway 407 and Speers Road. Furthermore, it is anticipated that Dundas Street W will provide high-occupancy vehicle (HOV) lanes with the eventual conversion to bus only lanes to provide a Bus Rapid Transit corridor;
- The site is served by several Oakville Transit routes and can be accessed via a combination of local transit and inter-regional travel by GO Transit. Transit service near the subject site will be significantly improved in the future with the implementation of local transit service along William Halton Parkway as well as aforemented

improvements planned along the Dundas Street W corridor, which include HOV lanes and ultimately a Bus Rapid Transit (BRT) service;

- The site is currently well served by existing pedestrian and bicycle facilities (i.e., sidewalks, multi-use trails). Travel by bicycle and walking near the subject site will also be improved by the planned improvements to the multi-use trail, bicycle lanes, and sidewalk facilities that will accompany the planned improvements to the road network;
- Under existing base year conditions, the study area's signalized intersections operate at acceptable levels of service and within capacity. The exception would be at the intersections of Dundas Street W with Bronte Road and Neyagawa Boulevard which are currently at-capacity. The critical movements have identified a potential need for remedial measures under future conditions with the development of the Hospital District lands;
- The preferred land use scenario for the Hospital District lands consists of mixed-used buildings. Distinct blocks of office-focused, transitional, complementary, innovation, and institutional uses make up the Hospital District lands. Access to the Hospital District lands would be provided via existing intersections. Specifically, the intersection of Dundas Street W and Third Line is identified as a the main "gateway" to the Hospital District;
- Site generated traffic for the Hospital District lands have been reduced by the modal split targets identified per the Halton Region Transportation Master Plan. A transit modal split of 20%, active transportation modal split of 5%, and further reductions of 2% as a result of Transportation Demand Management measures by horizon year 2031;
- The internal local road network to serve the Hospital District lands are anticipated to serve and accommodate the project volumes without issue. These roadways would be designed to typical Town standards. The recommended transportation system will achieve a balanced range of travel options that encourage walking, cycling, and transit to make the most efficient use of existing and future transportation infrastructure;
- Under future conditions, the study area intersections are forecast to operate at acceptable levels of service and within capacity. In addition to the planned larger network roadway improvements, intersection improvements have also been identified as required to accommodate the development traffic; and
- The future site context provides improved transit and active transportation infrastructure. While strong opportunities exist to allow for sustainable transportation practices, the ability to leverage these opportunities will ensure a reduction of vehicle trips. As such Transportation Demand Management (TDM) measures and strategies have been identified to achieve the target modal share for transit and active transportation.

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1 Introduction

1.1 Overview

The Town of Oakville has retained Sajecki Planning (Prime Consultant), in association with Paradigm Transportation Solutions Limited (Paradigm) to prepare a Transportation Impact Study (TIS) in support of the Oakville Hospital District review. This report documents the existing and future conditions of the adjacent transportation network. **Figure 1.1** shows the development study area, bound by William Halton Parkway to the north, Dundas Street West to the south, Proudfoot Trail to the east, and Bronte Road to the west.

1.2 Planning Context

The subject lands are situated within the North Oakville West Planning Area. The Town of Oakville's Official Plan and North Oakville West Secondary Plan (NOWSP) designate the subject lands as an employment district.

The NOWSP establishes a detailed planning framework for the future urban development of the plan area. The polices of the secondary plan provide guidance on how the area will be developed including the character and pattern of the community.

The NOWSP has been designed to implement the Town's general policies with respect to employment. Specifically, the secondary plan has refined the targets for North Oakville previously documented in the North Oakville Strategic Land Use Options Study. The target is approximately 250 net hectares of employment land and 10,000 jobs at capacity, which may not be achieved within the 2021 planning period. This reflects a target of an average of 55 employees per net hectare. In addition, it is anticipated that there will be approximately 200 population related employees for a total target of 10,200 jobs at capacity. Further, the total employment target which will be achieved in North Oakville will reflect the employment target for North Oakville West, in combination with the employment target for North Oakville East as established in the North Oakville East Secondary Plan.

1.3 Study Purpose and Scope

The purpose of this study is to assess the impacts of the proposed HOMUN on the adjacent transportation network. Specifically, the development of vacant lands as employment, residential, and institutional uses will be assessed based upon the preferred land use scenario.

This report summarizes the existing and future conditions documenting the existing study area road system, current and projected traffic conditions, operational deficiencies, and constraints experienced by the public travelling at the intersections within the study area, if any. The operational deficiencies and constraints identified will be fundamental to the process of identifying remedial measures required under full development of the Hospital District lands.

Study Area & Site Location
Town of Oakville, Halton Region

The scope of the transportation study, which was determined through pre-consultation with Halton Region and Town of Oakville staff, is as follows:

- A study area comprising the William Halton Parkway (RR 40) intersections with Bronte Road (RR 25), Hospital Gate, and Third Line, the Dundas Street West (RR 5) intersections with Bronte Road (RR 25), Hospital Gate, Third Line, Proudfoot Trail, and Neyagawa Boulevard;
- Traffic forecasts for the 2031 horizon year, assuming full program build-out of the Hospital District by 2031; and
- Analysis of traffic conditions for the weekday AM and PM peak hour time periods (typical commuter "street peak"), and the Saturday peak hour.

The methodology used in the study is summarized below:

- Establish peak hour base year conditions from new 2019 traffic counts;
- Analyze peak hour intersection operations for base year conditions;
- Estimate the future peak hour background traffic for the 2031 horizon year;
- Determine the net increase in traffic due to the proposed development of the Hospital District lands;
- Combine the future background and site traffic to determine the total peak hour traffic forecasts for the 2031 horizon;
- Analyze peak hour intersection operations for total traffic conditions; and
- Determine the need for road and/or traffic control improvements, if any based upon existing conditions.

The study has been carried out in general accordance with the current Halton Region Transportation Impact Study guidelines and North Oakville Terms of Reference for Transportation Impact Studies. Pre-consultation correspondence was exchanged with Region and Town transportation staff prior to undertaking the study to confirm the details of the terms of reference for this study. **Appendix A** contains the correspondence for reference.

2 Existing Conditions

2.1 Roads and Traffic Control

The characteristics of the roads and intersections near the subject site are described below. The roadway designations were obtained from the Town of Oakville's, "The Livable Oakville Plan" (Town of Oakville Official Plan – 2009), Schedule C Transportation Plan (April 4, 2017), the North Oakville West Secondary Plan, and Halton Region's Regional Road Network Map (June 2017):

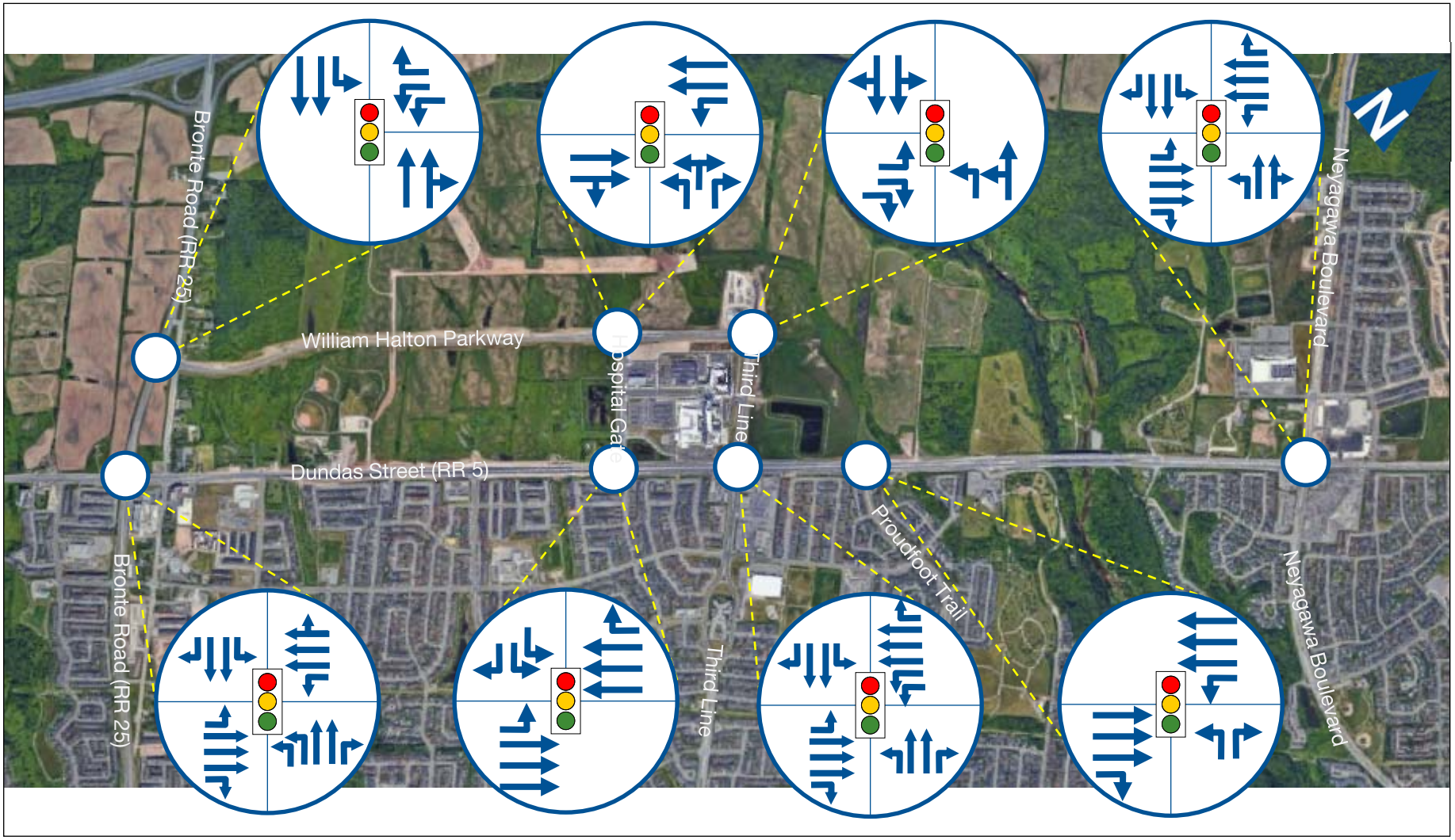
- **William Halton Parkway (Regional Road 40)** is an east-west, four (4) lane major arterial road along the south side of the subject site. It operates under the jurisdiction of Halton Region and has a posted maximum speed limit of 60 kilometres per hour. To the west of Hospital Gate, this road currently transitions to a two (2) lane cross-section up to its intersection with Bronte Road. To the east of Hospital Gate, William Halton Parkway currently terminates at its intersection with Third Line. This roadway is a designated transit corridor, which will accommodate secondary transit services;
- **Dundas Street West (Regional Road 5)** is an east-west, six (6) lane major arterial operating under the jurisdiction of Halton Region. It has a posted maximum speed limit of 60 kilometres per hour. This roadway is a designated transit corridor, specifically a Busway Corridor. At a yet-to-be-determined future date, the curb lane will first be used as a high occupancy vehicle (HOV) lane and later as a bus only lane for Bus Rapid Transit (BRT);
- **Bronte Road (Regional Road 25**) is a north-south, four (4) lane divided major arterial operating under the jurisdiction of Halton Region. It has a posted maximum speed limit of 70 kilometres per hour;
    - Bronte Road forms a signalized T-intersection with William Halton Parkway, and in addition to the basic lanes, a southbound left turn lane, a westbound right and dual westbound left turn lanes are provided; and
    - Bronte Road forms a signalized intersection with Dundas Street West. In addition to the basic lanes, auxiliary left turn lanes are provided on all approaches including dual left turn lanes on the northbound approach, and auxiliary right turn lanes are provided on the northbound, eastbound, and southbound approaches.
- **Hospital Gate** is a north-south, four (4) lane local road (Avenue/Transit Corridor) operating under the jurisdiction of the Town of Oakville. It is assumed that the statutory maximum speed limit of 50 kilometres per hour applies. This roadway provides access to the Oakville Trafalgar Memorial Hospital as well as a through traffic connection between William Halton Parkway and Dundas Street W;
    - Hospital Gate forms a signalized T-intersection with Dundas Street W, and in addition to the basic lanes, an eastbound left

turn lane, westbound right turn lane, and dual southbound left turn lanes are provided; and

- Hospital Gate forms a signalized T-intersection with William Halton Parkway, and in addition to the basic lanes, a westbound left turn lane is provided.

- **Third Line** is a north-south, four (4) lane minor arterial operating under the jurisdiction of the Town of Oakville. It is assumed that the statutory maximum speed limit of 50 kilometres per hour applies. This roadway provides access to the Oakville Trafalgar Memorial Hospital as well as a through traffic connection between William Halton Parkway and Dundas Street W;
  - Third Line forms a signalized four-leg intersection with William Halton Parkway, however, at the time of writing the east leg of the intersection was not open. The north leg provides access to the ErinoakKids Centre. The east leg of the intersection will be completed in conjunction with the easterly extension of William Halton Parkway to Neyagawa Boulevard, which is anticipated to be completed by 2023. Under the existing configuration, and in addition to the basic lanes, an eastbound left turn lane, dual eastbound right turn lanes, a northbound left turn lane and shared left/through lane are provided. The north intersection leg currently provides two approach lanes and they are configured as a shared left/through and shared through/right; and
  - Third Line forms a signalized four-leg intersection with Dundas Street W. In addition to the basic lanes, auxiliary left turn lanes are provided on all approaches including dual left turn lanes on the westbound approach, and auxiliary right turn lanes are provided on all approaches.
- **Proudfoot Trail** is a north-south, two (2) lane minor arterial operating under the jurisdiction of the Town of Oakville. It has a posted maximum speed limit of 50 kilometres per hour;
  - Proudfoot Trail forms a signalized T-intersection with Dundas Street W, and in addition to the basic lanes, an eastbound right turn lane, westbound left turn lane, and northbound left and right turn lanes are provided.
- **Neyagawa Boulevard (Regional Road 4)** is a north-south, four (4) lane major arterial operating under the jurisdiction of Halton Region. It has a posted maximum speed limit of 60 kilometers per hour. This roadway is a designated transit corridor, which will accommodate secondary transit services;
  - Neyagawa Boulevard forms a signalized four-leg intersection with Dundas Street W. In addition to the basic lanes, auxiliary left turn lanes are provided on all approaches, and auxiliary right turn lanes are provided on the southbound, eastbound, and westbound approaches.

Figure 2.1 illustrates the existing lane arrangements and traffic control devices at the study area intersections.



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Existing Lane Arrangements & Traffic Control

2.2 Transit

The study area is currently served by several Oakville Transit routes. Transit stops are located along Dundas Street W, Hospital Gate, and within the Oakville Trafalgar Memorial Hospital property.

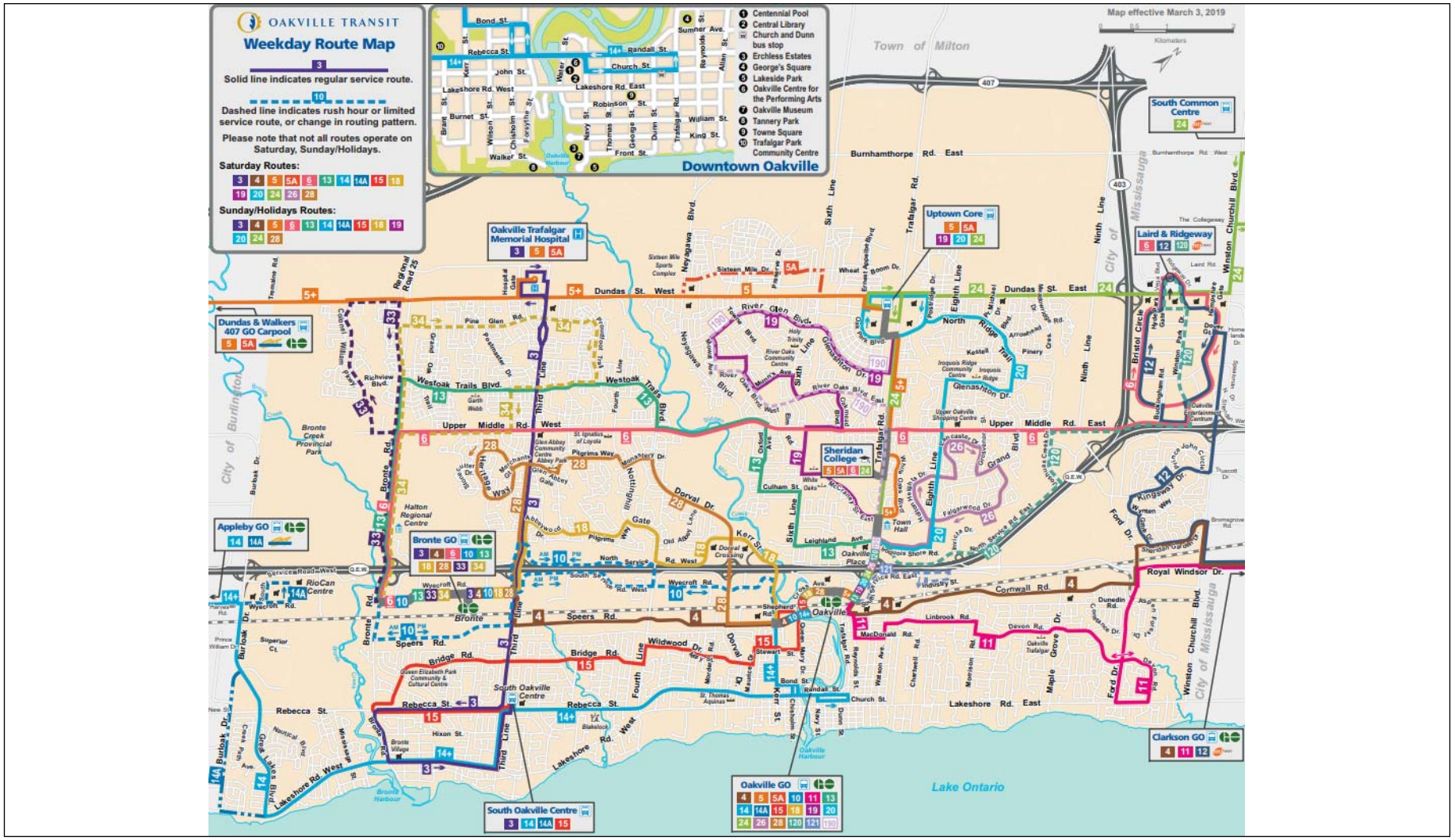
Inter-regional travel is provided via GO Transit services with connections provided at the Bronte GO Station and Oakville GO Station. GO Bus services are also accessible via the Bronte GO Park and Ride and the Dundas GO Park and Ride facilities.

Based on current information posted on the Oakville Transit[1] and GO Transit[2] websites, the study area is served by the following transit routes:

- **Oakville Transit Route 3 – Third Line** provides service between the South Oakville Centre and the Oakville Trafalgar Memorial Hospital along Third Line. Stops include the Bronte GO Station and the Glen Abby Community Centre. Weekday service operates between 6:00 AM and 11:34 PM at approximately 15-minute headways during the AM and PM peak hours. Weekend and holiday service is also provided;
- **Oakville Transit Route 5 – Dundas** provides service between the Oakville GO Station and the Dundas 407 GO Park and Ride. Stops include Sheridan College, the Uptown Core, and the Oakville Trafalgar Memorial Hospital. Weekday service operates between 5:47 AM and 12:20 AM at 15 to 30-minute headways during the AM and PM peak hours. Weekend and holiday service is also provided;
- **Oakville Transit Route 33 – Palermo** provides service between the Bronte GO Station and the Palermo and Westmount neighbourhoods. Weekday service operates from approximately 6:18 AM to 7:38 PM at approximately 30-minute headways;
- **GO Transit Bus Route 45-46-47-48 (407 West Bus)** operates along Highway 407. This inter-regional route provides services connecting Hamilton GO Centre, Oakville GO Station, Streetsville GO Station, Meadowvale GO Station, and the Bramalea GO Station as well as the Bronte GO Park and Ride and the Dundas GO Park and Ride facilities. Major stops include McMaster University, the University of Guelph, Sheridan College, and York University; and
- **GO Transit Rail Route 15 (Lakeshore West)** is the commuter rail service operating between Hamilton and Toronto (Union Station). GO Train stops include the Bronte GO Station and the Oakville GO Station.

Figure 2.2 illustrates the available transit routes in vicinity to the subject site.

[1] Oakville Transit – Schedules & Maps All Routes – Effective March 3, 2019
http://oakvilletransit.ca/schedules-and-maps.html
[2] GO Transit – Schedules
http://www.gotransit.com/timetables/en/schedules/full_schedules.aspx



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Transit Route Map

Hospital District – Transportation Impact Study
190027

Figure 2.2

2.3 Active Transportation

Reference was made to the following documents: the Town of Oakville's Active Transportation Master Plan (2009)[3] and the Trails and Cycleways Online Map[4] to identify the available cycling facilities and walking trails within vicinity of the study area.

Designated bicycle facilities are provided along both sides of William Halton Parkway between Hospital Gate and Third Line, along both sides of Third Line between William Halton Parkway and Dundas Street W, along both sides of Proudfoot Trail, and along both sides of Neyagawa Boulevard north of Dundas Street W. A designated portion of the existing roadway is provided for use by cyclists only. The cycling lanes on William Halton Parkway, Proudfoot Trail, and Neyagawa Boulevard are marked by a painted white line. These cycling lanes have bicycle symbols on the pavement and are also identified by dedicated signs along the roadway. There are currently no other designated bicycle facilities provided on the study area roads.

A multi-use trail is provided on both sides of Dundas Street W from Bronte Road to Lions Valley Park Road, along the west side of Hospital Gate between William Halton Parkway and Dundas Street W, along the north side of William Halton Parkway between Hospital Gate and Third Line, along the west side of Neyagawa Boulevard north of Dundas Street W, along both sides of Neyagawa Boulevard south of Dundas Street W, and along the west side of Bronte Road south of Dundas Street W. These facilities provide two-way travel and are physically separated from the travelled portion of the various roadways by barrier curbs and/or landscaped boulevards. Multi-use trails are shared by various users (cyclists, pedestrians, in-line skaters, etc.) and motorized vehicles (autos, scooters, e-bikes) are prohibited.

Pedestrian travel within the study area is facilitated by the multi-use trails described above as well as sidewalks on the east side of Hospital Gate, along the south side of William Halton Parkway, along both sides of Third Line, along the east side of Bronte Road south of Dundas Street W, along both sides of Proudfoot Trail, along the east side of Neyagawa Boulevard north of Dundas Street W, and along both sides of Neyagawa Boulevard south of Dundas Street W.

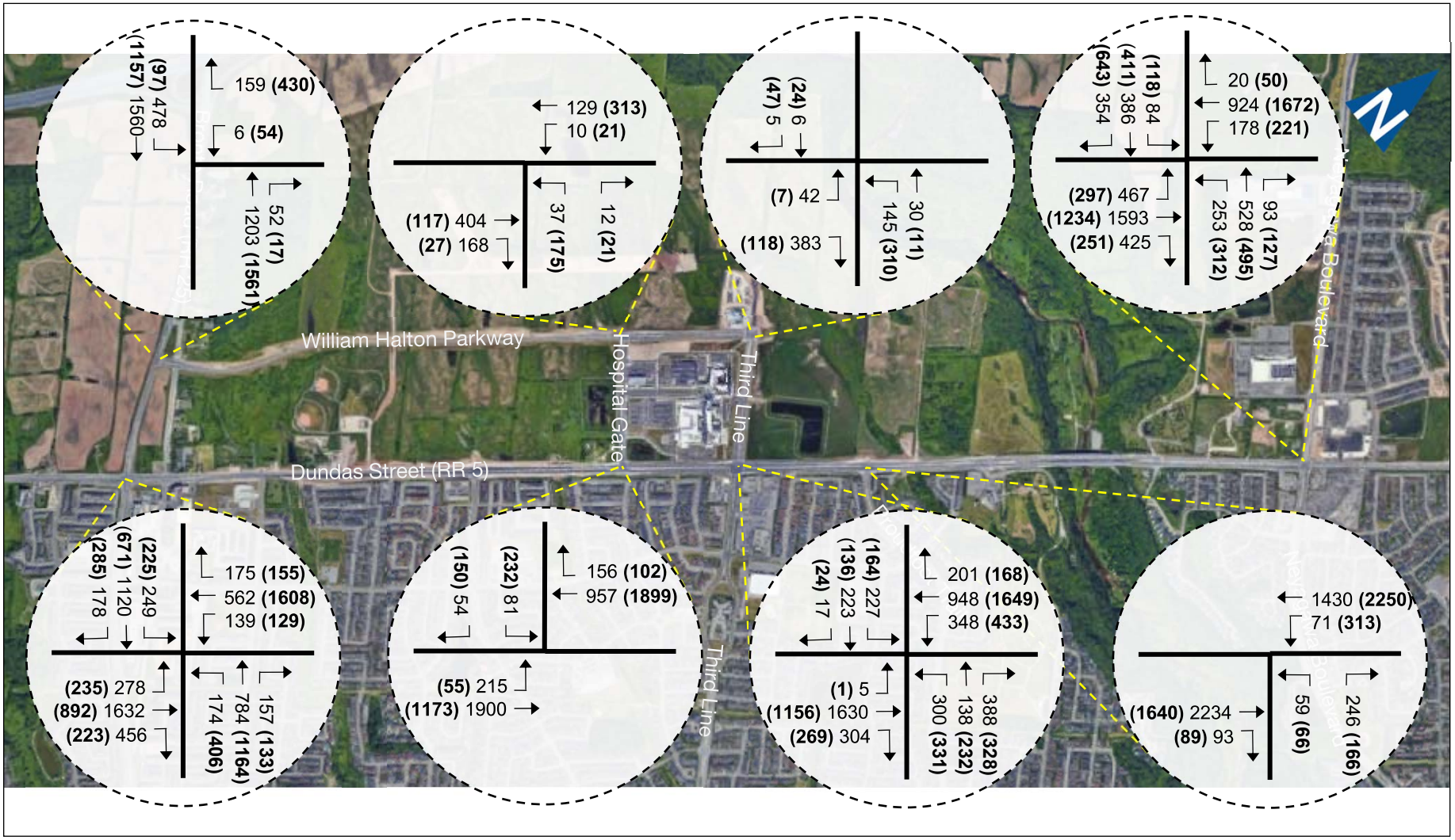
The McCraney Creek Trail is an off-road trail located south of the subject site and runs from Dundas Street W down to the Indian Ridge Trail at the Queen Elizabeth Way. It is located alongside a waterway that flows into Fourteen Mile Creek.

[3] Town of Oakville – Active Transportation Master Plan (2009)
http://www.oakville.ca/townhall/active-transportation-master-plan.html
[4] Town of Oakville – Trails and Cycleways Online Map
https://maps.oakville.ca/gxmaps/Default.aspx?map=map04&extent=605750.50520701,4813184.91503683,606793.49479299,4813773.08496317

2.4 Traffic Volumes

Paradigm collected weekday 8-hour intersection turning movement counts at the study area intersections on Wednesday 8 May 2019, which covered the hours 7:00 to 10:00 AM, 11:30 AM to 1:30 PM, and 4:00 to 7:00 PM. Paradigm collected Saturday 4-hour intersection turning movement counts at the study area intersections on Saturday February 1, 2020, which covered the hours between 12:00 PM to 4:00 PM. All traffic movements, including pedestrian crossings, were counted in 15-minute intervals and vehicles were classified by type.

Figure 2.3 illustrates the existing base year weekday AM and PM peak hour (typical street peak hours), and Saturday peak hour volumes. **Appendix B** contains the raw count data for reference.



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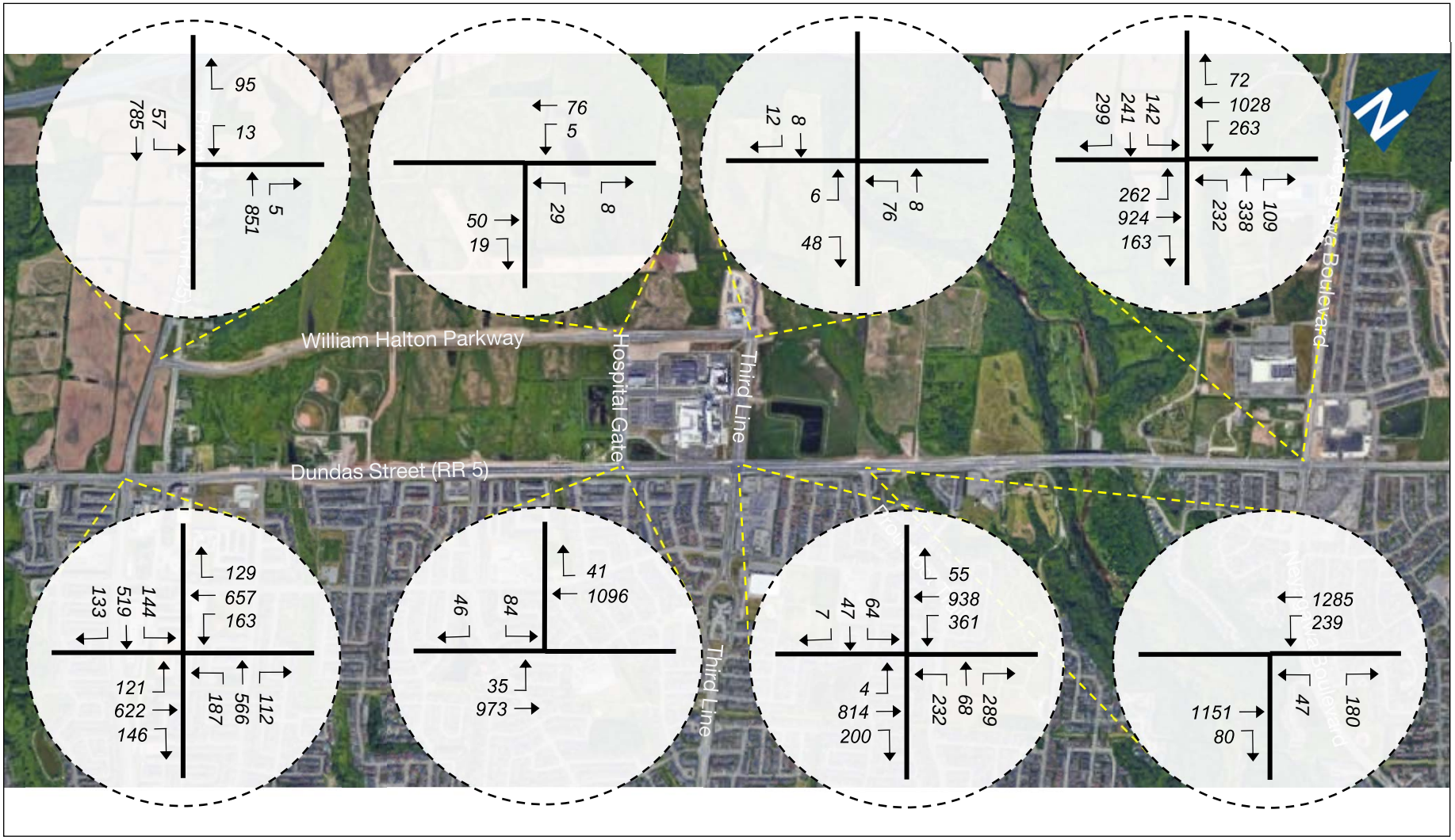
111 (222) Left/Through/Right Traffic Volume

AM Peak Hour **(PM Peak Hour)**

Base Year Volumes AM and PM Peak Hours



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[111] Left/Through/Right Traffic Volume

[SAT Peak Hour]

Base Year Volumes Saturday Peak Hour

Figure 2.3B

2.5 Field Observations

Paradigm conducted a site visit on Wednesday 8 May 2019 during the AM peak period. Lane configurations, signal timings, and posted signage were confirmed in the field. Traffic observations were also undertaken at the study area intersections.

It was observed that all study area intersections were operating efficiently and without any significant queuing. Traffic volumes along William Halton Parkway were noted to be relatively light.

With the Dundas Street W/Third Line intersection being a main intersection into the Hospital District study area, additional focus was directed to its operations such as observing and recording vehicle queuing related to left turn movements as follows:

- For the westbound dual left turn movement, it was observed that most queues would clear within the cycle. It was noted that approximately six (6) vehicles, at most, would join the queue as the exclusive turn phase would end. These additional vehicles would proceed through the intersection during the next cycle. The queue reach under these conditions was accommodated within the available storage lane length; and
- For the northbound left turn movement (single left turn lane), it was observed that the queued vehicles would not entirely clear the intersection during the advanced left turn phase. However, since the opposing southbound through traffic is relatively low, there was enough north-south green time and gaps in opposing flow to accommodate the remaining northbound left turns. While the queue was observed to reach the limit of the storage lane during one cycle, the queue was within the available storage lane length for the remainder of the observation hour.

It was also noted that bicycle signals are provided at the Dundas Street W/Third Line intersection on all approaches with separate push buttons.

2.6 Traffic Operations

Intersection level of service (LOS) is a recognized method of quantifying the average delay experienced by drivers at intersections. It is based on the delay related to the number of vehicles desiring to make a through or turning movement, compared to the estimated capacity for that movement. The capacity is based on several criteria including, but not limited to, vehicle headways, intersection geometry, vehicle composition, opposing traffic flows, and signal timing (for signalized intersections). Capacity is evaluated in terms of the ratio of demand flow to capacity with an at-capacity condition represented by a volume-to-capacity (V/C) ratio of 1.00 (i.e. volume demands equals capacity).

The highest possible rating is LOS A, in which the average total delay is equal or less than 10.0 seconds per vehicles. When the average delay

exceeds 80 seconds for signalized intersection, 50 seconds for unsignalized intersections or when the volume-to-capacity ratio is greater than 1.00, the movement is classed as LOS F and improvements are usually implemented, where feasible. LOS E is generally used as a guideline for the determination of road improvement needs on through lanes, while LOS F may be acceptable for left-turn movements at peak times, depending on capacity and safety considerations. It is also recognized that the guidelines for determining when improvements are necessary can vary in different municipalities.

To adhere to the Region of Halton and North Oakville's guidelines for operational analysis, the following criteria have been used for the determination of capacity needs or traffic control improvements to the study area intersections.

For signalized intersections:

- Volume-to-capacity ratios for overall intersection operations, through movements, or shared through/turning movements increase to 0.85 or higher;
- Volume-to-capacity for exclusive movements increase to 0.95 or higher; and
- 95th percentile queue lengths for individual movements that are projected to, or exceed, the available turning lane storage.

For unsignalized intersections:

- Level of service based on average delay per vehicle, on individual movements that exceed LOS D; and
- 95th percentile queue lengths for individual movements that are projected to, or exceed the available turning lane storage.

To assess the existing peak hour traffic operating conditions, a level of service analysis has been conducted using Synchro 9.1 software, which implements the methods of the Highway Capacity Manual (HCM). The following parameters have been utilized in the analysis:

- Existing lane configurations;
- Heavy vehicle percentages as derived from existing traffic counts;
- Conflicting pedestrian volumes as derived from existing traffic counts;
- Existing signal timing plans as provided by Halton Region. **Appendix B** contains the signal timing plan data for reference;
- Calculated intersection peak hour factors (PHF) for the AM and PM peak hours. The use of the PHF results in an analysis of the peak 15-minute period flow during each peak hour;
- As requested by Halton Region staff, SimTraffic has been used to assess vehicle queuing. A seeding interval time of 15-minutes and a recording/analysis time period of 60-minutes was applied to five (5)

simulation runs, beginning with random seed zero (0). The 95th percentile queue results have been taken from the five (5) simulation runs report generated using the "Multiple Runs" option;

- Saturation Flow Rates – An ideal saturation flow rate of 2,000 vehicles per hour per lane (vphpl) was utilized for the entire network. This is an accepted saturation flow rate in locations with similar roadway characteristics. This saturation flow rate is referenced within the York Region Transportation Mobility Plan Guidelines. The saturation flow roate of 2,000 VPHPL is based on an average vehicle headway of 1.8 seconds per passenger car unit (typical for urban driving conditions).

  Preliminary analysis results indicated that during the PM peak hour, the westbound shared through/right (WBT/R) movement at the intersection of Dundas Street W and Bronte Road would be operating at an above capacity situation (v/c > 1.00). However, this was not found to be the case during field observations where the movements operated within capacity (no evidence of flow breakdown, excessive delay or queuing). Furthermore, the traffic counts are reflective of the number of vehicles that passed through the intersection. Therefore, the saturation flow rate was incrementally increased until the v/c ratio was approximately equal to 1.00 for the movement. The ideal saturation flow of 2,000 vphpl was increased to 2,225 for the WBT/R movement;
- Lost Time Adjustment – A lost time adjustment of -1 second was applied to all movements in the study area and -3 seconds for select turn movements. Based on the high vehicle volumes and suburban contextual location, motorists specifically daily commuters will be familiar with their surroundings and will exhibit more aggressive driving behaviours. This driving behaviour was validated during the site observations conducted; and
- Synchro default values for all other inputs.

Table 2.1, **Table 2.2**, and **Table 2.3** summarize the results of the existing conditions analysis, indicating LOS, average delays, v/c ratios, queues (95th and 50th percentile) experienced at the study area intersections for the weekday AM, PM, and Saturday peak hours. **Appendix C** contains the Synchro analysis outputs.

TABLE 2.1: EXISTING TRAFFIC – AM PEAK HOUR

Intersection	Approach/Movement		AM Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
William Halton Parkway & Bronte Road *(Signalized)*	WB	Dual Left	E	57.1	0.02	5.3	1
		Right	F	205.2	0.10	42.9	25
	NB	Thru-Thru/Right	C	27.5	0.76	103.6	58
	SB	Left	D	42.9	0.85	100.7	63
		Dual Thru	A	5.0	0.58	119.7	40
	Overall Intersection		***C***	***27.7***	***0.80***	-	-
William Halton Parkway & Hospital Gate *(Signalized)*	EB	Thru-Thru/Right	A	3.7	0.26	42.0	15
	WB	Left	A	0.1	0.02	9.5	3
		Dual Thru	A	0.2	0.05	2.6	< 1
	NB	Left-Left/Right	D	45.7	0.09	17.4	8
		Right	D	45.1	0.01	7.0	2
	Overall Intersection		***A***	***5.8***	***0.23***	-	-
William Halton Parkway & Third Line *(Signalized)*	EB	Left	A	2.1	0.03	8.4	2
		Dual Right	A	0.2	0.14	17.0	8
	NB	Left	D	45.1	0.40	26.7	15
		Left/Thru	D	44.8	0.38	34.4	21
	SB	Left/Thru-Thru/Right	D	41.8	0.01	5.8	1
	Overall Intersection		***B***	***13.8***	***0.19***	-	-
Dundas Street W & Bronte Road *(Signalized)*	EB	Left	E	65.0	0.92	203.4	144
		Triple Thru	E	67.5	0.99	257.4	204
		Right	D	42.6	0.55	163.4	87
	WB	Left	E	58.1	0.81	73.4	40
		Dual Thru-Thru/Right	D	38.6	0.46	71.7	50
	NB	Dual Left	E	64.6	0.60	60.5	37
		Dual Thru	D	42.3	0.69	103.9	73
		Right	C	33.3	0.17	33.6	16
	SB	Left	D	45.2	0.84	242.9	112
		Dual Thru	E	58.1	0.94	326.6	199
		Right	C	32.5	0.22	166.9	75
	Overall Intersection		***D***	***53.5***	***0.98***	-	-
Dundas Street W & Hospital Gate *(Signalized)*	EB	Left	A	3.3	0.47	35.0	19
		Triple Thru	A	3.5	0.47	47.1	22
	WB	Triple Thru	A	5.9	0.27	46.9	16
		Right	A	5.2	0.11	18.4	7
	SB	Dual Left	E	62.5	0.34	24.3	13
		Right	E	60.4	0.04	15.0	7
	Overall Intersection		***A***	***6.6***	***0.48***	-	-

Intersection	Approach/Movement		AM Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
Dundas Street W & Third Line *(Signalized)*	EB	Left	C	20.3	0.02	4.6	1
		Triple Thru	C	34.4	0.79	133.8	92
		Right	C	25.3	0.30	83.1	35
	WB	Dual Left	D	52.6	0.76	59.4	41
		Triple Thru	C	27.4	0.37	70.5	50
		Right	E	68.0	0.13	31.0	18
	NB	Left	D	47.7	0.80	95.5	57
		Dual Thru	D	42.5	0.22	41.7	16
		Right	E	56.9	0.74	82.3	47
	SB	Left	E	59.1	0.75	77.7	44
		Dual Thru	D	52.7	0.51	45.6	25
		Right	D	45.8	0.01	8.7	3
	Overall Intersection		***D***	***40.2***	***0.82***	**-**	**-**
Dundas Street W & Proudfoot Trail *(Signalized)*	EB	Triple Thru	A	8.5	0.67	50.0	25
		Right	A	1.2	0.07	9.2	3
	WB	Left	B	15.2	0.48	28.1	14
		Triple Thru	A	5.4	0.39	59.3	34
	NB	Left	D	46.6	0.25	23.5	11
		Right	E	56.9	0.67	70.7	43
	Overall Intersection		***B***	***10.8***	***0.66***	**-**	**-**
Dundas Street W & Neyagawa Boulevard *(Signalized)*	EB	Left	E	69.3	1.00	242.1	146
		Triple Thru	C	30.2	0.74	359.5	163
		Right	C	24.7	0.41	54.9	30
	WB	Left	D	41.4	0.79	84.4	44
		Triple Thru	D	36.3	0.61	78.8	58
		Right	C	28.1	0.01	11.0	3
	NB	Left	E	76.4	0.94	192.5	156
		Thru-Thru/Right	D	51.2	0.82	346.2	221
	SB	Left	D	35.0	0.47	29.6	14
		Double Thru	D	41.5	0.51	66.9	46
		Right	D	39.9	0.34	55.7	30
	Overall Intersection		***D***	***40.8***	***1.00***	**-**	**-**

[1] Level of Service; [2] Average vehicle delay in seconds; [3] Volume to capacity ratio; [4] Queue in metres

TABLE 2.2: EXISTING TRAFFIC – PM PEAK HOUR

Intersection	Approach/Movement		PM Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
William Halton Parkway & Bronte Road *(Signalized)*	WB	Dual Left	D	54.2	0.08	45.3	11
		Right	F	96.6	0.86	120.4	77
	NB	Thru-Thru/Right	C	21.9	0.79	157.1	83
	SB	Left	C	20.7	0.51	38.9	18
		Dual Thru	A	9.2	0.50	74.2	43
	Overall Intersection		***C***	***27.7***	***0.79***	-	-
William Halton Parkway & Hospital Gate *(Signalized)*	EB	Thru-Thru/Right	A	2.0	0.06	17.1	6
	WB	Left	A	0.3	0.03	6.8	1
		Dual Thru	A	0.5	0.13	7.3	2
	NB	Left-Left/Right	D	44.4	0.32	36.9	22
		Right	D	41.8	0.01	10.3	14
	Overall Intersection		***B***	***13.5***	***0.17***	-	-
William Halton Parkway & Third Line *(Signalized)*	EB	Left	A	5.4	0.01	4.7	1
		Dual Right	A	4.0	0.05	11.6	4
	NB	Left	D	42.7	0.71	47.6	31
		Left/Thru	D	44.4	0.73	52.3	36
	SB	Left/Thru-Thru/Right	D	37.8	0.06	13.4	7
	Overall Intersection		***C***	***33.4***	***0.21***	-	-
Dundas Street W & Bronte Road *(Signalized)*	EB	Left	F	107.8	1.00	200.3	129
		Triple Thru	D	40.3	0.56	269.1	151
		Right	C	34.2	0.15	79.6	19
	WB	Left	C	31.1	0.50	246.0	122
		Dual Thru-Thru/Right	E	131.5	1.00	531.5	433
	NB	Dual Left	E	63.0	0.76	70.2	46
		Dual Thru	E	55.5	0.95	339.9	218
		Right	C	30.3	0.14	180.5	84
	SB	Left	F	117.3	0.98	318.8	206
		Dual Thru	D	45.5	0.66	443.8	218
		Right	D	39.5	0.33	55.1	29
	Overall Intersection		***E***	***57.8***	***1.00***	-	-
Dundas Street W & Hospital Gate *(Signalized)*	EB	Left	A	8.1	0.37	20.3	9
		Triple Thru	A	4.1	0.31	40.7	22
	WB	Triple Thru	A	9.4	0.56	90.4	43
		Right	A	5.8	0.09	25.8	7
	SB	Dual Left	E	63.5	0.65	50.2	33
		Right	E	58.2	0.31	33.2	17
	Overall Intersection		***B***	***13.1***	***0.56***	-	-

Intersection	Approach/Movement		PM Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
Dundas Street W & Third Line *(Signalized)*	EB	Left	C	21.8	0.01	2.3	< 1
		Triple Thru	C	31.3	0.63	82.6	58
		Right	C	25.7	0.24	42.0	24
	WB	Dual Left	D	50.0	0.79	62.1	45
		Triple Thru	C	22.5	0.63	91.4	66
		Right	C	29.1	0.13	25.1	13
	NB	Left	E	64.8	0.91	126.6	78
		Dual Thru	D	48.0	0.48	138.6	53
		Right	D	47.2	0.35	58.4	32
	SB	Left	D	50.6	0.68	52.4	30
		Dual Thru	E	56.9	0.57	34.9	21
		Right	D	51.8	0.02	10.0	4
	Overall Intersection		***D***	***35.2***	***0.80***	**-**	**-**
Dundas Street W & Proudfoot Trail *(Signalized)*	EB	Triple Thru	C	23.9	0.56	115.9	64
		Right	C	22.8	0.07	19.8	8
	WB	Left	C	34.5	0.75	66.4	39
		Triple Thru	A	4.9	0.56	88.2	36
	NB	Left	D	53.1	0.42	31.1	16
		Right	D	50.2	0.11	36.2	19
	Overall Intersection		***B***	***16.5***	***0.73***	**-**	**-**
Dundas Street W & Neyagawa Boulevard *(Signalized)*	EB	Left	F	85.5	0.99	219.3	117
		Triple Thru	D	35.6	0.70	338.3	143
		Right	C	27.2	0.16	34.2	19
	WB	Left	D	37.4	0.78	235.0	107
		Triple Thru	E	56.1	0.98	280.6	183
		Right	C	26.8	0.03	176.5	47
	NB	Left	E	56.3	0.89	188.2	159
		Thru-Thru/Right	D	39.2	0.63	362.5	247
	SB	Left	C	29.2	0.45	41.7	21
		Double Thru	D	35.8	0.42	295.6	153
		Right	F	85.0	1.00	177.4	129
	Overall Intersection		***D***	***50.5***	***1.00***	**-**	**-**

[1] Level of Service; [2] Average vehicle delay in seconds; [3] Volume to capacity ratio; [4] Queue in metres

TABLE 2.3: EXISTING TRAFFIC – SAT PEAK HOUR

Intersection	Approach/Movement		SAT Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
William Halton Parkway & Bronte Road *(Signalized)*	WB	Dual Left	E	66.2	0.04	10.4	3
		Right	F	156.4	0.06	30.2	17
	NB	Thru-Thru/Right	A	6.1	0.33	29.6	8
	SB	Left	A	2.6	0.12	16.5	8
		Dual Thru	A	3.0	0.28	21.5	6
	Overall Intersection		***B***	***13.0***	***0.31***	-	-
William Halton Parkway & Hospital Gate *(Signalized)*	EB	Thru-Thru/Right	A	2.6	0.03	8.2	2
	WB	Left	A	0.2	0.01	2.2	< 1
		Dual Thru	A	0.1	0.03	1.8	< 1
	NB	Left-Left/Right	D	49.2	0.10	16.9	7
		Right	D	48.6	0.01	5.6	1
	Overall Intersection		***B***	***10.7***	***0.04***	-	-
William Halton Parkway & Third Line *(Signalized)*	EB	Left	A	3	0.01	3	< 1
		Dual Right	A	3	0.02	9	2
	NB	Left	D	39	0.26	16	7
		Left/Thru	D	39	0.26	23	12
	SB	Left/Thru-Thru/Right	D	45	0.02	9	3
	Overall Intersection		***C***	***28***	***0.05***	-	-
Dundas Street W & Bronte Road *(Signalized)*	EB	Left	B	15.6	0.30	36.2	20
		Triple Thru	C	21.9	0.26	73.8	50
		Right	C	20.1	0.09	22.0	11
	WB	Left	B	14.4	0.35	40.6	23
		Dual Thru-Thru/Right	C	21.1	0.27	64.6	46
	NB	Dual Left	E	60.9	0.59	48.5	32
		Dual Thru	E	52.8	0.79	78.0	55
		Right	D	44.9	0.07	11.7	5
	SB	Left	D	39.7	0.63	47.1	27
		Dual Thru	E	53.1	0.75	73.1	51
		Right	D	46.0	0.09	16.5	9
	Overall Intersection		***D***	***37.3***	***0.49***	-	-
Dundas Street W & Hospital Gate *(Signalized)*	EB	Left	A	2.3	0.09	13.9	5
		Triple Thru	A	2.5	0.23	31.8	15
	WB	Triple Thru	A	5.1	0.28	39.6	14
		Right	A	4.0	0.03	6.1	1
	SB	Dual Left	E	62.4	0.34	29.4	14
		Right	E	60.3	0.03	13.8	6
	Overall Intersection		***A***	***7.2***	***0.29***	-	-

Intersection	Approach/Movement		SAT Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
Dundas Street W & Third Line *(Signalized)*	EB	Left	B	19.7	0.02	4.7	1
		Triple Thru	C	25.1	0.40	58.2	38
		Right	C	22.1	0.13	27.3	15
	WB	Dual Left	D	50.3	0.72	50.6	37
		Triple Thru	B	17.3	0.34	51.7	33
		Right	B	12.2	0.04	12.9	6
	NB	Left	D	40.8	0.63	73.5	43
		Dual Thru	D	44.5	0.14	21.8	9
		Right	D	45.1	0.19	35.1	19
	SB	Left	D	44.5	0.29	26.5	12
		Dual Thru	D	54.1	0.24	18.8	9
		Right	D	53.2	0.00	4.9	1
	Overall Intersection		***C***	***29.6***	***0.55***	**-**	**-**
Dundas Street W & Proudfoot Trail *(Signalized)*	EB	Triple Thru	B	16.5	0.35	66.4	27
		Right	C	24.7	0.05	14.0	5
	WB	Left	A	5.2	0.55	46.0	27
		Triple Thru	A	3.3	0.32	43.1	18
	NB	Left	D	52.2	0.30	19.5	9
		Right	D	50.7	0.12	30.6	16
	Overall Intersection		***B***	***12.7***	***0.54***	**-**	**-**
Dundas Street W & Neyagawa Boulevard *(Signalized)*	EB	Left	B	18.0	0.68	73.9	44
		Triple Thru	C	22.1	0.40	79.2	59
		Right	B	18.7	0.11	20.5	12
	WB	Left	B	16.2	0.63	71.7	43
		Triple Thru	C	23.0	0.45	76.1	55
		Right	B	18.3	0.05	15.6	8
	NB	Left	D	50.2	0.76	80.9	44
		Thru-Thru/Right	D	52.4	0.74	57.9	33
	SB	Left	D	44.6	0.66	45.0	23
		Double Thru	D	45.1	0.41	45.2	25
		Right	D	43.3	0.19	36.1	18
	Overall Intersection		***C***	***30.1***	***0.70***	**-**	**-**

[1] Level of Service; [2] Average vehicle delay in seconds; [3] Volume to capacity ratio; [4] Queue in metres

2.6.1 Existing Operations Assessment

The existing conditions analysis indicates that most intersections in the study area are currently operating at acceptable levels of service. Most intersection movements operate well within capacity, and with 50th and 95th percentile left turn queues accommodated within the available storage.

The following exceptions are noted:

- Dundas Street W and Bronte Road:
  - Under the AM peak hour, the overall intersection operates with a v/c ratio of 0.98 and is noted to be approaching capacity. Additionally, according to the threshold criteria, the eastbound through and southbound through movements are noted to be approaching capacity; and
  - Under the PM peak hour, the overall intersection operates with a v/c ratio of 1.00, at capacity. The eastbound left turn movement and westbound shared through/right movement are currently operating at capacity (v/c = 1.00 for both movements);
- Dundas Street W and Neyagawa Boulevard:
  - Under the AM peak hour, the overall intersection and the eastbound left turn movement both operate with a v/c ratio of 1.00, at capacity; and
  - Under the PM peak hour, the overall intersection and the southbound right turn movement both operate with a v/c ratio of 1.00, at capacity.
- Several queues were identified to exceed the available turning lane storage. It is noted that these identified 95th percentile queues are estimates of the longest queue that could occur during the peak hour, however, this level of queuing only has a five (5) percent probability of occurring during the analysis period. It is not typical of what a motorist would experience on average. The 50th percentile average queue would be the typical queue experienced. It is noted that for the majority of queues identified, the average queue would be contained within the available turn lane storage.

2.6.2 Potential Mitigation Measures

As identified above, existing capacity issues are noted at the intersections of Dundas Street W with Bronte Road and Neyagawa Boulevard. It is anticipated that under continued background growth and inclusion of other area developments, the identified movements that are approaching or at capacity will be further exceeded.

As such, potential mitigation measures may include the following:

- Several road and traffic control improvements have been determined and anticipated to be required, as over-capacity conditions are expected. These include:
  - The Highway Capacity Manual and the Transportation Association of Canada Geometric Design Guide for Canadian Roads both recommend the consideration of dual left turn lanes at intersections where left turning volumes exceed 300 vehicles per hour. Therefore, based on this guidance and/or the preliminary analysis with single left turn lanes, dual left turn lanes would be required at the following intersections:
    - The Dundas Street W/Bronte Road intersection is anticipated to require dual southbound left turn lanes based on anticipated growth and site traffic generated by other background developments within the study area;
    - It is noted the provision of dual left turn lanes will not require any immediate widening of Bronte Road as there are currently provisions at this intersection to allow for dual left turns on the southbound approach. Pavement marking restriping and changes to the signal phasing would be required to implement the dual left turn lanes;
    - It is also noted that as part of Halton Region's Capital Works Plan, Bronte Road (Regional Road 25) is planned to be widened from 4 to 6 lanes from Highway 407 to Speers Road with completion anticipated in 2027;
    - The Dundas Street W/Third Line intersection would require dual northbound left turn lanes, dual southbound left turn lanes, and dual eastbound left turn lanes based on anticipated growth and site traffic generated by other background developments within the study area;
    - It is noted that the provision of dual left turn lanes will not require widening Dundas Street W or Third Line as there are currently provisions at this intersection to allow for dual left turns on the northbound, southbound, and eastbound approaches (in addition to the existing dual left turns currently provided on the westbound approach). Pavement marking restriping and changes to the signal phasing would be required to implement the dual left turn lanes;
    - The William Halton Parkway/Bronte Road intersection may require dual southbound left turn lanes based on anticipated growth and site traffic generated by other background developments within the study area. The provision of the dual southbound left turn lanes would require widening Bronte Road, aforementioned, Halton Region is planning to widen Bronte Road within the study area; and
    - The Dundas Street W/Neyagawa Boulevard intersection would require dual eastbound lanes and dual northbound

lanes based on existing traffic volumes. However, it is noted that signal timing improvements may assist in mitigating the identified critical movements.

- The Transportation Association of Canada Geometric Design Guide for Canadian Roads recommends the consideration of right turn lanes at signalized intersections where the volume of right turning vehicles is 10 to 20 percent of the through volume, subject to a minimum of 60 vehicles per hour in the design hour. Therefore, based on this guidance and/or the preliminary analysis, right turn lanes would be required at the following intersections;
  - The William Halton Parkway/Bronte Road intersection is anticipated to require the provision of a northbound right turn lane. The provision of the northbound right turn lane would require widening Bronte Road; and
  - The Dundas Street W/Neyagawa Boulevard intersection is anticipated to benefit from the provision of a northbound right turn lane. The provision of a northbound right turn lane would require widening Neyagawa Boulevard.

3 Forecasts

3.1 Future Road Network

3.1.1 William Halton Parkway

Based on information obtained during pre-study consultation, the future road network would include the extension of William Halton Parkway as a new four lane roadway from Third Line to Neyagawa Boulevard. The expected completion date would be 2024.

It is also anticipated that an extension of William Halton Parkway westward from Bronte Road to Tremaine Road would be in place by 2031. With the development of the Lazy Pat Farm lands, the fourth leg of the Bronte Road/William Halton Parkway intersection has been assumed to be in place by 2031.

3.1.2 Dundas Street West

Dundas Street West currently provides six general purpose travel lanes, three in each direction. It is anticipated by the 2031 horizon that the curb side lanes will operate as high-occupancy vehicle (HOV) lanes. Therefore, under the 2031 horizon, Dundas Street West will provide four general purpose travel lanes and two HOV lanes.

3.1.3 Bronte Road

Based on information obtained during pre-study consultation, the future road network would include the widening of Bronte Road to six lanes between Highway 407 and Speers Road. The expected completion date would be 2027.

3.1.4 Proudfoot Trail

It is assumed Proudfoot Trail will be extended north from its current terminus at Dundas Street West to William Halton Parkway. With the development of the Graydon Banning Martillac Estates lands and has been assumed to be in place by 2031.

3.1.5 Glenorchy Road

As related to the Town of Oakville plans for recreational uses in the Glenorchy Conservation Area, Third Line is to be extended north from William Halton Parkway as a basic four-lane road transitioning to a basic two-lane road (transitions into future Glenorchy Road). It is noted, under present conditions the northerly extension of Third Line has been completed and currently provides access to the operational Erinoak Kids facility.

Glenorchy Road is to be constructed from where its juncture with Third Line to a point west of Hospital Gate as a basic two-lane road, and Hospital Gate

is to be extended northerly from William Halton Parkway as a basic four-lane road to its intersection with future Glenorchy Road.

3.2 Future Background Traffic

3.2.1 Methodology

Traffic forecasts have been prepared for the 2031 horizon year, as it represents the assumed full development of the Hospital District lands. The future background traffic volumes in the study area considered general background corridor growth and new traffic that would be generated by several proposed developments located in or adjacent to the study area.

3.2.2 General Traffic Growth

Consistent with the information contained in the approved "Oakville Green Health Sciences and Technology District – Phase 1, Transportation Impact Study Update" (WSP, March 2019) report a compound annual growth rate of 1.0% per annum was assumed for all through movements on arterial roadways.

We note that a conservative approach is taken in that traffic volumes have not been redistributed to account for the William Halton Parkway extension. This assumption is based on that upon completion in 2024, use and transition by commuters will be slow.

Appendix D contains the 2031 background traffic volumes related to general growth.

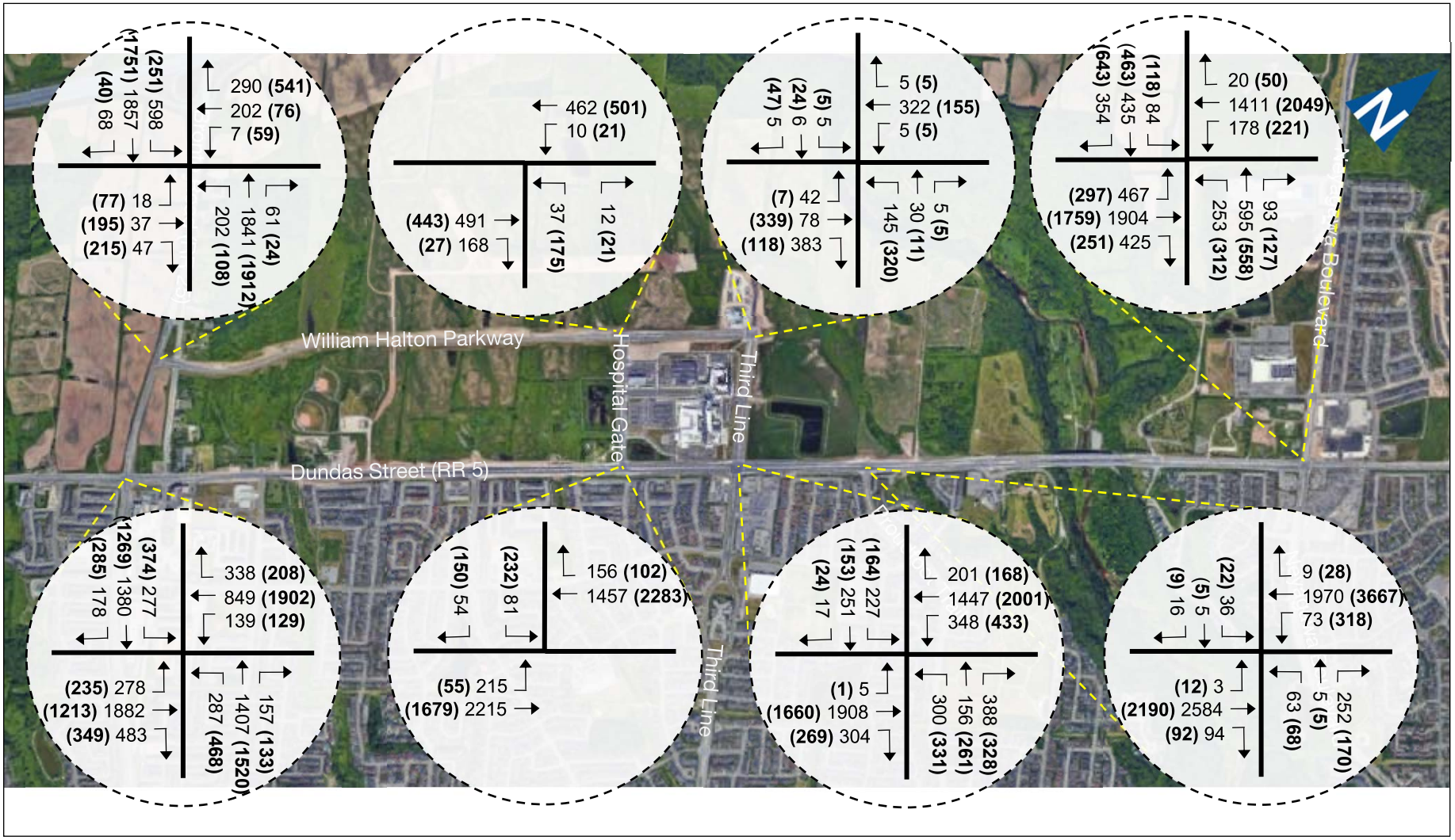
3.2.3 Other Area Developments

Town of Oakville staff indicated that several nearby developments should be considered and included as part of the background traffic forecasts. Applicable traffic impact study documents were obtained via the Town of Oakville website. These developments are all likely to be in place and operational by 2031, are as follows:

- Lazy Pat Farm Property;
- 2430 Old Bronte Road;
- Upper Glen Abbey;
- Graydon Banning Martillac Estates lands;
- Matam Holdings Development; and
- Bronte Green Subdivision of the Merton Tertiary Plan.

Appendix E contains the traffic forecasts for the background developments for reference.

Figure 3.1 shows the 2031 weekday AM and PM, and Saturday background traffic forecasts.



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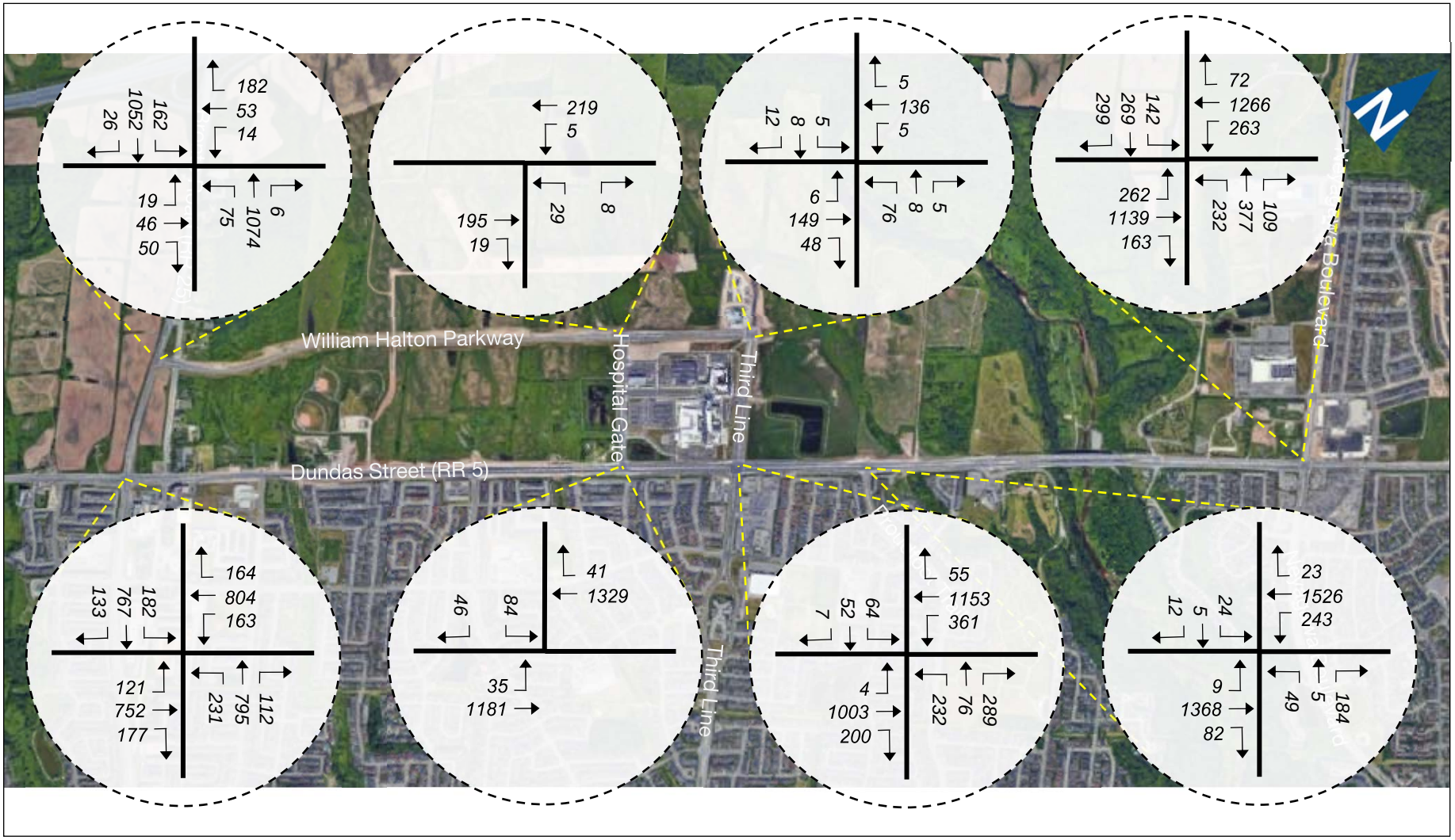
111 (222) Left/Through/Right Traffic Volume

AM Peak Hour **(PM Peak Hour)**

2031 Background Volumes AM and PM Peak Hours



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[111] Left/Through/Right Traffic Volume

[SAT Peak Hour]

2031 Background Volumes Saturday Peak Hour

Figure 3.1B

3.3 Hospital District Site Trip Generation

3.3.1 Methodology

Development Statistics

Trip generation for the Hospital District lands has been estimated for the preferred land use scenario. The Hospital District lands were subject to an exercise where blocks were established based upon density calculations to achieve targets for jobs and people.

The Livable Oakville Official Plan, including the North Oakville West Secondary Plan dictated and guided the policy directions as related to land uses. The majority of the Hospital District lands will be designated as mixed-use, with the exception of the existing Oakville Trafalgar Memorial Hospital and Erinoak Kids facility.

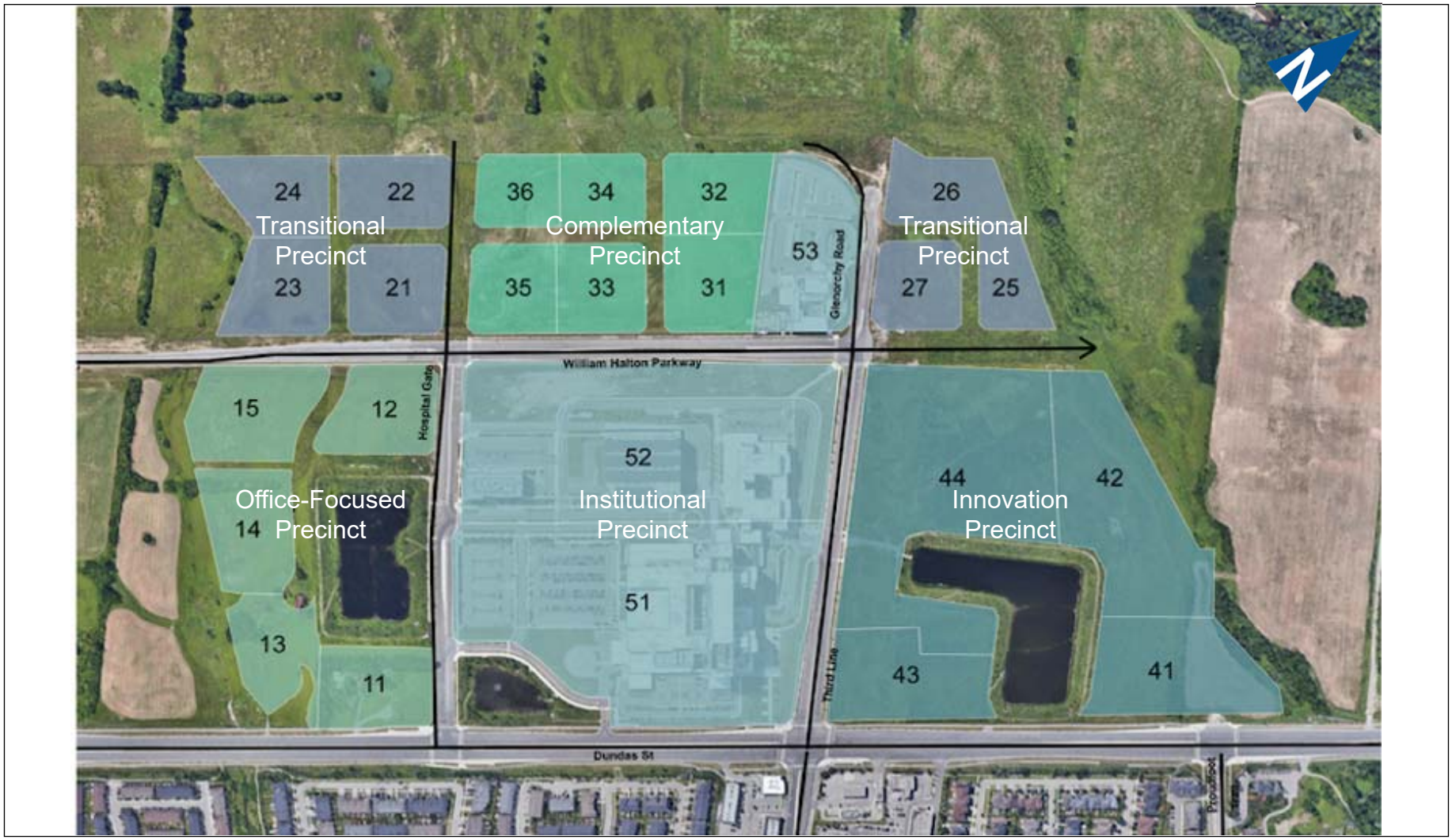
Estimates of the number of residential units, office, and retail areas were provided by the planning consultant.

Figure 3.2 illustrates the block divisions. **Table 3.1** provides a summary of the assumed development of the Hospital District lands.

It is noted that for parcels number 11 and 44, represent approved development applications of the All Seniors Care retirement facility, and Oakville Green Health Sciences Phase 1, respectively. As such the site traffic estimates as extracted from their respective traffic studies have been accounted for.

TABLE 3.1: AREA DEVELOPMENT STATISTICS

Parcel ID	Residential (mid-rise) Units	Office Area	Retail Area
11	Per respective transportation study		
12 – 15	763	213,831.42 SF	91,642.00 SF
21 – 24	1,140	22,813.68 SSF	22,813.68 SF
25 – 27	721	14,430.64 SF	14,430.64 SF
31 – 36	603	289,982.23 SF	144,990.95 SF
41 - 43	1,272	137,072.15 SF	54,828.99 SF
44	Per respective transportation study		
51 – 52	Oakville Trafalgar Memorial Hospital – Existing and Operational		
53	Erinoak Kids Facility – Existing and Operational		



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Hospital District Lands – Block Divisions

Mode Split Reductions

Transit and active transportation mode split reductions were agreed upon during pre-study consultation with Halton Region staff. It was indicated that Halton's Transportation Master Plan utilized a transit mode split of 20% for 2031, that a 5% mode split for active transportation should be utilized for 2031, and that an additional 2% reduction would be acceptable to account for Transportation Demand Management (TDM). A total trip reduction of 27% has been applied to the Hospital District trip generation estimates.

Given the mixed-use nature of the Hospital District lands, residential, commercial/retail, and office uses will be integrated in a compact urban form focused on being pedestrian-oriented and transit-supportive. Mixed-used developments intend to create animated streets by providing retail and service commercial uses on the ground floor of mixed-used building, fronting onto the street and other pedestrian environments.

For the commercial and retail uses, given they are ancillary uses complementary to the surrounding developments, a 50% internal reduction has been assumed. This estimate assumes the majority of retail trips will serve office and building residents, those already within the Hospital District lands and supported by the connected pedestrian infrastructure.

Trip Generation Data

The vehicle trip generated by the Hospital District lands during the weekday AM and PM, and Saturday peak hours were estimated using data contained within the Institute of Transportation Engineers (ITE) publication, "Trip Generation Manual, 10th Edition".

Given the high level and conceptual nature of the preferred land use scenario, detailed site plans or access to the development parcels have been developed. As such, the residential, office, and commercial/retail development has been estimated using the following land use codes (LUCs):

- LUC 221 – Multifamily Housing (Mid-Rise);
- LUC 710 – General Office;
- LUC 720 – Medical Office; and
- LUC 820 – Shopping Centre.

Table 3.2 presents the estimated number of trips generated by the Hospital District lands. **Appendix F** contains detailed trip generation calculations for each of the development parcels.

TABLE 3.2: HOSPITAL DISTRICT TRIP GENERATION

Parcel	Trip Type	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
11	Base	13	24	36	25	21	46	38	24	62
	Non-Auto Reduction (27%)	3	6	10	7	6	12	10	6	17
	Internal Reduction (50%)	0	0	0	0	0	0	0	0	0
	Sub-Total	*9*	*17*	*26*	*18*	*15*	*34*	*28*	*17*	*45*
12, 13, 14, 15	Base	314	250	564	395	500	895	436	417	853
	Non-Auto Reduction (27%)	85	68	152	107	135	242	118	113	230
	Internal Reduction (50%)	19	12	31	61	66	127	78	72	151
	Sub-Total	*210*	*171*	*381*	*227*	*299*	*526*	*240*	*232*	*472*
21, 22, 23, 24	Base	151	290	441	326	247	573	298	302	600
	Non-Auto Reduction (27%)	41	78	119	88	67	155	80	82	162
	Internal Reduction (50%)	5	3	8	15	16	32	19	18	37
	Sub-Total	*105*	*209*	*314*	*222*	*164*	*387*	*198*	*203*	*401*
25, 26, 27	Base	105	186	291	209	159	368	190	193	382
	Non-Auto Reduction (27%)	28	50	79	57	43	99	51	52	103
	Internal Reduction (50%)	3	2	5	10	10	20	12	11	24
	Sub-Total	*73*	*134*	*207*	*143*	*106*	*249*	*126*	*129*	*255*
31, 32, 33, 34, 35, 36	Base	394	241	635	467	647	1,114	550	517	1,066
	Non-Auto Reduction (27%)	106	65	171	126	175	301	148	139	288
	Internal Reduction (50%)	31	19	50	97	105	202	124	114	238
	Sub-Total	*256*	*157*	*414*	*244*	*367*	*612*	*278*	*263*	*540*
41, 42, 43	Base	342	374	716	489	543	1,032	577	535	1,112
	Non-Auto Reduction (27%)	92	101	193	132	147	279	156	144	300
	Internal Reduction (50%)	12	7	19	37	40	76	47	43	90
	Sub-Total	*238*	*266*	*504*	*320*	*356*	*677*	*374*	*347*	*721*
44	Base	867	223	1,090	377	1078	1,455	842	650	1,492
	Non-Auto Reduction (27%)	234	60	294	102	291	393	227	176	403
	Internal Reduction (50%)	0	0	0	0	0	0	0	0	0
	Sub-Total	*633*	*163*	*796*	*275*	*787*	*1,062*	*615*	*475*	*1,090*
TOTAL		***1,525***	***1,116***	***2,641***	***1,451***	***2,094***	***3,546***	***1,859***	***1,666***	***3,525***

3.3.2 Trip Distribution and Assignment

The Hospital District site generated trips have been distributed and assigned to the future roadway network using the same methodology and data as the Oakville Green Health Sciences and Technology District – Phase 1, Transportation Impact Study Update (WSP, March 2019) report. Given the report has been approved and the Phase 1 lands are situated within the Hospital District the same distribution has been applied for consistency.

The 2016 Transportation Tomorrow Survey (TTS) was utilized to determine the site traffic distribution and assignments related to the Hospital District lands. The overall distributions from the Oakville Green study have been utilized, the exception being the specific assignments to the roadway network reflect the location of the specific parcel developments within the Hospital District lands.

Table 3.3 provides a summary of the trip distribution. The PM peak hour distribution is assumed to be applicable to the Saturday peak hour.

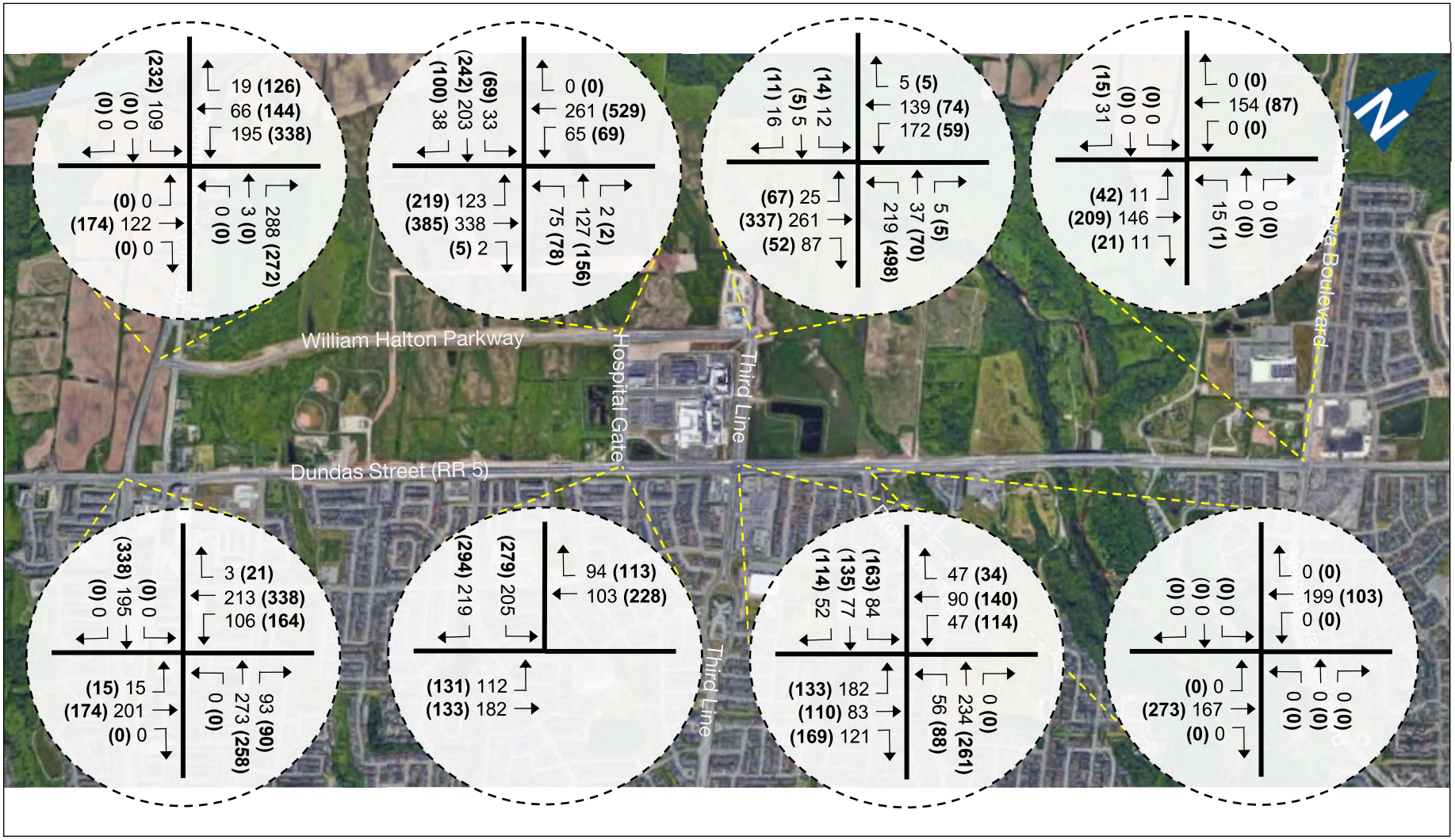
TABLE 3.3: TRIP DISTRIBUTION

Direction	AM Peak Hour		PM/SAT Peak Hour	
	In	Out	In	Out
Northwest	6.8%	0.0%	23.0%	6.3%
North	7.1%	5.0%	5.5%	6.5%
Northeast	12.8%	8.2%	2.3%	11.3%
East	13.2%	17.3%	8.3%	12.7%
Southeast	4.5%	4.4%	0.0%	4.8%
South	2.9%	0.0%	0.0%	2.8%
Southwest	30.2%	35.8%	48.7%	33.1%
West	22.5%	29.2%	12.1%	22.5%
Total	***100%***	***100%***	***100%***	***100%***

Figure 3.3 illustrates the site traffic assignments for the weekday AM and PM, and Saturday peak hours.

Appendix G contains the site traffic assignments for each individual development parcel within the Hospital District lands.

Aforementioned, as the preferred land use scenario provides only a high-level development plan with no detailed site plans for each development parcel, vehicle trips have been assigned to the study area arterial intersections only.



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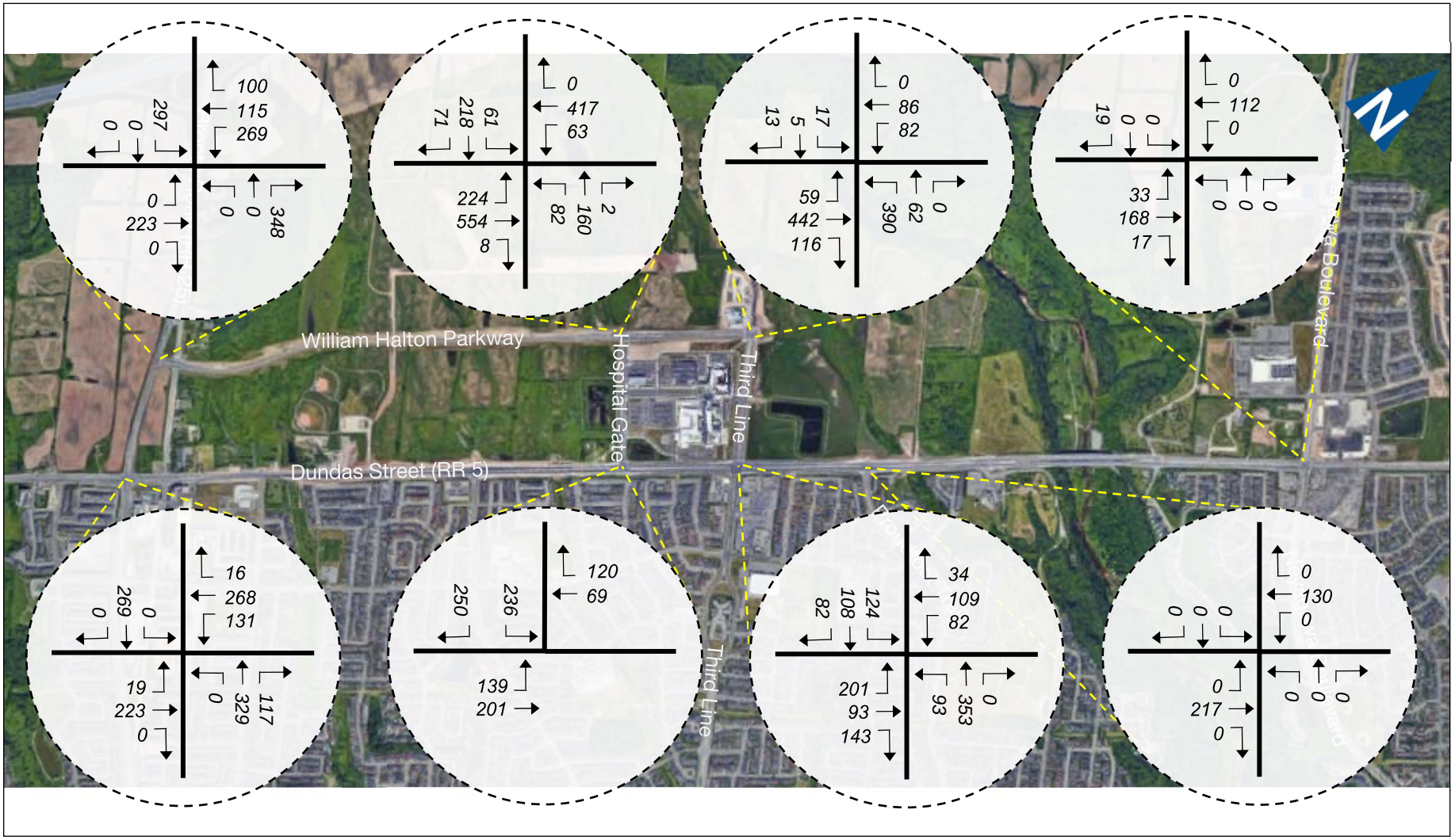
111 **(222)** Left/Through/Right Traffic Volume

AM Peak Hour **(PM Peak Hour)**

Site Traffic Volumes AM and PM Peak Hours



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[111] Left/Through/Right Traffic Volume

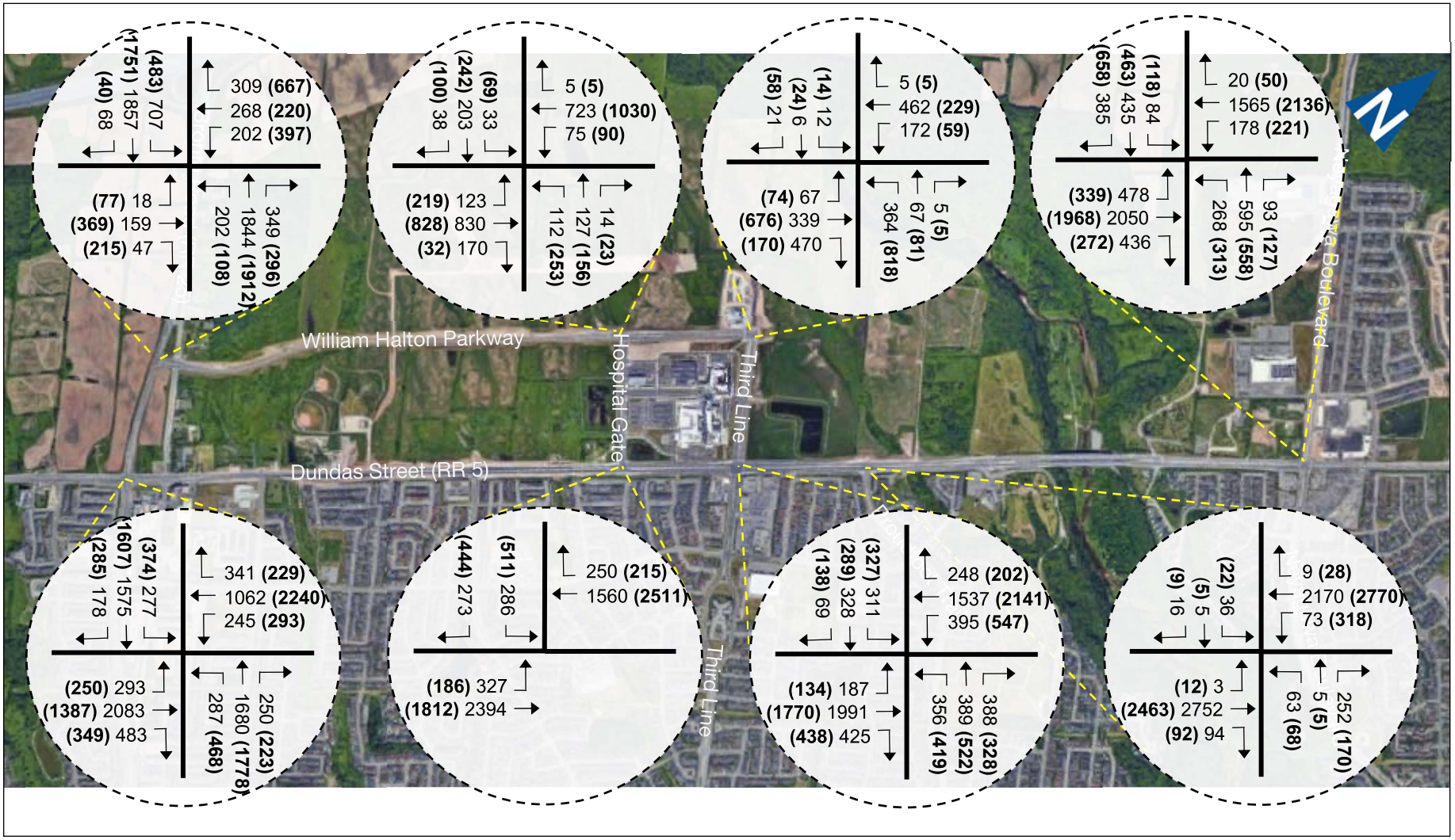
[SAT Peak Hour]

Site Traffic Volumes Saturday Peak Hour

3.4 Future Total Traffic

The future weekday AM and PM, and Saturday peak hour background traffic forecasts were combined with the site traffic assignments to determine the total traffic forecasts for the 2031 horizon.

Figure 3.4 illustrates the 2031 future total traffic volumes.



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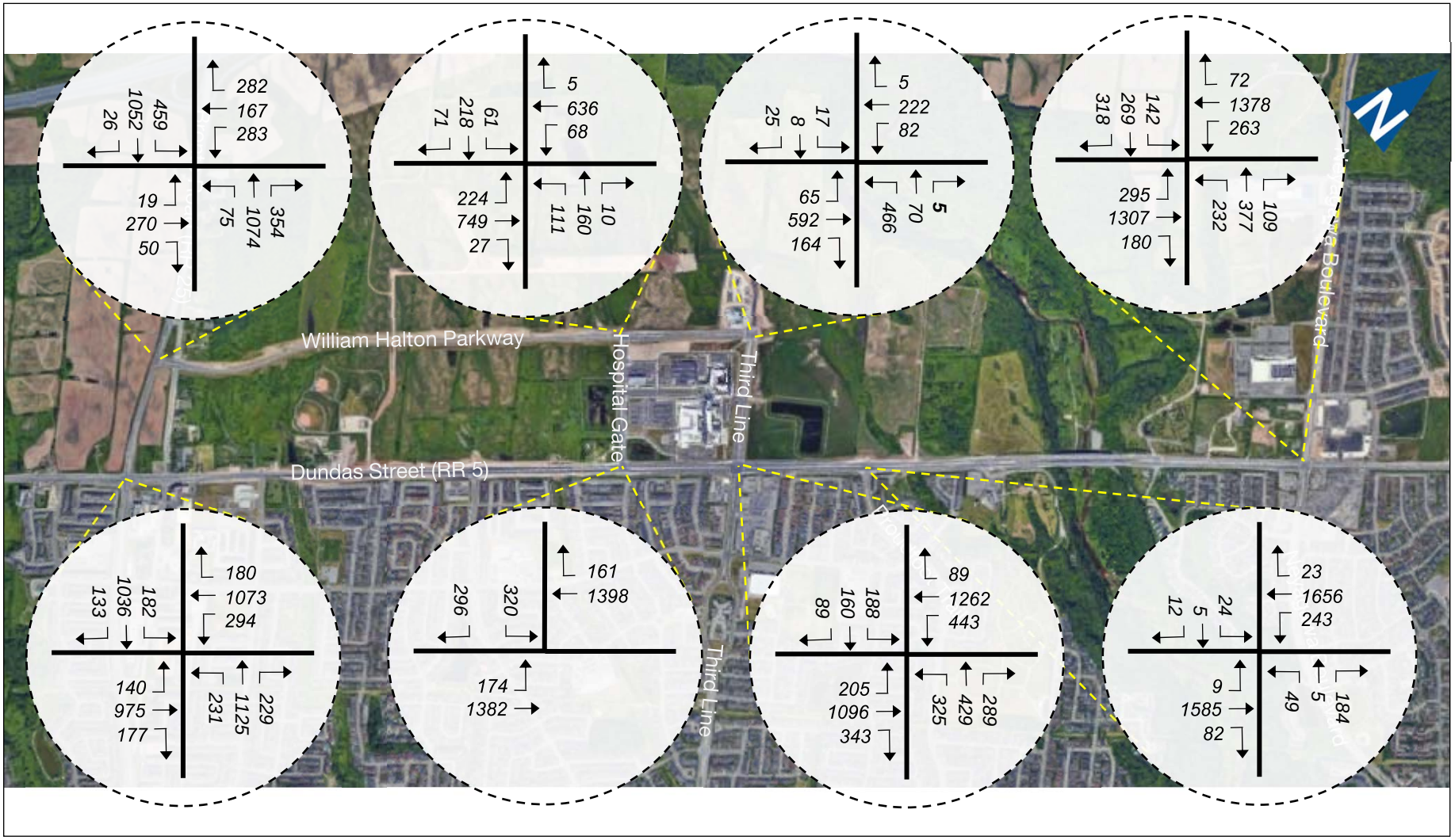
111 (222) Left/Through/Right Traffic Volume

AM Peak Hour **(PM Peak Hour)**

2031 Total Volumes AM and PM Peak Hours



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[111] Left/Through/Right Traffic Volume

[SAT Peak Hour]

2031 Total Volumes Saturday Peak Hour

4 Transportation Impact Assessment

4.1 Operational Parameters

To assess the operating conditions for the 2031 horizon year traffic forecasts for the weekday AM and PM, and Saturday peak hours, analyses were undertaken using most of the same methodology, parameters, and traffic control devices as in the analysis of existing conditions. The exceptions would include:

- Accounting for Halton Region's planned future road network improvements including:
  - The widening of William Halton Parkway from two to four lanes from Hospital Gate to Bronte Road, with completion expected in 2024;
  - The extension of William Halton Parkway from Third Line to Neyagawa Boulevard, with completion expected in 2024; and
  - Bronte Road widening from four to six lanes from Highway 407 to Speers Road, with completion expected in 2027.
- Assessment of high-occupancy vehicle (HOV) lane implementation along the Dundas Street W corridor, and specifically:
  - As detailed within Halton Region's TIS Guidelines for HOV analysis, the operational analysis employed a lane utilization factor of 0.80 along Dundas Street W for the assumption that 20% is assumed as HOV lane usage.
- Regarding the future new roads and intersections required for the development of the Hospital District lands, the following is assumed:
  - The completion of Glenorchy Road from Third Line to a point west of its future intersection with Hospital Gate, Hospital Gate (with four basic lanes) extended north from William Halton Parkway to form a T-intersection with Glenorchy Road;
  - The signalized intersection of Third Line/William Halton Parkway will have auxiliary left turn lanes on all intersection approaches; and
  - The signalized intersection of Hospital Gate/William Halton Parkway will have auxiliary left turn lanes on all intersection approaches.
- Several road and traffic control improvements have been determined to be required through a preliminary operational analysis of the traffic forecasts, and without these initial improvements, over-capacity conditions would result. These include:
  - The Highway Capacity Manual and the Transportation Association of Canada Geometric Design Guide for Canadian Roads both recommend the consideration of dual left turn lanes

at intersections where left turning volumes exceed 300 vehicles per hour. Therefore, based on this guidance and/or the preliminary analysis with single left turn lanes, dual left turn lanes would be required at the following intersections:

- The Dundas Street W/Bronte Road intersection is anticipated to require dual southbound left turn lanes based on anticipated growth and site traffic generated by other background developments within the study area;
- It is noted the provision of dual left turn lanes will not require any immediate widening of Bronte Road as there are currently provisions at this intersection to allow for dual left turns on the southbound approach. Pavement marking restriping and changes to the signal phasing would be required to implement the dual left turn lanes;
- It is also noted that as part of Halton Region's Capital Works Plan, Bronte Road (Regional Road 25) is planned to be widened from 4 to 6 lanes from Highway 407 to Speers Road with completion anticipated in 2027;
- The Dundas Street W/Third Line intersection would require dual northbound left turn lanes, and dual southbound left turn lanes based on anticipated growth and site traffic generated by other background developments within the study area;
- It is noted that the provision of dual left turn lanes will not require widening Third Line as there are currently provisions at this intersection to allow for dual left turns on the northbound and southbound approaches (in addition to the existing dual left turns currently provided on the westbound approach). Pavement marking restriping and changes to the signal phasing would be required to implement the dual left turn lanes;
- The William Halton Parkway/Bronte Road intersection would require dual southbound left turn lanes based on anticipated growth and site traffic generated by other background developments within the study area. The provision of the dual southbound left turn lanes would require widening Bronte Road, aforementioned, Halton Region is planning to widen Bronte Road within the study area; and
- The Dundas Street W/Neyagawa Boulevard intersection would require dual eastbound lanes and dual northbound lanes based on existing traffic volumes. However, it is noted that signal timing improvements may assist in mitigating the identified critical movements.

- The Transportation Association of Canada Geometric Design Guide for Canadian Roads recommends the consideration of right turn lanes at signalized intersections where the volume of right turning vehicles is 10 to 20 percent of the through volume,

subject to a minimum of 60 vehicles per hour in the design hour. Therefore, based on this guidance and/or the preliminary analysis, right turn lanes would be required at the following intersections;

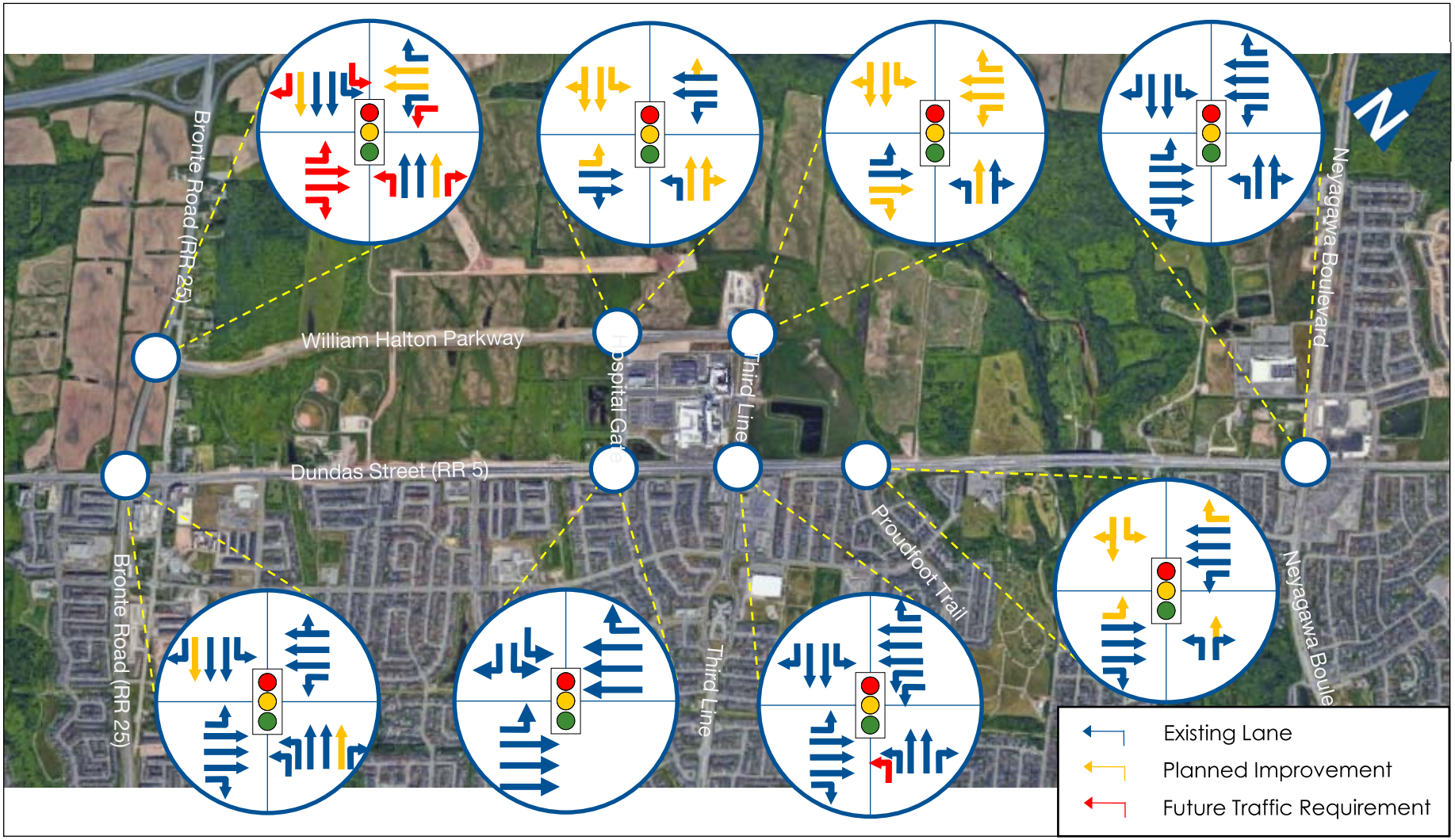
- The William Halton Parkway/Bronte Road intersection is anticipated to require the provision of a northbound right turn lane. The provision of the northbound right turn lane would require widening Bronte Road; and
- The Dundas Street W/Neyagawa Boulevard intersection is anticipated to benefit from the provision of a northbound right turn lane. The provision of a northbound right turn lane would require widening Neyagawa Boulevard.

- Intersection reconfiguration at William Halton Boulevard/Bronte Road;
  - To accommodate the future background development of the Lazy Pat Farm lands, William Halton Parkway is assumed to be extended westerly to Tremaine Road. Auxiliary left and right turn lanes are auxiliary to be provided and were used in the analysis.

- The proposed internal roadway connections with William Halton Parkway are assumed to be all right-in/right-out (RI/RO) connections with the Regional Road;
- With the lack of detailed site plans developed the number and location of access driveways for each development parcel is unknown. It is assumed that accesses to the parcels would not required auxiliary turn lanes on the public roads; however, this would be subject to further investigation at the site plan development stage; and
- Within the existing cycle lengths, advanced left turn phasing was introduced where necessary, for where dual left turn lanes are utilized phasing was adjusted to provide a fully protected movement, and signal timing splits were optimized to provide the best operations for all movements.

Figure 4.1 illustrates the future network configuration and traffic control requirements at the arterial-to-arterial road intersections in the study area utilized in the analysis of the 2031 total traffic forecasts.

Figure 4.2 illustrates the internal roadway network serving the Hospital District lands.



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Future Lane Arrangements & Traffic Control – Arterial Roads

Hospital District Lands – Internal Roadway Network

4.2 2031 Horizon Year

4.2.1 Improvements

As discussed in the previous section, a preliminary analysis of the 2031 total traffic forecasts was conducted to determine whether the existing study area intersections would have sufficient capacity to accommodate the total traffic forecasts. This preliminary assessment also included a review of the guidance provided in relevant technical manuals regarding the need for auxiliary turn lanes.

The improvements identified as requirements for the 2031 horizon year, have been incorporated in the subsequent analysis.

4.2.2 Weekday AM Peak Hour

Table 4.1 summarizes the results for the future total traffic conditions for the AM peak hour. **Appendix H** contains the Synchro analysis outputs.

Key findings:

- Under future background and future total traffic conditions most study area intersections are forecasts to operate at acceptable levels of service and within capacity;
- The 95th percentile queues reported indicate the storage lengths to be provided;
- The exception would be the intersection of Dundas Street W with Bronte Road, where several movements are identified as over-capacity.
    - At Bronte Road, additional improvements could include the provision of eastbound and westbound dual left turn lanes. It is noted that even with these additional improvements, the eastbound through and northbound left turn movement would still slightly exceed capacity. There are no further improvements to recommend for this intersection since the lane configurations considered and used in the analysis can be considered an ultimate conditions;

TABLE 4.1: 2031 TOTAL TRAFFIC – AM PEAK HOUR

Intersection	Approach/Movement		AM Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
William Halton Parkway & Bronte Road *(Signalized)*	EB	Left	D	51	0.17	13	4
		Dual Thru	D	52	0.46	49	29
		Right	D	49	0.03	19	8
	WB	Dual Left	E	64	0.69	139	65
		Dual Thru	D	51	0.40	128	45
		Right	F	147	0.19	78	46
	NB	Left	C	29	0.64	67	27
		Triple Thru	C	31	0.80	126	68
		Right	C	23	0.34	83	29
	SB	Dual Left	D	45	0.77	120	100
		Triple Thru	B	19	0.65	357	224
		Right	B	12	0.04	56	11
	Overall Intersection		***D***	***37***	***0.73***	-	-
William Halton Parkway & Hospital Gate *(Signalized)*	EB	Left	B	20	0.32	32	17
		Thru-Thru/Right	C	24	0.48	81	45
	WB	Left	A	5	0.24	24	12
		Thru-Thru/Right	A	4	0.30	34	17
	NB	Left	D	54	0.68	44	23
		Thru-Thru/Right	D	41	0.20	29	17
	SB	Left	D	39	0.14	18	7
		Thru-Thru/Right	D	41	0.33	45	26
	Overall Intersection		***C***	***22***	***0.52***	-	-
William Halton Parkway & Third Line *(Signalized)*	EB	Left	B	12	0.13	17	7
		Dual Thru	B	11	0.15	25	12
		Right	C	34	0.29	50	26
	WB	Left	B	13	0.28	38	21
		Dual Thru	B	12	0.21	47	25
		Right	B	10	0.03	11	4
	NB	Left	D	38	0.79	96	61
		Thru-Thru/Right	B	18	0.06	18	8
	SB	Left	C	28	0.03	9	2
		Thru-Thru/Right	C	28	0.01	7	2
	Overall Intersection		***C***	***22***	***0.46***	-	-
Dundas Street W & Bronte Road *(Signalized)*	EB	Left	F	91	0.98	204	149
		Triple Thru	F	86	1.08	267	221
		Right	D	35	0.59	200	133
	WB	Left	F	155	1.16	188	179
		Dual Thru-Thru/Right	D	45	0.83	544	399
	NB	Dual Left	F	123	1.02	208	188
		Triple Thru	E	71	1.01	443	343
		Right	D	37	0.34	135	52
	SB	Dual Left	F	123	1.02	308	229
		Triple Thru	E	62	0.97	486	332
		Right	D	35	0.19	174	89
	Overall Intersection		***E***	***71***	***1.08***	-	-

Intersection	Approach/Movement		AM Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
Dundas Street W & Hospital Gate *(Signalized)*	EB	Left	D	44	0.76	77	45
		Triple Thru	A	8	0.67	90	52
	WB	Triple Thru	B	20	0.61	112	62
		Right	B	14	0.22	37	16
	SB	Dual Left	E	61	0.64	54	33
		Right	D	54	0.18	60	35
	Overall Intersection		***B***	***20***	***0.69***	-	-
Dundas Street W & Third Line *(Signalized)*	EB	Left	C	35	0.69	55	31
		Triple Thru	D	37	0.92	152	100
		Right	C	23	0.40	117	56
	WB	Dual Left	E	62	0.89	283	179
		Triple Thru	D	37	0.71	437	211
		Right	D	48	0.19	67	28
	NB	Dual Left	E	77	0.91	139	114
		Dual Thru	D	48	0.61	347	198
		Right	F	84	0.93	122	78
	SB	Dual Left	E	59	0.79	113	72
		Dual Thru	D	53	0.53	71	34
		Right	F	228	0.04	18	8
	Overall Intersection		***D***	***47***	***0.89***	-	-
Dundas Street W & Proudfoot Trail *(Signalized)*	EB	Left	A	4	0.05	4	1
		Triple Thru	B	12	0.89	71	42
		Right	A	1	0.07	12	4
	WB	Left	C	30	0.42	76	21
		Triple Thru	A	8	0.63	162	74
		Right	A	4	0.01	5	1
	NB	Left	D	46	0.29	31	14
		Thru/Right	D	54	0.66	69	43
	SB	Left	D	48	0.43	17	8
		Thru/Right	D	41	0.04	9	3
	Overall Intersection		***B***	***13***	***0.83***	-	-
Dundas Street W & Neyagawa Boulevard *(Signalized)*	EB	Left	E	64	0.95	226	220
		Triple Thru	D	36	0.92	612	483
		Right	C	21	0.39	206	86
	WB	Left	C	33	0.68	180	92
		Triple Thru	E	59	0.99	203	123
		Right	C	25	0.01	11	3
	NB	Left	E	75	0.95	194	154
		Thru-Thru/Right	D	38	0.65	343	210
	SB	Left	E	59	0.70	71	34
		Double Thru	D	45	0.61	77	51
		Right	D	46	0.59	74	47
	Overall Intersection		***D***	***46***	***0.90***	-	-

[1] Level of Service; [2] Average vehicle delay in seconds; [3] Volume to capacity ratio; [4] Queue in metres

4.2.3 Weekday PM Peak Hour

Table 4.2 summarizes the results for the future total traffic conditions for the PM peak hour. **Appendix H** contains the Synchro analysis outputs.

Key findings:

- Under future background and future total traffic conditions most study area intersections are forecasts to operate at acceptable levels of service and within capacity;
- The 95th percentile queues reported indicate the storage lengths to be provided;
- The exception would be the intersections of Dundas Street W with Bronte Road, Hospital Gate, and Neyagawa Boulevard where several movements are identified as over-capacity.
  - At Bronte Road, additional improvements could include the provision of eastbound and westbound dual left turn lanes. It is noted that even with these additional improvements, the eastbound through and northbound left turn movement would still exceed capacity. There are no further improvements to recommend for this intersection since the lane configurations considered and used in the analysis can be considered an ultimate conditions;
  - At Hospital Gate, the over-capacity movement is identified as the westbound through movement. Given that the Dundas Street W corridor is at the ultimate conditions, there are no further improvements to recommend;
  - At Neyagawa Boulevard, the several movements are currently forecast to be within capacity, albeit slight over-capacity; however, the provision of a northbound dual left turn lane would provide additional capacity. Regardless, with the provision of this improvement, several movements would still be slightly over-capacity such as the through movements on Dundas Street W. Given that the Dundas Street W corridor is at the ultimate conditions, there are no further improvements to recommend;

TABLE 4.2: 2031 TOTAL TRAFFIC – PM PEAK HOUR

Intersection	Approach/Movement		PM Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
William Halton Parkway & Bronte Road *(Signalized)*	EB	Left	D	48	0.33	39	19
		Dual Thru	D	52	0.55	207	85
		Right	D	50	0.38	118	55
	WB	Dual Left	E	66	0.79	217	127
		Dual Thru	C	33	0.18	262	121
		Right	E	72	0.96	142	60
	NB	Left	B	12	0.53	54	17
		Triple Thru	D	46	0.90	130	89
		Right	D	41	0.33	109	40
	SB	Dual Left	E	69	0.84	123	95
		Triple Thru	C	29	0.70	360	252
		Right	B	18	0.03	68	13
	Overall Intersection		***D***	***46***	***0.91***	-	-
William Halton Parkway & Hospital Gate *(Signalized)*	EB	Left	C	23	0.69	51	27
		Thru-Thru/Right	B	20	0.48	96	49
	WB	Left	A	9	0.27	22	12
		Thru-Thru/Right	C	22	0.63	193	81
	NB	Left	D	44	0.77	89	50
		Thru-Thru/Right	C	30	0.16	112	24
	SB	Left	D	49	0.44	31	16
		Thru-Thru/Right	D	53	0.67	112	60
	Overall Intersection		***C***	***27***	***0.76***	-	-
William Halton Parkway & Third Line *(Signalized)*	EB	Left	D	37	0.23	28	12
		Dual Thru	D	38	0.63	70	43
		Right	E	74	0.12	24	12
	WB	Left	D	50	0.55	31	15
		Dual Thru	C	30	0.21	49	28
		Right	C	28	0.00	5	1
	NB	Left	C	29	0.90	104	51
		Thru-Thru/Right	A	4	0.04	85	11
	SB	Left	D	41	0.07	10	3
		Thru-Thru/Right	D	41	0.06	15	6
	Overall Intersection		***D***	***36***	***0.77***	-	-
Dundas Street W & Bronte Road *(Signalized)*	EB	Left	F	130	1.09	178	163
		Triple Thru	D	44	0.81	285	219
		Right	C	34	0.37	79	31
	WB	Left	E	64	0.87	236	156
		Dual Thru-Thru/Right	F	99	1.12	471	454
	NB	Dual Left	F	180	1.21	197	189
		Triple Thru	F	126	1.15	423	341
		Right	D	39	0.30	130	45
	SB	Dual Left	F	133	1.13	287	248
		Triple Thru	F	95	1.09	504	375
		Right	D	46	0.40	173	97
	Overall Intersection		***F***	***95***	***1.13***	-	-

Intersection	Approach/Movement		PM Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
Dundas Street W & Hospital Gate *(Signalized)*	EB	Left	E	68	0.84	91	49
		Triple Thru	B	16	0.64	83	58
	WB	Triple Thru	E	76	1.08	197	126
		Right	B	18	0.23	149	57
	SB	Dual Left	D	44	0.55	66	43
		Right	E	67	0.89	86	65
	Overall Intersection		***D***	***51***	***0.98***	-	-
Dundas Street W & Third Line *(Signalized)*	EB	Left	C	31	0.64	49	29
		Triple Thru	D	42	0.93	125	85
		Right	C	26	0.46	89	45
	WB	Dual Left	E	64	0.95	307	211
		Triple Thru	D	42	0.93	548	307
		Right	C	29	0.17	50	18
	NB	Dual Left	E	59	0.80	138	121
		Dual Thru	E	75	0.95	337	302
		Right	E	59	0.73	136	67
	SB	Dual Left	E	73	0.88	143	89
		Dual Thru	E	61	0.72	217	86
		Right	E	79	0.10	32	17
	Overall Intersection		***D***	***49***	***0.95***	-	-
Dundas Street W & Proudfoot Trail *(Signalized)*	EB	Left	B	13	0.18	11	4
		Triple Thru	C	27	0.90	174	96
		Right	B	12	0.07	62	13
	WB	Left	D	50	0.80	171	76
		Triple Thru	A	7	0.74	347	129
		Right	A	2	0.02	63	10
	NB	Left	D	52	0.44	29	14
		Thru/Right	D	49	0.13	47	25
	SB	Left	D	52	0.32	11	4
		Thru/Right	D	48	0.06	8	2
	Overall Intersection		***B***	***20***	***0.82***	-	-
Dundas Street W & Neyagawa Boulevard *(Signalized)*	EB	Left	E	72	0.94	220	220
		Triple Thru	D	37	0.91	649	490
		Right	B	19	0.19	97	31
	WB	Left	D	43	0.75	214	101
		Triple Thru	E	63	1.03	256	155
		Right	B	19	0.03	62	11
	NB	Left	F	96	1.03	176	163
		Thru-Thru/Right	D	36	0.60	357	250
	SB	Left	E	70	0.81	112	51
		Double Thru	D	43	0.58	259	215
		Right	F	91	1.05	156	144
	Overall Intersection		***D***	***54***	***1.03***	-	-

[1] Level of Service; [2] Average vehicle delay in seconds; [3] Volume to capacity ratio; [4] Queue in metres

4.2.4 Saturday Peak Hour

Table 4.3 summarizes the results for the future total traffic conditions for the PM peak hour. **Appendix H** contains the Synchro analysis outputs.

Key findings:

- Under future background and future total traffic conditions all study area intersections are forecasts to operate at acceptable levels of service and within capacity. The Saturday peak hour is not a critical design period;
- The 95th percentile queues reported indicate the storage lengths to be provided.

TABLE 4.3: 2031 TOTAL TRAFFIC – SAT PEAK HOUR

Intersection	Approach/Movement		SAT Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
William Halton Parkway & Bronte Road *(Signalized)*	EB	Left	D	47	0.12	12	4
		Dual Thru	D	51	0.59	60	40
		Right	D	46	0.03	14	6
	WB	Dual Left	E	61	0.60	49	34
		Dual Thru	D	46	0.17	34	21
		Right	F	159	0.17	67	41
	NB	Left	C	26	0.34	37	17
		Triple Thru	C	23	0.45	93	53
		Right	C	21	0.24	71	35
	SB	Dual Left	D	48	0.69	86	60
		Triple Thru	A	9	0.31	70	38
		Right	A	8	0.02	7	2
	Overall Intersection		***D***	***37***	***0.53***	-	-
William Halton Parkway & Hospital Gate *(Signalized)*	EB	Left	C	31	0.54	60	38
		Thru-Thru/Right	C	25	0.39	65	41
	WB	Left	A	6	0.18	19	11
		Thru-Thru/Right	A	7	0.28	43	29
	NB	Left	E	59	0.73	46	25
		Thru-Thru/Right	D	41	0.25	33	20
	SB	Left	D	41	0.27	26	13
		Thru-Thru/Right	D	42	0.40	60	35
	Overall Intersection		***C***	***25***	***0.56***	-	-
William Halton Parkway & Third Line *(Signalized)*	EB	Left	C	24	0.13	20	9
		Dual Thru	C	24	0.36	51	30
		Right	E	57	0.11	26	13
	WB	Left	C	21	0.28	27	14
		Dual Thru	B	18	0.14	33	17
		Right	B	16	0.00	3	1
	NB	Left	D	37	0.78	108	77
		Thru-Thru/Right	B	16	0.05	24	8
	SB	Left	B	19	0.03	9	3
		Thru-Thru/Right	B	19	0.01	8	3
	Overall Intersection		***C***	***29***	***0.58***	-	-
Dundas Street W & Bronte Road *(Signalized)*	EB	Left	C	30	0.62	48	27
		Triple Thru	D	37	0.57	106	82
		Right	C	30	0.12	31	15
	WB	Left	D	36	0.79	81	52
		Dual Thru-Thru/Right	C	32	0.63	91	67
	NB	Dual Left	E	67	0.69	60	40
		Triple Thru	D	50	0.78	97	71
		Right	D	40	0.26	26	13
	SB	Dual Left	E	73	0.72	46	29
		Triple Thru	D	52	0.79	88	64
		Right	D	41	0.11	24	12
	Overall Intersection		***D***	***43***	***0.80***	-	-

Intersection	Approach/Movement		SAT Peak Hour				
			LOS[1]	Delay[2]	V/C[3]	95th Q[4]	50th Q[4]
Dundas Street W & Hospital Gate *(Signalized)*	EB	Left	A	8	0.50	42	22
		Triple Thru	A	5	0.37	57	34
	WB	Triple Thru	B	11	0.44	88	46
		Right	A	9	0.13	23	10
	SB	Dual Left	E	60	0.65	55	34
		Right	E	55	0.33	61	35
	Overall Intersection		***B***	***16***	***0.48***	-	-
Dundas Street W & Third Line *(Signalized)*	EB	Left	C	21	0.66	60	36
		Triple Thru	C	30	0.60	76	53
		Right	C	26	0.29	51	28
	WB	Dual Left	D	45	0.68	65	46
		Triple Thru	C	24	0.59	85	61
		Right	E	55	0.06	19	9
	NB	Dual Left	D	53	0.68	71	49
		Dual Thru	D	50	0.70	89	60
		Right	D	43	0.22	42	23
	SB	Dual Left	D	50	0.49	43	26
		Dual Thru	D	53	0.32	34	18
		Right	F	349	0.06	19	9
	Overall Intersection		***D***	***41***	***0.68***	-	-
Dundas Street W & Proudfoot Trail *(Signalized)*	EB	Left	B	13	0.08	9	2
		Triple Thru	C	24	0.53	101	56
		Right	C	23	0.06	16	5
	WB	Left	C	31	0.70	45	26
		Triple Thru	A	4	0.44	55	29
		Right	A	2	0.02	5	1
	NB	Left	D	52	0.34	23	10
		Thru/Right	D	50	0.14	41	22
	SB	Left	D	54	0.38	13	5
		Thru/Right	D	49	0.04	7	2
	Overall Intersection		***B***	***18***	***0.68***	-	-
Dundas Street W & Neyagawa Boulevard *(Signalized)*	EB	Left	D	40	0.75	95	57
		Triple Thru	C	26	0.63	107	78
		Right	B	19	0.11	24	13
	WB	Left	C	30	0.67	76	46
		Triple Thru	C	28	0.68	96	73
		Right	B	19	0.04	16	8
	NB	Left	D	39	0.65	107	59
		Thru-Thru/Right	D	50	0.72	77	39
	SB	Left	D	36	0.56	39	20
		Double Thru	D	44	0.40	48	30
		Right	D	43	0.29	43	23
	Overall Intersection		***C***	***33***	***0.68***	-	-

[1] Level of Service; [2] Average vehicle delay in seconds; [3] Volume to capacity ratio; [4] Queue in metres

4.2.5 Summary of Impact Assessment

Under future 2031 total traffic conditions, with the development of the Hospital District lands, the majority of study area intersections are forecast to operate at acceptable conditions and within capacity. Several movements are identified to be over-capacity under the weekday AM and PM peak hours with the planned roadway network improvements and preliminary identified intersection improvements.

We acknowledge these critical movements could potentially be further mitigated through additional improvements (i.e. further provision of dual turn lanes at noted locations); however, several other movements are forecast to continue to be slightly over-capacity regardless. (i.e., through movements along Dundas Street W are at the ultimate conditions).

In summary, we acknowledge that our assessment was conservative (i.e. errs on the high side) in that with the provision of the planned roadway network improvements our forecasts did not account for a significant volume redistribution. With the provision of a widened and extended William Halton Parkway, it is anticipated a portion of east-west vehicular traffic would be shifted from Dundas Street W to William Halton Parkway.

Additionally, the other area site traffic generated by background developments accounted as part of our forecasts were not reduced to account for potential increased transit and active transportation modal share use under the 2031 horizon.

Accounting for these items, we anticipate the forecast traffic generated by the Hospital District lands can be accommodated by study area intersections with the future road network and identified intersection improvements.

4.3 Transit, Cycling, and Walking

With William Halton Parkway identified as a Transit Corridor for secondary transit services, the accessibility of the Hospital District lands would be significantly improved when local transit routes are added. As well, the future implementation of HOV lanes initially on Dundas Street W would enhance transit services and encourage carpooling, while the longer-term transition from HOV to bus only lanes would introduce a rapid transit service to this area.

The active transportation network improvements planned for the area such as the multi-use trail along the extension of Hospital Gate, the completion of the bicycle lanes along William Halton Parkway with its planned extension, and the further development of the sidewalk network will improve opportunities for cycling and walking trips.

It is anticipated as the Hospital District lands develop the development parcels will include bicycle parking, and convenient walkway connections between the development parcels and blocks and the municipal sidewalk network.

5 Transportation Demand Management (TDM)

5.1 Overview

A TDM plan can assist in reducing single occupant vehicle trips, which in turn reduces the number of site generated vehicle trips and could lower the demand for parking. TDM includes programs, policies and infrastructure that promote a shift in thinking towards a multi-faceted approach to transportation planning. With proper implementation, TDM can encourage transit, cycling, and walking modes as alternatives to the private automobile.

Three specific objectives define the policy framework as part of the TDM plan:

- Encourage the use of transit, cycling, and walking;
- Increase vehicle occupancy; and
- Reduce vehicle kilometres travelled.

A framework has been developed that will serve as a guideline for the implementation for effective TDM strategies and measures during the site design stage (pre-occupancy) and under operations following redevelopment of the site (post-occupancy).

The TDM plan will serve as guide to maximize the travel demand sustainability of the project and allow the school to fully leverage its location relative to the transportation options in the vicinity of the site.

5.1.1 Framework

The following categories are identified as potential strategies to reduce single occupancy auto vehicle (SOV) trips generated by the proposed redevelopment:

- Facilitation of Reduced Car Use/Encouragement of Increased Vehicle Occupancy;
- Enhance Pedestrian Access and Walkability;
- Encourage and Facilitate Bicycle Usage;
- Encourage Transit Usage;
- Coordination, Communication, and Promotion.

The following may be considered within each category:

- Infrastructure (external link and facilities)
  - Measures to improve the active transportation realm along the boundaries of the site and to facilitate the integration of pedestrian and cycling infrastructure.

- Facilities and Features of the Site Plan and Design
  - Physical aspects of the internal design of the development, including its buildings, and circulation routes to promote alternative transportation modes.
- Building Operations
  - User-focused programs and policies enacted once the site is operational to encourage alternative transportation modes.
- Monitoring
  - Post-Occupancy data collection programs to assess the travel patterns and gauge the effectiveness of the TDM strategies and the TDM plan as a whole.

5.1.2 Strategies

The future site context provides increased transit infrastructure and service. While strong opportunities exist within vicinity to the subject site to allow of sustainable transportation practices, the ability to leverage these opportunities will ensure achievement of the end goal (reduction of SOV trips and automobile trips in general, and increase of other travel modes).

5.2 Facilitation of Reduced Car Usage/Encouragement of Increased Vehicle Occupancy

Vehicle trips to/from the Hospital District are the result of employees and residents.

To reduce SOV trips and to encourage increased vehicle occupancy for vehicle trips, the following measures should be incorporated into the site design and strategies are proposed to be implemented.

- Consideration for the provision of parking below Zoning By-law requirements, weighing the availability of alternative transportation modes; and
- Provide information and communication items that outline the availability of the alternative travel modes to and from the site. This could also include encouraging enrollment within the Smart Commute program which matches up commuters travelling to and from similar areas.

5.3 Enhance Pedestrian Access and Walkability

To further enhance the pedestrian experience to ensure that walking and transit-based travel is a viable and attractive alternative, a strategy must be implemented to ensure success.

Pedestrian travel within the study area is anticipated to be facilitated by sidewalks on both sides of all study area roads. Good pedestrian connections between the site and the broader sidewalk network are to be

provided. The proposed pedestrian access and walkability serving the overall Hospital District site is safe, accessible, and provides continuous linkages and connections.

To further enhance and encourage pedestrian access and walkability, the following measures should be incorporated into the site design and strategies proposed to be implemented:

- Provision of a high-quality pedestrian realm along all development parcel frontages;
- Maintenance of on-site and nearby pedestrian facilities to enable year-round pedestrian access and usage.

5.4 Encourage and Facilitate Bicycle Usage

The strategy to entice bicycle usage is to enable bicycle use as a convenient travel option through the provision of physical and operational infrastructure, and to work with the Town and Region and other stakeholders to enhance the local cycling network. This will enable bicycle use as an attractive alternative to automobile use.

To encourage and facilitate bicycle usage, the following measures should be incorporated into the site design and strategies proposed to be implemented:

- Provision of long-term bicycle parking in conveniently located and accessible facilities on-site;
- Provision of short-term bicycle parking distributed on-site at convenient and readily accessible locations relative to key building entrances.

5.5 Encourage Transit Usage

The Hospital District lands intends to continue to make use of existing and future transit services within the area to reduce automobile related travel to and from the site.

Transit services and travel options will be further increased with the completion of the William Halton Parkway extension as it is identified as a Transit Corridor for secondary transit services. The accessibility of the Hospital District lands would be significantly improved when local transit routes are added. As well, the future implementation of HOV lanes initially on Dundas Street W would enhance transit services and encourage carpooling, while the longer-term transition from HOV to bus only lanes would introduce a rapid transit service to this area.

This increase in transit service/infrastructure will provide additional alternatives to the private automobile. It is anticipated that transit usage by the Hospital District could increase with the transit infrastructure upgrades.

To further encourage travel by transit, transit information packages containing route maps, schedules and other applicable information should be provided and shared within the immediate community or as developments become operational.

6 Findings and Conclusions

The findings of the Transportation Impact Study are as follows:

- Under existing conditions, the Hospital District lands are served by a road network comprising Halton Region arterial roads and Town of Oakville arterial and local roads. The arterial roads also provide convenient connections to the provincial freeway system to the north (Highway 407) and south of the site (Highway 403/Queen Elizabeth Way);
- Under future conditions, there are several planned improvements to the Regional road network. Including the widening of William Halton Parkway from two to four lanes between Third Line and Bronte Road, the extension of William Halton Parkway as a new four lane roadway between Third Line and Neyagawa Boulevard, and the widening of Bronte Road from four to six lanes between Highway 407 and Speers Road. Furthermore, it is anticipated that Dundas Street W will provide high-occupancy vehicle (HOV) lanes with the eventual conversion to bus only lanes to provide a Bus Rapid Transit corridor;
- The site is served by several Oakville Transit routes and can be accessed via a combination of local transit and inter-regional travel by GO Transit. Transit service near the subject site will be significantly improved in the future with the implementation of local transit service along William Halton Parkway as well as aforementioned improvements planned along the Dundas Street W corridor, which include HOV lanes and ultimately a Bus Rapid Transit (BRT) service;
- The site is currently well served by existing pedestrian and bicycle facilities (i.e., sidewalks, multi-use trails). Travel by bicycle and walking near the subject site will also be improved by the planned improvements to the multi-use trail, bicycle lanes, and sidewalk facilities that will accompany the planned improvements to the road network;
- Under existing base year conditions, the study area's signalized intersections operate at acceptable levels of service and within capacity. The exception would be at the intersections of Dundas Street W with Bronte Road and Neyagawa Boulevard which are currently at-capacity. The critical movements have identified a potential need for remedial measures under future conditions with the development of the Hospital District lands;
- The preferred land use scenario for the Hospital District lands consists of mixed-used buildings. Distinct blocks of office-focused, transitional, complementary, innovation, and institutional uses make up the Hospital District lands. Access to the Hospital District lands would be provided via existing intersections. Specifically, the intersection of Dundas Street W and Third Line is identified as a the main "gateway" to the Hospital District;
- Site generated traffic for the Hospital District lands have been reduced by the modal split targets identified per the Halton Region

Transportation Master Plan. A transit modal split of 20%, active transportation modal split of 5%, and further reductions of 2% as a result of Transportation Demand Management measures by horizon year 2031;

- The internal local road network to serve the Hospital District lands are anticipated to serve and accommodate the project volumes without issue. These roadways would be designed to typical Town standards. The recommended transportation system will achieve a balanced range of travel options that encourage walking, cycling, and transit to make the most efficient use of existing and future transportation infrastructure;
- Under future conditions, the study area intersections are forecast to operate at acceptable levels of service and within capacity. In addition to the planned larger network roadway improvements, intersection improvements have also been identified as required to accommodate the development traffic; and
- The future site context provides improved transit and active transportation infrastructure. While strong opportunities exist to allow for sustainable transportation practices, the ability to leverage these opportunities will ensure a reduction of vehicle trips. As such Transportation Demand Management (TDM) measures and strategies have been identified to achieve the target modal share for transit and active transportation.

Appendix A

Pre-Study Consultation (Town of Oakville & Halton Region)

Oakville's Heath Oriented Mixed Use Node (HOMUN)
Terms of Reference – Transportation Impact Study
23 April 2019

1. Study Area	The following intersections would form the study area: • William Halton Parkway at Bronte Road • William Halton Parkway at Hospital Gate • William Halton Parkway at Third Line • Dundas Street at Third Line • Dundas Street at Hospital Gate, and • All site access intersections with the adjacent roadway network
Region Comments	Additional intersections to be reviewed include: -Dundas Street at Bronte Road -Dundas Street at Proudfoot -Dundas Street at Neyagawa Boulevard
Town Comments	

Paradigm Comments:

- The Health Oriented Mixed Use Node (HOMUN) Study Area diagram is attached for reference.

2. Data Collection	Paradigm to conduct a site visit to observe road, transit, active transportation, and traffic conditions near the site. Paradigm to describe the existing road network, traffic control devices, transit services, and active transportation facilities within the study area. Paradigm to contact Halton Region Road Operations group (accesshalton@halton.ca) for turning movement counts, historical AADT volumes, and traffic signal timings • Note that Paradigm counted Dundas Street at Hospital Gate and William Halton Parkway at Hospital Gate in May 2017 as part of a study for a proposed seniors' residence • Another source of information is the WSP/MMM TIS for Oakville Green, which includes May 2016 turning movement counts for the study area intersections identified above • Paradigm will undertake updated intersection movements counts for the identified study area intersections
Region Comments	All study intersection counts, unless year 2018, must be year 2019 (new counts).
Town Comments	

Paradigm Comments:

- Paradigm will undertake updated intersection movement counts for the study area intersections
- Paradigm will contact Halton Traffic Operations to obtain the latest and historical traffic data and most recent signal timing plan data;

3. Future Transportation Network	Based on information obtained, the future road network would include: • William Halton Parkway will be widened from 2 to 4 lanes from Third Line to Bronte Road, completion ~~Q4 2020~~ 2023 (therefore, applicable to 2031 study horizon year) • William Halton Parkway will be constructed as a new 4 lane roadway from Third Line to Neyagawa Boulevard, completion ~~Q3 2020~~ 2023 (therefore, applicable to 2031 study horizon year) • Bronte Road widening from 4 to 6 lanes (Speers Road to Highway 407), completion 2027 (therefore, applicable to 2031 study horizon year) ok Transit and Active Transportation network improvements would be summarized based on information contained in the Halton Region and Town of Oakville transportation and/or active transportation master plans. **Any questions on Halton's Active Transportation Master Plan can be directed to Jeffrey.reid@halton.ca**
Region Comments	See above strikeout and comments in red.
Town Comments	

Paradigm Comments:

- None

4. Horizon Years and Background Traffic Forecasts	Horizon years: • As the development of the HOMUN includes several parcels, the opening year for each land parcel is currently unknown. Therefore, for forecasting and analysis purposes we are proposing to assume full program build-out of the HOMUN by 2031. • 2031 horizon year Analysis periods: • Weekday AM and PM street peak hours Background traffic components: • General growth to be determined by reviewing historical AADT and intersection turning count information and by reviewing Halton EMME Model forecasts (with the latter to assist in illustrating the effect of the completion of William Halton Parkway) • Paradigm to request EMME Model outputs from Halton Region • From the past Infrastructure Ontario Oakville Court House Transportation Study, the following other area background developments were identified and requested to be included: o Graydon Banning (by 2022) o Treasure Hill (by 2022) o CHWO (by 2022) o Oakville Green (Phase 1A and Phase 1B by 2027) o From the Town, specific approved background developments in or near the study area that could be expected to be fully developed within the 2031 horizon year (unless the traffic from these developments would be adequately captured by the Halton Region EMME Model forecasts and growth rate to be derived from those forecasts). • Paradigm also conducted the Transportation Study for the All Seniors Care Facility. These site trips will be included within the background forecasts.
Region Comments	The above is acceptable. Additional comments include: -Oakville Green development and recent submission (March 2019) is now for a Phase 1 only. -Town to review/confirm if CHWO year "2022" is reasonable. -Town to review/confirm if Graydon Banning & Treasure Hill year "2022" is reasonable. -Should Saturday be considered, as many of the HOMUN uses will be open and attract trips on Saturday. -Halton's EMME Model request is to be sent to Wen Xie, Infrastructure Network Analyst, Infrastructure Planning & Policy - Wen.Xie@halton.ca
Town Comments	

Paradigm Comments:

- Paradigm to request EMME Model forecasts from Halton Region

5. Site Traffic Forecasts	An area specific land use plan is currently still under development. Site trip generation would be determined using data contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition) and/or a combination from first principles based on the expected number of employees and visitors for the proposed teaching/research facilities during typical street peak hours. Based on information extracted from the Halton Region TMP, the site trip generation would incorporate a transit mode split of 20% for the 2031 horizon year. Further reductions in vehicle trip estimates may be incorporated to account for active transportation modes or Transportation Demand Management (TDM) measures where applicable. Town and Regional staff to confirm their acceptance of these assumptions and provide an estimated applicable active transportation mode split for the 2031 horizon year. Trip distribution would be based on the same distribution as MMM utilized for the Oakville Green Life Sciences Development, rounded to the nearest 5% on any approach to the study area. Trip assignments would be based on the logical routing of trips between the arterial roads and the location/supply of development parking.
Region Comments	-Halton's Transportation Master Plan utilizes a transit mode split of 10% for 2021, 15% for 2026 and 20% for 2031. -Assumption of travel via other modes (active transportation i.e.: walk, cycle, etc.,) should utilize a 5% mode split for 2031. Transportation Demand Management (TDM) assumptions of 3% for 2031 would also be acceptable.
Town Comments	

Paradigm Comments:

- None

6. Analysis	Intersection traffic operations would be analyzed using Synchro, and with critical movements and mitigation measures identified in accordance with the Halton Region Traffic Impact Study Guidelines (January 2015). As Dundas Street is anticipated to have high occupancy vehicle (HOV) lanes in the future, it will be assumed that by 2031 the HOV lanes would be implemented. (i.e. 4 general purpose lanes + 2 HOV lanes). For the future total traffic forecasts, traffic operations and requirements would be assessed at the study area intersections and the proposed site access intersections with the adjacent road network. In summary, the following analysis scenarios will be assessed: • Existing 2019 base year; • 2031 background (without development); • 2031 Total (with development). A qualitative assessment would be provided to note the proximity of transit and active transportation facilities to the site, and the options that these facilities would provide for the HOMUN. There would be limited discussion of TDM for the applicable land uses where there could be measurable mode shifts.
Region Comments	Analysis should include sim-traffic analysis for all study area intersections.
Town Comments	

Paradigm Comments:

- None

Appendix B

Traffic Data

William Halton Parkway & Bronte Road

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 7:30:00
To: 8:30:00

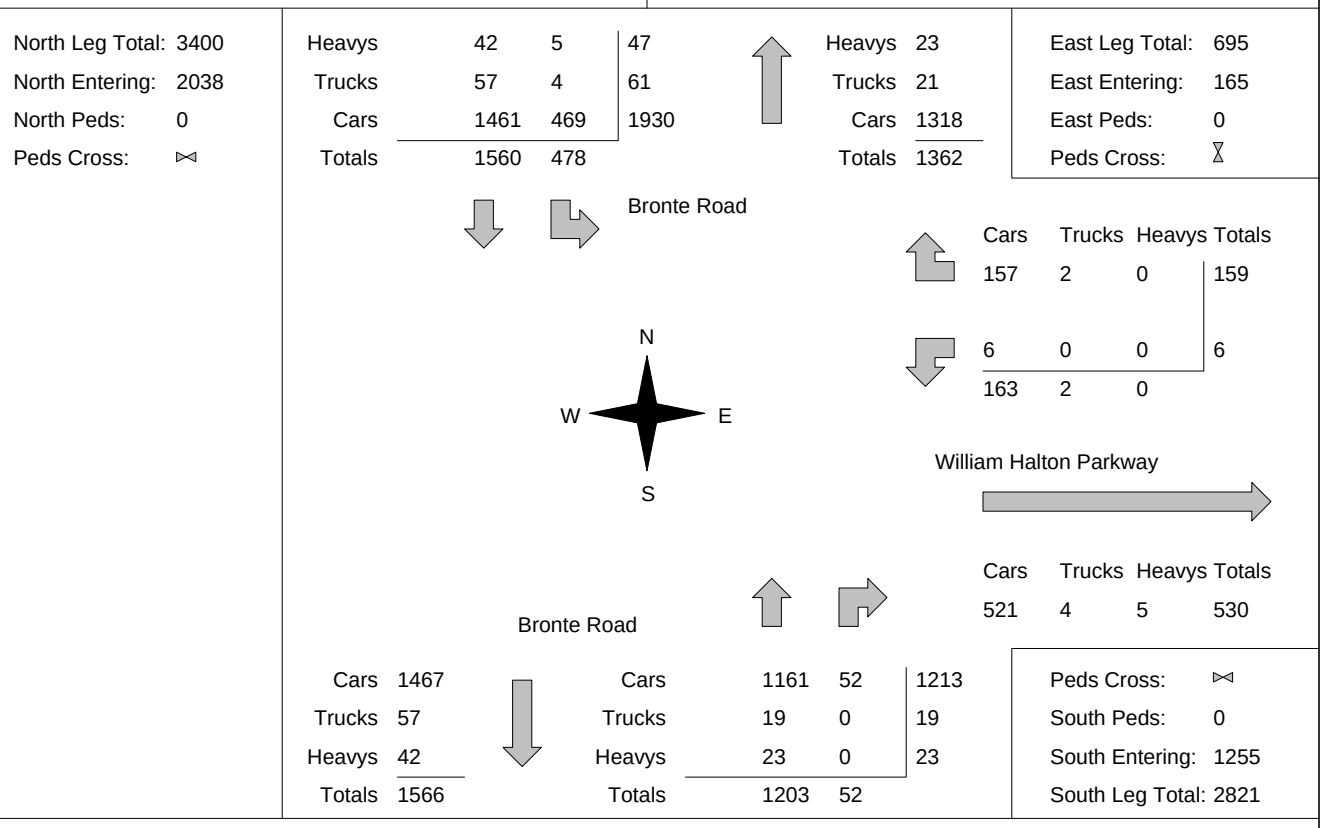
Municipality: Oakville
Site #: 0000002604
Intersection: Bronte Road & William Halton Parkv
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Bronte Road runs N/S



Comments

William Halton Parkway & Bronte Road

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

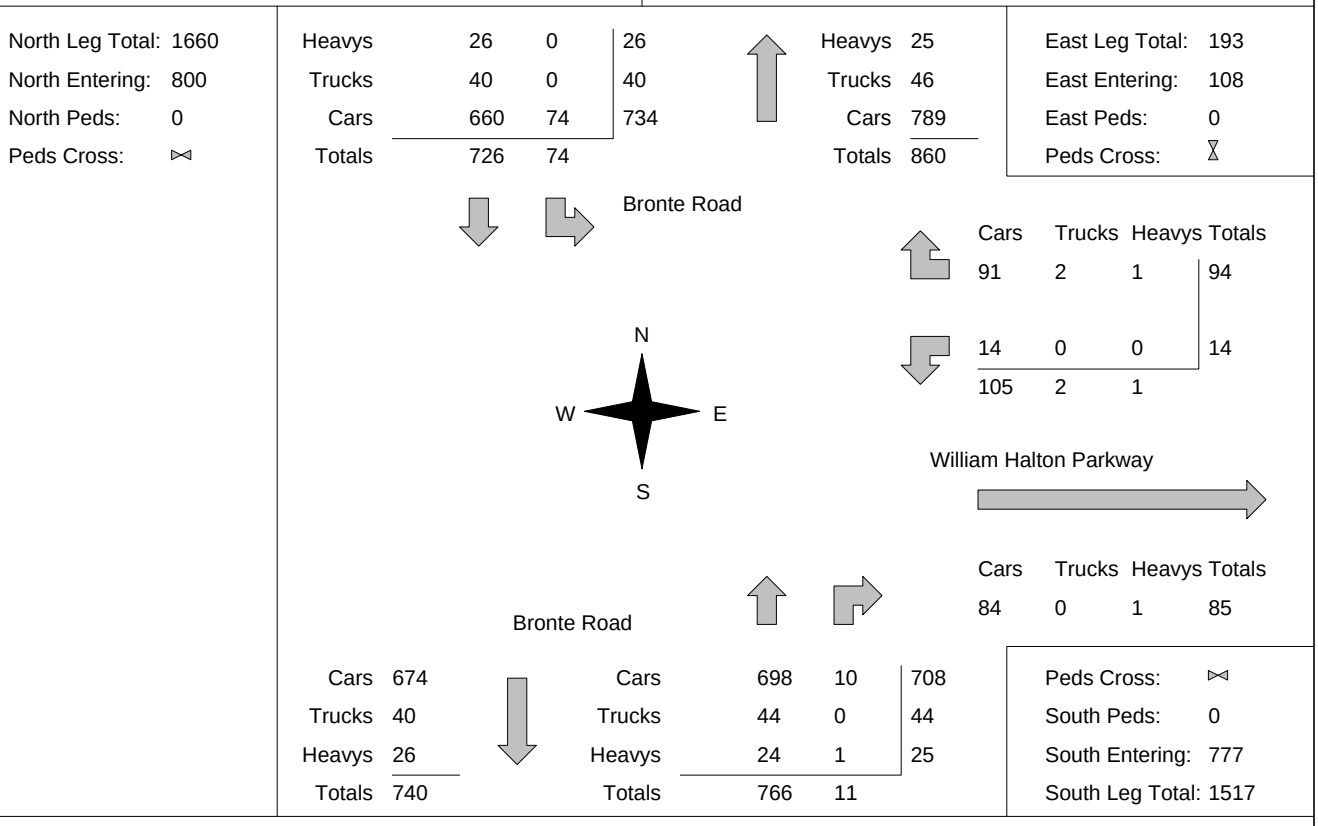
One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Oakville
Site #: 0000002604
Intersection: Bronte Road & William Halton Parkv
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Bronte Road runs N/S



Comments

William Halton Parkway & Bronte Road

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Oakville
Site #: 0000002604
Intersection: Bronte Road & William Halton Parkv
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Bronte Road runs N/S

North Leg Total: 3245
North Entering: 1254
North Peds: 0
Peds Cross: ⋈

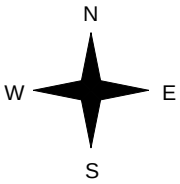
Heavys	20	0	20
Trucks	25	1	26
Cars	1112	96	1208
Totals	1157	97	

Heavys	23
Trucks	23
Cars	1945
Totals	1991

East Leg Total: 598
East Entering: 484
East Peds: 0
Peds Cross: ⋈

Bronte Road

Cars	Trucks	Heavys	Totals
428	1	1	430
54	0	0	54
482	1	1	



William Halton Parkway

Cars	Trucks	Heavys	Totals
113	1	0	114

Bronte Road

Cars	1166
Trucks	25
Heavys	20
Totals	1211

Cars	1517	17	1534
Trucks	22	0	22
Heavys	22	0	22
Totals	1561	17	

Peds Cross: ⋈
South Peds: 0
South Entering: 1578
South Leg Total: 2789

Comments

William Halton Parkway & Bronte Road

Total Count Diagram

Municipality: Oakville
Site #: 0000002604
Intersection: Bronte Road & William Halton Parkv
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

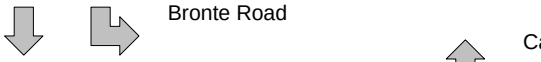
Major Road: Bronte Road runs N/S

North Leg Total: 19847
North Entering: 9889
North Peds: 0
Peds Cross: ⋈

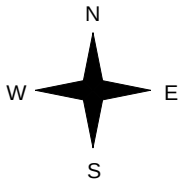
Heavys	233	7	240
Trucks	299	11	310
Cars	7953	1386	9339
Totals	8485	1404	

Heavys	212
Trucks	241
Cars	9505
Totals	9958

East Leg Total: 3257
East Entering: 1687
East Peds: 1
Peds Cross: ⋈



	Cars	Trucks	Heavys	Totals
	1492	16	6	1514
	172	1	0	173
	1664	17	6	



	Cars	Trucks	Heavys	Totals
	1550	12	8	1570

Bronte Road

Cars	8125		
Trucks	300		
Heavys	233		
Totals	8658		

Cars	8013	164	8177
Trucks	225	1	226
Heavys	206	1	207
Totals	8444	166	

Peds Cross: ⋈
South Peds: 0
South Entering: 8610
South Leg Total: 17268

Comments

William Halton Parkway & Bronte Road
Traffic Count Summary

Intersection: Bronte Road & William Halton Park | **Count Date:** 8-May-2019 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	365	1441	0	1806	0	2945
9:00:00	434	1431	0	1865	0	2969
10:00:00	149	992	0	1141	0	1940
12:00:00	62	351	0	413	0	760
13:00:00	79	721	0	800	0	1516
16:00:00	32	386	0	418	0	840
17:00:00	117	1142	0	1259	0	2714
18:00:00	88	1134	0	1222	0	2785
19:00:00	78	887	0	965	0	2030
Totals:	1404	8485	0	9889	0	18499

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	0	1090	49	1139	0
9:00:00	0	1063	41	1104	0
10:00:00	0	775	24	799	0
12:00:00	0	344	3	347	0
13:00:00	0	706	10	716	0
16:00:00	0	415	7	422	0
17:00:00	0	1441	14	1455	0
18:00:00	0	1552	11	1563	0
19:00:00	0	1058	7	1065	0
Totals:	0	8444	166	8610	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	5	0	125	130	1	130
9:00:00	4	0	148	152	0	152
10:00:00	3	0	84	87	0	87
12:00:00	5	0	42	47	0	47
13:00:00	11	0	108	119	0	119
16:00:00	8	0	44	52	0	52
17:00:00	90	0	406	496	0	496
18:00:00	37	0	385	422	0	422
19:00:00	10	0	172	182	0	182
Totals:	173	0	1514	1687	1	1687

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	0	0	0	0	0
9:00:00	0	0	0	0	0
10:00:00	0	0	0	0	0
12:00:00	0	0	0	0	0
13:00:00	0	0	0	0	0
16:00:00	0	0	0	0	0
17:00:00	0	0	0	0	0
18:00:00	0	0	0	0	0
19:00:00	0	0	0	0	0
Totals:	0	0	0	0	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	13:00	16:00	17:00	18:00	19:00
Crossing Values:	5	4	3	11	8	90	37	10

William Halton Parkway & Hospital Gate

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 7:30:00
To: 8:30:00

Municipality: Oakville
Site #: 0000002602
Intersection: William Halton Parkway & Hospital (
TFR File #: 1
Count date: 8-May-2019

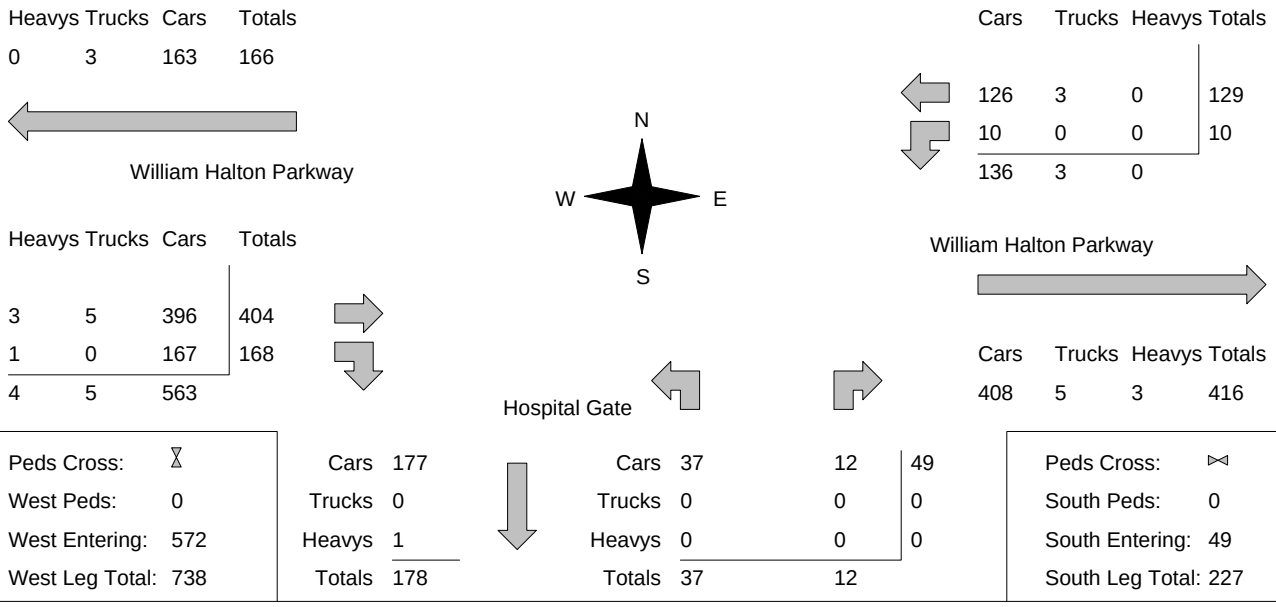
Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: William Halton Parkway runs W/E

East Leg Total: 555
East Entering: 139
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 572
West Leg Total: 738

Cars 177
Trucks 0
Heavys 1
Totals 178

Cars 37 12 49
Trucks 0 0 0
Heavys 0 0 0
Totals 37 12

Peds Cross: ⋈
South Peds: 0
South Entering: 49
South Leg Total: 227

Comments

William Halton Parkway & Hospital Gate

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 11:30:00
To: 12:30:00

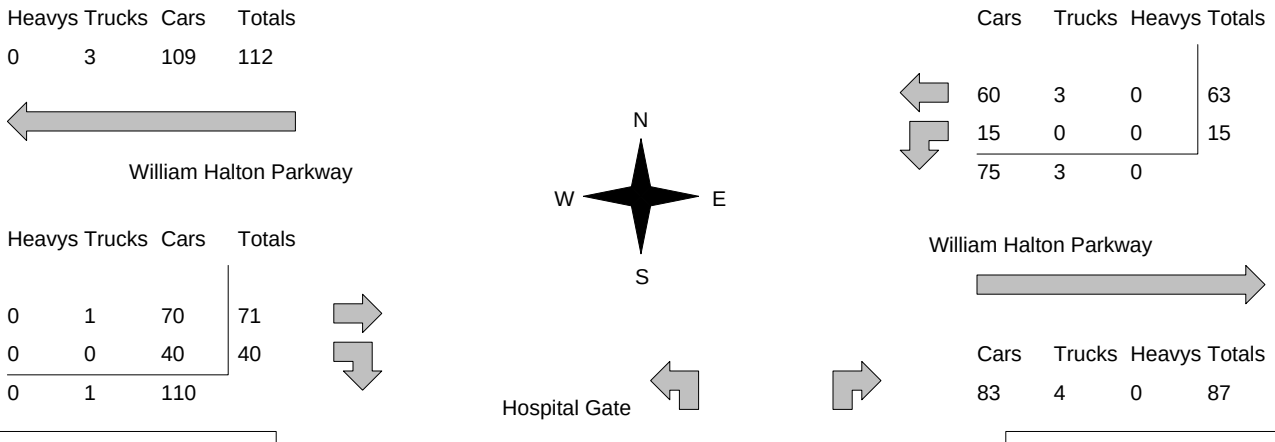
Municipality: Oakville
Site #: 0000002602
Intersection: William Halton Parkway & Hospital (
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: William Halton Parkway runs W/E

East Leg Total: 165
East Entering: 78
East Peds: 2
Peds Cross:



Peds Cross:
West Peds: 0
West Entering: 111
West Leg Total: 223

Cars 55
Trucks 0
Heavys 0
Totals 55

Cars 49 13 62
Trucks 0 3 3
Heavys 0 0 0
Totals 49 16

Peds Cross:
South Peds: 2
South Entering: 65
South Leg Total: 120

Comments

William Halton Parkway & Hospital Gate

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:00:00
To: 17:00:00

Municipality: Oakville
Site #: 0000002602
Intersection: William Halton Parkway & Hospital (
TFR File #: 1
Count date: 8-May-2019

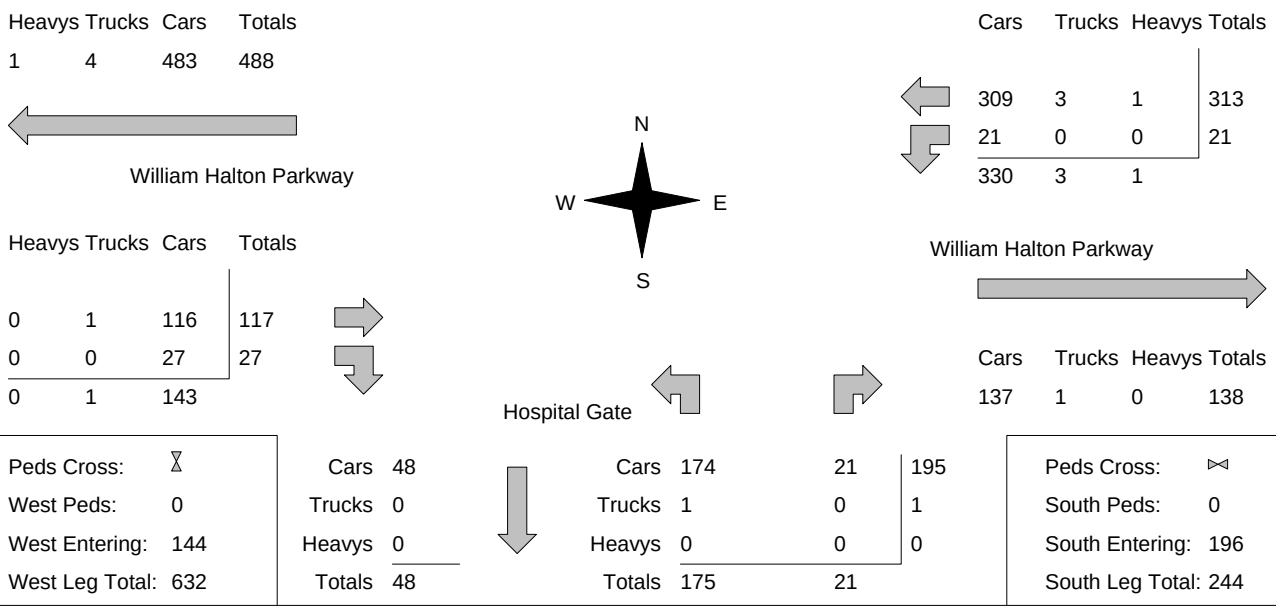
Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: William Halton Parkway runs W/E

East Leg Total: 472
East Entering: 334
East Peds: 0
Peds Cross:



Peds Cross:
West Peds: 0
West Entering: 144
West Leg Total: 632

Cars 48
Trucks 0
Heavys 0
Totals 48

Cars 174 21 195
Trucks 1 0 1
Heavys 0 0 0
Totals 175 21

Peds Cross:
South Peds: 0
South Entering: 196
South Leg Total: 244

Comments

William Halton Parkway & Hospital Gate

Total Count Diagram

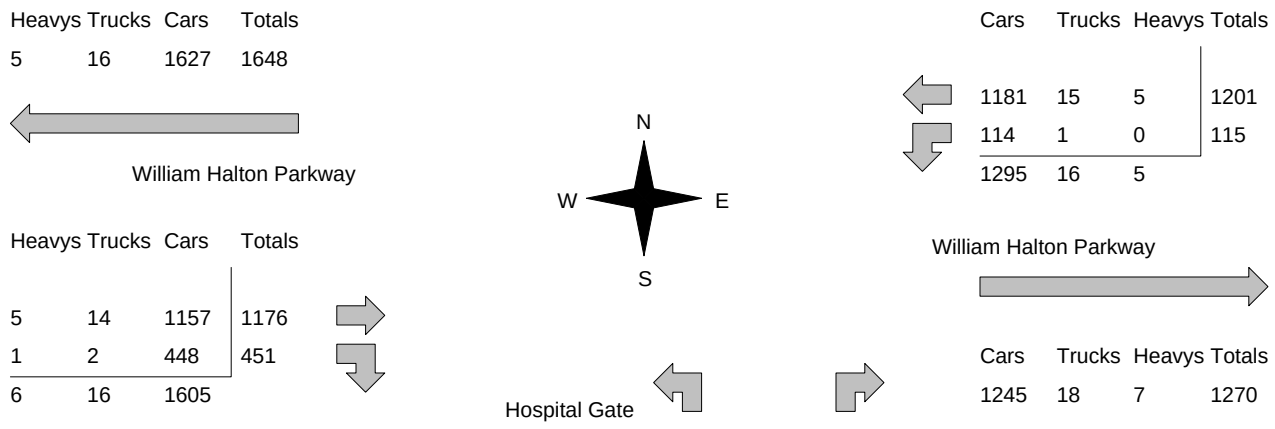
Municipality: Oakville
Site #: 0000002602
Intersection: William Halton Parkway & Hospital (
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: William Halton Parkway runs W/E

East Leg Total: 2586
East Entering: 1316
East Peds: 4
Peds Cross:



Peds Cross:
West Peds: 0
West Entering: 1627
West Leg Total: 3275

Cars 562
Trucks 3
Heavys 1
Totals 566

Cars 446 88 534
Trucks 1 4 5
Heavys 0 2 2
Totals 447 94

Peds Cross:
South Peds: 12
South Entering: 541
South Leg Total: 1107

Comments

William Halton Parkway & Hospital Gate
Traffic Count Summary

Intersection: William Halton Parkway & Hospital | **Count Date:** 8-May-2019 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	0	0	0	0	0	34
9:00:00	0	0	0	0	0	43
10:00:00	0	0	0	0	0	36
12:00:00	0	0	0	0	0	32
13:00:00	0	0	0	0	0	59
16:00:00	0	0	0	0	0	21
17:00:00	0	0	0	0	0	196
18:00:00	0	0	0	0	0	80
19:00:00	0	0	0	0	0	40
Totals:	0	0	0	0	0	541

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	30	0	4	34	0
9:00:00	27	0	16	43	0
10:00:00	24	0	12	36	0
12:00:00	25	0	7	32	0
13:00:00	43	0	16	59	8
16:00:00	17	0	4	21	3
17:00:00	175	0	21	196	0
18:00:00	71	0	9	80	1
19:00:00	35	0	5	40	0
Totals:	447	0	94	541	12

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	10	100	0	110	0	536
9:00:00	14	120	0	134	0	623
10:00:00	12	68	0	80	0	262
12:00:00	3	23	0	26	0	92
13:00:00	21	77	0	98	4	193
16:00:00	8	31	0	39	0	83
17:00:00	21	313	0	334	0	478
18:00:00	17	330	0	347	0	446
19:00:00	9	139	0	148	0	230
Totals:	115	1201	0	1316	4	2943

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	0	272	154	426	0
9:00:00	0	394	95	489	0
10:00:00	0	125	57	182	0
12:00:00	0	43	23	66	0
13:00:00	0	58	37	95	0
16:00:00	0	25	19	44	0
17:00:00	0	117	27	144	0
18:00:00	0	79	20	99	0
19:00:00	0	63	19	82	0
Totals:	0	1176	451	1627	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	12:00	13:00	17:00	18:00	19:00
Crossing Values:	30	27	24	25	47	175	71	35

William Halton Parkway & Third Line

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

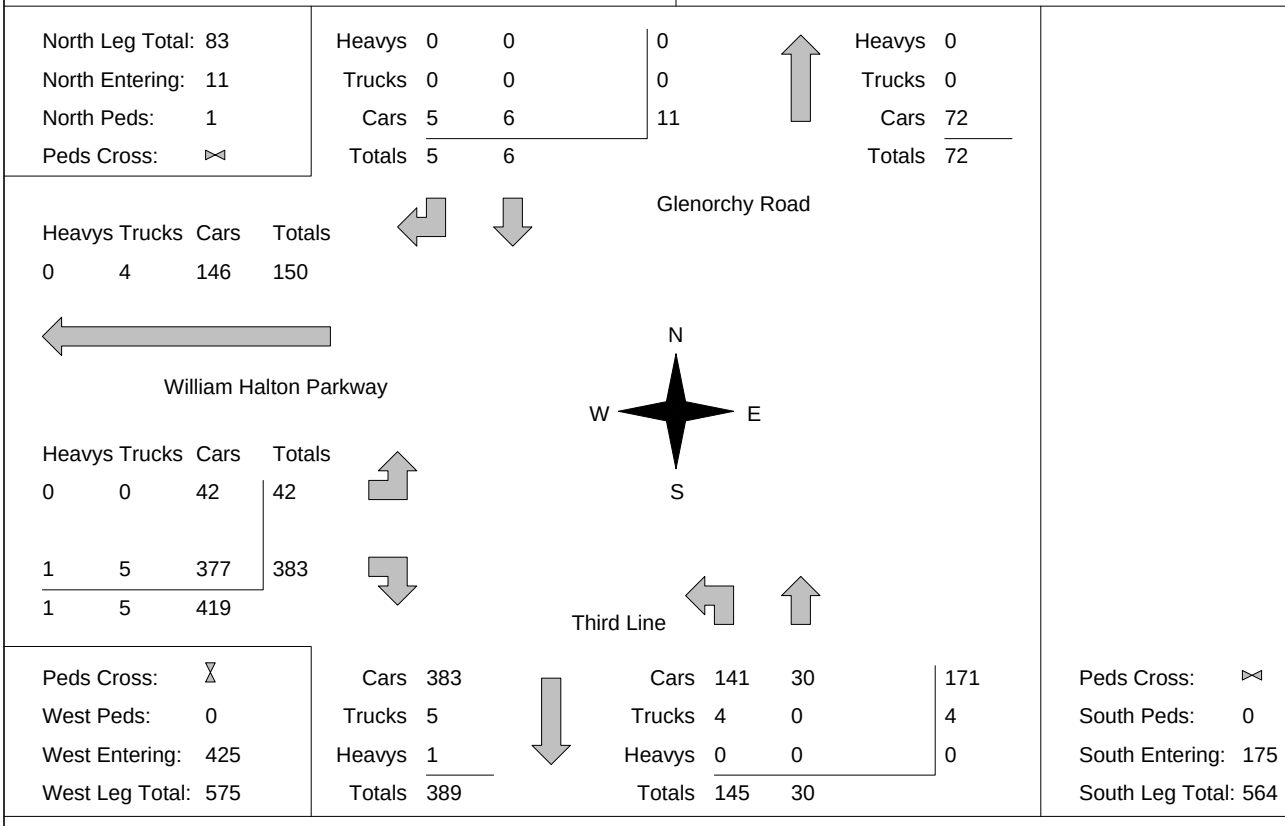
Municipality: Oakville
Site #: 0000002603
Intersection: Third Line & William Halton Parkway
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Third Line runs N/S



Comments

William Halton Parkway & Third Line

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 11:45:00
To: 12:45:00

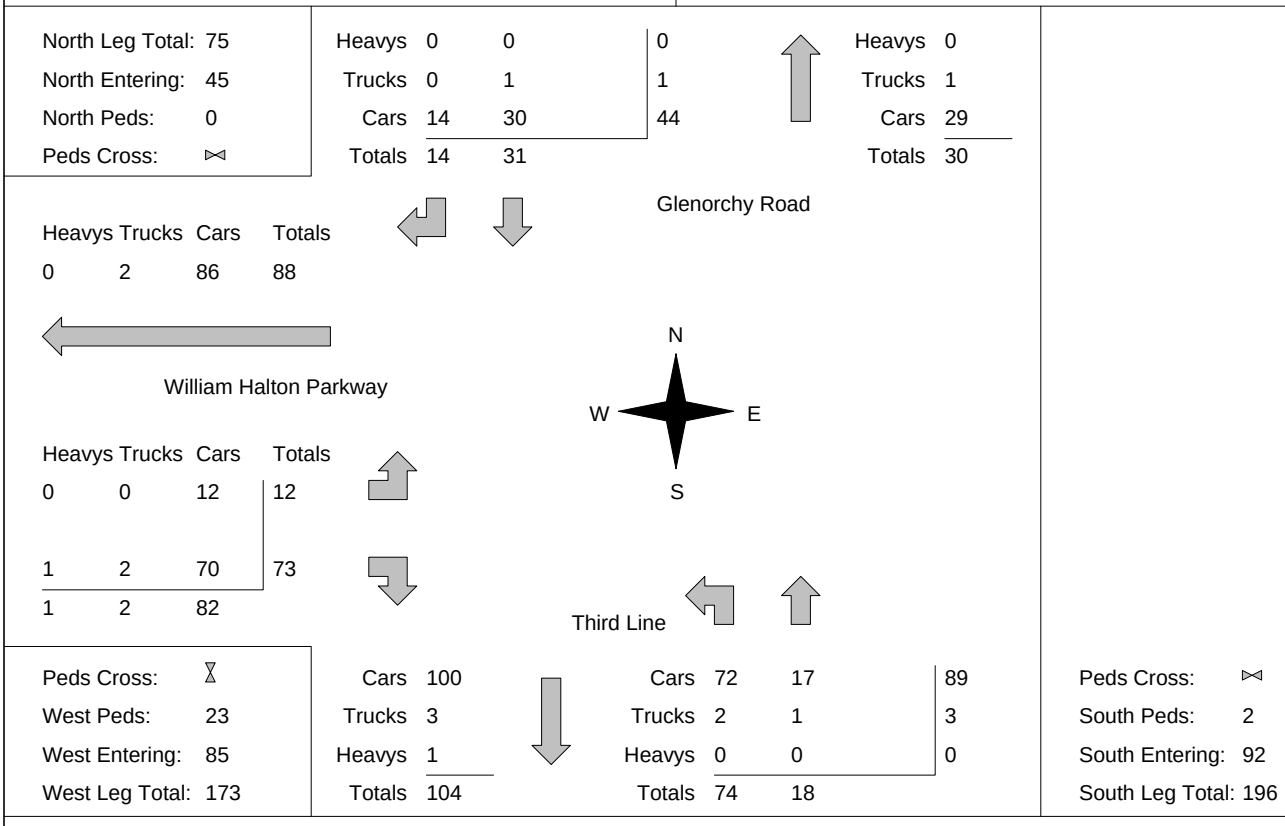
Municipality: Oakville
Site #: 0000002603
Intersection: Third Line & William Halton Parkway
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Third Line runs N/S



Comments

William Halton Parkway & Third Line

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:15:00
To: 17:15:00

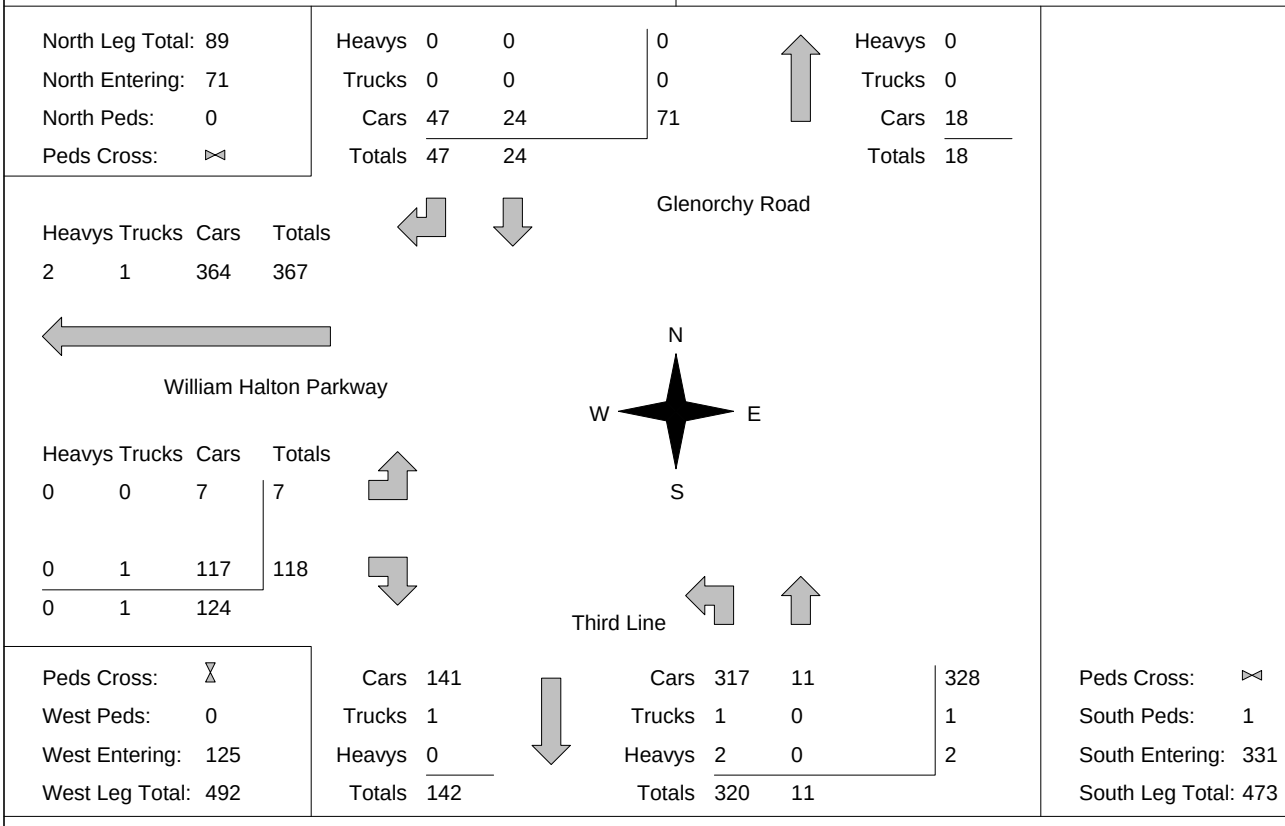
Municipality: Oakville
Site #: 0000002603
Intersection: Third Line & William Halton Parkway
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Third Line runs N/S



Comments

William Halton Parkway & Third Line

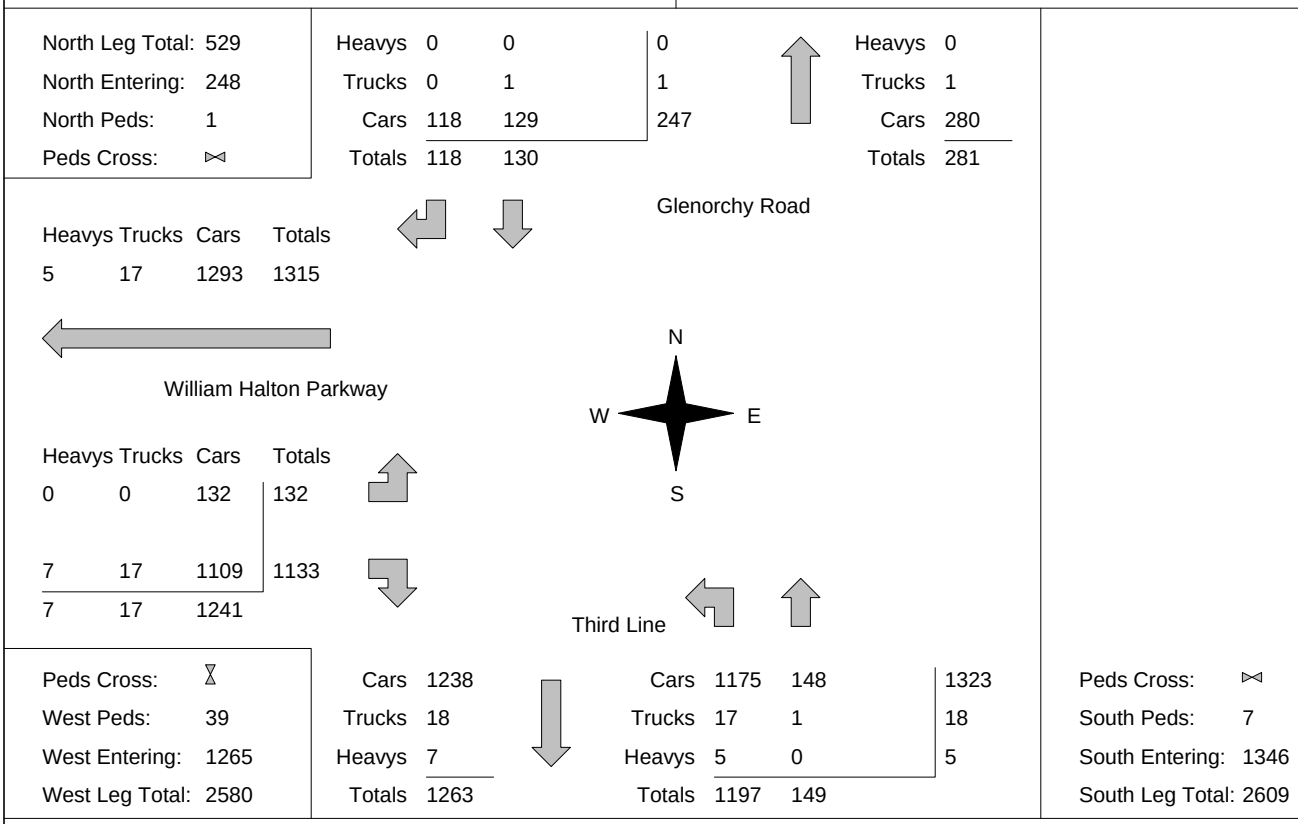
Total Count Diagram

Municipality: Oakville
Site #: 0000002603
Intersection: Third Line & William Halton Parkway
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Third Line runs N/S



Comments

William Halton Parkway & Third Line
Traffic Count Summary

Intersection: Third Line & William Halton Parkwa | **Count Date:** 8-May-2019 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	0	1	0	1	1	125
9:00:00	0	7	5	12	0	183
10:00:00	0	13	15	28	0	120
12:00:00	0	9	5	14	0	45
13:00:00	0	30	11	41	0	144
16:00:00	0	11	5	16	0	60
17:00:00	0	30	49	79	0	375
18:00:00	0	19	20	39	0	380
19:00:00	0	10	8	18	0	162
Totals:	0	130	118	248	1	1594

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	112	12	0	124	0
9:00:00	130	41	0	171	1
10:00:00	64	28	0	92	0
12:00:00	23	8	0	31	2
13:00:00	85	18	0	103	2
16:00:00	34	10	0	44	0
17:00:00	280	16	0	296	0
18:00:00	329	12	0	341	2
19:00:00	140	4	0	144	0
Totals:	1197	149	0	1346	7

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	0	0	0	0	0	277
9:00:00	0	0	0	0	0	408
10:00:00	0	0	0	0	0	140
12:00:00	0	0	0	0	0	51
13:00:00	0	0	0	0	0	71
16:00:00	0	0	0	0	0	30
17:00:00	0	0	0	0	0	130
18:00:00	0	0	0	0	0	91
19:00:00	0	0	0	0	0	67
Totals:	0	0	0	0	0	1265

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	17	0	260	277	0
9:00:00	46	0	362	408	0
10:00:00	30	0	110	140	9
12:00:00	2	0	49	51	10
13:00:00	13	0	58	71	16
16:00:00	12	0	18	30	2
17:00:00	5	0	125	130	0
18:00:00	6	0	85	91	1
19:00:00	1	0	66	67	1
Totals:	132	0	1133	1265	39

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	12:00	13:00	17:00	18:00	19:00
Crossing Values:	18	47	30	4	15	5	8	1

Dundas Street & Bronte Road

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

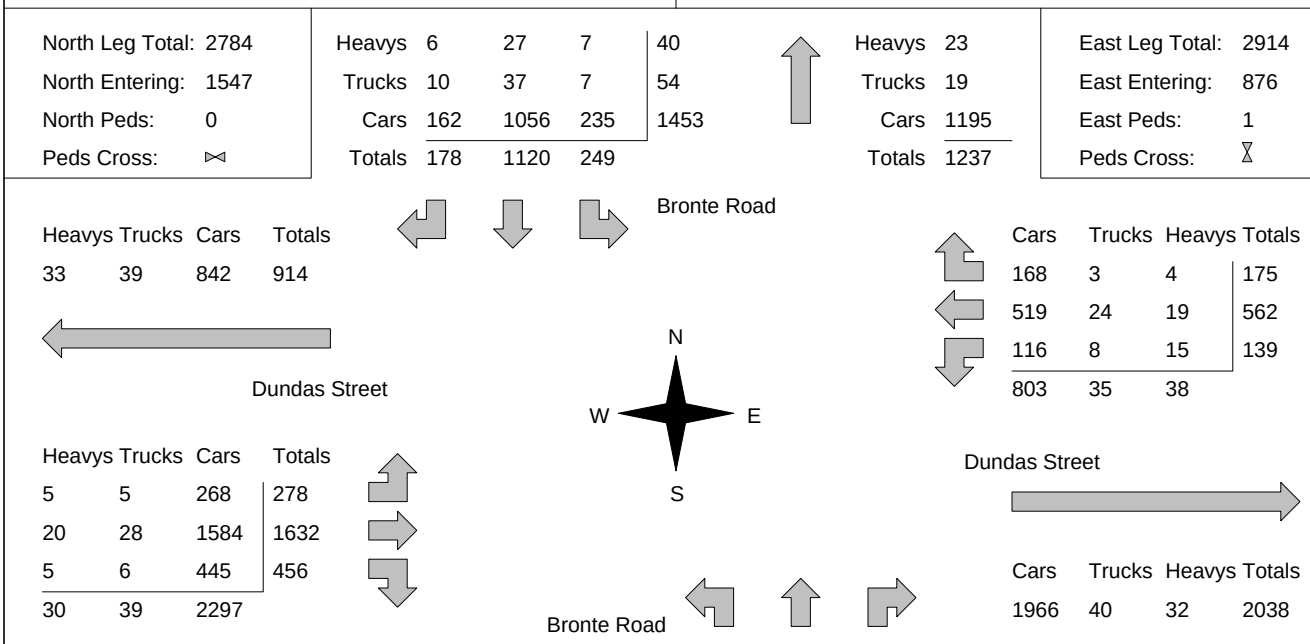
One Hour Peak
From: 7:30:00
To: 8:30:00

Municipality: Oakville
Site #: 0000002604
Intersection: Dundas Street & Bronte Road
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Comments

Dundas Street & Bronte Road

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

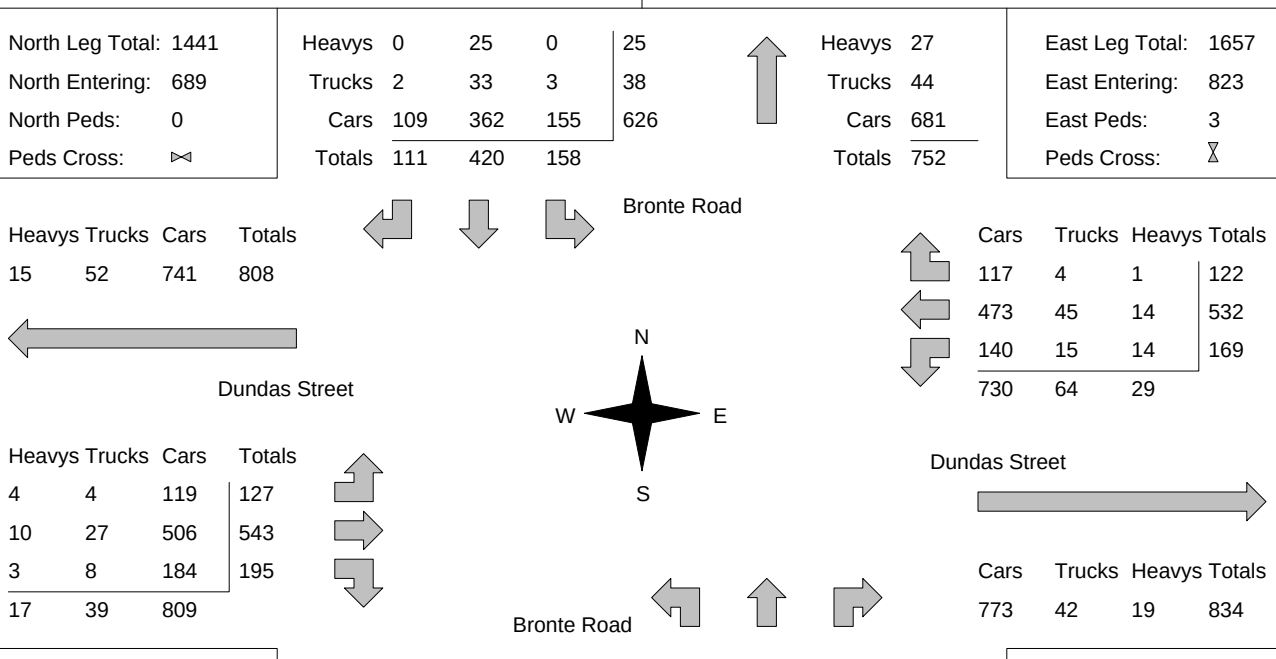
One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Oakville
Site #: 0000002604
Intersection: Dundas Street & Bronte Road
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Comments

Dundas Street & Bronte Road

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Oakville
Site #: 0000002604
Intersection: Dundas Street & Bronte Road
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

North Leg Total:	2735
North Entering:	1181
North Peds:	0
Peds Cross:	⋈

Heavys	5	14	3	22
Trucks	4	19	0	23
Cars	276	638	222	1136
Totals	285	671	225	

Heavys	23
Trucks	22
Cars	1509
Totals	1554

East Leg Total:	3142
East Entering:	1892
East Peds:	2
Peds Cross:	⧖

Bronte Road

Heavys	Trucks	Cars	Totals
24	30	2245	2299

Cars	Trucks	Heavys	Totals
151	3	1	155
1576	15	17	1608
124	4	1	129
1851	22	19	

Dundas Street

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Heavys	Trucks	Cars	Totals
1	0	234	235
14	19	859	892
4	1	218	223
19	20	1311	

Dundas Street

Cars	Trucks	Heavys	Totals
1206	21	23	1250

Bronte Road

Peds Cross:	⧖
West Peds:	0
West Entering:	1350
West Leg Total:	3649

Cars	980
Trucks	24
Heavys	19
Totals	1023

Cars	393	1124	125	1642
Trucks	11	19	2	32
Heavys	2	21	6	29
Totals	406	1164	133	

Peds Cross:	⋈
South Peds:	3
South Entering:	1703
South Leg Total:	2726

Comments

Dundas Street & Bronte Road

Total Count Diagram

Municipality: Oakville
Site #: 0000002604
Intersection: Dundas Street & Bronte Road
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

North Leg Total:	17026			
North Entering:	8466			
North Peds:	1			
Peds Cross:	⋈			
Heavys	25	193	20	238
Trucks	67	206	21	294
Cars	1334	5076	1524	7934
Totals	1426	5475	1565	
Heavys	211			
Trucks	221			
Cars	8128			
Totals	8560			
East Leg Total:	18865			
East Entering:	8720			
East Peds:	12			
Peds Cross:	⧖			

Bronte Road

Heavys	Trucks	Cars	Totals
204	335	9191	9730

Cars	Trucks	Heavys	Totals
1056	22	14	1092
6115	212	138	6465
1015	69	79	1163
8186	303	231	

Dundas Street

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Heavys	Trucks	Cars	Totals
26	31	1563	1620
113	198	7118	7429
33	50	1982	2065
172	279	10663	

Dundas Street

Cars	Trucks	Heavys	Totals
9696	272	177	10145

Bronte Road

Peds Cross:	⧖			
West Peds:	2			
West Entering:	11114			
West Leg Total:	20844			
Cars	8073			
Trucks	325			
Heavys	305			
Totals	8703			
Cars	1742	5509	1054	8305
Trucks	56	168	53	277
Heavys	41	171	44	256
Totals	1839	5848	1151	
Peds Cross:	⋈			
South Peds:	31			
South Entering:	8838			
South Leg Total:	17541			

Comments

Dundas Street & Bronte Road
Traffic Count Summary

Intersection: Dundas Street & Bronte Road | **Count Date:** 8-May-2019 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	220	1051	140	1411	0	2363
9:00:00	238	1023	185	1446	0	2461
10:00:00	187	627	122	936	0	1712
12:00:00	60	228	69	357	0	740
13:00:00	149	441	119	709	0	1473
16:00:00	73	232	56	361	0	780
17:00:00	226	683	308	1217	1	2899
18:00:00	225	672	245	1142	0	2765
19:00:00	187	518	182	887	0	2111
Totals:	1565	5475	1426	8466	1	17304

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	121	674	157	952	3
9:00:00	189	671	155	1015	2
10:00:00	156	487	133	776	2
12:00:00	75	230	78	383	4
13:00:00	167	457	140	764	4
16:00:00	85	275	59	419	2
17:00:00	412	1105	165	1682	5
18:00:00	375	1118	130	1623	4
19:00:00	259	831	134	1224	5
Totals:	1839	5848	1151	8838	31

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	117	398	140	655	1	2894
9:00:00	149	646	166	961	2	3144
10:00:00	142	464	97	703	0	2067
12:00:00	79	248	48	375	0	778
13:00:00	162	511	107	780	3	1653
16:00:00	76	263	68	407	2	822
17:00:00	147	1568	156	1871	2	3088
18:00:00	136	1400	181	1717	2	3121
19:00:00	155	967	129	1251	0	2267
Totals:	1163	6465	1092	8720	12	19834

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	296	1496	447	2239	0
9:00:00	261	1550	372	2183	0
10:00:00	202	897	265	1364	0
12:00:00	56	267	80	403	0
13:00:00	133	549	191	873	1
16:00:00	60	262	93	415	0
17:00:00	222	790	205	1217	1
18:00:00	242	934	228	1404	0
19:00:00	148	684	184	1016	0
Totals:	1620	7429	2065	11114	2

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	13:00	16:00	17:00	18:00	19:00
Crossing Values:	1393	1452	970	777	435	1746	1720	1277

Dundas Street & Hospital Gate

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

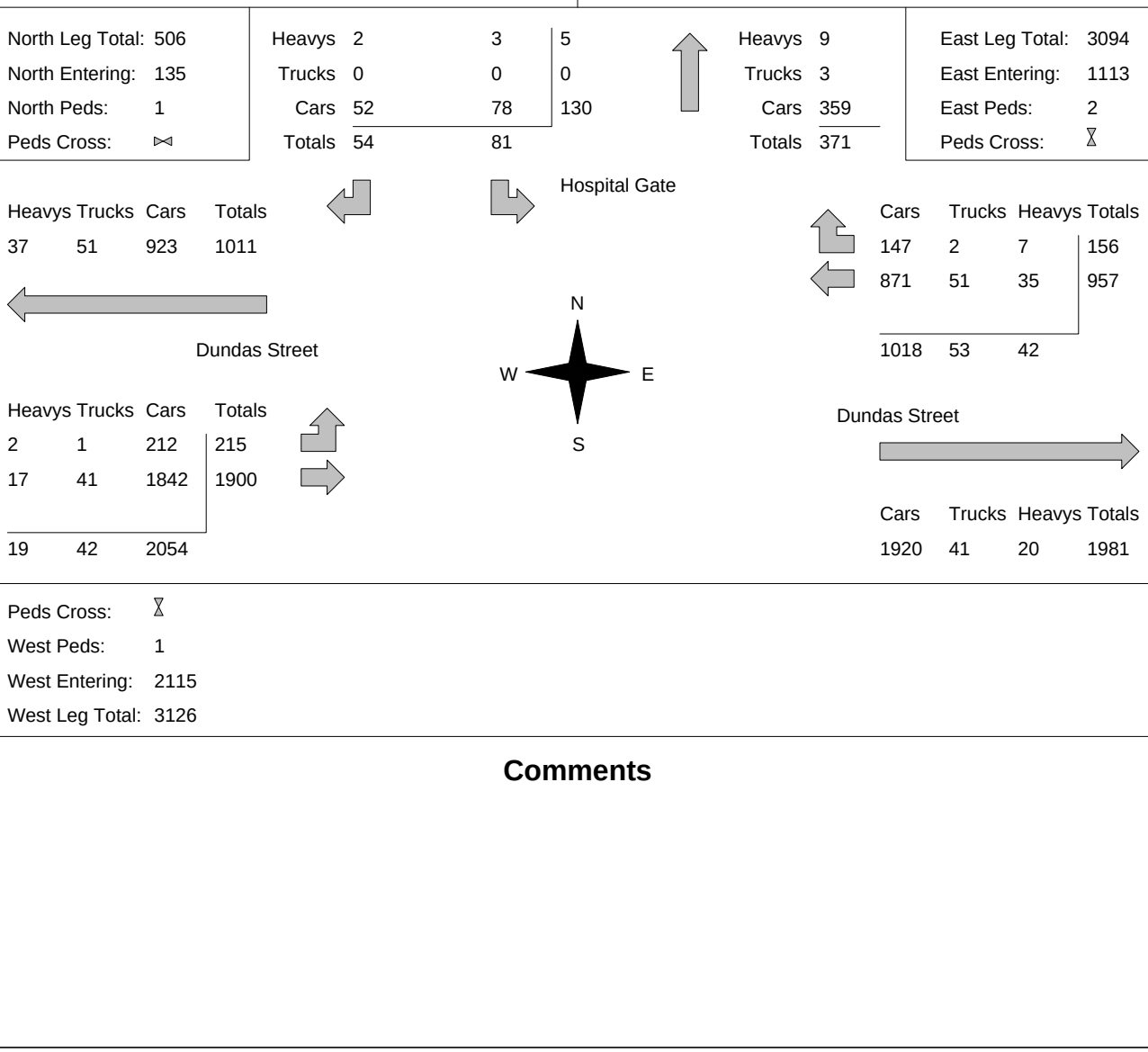
Municipality: Oakville
Site #: 0000002605
Intersection: Dundas Street & Hospital Gate
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Comments

Dundas Street & Hospital Gate

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:15:00
To: 13:15:00

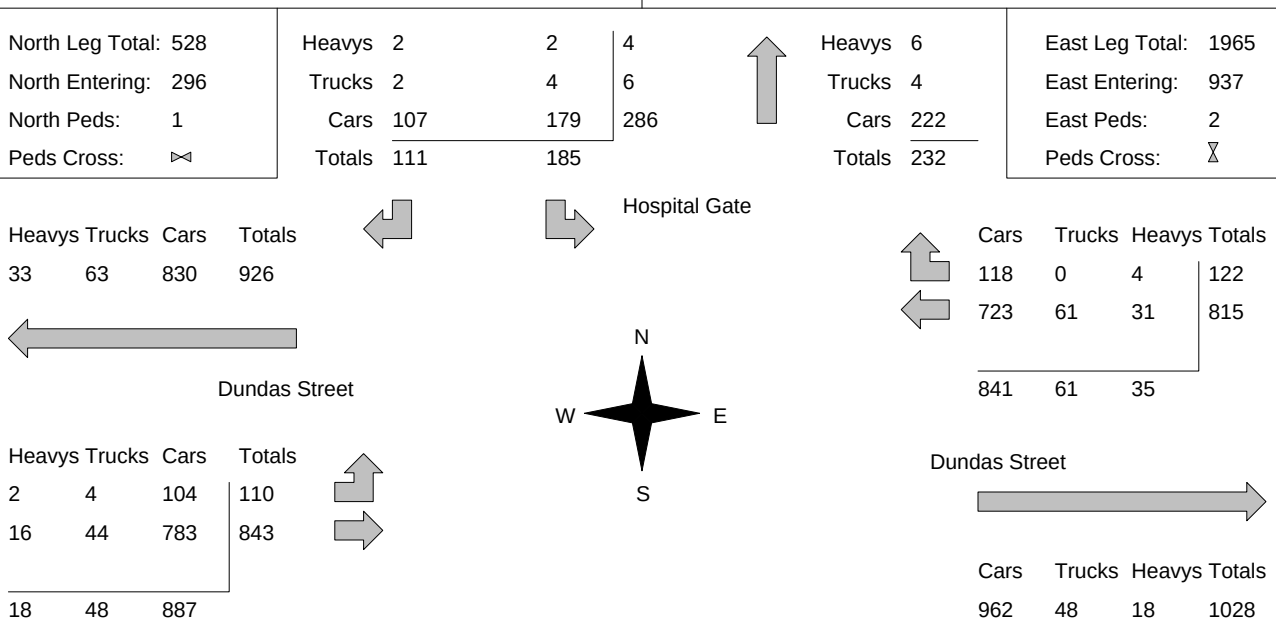
Municipality: Oakville
Site #: 0000002605
Intersection: Dundas Street & Hospital Gate
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Peds Cross:
West Peds: 0
West Entering: 953
West Leg Total: 1879

Comments

Dundas Street & Hospital Gate

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:00:00
To: 17:00:00

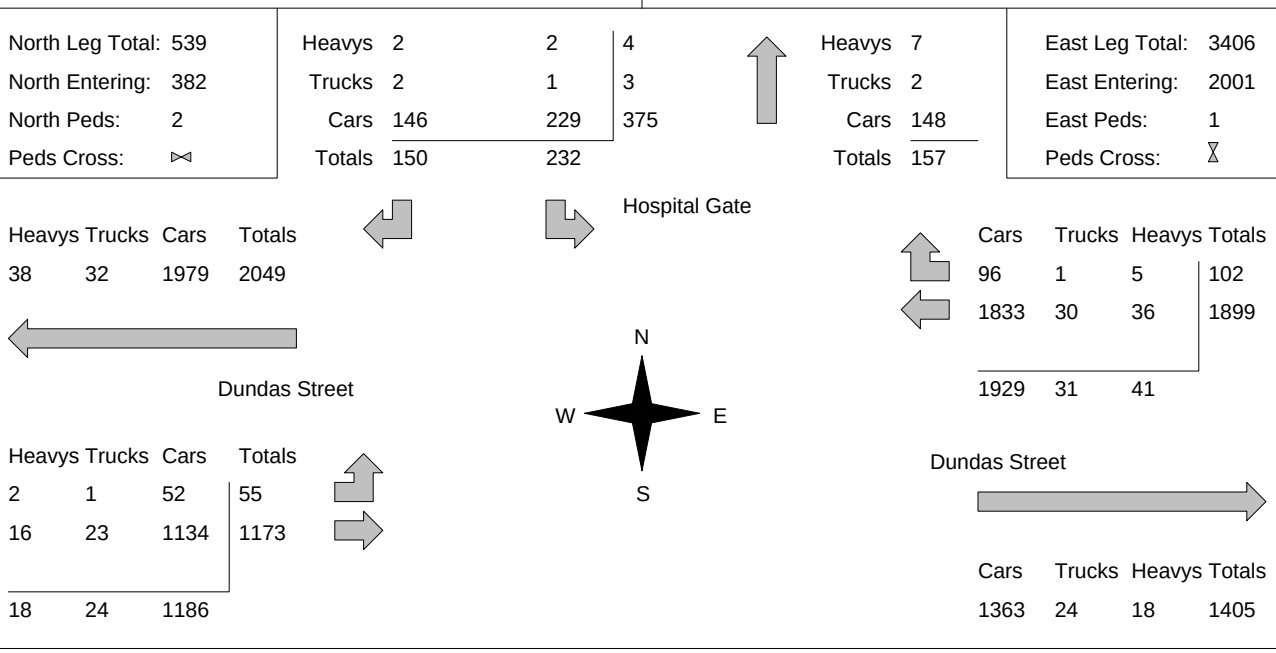
Municipality: Oakville
Site #: 0000002605
Intersection: Dundas Street & Hospital Gate
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Peds Cross:
West Peds: 1
West Entering: 1228
West Leg Total: 3277

Comments

Dundas Street & Hospital Gate

Total Count Diagram

Municipality: Oakville
Site #: 0000002605
Intersection: Dundas Street & Hospital Gate
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

North Leg Total: 3721
North Entering: 1843
North Peds: 10
Peds Cross: ⋈

Heavys	16	17	33
Trucks	12	17	29
Cars	646	1135	1781
Totals	674	1169	

Heavys	57
Trucks	20
Cars	1801
Totals	1878

East Leg Total: 21095
East Entering: 9985
East Peds: 12
Peds Cross: ⧖

Hospital Gate

Heavys	Trucks	Cars	Totals
223	296	9176	9695

Dundas Street

Heavys	Trucks	Cars	Totals
16	8	890	914
146	254	9541	9941
162	262	10431	

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Cars	Trucks	Heavys	Totals
911	12	41	964
8530	284	207	9021
9441	296	248	

Dundas Street

Cars	Trucks	Heavys	Totals
10676	271	163	11110

Peds Cross: ⧖
West Peds: 12
West Entering: 10855
West Leg Total: 20550

Comments

Dundas Street & Hospital Gate
Traffic Count Summary

Intersection: Dundas Street & Hospital Gate | **Count Date:** 8-May-2019 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	80	0	56	136	0	136
9:00:00	74	0	47	121	2	121
10:00:00	118	0	56	174	2	174
12:00:00	71	0	51	122	0	122
13:00:00	208	0	110	318	0	318
16:00:00	90	0	41	131	2	131
17:00:00	232	0	150	382	2	382
18:00:00	166	0	95	261	2	261
19:00:00	130	0	68	198	0	198
Totals:	1169	0	674	1843	10	1843

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	0	0	0	0	0
9:00:00	0	0	0	0	0
10:00:00	0	0	0	0	0
12:00:00	0	0	0	0	0
13:00:00	0	0	0	0	0
16:00:00	0	0	0	0	0
17:00:00	0	0	0	0	0
18:00:00	0	0	0	0	0
19:00:00	0	0	0	0	0
Totals:	0	0	0	0	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	0	622	133	755	0	2811
9:00:00	0	968	168	1136	3	3194
10:00:00	0	718	158	876	1	2180
12:00:00	0	399	71	470	1	944
13:00:00	0	779	128	907	1	1847
16:00:00	0	423	51	474	2	905
17:00:00	0	1899	102	2001	1	3229
18:00:00	0	1775	97	1872	0	3185
19:00:00	0	1438	56	1494	3	2545
Totals:	0	9021	964	9985	12	20840

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	227	1829	0	2056	0
9:00:00	195	1863	0	2058	3
10:00:00	133	1171	0	1304	2
12:00:00	47	427	0	474	1
13:00:00	102	838	0	940	2
16:00:00	45	386	0	431	0
17:00:00	55	1173	0	1228	1
18:00:00	57	1256	0	1313	2
19:00:00	53	998	0	1051	1
Totals:	914	9941	0	10855	12

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	12:00	13:00	17:00	18:00	19:00
Crossing Values:	80	80	121	73	211	234	168	134

Dundas Street & Third Line

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

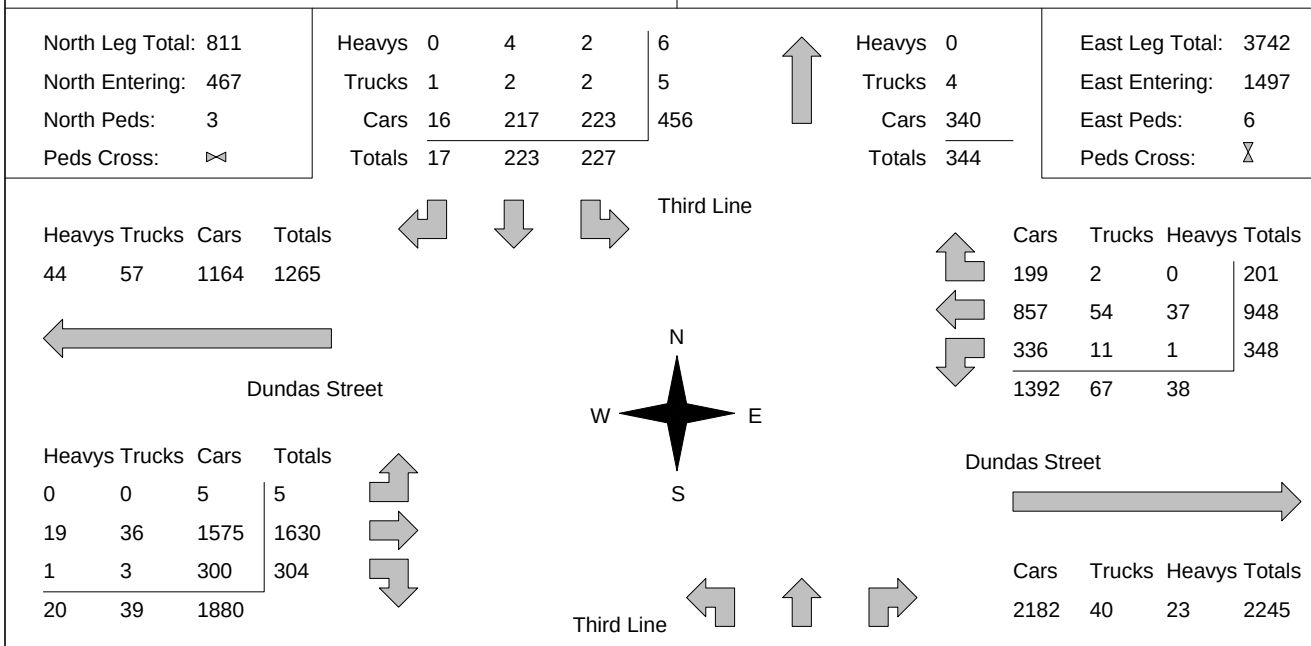
One Hour Peak
From: 7:45:00
To: 8:45:00

Municipality: Oakville
Site #: 0000002606
Intersection: Dundas Street & Third Line
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Comments

Dundas Street & Third Line

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:00:00
To: 13:00:00

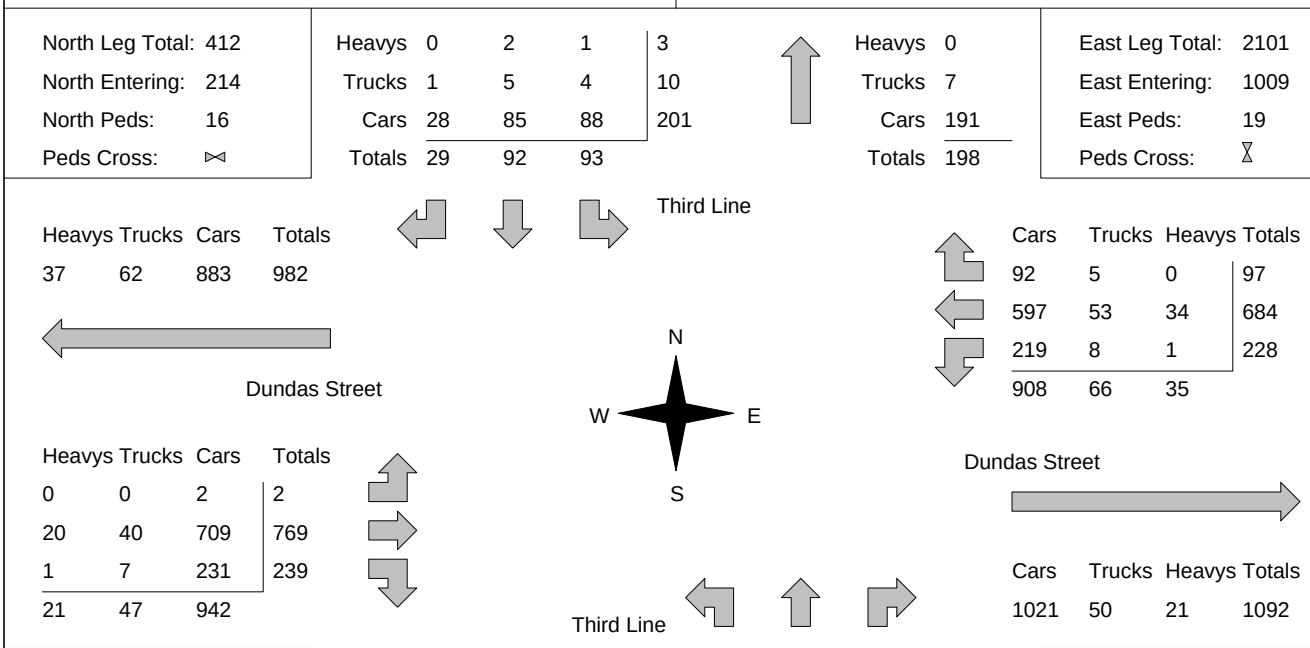
Municipality: Oakville
Site #: 0000002606
Intersection: Dundas Street & Third Line
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Comments

Dundas Street & Third Line

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:15:00
To: 17:15:00

Municipality: Oakville
Site #: 0000002606
Intersection: Dundas Street & Third Line
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

North Leg Total:	725
North Entering:	324
North Peds:	14
Peds Cross:	⋈

Heavys	0	3	0	3
Trucks	0	3	2	5
Cars	24	130	162	316
Totals	24	136	164	

Heavys	2
Trucks	4
Cars	395
Totals	401

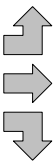
East Leg Total:	3898
East Entering:	2250
East Peds:	15
Peds Cross:	⧖

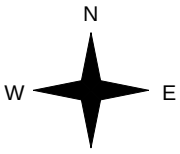
Third Line

Heavys	Trucks	Cars	Totals
26	15	1963	2004

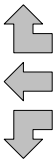
Dundas Street

Heavys	Trucks	Cars	Totals
0	0	1	1
21	24	1111	1156
1	2	266	269
22	26	1378	





Cars	Trucks	Heavys	Totals
167	1	0	168
1615	14	20	1649
432	1	0	433
2214	16	20	



Dundas Street

Cars	Trucks	Heavys	Totals
1595	32	21	1648

Third Line

Peds Cross:	⧖
West Peds:	27
West Entering:	1426
West Leg Total:	3430

Cars	828
Trucks	6
Heavys	4
Totals	838

Cars	324	227	322	873
Trucks	1	3	6	10
Heavys	6	2	0	8
Totals	331	232	328	

Peds Cross:	⋈
South Peds:	19
South Entering:	891
South Leg Total:	1729

Comments

Dundas Street & Third Line

Total Count Diagram

Municipality: Oakville
Site #: 0000002606
Intersection: Dundas Street & Third Line
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear
Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

North Leg Total:	4243			
North Entering:	2106			
North Peds:	64			
Peds Cross:	⋈			
Heavys	0	27	5	32
Trucks	3	14	20	37
Cars	137	910	990	2037
Totals	140	951	1015	
Heavys	6			
Trucks	33			
Cars	2098			
Totals	2137			
East Leg Total:	24083			
East Entering:	11730			
East Peds:	93			
Peds Cross:	⧖			

Third Line

Heavys	Trucks	Cars	Totals
245	301	9898	10444

Dundas Street

Cars	Trucks	Heavys	Totals
1044	17	4	1065
7660	266	207	8133
2475	51	6	2532
11179	334	217	

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Heavys	Trucks	Cars	Totals
0	1	29	30
153	242	8553	8948
9	26	1888	1923
162	269	10470	

Dundas Street

Cars	Trucks	Heavys	Totals
11883	304	166	12353

Third Line

Peds Cross:	⧖			
West Peds:	252			
West Entering:	10901			
West Leg Total:	21345			
Cars	5273			
Trucks	91			
Heavys	42			
Totals	5406			
Cars	2101	1025	2340	5466
Trucks	32	15	42	89
Heavys	38	2	8	48
Totals	2171	1042	2390	
Peds Cross:	⋈			
South Peds:	160			
South Entering:	5603			
South Leg Total:	11009			

Comments

Dundas Street & Third Line
Traffic Count Summary

Intersection: Dundas Street & Third Line | **Count Date:** 8-May-2019 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	164	137	12	313	4	1021
9:00:00	199	219	13	431	4	1200
10:00:00	103	82	14	199	7	781
12:00:00	45	43	8	96	7	367
13:00:00	93	92	29	214	16	812
16:00:00	36	38	8	82	6	375
17:00:00	178	167	27	372	9	1238
18:00:00	116	100	17	233	8	1110
19:00:00	81	73	12	166	3	805
Totals:	1015	951	140	2106	64	7709

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	245	122	341	708	7
9:00:00	282	119	368	769	13
10:00:00	234	78	270	582	13
12:00:00	135	46	90	271	13
13:00:00	269	99	230	598	29
16:00:00	136	43	114	293	17
17:00:00	342	210	314	866	28
18:00:00	298	210	369	877	10
19:00:00	230	115	294	639	30
	2171	1042	2390	5603	160

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	219	690	155	1064	10	2940
9:00:00	340	951	180	1471	5	3365
10:00:00	220	665	109	994	14	2272
12:00:00	109	348	40	497	5	991
13:00:00	228	684	97	1009	19	2019
16:00:00	148	331	48	527	6	1002
17:00:00	391	1599	164	2154	13	3532
18:00:00	496	1598	184	2278	10	3693
19:00:00	381	1267	88	1736	11	2817
Totals:	2532	8133	1065	11730	93	22631

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	7	1674	195	1876	13
9:00:00	8	1575	311	1894	22
10:00:00	3	1062	213	1278	36
12:00:00	0	394	100	494	18
13:00:00	2	769	239	1010	42
16:00:00	2	358	115	475	33
17:00:00	4	1103	271	1378	34
18:00:00	2	1147	266	1415	17
19:00:00	2	866	213	1081	37
	30	8948	1923	10901	252

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	13:00	16:00	17:00	18:00	19:00
Crossing Values:	569	727	469	522	254	777	651	474

Dundas Street & Proudfoot Trial

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

Municipality: Oakville
Site #: 0000002607
Intersection: Dundas Street & Proudfoot Trial
TFR File #: 1
Count date: 8-May-2019

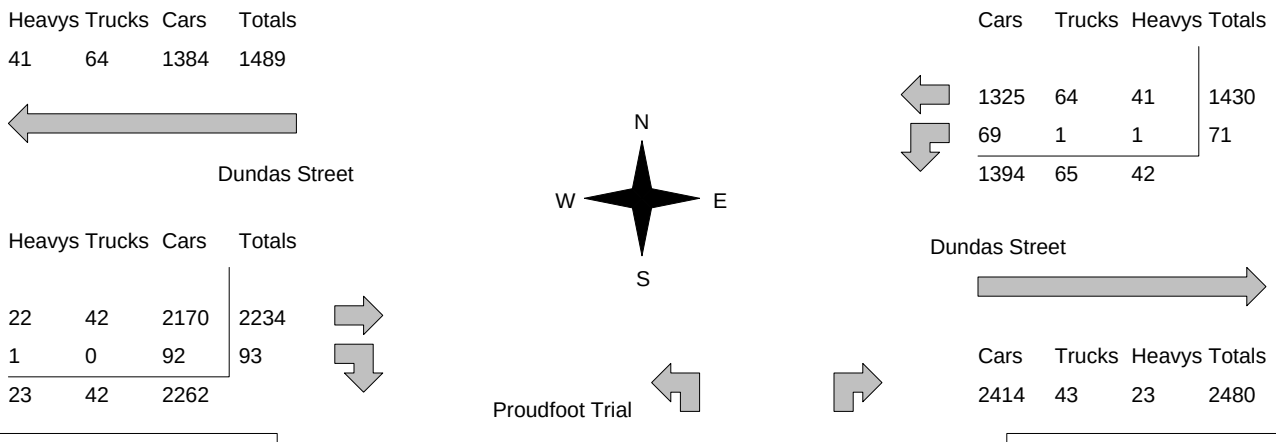
Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

East Leg Total: 3981
East Entering: 1501
East Peds: 1
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 1
West Entering: 2327
West Leg Total: 3816

Cars 161
Trucks 1
Heavys 2
Totals 164

Cars 59 244 303
Trucks 0 1 1
Heavys 0 1 1
Totals 59 246

Peds Cross: ⋈
South Peds: 1
South Entering: 305
South Leg Total: 469

Comments

Dundas Street & Proudfoot Trial

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:30:00
To: 13:30:00

Municipality: Oakville
Site #: 0000002607
Intersection: Dundas Street & Proudfoot Trial
TFR File #: 1
Count date: 8-May-2019

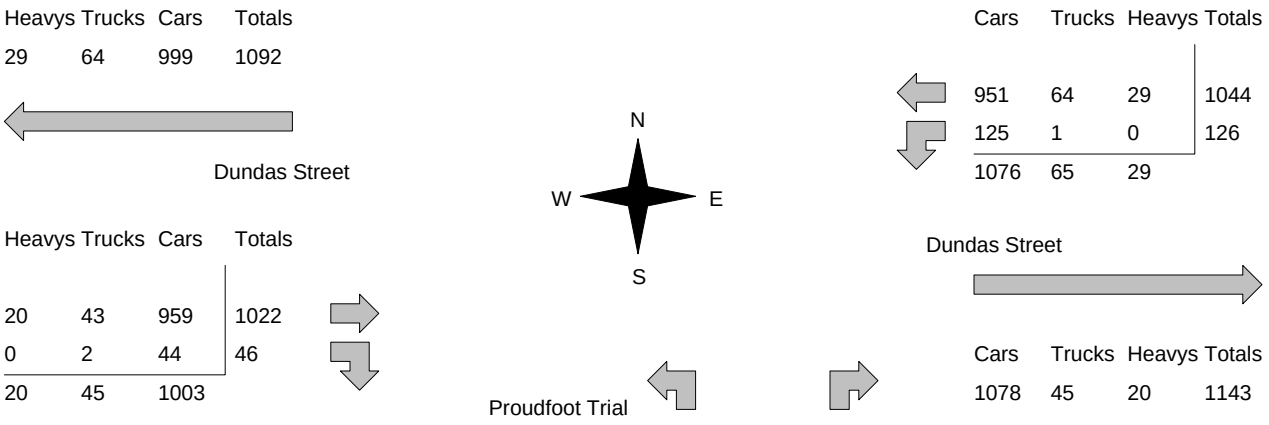
Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

East Leg Total: 2313
East Entering: 1170
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 0
West Entering: 1068
West Leg Total: 2160

Cars 169
Trucks 3
Heavys 0
Totals 172

Cars 48 119 167
Trucks 0 2 2
Heavys 0 0 0
Totals 48 121

Peds Cross: ⋈
South Peds: 10
South Entering: 169
South Leg Total: 341

Comments

Dundas Street & Proudfoot Trial

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Municipality: Oakville
Site #: 0000002607
Intersection: Dundas Street & Proudfoot Trial
TFR File #: 1
Count date: 8-May-2019

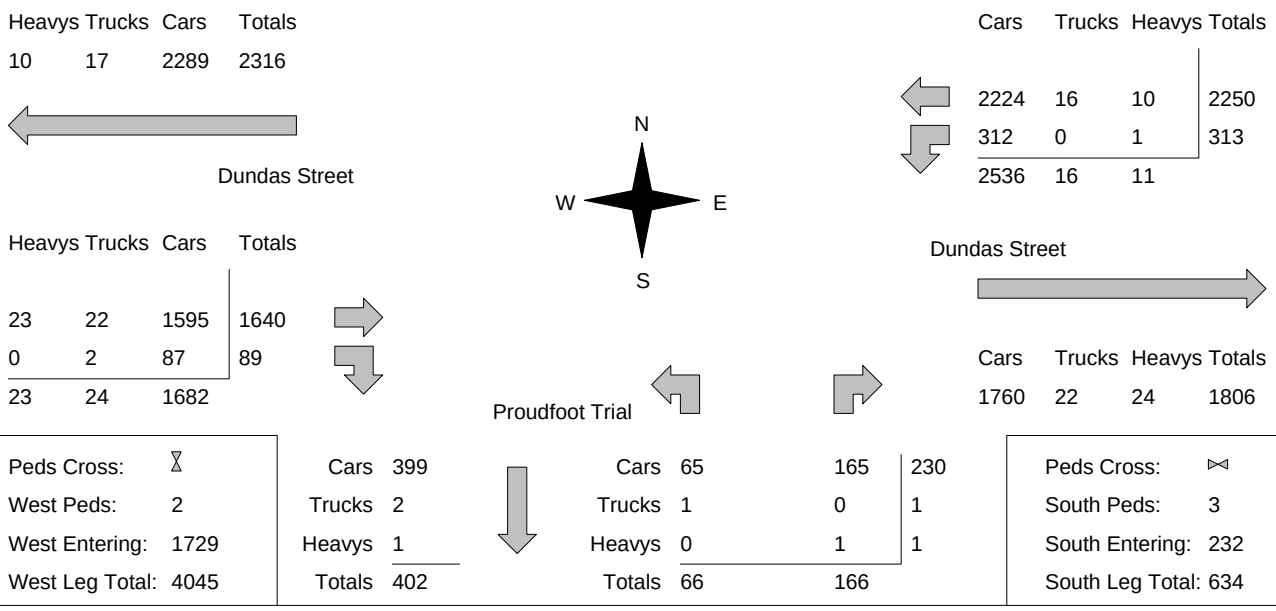
Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

East Leg Total: 4369
East Entering: 2563
East Peds: 0
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 2
West Entering: 1729
West Leg Total: 4045

Cars 399
Trucks 2
Heavys 1
Totals 402

Cars 65 165 230
Trucks 1 0 1
Heavys 0 1 1
Totals 66 166

Peds Cross: ⋈
South Peds: 3
South Entering: 232
South Leg Total: 634

Comments

Dundas Street & Proudfoot Trial

Total Count Diagram

Municipality: Oakville
Site #: 0000002607
Intersection: Dundas Street & Proudfoot Trial
TFR File #: 1
Count date: 8-May-2019

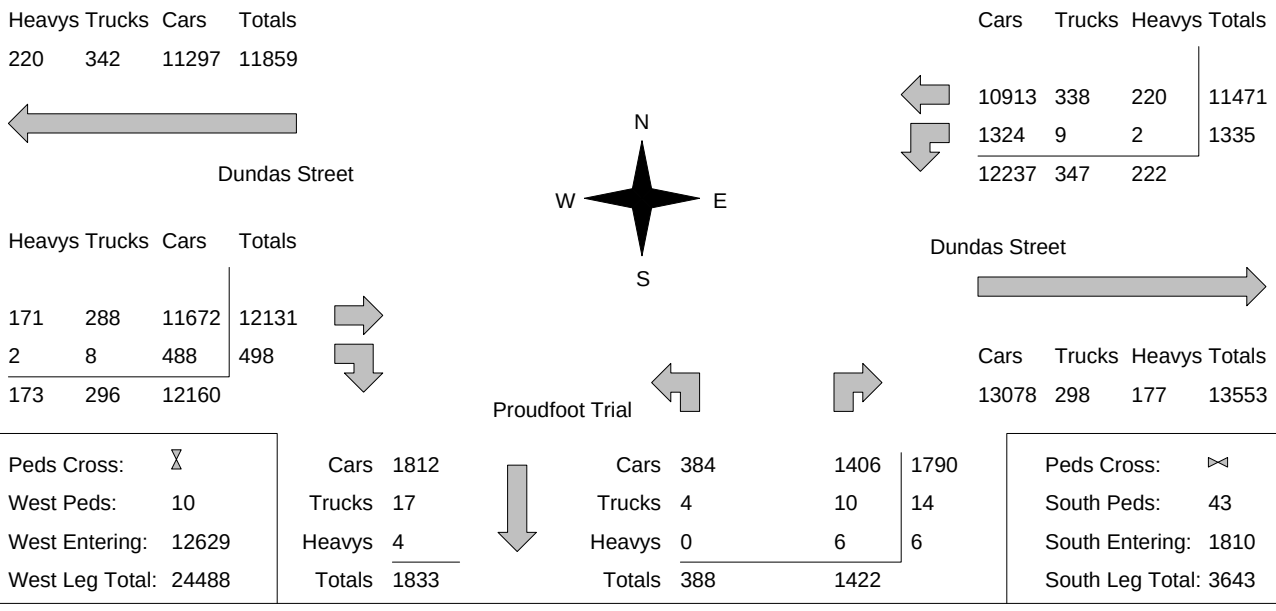
Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

East Leg Total: 26359
East Entering: 12806
East Peds: 1
Peds Cross: ⧖



Peds Cross: ⧖
West Peds: 10
West Entering: 12629
West Leg Total: 24488

Cars 1812
Trucks 17
Heavys 4
Totals 1833

Cars 384 1406 1790
Trucks 4 10 14
Heavys 0 6 6
Totals 388 1422

Peds Cross: ⋈
South Peds: 43
South Entering: 1810
South Leg Total: 3643

Comments

Dundas Street & Proudfoot Trial
Traffic Count Summary

Intersection: Dundas Street & Proudfoot Trial | **Count Date:** 8-May-2019 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	0	0	0	0	0	313
9:00:00	0	0	0	0	0	289
10:00:00	0	0	0	0	0	213
12:00:00	0	0	0	0	0	84
13:00:00	0	0	0	0	0	144
16:00:00	0	0	0	0	0	86
17:00:00	0	0	0	0	0	210
18:00:00	0	0	0	0	0	240
19:00:00	0	0	0	0	0	231
Totals:	0	0	0	0	0	1810

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	41	0	272	313	2
9:00:00	59	0	230	289	0
10:00:00	38	0	175	213	7
12:00:00	13	0	71	84	3
13:00:00	30	0	114	144	5
16:00:00	29	0	57	86	5
17:00:00	63	0	147	210	6
18:00:00	68	0	172	240	7
19:00:00	47	0	184	231	8
Totals:	388	0	1422	1810	43

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	51	1020	0	1071	0	3307
9:00:00	70	1437	0	1507	1	3661
10:00:00	79	996	0	1075	0	2519
12:00:00	59	478	0	537	0	1065
13:00:00	111	1004	0	1115	0	2245
16:00:00	65	505	0	570	0	1088
17:00:00	263	2152	0	2415	0	4043
18:00:00	323	2183	0	2506	0	4210
19:00:00	314	1696	0	2010	0	3297
Totals:	1335	11471	0	12806	1	25435

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	0	2190	46	2236	0
9:00:00	0	2072	82	2154	1
10:00:00	0	1398	46	1444	1
12:00:00	0	508	20	528	0
13:00:00	0	1086	44	1130	0
16:00:00	0	491	27	518	0
17:00:00	0	1553	75	1628	4
18:00:00	0	1618	86	1704	1
19:00:00	0	1215	72	1287	3
Totals:	0	12131	498	12629	10

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	13:00	16:00	17:00	18:00	19:00
Crossing Values:	41	61	39	30	29	67	69	50

Dundas Street & Neyagawa Boulevard

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 10:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

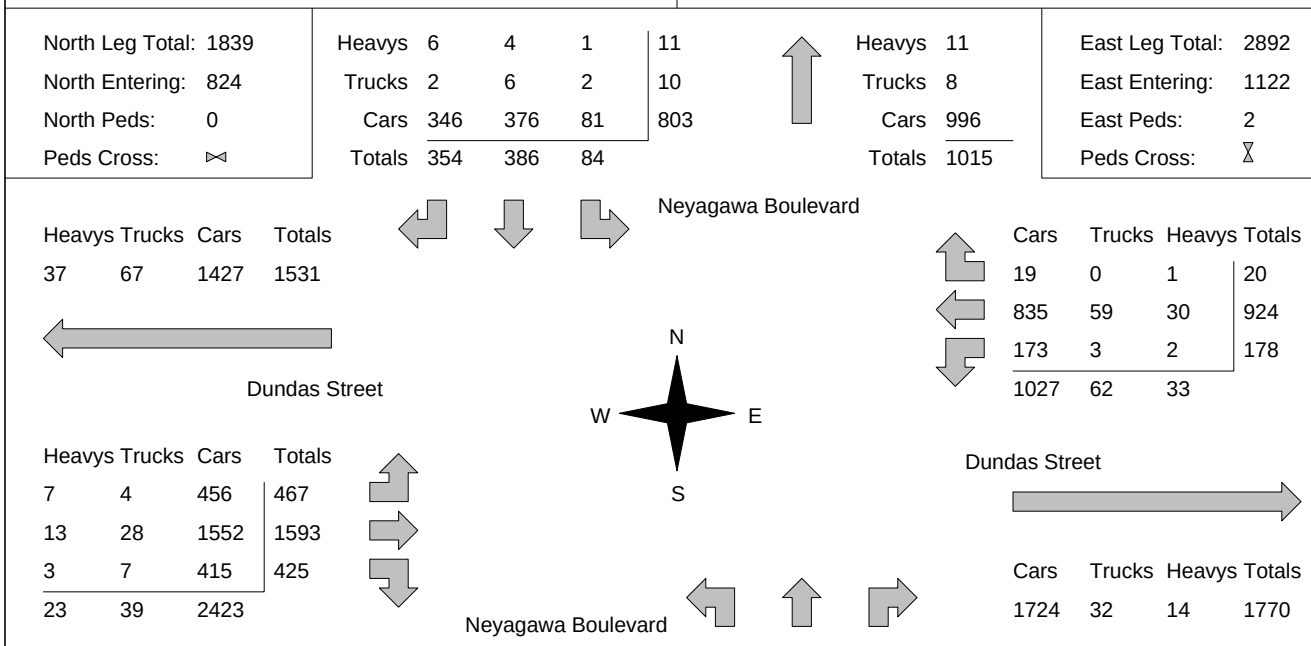
Municipality: Oakville
Site #: 0000002608
Intersection: Dundas Street & Neyagawa Boulev
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Comments

Dundas Street & Neyagawa Boulevard

Mid-day Peak Diagram

Specified Period
From: 11:30:00
To: 13:30:00

One Hour Peak
From: 12:00:00
To: 13:00:00

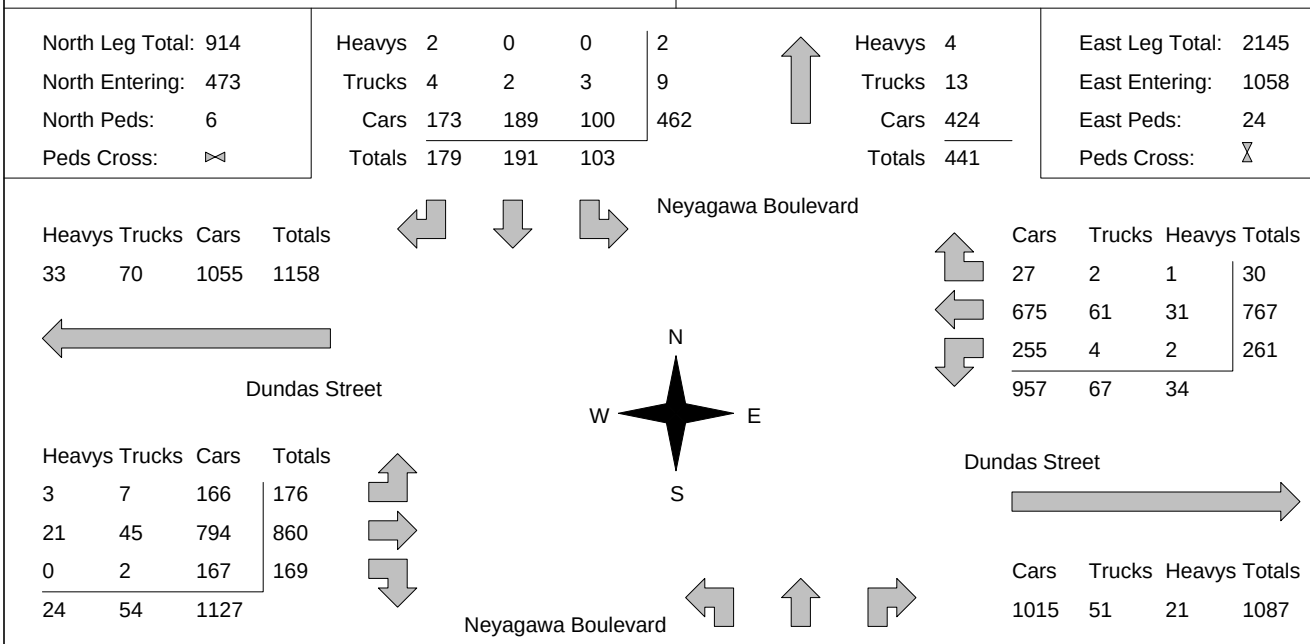
Municipality: Oakville
Site #: 0000002608
Intersection: Dundas Street & Neyagawa Boulev
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Comments

Dundas Street & Neyagawa Boulevard

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:45:00
To: 17:45:00

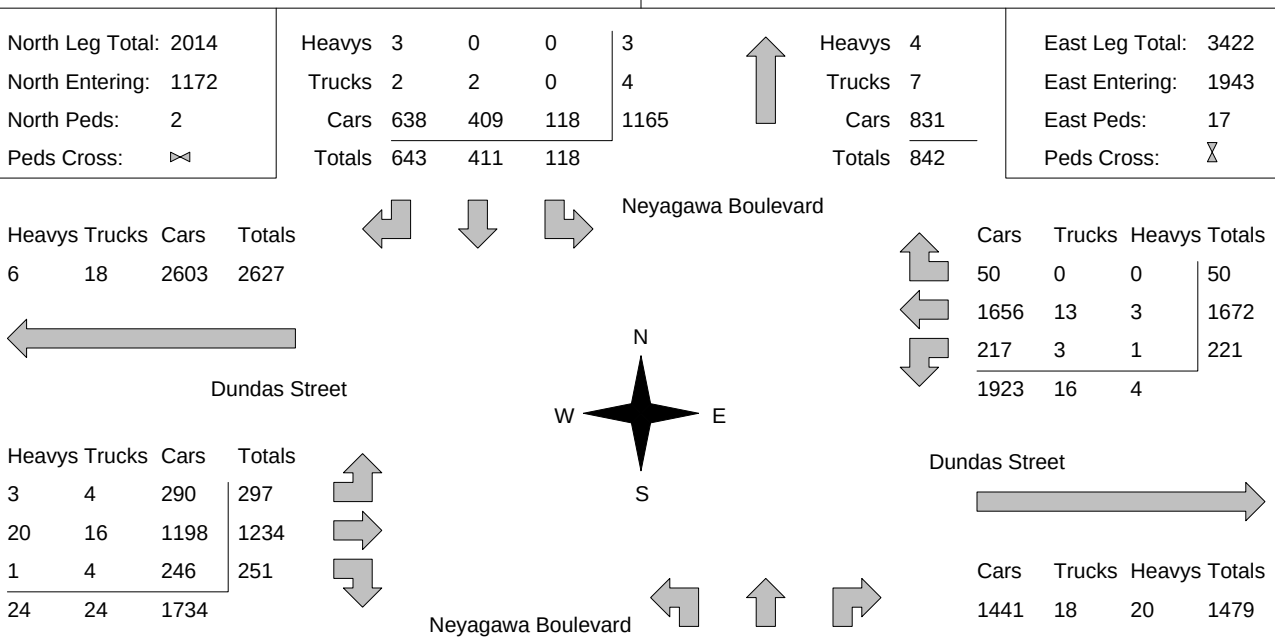
Municipality: Oakville
Site #: 0000002608
Intersection: Dundas Street & Neyagawa Boulev
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E



Comments

Dundas Street & Neyagawa Boulevard

Total Count Diagram

Municipality: Oakville
Site #: 0000002608
Intersection: Dundas Street & Neyagawa Boulev
TFR File #: 1
Count date: 8-May-2019

Weather conditions:
Clear

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Dundas Street runs W/E

North Leg Total:	11743			
North Entering:	5942			
North Peds:	22			
Peds Cross:	⋈			
Heavys	32	9	5	46
Trucks	27	27	16	70
Cars	2753	2260	813	5826
Totals	2812	2296	834	
Heavys	43			
Trucks	77			
Cars	5681			
Totals	5801			
East Leg Total:	21280			
East Entering:	10406			
East Peds:	138			
Peds Cross:	⧖			

Neyagawa Boulevard

Heavys	Trucks	Cars	Totals
215	340	12541	13096

Cars	Trucks	Heavys	Totals
287	8	4	299
7933	283	175	8391
1683	24	9	1716
9903	315	188	

Dundas Street

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Heavys	Trucks	Cars	Totals
30	35	2479	2544
136	228	8817	9181
12	32	1831	1875
178	295	13127	

Dundas Street

Cars	Trucks	Heavys	Totals
10476	255	143	10874

Neyagawa Boulevard

Peds Cross:	⧖			
West Peds:	8			
West Entering:	13600			
West Leg Total:	26696			
Cars	5774			
Trucks	83			
Heavys	30			
Totals	5887			
Cars	1855	2915	846	5616
Trucks	30	34	11	75
Heavys	8	9	2	19
Totals	1893	2958	859	
Peds Cross:	⋈			
South Peds:	14			
South Entering:	5710			
South Leg Total:	11597			

Comments

Dundas Street & Neyagawa Boulevard
Traffic Count Summary

Intersection: Dundas Street & Neyagawa Boule | **Count Date:** 8-May-2019 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	67	237	251	555	2	1124
9:00:00	95	408	335	838	0	1718
10:00:00	93	192	198	483	2	1030
12:00:00	58	91	93	242	0	507
13:00:00	103	191	179	473	6	1044
16:00:00	37	82	85	204	0	495
17:00:00	113	359	567	1039	5	1902
18:00:00	126	428	639	1193	2	2105
19:00:00	142	308	465	915	5	1727
Totals:	834	2296	2812	5942	22	11652

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	187	315	67	569	1
9:00:00	256	521	103	880	2
10:00:00	181	254	112	547	0
12:00:00	101	111	53	265	3
13:00:00	212	235	124	571	0
16:00:00	102	126	63	291	0
17:00:00	300	452	111	863	3
18:00:00	300	481	131	912	2
19:00:00	254	463	95	812	3
Totals:	1893	2958	859	5710	14

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	126	693	24	843	6	3191
9:00:00	185	935	21	1141	4	3506
10:00:00	203	661	27	891	12	2466
12:00:00	118	355	18	491	5	1118
13:00:00	261	767	30	1058	24	2263
16:00:00	115	374	17	506	9	1064
17:00:00	228	1604	37	1869	21	3578
18:00:00	221	1609	58	1888	15	3676
19:00:00	259	1393	67	1719	42	3144
Totals:	1716	8391	299	10406	138	24006

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	477	1582	289	2348	2
9:00:00	426	1540	399	2365	1
10:00:00	325	1054	196	1575	2
12:00:00	117	428	82	627	0
13:00:00	176	860	169	1205	0
16:00:00	100	380	78	558	0
17:00:00	323	1163	223	1709	1
18:00:00	299	1240	249	1788	0
19:00:00	301	934	190	1425	2
Totals:	2544	9181	1875	13600	8

Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	12:00	13:00	17:00	18:00	19:00
Crossing Values:	577	877	542	275	574	887	922	903

Date: 16-Sep-19
Intersection: Dundas & Bronte

8 Phase Basic Timing Sheet

	1	2	3	4	5	6	7	8	2 Ped	4 Ped	6 Ped	8 Ped
Phases in use	X	X	X	X	X	X	X	X	X	X	X	X
Direction	WBL	EB	Prot NBL	SB	EBL	WB	SBL	NB				
Min Green	7	20	7	10	7	20	7	10				
Veh Ext.	3.0		3.0	3.0	3.0		3.0	3.0				
Yellow	3	4.2	3	3.3	3	4.2	3	3.3				
Red	1	2.4	2	2.5	1	2.4	1	2.5				
Walk		7		7		7		7				
Don't Walk		35		37		35		37				
Max 1												
Max 2												
Max 3												
Veh Recall												
Ped Recall												

Notes:

Use Local Zero Override
Check Sync Reference Point

Pattern 1
Time: 6:00
Cycle Length: 140
Offset (%): 35%

Direction				
Phase	***1***	***2***	***3***	***4***
%	11	37	15	37
Direction				
Phase	***5***	***6***	***7***	***8***
%	11	37	15	37

Pattern 2
Time: 9:00
Cycle Length: 140
Offset (%): 0%

Direction				
Phase	***1***	***2***	***3***	***4***
%	11	37	15	37
Direction				
Phase	***5***	***6***	***7***	***8***
%	11	37	15	37

Pattern 3
Time: 15:15
Cycle Length: 140
Offset (%): 55%

Direction				
Phase	***1***	***2***	***3***	***4***
%	12	35	23	30
Direction				
Phase	***5***	***6***	***7***	***8***
%	12	35	12	41

Pattern 4
Time: 18:00
Cycle Length: 140
Offset (%): 0%

Direction				
Phase	***1***	***2***	***3***	***4***
%	11	37	15	37
Direction				
Phase	***5***	***6***	***7***	***8***
%	11	37	15	37

Pattern 5
Time: 21:00
Cycle Length: Local
Offset (%):

Direction				
Phase	***1***	***2***	***3***	***4***
%				
Direction				
Phase	**5**	**6**	**7**	**8**
%				

Pattern 6
Time:
Cycle Length:
Offset (%):

Direction				
Phase	***1***	***2***	***3***	***4***
%				
Direction				
Phase	**5**	**6**	**7**	**8**
%				

Date: 16-Sep-19
Intersection: Dundas & Hospital Entrance

8 Phase Basic Timing Sheet												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**2 Ped**	**4 Ped**	**6 Ped**	**8 Ped**
Phases in use		X		X	X	X			X	X	X	
Direction		EB		SB	EBL	WB						
Min Green		20		10	7	20						
Veh Ext.				3.0	3.0							
Yellow		4.2		3.3	3	4.2						
Red		1.9		3.5	1	1.9						
Walk		7		7		7						
Don't Walk		21		35		21						
Max 1												
Max 2												
Max 3												
Veh Recall												
Ped Recall												
Notes:	Check Sync Reference Point											

Pattern 1
Time: 6:00
Cycle Length: 140
Offset (%): 0%

Direction				
Phase	***1***	***2***	***3***	***4***
%	0	63	0	37
Direction				
Phase	***5***	***6***	***7***	***8***
%	9	54	0	37

Pattern 2
Time: 9:00
Cycle Length: 110
Offset (%): 28%

Direction				
Phase	***1***	***2***	***3***	***4***
%	0	53	0	47
Direction				
Phase	***5***	***6***	***7***	***8***
%	10	43	0	47

Pattern 3
Time: 15:15
Cycle Length: 140
Offset (%): 0%

Direction				
Phase	***1***	***2***	***3***	***4***
%	0	63	0	37
Direction				
Phase	***5***	***6***	***7***	***8***
%	9	54	0	37

Pattern 4
Time: 18:00
Cycle Length: 110
Offset (%): 28%

Direction				
Phase	***1***	***2***	***3***	***4***
%	0	53	0	47
Direction				
Phase	***5***	***6***	***7***	***8***
%	10	43	0	47

Pattern 5
Time: 21:00
Cycle Length: Local
Offset (%):

Direction				
Phase	***1***	***2***	***3***	***4***
%				
Direction				
Phase	**5**	**6**	**7**	**8**
%				

Pattern 6
Time:
Cycle Length:
Offset (%):

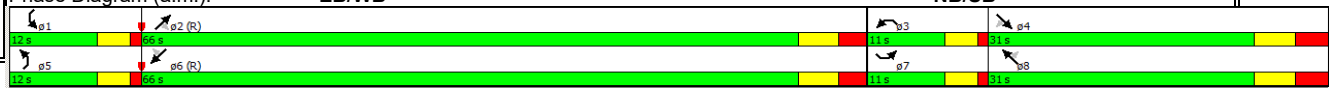
Direction				
Phase	***1***	***2***	***3***	***4***
%				
Direction				
Phase	**5**	**6**	**7**	**8**
%				

Date: 24-Sep-15
Intersection: Dundas & Third Line

8 Phase Basic Timing Sheet

	1	2	3	4	5	6	7	8	2 Ped	4 Ped	6 Ped	8 Ped
Phases in use	X	X	X	X	X	X	X	X	X	X	X	X
Direction	DWBL	EB	NBL	SB	EBL	WB	SBL	NB				
Min Green	7	20	7	10	7	20	10	10				
Veh Ext.	3.0	4.0	3.0	3.0	3.0	4.0	3.0	3.0				
Yellow	3.0	3.7	3.0	3.3	3.0	3.7	3.0	3.3				
Red	1	4.1	1	4.8	1	4.1	1	4.8				
Walk		7.0		7.0		7.0		7.0				
Don't Walk		29		23		29		23				
Max 1	20	45	20	45	20	45	20	45				
Max 2	25	55	25	55	25	55	25	55				
Max 3												
Veh Recall												
Ped Recall												

Notes:
Max 1 Pattern 1
Max 2 Pattern 3
5 second gapout time for LT and Thru movements
Local Zero Override' in use.
Phase Diagram (a.m.): **EB/WB** **NB/SB**



Pattern 1
Time: 6:00
Cycle Length: 120
Offset (%): 32%

Direction	DWBL	EB	NBL	SB
Phase	1	2	3	4
%	16	50	9	25
Direction	EBL	WB	SBL	NB
Phase	5	6	7	8
%	10	56	12	22

Pattern 2
Time: 10:00
Cycle Length: 120
Offset (%): 32%

Direction	DWBL	EB	NBL	SB
Phase	1	2	3	4
%	18	50	21	11
Direction	EBL	WB	SBL	NB
Phase	5	6	7	8
%	10	58	11	21

Pattern 3
Time: 15:15
Cycle Length: 120
Offset (%): 39%

Direction	DWBL	EB	NBL	SB
Phase	1	2	3	4
%	22	43	21	14
Direction	EBL	WB	SBL	NB
Phase	5	6	7	8
%	10	55	14	21

Pattern 4
Time: 19:00
Cycle Length: 120
Offset (%): 32%

Direction	DWBL	EB	NBL	SB
Phase	1	2	3	4
%	11	57	21	11
Direction	EBL	WB	SBL	NB
Phase	5	6	7	8
%	10	58	11	21

Pattern 5
Time: 22:00
Cycle Length: Local
Offset (%):

Direction	DWBL	EB	NBL	SB
Phase	1	2	3	4
%				
Direction	EBL	WB	SBL	NB
Phase	5	6	7	8
%				

Pattern 6
Time:
Cycle Length:
Offset (%):

Direction	DWBL	EB	NBL	SB
Phase	1	2	3	4
%				
Direction	EBL	WB	SBL	NB
Phase	5	6	7	8
%				

Date: 16-Sep-19
Intersection: Dundas & Proudfoot Trail

8 Phase Basic Timing Sheet

	1	2	3	4	5	6	7	8	2 Ped	4 Ped	6 Ped	8 Ped
Phases in use	X	X		X		X		X	X	X	X	X
Direction	WBL	EB		SB		WB		NB				
Min Green	7	20		10		20		10				
Veh Ext.	3.0			3.0				3.0				
Yellow	3	3.7		3.3		3.7		3.3				
Red	1	2.2		3.6		2.2		3.6				
Walk		7		7		7		7				
Don't Walk		19		30		19		30				
Max 1												
Max 2												
Max 3												
Veh Recall												
Ped Recall												

Notes:

'Local Zero Override' in use

Pattern 1
Time: 6:00
Cycle Length: 120
Offset (%): 67%

Direction				
Phase	***1***	***2***	***3***	***4***
%	10	59	0	31
Direction				
Phase	***5***	***6***	***7***	***8***
%	0	69	0	31

Pattern 2
Time: 10:00
Cycle Length: 120
Offset (%): 52%

Direction				
Phase	***1***	***2***	***3***	***4***
%	10	53	0	37
Direction				
Phase	***5***	***6***	***7***	***8***
%	0	63	0	37

Pattern 3
Time: 15:15
Cycle Length: 120
Offset (%): 6%

Direction				
Phase	***1***	***2***	***3***	***4***
%	20	43	0	37
Direction				
Phase	***5***	***6***	***7***	***8***
%	0	63	0	37

Pattern 4
Time: 19:00
Cycle Length: 120
Offset (%): 52%

Direction				
Phase	***1***	***2***	***3***	***4***
%	10	53	0	37
Direction				
Phase	***5***	***6***	***7***	***8***
%	0	63	0	37

Pattern 5
Time: 22:00
Cycle Length: Local
Offset (%):

Direction				
Phase	***1***	***2***	***3***	***4***
%				
Direction				
Phase	***5***	***6***	***7***	***8***
%				

Pattern 6
Time:
Cycle Length:
Offset (%):

Direction				
Phase	***1***	***2***	***3***	***4***
%				
Direction				
Phase	***5***	***6***	***7***	***8***
%				

Date: 5-Aug-2016
Intersection: Neyagawa Blvd & Dundas St W

8 Phase Basic Timing Sheet												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**2 Ped**	**4 Ped**	**6 Ped**	**8 Ped**
Phases in use	x	x	x	x	x	x	x	x	x	x	x	x
Direction	WBLT	EB	NBLT	SB	EBLT	WB	SBLT	NB				
Min Green	7	15	7	10	7	15	7	10				
Veh Ext.	3.0	-	3.0	3.0	3.0	-	3.0	3.0				
Yellow	3.0	3.7	3.0	3.7	3.0	3.7	3.0	3.7				
Red	1	2.7	1	2.7	1	2.7	1	2.7				
Walk	-	7	-	7	-	7	-	7				
Don't Walk	-	31	-	34	-	31	-	34				
Max 1	10	60	10	40	10	60	10	40				
Max 2												
Max 3												
Veh Recall												
Ped Recall												
Notes:												

Pattern 1
Time: 6:00
Cycle Length: 120
Offset (%): 50%

Direction				
Phase	***1***	***2***	***3***	***4***
%	11%	47%	10%	32%
Direction				
Phase	***5***	***6***	***7***	***8***
%	20%	38%	10%	32%

Pattern 2
Time: 10:00
Cycle Length: 120
Offset (%): 43%

Direction				
Phase	***1***	***2***	***3***	***4***
%	11%	47%	10%	32%
Direction				
Phase	***5***	***6***	***7***	***8***
%	20%	38%	10%	32%

Pattern 3
Time: 15:15
Cycle Length: 120
Offset (%): 26%

Direction				
Phase	***1***	***2***	***3***	***4***
%	17%	39%	11%	33%
Direction				
Phase	***5***	***6***	***7***	***8***
%	17%	39%	11%	33%

Pattern 4
Time: 19:00
Cycle Length: 120
Offset (%): 43%

Direction				
Phase	***1***	***2***	***3***	***4***
%	12	40	10	38
Direction				
Phase	***5***	***6***	***7***	***8***
%	10	42	10	38

Pattern 5
Time: Weekend
Cycle Length:
Offset (%):

Direction				
Phase	***1***	***2***	***3***	***4***
%				
Direction				
Phase	**5**	**6**	**7**	**8**
%				

Pattern 6
Time:
Cycle Length: Local
Offset (%):

Direction				
Phase	***1***	***2***	***3***	***4***
%	x	x	x	x
Direction				
Phase	**5**	**6**	**7**	**8**
%	x	x	x	x

Date: 14-Sep-15
Intersection: Hospital Gate @ William Halton Parkway

8 Phase Basic Timing Sheet

	1	2	3	4	5	6	7	8	2 Ped	4 Ped	6 Ped	8 Ped
Phases in use	X	X				X		X	X		X	X
Direction	WBL	EB				WB		NB				
Min Green	7	20				20		20				
Veh Ext.	3.0	3.0				3.0		3.0				
Yellow	3	3.7				3.7		3.7				
Red	1	2.7				2.7		2.3				
Walk		7				7		7				
Don't Walk		21				21		18				
Max 1	15	45				45		45				
Max 2	20	55				55		55				
Max 3												
Veh Recall		X				X						
Ped Recall												

Notes: Coordinate E/W.

Max 1 Pattern 3
Max 2 Pattern 1

Pattern 1
Time: 6:00
Cycle Length: 120
Offset (%): 0%

Direction	WBL	EB	0	0
Phase	1	2	3	4
%	15	55	0	30
Direction	0	WB	0	NB
Phase	5	6	7	8
%	0	70	0	30

Pattern 2
Time: 10:00
Cycle Length: 120
Offset (%): 0%

Direction	WBL	EB	0	0
Phase	1	2	3	4
%	10	50	0	40
Direction	0	WB	0	NB
Phase	5	6	7	8
%	0	60	0	40

Pattern 3
Time: 15:00
Cycle Length: 120
Offset (%): 0%

Direction	WBL	EB	0	0
Phase	1	2	3	4
%	15	55	0	30
Direction	0	WB	0	NB
Phase	5	6	7	8
%	0	70	0	30

Pattern 4
Time: 19:00
Cycle Length: 120
Offset (%): 0%

Direction	WBL	EB	0	0
Phase	1	2	3	4
%	10	60	0	30
Direction	0	WB	0	NB
Phase	5	6	7	8
%	0	70	0	30

Pattern 5
Time: 22:00
Cycle Length: Local
Offset (%):

Direction	WBL	EB	0	0
Phase	1	2	3	4
%				
Direction	0	WB	0	NB
Phase	5	6	7	8
%				

Pattern 6
Time:
Cycle Length:
Offset (%):

Direction	WBL	EB	0	0
Phase	1	2	3	4
%				
Direction	0	WB	0	NB
Phase	5	6	7	8
%				

Date: 14-Sep-15
Intersection: Third Line @ William Halton Parkway

8 Phase Basic Timing Sheet

	1	2	3	4	5	6	7	8	2 Ped	4 Ped	6 Ped	8 Ped
Phases in use	X	X						X	X	X	X	X
Direction		EB	NBL	SB		WB		NB				
Min Green		20	7	20		20		20				
Veh Ext.		3.0	3.0	3.0		3.0		3.0				
Yellow		3.7	3	3.7		3.7		3.7				
Red		2.7	1	2.2		2.7		2.2				
Walk		7		7		7		7				
Don't Walk		16		14		16		14				
Max 1		45	15	45		45		45				
Max 2		55	20	55		55		55				
Max 3												
Veh Recall		X				X						
Ped Recall												

Notes:
East leg closed.
SB only servicing construction traffic.
Omit phases 3 and 6 until construction is complete.

Pattern 1
Time: 6:00
Cycle Length: 120
Offset (%): 0%

Direction	0	EB	NBL	SB
Phase	1	2	3	4
%	0	65	0	35
Direction	0	WB	0	NB
Phase	5	6	7	8
%	0	65	0	35

Pattern 2
Time: 10:00
Cycle Length: 120
Offset (%): 0%

Direction	0	EB	NBL	SB
Phase	1	2	3	4
%	0	50	0	50
Direction	0	WB	0	NB
Phase	5	6	7	8
%	0	50	0	50

Pattern 3
Time: 15:00
Cycle Length: 120
Offset (%): 0%

Direction	0	EB	NBL	SB
Phase	1	2	3	4
%	0	50	0	50
Direction	0	WB	0	NB
Phase	5	6	7	8
%	0	50	0	50

Pattern 4
Time: 19:00
Cycle Length: 120
Offset (%): 0%

Direction	0	EB	NBL	SB
Phase	1	2	3	4
%	0	35	0	65
Direction	0	WB	0	NB
Phase	5	6	7	8
%	0	35	0	65

Pattern 5
Time: 22:00
Cycle Length: Local
Offset (%):

Direction	0	EB	NBL	SB
Phase	1	2	3	4
%				
Direction	0	WB	0	NB
Phase	5	6	7	8
%				

Pattern 6
Time:
Cycle Length:
Offset (%):

Direction	0	EB	NBL	SB
Phase	1	2	3	4
%				
Direction	0	WB	0	NB
Phase	5	6	7	8
%				

Date: 14-Sep-15
Intersection: Bronte @ William Halton Parkway

8 Phase Basic Timing Sheet

	1	2	3	4	5	6	7	8	2 Ped	4 Ped	6 Ped	8 Ped
Phases in use	X	X				X		X	X		X	
Direction	SBL	NB				SB		WB				
Min Green	7	20				20		10				
Veh Ext.	3.0	3.0				3.0		3.0				
Yellow	3	4.2				4.2		3.7				
Red	1	2.3				2.3		2.2				
Walk		7										
Don't Walk		23										
Max 1	15	45				45		45				
Max 2	20	55				55		55				
Max 3												
Veh Recall		X				X						
Ped Recall												

Notes:
Coordinate N/S.
No east-west ped crossings facilites
No north-south crossing facilites on the west leg
Max 1 Pattern 3
Max 2 Pattern 1

Pattern 1
Time: 6:00
Cycle Length: 120
Offset (%): 0%

Direction	SBL	NB	0	0
Phase	1	2	3	4
%	15	55	0	30
Direction	0	SB	0	WB
Phase	5	6	7	8
%	0	70	0	30

Pattern 2
Time: 10:00
Cycle Length: 120
Offset (%): 0%

Direction	SBL	NB	0	0
Phase	1	2	3	4
%	15	45	0	40
Direction	0	SB	0	WB
Phase	5	6	7	8
%	0	60	0	40

Pattern 3
Time: 15:00
Cycle Length: 120
Offset (%): 0%

Direction	SBL	NB	0	0
Phase	1	2	3	4
%	15	55	0	30
Direction	0	SB	0	WB
Phase	5	6	7	8
%	0	70	0	30

Pattern 4
Time: 19:00
Cycle Length: 120
Offset (%): 0%

Direction	SBL	NB	0	0
Phase	1	2	3	4
%	10	50	0	40
Direction	0	SB	0	WB
Phase	5	6	7	8
%	0	60	0	40

Pattern 5
Time: 22:00
Cycle Length: Local
Offset (%):

Direction	SBL	NB	0	0
Phase	1	2	3	4
%				
Direction	0	SB	0	WB
Phase	5	6	7	8
%				

Pattern 6
Time:
Cycle Length:
Offset (%):

Direction	SBL	NB	0	0
Phase	1	2	3	4
%				
Direction	0	SB	0	WB
Phase	5	6	7	8
%				

Appendix C

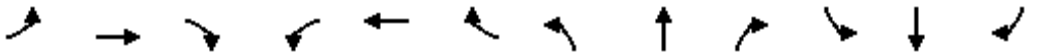
Base Year Traffic Operations Reports

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	6	159	1203	52	478	1560
Future Volume (vph)	6	159	1203	52	478	1560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	6.5		4.0	6.5
Lane Util. Factor	0.97	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)	3502	1615	3520		1787	3505
Flt Permitted	0.95	1.00	1.00		0.09	1.00
Satd. Flow (perm)	3502	1615	3520		172	3505
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	6	167	1266	55	503	1642
RTOR Reduction (vph)	0	152	3	0	0	0
Lane Group Flow (vph)	6	15	1318	0	503	1642
Heavy Vehicles (%)	0%	0%	2%	0%	1%	3%
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	10.6	10.6	59.5		97.0	97.0
Effective Green, g (s)	10.6	10.6	59.5		97.0	97.0
Actuated g/C Ratio	0.09	0.09	0.50		0.81	0.81
Clearance Time (s)	5.9	5.9	6.5		4.0	6.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	309	142	1745		589	2833
v/s Ratio Prot	0.00		0.37		c0.24	0.47
v/s Ratio Perm		c0.01			c0.45	
v/c Ratio	0.02	0.10	0.76		0.85	0.58
Uniform Delay, d1	50.0	50.3	24.4		31.3	4.1
Progression Factor	1.14	4.07	1.00		1.00	1.00
Incremental Delay, d2	0.0	0.3	3.1		11.6	0.9
Delay (s)	57.1	205.2	27.5		42.9	5.0
Level of Service	E	F	C		D	A
Approach Delay (s)	200.1		27.5			13.9
Approach LOS	F		C			B

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	404	168	10	129	37	12
Future Volume (vph)	404	168	10	129	37	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4		4.0	6.4	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frt	0.96		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3417		1805	3610	3502	1470
Flt Permitted	1.00		0.38	1.00	0.95	1.00
Satd. Flow (perm)	3417		722	3610	3502	1470
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	459	191	11	147	42	14
RTOR Reduction (vph)	21	0	0	0	1	11
Lane Group Flow (vph)	629	0	11	147	42	2
Heavy Vehicles (%)	1%	1%	0%	0%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	86.2		91.6	91.6	16.0	16.0
Effective Green, g (s)	86.2		91.6	91.6	16.0	16.0
Actuated g/C Ratio	0.72		0.76	0.76	0.13	0.13
Clearance Time (s)	6.4		4.0	6.4	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2454		563	2755	466	196
v/s Ratio Prot	c0.18		0.00	c0.04	c0.01	
v/s Ratio Perm			0.01			0.00
v/c Ratio	0.26		0.02	0.05	0.09	0.01
Uniform Delay, d1	5.8		3.5	3.5	45.6	45.1
Progression Factor	0.60		0.03	0.04	1.00	1.00
Incremental Delay, d2	0.2		0.0	0.0	0.1	0.0
Delay (s)	3.7		0.1	0.2	45.7	45.1
Level of Service	A		A	A	D	D
Approach Delay (s)	3.7			0.2	45.6	
Approach LOS	A			A	D	

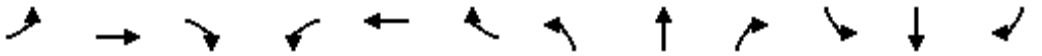
Intersection Summary			
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	43.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	383	0	0	0	145	30	0	0	6	5
Future Volume (vph)	42	0	383	0	0	0	145	30	0	0	6	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4		6.4				5.9	5.9			5.9	
Lane Util. Factor	1.00		0.88				0.95	0.95			0.95	
Frpb, ped/bikes	1.00		1.00				1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00				1.00	1.00			1.00	
Frt	1.00		0.85				1.00	1.00			0.93	
Flt Protected	0.95		1.00				0.95	0.97			1.00	
Satd. Flow (prot)	1800		2842				1715	1747			3364	
Flt Permitted	0.95		1.00				0.75	0.79			1.00	
Satd. Flow (perm)	1800		2842				1354	1434			3364	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	43	0	395	0	0	0	149	31	0	0	6	5
RTOR Reduction (vph)	0	0	106	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	43	0	289	0	0	0	89	91	0	0	7	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm		Perm				Perm	NA			NA	
Protected Phases								8			4	
Permitted Phases	2		2				8			4		
Actuated Green, G (s)	87.7		87.7				20.0	20.0			20.0	
Effective Green, g (s)	87.7		87.7				20.0	20.0			20.0	
Actuated g/C Ratio	0.73		0.73				0.17	0.17			0.17	
Clearance Time (s)	6.4		6.4				5.9	5.9			5.9	
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)	1315		2077				225	239			560	
v/s Ratio Prot											0.00	
v/s Ratio Perm	0.02		c0.10				c0.07	0.06				
v/c Ratio	0.03		0.14				0.40	0.38			0.01	
Uniform Delay, d1	4.5		4.8				44.6	44.5			41.8	
Progression Factor	0.47		0.01				0.98	0.98			1.00	
Incremental Delay, d2	0.0		0.1				1.1	1.0			0.0	
Delay (s)	2.1		0.2				45.1	44.8			41.8	
Level of Service	A		A				D	D			D	
Approach Delay (s)		0.4			0.0			44.9			41.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

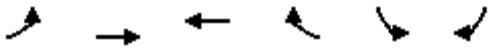
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	278	1632	456	139	562	175	174	784	157	249	1120	178
Future Volume (vph)	278	1632	456	139	562	175	174	784	157	249	1120	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.6	6.6	4.0	6.6		5.0	5.8	5.8	4.0	5.8	5.8
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	5136	1577	1626	4868		3213	3539	1548	1752	3539	1568
Flt Permitted	0.26	1.00	1.00	0.09	1.00		0.95	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	490	5136	1577	151	4868		3213	3539	1548	306	3539	1568
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	287	1682	470	143	579	180	179	808	162	257	1155	184
RTOR Reduction (vph)	0	0	184	0	40	0	0	0	77	0	0	65
Lane Group Flow (vph)	287	1682	286	143	719	0	179	808	85	257	1155	119
Confl. Peds. (#/hr)			2	2					1	1		
Heavy Vehicles (%)	2%	1%	1%	11%	3%	2%	9%	2%	3%	3%	2%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8	4		4
Actuated Green, G (s)	58.0	46.1	46.1	56.2	45.2		12.9	46.4	46.4	64.7	48.6	48.6
Effective Green, g (s)	58.0	46.1	46.1	56.2	45.2		12.9	46.4	46.4	64.7	48.6	48.6
Actuated g/C Ratio	0.41	0.33	0.33	0.40	0.32		0.09	0.33	0.33	0.46	0.35	0.35
Clearance Time (s)	4.0	6.6	6.6	4.0	6.6		5.0	5.8	5.8	4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	1691	519	176	1571		296	1172	513	307	1228	544
v/s Ratio Prot	c0.08	c0.33		0.06	0.15		0.06	0.23		c0.10	c0.33	
v/s Ratio Perm	0.30		0.18	0.26					0.05	0.29		0.08
v/c Ratio	0.92	0.99	0.55	0.81	0.46		0.60	0.69	0.17	0.84	0.94	0.22
Uniform Delay, d1	33.4	46.8	38.5	34.1	37.7		61.1	40.6	33.1	27.6	44.3	32.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.6	20.7	4.2	24.0	1.0		3.5	1.7	0.2	17.7	13.8	0.2
Delay (s)	65.0	67.5	42.6	58.1	38.6		64.6	42.3	33.3	45.2	58.1	32.5
Level of Service	E	E	D	E	D		E	D	C	D	E	C
Approach Delay (s)		62.4			41.7			44.5			53.1	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	97.3%	ICU Level of Service	F
Analysis Period (min)	15		

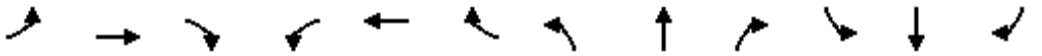
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	215	1900	957	156	81	54
Future Volume (vph)	215	1900	957	156	81	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.1	6.1	6.1	6.8	6.8
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1787	5136	4988	1532	3367	1533
Flt Permitted	0.25	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	479	5136	4988	1532	3367	1533
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	226	2000	1007	164	85	57
RTOR Reduction (vph)	0	0	0	42	0	53
Lane Group Flow (vph)	226	2000	1007	122	85	4
Confl. Peds. (#/hr)	1			1	2	1
Heavy Vehicles (%)	1%	1%	4%	4%	4%	4%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	116.8	116.8	104.2	104.2	10.3	10.3
Effective Green, g (s)	116.8	116.8	104.2	104.2	10.3	10.3
Actuated g/C Ratio	0.83	0.83	0.74	0.74	0.07	0.07
Clearance Time (s)	4.0	6.1	6.1	6.1	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	479	4284	3712	1140	247	112
v/s Ratio Prot	0.03	c0.39	0.20		c0.03	
v/s Ratio Perm	c0.36			0.08		0.00
v/c Ratio	0.47	0.47	0.27	0.11	0.34	0.04
Uniform Delay, d1	2.5	3.1	5.7	5.0	61.6	60.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.4	0.2	0.2	0.8	0.1
Delay (s)	3.3	3.5	5.9	5.2	62.5	60.4
Level of Service	A	A	A	A	E	E
Approach Delay (s)		3.5	5.8		61.6	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.9
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1630	304	348	948	201	300	138	388	227	223	17
Future Volume (vph)	5	1630	304	348	948	201	300	138	388	227	223	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.8	7.8	4.0	7.8	7.8	4.0	8.1	8.1	4.0	8.1	8.1
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	5136	1585	3502	4988	1591	1790	3610	1577	1794	3539	1537
Flt Permitted	0.28	1.00	1.00	0.95	1.00	1.00	0.48	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	539	5136	1585	3502	4988	1591	911	3610	1577	1251	3539	1537
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	5	1663	310	355	967	205	306	141	396	232	228	17
RTOR Reduction (vph)	0	0	114	0	0	97	0	0	190	0	0	15
Lane Group Flow (vph)	5	1663	196	355	967	108	306	141	206	232	228	2
Confl. Peds. (#/hr)	3		7	7		3	14		6	6		14
Heavy Vehicles (%)	0%	1%	0%	0%	4%	0%	0%	0%	0%	0%	2%	1%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Actuated Green, G (s)	50.3	48.9	48.9	16.0	63.5	63.5	35.2	21.2	21.2	25.3	15.3	15.3
Effective Green, g (s)	50.3	48.9	48.9	16.0	63.5	63.5	35.2	21.2	21.2	25.3	15.3	15.3
Actuated g/C Ratio	0.42	0.41	0.41	0.13	0.53	0.53	0.29	0.18	0.18	0.21	0.13	0.13
Clearance Time (s)	4.0	7.8	7.8	4.0	7.8	7.8	4.0	8.1	8.1	4.0	8.1	8.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	240	2092	645	466	2639	841	383	637	278	309	451	195
v/s Ratio Prot	0.00	c0.32		c0.10	0.19		c0.11	0.04		0.06	0.06	
v/s Ratio Perm	0.01		0.12			0.07	c0.13		0.13	0.10		0.00
v/c Ratio	0.02	0.79	0.30	0.76	0.37	0.13	0.80	0.22	0.74	0.75	0.51	0.01
Uniform Delay, d1	20.3	31.2	24.0	50.2	16.5	14.3	36.6	42.3	46.8	43.2	48.8	45.7
Progression Factor	1.00	1.00	1.00	0.91	1.64	4.75	1.00	1.00	1.00	1.14	1.06	1.00
Incremental Delay, d2	0.0	3.2	1.2	6.8	0.4	0.3	11.1	0.2	10.1	9.8	0.9	0.0
Delay (s)	20.3	34.4	25.3	52.6	27.4	68.0	47.7	42.5	56.9	59.1	52.7	45.8
Level of Service	C	C	C	D	C	E	D	D	E	E	D	D
Approach Delay (s)		32.9			38.7			51.2			55.6	
Approach LOS		C			D			D			E	

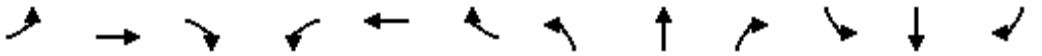
Intersection Summary					
HCM 2000 Control Delay	40.2	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.82				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.9		
Intersection Capacity Utilization	88.9%	ICU Level of Service	E		
Analysis Period (min)	15				

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2234	93	71	1430	59	246
Future Volume (vph)	2234	93	71	1430	59	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	4.0	5.9	6.9	6.9
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5136	1563	1787	5036	1770	1594
Flt Permitted	1.00	1.00	0.05	1.00	0.95	1.00
Satd. Flow (perm)	5136	1563	89	5036	1770	1594
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	2303	96	73	1474	61	254
RTOR Reduction (vph)	0	24	0	0	0	105
Lane Group Flow (vph)	2303	72	73	1474	61	149
Confl. Peds. (#/hr)		1	1		1	1
Heavy Vehicles (%)	1%	1%	1%	3%	2%	0%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	80.4	80.4	90.5	90.5	16.7	16.7
Effective Green, g (s)	80.4	80.4	90.5	90.5	16.7	16.7
Actuated g/C Ratio	0.67	0.67	0.75	0.75	0.14	0.14
Clearance Time (s)	5.9	5.9	4.0	5.9	6.9	6.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3441	1047	153	3797	246	221
v/s Ratio Prot	c0.45		0.02	c0.29	0.03	
v/s Ratio Perm		0.05	0.33			c0.09
v/c Ratio	0.67	0.07	0.48	0.39	0.25	0.67
Uniform Delay, d1	11.8	6.9	12.8	5.1	46.1	49.1
Progression Factor	0.66	0.17	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.1	2.3	0.3	0.5	7.9
Delay (s)	8.5	1.2	15.2	5.4	46.6	56.9
Level of Service	A	A	B	A	D	E
Approach Delay (s)	8.2			5.9	54.9	
Approach LOS	A			A	D	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	467	1593	425	178	924	20	253	528	93	84	386	354
Future Volume (vph)	467	1593	425	178	924	20	253	528	93	84	386	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.4	6.4	4.0	6.4	6.4	4.0	6.4		4.0	6.4	6.4
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	5136	1578	1787	5036	1538	1787	3492		1787	3574	1583
Flt Permitted	0.16	1.00	1.00	0.10	1.00	1.00	0.39	1.00		0.17	1.00	1.00
Satd. Flow (perm)	304	5136	1578	197	5036	1538	737	3492		321	3574	1583
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	492	1677	447	187	973	21	266	556	98	88	406	373
RTOR Reduction (vph)	0	0	166	0	0	14	0	12	0	0	0	252
Lane Group Flow (vph)	492	1677	281	187	973	7	266	642	0	88	406	121
Confl. Peds. (#/hr)			1	1					2	2		
Heavy Vehicles (%)	2%	1%	1%	1%	3%	5%	1%	1%	0%	1%	1%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	68.5	52.8	52.8	49.9	38.2	38.2	34.9	26.9		34.5	26.7	26.7
Effective Green, g (s)	68.5	52.8	52.8	49.9	38.2	38.2	34.9	26.9		34.5	26.7	26.7
Actuated g/C Ratio	0.57	0.44	0.44	0.42	0.32	0.32	0.29	0.22		0.29	0.22	0.22
Clearance Time (s)	4.0	6.4	6.4	4.0	6.4	6.4	4.0	6.4		4.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	494	2259	694	236	1603	489	284	782		187	795	352
v/s Ratio Prot	c0.22	0.33		0.08	0.19		c0.06	0.18		0.03	0.11	
v/s Ratio Perm	c0.35		0.18	0.25		0.00	c0.21			0.10		0.08
v/c Ratio	1.00	0.74	0.41	0.79	0.61	0.01	0.94	0.82		0.47	0.51	0.34
Uniform Delay, d1	30.1	27.9	22.9	24.9	34.6	28.0	39.9	44.3		33.2	40.9	39.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	39.2	2.3	1.8	16.5	1.7	0.1	36.5	6.9		1.9	0.6	0.6
Delay (s)	69.3	30.2	24.7	41.4	36.3	28.1	76.4	51.2		35.0	41.5	39.9
Level of Service	E	C	C	D	D	C	E	D		D	D	D
Approach Delay (s)		36.6			36.9			58.4			40.1	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection: 1: Bronte Road & William Halton Parkway

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	TR	L	T	T
Maximum Queue (m)	4.6	9.7	55.6	116.7	119.7	99.8	177.1	145.0
Average Queue (m)	0.7	0.9	24.5	51.9	57.7	62.8	40.2	24.0
95th Queue (m)	4.3	5.3	42.9	103.6	110.3	100.7	119.7	81.4
Link Distance (m)		177.2		407.0	407.0		285.4	285.4
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	80.0		80.0			45.0		
Storage Blk Time (%)						28	1	
Queuing Penalty (veh)						219	3	

Intersection: 2: Hospital Gate & William Halton Parkway

Movement	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	TR	L	T	T	L	LR	R
Maximum Queue (m)	32.5	56.1	14.3	3.7	1.7	21.4	15.2	9.2
Average Queue (m)	6.4	15.1	2.5	0.2	0.1	7.6	2.8	1.7
95th Queue (m)	21.7	42.0	9.5	2.6	1.2	17.4	9.8	7.0
Link Distance (m)	290.3	290.3		426.3	426.3		320.1	320.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			65.0			75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Third Line & William Halton Parkway

Movement	EB	EB	EB	NB	NB	SB	SB
Directions Served	L	R	R	L	LT	LT	TR
Maximum Queue (m)	12.2	20.8	22.7	30.8	38.0	10.0	8.1
Average Queue (m)	1.8	7.7	4.9	14.7	20.9	1.2	1.0
95th Queue (m)	8.4	17.0	15.0	26.7	34.4	5.8	5.1
Link Distance (m)	426.3	426.3		439.3	439.3	115.5	115.5
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			70.0				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 4: Bronte Road & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	L	T
Maximum Queue (m)	164.9	233.3	229.9	210.3	155.0	79.9	80.6	74.0	80.6	60.9	65.6	117.0
Average Queue (m)	144.4	203.5	183.9	144.1	87.1	40.2	50.2	45.6	39.3	24.9	37.0	73.4
95th Queue (m)	203.4	257.4	237.4	207.7	163.4	73.4	71.7	68.8	66.9	54.4	60.5	103.9
Link Distance (m)		223.8	223.8	223.8			452.8	452.8	452.8			336.5
Upstream Blk Time (%)		22	2	1								
Queuing Penalty (veh)		0	0	0								
Storage Bay Dist (m)	95.0				75.0	115.0				100.0	100.0	
Storage Blk Time (%)	51	48		43	9							1
Queuing Penalty (veh)	276	134		194	50							2

Intersection: 4: Bronte Road & Dundas Street W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	105.0	42.0	176.3	283.3	296.1	125.0
Average Queue (m)	67.9	15.8	111.8	193.4	198.5	74.8
95th Queue (m)	98.1	33.6	242.9	326.3	331.2	166.9
Link Distance (m)	336.5			407.0	407.0	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (m)		55.0	175.0			60.0
Storage Blk Time (%)	17	0	0	23	59	
Queuing Penalty (veh)	27	1	1	58	105	

Intersection: 5: Dundas Street W & Hospital Gate

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	T	T	R	L	L	R
Maximum Queue (m)	47.3	61.2	63.4	64.8	59.2	58.5	65.2	25.8	24.2	27.6	16.5
Average Queue (m)	18.8	21.4	21.5	22.0	14.6	15.7	16.0	6.5	6.7	13.1	7.4
95th Queue (m)	35.0	44.5	46.7	47.1	39.5	42.4	46.9	18.4	18.3	24.3	15.0
Link Distance (m)		498.9	498.9	498.9	380.1	380.1	380.1		108.7	108.7	108.7
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	125.0							50.0			
Storage Blk Time (%)							1				
Queuing Penalty (veh)							2				

Intersection: 6: Third Line & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	7.4	143.6	150.8	153.6	118.2	63.0	65.2	65.6	73.6	76.5	34.5	106.1
Average Queue (m)	0.8	87.1	92.5	91.5	34.8	38.7	41.1	41.3	47.7	49.5	17.6	56.9
95th Queue (m)	4.6	128.6	133.8	132.7	83.1	56.5	59.4	58.6	66.3	70.5	31.0	95.5
Link Distance (m)		380.1	380.1	380.1				439.6	439.6	439.6		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	250.0				55.0	145.0	145.0				60.0	77.0
Storage Blk Time (%)				31	0					3		5
Queuing Penalty (veh)				95	3					6		4

Intersection: 6: Third Line & Dundas Street W

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	78.6	41.5	99.0	94.2	63.9	46.0	11.5
Average Queue (m)	16.2	10.6	47.0	43.6	23.9	24.7	2.9
95th Queue (m)	41.7	27.0	82.3	77.7	45.6	40.2	8.7
Link Distance (m)	297.5	297.5			439.3	439.3	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			45.0	95.0			50.0
Storage Blk Time (%)	0	0	16	1		0	
Queuing Penalty (veh)	0	0	11	1		0	

Intersection: 7: Proudfoot Trail & Dundas Street W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	53.9	61.1	66.4	9.9	32.2	69.3	59.3	50.1	27.9	79.8
Average Queue (m)	19.5	25.2	25.4	2.8	14.2	34.3	23.4	19.7	10.8	42.7
95th Queue (m)	41.9	49.6	50.0	9.2	28.1	59.3	46.4	41.3	23.5	70.7
Link Distance (m)	439.6	439.6	439.6			399.5	399.5	399.5		148.4
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)				70.0	110.0				85.0	
Storage Blk Time (%)			0							0
Queuing Penalty (veh)			0							0

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	211.1	282.0	271.5	203.4	70.1	81.9	89.6	82.4	76.0	16.9	165.0	275.0
Average Queue (m)	146.2	163.3	153.1	110.5	30.1	43.5	57.5	56.3	47.2	3.3	156.2	221.4
95th Queue (m)	242.1	359.5	344.2	260.2	54.9	84.4	78.8	75.6	68.7	11.0	192.5	346.2
Link Distance (m)		495.7	495.7	495.7			226.6	226.6	226.6			266.2
Upstream Blk Time (%)		5	2	0								42
Queuing Penalty (veh)		0	0	0								0
Storage Bay Dist (m)	120.0				100.0	95.0				145.0	115.0	
Storage Blk Time (%)	43	3		2	0	3	0				88	0
Queuing Penalty (veh)	226	12		10	0	10	0				233	0

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	NB	SB	SB	SB	SB
Directions Served	TR	L	T	T	R
Maximum Queue (m)	270.7	38.2	74.5	58.9	66.3
Average Queue (m)	184.8	14.2	46.2	33.7	29.5
95th Queue (m)	332.9	29.6	66.9	56.5	55.7
Link Distance (m)	266.2		216.8	216.8	
Upstream Blk Time (%)	5				
Queuing Penalty (veh)	0				
Storage Bay Dist (m)		100.0			85.0
Storage Blk Time (%)					0
Queuing Penalty (veh)					0

Intersection: 9: Bend

Movement	NE	NE	NE
Directions Served	T	T	
Maximum Queue (m)	229.6	218.0	71.7
Average Queue (m)	28.2	31.2	2.4
95th Queue (m)	140.3	146.4	37.4
Link Distance (m)	226.6	226.6	226.6
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	0	0
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

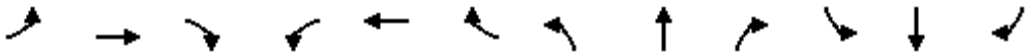
Network wide Queuing Penalty: 1682

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	54	430	1561	17	97	1157
Future Volume (vph)	54	430	1561	17	97	1157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	6.5		4.0	6.5
Lane Util. Factor	0.97	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3502	1615	3569		1805	3539
Flt Permitted	0.95	1.00	1.00		0.06	1.00
Satd. Flow (perm)	3502	1615	3569		116	3539
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	453	1643	18	102	1218
RTOR Reduction (vph)	0	173	0	0	0	0
Lane Group Flow (vph)	57	280	1661	0	102	1218
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8			6	
Actuated Green, G (s)	24.2	24.2	70.9		83.4	83.4
Effective Green, g (s)	24.2	24.2	70.9		83.4	83.4
Actuated g/C Ratio	0.20	0.20	0.59		0.70	0.70
Clearance Time (s)	5.9	5.9	6.5		4.0	6.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	706	325	2108		200	2459
v/s Ratio Prot	0.02		c0.47		0.04	c0.34
v/s Ratio Perm		c0.17			0.32	
v/c Ratio	0.08	0.86	0.79		0.51	0.50
Uniform Delay, d1	38.9	46.3	18.8		18.5	8.5
Progression Factor	1.39	1.66	1.00		1.00	1.00
Incremental Delay, d2	0.0	20.0	3.1		2.2	0.7
Delay (s)	54.2	96.6	21.9		20.7	9.2
Level of Service	D	F	C		C	A
Approach Delay (s)	91.9		21.9			10.1
Approach LOS	F		C			B

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	117	27	21	313	175	21
Future Volume (vph)	117	27	21	313	175	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4		4.0	6.4	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	0.97	0.91
Frt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3509		1805	3610	3507	1470
Flt Permitted	1.00		0.62	1.00	0.95	1.00
Satd. Flow (perm)	3509		1183	3610	3507	1470
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	126	29	23	337	188	23
RTOR Reduction (vph)	10	0	0	0	1	18
Lane Group Flow (vph)	145	0	23	337	189	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	79.4		87.6	87.6	20.0	20.0
Effective Green, g (s)	79.4		87.6	87.6	20.0	20.0
Actuated g/C Ratio	0.66		0.73	0.73	0.17	0.17
Clearance Time (s)	6.4		4.0	6.4	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2321		885	2635	584	245
v/s Ratio Prot	0.04		0.00	c0.09	c0.05	
v/s Ratio Perm			0.02			0.00
v/c Ratio	0.06		0.03	0.13	0.32	0.01
Uniform Delay, d1	7.2		4.5	4.8	44.0	41.8
Progression Factor	0.27		0.07	0.07	1.00	1.00
Incremental Delay, d2	0.0		0.0	0.1	0.3	0.0
Delay (s)	2.0		0.3	0.5	44.4	41.8
Level of Service	A		A	A	D	D
Approach Delay (s)	2.0			0.4	44.1	
Approach LOS	A			A	D	

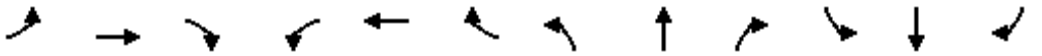
Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	0	118	0	0	0	320	11	0	0	24	47
Future Volume (vph)	7	0	118	0	0	0	320	11	0	0	24	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4		6.4				5.9	5.9			5.9	
Lane Util. Factor	1.00		0.88				0.95	0.95			0.95	
Frpb, ped/bikes	1.00		0.98				1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00				1.00	1.00			1.00	
Frt	1.00		0.85				1.00	1.00			0.90	
Flt Protected	0.95		1.00				0.95	0.96			1.00	
Satd. Flow (prot)	1805		2778				1715	1725			3251	
Flt Permitted	0.95		1.00				0.70	0.68			1.00	
Satd. Flow (perm)	1805		2778				1268	1228			3251	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	8	0	134	0	0	0	364	12	0	0	27	53
RTOR Reduction (vph)	0	0	42	0	0	0	0	0	0	0	42	0
Lane Group Flow (vph)	8	0	92	0	0	0	189	188	0	0	38	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm		Perm				Perm	NA			NA	
Protected Phases								8			4	
Permitted Phases	2		2				8			4		
Actuated Green, G (s)	82.3		82.3				25.4	25.4			25.4	
Effective Green, g (s)	82.3		82.3				25.4	25.4			25.4	
Actuated g/C Ratio	0.69		0.69				0.21	0.21			0.21	
Clearance Time (s)	6.4		6.4				5.9	5.9			5.9	
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	
Lane Grp Cap (vph)	1237		1905				268	259			688	
v/s Ratio Prot											0.01	
v/s Ratio Perm	0.00		c0.03				0.15	c0.15				
v/c Ratio	0.01		0.05				0.71	0.73			0.06	
Uniform Delay, d1	5.9		6.1				43.8	44.1			37.7	
Progression Factor	0.90		0.64				0.80	0.80			1.00	
Incremental Delay, d2	0.0		0.0				7.8	9.2			0.0	
Delay (s)	5.4		4.0				42.7	44.4			37.8	
Level of Service	A		A				D	D			D	
Approach Delay (s)		4.0			0.0			43.5			37.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

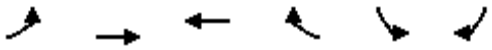
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	235	892	223	129	1608	155	406	1164	133	225	671	285
Future Volume (vph)	235	892	223	129	1608	155	406	1164	133	225	671	285
Ideal Flow (vphpl)	1990	1900	1900	1900	2225	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.6	6.6	4.0	6.6		5.0	5.8	5.8	4.0	5.8	5.8
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1890	5085	1560	1787	5935		3502	3539	1531	1787	3539	1583
Flt Permitted	0.09	1.00	1.00	0.21	1.00		0.95	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	178	5085	1560	398	5935		3502	3539	1531	184	3539	1583
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	240	910	228	132	1641	158	414	1188	136	230	685	291
RTOR Reduction (vph)	0	0	155	0	8	0	0	0	58	0	0	139
Lane Group Flow (vph)	240	910	73	132	1791	0	414	1188	78	230	685	152
Confl. Peds. (#/hr)			3	3					2	2		
Heavy Vehicles (%)	0%	2%	2%	1%	1%	1%	0%	2%	4%	1%	2%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8	4		4
Actuated Green, G (s)	58.3	44.8	44.8	53.5	42.4		21.7	49.5	49.5	55.2	41.0	41.0
Effective Green, g (s)	58.3	44.8	44.8	53.5	42.4		21.7	49.5	49.5	55.2	41.0	41.0
Actuated g/C Ratio	0.42	0.32	0.32	0.38	0.30		0.15	0.35	0.35	0.39	0.29	0.29
Clearance Time (s)	4.0	6.6	6.6	4.0	6.6		5.0	5.8	5.8	4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	239	1627	499	262	1797		542	1251	541	235	1036	463
v/s Ratio Prot	c0.10	0.18		0.04	0.30		0.12	c0.34		c0.10	0.19	
v/s Ratio Perm	c0.32		0.05	0.15					0.05	0.29		0.10
v/c Ratio	1.00	0.56	0.15	0.50	1.00		0.76	0.95	0.14	0.98	0.66	0.33
Uniform Delay, d1	41.7	39.4	34.0	29.6	48.7		56.7	44.0	30.8	40.4	43.4	38.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	59.3	1.4	0.6	1.5	20.4		6.3	14.8	0.1	52.1	1.6	0.4
Delay (s)	101.0	40.8	34.6	31.1	69.1		63.0	58.9	30.9	92.5	45.0	39.1
Level of Service	F	D	C	C	E		E	E	C	F	D	D
Approach Delay (s)		50.3			66.5			57.7			52.7	
Approach LOS		D			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	57.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		

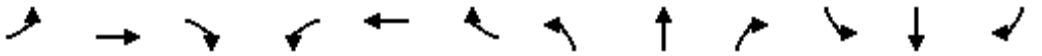
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	55	1173	1899	102	232	150
Future Volume (vph)	55	1173	1899	102	232	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.1	6.1	6.1	6.8	6.8
Lane Util. Factor	1.00	0.91	0.91	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1736	5136	5085	1515	3467	1578
Flt Permitted	0.07	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	122	5136	5085	1515	3467	1578
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	1275	2064	111	252	163
RTOR Reduction (vph)	0	0	0	15	0	109
Lane Group Flow (vph)	60	1275	2064	96	252	54
Confl. Peds. (#/hr)	2			2	1	1
Heavy Vehicles (%)	4%	1%	2%	5%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	111.5	111.5	101.7	101.7	15.6	15.6
Effective Green, g (s)	111.5	111.5	101.7	101.7	15.6	15.6
Actuated g/C Ratio	0.80	0.80	0.73	0.73	0.11	0.11
Clearance Time (s)	4.0	6.1	6.1	6.1	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	164	4090	3693	1100	386	175
v/s Ratio Prot	0.02	c0.25	c0.41		c0.07	
v/s Ratio Perm	0.28			0.06		0.03
v/c Ratio	0.37	0.31	0.56	0.09	0.65	0.31
Uniform Delay, d1	6.7	3.9	8.8	5.6	59.6	57.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.2	0.6	0.2	3.9	1.0
Delay (s)	8.1	4.1	9.4	5.8	63.5	58.2
Level of Service	A	A	A	A	E	E
Approach Delay (s)		4.2	9.2		61.5	
Approach LOS		A	A		E	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.9
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1156	269	433	1649	168	331	232	328	164	136	24
Future Volume (vph)	1	1156	269	433	1649	168	331	232	328	164	136	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	7.8	7.8	4.0	7.8	7.8	4.0	8.1	8.1	4.0	8.1	8.1
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.88
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	5085	1566	3502	5136	1573	1751	3574	1545	1782	3539	1419
Flt Permitted	0.11	1.00	1.00	0.95	1.00	1.00	0.45	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	209	5085	1566	3502	5136	1573	833	3574	1545	1120	3539	1419
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1	1243	289	466	1773	181	356	249	353	176	146	26
RTOR Reduction (vph)	0	0	145	0	0	71	0	0	276	0	0	24
Lane Group Flow (vph)	1	1243	144	466	1773	110	356	249	77	176	146	2
Confl. Peds. (#/hr)	14		19	19		14	27		15	15		27
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	1%	0%	0%	2%	0%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Actuated Green, G (s)	47.9	46.5	46.5	20.2	65.3	65.3	33.4	17.3	17.3	20.8	8.7	8.7
Effective Green, g (s)	47.9	46.5	46.5	20.2	65.3	65.3	33.4	17.3	17.3	20.8	8.7	8.7
Actuated g/C Ratio	0.40	0.39	0.39	0.17	0.54	0.54	0.28	0.14	0.14	0.17	0.07	0.07
Clearance Time (s)	4.0	7.8	7.8	4.0	7.8	7.8	4.0	8.1	8.1	4.0	8.1	8.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	102	1970	606	589	2794	855	390	515	222	260	256	102
v/s Ratio Prot	0.00	0.24		c0.13	c0.35		c0.16	0.07		0.07	0.04	
v/s Ratio Perm	0.00		0.09			0.07	c0.10		0.05	0.05		0.00
v/c Ratio	0.01	0.63	0.24	0.79	0.63	0.13	0.91	0.48	0.35	0.68	0.57	0.02
Uniform Delay, d1	21.7	29.8	24.8	47.9	19.0	13.4	39.6	47.2	46.3	45.5	53.8	51.7
Progression Factor	1.00	1.00	1.00	0.92	1.13	2.15	1.00	1.00	1.00	0.96	1.00	1.00
Incremental Delay, d2	0.0	1.5	0.9	6.2	0.9	0.3	25.2	0.7	1.0	6.8	3.1	0.1
Delay (s)	21.8	31.3	25.7	50.0	22.5	29.1	64.8	48.0	47.2	50.6	56.9	51.8
Level of Service	C	C	C	D	C	C	E	D	D	D	E	D
Approach Delay (s)		30.3			28.3			53.9			53.3	
Approach LOS		C			C			D			D	

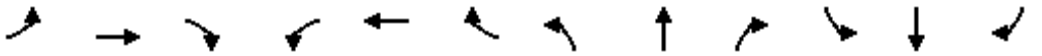
Intersection Summary			
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.9
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1640	89	313	2250	66	166
Future Volume (vph)	1640	89	313	2250	66	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	4.0	5.9	6.9	6.9
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	5136	1572	1805	5187	1770	1599
Flt Permitted	1.00	1.00	0.09	1.00	0.95	1.00
Satd. Flow (perm)	5136	1572	170	5187	1770	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1691	92	323	2320	68	171
RTOR Reduction (vph)	0	29	0	0	0	155
Lane Group Flow (vph)	1691	63	323	2320	68	16
Confl. Peds. (#/hr)		3	3		2	
Heavy Vehicles (%)	1%	0%	0%	0%	2%	1%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	70.4	70.4	96.1	96.1	11.1	11.1
Effective Green, g (s)	70.4	70.4	96.1	96.1	11.1	11.1
Actuated g/C Ratio	0.59	0.59	0.80	0.80	0.09	0.09
Clearance Time (s)	5.9	5.9	4.0	5.9	6.9	6.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	3013	922	431	4153	163	147
v/s Ratio Prot	0.33		c0.14	0.45	c0.04	
v/s Ratio Perm		0.04	c0.46			0.01
v/c Ratio	0.56	0.07	0.75	0.56	0.42	0.11
Uniform Delay, d1	15.3	10.7	27.5	4.3	51.4	49.9
Progression Factor	1.53	2.13	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.1	7.0	0.5	1.7	0.3
Delay (s)	23.9	22.8	34.5	4.9	53.1	50.2
Level of Service	C	C	C	A	D	D
Approach Delay (s)	23.9			8.5	51.1	
Approach LOS	C			A	D	

Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	1234	251	221	1672	50	312	495	127	118	411	643
Future Volume (vph)	297	1234	251	221	1672	50	312	495	127	118	411	643
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.4	6.4	4.0	6.4	6.4	4.0	6.4		4.0	6.4	6.4
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	5085	1590	1805	5187	1593	1805	3477		1803	3610	1615
Flt Permitted	0.09	1.00	1.00	0.11	1.00	1.00	0.41	1.00		0.25	1.00	1.00
Satd. Flow (perm)	177	5085	1590	218	5187	1593	788	3477		477	3610	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	303	1259	256	226	1706	51	318	505	130	120	419	656
RTOR Reduction (vph)	0	0	165	0	0	34	0	19	0	0	0	211
Lane Group Flow (vph)	303	1259	91	226	1706	17	318	616	0	120	419	445
Confl. Peds. (#/hr)	2		4	4		2			17	17		
Heavy Vehicles (%)	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	58.9	42.5	42.5	54.7	40.4	40.4	42.8	33.6		42.0	33.2	33.2
Effective Green, g (s)	58.9	42.5	42.5	54.7	40.4	40.4	42.8	33.6		42.0	33.2	33.2
Actuated g/C Ratio	0.49	0.35	0.35	0.46	0.34	0.34	0.36	0.28		0.35	0.28	0.28
Clearance Time (s)	4.0	6.4	6.4	4.0	6.4	6.4	4.0	6.4		4.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	306	1800	563	288	1746	536	359	973		264	998	446
v/s Ratio Prot	c0.13	0.25		0.09	0.33		c0.07	0.18		0.03	0.12	
v/s Ratio Perm	c0.35		0.06	0.26		0.01	0.25			0.13		c0.28
v/c Ratio	0.99	0.70	0.16	0.78	0.98	0.03	0.89	0.63		0.45	0.42	1.00
Uniform Delay, d1	36.9	33.3	26.5	24.3	39.3	26.7	34.3	37.8		28.0	35.5	43.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	48.6	2.3	0.6	13.1	16.8	0.1	22.0	1.4		1.2	0.3	41.6
Delay (s)	85.5	35.6	27.2	37.4	56.1	26.8	56.3	39.2		29.2	35.8	85.0
Level of Service	F	D	C	D	E	C	E	D		C	D	F
Approach Delay (s)		42.7			53.2			44.9			62.1	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	50.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.8
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Intersection: 1: Bronte Road & William Halton Parkway

Movement	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	L	R	T	TR	L	T	T
Maximum Queue (m)	14.1	81.3	134.8	152.6	157.1	48.0	88.4	83.1
Average Queue (m)	3.6	10.8	76.9	78.9	83.1	17.8	42.6	37.6
95th Queue (m)	10.8	45.3	120.4	148.5	157.1	38.9	74.2	69.1
Link Distance (m)		177.2		407.0	407.0		285.4	285.4
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	80.0		80.0			45.0		
Storage Blk Time (%)			19			0	6	
Queuing Penalty (veh)			10			0	6	

Intersection: 2: Hospital Gate & William Halton Parkway

Movement	EB	EB	WB	WB	WB	NB	NB	NB
Directions Served	T	TR	L	T	T	L	LR	R
Maximum Queue (m)	11.8	21.2	9.2	9.3	7.2	40.4	33.8	12.1
Average Queue (m)	2.5	6.1	1.4	1.6	0.4	22.4	13.6	3.4
95th Queue (m)	9.5	17.1	6.8	7.3	3.3	36.9	28.8	10.3
Link Distance (m)	290.3	290.3		426.3	426.3		320.1	320.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			65.0			75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Third Line & William Halton Parkway

Movement	EB	EB	EB	NB	NB	SB	SB
Directions Served	L	R	R	L	LT	LT	TR
Maximum Queue (m)	9.2	15.1	8.8	52.3	57.5	17.7	16.9
Average Queue (m)	0.7	4.2	1.3	30.6	35.6	4.2	6.8
95th Queue (m)	4.7	11.6	6.2	47.6	52.3	12.4	13.4
Link Distance (m)	426.3	426.3		439.3	439.3	115.5	115.5
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			70.0				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 4: Bronte Road & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	L	T
Maximum Queue (m)	156.4	209.0	200.1	84.4	44.0	179.9	466.8	462.9	464.2	75.4	189.9	323.4
Average Queue (m)	128.8	151.4	119.9	45.3	18.7	121.7	432.5	427.4	420.0	45.9	124.7	222.5
95th Queue (m)	200.3	269.1	243.8	79.6	37.2	246.0	527.5	529.5	531.5	70.2	237.2	355.9
Link Distance (m)		223.8	223.8	223.8			452.8	452.8	452.8			336.5
Upstream Blk Time (%)		33	0				55	52	56			6
Queuing Penalty (veh)		0	0				0	0	0			0
Storage Bay Dist (m)	95.0				75.0	115.0				100.0	100.0	
Storage Blk Time (%)	64	0		2			76					50
Queuing Penalty (veh)	189	1		4			98					203

Intersection: 4: Bronte Road & Dundas Street W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	301.6	130.0	243.4	361.1	355.4	66.2
Average Queue (m)	217.7	84.1	205.7	218.4	208.7	29.4
95th Queue (m)	339.9	180.5	318.8	443.8	433.6	55.1
Link Distance (m)	336.5			407.0	407.0	
Upstream Blk Time (%)	4			1	0	
Queuing Penalty (veh)	0			7	2	
Storage Bay Dist (m)		55.0	175.0			60.0
Storage Blk Time (%)	61	0	68	1	16	1
Queuing Penalty (veh)	81	1	228	2	46	2

Intersection: 5: Dundas Street W & Hospital Gate

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	T	T	R	L	L	R
Maximum Queue (m)	26.5	49.2	43.1	45.6	113.4	122.2	117.3	41.1	54.1	52.6	41.7
Average Queue (m)	9.2	22.3	18.8	15.9	36.4	42.3	43.2	6.5	32.9	24.7	17.0
95th Queue (m)	20.3	40.7	37.4	34.7	78.6	88.9	90.4	25.8	50.7	43.3	33.2
Link Distance (m)		498.9	498.9	498.9	380.1	380.1	380.1		108.7	108.7	108.7
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	125.0							50.0			
Storage Blk Time (%)							5				
Queuing Penalty (veh)							5				

Intersection: 6: Third Line & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	4.7	86.4	89.5	87.0	48.9	67.1	68.7	87.5	97.1	101.4	35.7	114.2
Average Queue (m)	0.2	54.6	57.8	53.3	23.6	41.2	45.0	53.7	63.1	66.1	12.8	77.9
95th Queue (m)	2.3	77.3	82.6	80.1	42.0	60.0	62.1	79.8	88.4	91.3	25.1	126.6
Link Distance (m)		380.1	380.1	380.1				439.6	439.6	439.6		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	250.0				55.0	145.0	145.0				60.0	77.0
Storage Blk Time (%)				8	0					9		23
Queuing Penalty (veh)				20	0					16		26

Intersection: 6: Third Line & Dundas Street W

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	164.3	144.3	68.9	58.6	37.9	39.7	12.7
Average Queue (m)	52.5	32.3	31.8	29.5	21.4	18.1	3.5
95th Queue (m)	138.6	96.9	58.4	52.4	34.9	33.5	10.0
Link Distance (m)	297.5	297.5			439.3	439.3	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			45.0	95.0			50.0
Storage Blk Time (%)	0	0	5			0	
Queuing Penalty (veh)	0	1	5			0	

Intersection: 7: Proudfoot Trail & Dundas Street W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	102.5	106.4	108.8	27.9	81.9	65.3	130.2	56.1	37.4	44.8
Average Queue (m)	51.1	58.9	64.2	7.6	39.4	35.6	32.3	24.1	16.0	18.9
95th Queue (m)	100.4	110.9	115.9	19.8	66.4	63.3	88.2	49.3	31.1	36.2
Link Distance (m)	439.6	439.6	439.6			399.5	399.5	399.5		148.4
Upstream Blk Time (%)							0			
Queuing Penalty (veh)							0			
Storage Bay Dist (m)				70.0	110.0				85.0	
Storage Blk Time (%)			6							
Queuing Penalty (veh)			5							

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B9	B9
Directions Served	L	T	T	T	R	L	T	T	T	R	T	T
Maximum Queue (m)	160.2	214.2	194.9	166.6	46.1	170.0	232.9	229.9	226.3	158.8	121.6	120.7
Average Queue (m)	117.0	143.1	132.7	75.4	19.3	107.0	183.2	179.5	174.3	47.2	34.9	31.8
95th Queue (m)	219.3	338.3	318.8	157.6	34.2	235.0	280.6	271.7	270.8	176.5	136.5	130.5
Link Distance (m)		495.7	495.7	495.7			226.6	226.6	226.6		412.9	412.9
Upstream Blk Time (%)		0					15	9	10			
Queuing Penalty (veh)		0					0	0	0			
Storage Bay Dist (m)	120.0				100.0	95.0				145.0		
Storage Blk Time (%)	28	0		0		0	54		36			
Queuing Penalty (veh)	117	0		1		0	120		18			

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R
Maximum Queue (m)	165.0	270.8	270.8	48.6	181.6	219.0	145.0
Average Queue (m)	159.4	246.5	205.2	21.0	94.3	152.9	128.1
95th Queue (m)	188.2	352.3	362.5	41.7	210.7	295.6	177.4
Link Distance (m)		266.2	266.2		216.8	216.8	
Upstream Blk Time (%)		77	8		0	33	
Queuing Penalty (veh)		0	0		0	0	
Storage Bay Dist (m)	115.0			100.0			85.0
Storage Blk Time (%)	91	0				0	59
Queuing Penalty (veh)	226	0				1	121

Intersection: 9: Bend

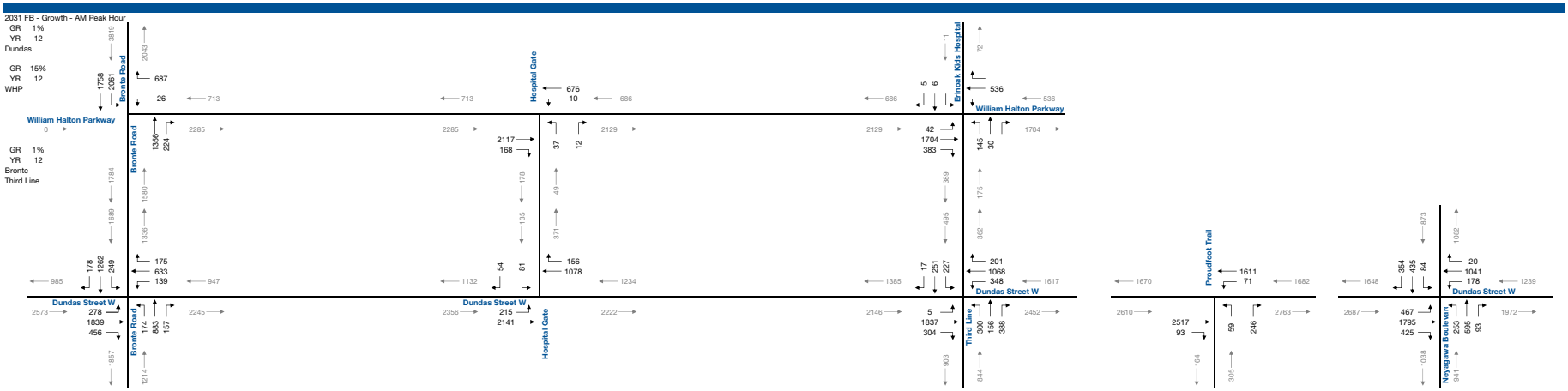
Movement	NE	NE
Directions Served	T	T
Maximum Queue (m)	139.9	108.5
Average Queue (m)	4.7	3.6
95th Queue (m)	51.4	45.7
Link Distance (m)	226.6	226.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1563

Appendix D

Background Traffic Growth Forecasts

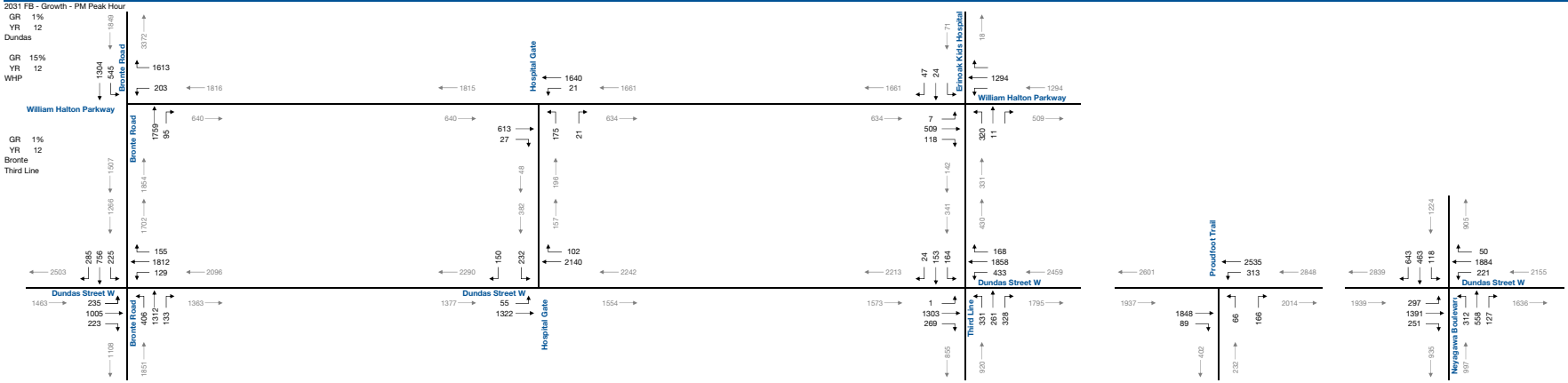

2031 FB - Growth - AM Peak Hour
GR 1%
YR 12
Dundas
GR 15%
YR 12
WHP
GR 1%
YR 12
Bronte
Third Line
William Halton Parkway
Bronte Road
Hospital Gate
Ennek Kids Hospital
Dundas Street W
Third Line
Proudfoot Trail
Neyagawa Boulevard

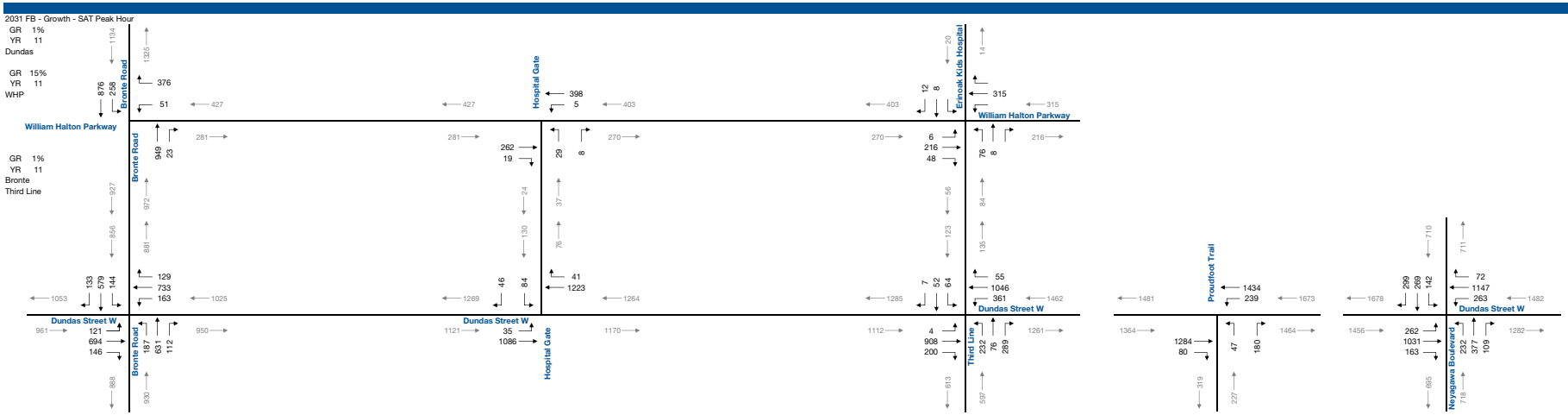
2031 FB - Growth - PM Peak Hour

GR 1%
YR 12
Dundas

GR 15%
YR 12
WHP

GR 1%
YR 12
Bronte
Third Line



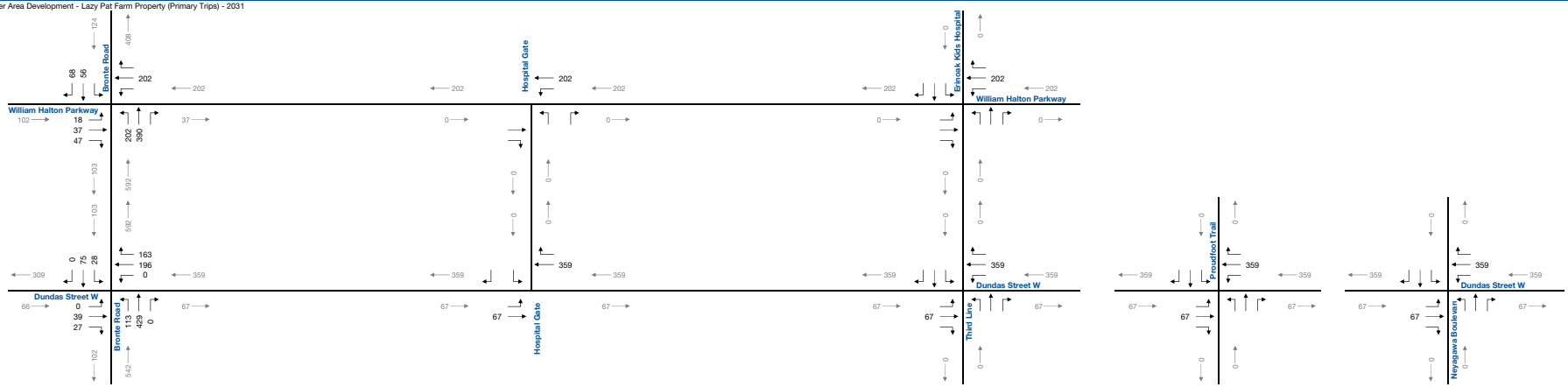

2031 FB - Growth - SAT Peak Hour
GR 1%
YR 11
Dundas
GR 15%
YR 11
WHP
GR 1%
YR 11
Bronte
Third Line
William Halton Parkway
Bronte Road
Hospital Gate
Erinoak Kids Hospital
Dundas Street W
Third Line
Proudfoot Trail
Neyagawa Boulevard

Appendix E

Background Development Traffic Forecasts

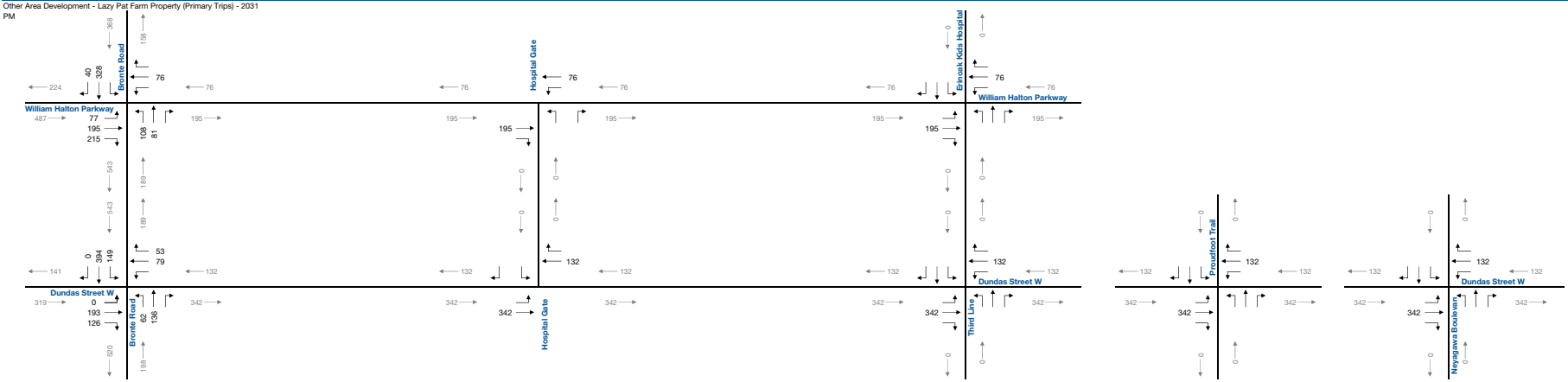
Other Area Development - Lazy Pat Farm Property (Primary Trips) - 2031

AM



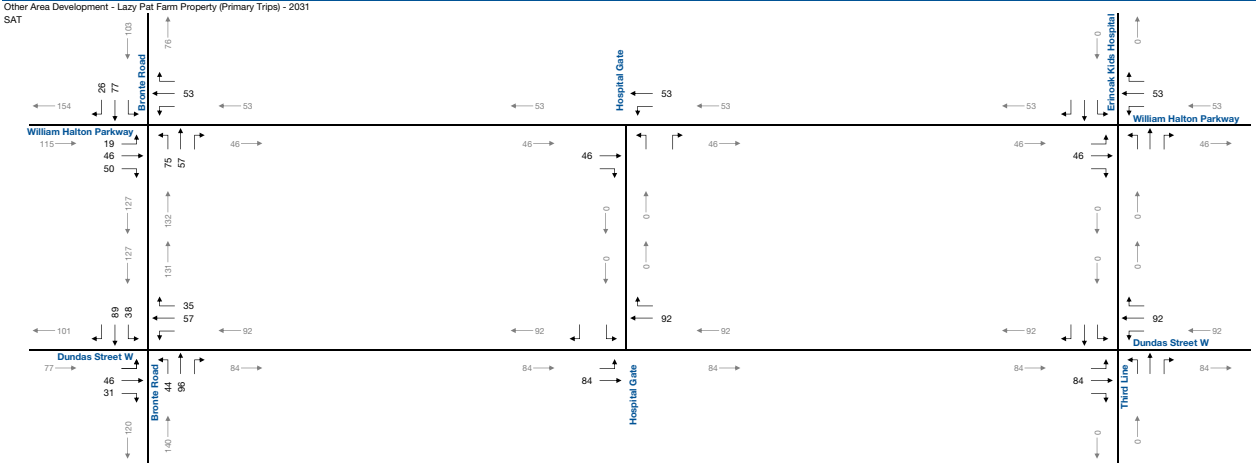
Other Area Development - Lazy Pat Farm Property (Primary Trips) - 2031

PM

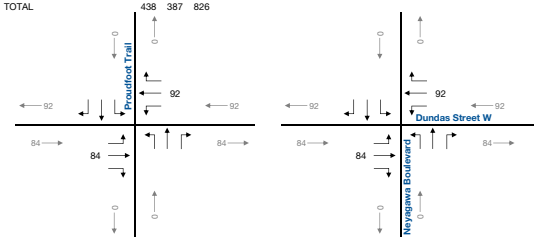


Other Area Development - Lazy Pat Farm Property (Primary Trips) - 2031

SAT

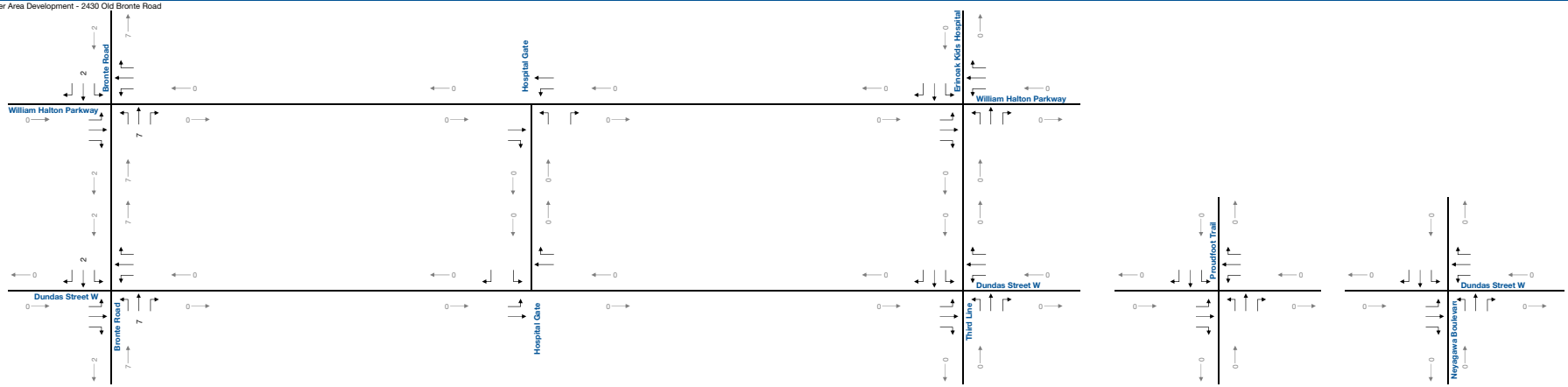


		In	Out	Total
General Office	71008	20.3	17.3	37.6
Reduction	14%	2.85	2.42	5.27
Internal Reduction		17.5	14.9	32.4
Sub-Total				
Shopping centre	131871	309	285	593
Reduction	14%	43.2	39.9	83.1
Pass-By	26%	69	63.7	133
Sub-Total		196	181	378
General Office	912241	261	222	483
Reduction	14%	36.6	31.1	67.7
Sub-Total		225	191	416
Business Park	597956	0	0	0
Reduction	14%			
Sub-Total				
TOTAL		438	387	826

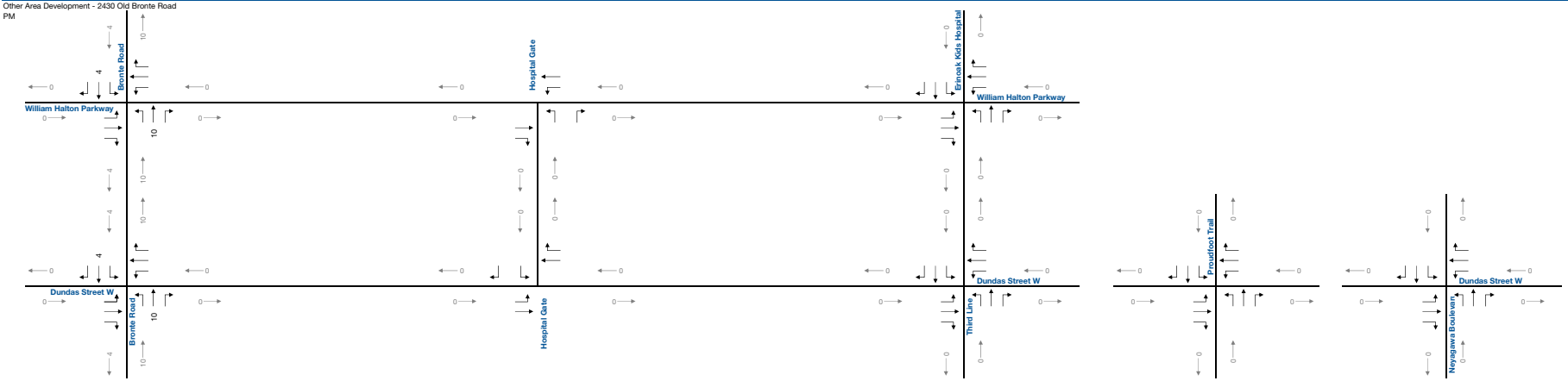


Other Area Development - 2430 Old Bronte Road

AM

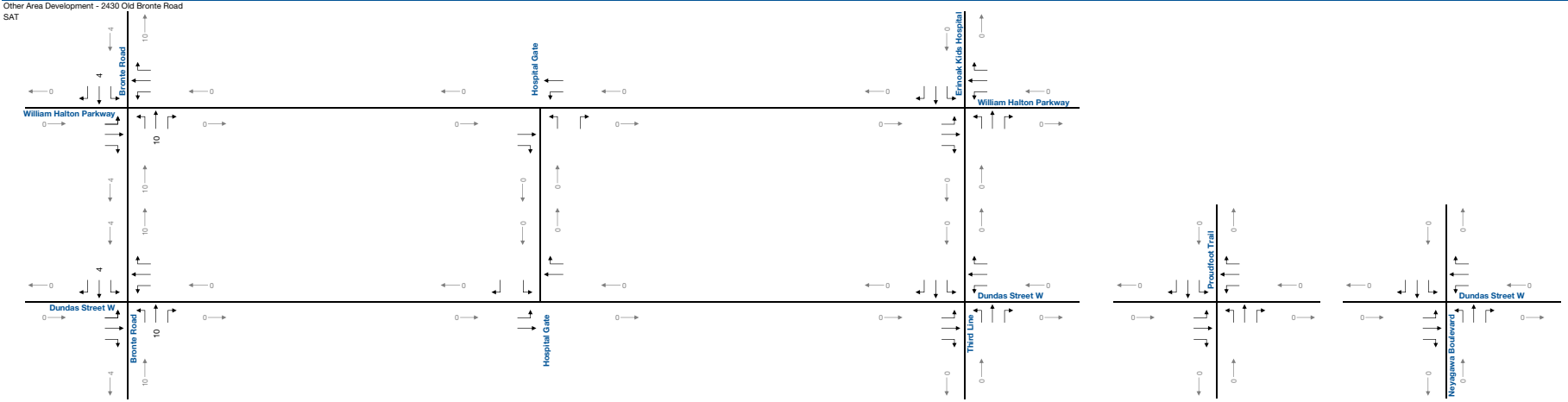


Other Area Development - 2430 Old Bronte Road
PM



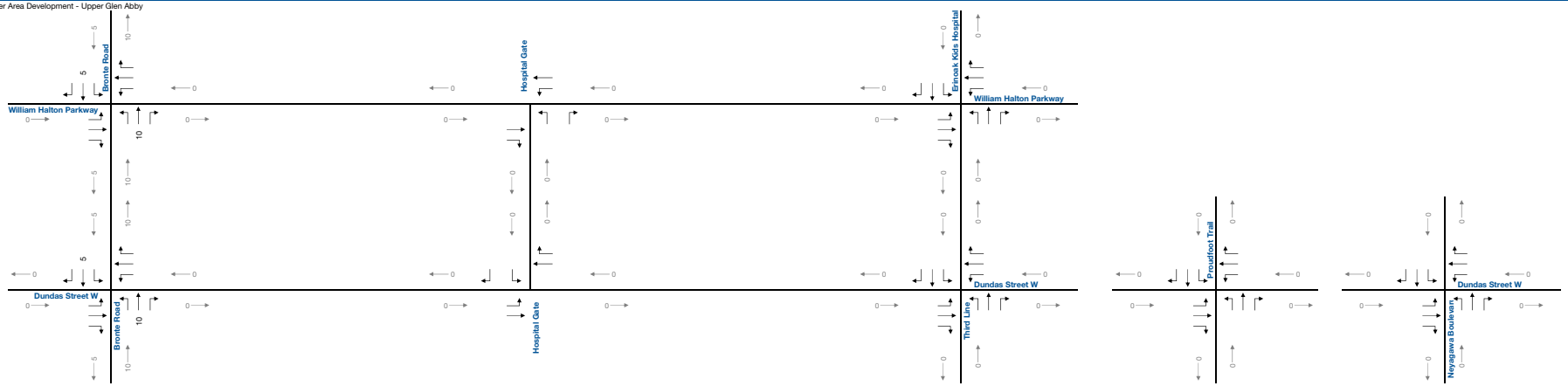
Other Area Development - 2430 Old Bronte Road

SAT



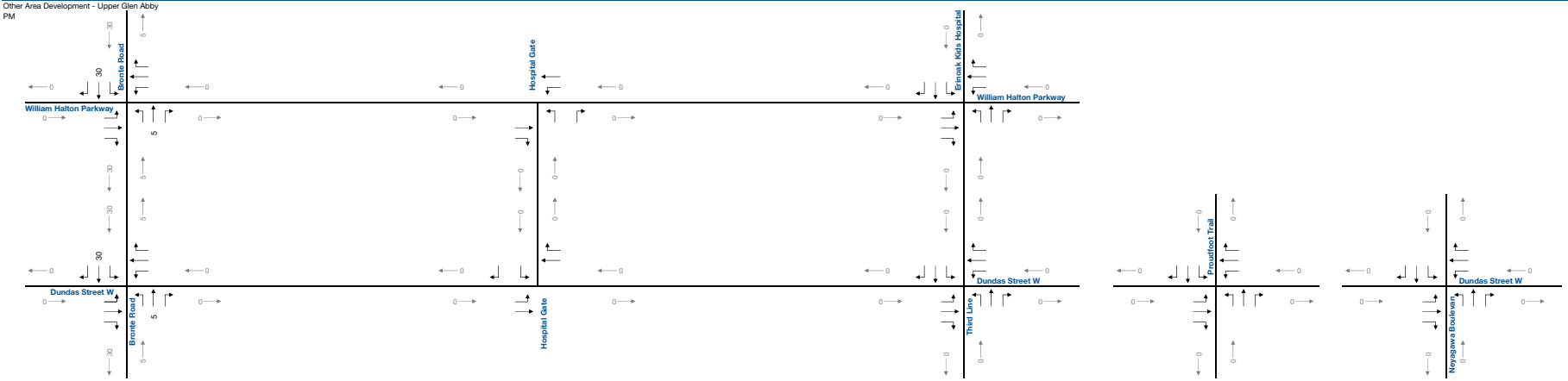
Other Area Development - Upper Glen Abby

AM



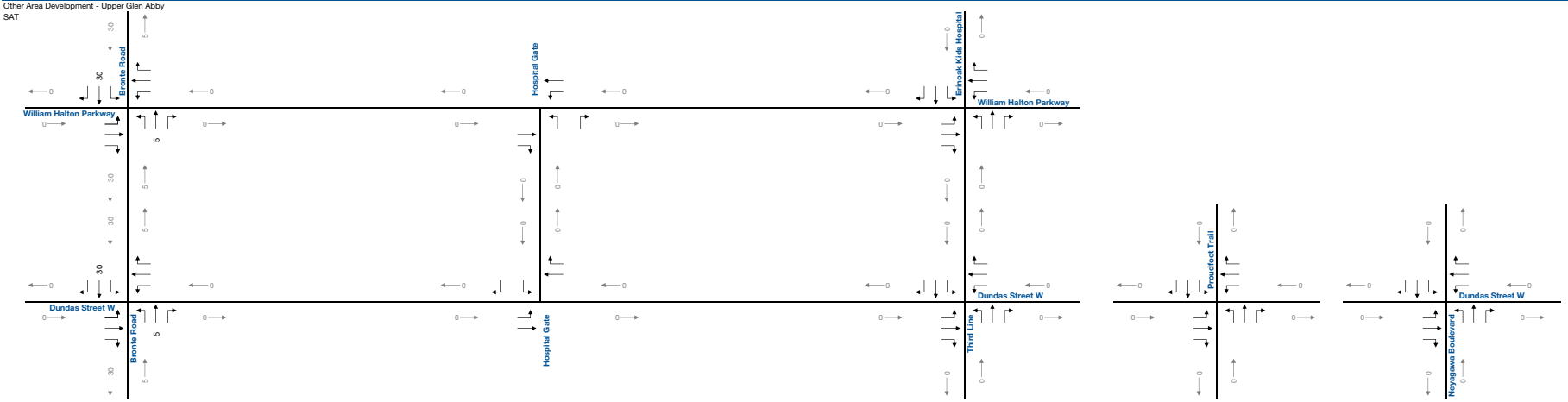
Other Area Development - Upper Glen Abby

PM



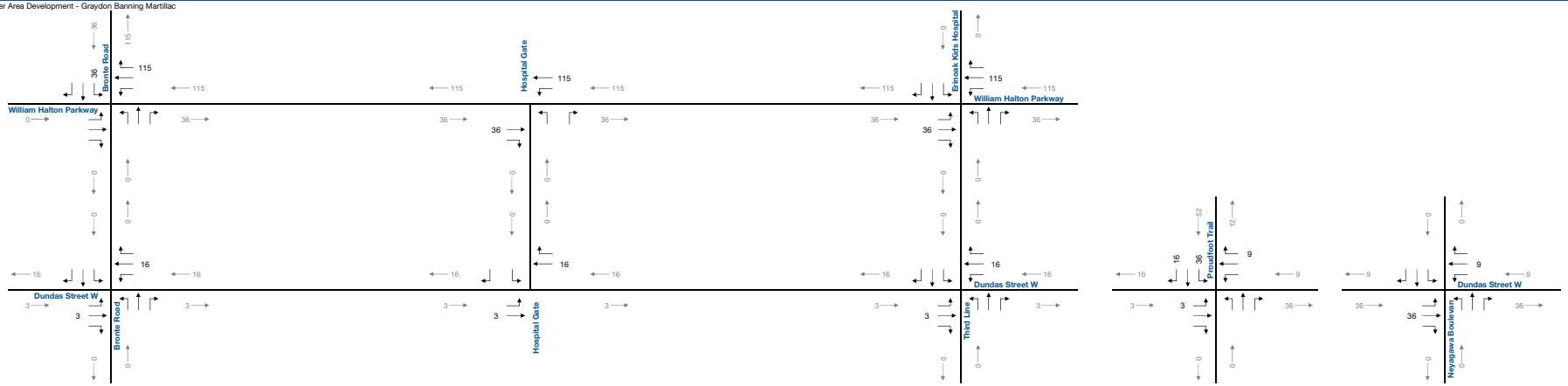
Other Area Development - Upper Glen Abby

SAT



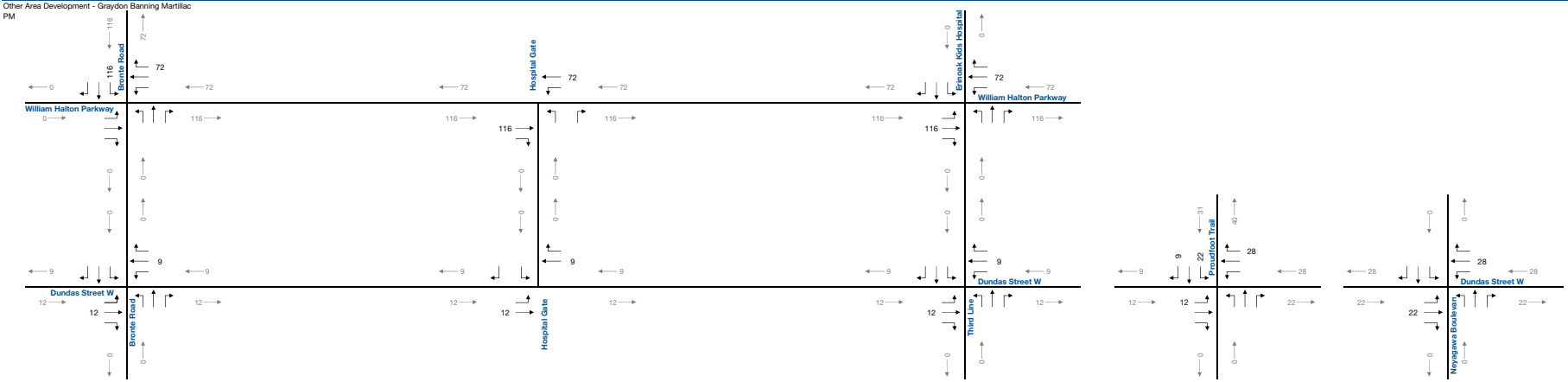
Other Area Development - Graydon Banning Martillac

AM



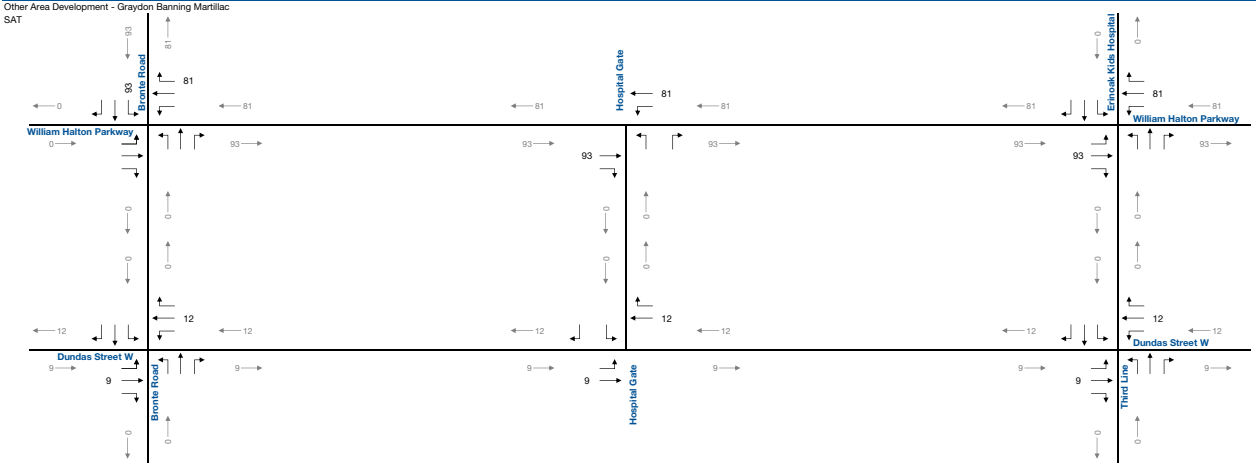
Other Area Development - Graydon Banning Martillac

PM

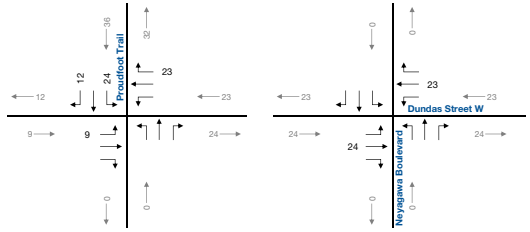


Other Area Development - Graydon Banning Martillac

SAT

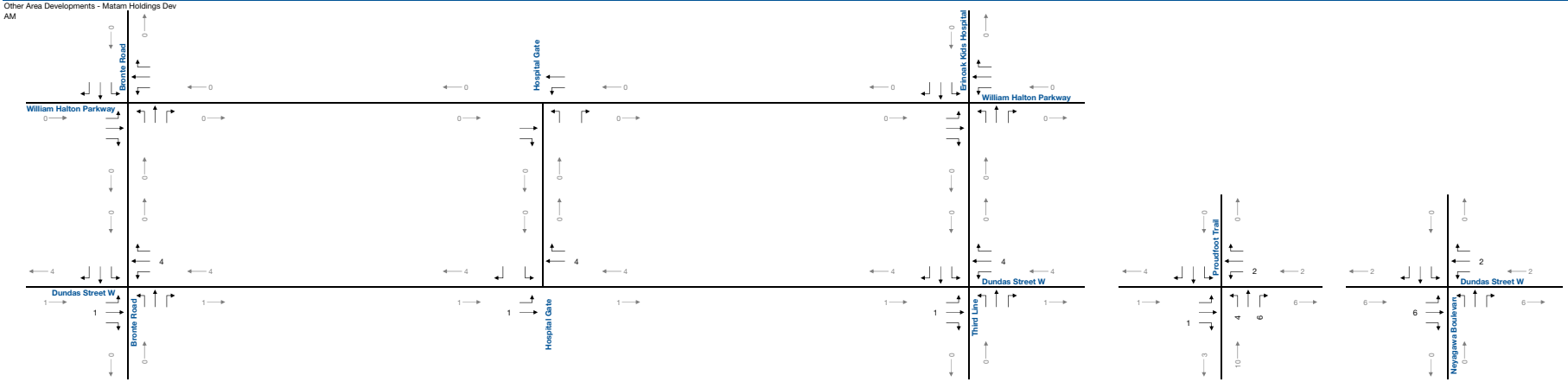


LUC	Units	In	Out	Total
220	46	8	8	16.4
210	106	53.2	45.3	98.6
220	48	9	9	18.6
210	28	14.1	12	26
222	753	142	116	257
220	79	26	26	52.1
222	210	49	40.1	89.1
220	164	72	72	144
222	600	116	94.5	210
220	80	27	27	53.2
210	35	17.6	15	32.6
222	120	33.7	27.6	61.2
Sub-Total		567	492	1059
Red	18%	102	88.6	191
Total		465	404	869



Other Area Developments - Matam Holdings Dev

AM



Other Area Developments - Matam Holdings Dev

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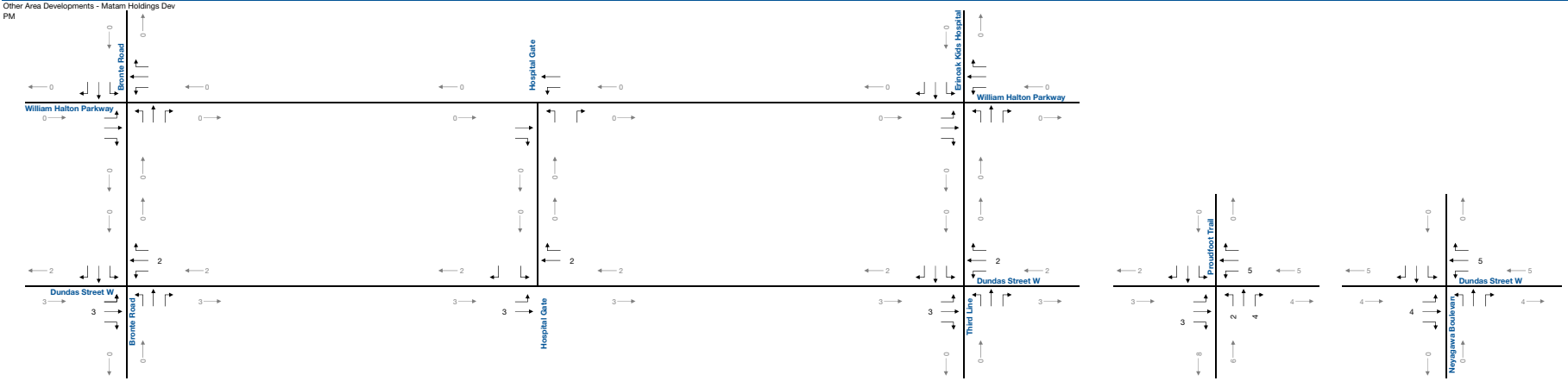
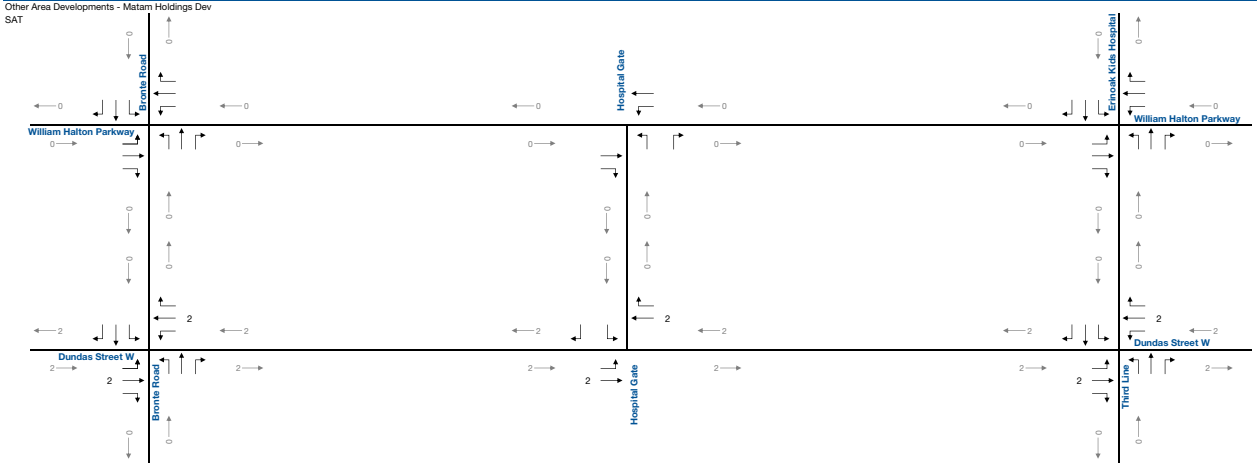
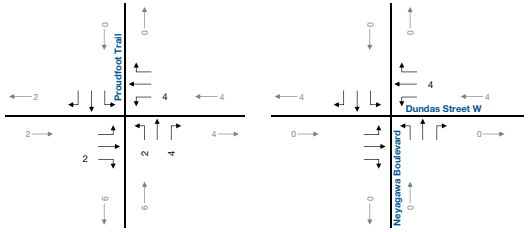


Other Area Developments - Matam Holdings Dev

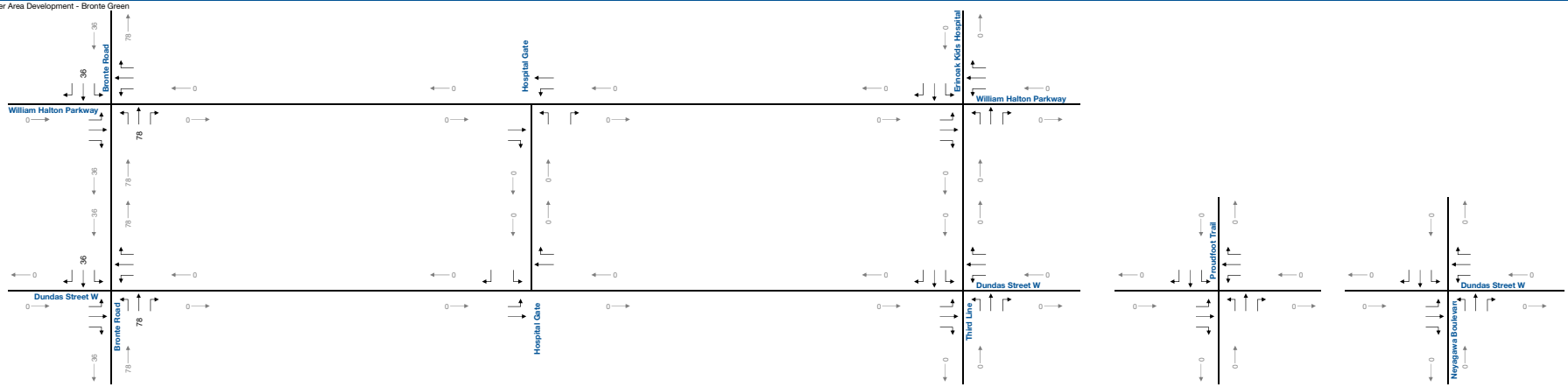
SAT



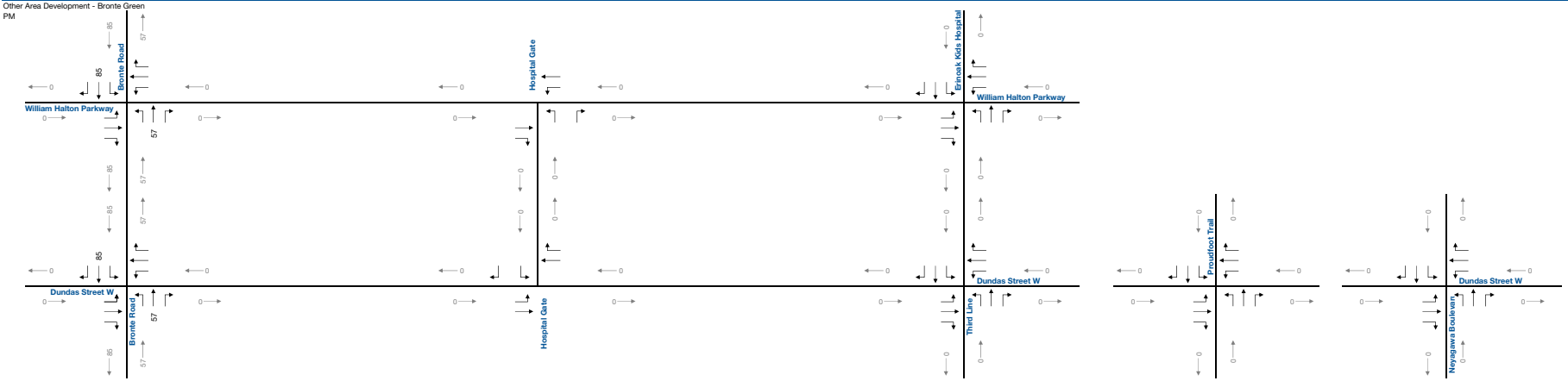
		In	Out	Total
LUC 210	16	8.04	7	14.9



Other Area Development - Bronte Green
AM

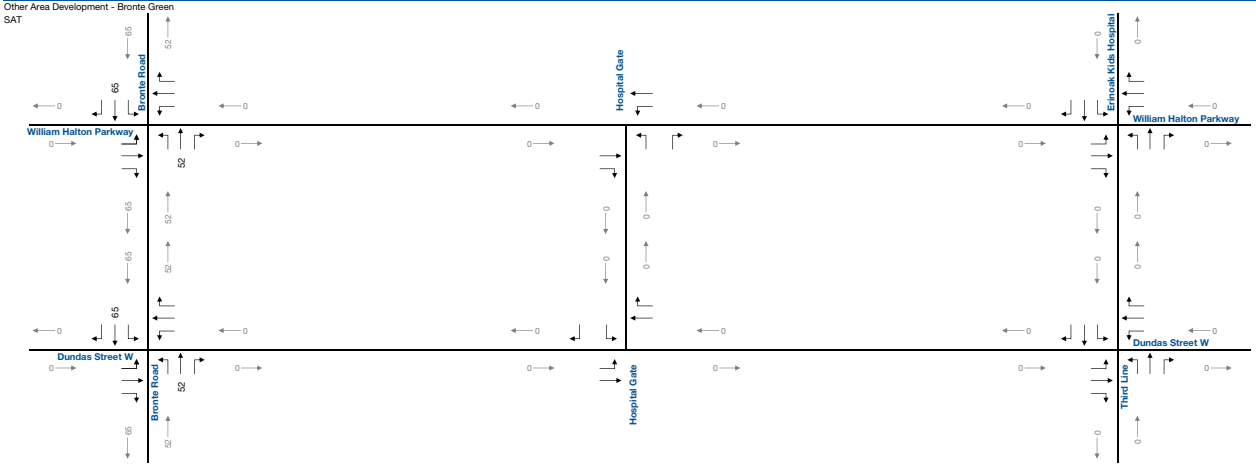


Other Area Development - Bronte Green
PM



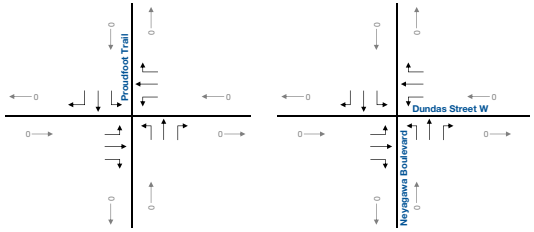
Other Area Development - Bronte Green

SAT



10th Ed

LUC	Units	In	Out	Total
210	531	251	213	464
220	229	67.8	57.7	126
222	100	30.3	24.8	55
710	18568	5.31	4.53	9.84
820	43056	101	93	194
ub Tot		455	393	848
eductic	5%	22.7	19.7	42.4
Total		432	374	806



Appendix F

Site Trip Generation Detailed Calculations

PARCEL ID	PRECINCT	LAND USE	BUILDING TYPE	AREA (m2)	FSI	GFA (m2)	NFA (90%, 70% institutional)	NON-RES (see Mixed-Use Thresholds CELL A27)	specific use
11	1	Urban Centre	Mid Rise	12264	1.8	22,075	19,868	9,934	100% residential
12	1	Urban Core -	Mid Rise	12689	2.5	31,723	28,551	14,275	35% office, 15% retail, 50% residential
13	1	Urban Core -	Mid Rise	11225	1.8	20,205	18,185	9,092	
14	1	Urban Core -	Mid Rise	14098	2.5	35,244	31,720	15,860	
15	1	Urban Core -	Mid Rise	15583	2.5	38,959	35,063	17,531	
21	2	Urban Core -	Mid Rise	11739	2.5	29,347	26,412	5,282	10% office, 10% retail, 80% residential
22	2	Urban Core -	Mid Rise	11146	2.5	27,864	25,078	5,016	
23	2	Urban Core -	Mid Rise	12812	2.5	32,029	28,826	5,765	
24	2	Urban Core -	Mid Rise	11403	2.5	28,508	25,657	5,131	
25	2	Urban Core -	Mid Rise	8291	2.5	20,728	18,655	3,731	
26	2	Urban Core -	Mid Rise	11154	2.5	27,885	25,097	5,019	
27	2	Urban Core -	Mid Rise	10347	2.5	25,868	23,281	4,656	
31	3	Urban Core -	Mid Rise	12583	2.0	25,165	22,649	13,589	40% office, 20% retail, 40% residential
32	3	Urban Core -	Mid Rise	11627	2.0	23,254	20,928	12,557	
33	3	Urban Core -	Mid Rise	10936	2.0	21,871	19,684	11,810	
34	3	Urban Core -	Mid Rise	8458	2.0	16,916	15,224	9,134	
35	3	Urban Core -	Mid Rise	10540	2.0	21,080	18,972	11,383	
36	3	Urban Core -	Mid Rise	8219	2.0	16,438	14,794	8,877	
41	4	Urban Centre	Mid Rise	21424	2.0	42,848	38,564	13,497	25% office, 10% retail, 65% residential
42	4	Urban Core -	Mid Rise	33764	2.5	84,410	75,969	26,589	
43	4	Urban Centre	Mid Rise	17224	2.0	34,448	31,004	10,851	
44	4	Urban Core -	High Rise	59279	3.0	177,837	160,053	56,019	
51	5	Institutional	High Rise	85284	2.5	213,209	149,247	149,247	100% institutional
52	5	Institutional	Mid Rise	80515	2.0	161,030	112,721	112,721	
53	5	Institutional	Mid Rise	22013	2.0	44,026	30,818	30,818	

Office (SF)		Retail (SF)		Residential Units	
All Seniors Care Centre - Background					
53,780.80		23,048.87		191.90	
34,253.88	213,831.42	14,680.25	91,642.00	122.22	763.0
59,749.71		25,607.02		213.20	
66,047.03		28,305.86		235.67	
5,685.93		5,685.93		284.04	
5,398.75	22,813.68	5,398.75	22,813.68	269.69	1,139.7
6,205.61		6,205.61		310.00	
5,523.39		5,523.39		275.92	
4,016.02		4,016.02		200.62	
5,402.73	14,430.64	5,402.73	14,430.64	269.89	721
5,011.89		5,011.89		250.37	
58,508.96	112,573.50	29,254.48	56,286.75	121.78	234
54,064.54		27,032.27		112.53	
50,850.87		25,425.43		105.84	
39,329.07	177,408.73	19,664.48	88,704.20	81.86	369
49,010.13		24,505.01		102.01	
38,218.66		19,109.28		79.55	
36,320.77		14,528.37		336.96	
71,550.83	137,072.15	28,620.38	54,828.99	663.80	1,272
29,200.55		11,680.24		270.90	
Oakville Green - Background					
Oakville Trafalgar Memorial Hospital - Existing					
Oakville Trafalgar Memorial Hospital - Existing					
Erin Oak Kids Hospital - Existing					

PARCEL ID
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MIXED-USE THRESHOLDS

Precinct #	Precinct Name	Non-Res	Res
1	Office-Focused	50%	50%
2	Transitional	20%	80%
3	Complementary	60%	40%
4	Innovation	35%	65%
5	Institutional	100%	

TOTAL TRIP GENERATION

Parcel	Units/Size			AM			PM			SAT		
				In	Out	Total	In	Out	Total	In	Out	Total
11		Base		13	24	36	25	21	46	38	24	62
		Non-Auto Reduction	27%	3	6	10	7	6	12	10	6	17
		Internal Reduction		0	0	0	0	0	0	0	0	0
		Sub-Total		*9*	*17*	*26*	*18*	*15*	*34*	*28*	*17*	*45*
12, 13, 14, 15		Base		314	250	564	395	500	895	436	417	853
		Non-Auto Reduction	27%	85	68	152	107	135	242	118	113	230
		Internal Reduction	50%	19	12	31	61	66	127	78	72	151
		Sub-Total		*210*	*171*	*381*	*227*	*299*	*526*	*240*	*232*	*472*
21, 22, 23, 24		Base		151	290	441	326	247	573	298	302	600
		Non-Auto Reduction	27%	41	78	119	88	67	155	80	82	162
		Internal Reduction	50%	5	3	8	15	16	32	19	18	37
		Sub-Total		*105*	*209*	*314*	*222*	*164*	*387*	*196*	*203*	*401*
25, 26, 27		Base		105	186	291	209	159	368	190	193	382
		Non-Auto Reduction	27%	28	50	79	57	43	99	51	52	103
		Internal Reduction	50%	3	2	5	10	10	20	12	11	24
		Sub-Total		*73*	*134*	*207*	*143*	*106*	*249*	*126*	*129*	*255*
31, 32, 33, 34, 35, 36		Base		394	241	635	467	647	1114	550	517	1066
		Non-Auto Reduction	27%	106	65	171	126	175	301	148	139	288
		Internal Reduction	50%	31	19	50	97	105	202	124	114	238
		Sub-Total		*256*	*157*	*414*	*244*	*368*	*612*	*278*	*263*	*540*
41, 42, 43		Base		342	374	716	489	543	1032	577	535	1112
		Non-Auto Reduction	27%	92	101	193	132	147	279	156	144	300
		Internal Reduction	50%	12	7	19	37	40	76	47	43	90
		Sub-Total		*238*	*266*	*504*	*320*	*356*	*677*	*374*	*347*	*721*
44		Base		867	223	1090	377	1078	1455	842	650	1492
		Non-Auto Reduction	27%	234	60	294	102	291	393	227	176	403
		Internal Reduction										
		Sub-Total		*633*	*163*	*796*	*275*	*787*	*1062*	*615*	*475*	*1090*
		TOTAL		***1525***	***1116***	***2641***	***1451***	***2094***	***3546***	***1859***	***1666***	***3525***

					T=0.94(X)+26.49			Ln(T)=0.95Ln(X)+0.36			0.53		
					0.86	0.14		0.16	0.84		0.54	0.46	
					AM			PM			SAT		
Land Use	Parcel	Units/Size			In	Out	Total	In	Out	Total	In	Out	Total
Office			Base										
	11	0	Non-Auto Reduction	27%									
			Sub-Total		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
LUC 710			Base		196	32	227	38	197	234	61	52	113
	12, 13, 14, 15	213,831.42	Non-Auto Reduction	27%	53	9	61	10	53	63	17	14	31
			Sub-Total		*143*	*23*	*166*	*27*	*144*	*171*	*45*	*38*	*83*
LUC 710			Base		41	7	48	4	23	28	7	6	12
	21, 22, 23, 24	22,813.68	Non-Auto Reduction	27%	11	2	13	1	6	8	2	2	3
			Sub-Total		*30*	*5*	*35*	*3*	*17*	*20*	*5*	*4*	*9*
LUC 710			Base		34	6	40	3	15	18	4	4	8
	25, 26, 27	14,430.64	Non-Auto Reduction	27%	9	2	11	1	4	5	1	1	2
			Sub-Total		*25*	*4*	*29*	*2*	*11*	*13*	*3*	*3*	*6*
LUC 710	31, 32,		Base		257	42	299	50	263	313	83	71	154
	33, 34,	289,982.23	Non-Auto Reduction	27%	69	11	81	14	71	85	22	19	41
	35, 36		*Sub-Total*		*188*	*31*	*218*	*37*	*192*	*229*	*61*	*52*	*112*
LUC 710			Base		78	13	91	13	67	80	20	17	36
	41, 42, 43	68,536.08	Non-Auto Reduction	27%	21	3	25	3	18	21	5	5	10
			Sub-Total		*57*	*9*	*66*	*9*	*49*	*58*	*14*	*12*	*27*
LUC 720			Base		124	35	160	66	169	234	164	124	288
	41, 42, 43	68,536.08	Non-Auto Reduction	27%	34	9	43	18	46	63	44	33	78
			Sub-Total		*91*	*26*	*116*	*48*	*123*	*171*	*120*	*90*	*210*
			Base										
	44	0	Non-Auto Reduction	27%									
			Sub-Total		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
			TOTAL		***534***	***98***	***631***	***127***	***536***	***662***	***247***	***199***	***446***

Potential that a portion of these trips be reduced due to residents living within the Hospital District

assumed half general office, half medical office

					0.94			3.81			4.5			
					0.62	0.38		0.48	0.52		0.52	0.48		
						AM			PM			SAT		
Land Use	Parcel	Units/Size			In	Out	Total	In	Out	Total	In	Out	Total	
Retail	11	0	Base											Ancilliary to Hospital District
			Non-Auto Reduction	27%										
			Internal Reduction											
			Sub-Total											
LUC 820	12, 13, 14, 15	91,642.00	Base		53	33	86	168	182	349	214	198	412	
			Non-Auto Reduction	27%	14	9	23	45	49	94	58	53	111	
			Internal Reduction	50%	19	12	31	61	66	127	78	72	151	
			Sub-Total		*19*	*12*	*31*	*61*	*66*	*127*	*78*	*72*	*151*	
LUC 820	21, 22, 23, 24	22,813.68	Base		13	8	21	42	45	87	53	49	103	
			Non-Auto Reduction	27%	4	2	6	11	12	23	14	13	28	
			Internal Reduction	50%	5	3	8	15	16	32	19	18	37	
			Sub-Total		*5*	*3*	*8*	*15*	*16*	*32*	*19*	*18*	*37*	
LUC 820	25, 26, 27	14,430.64	Base		8	5	14	26	29	55	34	31	65	
			Non-Auto Reduction	27%	2	1	4	7	8	15	9	8	18	
			Internal Reduction	50%	3	2	5	10	10	20	12	11	24	
			Sub-Total		*3*	*2*	*5*	*10*	*10*	*20*	*12*	*11*	*24*	
LUC 820	31, 32, 33, 34, 35, 36	144,990.95	Base		85	52	136	265	287	552	339	313	652	
			Non-Auto Reduction	27%	23	14	37	72	78	149	92	85	176	
			Internal Reduction	50%	31	19	50	97	105	202	124	114	238	
			Sub-Total		*31*	*19*	*50*	*97*	*105*	*202*	*124*	*114*	*238*	
LUC 820	41, 42, 43	54,828.99	Base		32	20	52	100	109	209	128	118	247	Oakville Green - Remaining Phases
			Non-Auto Reduction	27%	9	5	14	27	29	56	35	32	67	
			Internal Reduction	50%	12	7	19	37	40	76	47	43	90	
			Sub-Total		*12*	*7*	*19*	*37*	*40*	*76*	*47*	*43*	*90*	
	44	0	Base											Oakville Green - Phase 1
			Non-Auto Reduction	27%										
			Internal Reduction											
			Sub-Total											
			TOTAL		***70***	***43***	***113***	***219***	***238***	***457***	***281***	***259***	***540***	

					Ln(T)=0.98Ln(X)-0.98			Ln(T)=0.96Ln(X)-0.63			T = 0.42(X) + 6.73			
					0.26	0.74		0.61	0.39		0.49	0.51		
						AM			PM			SAT		
Land Use	Parcel	Units/Size			In	Out	Total	In	Out	Total	In	Out	Total	
Residential			Base											ASC
	11		Non-Auto Reduction	27%										182 Units - LUC 230 (9th Ed. Utilized in report)
			Sub-Total											
LUC 221			Base		65	186	251	190	122	312	160	167	327	Multifamily Housing (Mid-Rise)
	12, 13, 14, 15	763	Non-Auto Reduction	27%	18	50	68	51	33	84	43	45	88	
			Sub-Total		*48*	*135*	*183*	*139*	*89*	*227*	*117*	*122*	*239*	
LUC 221			Base		97	275	372	279	179	458	238	248	485	
	21, 22, 23, 24	1,140	Non-Auto Reduction	27%	26	74	100	75	48	124	64	67	131	
			Sub-Total		*71*	*201*	*271*	*204*	*130*	*334*	*174*	*181*	*354*	
LUC 221			Base		62	176	237	180	115	295	152	158	310	
	25, 26, 27	721	Non-Auto Reduction	27%	17	47	64	49	31	80	41	43	84	
			Sub-Total		*45*	*128*	*173*	*131*	*84*	*215*	*111*	*115*	*226*	
LUC 221	31, 32,		Base		52	147	199	152	97	249	128	133	260	
	33, 34,	604	Non-Auto Reduction	27%	14	40	54	41	26	67	34	36	70	
	35, 36		*Sub-Total*		*38*	*108*	*145*	*111*	*71*	*182*	*93*	*97*	*190*	
LUC 221			Base		108	306	414	310	198	509	265	276	541	Oakville Green - Remaining Phases
	41, 42, 43	1,272	Non-Auto Reduction	27%	29	83	112	84	54	137	72	74	146	
			Sub-Total		*79*	*223*	*302*	*227*	*145*	*371*	*193*	*201*	*395*	
			Base											Oakville Green - Phase 1
	44		Non-Auto Reduction	27%										LUC 252
			Sub-Total											
			TOTAL		***279***	***795***	***1075***	***812***	***519***	***1330***	***688***	***716***	***1404***	

ASC - All Seniors Care

Land Use	Parcel	Units/Size			AM			PM			SAT		
					In	Out	Total	In	Out	Total	In	Out	Total
LUC 252			Base		13	24	36	25	21	46	38	24	62
EQ	11	182	Non-Auto Reduction	27%	3	6	10	7	6	12	10	6	17
			Sub-Total		*9*	*17*	*26*	*18*	*15*	*34*	*28*	*17*	*45*
			TOTAL		***9***	***17***	***26***	***18***	***15***	***34***	***28***	***17***	***45***

Oakville Green - Phase 1

Land Use	Parcel	Units/Size			AM			PM			SAT		
					In	Out	Total	In	Out	Total	In	Out	Total
LUC 252			Base		6	10	16	12	10	22	16	10	26
EQ	44	80	Non-Auto Reduction	27%	2	3	4	3	3	6	4	3	7
			Sub-Total		*4*	*7*	*12*	*9*	*7*	*16*	*12*	*7*	*19*
LUC 710			Base		451	73	524	89	466	555	152	129	281
	44	530000	Non-Auto Reduction	27%	122	20	141	24	126	150	41	35	76
			Sub-Total		*329*	*53*	*383*	*65*	*340*	*405*	*111*	*94*	*205*
LUC 310			Base		59	41	100	67	64	131	84	66	149
	44	210	Non-Auto Reduction	27%	16	11	27	18	17	35	23	18	40
			Sub-Total		*43*	*30*	*73*	*49*	*47*	*96*	*61*	*48*	*109*
LUC 720			Base		351	99	450	209	538	747	591	445	1036
	44	220000	Non-Auto Reduction	27%	95	27	122	56	145	202	159	120	280
			Sub-Total		*256*	*72*	*329*	*153*	*393*	*545*	*431*	*325*	*756*
			TOTAL		***633***	***163***	***796***	***275***	***787***	***1062***	***615***	***475***	***1090***

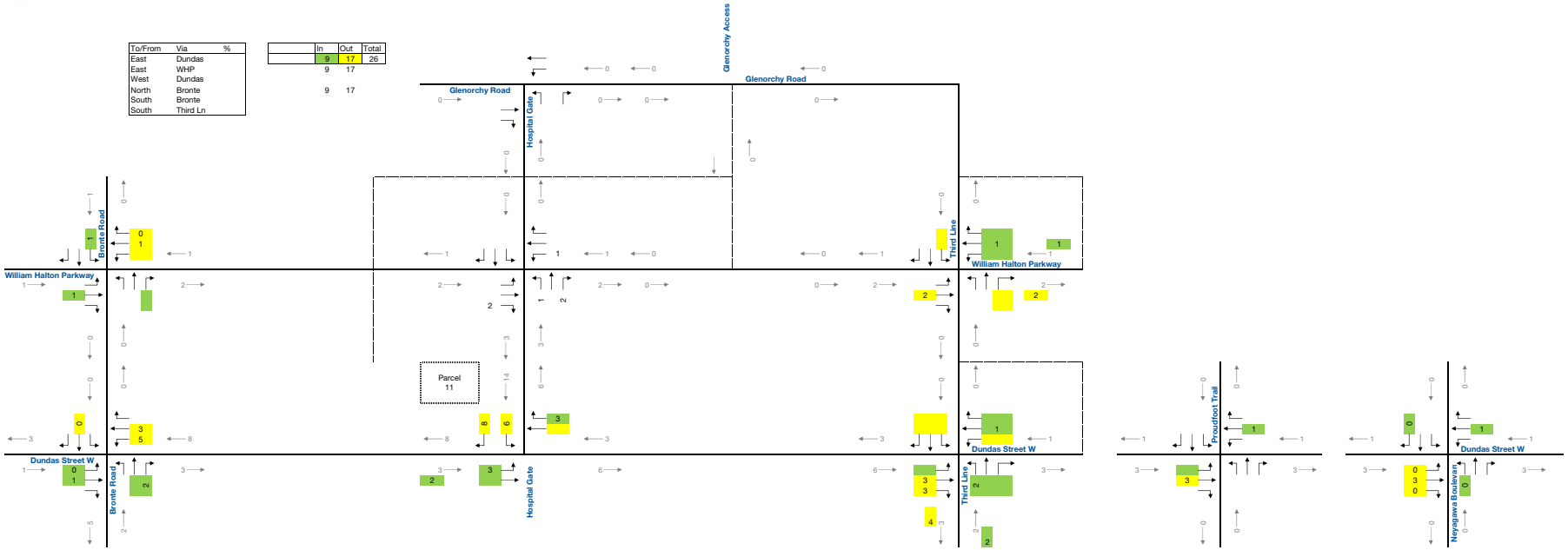
Appendix G

Development Parcel Site Traffic Assignments

Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
AM Parcel 11

To/From	Via	%
East	Dundas	
East	WHP	
West	Dundas	
North	Bronte	
South	Bronte	
South	Third Ln	

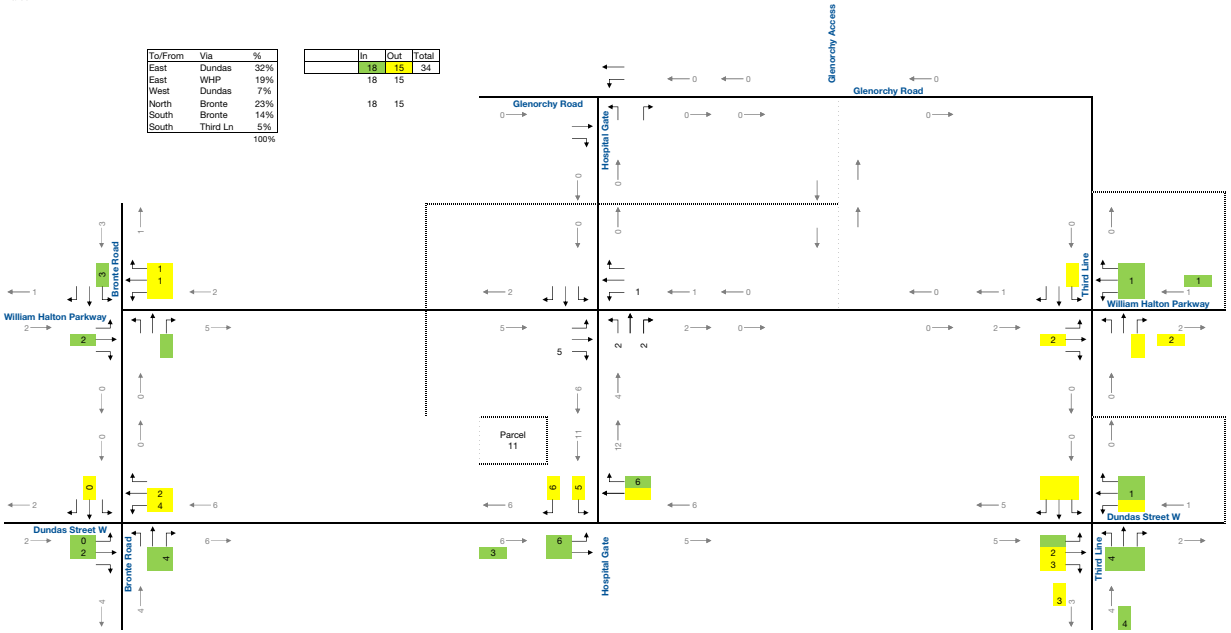
	In	Out	Total
	9	17	26
	9	17	
	9	17	

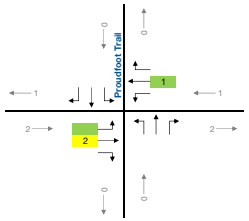


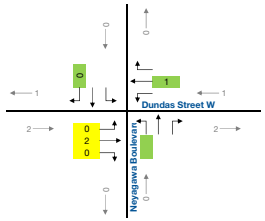
Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
PM Parcel 11

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	18	15	34
	18	15	
	18	15	





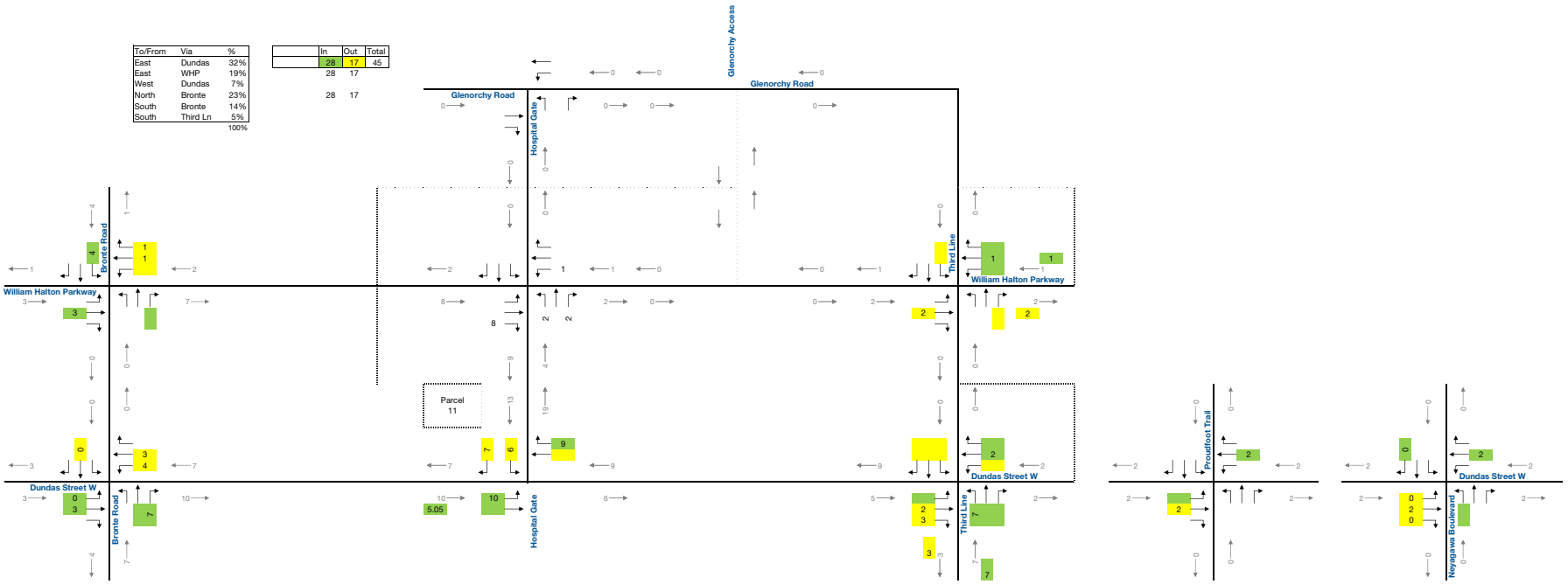


Site Traffic Distribution Percentages (PER OAKVILLE GREEN)

SAT

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

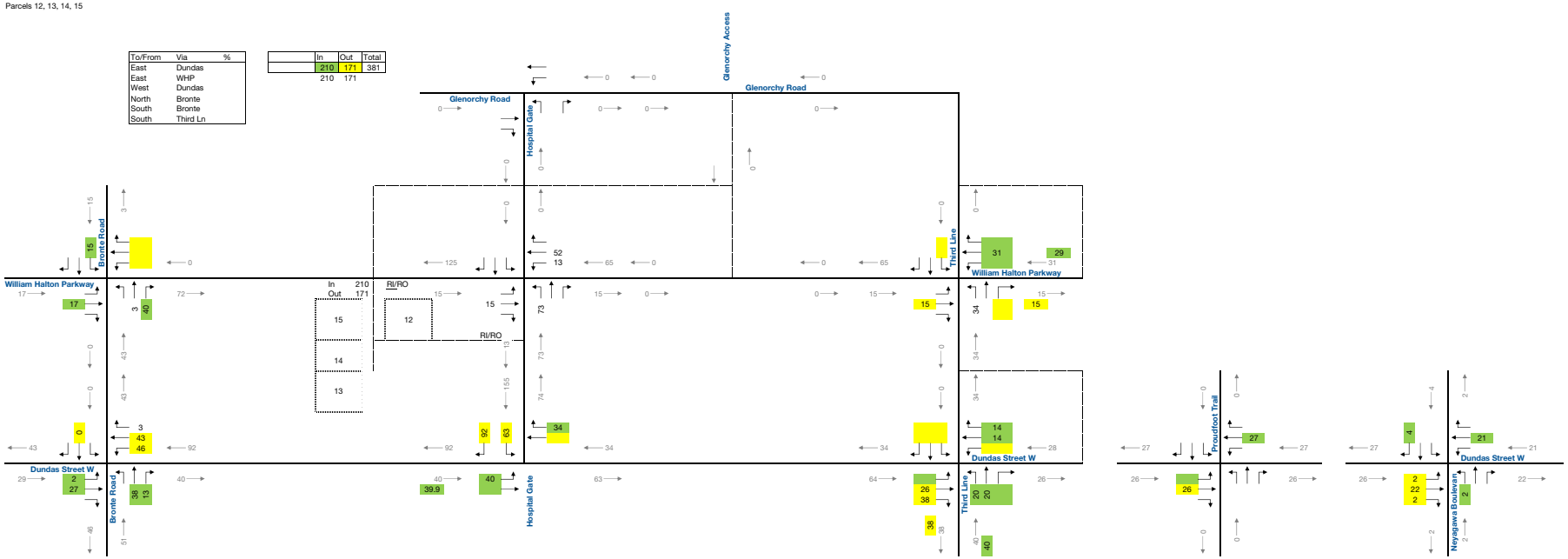
	In	Out	Total
	28	17	45
	28	17	
	28	17	



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
AM Parcels 12, 13, 14, 15

To/From	Via	%
East	Dundas	
East	WHP	
West	Dundas	
North	Bronte	
South	Bronte	
South	Third Ln	

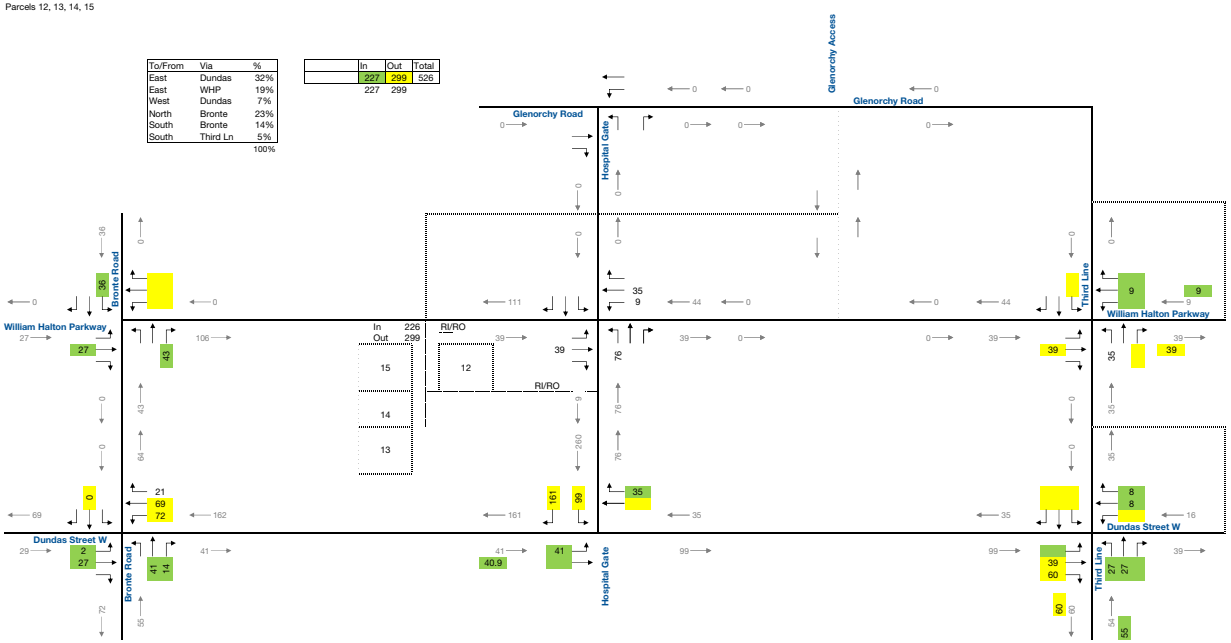
	In	Out	Total
	210	171	381
	210	171	

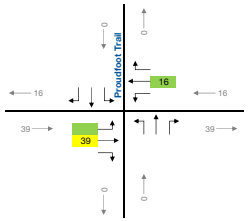


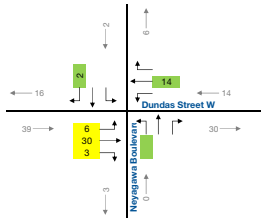
Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
PM Parcels 12, 13, 14, 15

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	227	299	526
	227	299	





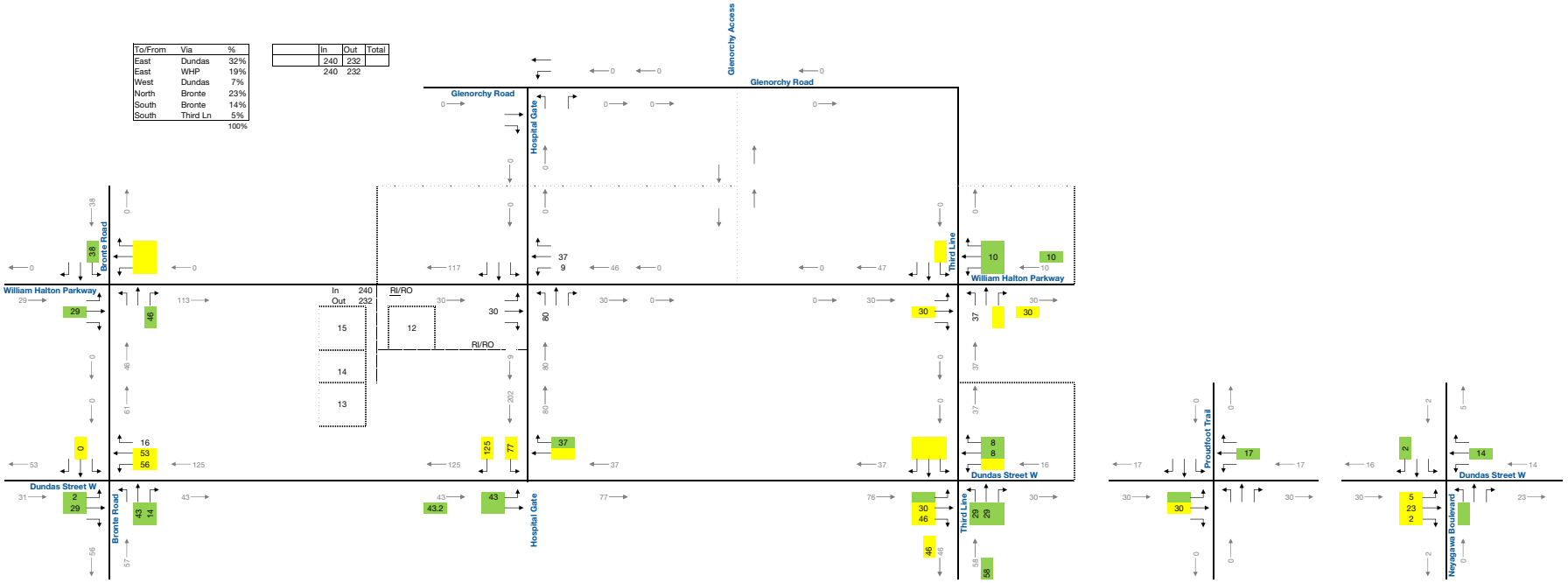


Site Traffic Distribution Percentages (PER OAKVILLE GREEN)

SAT Parcels 12, 13, 14, 15

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

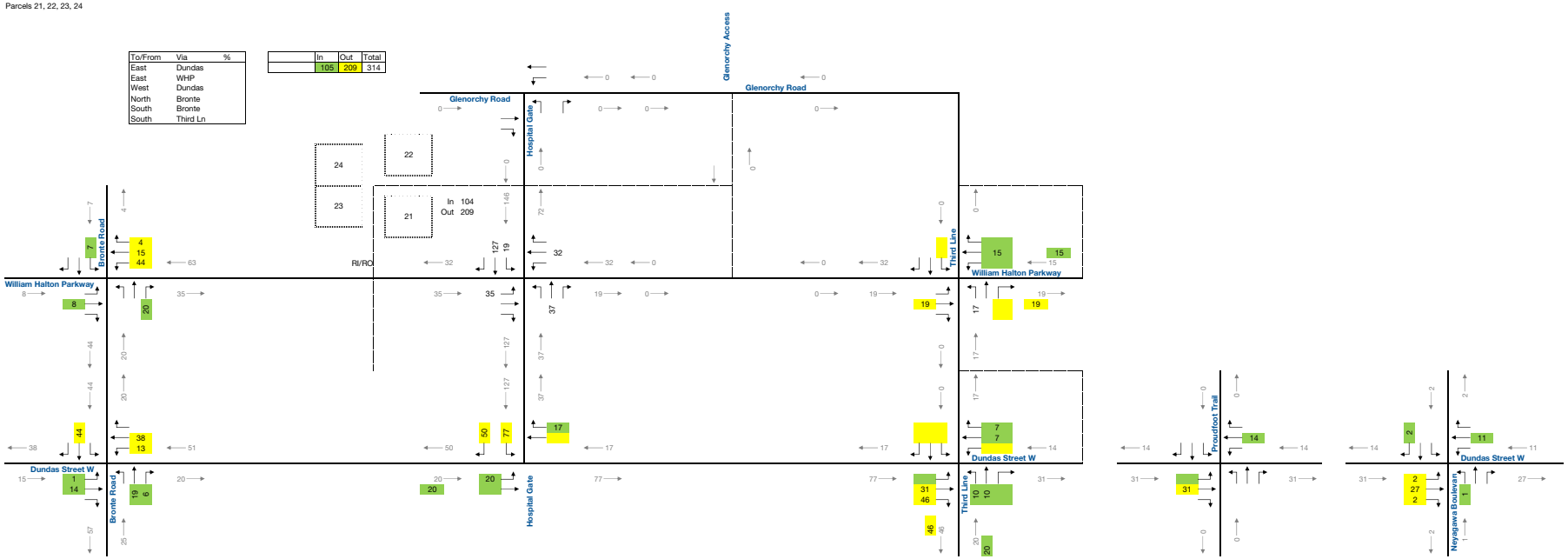
	In	Out	Total
	240	232	
	240	232	



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
AM Parcels 21, 22, 23, 24

To/From	Via	%
East	Dundas	
East	WHP	
West	Dundas	
North	Bronte	
South	Bronte	
South	Third Ln	

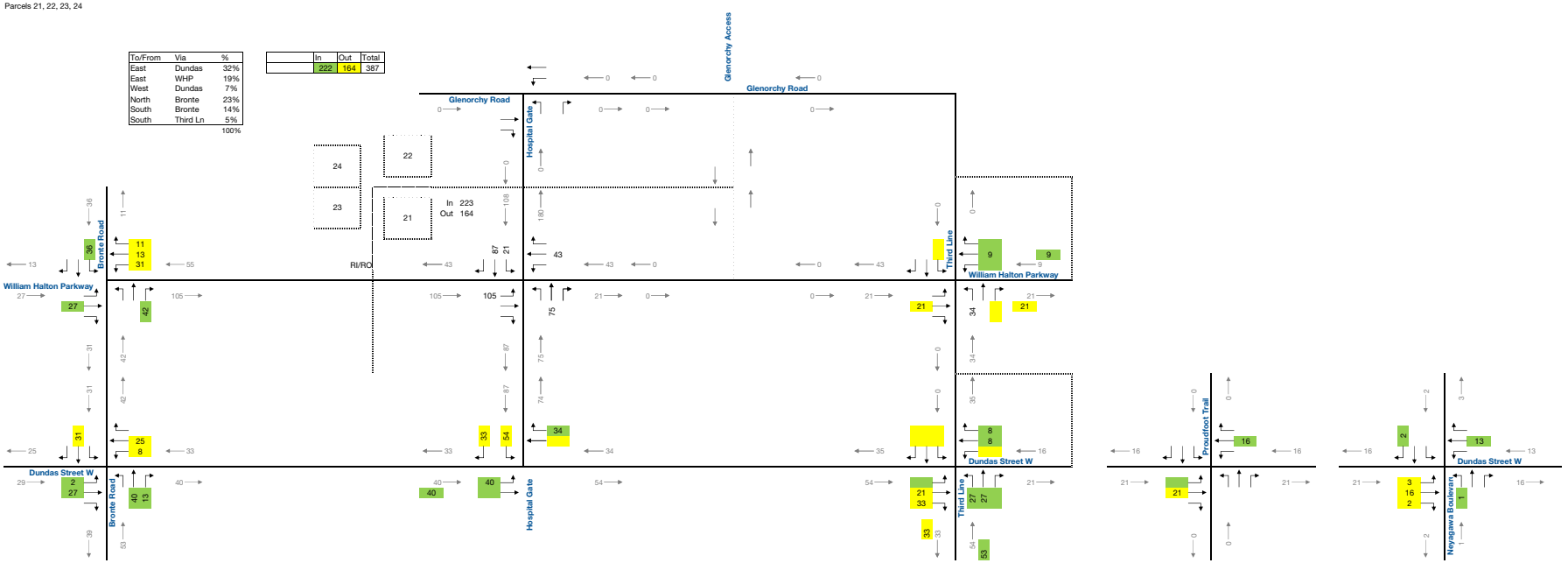
	In	Out	Total
	105	209	314



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
PM Parcels 21, 22, 23, 24

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	222	164	387

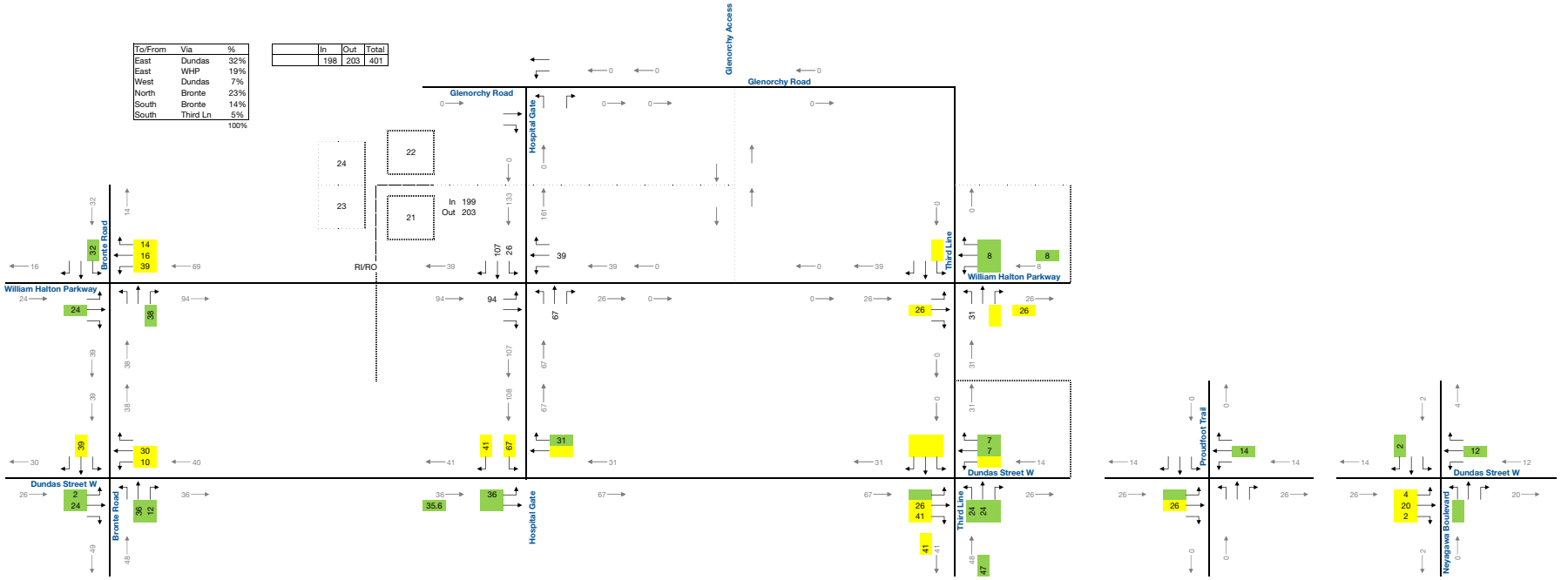


Site Traffic Distribution Percentages (PER OAKVILLE GREEN)

SAT Parcels 21, 22, 23, 24

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	198	203	401

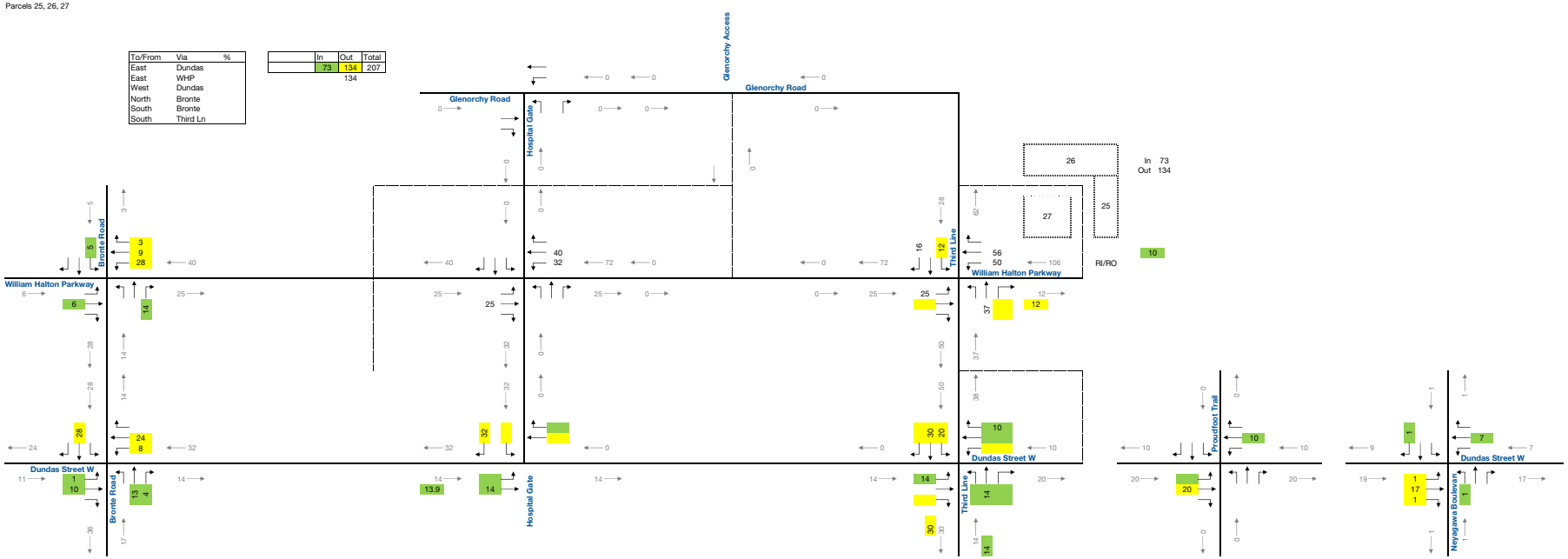


Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
AM Parcels 25, 26, 27

To/From	Via	%
East	Dundas	
East	WHP	
West	Dundas	
North	Bronte	
South	Bronte	
South	Third Ln	

	In	Out	Total
	73	134	207

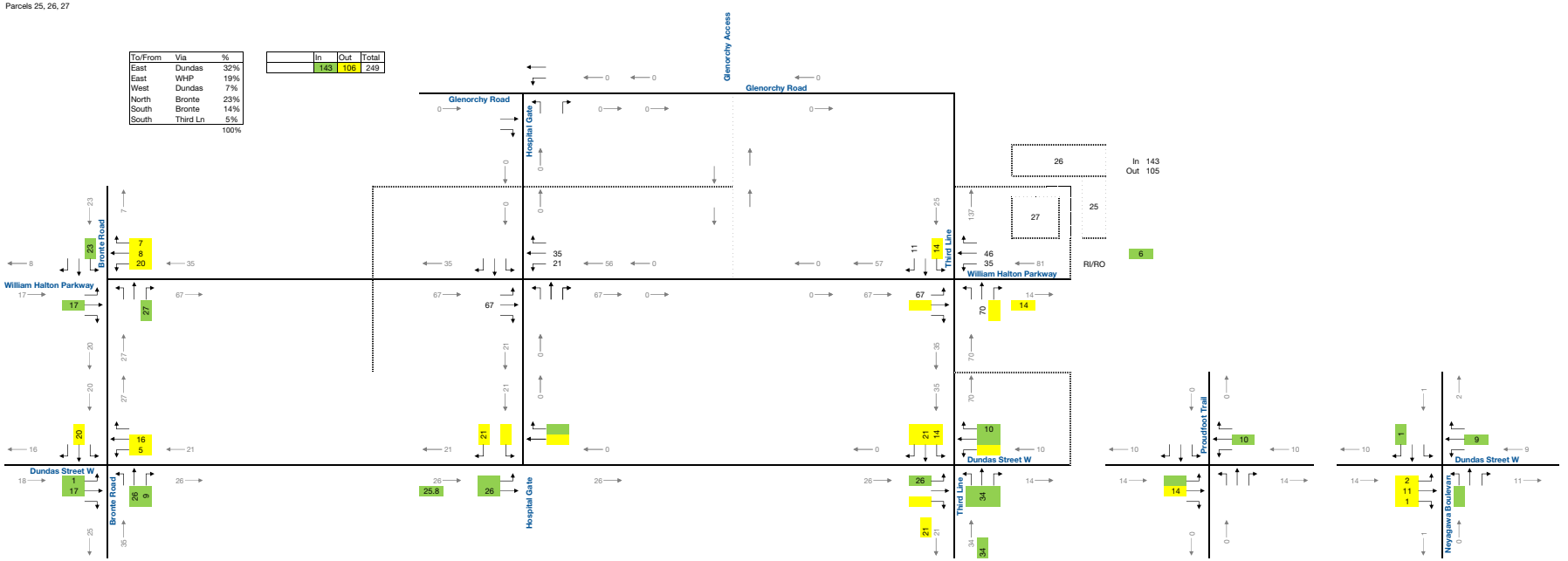
134



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
PM Parcels 25, 26, 27

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	143	106	249

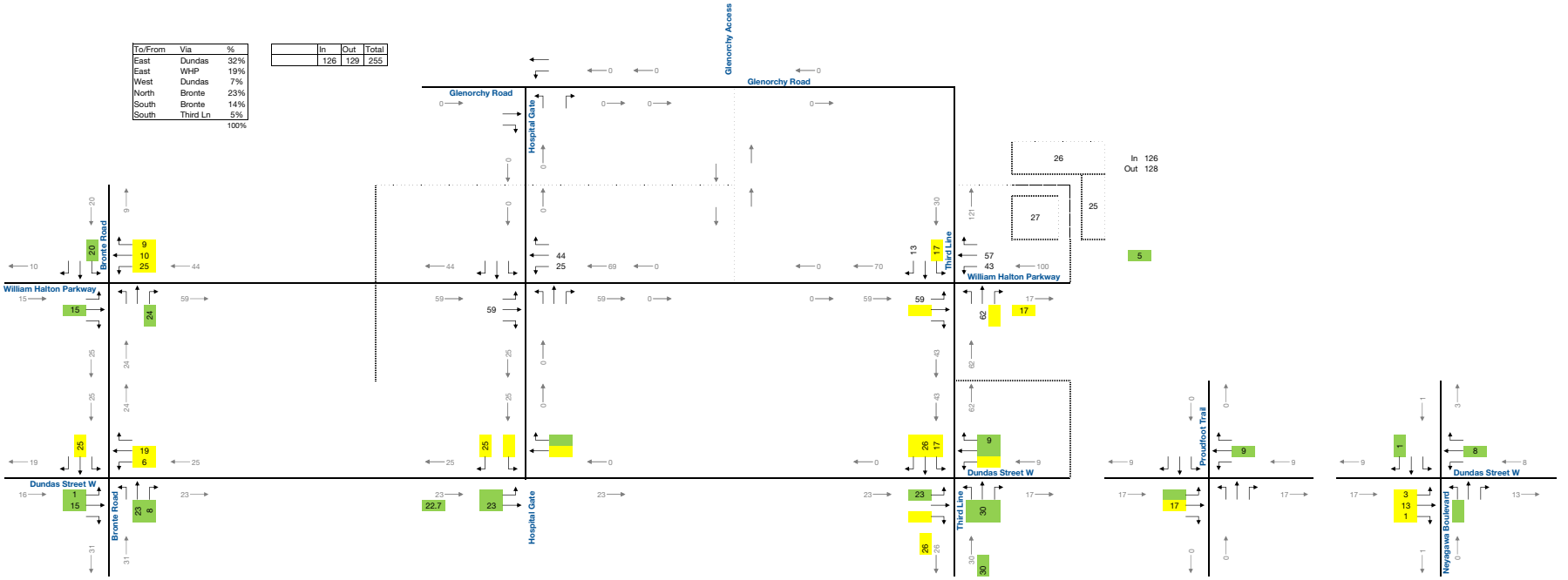


Site Traffic Distribution Percentages (PER OAKVILLE GREEN)

SAT Parcels 25, 26, 27

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

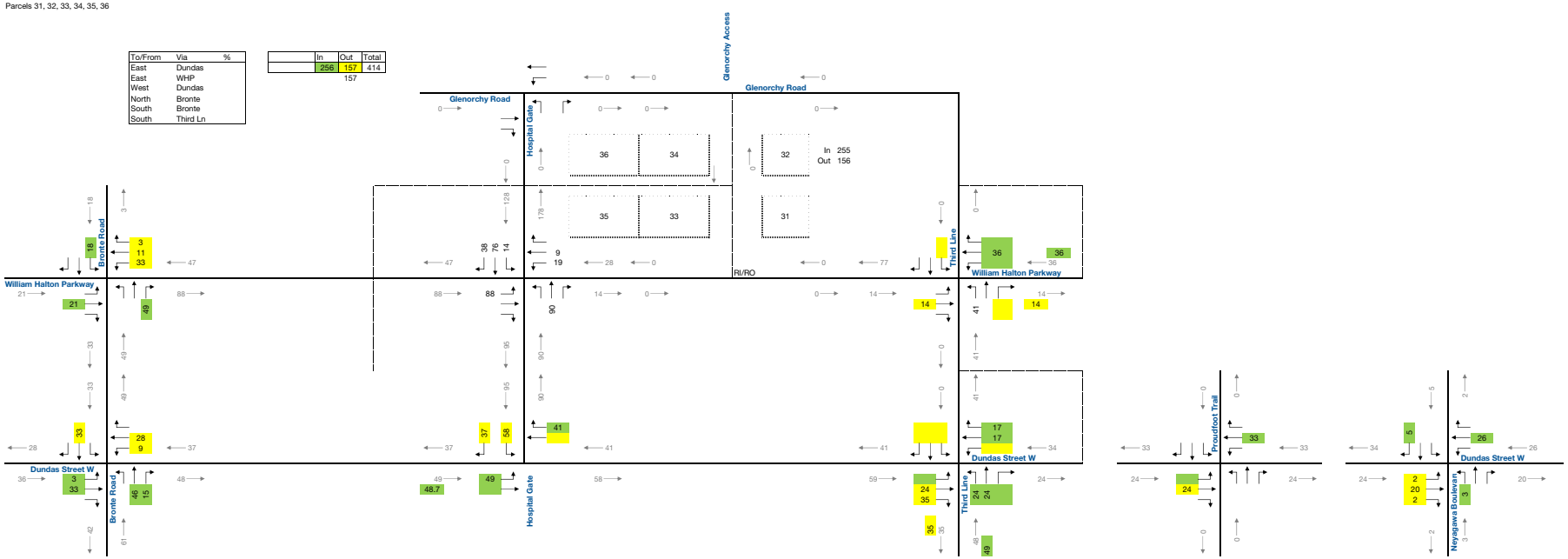
	In	Out	Total
	126	129	255



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
AM Parcels 31, 32, 33, 34, 35, 36

To/From	Via	%
East	Dundas	
East	WHP	
West	Dundas	
North	Bronte	
South	Bronte	
South	Third Ln	

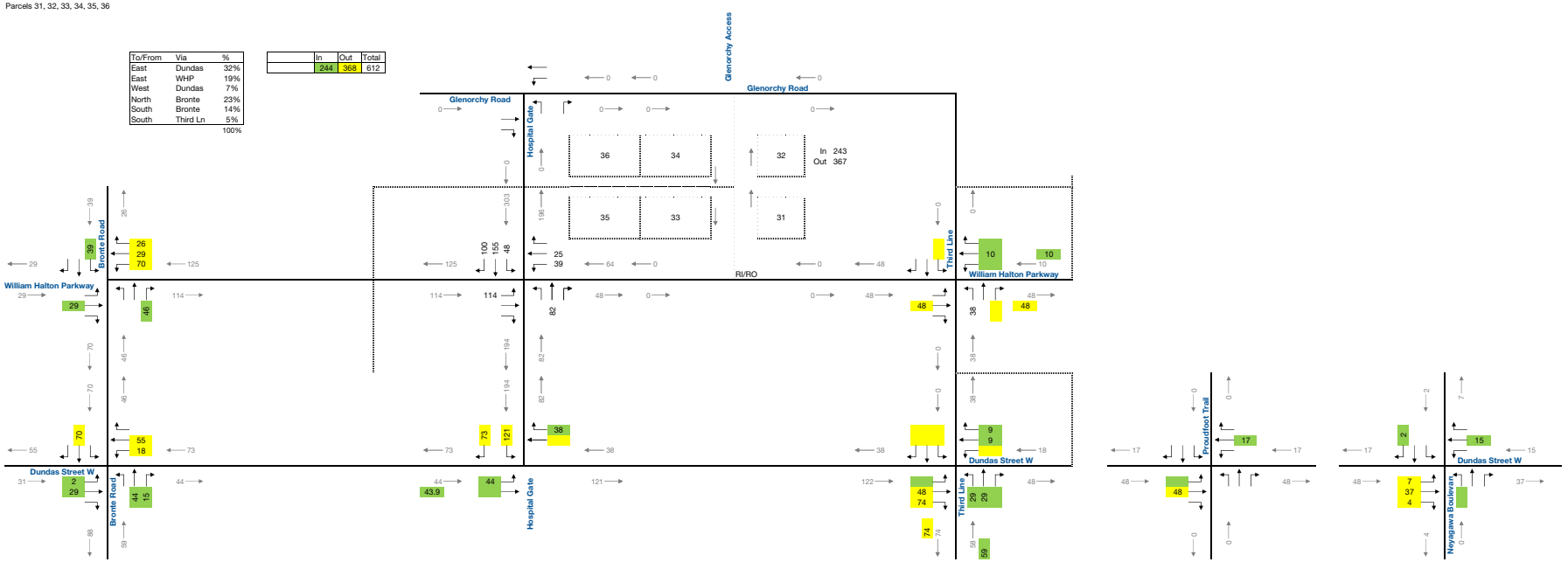
	In	Out	Total
	256	157	414
	157		



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
PM Parcels 31, 32, 33, 34, 35, 36

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	244	368	612

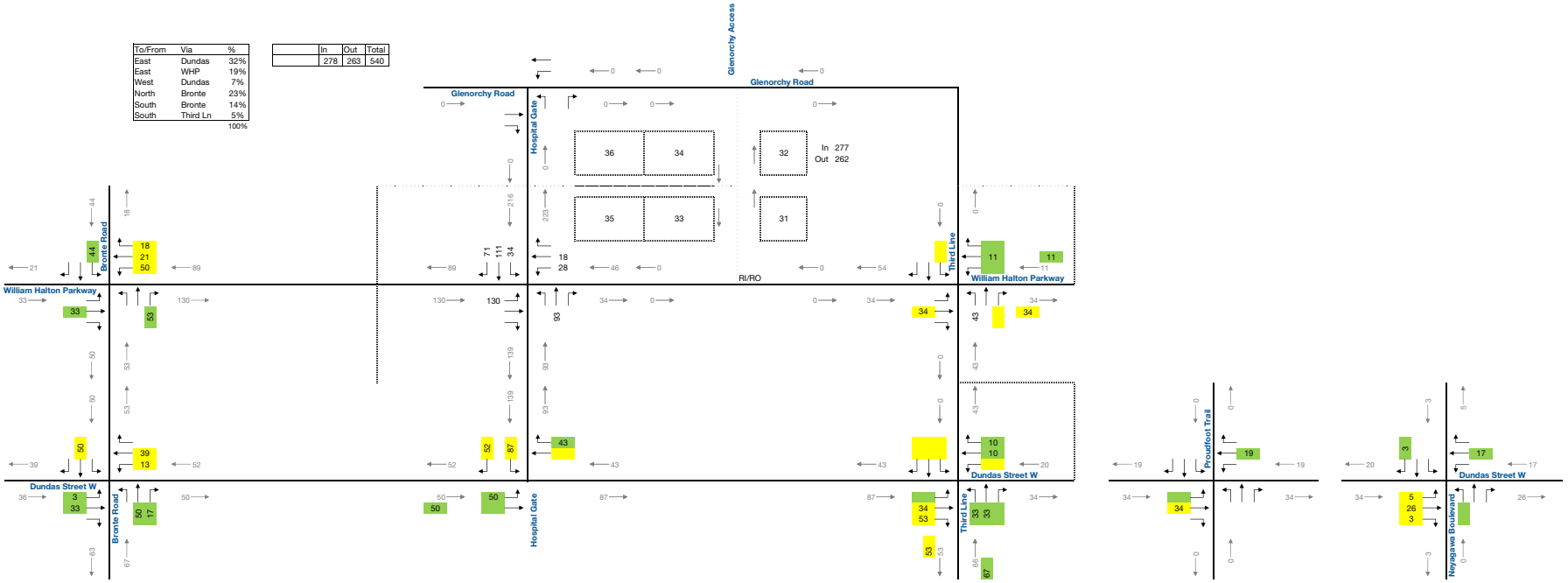


Site Traffic Distribution Percentages (PER OAKVILLE GREEN)

SAT Parcels 31, 32, 33, 34, 35, 36

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

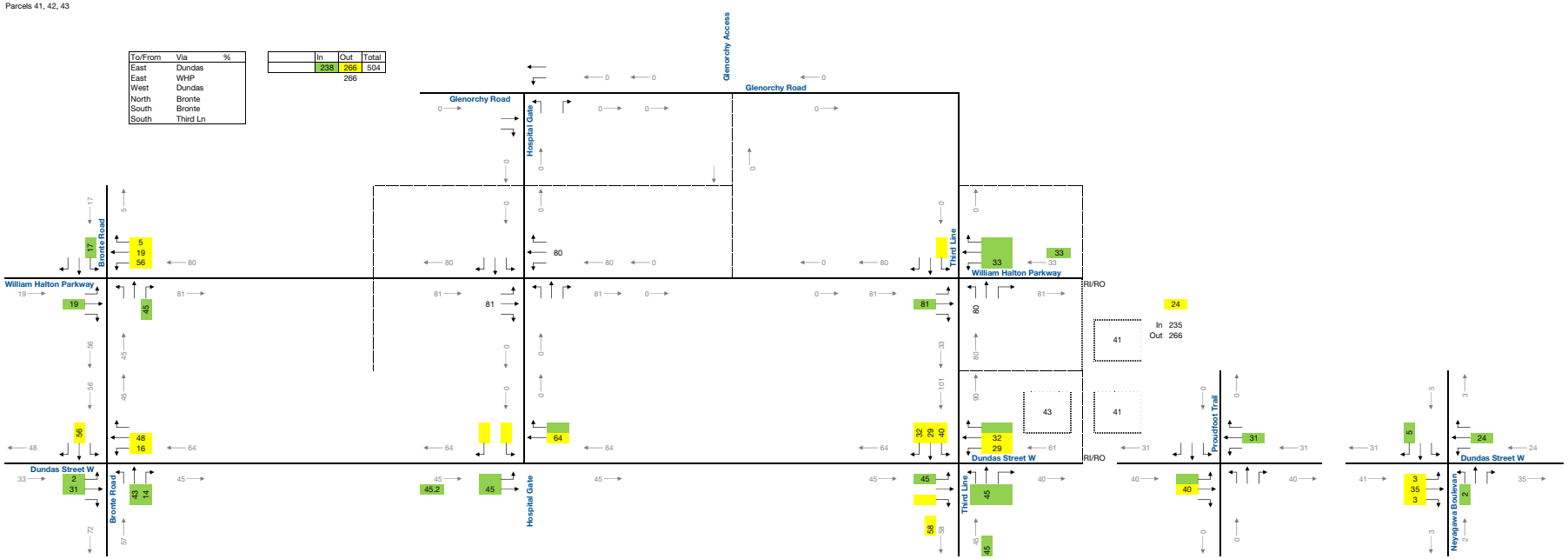
	In	Out	Total
	278	263	540



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
AM Parcels 41, 42, 43

To/From	Via	%
East	Dundas	
East	WHP	
West	Dundas	
North	Bronte	
South	Bronte	
South	Third Ln	

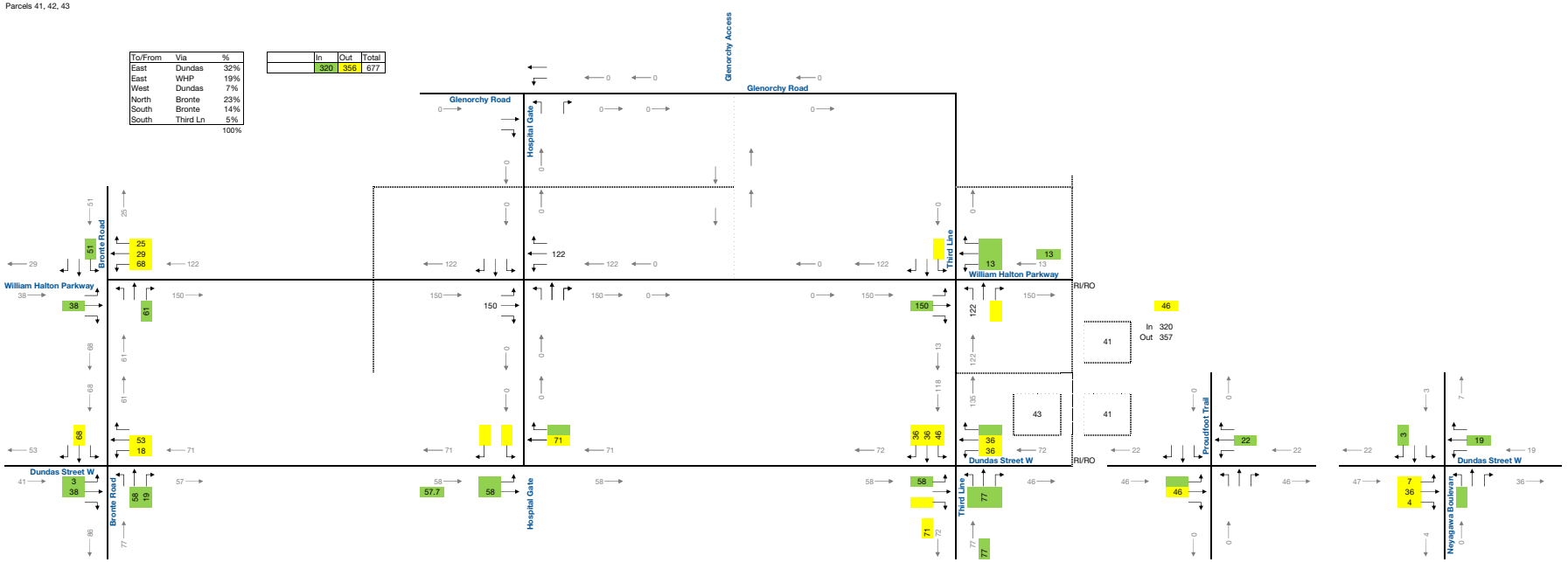
	In	Out	Total
	238	266	504
	266		



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
PM Parcels 41, 42, 43

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	320	356	677

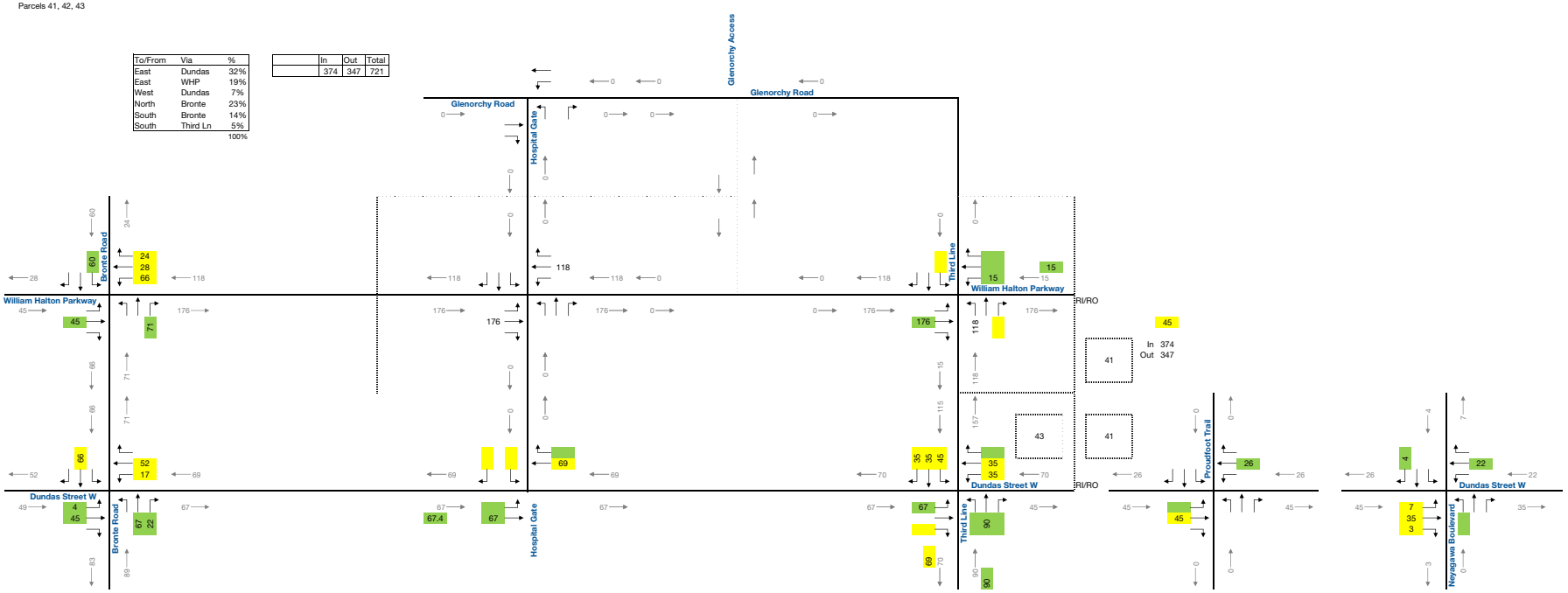


Site Traffic Distribution Percentages (PER OAKVILLE GREEN)

SAT Parcels 41, 42, 43

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

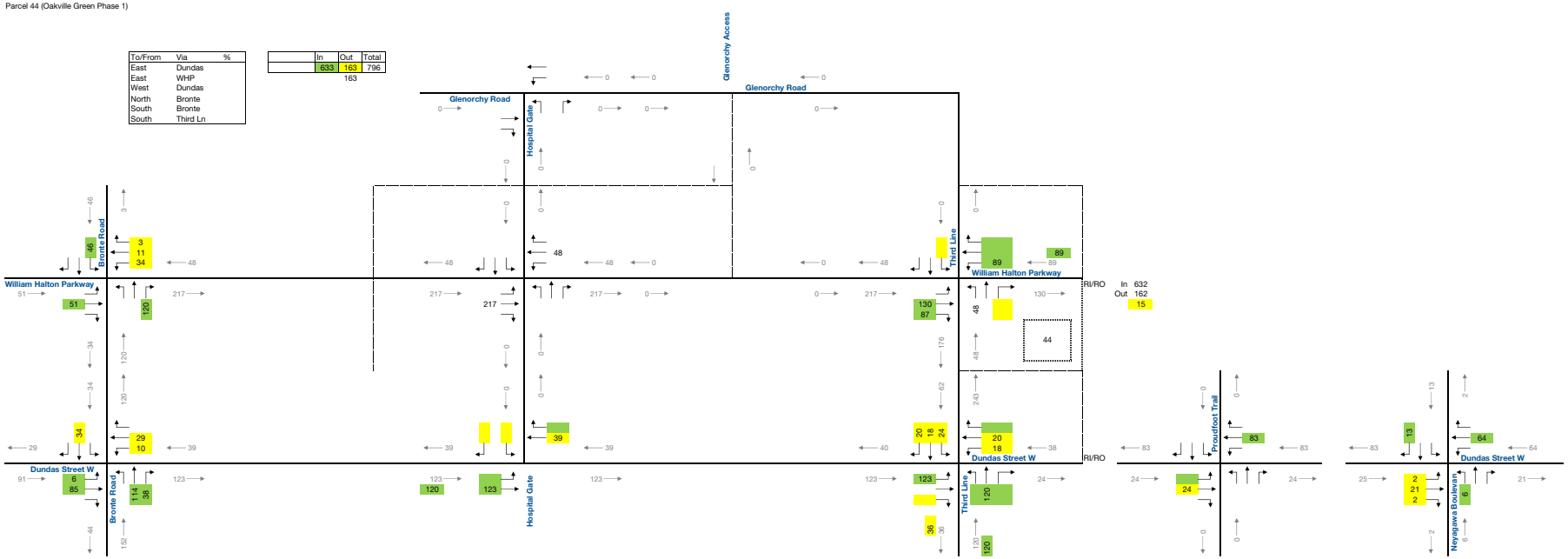
	In	Out	Total
	374	347	721



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
AM Parcel 44 (Oakville Green Phase 1)

To/From	Via	%
East	Dundas	
East	WHP	
West	Dundas	
North	Bronte	
South	Bronte	
South	Third Ln	

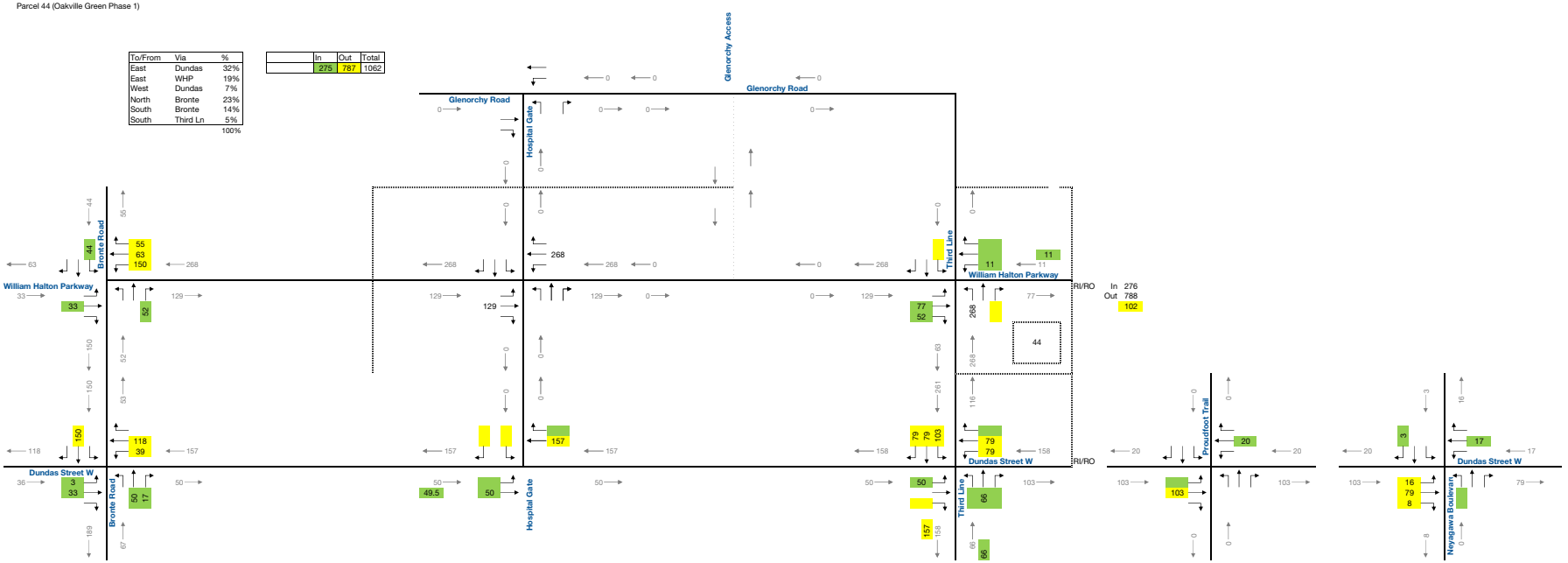
	In	Out	Total
	633	163	796
	163		



Site Traffic Distribution Percentages (PER OAKVILLE GREEN)
PM Parcel 44 (Oakville Green Phase 1)

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	275	787	1062

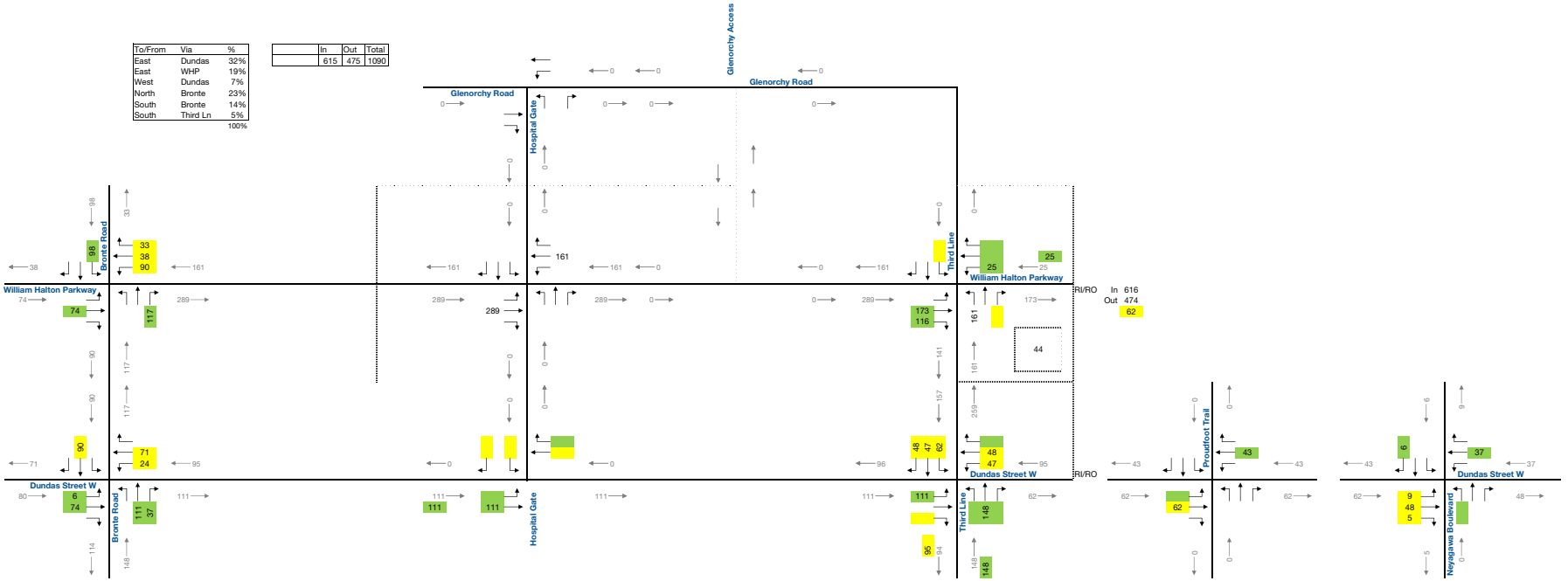


Site Traffic Distribution Percentages (PER OAKVILLE GREEN)

SAT Parcel 44 (Oakville Green Phase 1)

To/From	Via	%
East	Dundas	32%
East	WHP	19%
West	Dundas	7%
North	Bronte	23%
South	Bronte	14%
South	Third Ln	5%
		100%

	In	Out	Total
	615	475	1090



Appendix H

Future Traffic Operations Reports

HCM Signalized Intersection Capacity Analysis — 2031 Future Total - AM
1: Bronte Road & William Halton Parkway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	159	47	202	268	309	202	1844	349	707	1857	68
Future Volume (vph)	18	159	47	202	268	309	202	1844	349	707	1857	68
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	4.9	4.9	4.9	1.0	4.9	4.9	1.5	5.5	5.5	1.0	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3725	1667	3686	3725	1700	1863	5353	1700	3650	5301	1667
Flt Permitted	0.58	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1135	3725	1667	3686	3725	1700	145	5353	1700	3650	5301	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92
Adj. Flow (vph)	19	167	49	213	282	325	213	1941	367	744	1955	74
RTOR Reduction (vph)	0	0	44	0	0	264	0	0	105	0	0	32
Lane Group Flow (vph)	19	167	5	213	282	61	213	1941	262	744	1955	42
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	2%	0%	1%	3%	2%
Turn Type	Perm	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4		4			8	2		2			6
Actuated Green, G (s)	10.7	10.7	10.7	7.0	21.7	21.7	67.3	53.3	53.3	28.6	67.4	67.4
Effective Green, g (s)	11.7	11.7	11.7	10.0	22.7	22.7	73.3	54.3	54.3	31.6	68.4	68.4
Actuated g/C Ratio	0.10	0.10	0.10	0.08	0.19	0.19	0.61	0.45	0.45	0.26	0.57	0.57
Clearance Time (s)	5.9	5.9	5.9	4.0	5.9	5.9	4.5	6.5	6.5	4.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	110	363	162	307	704	321	331	2422	769	961	3021	950
v/s Ratio Prot		0.04		c0.06	c0.08		0.09	c0.36		c0.20	0.37	
v/s Ratio Perm	0.02		0.00			0.04	0.30		0.15			0.03
v/c Ratio	0.17	0.46	0.03	0.69	0.40	0.19	0.64	0.80	0.34	0.77	0.65	0.04
Uniform Delay, d1	49.7	51.2	49.0	53.5	42.7	40.9	24.9	28.2	21.3	40.9	17.6	11.4
Progression Factor	1.00	1.00	1.00	1.07	1.20	3.58	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.9	0.1	6.4	0.4	0.3	4.2	2.9	1.2	3.9	1.1	0.1
Delay (s)	50.5	52.1	49.1	63.7	51.4	147.0	29.1	31.1	22.5	44.8	18.7	11.5
Level of Service	D	D	D	E	D	F	C	C	C	D	B	B
Approach Delay (s)		51.3			92.5			29.7			25.5	
Approach LOS		D			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.9	
Intersection Capacity Utilization	81.6%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — 2031 Future Total - AM
2: Hospital Gate & William Halton Parkway

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	123	830	170	75	723	5	112	127	14	33	203	38
Future Volume (vph)	123	830	170	75	723	5	112	127	14	33	203	38
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.4	5.4		3.0	5.4		5.0	5.0		3.5	3.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3666		1900	3796		1900	3675		1863	3638	
Flt Permitted	0.34	1.00		0.19	1.00		0.48	1.00		0.65	1.00	
Satd. Flow (perm)	667	3666		378	3796		959	3675		1283	3638	
Peak-hour factor, PHF	0.92	0.88	0.88	0.88	0.88	0.92	0.88	0.92	0.88	0.92	0.92	0.92
Adj. Flow (vph)	134	943	193	85	822	5	127	138	16	36	221	41
RTOR Reduction (vph)	0	11	0	0	0	0	0	8	0	0	14	0
Lane Group Flow (vph)	134	1125	0	85	827	0	127	146	0	36	248	0
Heavy Vehicles (%)	2%	1%	1%	0%	0%	2%	0%	2%	0%	2%	2%	2%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	75.2	75.2		85.2	85.2		22.4	22.4		23.9	23.9	
Effective Green, g (s)	76.2	76.2		86.2	86.2		23.4	23.4		24.9	24.9	
Actuated g/C Ratio	0.64	0.64		0.72	0.72		0.19	0.19		0.21	0.21	
Clearance Time (s)	6.4	6.4		4.0	6.4		6.0	6.0		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	423	2327		360	2726		187	716		266	754	
v/s Ratio Prot		c0.31		0.01	c0.22			0.04			0.07	
v/s Ratio Perm	0.20			0.16			c0.13			0.03		
v/c Ratio	0.32	0.48		0.24	0.30		0.68	0.20		0.14	0.33	
Uniform Delay, d1	10.0	11.5		6.9	6.1		44.8	40.5		38.8	40.4	
Progression Factor	1.83	2.06		0.66	0.63		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	0.6		0.3	0.3		9.4	0.1		0.2	0.3	
Delay (s)	19.9	24.4		4.9	4.1		54.2	40.6		39.0	40.7	
Level of Service	B	C		A	A		D	D		D	D	
Approach Delay (s)		23.9			4.2			46.8			40.5	
Approach LOS		C			A			D			D	

Intersection Summary				
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	75.5%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: Third Line & William Halton Parkway

2031 Future Total - AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	339	470	172	462	50	364	67	10	12	6	21
Future Volume (vph)	67	339	470	172	462	50	364	67	10	12	6	21
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.4	5.4	5.4	5.4	5.4	5.4	4.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1898	3800	1700	1900	3800	1676	1900	3728		1900	3352	
Flt Permitted	0.46	1.00	1.00	0.54	1.00	1.00	0.74	1.00		0.70	1.00	
Satd. Flow (perm)	925	3800	1700	1083	3800	1676	1476	3728		1406	3352	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	69	349	485	177	476	52	375	69	10	12	6	22
RTOR Reduction (vph)	0	0	197	0	0	21	0	7	0	0	15	0
Lane Group Flow (vph)	69	349	288	177	476	31	375	72	0	12	13	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)	70.2	70.2	70.2	70.2	70.2	70.2	37.5	37.5		37.5	37.5	
Effective Green, g (s)	71.2	71.2	71.2	71.2	71.2	71.2	38.5	38.5		38.5	38.5	
Actuated g/C Ratio	0.59	0.59	0.59	0.59	0.59	0.59	0.32	0.32		0.32	0.32	
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	548	2254	1008	642	2254	994	473	1196		451	1075	
v/s Ratio Prot		0.09			0.13			0.02			0.00	
v/s Ratio Perm	0.07		c0.17	0.16		0.02	c0.25			0.01		
v/c Ratio	0.13	0.15	0.29	0.28	0.21	0.03	0.79	0.06		0.03	0.01	
Uniform Delay, d1	10.7	10.9	11.9	11.9	11.3	10.1	37.1	28.2		27.9	27.8	
Progression Factor	1.07	0.95	2.79	1.00	1.00	1.00	0.81	0.62		1.00	1.00	
Incremental Delay, d2	0.4	0.1	0.6	1.1	0.2	0.1	7.8	0.0		0.0	0.0	
Delay (s)	11.9	10.5	33.9	12.9	11.6	10.2	37.9	17.5		27.9	27.8	
Level of Service	B	B	C	B	B	B	D	B		C	C	
Approach Delay (s)		23.2			11.8			34.4			27.8	
Approach LOS		C			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.3	
Intersection Capacity Utilization	74.1%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

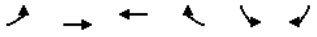
HCM Signalized Intersection Capacity Analysis
4: Bronte Road & Dundas Street W

2031 Future Total - AM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	2083	483	245	1062	341	287	1680	250	277	1575	178
Future Volume (vph)	293	2083	483	245	1062	341	287	1680	250	277	1575	178
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	5.6	5.6	1.0	5.6		1.0	4.8	4.8	1.0	4.8	4.8
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80		0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	4752	1660	1802	4501		3382	5353	1629	3579	5353	1650
Flt Permitted	0.07	1.00	1.00	0.07	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	141	4752	1660	132	4501		3382	5353	1629	3579	5353	1650
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	302	2147	498	253	1095	352	296	1732	258	286	1624	184
RTOR Reduction (vph)	0	0	90	0	36	0	0	0	83	0	0	84
Lane Group Flow (vph)	302	2147	408	253	1411	0	296	1732	175	286	1624	100
Confl. Peds. (#/hr)			2	2					1	1		
Heavy Vehicles (%)	2%	1%	1%	11%	3%	2%	9%	2%	3%	3%	2%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8			4
Actuated Green, G (s)	71.6	57.6	57.6	61.6	51.6		9.0	44.0	44.0	8.0	43.0	43.0
Effective Green, g (s)	74.6	58.6	58.6	67.6	52.6		12.0	45.0	45.0	11.0	44.0	44.0
Actuated g/C Ratio	0.53	0.42	0.42	0.48	0.38		0.09	0.32	0.32	0.08	0.31	0.31
Clearance Time (s)	4.0	6.6	6.6	4.0	6.6		4.0	5.8	5.8	4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	308	1989	694	218	1691		289	1720	523	281	1682	518
v/s Ratio Prot	c0.13	0.45		c0.11	0.31		c0.09	c0.32		0.08	0.30	
v/s Ratio Perm	0.39		0.25	c0.45					0.11			0.06
v/c Ratio	0.98	1.08	0.59	1.16	0.83		1.02	1.01	0.34	1.02	0.97	0.19
Uniform Delay, d1	44.9	40.7	31.4	44.4	39.7		64.0	47.5	36.1	64.5	47.3	35.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	45.8	45.4	3.6	111.1	5.0		59.3	23.4	0.4	58.3	14.5	0.2
Delay (s)	90.7	86.1	35.0	155.4	44.8		123.3	70.9	36.5	122.8	61.8	35.2
Level of Service	F	F	D	F	D		F	E	D	F	E	D
Approach Delay (s)		78.0			61.2			73.8			67.8	
Approach LOS		E			E			E			E	

Intersection Summary				
HCM 2000 Control Delay	71.4	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.08			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	105.0%	ICU Level of Service	G	
Analysis Period (min)	15			

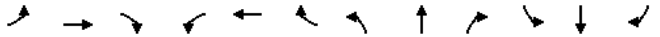
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	327	2394	1560	250	286	273
Future Volume (vph)	327	2394	1560	250	286	273
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	5.1	5.1	5.1	5.8	5.8
Lane Util. Factor	1.00	*0.80	*0.80	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1881	4752	4615	1613	3544	1613
Flt Permitted	0.07	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	136	4752	4615	1613	3544	1613
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	344	2520	1642	263	301	287
RTOR Reduction (vph)	0	0	0	51	0	249
Lane Group Flow (vph)	344	2520	1642	212	301	38
Confl. Peds. (#/hr)	1			1	2	1
Heavy Vehicles (%)	1%	1%	4%	4%	4%	4%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	109.6	109.6	80.9	80.9	17.5	17.5
Effective Green, g (s)	112.6	110.6	81.9	81.9	18.5	18.5
Actuated g/C Ratio	0.80	0.79	0.59	0.59	0.13	0.13
Clearance Time (s)	4.0	6.1	6.1	6.1	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	454	3754	2699	943	468	213
v/s Ratio Prot	c0.15	c0.53	0.36		c0.08	
v/s Ratio Perm	0.46			0.13		0.02
v/c Ratio	0.76	0.67	0.61	0.22	0.64	0.18
Uniform Delay, d1	37.0	6.6	18.7	13.9	57.6	54.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	1.0	1.0	0.6	3.0	0.4
Delay (s)	44.1	7.5	19.7	14.4	60.6	54.4
Level of Service	D	A	B	B	E	D
Approach Delay (s)		11.9	19.0		57.6	
Approach LOS		B	B		E	

Intersection Summary				
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.9	
Intersection Capacity Utilization	67.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	187	1991	425	395	1537	248	356	389	388	311	328	69
Future Volume (vph)	187	1991	425	395	1537	248	356	389	388	311	328	69
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	6.8	6.8	1.0	6.8	6.8	1.0	7.1	7.1	1.0	7.1	7.1
Lane Util. Factor	1.00	*0.80	1.00	0.97	*0.80	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1900	4752	1668	3686	4615	1675	3686	3800	1660	3686	3725	1618
Flt Permitted	0.07	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	138	4752	1668	3686	4615	1675	3686	3800	1660	3686	3725	1618
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	191	2032	434	403	1568	253	363	397	396	317	335	70
RTOR Reduction (vph)	0	0	121	0	0	97	0	0	134	0	0	58
Lane Group Flow (vph)	191	2032	313	403	1568	156	363	397	262	317	335	12
Confl. Peds. (#/hr)	3		7	7		3	14		6	6		14
Heavy Vehicles (%)	0%	1%	0%	0%	4%	0%	0%	0%	0%	0%	2%	1%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6			8			4
Actuated Green, G (s)	65.2	55.0	55.0	11.7	56.5	56.5	10.0	19.4	19.4	10.0	19.4	19.4
Effective Green, g (s)	71.2	56.0	56.0	14.7	57.5	57.5	13.0	20.4	20.4	13.0	20.4	20.4
Actuated g/C Ratio	0.59	0.47	0.47	0.12	0.48	0.48	0.11	0.17	0.17	0.11	0.17	0.17
Clearance Time (s)	4.0	7.8	7.8	4.0	7.8	7.8	4.0	8.1	8.1	4.0	8.1	8.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	275	2217	778	451	2211	802	399	646	282	399	633	275
v/s Ratio Prot	0.08	c0.43		c0.11	0.34		c0.10	0.10		0.09	0.09	
v/s Ratio Perm	0.34		0.19			0.09			c0.16			0.01
v/c Ratio	0.69	0.92	0.40	0.89	0.71	0.19	0.91	0.61	0.93	0.79	0.53	0.04
Uniform Delay, d1	27.1	29.8	21.0	51.9	24.7	18.0	52.9	46.2	49.1	52.2	45.4	41.6
Progression Factor	1.00	1.00	1.00	0.87	1.43	2.63	1.00	1.00	1.00	0.94	1.15	5.48
Incremental Delay, d2	7.4	7.4	1.5	16.2	1.5	0.4	24.0	1.7	34.6	10.0	0.8	0.1
Delay (s)	34.5	37.3	22.6	61.6	36.8	47.6	76.9	47.9	83.6	58.8	53.2	228.2
Level of Service	C	D	C	E	D	D	E	D	F	E	D	F
Approach Delay (s)		34.7			42.5			69.3			72.6	
Approach LOS		C			D			E			E	

Intersection Summary				
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.9	
Intersection Capacity Utilization	86.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	2752	94	73	2170	9	63	5	252	36	5	16
Future Volume (vph)	3	2752	94	73	2170	9	63	5	252	36	5	16
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	4.9	4.9	4.9	3.0	4.9	4.9	5.9	5.9		3.5	3.5	
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	1.00	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	4752	1646	1881	4660	1667	1859	1683		1863	1737	
Flt Permitted	0.05	1.00	1.00	0.05	1.00	1.00	0.74	1.00		0.26	1.00	
Satd. Flow (perm)	97	4752	1646	95	4660	1667	1455	1683		510	1737	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	3	2837	97	75	2237	9	65	5	260	37	5	16
RTOR Reduction (vph)	0	0	24	0	0	2	0	96	0	0	8	0
Lane Group Flow (vph)	3	2837	73	75	2237	7	65	169	0	37	13	0
Confl. Peds. (#/hr)			1	1			1		1			
Heavy Vehicles (%)	2%	1%	1%	1%	3%	2%	2%	2%	0%	2%	2%	2%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)	79.8	79.8	79.8	89.9	89.9	89.9	17.3	17.3		19.7	19.7	
Effective Green, g (s)	80.8	80.8	80.8	90.9	90.9	90.9	18.3	18.3		20.7	20.7	
Actuated g/C Ratio	0.67	0.67	0.67	0.76	0.76	0.76	0.15	0.15		0.17	0.17	
Clearance Time (s)	5.9	5.9	5.9	4.0	5.9	5.9	6.9	6.9		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	65	3199	1108	177	3529	1262	221	256		87	299	
v/s Ratio Prot		c0.60		0.02	c0.48			c0.10			0.01	
v/s Ratio Perm	0.03		0.04	0.30		0.00	0.04			0.07		
v/c Ratio	0.05	0.89	0.07	0.42	0.63	0.01	0.29	0.66		0.43	0.04	
Uniform Delay, d1	6.6	15.9	6.7	28.4	6.8	3.5	45.1	47.9		44.3	41.4	
Progression Factor	0.47	0.61	0.10	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	2.1	0.1	1.6	0.9	0.0	0.7	6.3		3.3	0.1	
Delay (s)	3.8	11.8	0.8	30.1	7.7	3.6	45.9	54.2		47.7	41.4	
Level of Service	A	B	A	C	A	A	D	D		D	D	
Approach Delay (s)		11.5			8.4			52.6			45.4	
Approach LOS		B			A			D			D	

Intersection Summary				
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.83			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.8	
Intersection Capacity Utilization	89.6%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	478	2050	436	178	1565	20	268	595	93	84	435	385
Future Volume (vph)	478	2050	436	178	1565	20	268	595	93	84	435	385
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	5.4	5.4	1.0	5.4	5.4	1.0	5.4		3.4	5.4	5.4
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1863	4752	1661	1881	4660	1619	1881	3684		1880	3762	1667
Flt Permitted	0.09	1.00	1.00	0.09	1.00	1.00	0.30	1.00		0.29	1.00	1.00
Satd. Flow (perm)	172	4752	1661	177	4660	1619	595	3684		580	3762	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	503	2158	459	187	1647	21	282	626	98	88	458	405
RTOR Reduction (vph)	0	0	142	0	0	14	0	12	0	0	0	209
Lane Group Flow (vph)	503	2158	317	187	1647	7	282	712	0	88	458	196
Confl. Peds. (#/hr)			1	1					2	2		
Heavy Vehicles (%)	2%	1%	1%	1%	3%	5%	1%	1%	0%	1%	1%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	72.6	58.1	58.1	52.2	41.7	41.7	34.6	34.6		23.1	23.1	23.1
Effective Green, g (s)	75.6	59.1	59.1	58.2	42.7	42.7	37.6	35.6		26.1	24.1	24.1
Actuated g/C Ratio	0.63	0.49	0.49	0.49	0.36	0.36	0.31	0.30		0.22	0.20	0.20
Clearance Time (s)	4.0	6.4	6.4	4.0	6.4	6.4	4.0	6.4		6.4	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	529	2340	818	277	1658	576	298	1092		126	755	334
v/s Ratio Prot	c0.24	0.45		0.08	c0.35		c0.08	0.19			0.12	
v/s Ratio Perm	0.36		0.19	0.25		0.00	0.21			c0.15		0.12
v/c Ratio	0.95	0.92	0.39	0.68	0.99	0.01	0.95	0.65		0.70	0.61	0.59
Uniform Delay, d1	36.4	28.3	19.1	26.3	38.5	25.0	37.2	36.8		43.3	43.6	43.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.2	7.5	1.4	6.4	20.6	0.0	37.6	1.4		15.6	1.4	2.6
Delay (s)	63.5	35.8	20.5	32.7	59.1	25.1	74.9	38.2		58.9	45.0	46.1
Level of Service	E	D	C	C	E	C	E	D		E	D	D
Approach Delay (s)		38.0			56.0			48.5			46.8	
Approach LOS		D			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8	
Intersection Capacity Utilization	96.9%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Intersection: 1: Bronte Road & William Halton Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	B16	B16	NB
Directions Served	L	T	T	R	L	L	T	T	R	T	T	L
Maximum Queue (m)	18.1	56.7	50.2	23.7	110.1	128.3	119.1	97.3	99.9	45.5	40.6	99.7
Average Queue (m)	4.2	29.1	11.6	8.1	56.8	65.0	44.8	33.1	45.8	4.1	1.8	27.2
95th Queue (m)	13.0	48.5	35.4	18.5	116.7	139.3	127.5	62.9	77.9	36.4	23.3	66.6
Link Distance (m)		172.8	172.8				171.0	171.0		462.2	462.2	
Upstream Blk Time (%)						4	6	0				
Queuing Penalty (veh)						0	28	0				
Storage Bay Dist (m)	50.0			50.0	80.0	80.0			80.0			50.0
Storage Blk Time (%)		1	0		22	25	0		1			2
Queuing Penalty (veh)		0	0		30	33	0		1			14

Intersection: 1: Bronte Road & William Halton Parkway

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB		
Directions Served	T	T	T	R	L	L	T	T	T	R		
Maximum Queue (m)	133.6	134.4	141.3	100.0	77.5	105.0	290.0	282.0	265.6	100.0		
Average Queue (m)	57.7	65.2	68.2	29.3	64.8	99.9	223.9	185.1	107.0	10.9		
95th Queue (m)	114.1	119.3	126.2	83.1	96.5	120.1	357.3	328.9	215.2	56.2		
Link Distance (m)	400.9	400.9	400.9				277.4	277.4	277.4			
Upstream Blk Time (%)							29	5	0			
Queuing Penalty (veh)							0	0	0			
Storage Bay Dist (m)				50.0	50.0	50.0				50.0		
Storage Blk Time (%)	11		14	0	32	45	45		20			
Queuing Penalty (veh)	23		50	2	196	278	318		13			

Intersection: 2: Hospital Gate & William Halton Parkway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (m)	41.1	67.3	104.1	29.6	35.8	39.5	52.3	26.8	34.0	22.6	45.2	51.8
Average Queue (m)	16.6	26.5	44.4	12.3	14.5	16.7	23.3	10.7	16.5	6.6	16.3	25.6
95th Queue (m)	32.2	57.0	80.7	23.6	29.8	33.5	43.6	23.1	29.0	18.3	34.3	44.9
Link Distance (m)		293.7	293.7		425.9	425.9		320.0	320.0		209.1	209.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	65.0			65.0			75.0			50.0		
Storage Blk Time (%)		0									0	
Queuing Penalty (veh)		0									0	

Intersection: 3: Third Line & William Halton Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	TR	L
Maximum Queue (m)	21.8	21.6	29.0	61.7	49.0	53.0	45.4	13.2	107.8	12.5	19.4	13.2
Average Queue (m)	7.3	6.7	11.5	26.0	20.6	25.4	13.3	3.8	60.8	2.7	8.4	2.3
95th Queue (m)	16.8	17.8	25.4	49.6	37.7	47.0	32.5	11.2	96.3	9.3	17.5	8.9
Link Distance (m)		425.9	425.9			139.8	139.8			437.4	437.4	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	70.0			70.0	70.0			70.0	60.0			40.0
Storage Blk Time (%)				0		0			8			
Queuing Penalty (veh)				0		0			3			

Intersection: 3: Third Line & William Halton Parkway

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	7.2	9.0
Average Queue (m)	0.8	2.3
95th Queue (m)	4.2	6.9
Link Distance (m)	113.3	113.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Bronte Road & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	L	T
Maximum Queue (m)	165.0	234.3	229.5	227.4	155.0	180.0	464.9	462.5	453.0	145.0	190.0	352.7
Average Queue (m)	148.9	220.6	214.1	201.0	132.5	179.4	398.8	384.2	218.8	140.9	188.0	343.0
95th Queue (m)	203.9	248.7	250.3	266.6	200.3	187.8	543.6	542.7	491.7	158.1	207.6	355.6
Link Distance (m)		220.2	220.2	220.2			449.2	449.2	449.2			336.2
Upstream Blk Time (%)		39	23	20			47	17	1			86
Queuing Penalty (veh)		0	0	0			0	0	0			0
Storage Bay Dist (m)	95.0				75.0	115.0				100.0	100.0	
Storage Blk Time (%)	20	55		54	12	98	0			98	98	19
Queuing Penalty (veh)	141	160		261	82	346	1			546	549	55

Intersection: 4: Bronte Road & Dundas Street W

Movement	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	T	R
Maximum Queue (m)	347.1	346.0	130.0	214.9	255.0	406.7	409.4	407.4	125.0
Average Queue (m)	319.0	243.6	51.9	192.0	228.6	332.4	277.9	260.9	89.2
95th Queue (m)	427.1	443.2	135.4	251.6	307.8	486.1	468.5	446.7	174.0
Link Distance (m)	336.2	336.2				400.9	400.9	400.9	
Upstream Blk Time (%)	22	8				28	2	2	
Queuing Penalty (veh)	0	0				197	15	13	
Storage Bay Dist (m)			55.0	175.0	175.0				60.0
Storage Blk Time (%)		44	2	72	72	33		66	0
Queuing Penalty (veh)		109	9	376	380	92		118	0

Intersection: 5: Dundas Street W & Hospital Gate

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	T	T	R	L	L	R
Maximum Queue (m)	96.7	99.1	102.6	107.1	111.0	118.8	125.2	57.2	58.3	58.0	67.1
Average Queue (m)	45.0	48.2	49.9	51.9	54.5	60.4	61.8	15.8	30.9	33.2	34.6
95th Queue (m)	76.8	81.5	85.1	90.0	102.4	109.9	112.9	37.0	51.9	53.8	60.0
Link Distance (m)		498.9	498.9	498.9	378.3	378.3	378.3		108.7	108.7	108.7
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	125.0							50.0			
Storage Blk Time (%)							10				
Queuing Penalty (veh)							26				

Intersection: 6: Third Line & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	65.2	152.3	157.6	170.9	135.0	195.0	244.9	380.0	374.9	335.8	121.0	99.5
Average Queue (m)	31.0	93.9	99.5	100.2	55.8	158.3	178.7	211.4	202.2	155.9	27.5	94.2
95th Queue (m)	54.6	141.7	147.7	152.0	116.5	236.8	282.9	436.8	423.7	360.9	67.0	113.2
Link Distance (m)		378.3	378.3	378.3				437.5	437.5	437.5		
Upstream Blk Time (%)								9	2	1		
Queuing Penalty (veh)								69	11	4		
Storage Bay Dist (m)	250.0				55.0	145.0	145.0				60.0	77.0
Storage Blk Time (%)				31	6	62	64	1		31	0	66
Queuing Penalty (veh)				131	39	318	328	3		77	1	127

Intersection: 6: Third Line & Dundas Street W

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	R
Maximum Queue (m)	121.9	281.6	275.3	110.1	104.0	114.7	103.1	55.5	23.5
Average Queue (m)	113.5	198.0	176.0	78.2	67.1	72.0	33.2	33.7	8.0
95th Queue (m)	138.9	347.2	338.9	122.3	106.3	112.6	71.2	50.6	18.0
Link Distance (m)		297.3	297.3				437.4	437.4	
Upstream Blk Time (%)		20	5						
Queuing Penalty (veh)		0	0						
Storage Bay Dist (m)	77.0			45.0	95.0	95.0			50.0
Storage Blk Time (%)	84	0	6	46	3	8	0	1	
Queuing Penalty (veh)	163	1	23	90	5	13	0	1	

Intersection: 7: Proudfoot Trail & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	8.5	72.6	77.1	82.2	14.3	88.2	190.6	182.9	159.6	8.3	41.8	79.7
Average Queue (m)	0.6	30.3	40.0	41.6	4.2	20.9	73.8	65.3	55.8	0.8	14.3	43.3
95th Queue (m)	4.1	60.5	66.3	70.7	11.8	75.6	162.1	150.7	131.2	4.6	31.3	69.3
Link Distance (m)		437.5	437.5	437.5			399.1	399.1	399.1			148.4
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	110.0				70.0	110.0				70.0	85.0	
Storage Blk Time (%)				1			7		4			0
Queuing Penalty (veh)				1			5		0			0

Intersection: 7: Proudfoot Trail & Dundas Street W

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	21.4	13.5
Average Queue (m)	7.8	3.1
95th Queue (m)	17.1	9.2
Link Distance (m)		170.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	85.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B9	B9
Directions Served	L	T	T	T	R	L	T	T	T	R	T	T
Maximum Queue (m)	220.0	509.6	504.6	501.8	170.0	142.0	175.1	170.4	167.2	13.6	23.2	21.1
Average Queue (m)	219.6	487.7	483.3	431.7	85.9	92.3	123.2	119.0	103.6	3.0	5.4	4.4
95th Queue (m)	225.9	566.0	569.8	612.3	206.1	179.8	202.9	190.6	155.5	10.6	39.1	34.2
Link Distance (m)		495.7	495.7	495.7			226.6	226.6	226.6		412.9	412.9
Upstream Blk Time (%)		77	30	5			6	1	0			
Queuing Penalty (veh)		0	0	0			0	0	0			
Storage Bay Dist (m)	120.0				100.0	95.0				145.0		
Storage Blk Time (%)	90	32		31		35	17		1			
Queuing Penalty (veh)	614	154		135		184	31		0			

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R
Maximum Queue (m)	164.9	273.6	268.6	63.1	91.7	77.1	73.7
Average Queue (m)	153.5	209.8	183.2	34.3	51.0	39.1	46.7
95th Queue (m)	193.7	342.8	333.2	71.2	76.6	64.5	74.2
Link Distance (m)		266.2	266.2		216.8	216.8	
Upstream Blk Time (%)		36	5				
Queuing Penalty (veh)		0	0				
Storage Bay Dist (m)	115.0			100.0			85.0
Storage Blk Time (%)	85	1		1	0	0	0
Queuing Penalty (veh)	252	2		1	0	0	0

Intersection: 9: Bend

Movement	NE	NE	NE
Directions Served	T	T	
Maximum Queue (m)	225.7	235.9	191.7
Average Queue (m)	61.3	71.8	8.7
95th Queue (m)	211.3	228.0	74.0
Link Distance (m)	226.6	226.6	226.6
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	1	2	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 7256

HCM Signalized Intersection Capacity Analysis — 2031 Future Total - PM
1: Bronte Road & William Halton Parkway — 190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	369	215	397	220	667	108	1912	296	483	1751	40
Future Volume (vph)	77	369	215	397	220	667	108	1912	296	483	1751	40
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	2.9	4.9	4.9	1.0	4.9	4.9	1.0	5.5	5.5	1.0	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3725	1667	3686	3725	1700	1863	5406	1700	3686	5353	1667
Flt Permitted	0.61	1.00	1.00	0.95	1.00	1.00	0.07	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1191	3725	1667	3686	3725	1700	131	5406	1700	3686	5353	1667
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	81	388	226	418	232	702	114	2013	312	508	1843	42
RTOR Reduction (vph)	0	0	107	0	0	148	0	0	79	0	0	21
Lane Group Flow (vph)	81	388	119	418	232	554	114	2013	233	508	1843	21
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	1%	0%	0%	2%	2%
Turn Type	Perm	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4		4			8	2		2			6
Actuated Green, G (s)	25.6	25.6	25.6	17.0	46.6	46.6	65.8	56.9	56.9	20.1	68.1	68.1
Effective Green, g (s)	28.6	26.6	26.6	20.0	47.6	47.6	71.8	57.9	57.9	23.1	69.1	69.1
Actuated g/C Ratio	0.20	0.19	0.19	0.14	0.34	0.34	0.51	0.41	0.41	0.17	0.49	0.49
Clearance Time (s)	5.9	5.9	5.9	4.0	5.9	5.9	4.0	6.5	6.5	4.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	243	707	316	526	1266	578	214	2235	703	608	2642	822
v/s Ratio Prot		0.10		0.11	0.06		0.05	c0.37		c0.14	0.34	
v/s Ratio Perm	0.07		0.07			c0.33	0.23		0.14			0.01
v/c Ratio	0.33	0.55	0.38	0.79	0.18	0.96	0.53	0.90	0.33	0.84	0.70	0.03
Uniform Delay, d1	47.6	51.3	49.5	58.0	32.5	45.2	22.4	38.4	27.9	56.6	27.4	18.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.51	1.17	1.45	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.9	0.8	8.1	0.1	27.1	0.2	0.6	0.1	12.8	1.6	0.1
Delay (s)	48.4	52.1	50.2	66.1	32.6	72.3	11.6	45.7	40.6	69.4	28.9	18.2
Level of Service	D	D	D	E	C	E	B	D	D	E	C	B
Approach Delay (s)		51.1			63.6			43.4			37.3	
Approach LOS		D			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	46.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	90.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

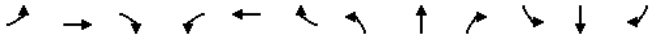
HCM Signalized Intersection Capacity Analysis — 2031 Future Total - PM
2: Hospital Gate & William Halton Parkway — 190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	828	32	90	1030	5	253	156	23	69	242	100
Future Volume (vph)	219	828	32	90	1030	5	253	156	23	69	242	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	3.0	5.4		3.0	5.4		3.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3779		1900	3797		1900	3663		1863	3562	
Flt Permitted	0.13	1.00		0.25	1.00		0.24	1.00		0.63	1.00	
Satd. Flow (perm)	257	3779		499	3797		490	3663		1234	3562	
Peak-hour factor, PHF	0.92	0.93	0.93	0.93	0.93	0.92	0.93	0.92	0.93	0.92	0.92	0.92
Adj. Flow (vph)	238	890	34	97	1108	5	272	170	25	75	263	109
RTOR Reduction (vph)	0	2	0	0	0	0	0	10	0	0	39	0
Lane Group Flow (vph)	238	922	0	97	1113	0	272	185	0	75	333	0
Heavy Vehicles (%)	2%	0%	0%	0%	0%	2%	0%	2%	0%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	71.7	60.3		62.1	54.7		35.9	35.9		15.7	15.7	
Effective Green, g (s)	72.7	61.3		64.1	55.7		36.9	36.9		16.7	16.7	
Actuated g/C Ratio	0.61	0.51		0.53	0.46		0.31	0.31		0.14	0.14	
Clearance Time (s)	4.0	6.4		4.0	6.4		4.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	343	1930		364	1762		352	1126		171	495	
v/s Ratio Prot	c0.08	0.24		0.02	0.29		c0.11	0.05			0.09	
v/s Ratio Perm	c0.34			0.12			c0.13			0.06		
v/c Ratio	0.69	0.48		0.27	0.63		0.77	0.16		0.44	0.67	
Uniform Delay, d1	17.2	19.0		14.3	24.4		34.2	30.3		47.4	49.1	
Progression Factor	1.00	1.00		0.61	0.83		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.0	0.9		0.3	1.2		10.1	0.1		1.8	3.6	
Delay (s)	23.2	19.8		9.0	21.5		44.3	30.4		49.1	52.7	
Level of Service	C	B		A	C		D	C		D	D	
Approach Delay (s)		20.5			20.5			38.5			52.1	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	27.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.76			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.4	
Intersection Capacity Utilization	76.8%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: Third Line & William Halton Parkway

2031 Future Total - PM
190027



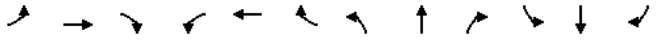
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	676	170	59	229	5	818	81	5	14	24	58
Future Volume (vph)	74	676	170	59	229	5	818	81	5	14	24	58
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.4	5.4	5.4	5.4	5.4	5.4	1.5	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1900	3800	1677	1899	3800	1700	1900	3765		1900	3395	
Flt Permitted	0.57	1.00	1.00	0.19	1.00	1.00	0.65	1.00		0.69	1.00	
Satd. Flow (perm)	1142	3800	1677	381	3800	1700	1302	3765		1381	3395	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	84	768	193	67	260	6	930	92	6	16	27	66
RTOR Reduction (vph)	0	0	131	0	0	4	0	2	0	0	54	0
Lane Group Flow (vph)	84	768	62	67	260	2	930	96	0	16	39	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		Perm	NA	
Protected Phases		2			6		3	8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)	37.6	37.6	37.6	37.6	37.6	37.6	70.1	70.1		20.0	20.0	
Effective Green, g (s)	38.6	38.6	38.6	38.6	38.6	38.6	73.1	71.1		21.0	21.0	
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.61	0.59		0.18	0.18	
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	4.5	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	367	1222	539	122	1222	546	1035	2230		241	594	
v/s Ratio Prot		c0.20			0.07		c0.36	0.03			0.01	
v/s Ratio Perm	0.07		0.04	0.18		0.00	0.18			0.01		
v/c Ratio	0.23	0.63	0.12	0.55	0.21	0.00	0.90	0.04		0.07	0.06	
Uniform Delay, d1	29.8	34.6	28.7	33.5	29.6	27.6	18.0	10.2		41.3	41.3	
Progression Factor	1.18	1.03	2.55	1.00	1.00	1.00	1.15	0.34		1.00	1.00	
Incremental Delay, d2	1.3	2.2	0.4	16.6	0.4	0.0	8.1	0.0		0.1	0.0	
Delay (s)	36.5	37.9	73.6	50.1	30.0	27.7	28.7	3.5		41.4	41.4	
Level of Service	D	D	E	D	C	C	C	A		D	D	
Approach Delay (s)		44.4			34.0			26.3			41.4	
Approach LOS		D			C			C			D	

Intersection Summary				
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.8	
Intersection Capacity Utilization	86.1%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: Bronte Road & Dundas Street W

2031 Future Total - PM
190027



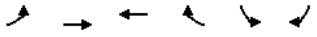
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	1387	349	293	2240	229	468	1778	223	374	1607	285
Future Volume (vph)	250	1387	349	293	2240	229	468	1778	223	374	1607	285
Ideal Flow (vphpl)	2000	2000	2000	2000	2225	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	5.6	5.6	1.0	5.6		1.0	4.8	4.8	1.0	4.8	4.8
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80		0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1900	4706	1642	1881	5213		3686	5353	1611	3650	5353	1667
Flt Permitted	0.07	1.00	1.00	0.07	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	148	4706	1642	144	5213		3686	5353	1611	3650	5353	1667
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	255	1415	356	299	2286	234	478	1814	228	382	1640	291
RTOR Reduction (vph)	0	0	129	0	7	0	0	0	86	0	0	104
Lane Group Flow (vph)	255	1415	227	299	2513	0	478	1814	142	382	1640	187
Confl. Peds. (#/hr)			3	3					2	2		
Heavy Vehicles (%)	0%	2%	2%	1%	1%	1%	0%	2%	4%	1%	2%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8			4
Actuated Green, G (s)	61.1	51.1	51.1	73.4	59.4		12.0	40.2	40.2	10.0	38.2	38.2
Effective Green, g (s)	67.1	52.1	52.1	76.4	60.4		15.0	41.2	41.2	13.0	39.2	39.2
Actuated g/C Ratio	0.48	0.37	0.37	0.55	0.43		0.11	0.29	0.29	0.09	0.28	0.28
Clearance Time (s)	4.0	6.6	6.6	4.0	6.6		4.0	5.8	5.8	4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	233	1751	611	342	2249		394	1575	474	338	1498	466
v/s Ratio Prot	c0.10	0.30		c0.13	c0.48		c0.13	c0.34		0.10	0.31	
v/s Ratio Perm	0.42		0.14	0.34					0.09			0.11
v/c Ratio	1.09	0.81	0.37	0.87	1.12		1.21	1.15	0.30	1.13	1.09	0.40
Uniform Delay, d1	43.5	39.5	32.0	42.4	39.8		62.5	49.4	38.2	63.5	50.4	40.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.81	0.88	1.12
Incremental Delay, d2	86.5	4.1	1.7	21.1	59.5		117.2	76.1	0.4	81.9	50.9	0.4
Delay (s)	130.0	43.6	33.8	63.5	99.3		179.7	125.5	38.6	133.3	95.4	46.2
Level of Service	F	D	C	E	F		F	F	D	F	F	D
Approach Delay (s)		52.7			95.5			127.9			95.5	
Approach LOS		D			F			F			F	

Intersection Summary				
HCM 2000 Control Delay	95.0	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.13			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	112.6%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: Dundas Street W & Hospital Gate

2031 Future Total - PM
190027



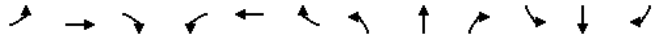
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	186	1812	2511	215	511	444
Future Volume (vph)	186	1812	2511	215	511	444
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	5.1	5.1	5.1	5.8	5.8
Lane Util. Factor	1.00	*0.80	*0.80	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1827	4752	4706	1595	3650	1661
Flt Permitted	0.05	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	98	4752	4706	1595	3650	1661
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	202	1970	2729	234	555	483
RTOR Reduction (vph)	0	0	0	38	0	77
Lane Group Flow (vph)	202	1970	2729	196	555	406
Confl. Peds. (#/hr)	2			2	1	1
Heavy Vehicles (%)	4%	1%	2%	5%	1%	1%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	89.5	89.5	74.2	74.2	37.6	37.6
Effective Green, g (s)	92.5	90.5	75.2	75.2	38.6	38.6
Actuated g/C Ratio	0.66	0.65	0.54	0.54	0.28	0.28
Clearance Time (s)	4.0	6.1	6.1	6.1	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	241	3071	2527	856	1006	457
v/s Ratio Prot	c0.09	0.41	c0.58		0.15	
v/s Ratio Perm	0.47			0.12		c0.24
v/c Ratio	0.84	0.64	1.08	0.23	0.55	0.89
Uniform Delay, d1	46.4	15.0	32.4	17.1	43.3	48.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.7	1.0	43.9	0.6	0.7	18.6
Delay (s)	68.1	16.0	76.3	17.7	44.0	67.2
Level of Service	E	B	E	B	D	E
Approach Delay (s)		20.8	71.6		54.8	
Approach LOS		C	E		D	

Intersection Summary				
HCM 2000 Control Delay	50.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.9	
Intersection Capacity Utilization	82.8%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: Third Line & Dundas Street W

2031 Future Total - PM
190027



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	1770	438	547	2141	202	419	522	328	327	289	138
Future Volume (vph)	134	1770	438	547	2141	202	419	522	328	327	289	138
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	6.8	6.8	1.0	6.8	6.8	1.0	7.1	7.1	1.0	7.1	7.1
Lane Util. Factor	1.00	*0.80	1.00	0.97	*0.80	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.88
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1900	4706	1648	3686	4752	1656	3686	3762	1627	3686	3725	1493
Flt Permitted	0.07	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	148	4706	1648	3686	4752	1656	3686	3762	1627	3686	3725	1493
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	144	1903	471	588	2302	217	451	561	353	352	311	148
RTOR Reduction (vph)	0	0	140	0	0	75	0	0	165	0	0	131
Lane Group Flow (vph)	144	1903	331	588	2302	142	451	561	188	352	311	17
Confl. Peds. (#/hr)	14		19	19		14	27		15	15		27
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	1%	0%	0%	2%	0%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6			8			4
Actuated Green, G (s)	58.1	51.1	51.1	17.1	61.2	61.2	15.0	17.9	17.9	10.0	12.9	12.9
Effective Green, g (s)	64.1	52.1	52.1	20.1	62.2	62.2	18.0	18.9	18.9	13.0	13.9	13.9
Actuated g/C Ratio	0.53	0.43	0.43	0.17	0.52	0.52	0.15	0.16	0.16	0.11	0.12	0.12
Clearance Time (s)	4.0	7.8	7.8	4.0	7.8	7.8	4.0	8.1	8.1	4.0	8.1	8.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	225	2043	715	617	2463	858	552	592	256	399	431	172
v/s Ratio Prot	0.05	0.40		c0.16	c0.48		c0.12	c0.15		c0.10	0.08	
v/s Ratio Perm	0.29		0.20			0.09			0.12			0.01
v/c Ratio	0.64	0.93	0.46	0.95	0.93	0.17	0.82	0.95	0.73	0.88	0.72	0.10
Uniform Delay, d1	25.1	32.3	24.0	49.5	27.0	15.2	49.4	50.1	48.2	52.7	51.2	47.5
Progression Factor	1.00	1.00	1.00	0.89	1.31	1.90	1.00	1.00	1.00	1.01	1.07	1.66
Incremental Delay, d2	6.1	9.2	2.1	20.0	6.2	0.3	9.1	24.4	10.4	19.8	5.9	0.3
Delay (s)	31.2	41.5	26.2	64.1	41.7	29.2	58.5	74.5	58.5	73.2	60.5	78.9
Level of Service	C	D	C	E	D	C	E	E	E	E	E	E
Approach Delay (s)		38.0			45.0			65.1			69.3	
Approach LOS		D			D			E			E	

Intersection Summary				
HCM 2000 Control Delay	48.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.9	
Intersection Capacity Utilization	88.3%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — 2031 Future Total - PM
7: Proudfoot Trail & Dundas Street W — 190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	2463	92	318	2770	28	68	5	170	22	5	9
Future Volume (vph)	12	2463	92	318	2770	28	68	5	170	22	5	9
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	4.9	4.9	4.9	3.0	4.9	4.9	5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	4752	1654	1900	4800	1667	1858	1691		1863	1772	
Flt Permitted	0.06	1.00	1.00	0.05	1.00	1.00	0.75	1.00		0.35	1.00	
Satd. Flow (perm)	110	4752	1654	107	4800	1667	1464	1691		681	1772	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	12	2539	95	328	2856	29	70	5	175	23	5	9
RTOR Reduction (vph)	0	0	29	0	0	6	0	156	0	0	2	0
Lane Group Flow (vph)	12	2539	66	328	2856	23	70	24	0	23	12	0
Confl. Peds. (#/hr)			3	3			2					
Heavy Vehicles (%)	2%	1%	0%	0%	0%	2%	2%	2%	1%	2%	2%	2%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)	70.6	70.6	70.6	95.2	95.2	95.2	12.0	12.0		12.0	12.0	
Effective Green, g (s)	71.6	71.6	71.6	96.2	96.2	96.2	13.0	13.0		13.0	13.0	
Actuated g/C Ratio	0.60	0.60	0.60	0.80	0.80	0.80	0.11	0.11		0.11	0.11	
Clearance Time (s)	5.9	5.9	5.9	4.0	5.9	5.9	6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	65	2835	986	408	3848	1336	158	183		73	191	
v/s Ratio Prot		c0.53		c0.14	0.59			0.01			0.01	
v/s Ratio Perm	0.11		0.04	0.50		0.01	c0.05			0.03		
v/c Ratio	0.18	0.90	0.07	0.80	0.74	0.02	0.44	0.13		0.32	0.06	
Uniform Delay, d1	11.0	21.0	10.2	39.5	5.8	2.4	50.1	48.4		49.4	48.0	
Progression Factor	0.99	1.18	1.18	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	2.2	0.1	10.9	1.3	0.0	2.0	0.3		2.5	0.1	
Delay (s)	13.4	26.9	12.1	50.4	7.2	2.4	52.1	48.7		51.9	48.2	
Level of Service	B	C	B	D	A	A	D	D		D	D	
Approach Delay (s)		26.3			11.5			49.7			50.5	
Approach LOS		C			B			D			D	

Intersection Summary				
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.8	
Intersection Capacity Utilization	98.0%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — 2031 Future Total - PM
8: Neyagawa Boulevard & Dundas Street W — 190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	339	1968	272	221	2136	50	313	558	127	118	463	658
Future Volume (vph)	339	1968	272	221	2136	50	313	558	127	118	463	658
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	5.4	5.4	1.0	5.4	5.4	1.0	5.4		3.4	5.4	3.0
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1980	4706	1673	1900	4800	1676	1900	3673		1887	3800	1700
Flt Permitted	0.07	1.00	1.00	0.07	1.00	1.00	0.30	1.00		0.32	1.00	1.00
Satd. Flow (perm)	142	4706	1673	146	4800	1676	604	3673		646	3800	1700
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	346	2008	278	226	2180	51	319	569	130	120	472	671
RTOR Reduction (vph)	0	0	128	0	0	29	0	18	0	0	0	44
Lane Group Flow (vph)	346	2008	150	226	2180	22	319	681	0	120	472	627
Confl. Peds. (#/hr)	2		4	4		2			17	17		
Heavy Vehicles (%)	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	pm+ov
Protected Phases	5	2		1	6		3	8			4	5
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	70.5	55.2	55.2	63.5	51.7	51.7	36.2	36.2		24.7	24.7	40.0
Effective Green, g (s)	74.0	56.2	56.2	69.5	52.7	52.7	39.2	37.2		27.7	25.7	42.0
Actuated g/C Ratio	0.62	0.47	0.47	0.58	0.44	0.44	0.33	0.31		0.23	0.21	0.35
Clearance Time (s)	4.0	6.4	6.4	4.0	6.4	6.4	4.0	6.4		6.4	6.4	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	367	2203	783	300	2108	736	310	1138		149	813	595
v/s Ratio Prot	c0.14	0.43		0.09	c0.45		c0.09	0.19			0.12	c0.14
v/s Ratio Perm	0.44		0.09	0.34		0.01	0.25			0.19		0.23
v/c Ratio	0.94	0.91	0.19	0.75	1.03	0.03	1.03	0.60		0.81	0.58	1.05
Uniform Delay, d1	39.4	29.6	18.6	32.7	33.6	19.1	37.6	35.1		43.6	42.3	39.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	32.4	7.1	0.5	10.2	29.0	0.1	58.8	0.9		26.2	1.1	52.1
Delay (s)	71.8	36.7	19.2	43.0	62.7	19.2	96.4	35.9		69.8	43.4	91.1
Level of Service	E	D	B	D	E	B	F	D		E	D	F
Approach Delay (s)		39.5			60.0			54.9			71.2	
Approach LOS		D			E			D			E	

Intersection Summary				
HCM 2000 Control Delay	53.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.8	
Intersection Capacity Utilization	105.6%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

Intersection: 1: Bronte Road & William Halton Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	B16	B16	B13
Directions Served	L	T	T	R	L	L	T	T	R	T	T	T
Maximum Queue (m)	49.7	158.8	167.2	98.1	127.4	170.9	192.0	106.1	157.7	484.9	484.0	702.1
Average Queue (m)	19.0	68.6	84.9	55.4	96.8	126.9	121.3	21.9	59.7	220.8	210.0	192.0
95th Queue (m)	38.5	152.0	206.8	117.5	156.9	217.0	262.1	76.3	142.3	587.9	589.7	667.2
Link Distance (m)		229.1	229.1				171.0	171.0		462.2	462.2	694.0
Upstream Blk Time (%)		0	12			48	56	0		36	36	15
Queuing Penalty (veh)		0	0			0	385	1		249	252	105
Storage Bay Dist (m)	50.0			50.0	80.0	80.0			80.0			
Storage Blk Time (%)	1	10	3	32	66	50		0	9			
Queuing Penalty (veh)	1	8	7	58	73	55		0	10			

Intersection: 1: Bronte Road & William Halton Parkway

Movement	B13	B15	B15	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	T	L	T	T	T	R	L	L	T	T
Maximum Queue (m)	703.6	237.2	237.5	97.2	123.2	132.6	134.1	110.0	72.5	99.9	289.2	284.3
Average Queue (m)	193.6	36.2	36.6	17.4	80.0	86.2	89.2	40.0	56.0	94.7	251.9	218.2
95th Queue (m)	670.1	187.4	188.3	54.3	121.6	125.6	130.1	109.4	90.0	122.7	359.9	348.6
Link Distance (m)	694.0	293.6	293.6		401.4	401.4	401.4				277.4	277.4
Upstream Blk Time (%)	16	8	8								56	4
Queuing Penalty (veh)	107	56	57								0	0
Storage Bay Dist (m)				50.0				50.0	45.0	45.0		
Storage Blk Time (%)				0	16		20	0	38	52	67	
Queuing Penalty (veh)				0	17		60	1	222	305	323	

Intersection: 1: Bronte Road & William Halton Parkway

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	278.2	90.2
Average Queue (m)	144.6	12.9
95th Queue (m)	282.9	68.3
Link Distance (m)	277.4	
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		50.0
Storage Blk Time (%)	30	
Queuing Penalty (veh)	12	

Intersection: 2: Hospital Gate & William Halton Parkway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	B14	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	T	L	T
Maximum Queue (m)	67.9	93.5	98.7	24.5	234.7	237.6	105.8	160.0	40.8	5.6	41.8	120.1
Average Queue (m)	27.4	42.0	49.3	11.6	75.9	81.0	49.6	24.3	17.5	0.2	15.5	36.5
95th Queue (m)	51.3	87.4	95.5	22.2	189.7	193.2	89.1	111.6	32.6	3.9	31.1	83.7
Link Distance (m)	293.6	293.6	293.6		425.9	425.9		319.9	319.9	108.7	166.5	166.5
Upstream Blk Time (%)					2	2		1				
Queuing Penalty (veh)					8	9		1				
Storage Bay Dist (m)				65.0			75.0					
Storage Blk Time (%)					9		8					
Queuing Penalty (veh)					8		6					

Intersection: 2: Hospital Gate & William Halton Parkway

Movement	SB
Directions Served	TR
Maximum Queue (m)	137.0
Average Queue (m)	59.7
95th Queue (m)	111.7
Link Distance (m)	166.5
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Third Line & William Halton Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	TR	L
Maximum Queue (m)	34.6	70.7	73.0	28.1	37.4	60.3	53.0	8.8	128.9	165.2	11.6	14.1
Average Queue (m)	12.0	39.1	42.9	12.2	15.3	27.9	12.0	0.8	50.9	11.4	2.2	3.1
95th Queue (m)	27.6	66.2	70.0	24.4	30.5	49.3	34.3	5.0	104.4	84.5	8.0	10.1
Link Distance (m)		425.9	425.9			198.7	198.7			437.4	437.4	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	70.0			70.0	70.0			70.0	60.0			60.0
Storage Blk Time (%)		1	1			1	0		7			
Queuing Penalty (veh)		0	2			0	0		3			

Intersection: 3: Third Line & William Halton Parkway

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	13.0	24.4
Average Queue (m)	2.8	5.6
95th Queue (m)	9.1	15.1
Link Distance (m)	112.7	112.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Bronte Road & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	L	T
Maximum Queue (m)	165.0	229.1	227.1	165.2	119.0	179.9	462.2	461.9	463.9	144.9	190.0	346.2
Average Queue (m)	163.1	219.3	190.0	55.7	30.9	155.7	453.9	453.4	452.9	144.2	189.4	341.2
95th Queue (m)	177.8	258.4	285.0	118.1	79.0	236.3	459.0	463.3	471.0	147.8	197.0	343.4
Link Distance (m)		220.2	220.2	220.2			449.2	449.2	449.2			336.2
Upstream Blk Time (%)		88	1	0			61	54	61			91
Queuing Penalty (veh)		0	0	0			0	0	0			0
Storage Bay Dist (m)	95.0				75.0	115.0				100.0	100.0	
Storage Blk Time (%)	97	2		5	0	1	62			100	100	16
Queuing Penalty (veh)	450	5		19	0	5	181			589	591	74

Intersection: 4: Bronte Road & Dundas Street W

Movement	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	T	R
Maximum Queue (m)	345.4	341.9	130.0	215.0	255.0	408.1	411.1	408.4	125.0
Average Queue (m)	327.3	220.9	44.9	208.1	247.7	374.9	296.9	296.0	97.2
95th Queue (m)	404.6	422.9	129.6	235.6	286.6	471.1	503.6	502.3	173.3
Link Distance (m)	336.2	336.2				401.4	401.4	401.4	
Upstream Blk Time (%)	20	6				41	5	6	
Queuing Penalty (veh)	0	0				320	39	51	
Storage Bay Dist (m)			55.0	175.0	175.0				60.0
Storage Blk Time (%)		53	0	88	90	42		63	5
Queuing Penalty (veh)		117	1	472	482	156		180	25

Intersection: 5: Dundas Street W & Hospital Gate

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	T	T	R	L	L	R
Maximum Queue (m)	86.3	90.1	91.9	90.8	188.0	194.2	197.4	130.0	63.3	69.4	97.6
Average Queue (m)	49.2	58.0	55.4	54.5	115.1	121.7	125.9	57.2	42.1	43.2	64.8
95th Queue (m)	91.0	82.6	78.8	83.0	180.5	188.3	196.5	148.7	64.4	65.5	86.2
Link Distance (m)		498.9	498.9	498.9	378.3	378.3	378.3		108.7	108.7	108.7
Upstream Blk Time (%)											0
Queuing Penalty (veh)											0
Storage Bay Dist (m)	125.0							50.0			
Storage Blk Time (%)	0						30				
Queuing Penalty (veh)	0						65				

Intersection: 6: Third Line & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	54.8	130.1	135.6	135.3	115.6	195.0	245.0	437.0	437.7	446.1	103.9	81.9
Average Queue (m)	28.8	80.7	85.0	81.8	45.0	175.4	211.4	307.1	293.5	228.1	18.0	29.8
95th Queue (m)	48.9	119.6	124.6	124.3	89.1	241.2	306.9	547.4	532.1	485.9	49.6	61.1
Link Distance (m)		378.3	378.3	378.3				437.7	437.7	437.7		
Upstream Blk Time (%)								14	3	2		
Queuing Penalty (veh)								132	27	16		
Storage Bay Dist (m)	250.0				55.0	145.0	145.0				60.0	77.0
Storage Blk Time (%)				23	5	77	79	1		24		0
Queuing Penalty (veh)				100	32	548	564	6		48		1

Intersection: 6: Third Line & Dundas Street W

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	R
Maximum Queue (m)	122.0	303.1	304.2	115.0	97.9	113.7	150.5	125.9	39.7
Average Queue (m)	120.7	301.9	294.5	66.7	78.7	88.7	85.5	61.5	17.0
95th Queue (m)	138.2	302.6	337.3	133.5	127.4	143.0	217.0	163.4	32.2
Link Distance (m)		297.3	297.3				437.4	437.4	
Upstream Blk Time (%)		89	25						
Queuing Penalty (veh)		0	0						
Storage Bay Dist (m)	77.0			45.0	95.0	95.0			50.0
Storage Blk Time (%)	2	96	13	13	23	32		3	0
Queuing Penalty (veh)	4	402	44	33	33	46		4	0

Intersection: 7: Proudfoot Trail & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	13.4	155.4	159.4	208.1	85.4	144.4	282.8	277.6	273.1	81.2	36.6	60.6
Average Queue (m)	3.6	83.4	90.3	95.7	12.9	75.8	128.5	123.7	112.4	10.1	14.4	25.1
95th Queue (m)	11.0	148.1	156.2	174.1	62.2	170.5	346.8	339.9	320.7	63.1	29.3	46.5
Link Distance (m)		437.7	437.7	437.7			397.0	397.0	397.0			148.4
Upstream Blk Time (%)							9	4	3			
Queuing Penalty (veh)							0	0	0			
Storage Bay Dist (m)	110.0				70.0	110.0				70.0	85.0	
Storage Blk Time (%)		3		11			18		12			
Queuing Penalty (veh)		0		10			57		3			

Intersection: 7: Proudfoot Trail & Dundas Street W

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	13.1	12.0
Average Queue (m)	3.9	2.4
95th Queue (m)	10.5	7.8
Link Distance (m)		151.8
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	85.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B9	B9
Directions Served	L	T	T	T	R	L	T	T	T	R	T	T
Maximum Queue (m)	220.0	505.3	508.1	501.5	145.2	155.4	197.7	182.8	182.8	89.7	132.3	123.0
Average Queue (m)	219.9	490.1	486.3	409.0	31.1	101.2	154.8	149.8	132.3	11.1	32.6	31.8
95th Queue (m)	220.2	546.8	549.2	649.4	97.0	213.7	255.8	240.0	211.1	62.1	165.6	163.8
Link Distance (m)		495.7	495.7	495.7			226.6	226.6	226.6		412.9	412.9
Upstream Blk Time (%)		85	34	2			11	2	0			
Queuing Penalty (veh)		0	0	0			0	0	0			
Storage Bay Dist (m)	120.0				100.0	95.0				145.0		
Storage Blk Time (%)	99	12		14		34	23		8			
Queuing Penalty (veh)	649	40		37		243	51		4			

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	TR	L	T	T	R
Maximum Queue (m)	165.0	270.8	270.8	110.3	212.3	221.4	145.0
Average Queue (m)	163.0	250.3	205.7	51.0	135.7	214.8	144.2
95th Queue (m)	175.6	325.1	353.6	112.0	249.1	259.0	155.7
Link Distance (m)		266.2	266.2		216.8	216.8	
Upstream Blk Time (%)		66	8		1	63	
Queuing Penalty (veh)		0	0		0	0	
Storage Bay Dist (m)	115.0			100.0			85.0
Storage Blk Time (%)	98	0		8	0	0	79
Queuing Penalty (veh)	274	0		18	0	0	182

Intersection: 9: Bend

Movement	NE	NE	NE
Directions Served	T	T	
Maximum Queue (m)	216.2	222.9	67.7
Average Queue (m)	32.1	33.7	2.3
95th Queue (m)	148.7	156.0	34.7
Link Distance (m)	226.6	226.6	226.6
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 9834

HCM Signalized Intersection Capacity Analysis
1: Bronte Road & William Halton Parkway

2031 Future Total - SAT
190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	270	50	283	167	282	75	1074	354	459	1052	26
Future Volume (vph)	19	270	50	283	167	282	75	1074	354	459	1052	26
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	4.9	4.9	4.9	1.0	4.9	4.9	5.5	5.5	5.5	1.0	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.91	1.00	0.97	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1863	3725	1667	3686	3725	1700	1863	5406	1700	3544	5406	1667
Flt Permitted	0.64	1.00	1.00	0.95	1.00	1.00	0.25	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1264	3725	1667	3686	3725	1700	499	5406	1700	3544	5406	1667
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	19	276	51	289	170	288	77	1096	361	468	1073	27
RTOR Reduction (vph)	0	0	45	0	0	212	0	0	181	0	0	9
Lane Group Flow (vph)	19	276	6	289	170	76	77	1096	180	468	1073	18
Heavy Vehicles (%)	2%	2%	2%	0%	2%	0%	2%	1%	0%	4%	1%	2%
Turn Type	Perm	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2			6
Actuated Green, G (s)	14.1	14.1	14.1	12.6	30.7	30.7	52.9	52.9	52.9	20.0	76.9	76.9
Effective Green, g (s)	15.1	15.1	15.1	15.6	31.7	31.7	53.9	53.9	53.9	23.0	77.9	77.9
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.26	0.26	0.45	0.45	0.45	0.19	0.65	0.65
Clearance Time (s)	5.9	5.9	5.9	4.0	5.9	5.9	6.5	6.5	6.5	4.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	159	468	209	479	984	449	224	2428	763	679	3509	1082
v/s Ratio Prot		c0.07		c0.08	0.05			c0.20		c0.13	0.20	
v/s Ratio Perm	0.02		0.00			0.04	0.15		0.11			0.01
v/c Ratio	0.12	0.59	0.03	0.60	0.17	0.17	0.34	0.45	0.24	0.69	0.31	0.02
Uniform Delay, d1	46.5	49.5	46.0	49.3	34.0	34.0	21.5	22.8	20.4	45.2	9.2	7.5
Progression Factor	1.00	1.00	1.00	1.19	1.34	4.66	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	1.9	0.1	2.1	0.1	0.2	4.2	0.6	0.7	2.9	0.2	0.0
Delay (s)	46.9	51.4	46.1	60.7	45.8	158.6	25.7	23.4	21.1	48.1	9.4	7.5
Level of Service	D	D	D	E	D	F	C	C	C	D	A	A
Approach Delay (s)		50.4			95.1			23.0			20.9	
Approach LOS		D			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	67.3%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: Hospital Gate & William Halton Parkway

2031 Future Total - SAT
190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	749	27	68	636	5	111	160	10	61	218	71
Future Volume (vph)	224	749	27	68	636	5	111	160	10	61	218	71
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.4	5.4		3.0	5.4		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	3708		1900	3796		1900	3694		1863	3588	
Flt Permitted	0.37	1.00		0.26	1.00		0.45	1.00		0.62	1.00	
Satd. Flow (perm)	717	3708		517	3796		901	3694		1217	3588	
Peak-hour factor, PHF	0.92	0.85	0.85	0.85	0.85	0.92	0.85	0.92	0.85	0.92	0.92	0.92
Adj. Flow (vph)	243	881	32	80	748	5	131	174	12	66	237	77
RTOR Reduction (vph)	0	2	0	0	0	0	0	4	0	0	27	0
Lane Group Flow (vph)	243	911	0	80	753	0	131	182	0	66	287	0
Heavy Vehicles (%)	2%	2%	0%	0%	0%	2%	0%	2%	0%	2%	2%	2%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	74.9	74.9		84.7	84.7		22.9	22.9		22.9	22.9	
Effective Green, g (s)	75.9	75.9		85.7	85.7		23.9	23.9		23.9	23.9	
Actuated g/C Ratio	0.63	0.63		0.71	0.71		0.20	0.20		0.20	0.20	
Clearance Time (s)	6.4	6.4		4.0	6.4		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	453	2345		447	2710		179	735		242	714	
v/s Ratio Prot		0.25		0.01	c0.20			0.05			0.08	
v/s Ratio Perm	c0.34			0.12			c0.15			0.05		
v/c Ratio	0.54	0.39		0.18	0.28		0.73	0.25		0.27	0.40	
Uniform Delay, d1	12.3	10.7		6.0	6.1		45.0	40.5		40.7	41.8	
Progression Factor	2.23	2.31		0.97	1.09		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.0	0.4		0.2	0.2		14.3	0.2		0.6	0.4	
Delay (s)	31.4	25.3		6.0	6.9		59.3	40.7		41.3	42.2	
Level of Service	C	C		A	A		E	D		D	D	
Approach Delay (s)		26.6			6.8			48.4			42.0	
Approach LOS		C			A			D			D	

Intersection Summary				
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	75.4%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis — 2031 Future Total - SAT
3: Third Line & William Halton Parkway — 190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	592	164	82	222	5	466	70	5	17	8	25
Future Volume (vph)	65	592	164	82	222	5	466	70	5	17	8	25
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	5.4	5.4	5.4	5.4	5.4	5.4	2.9	4.9		4.9	4.9	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1895	3800	1667	1900	3800	1673	1900	3759		1900	3369	
Flt Permitted	0.60	1.00	1.00	0.34	1.00	1.00	0.73	1.00		0.70	1.00	
Satd. Flow (perm)	1194	3800	1667	671	3800	1673	1463	3759		1399	3369	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	72	658	182	91	247	6	518	78	6	19	9	28
RTOR Reduction (vph)	0	0	95	0	0	3	0	3	0	0	16	0
Lane Group Flow (vph)	72	658	87	91	247	3	518	81	0	19	21	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)	56.5	56.5	56.5	56.5	56.5	56.5	51.2	51.2		51.2	51.2	
Effective Green, g (s)	57.5	57.5	57.5	57.5	57.5	57.5	54.2	52.2		52.2	52.2	
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.48	0.48	0.45	0.44		0.44	0.44	
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4	6.4	5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	572	1820	798	321	1820	801	660	1635		608	1465	
v/s Ratio Prot		c0.17			0.07			0.02			0.01	
v/s Ratio Perm	0.06		0.05	0.14		0.00	c0.35			0.01		
v/c Ratio	0.13	0.36	0.11	0.28	0.14	0.00	0.78	0.05		0.03	0.01	
Uniform Delay, d1	17.3	19.7	17.2	18.8	17.4	16.3	27.9	19.6		19.4	19.3	
Progression Factor	1.38	1.18	3.31	1.00	1.00	1.00	1.14	0.84		1.00	1.00	
Incremental Delay, d2	0.4	0.5	0.3	2.2	0.2	0.0	5.2	0.0		0.0	0.0	
Delay (s)	24.3	23.7	57.0	21.0	17.6	16.3	37.0	16.4		19.4	19.3	
Level of Service	C	C	E	C	B	B	D	B		B	B	
Approach Delay (s)		30.4			18.5			34.1			19.3	
Approach LOS		C			B			C			B	

Intersection Summary				
HCM 2000 Control Delay	29.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	10.3	
Intersection Capacity Utilization	75.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — 2031 Future Total - SAT
4: Bronte Road & Dundas Street W — 190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	975	177	294	1073	180	231	1125	229	182	1036	133
Future Volume (vph)	140	975	177	294	1073	180	231	1125	229	182	1036	133
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	4.0	6.6	6.6	4.0	6.6		4.0	5.8	5.8	4.0	5.8	5.8
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80		0.97	0.91	1.00	0.97	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1845	4752	1675	1881	4690		3686	5406	1657	3686	5406	1667
Flt Permitted	0.11	1.00	1.00	0.14	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	216	4752	1675	270	4690		3686	5406	1657	3686	5406	1667
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	143	995	181	300	1095	184	236	1148	234	186	1057	136
RTOR Reduction (vph)	0	0	107	0	12	0	0	0	120	0	0	92
Lane Group Flow (vph)	143	995	74	300	1267	0	236	1148	114	186	1057	44
Confl. Peds. (#/hr)			3	3					4	4		
Heavy Vehicles (%)	3%	1%	0%	1%	0%	1%	0%	1%	1%	0%	1%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6					8			4
Actuated Green, G (s)	62.9	51.5	51.5	75.9	60.5		13.0	37.9	37.9	9.8	34.7	34.7
Effective Green, g (s)	62.9	51.5	51.5	75.9	60.5		13.0	37.9	37.9	9.8	34.7	34.7
Actuated g/C Ratio	0.45	0.37	0.37	0.54	0.43		0.09	0.27	0.27	0.07	0.25	0.25
Clearance Time (s)	4.0	6.6	6.6	4.0	6.6		4.0	5.8	5.8	4.0	5.8	5.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	229	1748	616	381	2026		342	1463	448	258	1339	413
v/s Ratio Prot	0.05	0.21		c0.11	0.27		c0.06	c0.21		0.05	0.20	
v/s Ratio Perm	0.23		0.04	c0.31					0.07			0.03
v/c Ratio	0.62	0.57	0.12	0.79	0.63		0.69	0.78	0.26	0.72	0.79	0.11
Uniform Delay, d1	25.0	35.4	29.3	25.9	30.9		61.5	47.3	40.0	63.8	49.2	40.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	1.4	0.4	10.3	1.5		5.9	2.8	0.3	9.5	3.2	0.1
Delay (s)	30.2	36.7	29.7	36.2	32.4		67.4	50.1	40.3	73.3	52.4	40.8
Level of Service	C	D	C	D	C		E	D	D	E	D	D
Approach Delay (s)		35.1			33.1			51.2			54.1	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	43.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.4	
Intersection Capacity Utilization	96.0%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	174	1382	1398	161	320	296
Future Volume (vph)	174	1382	1398	161	320	296
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	5.1	5.1	5.1	5.8	5.8
Lane Util. Factor	1.00	*0.80	*0.80	1.00	0.97	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1845	4800	4800	1545	3650	1643
Flt Permitted	0.11	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	223	4800	4800	1545	3650	1643
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	178	1410	1427	164	327	302
RTOR Reduction (vph)	0	0	0	30	0	228
Lane Group Flow (vph)	178	1410	1427	134	327	74
Confl. Peds. (#/hr)						2
Heavy Vehicles (%)	3%	0%	0%	10%	1%	2%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	108.9	108.9	92.8	92.8	18.2	18.2
Effective Green, g (s)	111.9	109.9	93.8	93.8	19.2	19.2
Actuated g/C Ratio	0.80	0.79	0.67	0.67	0.14	0.14
Clearance Time (s)	4.0	6.1	6.1	6.1	6.8	6.8
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	353	3768	3216	1035	500	225
v/s Ratio Prot	c0.05	0.29	c0.30		c0.09	
v/s Ratio Perm	0.35			0.09		0.05
v/c Ratio	0.50	0.37	0.44	0.13	0.65	0.33
Uniform Delay, d1	6.6	4.6	10.8	8.3	57.3	54.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.3	0.4	0.3	3.1	0.9
Delay (s)	7.8	4.9	11.3	8.6	60.3	55.4
Level of Service	A	A	B	A	E	E
Approach Delay (s)		5.2	11.0		58.0	
Approach LOS		A	B		E	

Intersection Summary				
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.48			
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.9	
Intersection Capacity Utilization	57.6%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	1096	343	443	1262	89	325	429	289	188	160	89
Future Volume (vph)	205	1096	343	443	1262	89	325	429	289	188	160	89
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	6.8	6.8	1.0	6.8	6.8	1.0	7.1	7.1	1.0	7.1	7.1
Lane Util. Factor	1.00	*0.80	1.00	0.97	*0.80	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1900	4752	1637	3686	4752	1671	3614	3654	1641	3686	3619	1576
Flt Permitted	0.12	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	239	4752	1637	3686	4752	1671	3614	3654	1641	3686	3619	1576
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	214	1142	357	461	1315	93	339	447	301	196	167	93
RTOR Reduction (vph)	0	0	166	0	0	50	0	0	239	0	0	80
Lane Group Flow (vph)	214	1142	191	461	1315	43	339	447	62	196	167	13
Confl. Peds. (#/hr)	5		16	16		5	15		11	11		15
Heavy Vehicles (%)	0%	1%	1%	0%	1%	0%	2%	4%	0%	0%	5%	0%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6			8			4
Actuated Green, G (s)	58.3	47.0	47.0	19.2	54.9	54.9	13.7	19.9	19.9	10.0	16.2	16.2
Effective Green, g (s)	64.3	48.0	48.0	22.2	55.9	55.9	16.7	20.9	20.9	13.0	17.2	17.2
Actuated g/C Ratio	0.54	0.40	0.40	0.18	0.47	0.47	0.14	0.17	0.17	0.11	0.14	0.14
Clearance Time (s)	4.0	7.8	7.8	4.0	7.8	7.8	4.0	8.1	8.1	4.0	8.1	8.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	326	1900	654	681	2213	778	502	636	285	399	518	225
v/s Ratio Prot	0.08	0.24		c0.13	0.28		c0.09	c0.12		0.05	0.05	
v/s Ratio Perm	c0.27		0.12			0.03			0.04			0.01
v/c Ratio	0.66	0.60	0.29	0.68	0.59	0.06	0.68	0.70	0.22	0.49	0.32	0.06
Uniform Delay, d1	16.7	28.4	24.5	45.6	23.7	17.6	49.1	46.6	42.5	50.4	46.2	44.4
Progression Factor	1.00	1.00	1.00	0.93	0.96	3.15	1.00	1.00	1.00	0.98	1.15	7.86
Incremental Delay, d2	4.7	1.4	1.1	2.5	1.1	0.1	3.6	3.5	0.4	1.0	0.4	0.1
Delay (s)	21.4	29.9	25.6	45.0	23.8	55.4	52.7	50.1	42.9	50.2	53.4	349.1
Level of Service	C	C	C	D	C	E	D	D	D	D	D	F
Approach Delay (s)		27.9			30.6			48.9			112.3	
Approach LOS		C			C			D			F	

Intersection Summary				
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.9	
Intersection Capacity Utilization	80.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: Proudfoot Trail & Dundas Street W

2031 Future Total - SAT
190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	1585	82	243	1656	23	49	5	184	24	5	12
Future Volume (vph)	9	1585	82	243	1656	23	49	5	184	24	5	12
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	4.9	4.9	4.9	3.0	4.9	4.9	5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1863	4752	1667	1900	4752	1667	1900	1707		1863	1753	
Flt Permitted	0.10	1.00	1.00	0.08	1.00	1.00	0.75	1.00		0.34	1.00	
Satd. Flow (perm)	198	4752	1667	157	4752	1667	1493	1707		659	1753	
Peak-hour factor, PHF	0.92	0.97	0.97	0.97	0.97	0.92	0.97	0.92	0.97	0.97	0.97	0.97
Adj. Flow (vph)	10	1634	85	251	1707	25	51	5	190	25	5	12
RTOR Reduction (vph)	0	0	25	0	0	5	0	171	0	0	11	0
Lane Group Flow (vph)	10	1634	60	251	1707	20	51	24	0	25	6	0
Heavy Vehicles (%)	2%	1%	2%	0%	1%	2%	0%	2%	0%	2%	2%	2%
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6		6	8			4		
Actuated Green, G (s)	77.2	77.2	77.2	96.3	96.3	96.3	10.9	10.9		10.9	10.9	
Effective Green, g (s)	78.2	78.2	78.2	97.3	97.3	97.3	11.9	11.9		11.9	11.9	
Actuated g/C Ratio	0.65	0.65	0.65	0.81	0.81	0.81	0.10	0.10		0.10	0.10	
Clearance Time (s)	5.9	5.9	5.9	4.0	5.9	5.9	6.9	6.9		6.9	6.9	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	129	3096	1086	361	3853	1351	148	169		65	173	
v/s Ratio Prot		0.34		c0.09	0.36			0.01			0.00	
v/s Ratio Perm	0.05		0.04	c0.47		0.01	0.03			c0.04		
v/c Ratio	0.08	0.53	0.06	0.70	0.44	0.02	0.34	0.14		0.38	0.04	
Uniform Delay, d1	7.7	11.1	7.6	25.0	3.4	2.2	50.4	49.4		50.6	48.9	
Progression Factor	1.59	2.12	3.03	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.5	0.1	5.7	0.4	0.0	1.4	0.4		3.8	0.1	
Delay (s)	13.2	24.1	23.0	30.7	3.7	2.2	51.8	49.8		54.4	48.9	
Level of Service	B	C	C	C	A	A	D	D		D	D	
Approach Delay (s)		24.0			7.1			50.2			52.2	
Approach LOS		C			A			D			D	

Intersection Summary				
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.8	
Intersection Capacity Utilization	79.1%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
8: Neyagawa Boulevard & Dundas Street W

2031 Future Total - SAT
190027

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	1307	180	263	1378	72	232	377	109	142	269	318
Future Volume (vph)	295	1307	180	263	1378	72	232	377	109	142	269	318
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Total Lost time (s)	1.0	5.4	5.4	1.0	5.4	5.4	1.0	5.4		1.0	5.4	5.4
Lane Util. Factor	1.00	*0.80	1.00	1.00	*0.80	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1881	4752	1678	1900	4752	1676	1899	3632		1894	3762	1676
Flt Permitted	0.07	1.00	1.00	0.09	1.00	1.00	0.50	1.00		0.25	1.00	1.00
Satd. Flow (perm)	141	4752	1678	182	4752	1676	1000	3632		491	3762	1676
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	304	1347	186	271	1421	74	239	389	112	146	277	328
RTOR Reduction (vph)	0	0	102	0	0	41	0	25	0	0	0	239
Lane Group Flow (vph)	304	1347	84	271	1421	33	239	476	0	146	277	89
Confl. Peds. (#/hr)	2		1	1		2	2		34	34		2
Heavy Vehicles (%)	1%	1%	0%	0%	1%	0%	0%	0%	0%	0%	1%	0%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8			4		4
Actuated Green, G (s)	72.0	53.4	53.4	69.4	52.1	52.1	28.6	21.0		28.4	20.9	20.9
Effective Green, g (s)	77.7	54.4	54.4	75.4	53.1	53.1	34.6	22.0		34.4	21.9	21.9
Actuated g/C Ratio	0.65	0.45	0.45	0.63	0.44	0.44	0.29	0.18		0.29	0.18	0.18
Clearance Time (s)	4.0	6.4	6.4	4.0	6.4	6.4	4.0	6.4		4.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	404	2154	760	404	2102	741	367	665		263	686	305
v/s Ratio Prot	c0.14	0.28		0.11	c0.30		c0.06	c0.13		0.05	0.07	
v/s Ratio Perm	0.35		0.05	0.31		0.02	0.13			0.11		0.05
v/c Ratio	0.75	0.63	0.11	0.67	0.68	0.04	0.65	0.72		0.56	0.40	0.29
Uniform Delay, d1	32.4	25.0	18.9	25.4	26.6	19.0	35.3	46.1		33.7	43.3	42.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.7	1.4	0.3	4.3	1.8	0.1	4.1	3.7		2.5	0.4	0.5
Delay (s)	40.1	26.4	19.2	29.7	28.4	19.1	39.4	49.7		36.2	43.7	42.9
Level of Service	D	C	B	C	C	B	D	D		D	D	D
Approach Delay (s)		27.9			28.2			46.4			41.9	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8	
Intersection Capacity Utilization	92.9%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

Intersection: 1: Bronte Road & William Halton Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	R	L	L	T	T	R	L	T	T
Maximum Queue (m)	15.1	65.4	56.8	17.2	53.4	58.2	36.9	40.2	82.2	40.5	84.4	93.8
Average Queue (m)	3.9	40.4	23.2	6.3	31.0	34.4	16.2	21.1	40.7	16.7	47.7	52.5
95th Queue (m)	12.0	60.4	51.4	13.7	48.6	50.8	30.7	34.0	67.4	36.9	88.2	92.5
Link Distance (m)		172.3	172.3				171.0	171.0			401.2	401.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	50.0			50.0	80.0	80.0			80.0	80.0		
Storage Blk Time (%)		4	0						0		1	
Queuing Penalty (veh)		1	0						0		1	

Intersection: 1: Bronte Road & William Halton Parkway

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	T	R
Maximum Queue (m)	96.1	80.8	72.3	93.8	92.2	51.9	44.2	13.6
Average Queue (m)	52.7	34.9	48.3	59.5	38.2	26.9	15.9	1.6
95th Queue (m)	91.1	71.3	73.8	85.5	70.3	45.1	34.2	6.9
Link Distance (m)	401.2				277.4	277.4	277.4	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)		80.0	45.0	45.0				50.0
Storage Blk Time (%)	1	0	6	30	2		0	
Queuing Penalty (veh)	5	1	22	105	7		0	

Intersection: 2: Hospital Gate & William Halton Parkway

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (m)	73.4	66.8	69.2	23.9	41.6	45.1	56.0	31.3	36.6	27.7	48.0	72.6
Average Queue (m)	37.8	33.3	40.8	10.5	24.0	28.7	24.7	13.8	19.6	13.1	17.2	34.5
95th Queue (m)	60.4	58.6	64.8	19.4	39.0	43.3	45.6	27.4	32.8	26.0	37.4	60.3
Link Distance (m)		293.7	293.7		425.2	425.2		320.0	320.0		176.6	176.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	65.0			65.0			75.0			75.0		
Storage Blk Time (%)	1	0					0					
Queuing Penalty (veh)	3	0					0					

Intersection: 3: Third Line & William Halton Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	T	R	L	T	TR	L
Maximum Queue (m)	26.8	60.9	57.7	36.7	33.1	39.0	27.2	6.5	113.8	40.2	20.4	13.9
Average Queue (m)	8.7	25.1	30.3	13.1	13.9	17.1	5.5	0.4	76.7	3.4	8.1	2.9
95th Queue (m)	20.4	50.7	51.0	26.4	27.2	32.9	17.3	3.1	108.4	23.9	17.6	9.1
Link Distance (m)		425.2	425.2			192.2	192.2			437.4	437.4	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	80.0			70.0	80.0			70.0	60.0			60.0
Storage Blk Time (%)			0						11			
Queuing Penalty (veh)			0						4			

Intersection: 3: Third Line & William Halton Parkway

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	7.0	11.2
Average Queue (m)	0.9	2.6
95th Queue (m)	4.4	7.7
Link Distance (m)	113.0	113.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Bronte Road & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	L	T
Maximum Queue (m)	59.1	114.2	97.5	80.8	39.9	89.7	99.2	93.8	88.2	54.8	60.5	105.5
Average Queue (m)	27.1	81.6	71.2	49.1	15.4	51.7	67.3	64.4	59.5	28.0	40.2	70.6
95th Queue (m)	48.3	106.0	94.7	74.9	31.1	81.0	90.8	87.5	83.0	55.5	60.1	97.3
Link Distance (m)		220.2	220.2	220.2			449.2	449.2	449.2			336.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	95.0				75.0	115.0				100.0	100.0	
Storage Blk Time (%)		2		0			0					1
Queuing Penalty (veh)		3		0			0					1

Intersection: 4: Bronte Road & Dundas Street W

Movement	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	T	R
Maximum Queue (m)	97.5	97.5	32.6	46.6	47.4	87.3	91.3	93.1	33.5
Average Queue (m)	63.6	60.5	12.5	23.0	28.5	58.6	63.7	64.2	12.0
95th Queue (m)	88.7	87.6	26.1	42.5	45.5	83.8	87.9	88.0	24.4
Link Distance (m)	336.2	336.2				401.2	401.2	401.2	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			55.0	175.0	175.0				60.0
Storage Blk Time (%)		13						12	
Queuing Penalty (veh)		29						16	

Intersection: 5: Dundas Street W & Hospital Gate

Movement	EB	EB	EB	EB	WB	WB	WB	WB	SB	SB	SB
Directions Served	L	T	T	T	T	T	T	R	L	L	R
Maximum Queue (m)	55.3	66.5	61.8	63.8	89.0	89.4	95.4	31.1	58.9	59.1	67.8
Average Queue (m)	22.3	34.1	28.7	26.5	36.6	43.0	46.4	9.7	34.1	33.3	35.2
95th Queue (m)	41.9	57.0	52.0	52.9	78.0	83.3	88.4	22.6	54.7	54.5	60.8
Link Distance (m)		498.9	498.9	498.9	378.3	378.3	378.3		108.7	108.7	108.7
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	125.0							50.0			
Storage Blk Time (%)							7				
Queuing Penalty (veh)							12				

Intersection: 6: Third Line & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	68.7	79.2	80.8	80.1	68.6	69.3	73.3	81.5	88.0	94.8	24.7	62.2
Average Queue (m)	36.0	50.3	53.3	50.8	28.1	42.2	45.9	51.0	56.8	61.1	8.9	36.6
95th Queue (m)	59.7	72.9	75.5	75.3	50.8	62.1	64.7	71.5	78.0	84.9	18.7	63.8
Link Distance (m)		378.3	378.3	378.3				437.6	437.6	437.6		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	250.0				55.0	145.0	145.0				60.0	77.0
Storage Blk Time (%)				9	1					9		
Queuing Penalty (veh)				30	2					8		

Intersection: 6: Third Line & Dundas Street W

Movement	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	T	R
Maximum Queue (m)	73.7	99.9	92.7	53.1	41.0	45.9	36.3	33.9	24.4
Average Queue (m)	49.4	60.0	43.9	22.6	18.8	26.1	18.0	17.0	8.6
95th Queue (m)	70.6	89.3	79.6	41.9	37.0	43.0	33.8	30.2	18.7
Link Distance (m)		297.3	297.3				437.4	437.4	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	77.0			45.0	95.0	95.0			50.0
Storage Blk Time (%)	0	3	5	1					
Queuing Penalty (veh)	0	10	15	2					

Intersection: 7: Proudfoot Trail & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	12.4	90.6	98.1	100.5	21.3	54.8	67.5	52.9	51.6	8.3	28.7	54.2
Average Queue (m)	2.3	45.6	52.3	56.2	5.1	26.2	29.4	21.1	15.4	0.8	10.4	22.1
95th Queue (m)	8.5	87.2	95.9	101.0	15.5	44.8	54.5	43.5	36.1	4.8	22.6	41.4
Link Distance (m)		437.6	437.6	437.6			396.9	396.9	396.9			148.4
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	110.0				70.0	110.0				70.0	85.0	
Storage Blk Time (%)				3								
Queuing Penalty (veh)				3								

Intersection: 7: Proudfoot Trail & Dundas Street W

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	19.4	11.5
Average Queue (m)	4.9	2.3
95th Queue (m)	13.3	7.3
Link Distance (m)		176.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	85.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	108.0	125.1	122.8	105.8	29.0	84.1	103.2	106.0	96.3	19.2	106.0	101.6
Average Queue (m)	57.2	78.4	77.0	65.7	13.2	46.1	71.9	73.2	63.9	7.5	58.6	38.9
95th Queue (m)	94.9	106.5	105.9	94.8	23.5	75.9	94.8	95.9	87.4	15.8	107.3	76.8
Link Distance (m)		495.7	495.7	495.7			226.6	226.6	226.6			266.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	120.0				100.0	95.0				145.0	115.0	
Storage Blk Time (%)	0	0		0		1	1				1	0
Queuing Penalty (veh)	2	1		0		6	1				3	0

Intersection: 8: Neyagawa Boulevard & Dundas Street W

Movement	NB	SB	SB	SB	SB
Directions Served	TR	L	T	T	R
Maximum Queue (m)	64.6	44.8	53.1	43.1	48.4
Average Queue (m)	34.3	20.4	29.5	16.1	23.1
95th Queue (m)	60.0	38.7	48.4	37.7	43.0
Link Distance (m)	266.2		216.8	216.8	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		100.0			85.0
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Bend

Movement	NE	NE
Directions Served	T	T
Maximum Queue (m)	90.4	140.3
Average Queue (m)	3.0	7.3
95th Queue (m)	45.8	72.4
Link Distance (m)	226.6	226.6
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 296