



Green Ginger Developments Inc.

Green Ginger Phase 2 Traffic Impact Study

September 2016

September 6, 2016

Mr Eddy Chan
Project Manager
Green Ginger Development Inc.
3751 Victoria Park Avenue
Toronto, ON M1W 3Z4

Our ref: 2820785

Dear Mr Chan,

**RE: Traffic Impact Study
Green Ginger Phase 2 Residential Subdivision
Northwest Corner of Dundas Street and Trafalgar Road
Oakville, Ontario**

GHD is pleased to submit the enclosed Traffic Impact Study assessing the traffic impacts of the proposed residential subdivision located at the northwest corner of Dundas Street West and Trafalgar Road in the Town of Oakville.

The development consists of 723 townhouse units and approximately 880 mid-rise condominium apartment units.

The traffic analysis was conducted based on a previous site plan unit count of 757 townhouse units, which combined with the 880 mid-rise condominium apartment units resulted in a trip generation of 619 and 732 vehicle trips during the am and pm peak hours, respectively.

This study concludes that the incremental impact of this new site traffic can be accommodated during all peak study hours and there are no recommended improvements to the study intersections.

The updated site count of 723 townhouse units is expected to result in a trip generation of 606 and 717 vehicle trips during the am and pm peak hours, respectively. This is a reduction of 13 and 15 trips during the am and pm peak hours, respectively, from the number of trips incorporated in this analysis.

Therefore it is expected the satisfactory findings of this analysis are conservative, and future total intersection operations may actually perform better than identified.

We trust the enclosed is sufficient for your needs, but please do not hesitate to contact the undersigned should you require any additional assistance.

Sincerely
GHD Ltd.



Michael Dowdall, C.Tech.
Transportation Planner
905 814 4368



William Maria, P.Eng.
Senior Transportation Manager
905 814 4397



Executive summary

The purpose of this report is to determine the site related traffic assignment to the regional road network and traffic-related impacts on the internal road network configuration from modifications to the Secondary Plan approved road layout in the northwest quadrant of Dundas Street and Trafalgar Road.

Primary access to the development is proposed from Dundas Street via Ernest Appelbe Boulevard at a four-leg signalized intersection opposite Oak Park Boulevard and two planned signalized intersections on Trafalgar Road north of Dundas Street opposite Wheat Boom Drive and Threshing Mill Boulevard.

The proposed residential development is comprised of approximately 757 townhouse units and approximately 880 mid-rise condominium units located within the North Oakville Trafalgar Road Urban Core Area (TRUCA). Full build-out is assumed by the 2025 horizon year.

Full build-out of the proposed subdivision is expected to generate a total of 619 new vehicle trips during the am peak hour consisting of 105 inbound and 514 outbound trips. During the pm peak hour it is expected to generate a total of 732 vehicle trips consisting of 490 inbound and 242 outbound trips.

The distribution of site traffic was derived from 2011 Transportation Tomorrow Survey (TTS) summary data for the Town of Oakville and assigned to the road network based on existing traffic patterns and is consistent with the distribution used in the Oakville Transportation Master Plan and the North Oakville East Secondary Plan Transportation Background Report..

Under the future total traffic conditions including full build-out of Phase 2, the impact of the added site traffic is only marginally apparent during the study peak hours. The incremental impact of the new site traffic can be accommodated during all peak study hours and there are no recommended improvements to the study intersections.

It should be noted that outside the scope of this study is the future redistribution of existing traffic to the planned ring-road system which will allow vehicles to bypass the Dundas Street and Trafalgar Road intersection. This study also did not account for a redistribution of traffic from Dundas Street onto the North Oakville Transportation Corridor which is scheduled to be partially built by the 2020 horizon year and will be an attractive alternative for east/west traffic to avoid Dundas Street. Both of these measures will result in modified traffic patterns within the study area reducing the capacity demands on the Dundas Street and Trafalgar Road corridors.

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- Appendix A – Background information and traffic data
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1. Introduction

1.1 Retainer and objective

GHD was retained to prepare a Traffic Impact Study (TIS) for Phase 2 of the proposed Green Ginger residential subdivision to determine traffic-related impacts on the adjacent road network along the Dundas Street and Trafalgar Road corridors.

The subject site is generally located north of the Green Ginger Phase 1 residential subdivision in the northwest corner of Dundas Street (Regional Road #5) and Trafalgar Road (Regional Road #3) in the Town of Oakville, Regional Municipality of Halton within the North Oakville Trafalgar Road Urban Core Area (TRUCA) and is shown in **Figure 1**.

The objective of this study is to determine the traffic volumes anticipated to be generated by the proposed development during the weekday am and pm peak hours; to assess this traffic on the road network; and if required, to recommend intersection configurations to accommodate the forecasted traffic. A 2025 planning horizon year (estimated full occupancy) was included in the analysis.

1.2 Study background

The proposed subdivision consists of approximately 1,637 townhouse/condominium units. Access to the development is proposed onto Dundas Street via a four-leg signalized intersection opposite Oak Park Boulevard via Ernest Appelbe Boulevard and two signalized intersections on Trafalgar Road. The locations of the planned intersections are consistent with the approved North Oakville East Secondary Plan.

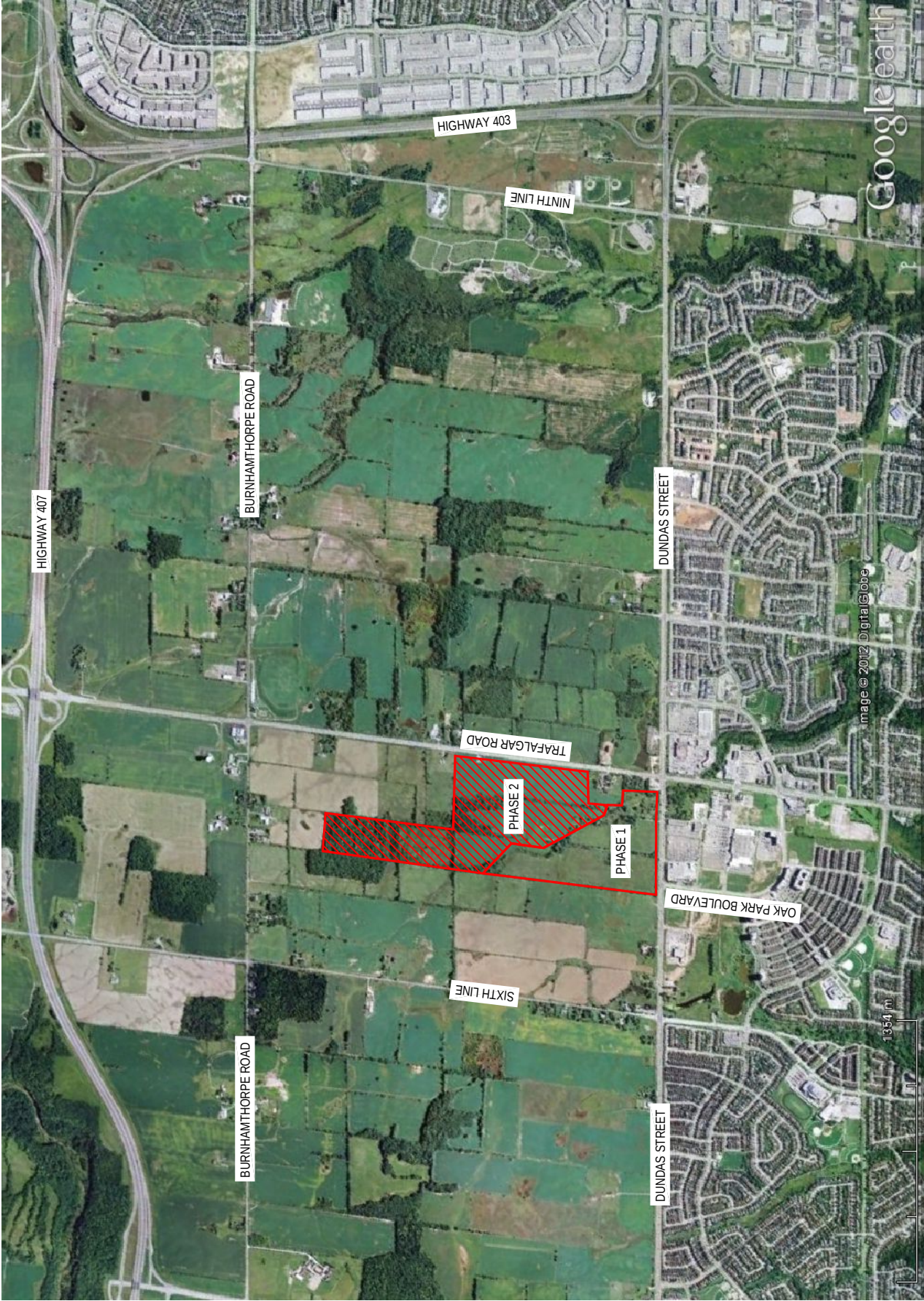
Construction of the Dundas Street 6-lane widening from Oak Park Boulevard to Highway 403 was completed in the fall of 2014. Planned operation of the Trafalgar Road widening/HOV curb lane implementation from Dundas Street to Highway 407 is scheduled by 2020.

A number of studies have been initiated or completed which include an assessment of the Trafalgar Road and Dundas Street intersection including the Trafalgar Road EA, Dundas Street Environmental Study Report – Oak Park Boulevard to Highway 403, North Oakville East Secondary Plan, and the Halton Region Transportation Master Plan. Since these studies included the subject site development as part of the future traffic forecasts it was decided this intersection would be outside of the scope of this study.

1.3 Study team

The GHD team involved in the preparation of this study are:

- William Maria, P.Eng., Transportation Engineer
- Michael Dowdall, C.Tech., Transportation Planner



Green Ginger Developments Inc.
Green Ginger Phase 2
Traffic Impact Study

Job Number | 28-20785
Revision | A
Date | Apr 2016

Figure 01

Site Location

6705 Millcreek Drive, Unit 1, Mississauga Ontario L5N 5M4 T 1 416 213 7121 F 1 416 890 8499 E info@ghdcanada.com W www.ghd.com



NOT TO SCALE

Plotted by: Michael Dowdall

Plot Date: 19 April 2016 - 1:24 PM

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2. Site characteristics

2.1 Site environs

The subject site is part of the North Oakville East Secondary Plan and is located in the northwest quadrant of Dundas Street and Trafalgar Road in the Town of Oakville. The lands are currently primarily agricultural; as are the surrounding lands to the north. Green Ginger Phase 1 and the Oakvillage development lands are located west of Morrison Creek and east of Trafalgar Road respectively, with connections to the subject site via Street 'A' and Street 'B'. The lands on the south side of Dundas Street are built-out with a mix of residential and commercial uses.

The North Oakville Master Plan contains a significant Natural Heritage System along Morrison Creek bisecting Green Ginger Phases 1 and 2. The road alignment for the site has been modified from that contained in the North Oakville East Secondary Plan to provide a more traditional grid system north of Sixteen Mile Drive.

The Green Ginger Development lands are designated within the Town of Oakville's Official Plan (February 2008) as an urban residential area and are proposed to be developed and marketed as part of the TRUCA.

2.2 Study area

The study area includes the following intersections:

- Street 'C' & Street 'B';
- Street 'A' & Street 'C';
- Street 'B' & Ernest Appleby Boulevard;
- Trafalgar Road & Street 'A';
- Trafalgar Road & Street 'B';
- Dundas Street and Sixth Line; and
- Dundas Street & Ernest Appelbe Boulevard / Oak Park Boulevard

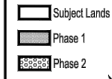
2.3 Draft plan of subdivision

The proposed development land is 32.3 ha (79.8 acres) and consists of approximately 757 townhouse units and 880 mid-rise condominium units. The Draft Plan of Subdivision, provided by Green Ginger Development Inc., prepared by Malone Given Parsons Ltd. (dated February 23, 2016) is shown in **Figure 2**.

REVISED DRAFT PLAN OF SUBDIVISION

Part of Lots 13 and 14,
Concession 2
Town of Oakville
Regional Municipality of Halton
24T-05008 / 1313

Key Plan



Schedule of Land Use - Phase 2

Lot / Block	Land Use	Units	Area (ha)
1-45	Min 6.1m Street Townhouses	267	5.56
46-81	Min 4.95m Street Townhouses	226	3.66
82-99	Min 6.4m Back to Back Townhouses	222	2.21
100	Min 6.1m Rear Access Townhouses	8	0.10
101-102	Trafalgar Road Urban Core		4.87
103	Secondary School		0.76
104-105	Village Squares		0.60
106	Storm Water Management Facility		2.11
107	Natural Heritage System		8.99
108-109	Road Widening		0.37
110-120	Future Development		0.47
121-122	Walkway		0.03
123-126	0.3m Reserves		0.01
127	Channel		0.22
St's A-C	24.0m Roadway - 1,447m		3.54
St D	19.0m Roadway - 204m		0.39
St's E-O	17.0m Roadway - 3,300m		5.60
Lane A	11.0m Laneway - 55m		0.06
TOTAL		723	39.55

Owner's Authorization

I hereby authorize Malone Given Parsons Ltd. to prepare and submit this Draft Plan of Subdivision to the Town of Oakville.

Katy Schofield
GREEN GINGER DEVELOPMENTS INC.

Surveyor's Certificate

I hereby certify that the boundaries of the land to be subdivided and their relationship to the adjoining properties are correctly shown on this plan.

HOLDING JONES VANDERVEEN INC.
ONTARIO LAND SURVEYORS
(905) 960-4000

Additional Information

As required under section 51(17) of the Planning Act (R.S.O. 1990 C.P. 13)
a), e), f), j) As shown on the Draft Plan.
b), g) As shown on the Draft and Key Plans.
c) As shown on the Key Plan.
d) As shown on the Schedule of Land Use.
h), k) Full Municipal services to be provided.
i) Soil is Clay Loam.
l) none.

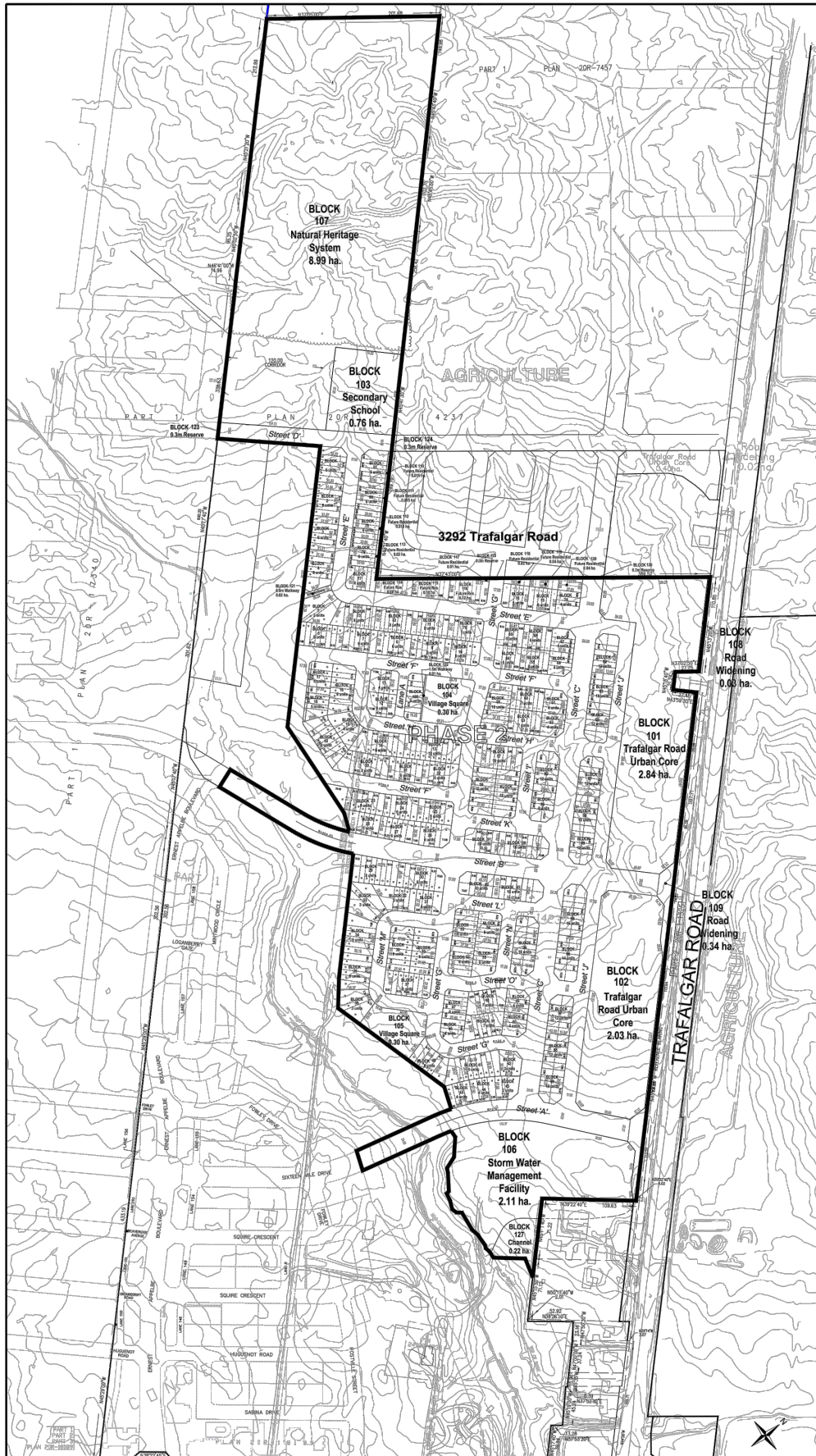
Note: Contours relate to Canadian Geodetic Datum.
Dimensions subject to final calculations.

Date of Submission: February 22, 2005 Project No.: 16-2471

Date of Revision: July 5, 2016

Prepared for: GREEN GINGER DEVELOPMENTS INC.

Prepared by: MALONE GIVEN PARSONS LTD.
140 Renfrew Drive, Suite 201



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Green Ginger Developments Inc.
Green Ginger Phase 2
Traffic Impact Study

Job Number | 28-20785

Revision | A

Date | Apr 2016

Draft Plan of Subdivision

Figure 02

6705 Millcreek Drive, Unit 1, Mississauga Ontario L5N 5M4 T 1 416 213 7121 F 1 416 890 8499 E info@ghdcanada.com W www.ghd.com

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3. Existing conditions

3.1 Existing road network

Dundas Street (Halton Regional Road #5) is an east-west major arterial road under the jurisdiction of Halton Region. In the study area it has an existing four-lane rural cross section with a raised median and a posted speed limit of 60 km/h. Dundas Street is signalized at Ernest Appelbe Boulevard and Sixth Line with exclusive left turn lanes and exclusive right turn lanes on some intersection approaches. Dundas Street provides direct access to Highway 403 to the east and Highway 407 to the west.

The widening of Dundas Street from four to six lanes from Oak Park Boulevard to Highway 403 was completed in 2015.

Trafalgar Road (Halton Regional Road #3) is a north-south primary arterial roadway under the jurisdiction of Halton Region. South of Dundas Street, Trafalgar Road has an existing four-lane urban cross section with a raised median and a posted speed limit of 60 km/h. North of Dundas Street, Trafalgar Road has an existing four-lane rural cross section and a posted speed limit of 80 km/h. Trafalgar Road provides direct access to Highway 407 to the north and Highway 403/QEW to the south.

3.2 Existing transit services

Oakville Transit

Oakville Transit operates four transit routes south of the site with bus stops located at the Uptown Core Bus Terminal. Although these routes currently extend beyond the minimum 400 metres walking distance of an existing transit stop, the North Oakville East Transportation Plan has identified transit routes within the draft plan that are intended to serve the new development north of Dundas Street with connections the existing transit routes below.

Route #1 (Trafalgar) provides north-south service through the City of Oakville with 20-minute frequency during the weekday and weekend peak hours. The route provides service to/from the Oakville GO Station to the Uptown Core Bus Terminal.

Route #5 (Dundas) provides east-west service along Dundas Street with 40-minute frequency during the weekday peak hours, and 30-minute frequency during the weekend peak hours. The route provides service to/from the Bronte Road / Dundas Street intersection to the Uptown Core Bus Terminal.

Route #19 (River Oaks) provides north-south through Oakville's Sunningdale neighbourhood with 20-minute frequency during the weekday peak hours, and 60-minute frequency during the weekend peak hours. The route provides service to/from the Oakville GO Station to the Uptown Core Bus Terminal.

Route #20 (Northridge) provides north-south through Oakville's Trafalgar neighbourhood with 30-minute frequency during the weekday peak hours, and 60-minute frequency during the weekend peak hours. The route provides service to/from the Oakville GO Station to the Uptown Core Bus Terminal.

GO Transit

GO Transit operates two routes along Trafalgar Road with a stop north of the Dundas Street intersection, within 400 metres of the planned Sixteen Mile Drive intersection at Trafalgar Road.

Route #20 (Milton/Oakville) provides north-south service along Trafalgar Road with one-way 60-minute frequency during the weekday am peak hours from the Milton GO Station to the Oakville GO Station. During the weekday pm peak hours, one-way 60-minute frequency is provided from the Oakville GO Station to the Milton GO Station. There is no scheduled weekend bus service for this route.

Route #46 (407 West) provides east-west service via Trafalgar Road with 30-minute frequency during the weekday peak hours. The route provides service to/from the Oakville GO Station to York University. There is no scheduled weekend bus service for this route.

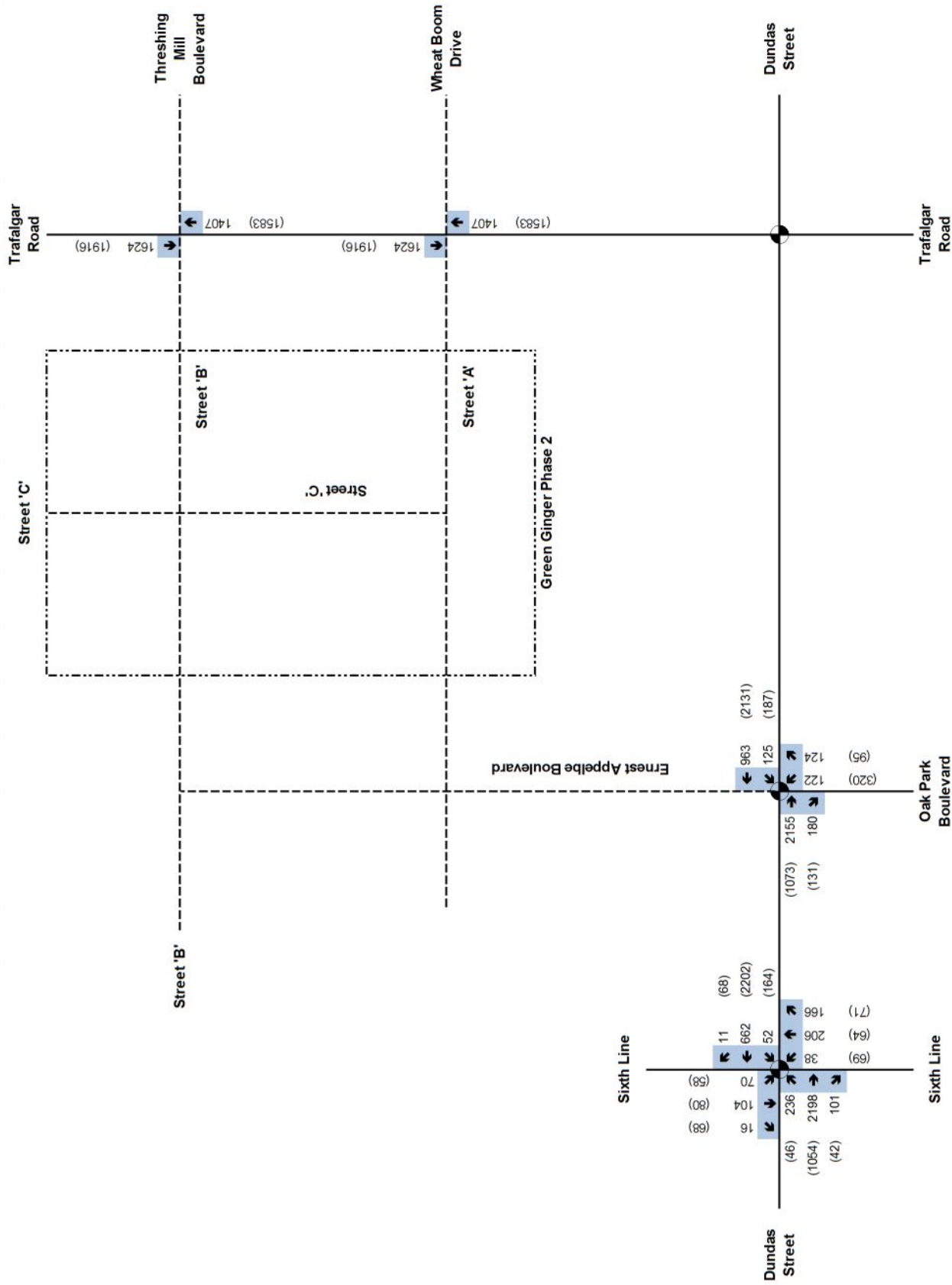
A Transit Facilities Plan has been prepared and submitted as a separate document. The proposed draft plan of subdivision conforms to the Town's Transit Plan in the initial phase of development, and all subsequent phases up to the ultimate build-out of the development.

3.3 Traffic data

Weekday turning movement counts for the study intersections along Dundas Street and Trafalgar Road were obtained from the Green Ginger Developments Inc. Phase 1 (April 2013) and Minto Communities - Oakvillage (February 2015) Traffic Impact Studies, prepared by GHD.

For analysis purposes, 2025 baseline conditions are represented by the estimated 2023 and 2022 background corridor traffic within the Green Ginger Phase 1 and Oakvillage traffic studies. To derive the 2025 baseline traffic volumes, a 1.0% per annum growth rate was applied to through movements on Dundas Street, Sixth Line and Trafalgar Road.

Figure 3 summarizes the adopted baseline (2025) traffic volumes during each of the weekday am and pm peak hours. The referenced traffic data figures from both the Green Ginger Phase 1 and Oakvillage TIS are included in **Appendix A**.



4. Background traffic conditions

4.1 Study horizon years

Full occupancy of the proposed subdivision is projected by the year 2025. Therefore, a 2025 planning horizon was selected to include full build-out of the development.

4.2 Study area road network improvements

Trafalgar Road

Based on Halton Region's "Roads Capital Projects (2016 – 2031)" the Region plans to widen Trafalgar Road from four lanes to six from Dundas Street to Highway 407, with construction to start in 2018. Preliminary design drawings were obtained from the Halton Region website for this road section within the study area. Exclusive left and right turn lanes will be provided on Trafalgar Road at the study intersections.

The operational timing of the Trafalgar Road widening / HOV curb lane implementation for this section of road from Dundas Street to Highway 407 is 2020. Opening day lane configuration will be 2 general purpose lanes (GPL) in each direction and 1 HOV curb lane in each direction.

William Halton Parkway

Based on Halton Region's "Roads Capital Projects (2016-2031)", the Region is planning to construct a new four lane roadway from Ninth Line to Regional Road 25. Construction will take place in phases; the first phase from Hwy 25 to Third Line has already been completed. The next phase from Trafalgar Road to Neyagawa Boulevard is scheduled to begin construction in 2017 with full completion of the William Halton Parkway planned by the year 2020.

Bus Rapid Transit (BRT)

It should be noted that Halton Region has initiated a separate Bus Rapid Transit (BRT) Study for both the Dundas Street (Brant Street to Trafalgar Road) and Trafalgar Road (Cornwall Road to 407 ETR) Corridors for the provision of Higher Order Transit together with the City of Burlington and Town of Oakville. Preliminary recommendations include curb-side exclusive bus lanes, with the potential for high-occupancy vehicles (HOV) usage in the interim.

4.3 Future road network

Street 'A' is a future east-west Secondary Transit Corridor Service Avenue/Transit Corridor (24.0m R.O.W.) extending westerly from Trafalgar Road (opposite Wheat Boom Drive) across Sixteen Mile Creek connecting to Green Ginger Phase 1. As per the North Oakville East Secondary Plan, Street 'A', once completed, will extend through the future North Oakville East developments from Neyagawa Boulevard in the west to White Oaks Golf Club in the east.

Street 'B' is a future east-west Community Service Connector/Transit Corridor (24.0m R.O.W.) extending westerly from Trafalgar Road (opposite Threshing Mill Boulevard) across Sixteen Mile Creek connecting to Green Ginger Phase 1. As per the North Oakville East Secondary Plan, Street 'B', once completed, will extend through the future North Oakville East developments from Neyagawa Boulevard in the west to Eighth Line in the east.

Ernest Appelbe Boulevard and **Street 'C'** are both north-south future Community Service Avenue/Transit Corridors (24.0m R.O.W.). The draft plan of subdivision introduces an alternative to the North Oakville Secondary Plan's alignment of Ernest Appelbe Boulevard. The alternative Ernest Appelbe Boulevard is proposed to terminate at a Street 'B' T-intersection and extend northerly from Street 'B' as Street 'C' through future development north of the site with a connection to the future William Halton Parkway.

It is planned that Street 'A' and Street 'B' will align (centreline to centreline) with the Oakvillage intersections on the east side of Trafalgar Road.

4.4 Right-of-way (R.O.W.) widths

The planned road network proposes a 24 metre R.O.W. assigned to Streets 'A', 'B', and 'C'. The following characteristics define their planned R.O.W. within the study area:

- Urban Core Area 24 metre R.O.W. Avenue/Transit Corridor will provide a 3.5 metre travel lane and a 3.75 metre transit/off-peak parking lane in each direction within a 14.5 metre pavement width.

Figures illustrating the aforementioned street sections are included in **Appendix A**.

4.5 Future developments

The following background developments within the study area have been identified and are anticipated to be constructed within the 2025 planning horizon.

Oakvillage

GHD has recently completed a TIS for the Oakvillage (Minto Communities) residential subdivision generally located on the northeast corner of Trafalgar road and Dundas Street.

This residential development is comprised of approximately 963 townhouse units, 1,247 condominium units, and 51,734 ft² of commercial gross floor area (GFA) addressed by GHD's Traffic Impact Study (dated February, 2015) is assumed to be built-out by the 2022 horizon year and will contribute traffic to the Dundas Street and Trafalgar Road corridors.

Oakvillage shares the Street 'A' and Street 'B' transit corridors with Green Ginger Phase 2 which will provide vehicular access to/from the Oakvillage subdivision to Trafalgar Road.

Shieldbay

These 702 residential units, addressed by Shieldbay's Traffic Impact Study (dated November, 2013) prepared by URS Canada Inc. will be built-out by the 2018 horizon year and will contribute traffic to the Dundas Street and Trafalgar Road corridors.

The Shieldbay residential subdivision is located in between Postridge Drive and Eighth Line, north of Dundas Street, east of Trafalgar Road. Shieldbay also shares the Street 'A' and Street 'B' transit corridors which will provide vehicular access to/from the Shieldbay subdivision to Trafalgar Road. The Shieldbay development site traffic was extracted from the November 2013 TIS.

Green Ginger Phase 1

GHD also completed a TIS for the Green Ginger Phase 1 residential subdivision located on the northwest corner of Trafalgar road and Dundas Street, southwest of the subject site.

These 1,251 residential units will be built-out by the 2018 horizon year and will contribute traffic to the Dundas Street and Trafalgar Road corridors. Upon full build-out Phase 1, Phase 2 traffic assigned to and from the north on Trafalgar was redistributed to the new connections to Trafalgar Road via Streets 'A' and 'B'.

Timsin Development

These 231 residential units and commercial land uses will be built-out by 2016 and will contribute traffic to the Dundas Street corridor.

The Town of Oakville website provided the site traffic volumes from the Traffic Impact Study of April 2010 prepared by URS Canada Inc. for the development of the Timsin Holding Corp. and Arrassa Investments Inc. Residential Subdivision located on the northwest quadrant of the Sixth Line and Dundas Street intersection. The Timsin Development study included additional North Oakville Secondary Plan developments as background traffic.

Developments west of Sixth Line

Traffic volumes within the study area generated by additional North Oakville Secondary Plan Developments were extracted from the above noted Timsin report. The total number of development units was estimated based on the Current Development Applications summary table and map available on the Town of Oakville website. The developments included in the background analysis are:

- Star Oak Developments Limited, 90 Burnhamthorpe Road West;
- Lower Fourth Line Development Limited, NW corner Dundas Street and Sixth Line;
- Docasa Group, 1357 Dundas Street West;
- Eno Investments Limited, 374 Burnhamthorpe Road West;
- Pendent Development Limited, 237 Dundas Street West
- Sherbourne Lodge Developments, 382 Burnhamthorpe Road West; and
- Davis Menardi, N/E corner Dundas Street and Neyagawa Boulevard

These future developments also contribute traffic to the Dundas Street corridor and the Sixth Line intersection. Turning movements assigned to the Trafalgar Road intersection were distributed based on existing traffic patterns. The subject site was included in the Timsin background analysis, therefore a 35% reduction in traffic east of Sixth Line was applied to the through volumes along the Dundas Street corridor to avoid double counting these trips.

Figures are included in **Appendix A** illustrating the Shieldbay, Oakvillage, Green Ginger Phase 1, developments west of Sixth Line, and Timsin future development background traffic volumes.

4.6 Future background traffic volumes

The 2025 baseline traffic plus the future background developments were combined to produce the 2025 background weekday am and pm peak hour traffic volumes.

Figure 4 summarizes the combined future background traffic volumes assigned to the study area for the 2025 planning horizon.

5. Site generated traffic

5.1 Modal split

A transit modal split of 14% for 2025 has been confirmed with the Region of Halton and adopted in the study analysis.

5.2 Site trip generation

The proposed residential development is comprised of approximately 757 townhouse units and approximately 880 mid-rise condominium units (total of 1,637 residential units). The development is anticipated to be built-out by the 2025 horizon year.

Site traffic generated for the proposed residential units for the weekday am and pm peak hours was estimated using Land Use Code (LUC) 230 Residential Condominium/Townhouse in the Trip Generation, 9th Edition, published by the Institute of Transportation Engineers (ITE). Comparison of the average rates to the fitted curve equation revealed that the average rates resulted in a higher number of trips. Therefore the average rates were used to provide a more conservative analysis.

Table 1 summarizes the estimated total trip generation of the development for the 2025 planning horizon.

Table 1 Site trip generation

Land Use Code	Units/ GFA ft ²	Parameters	Peak Hour Trip Generation					
			Weekday AM			Weekday PM		
			In	Out	Total	In	Out	Total
Residential Condominium/ Townhouse (LUC 230)	1,637 Units	Trip Rate	0.07	0.37	0.44	0.35	0.17	0.52
		Trip Ratio	17%	83%	-	67%	33%	-
		Gross Trips	122	598	720	570	281	851
		Transit Split (14%)	-17	-84	-101	-80	-39	-119
		New Vehicle Trips	105	514	619	490	242	732

Therefore, under 2025 traffic conditions the proposed subdivision is expected to generate a total of 619 new vehicle trips during the am peak hour consisting of 105 inbound and 514 outbound trips. During the pm peak hour it is expected to generate a total of 732 vehicle trips consisting of 490 inbound and 242 outbound trips taking into account a proposed 14% transit modal split.

5.3 Site trip distribution and assignment

The distribution of site traffic was derived from 2011 Transportation Tomorrow Survey (TTS) summary data for the Town of Oakville and assigned to the road network based on existing traffic patterns.

The site distribution used for the development is summarized below and is consistent with the distribution used in the Oakville Transportation Master Plan and the North Oakville East Secondary plan Transportation Background Report..

Table 2 summarizes the proportion of residential site trips distributed to the study area under the 2025 road network by direction of approach and departure.

Table 2 Site trip distribution

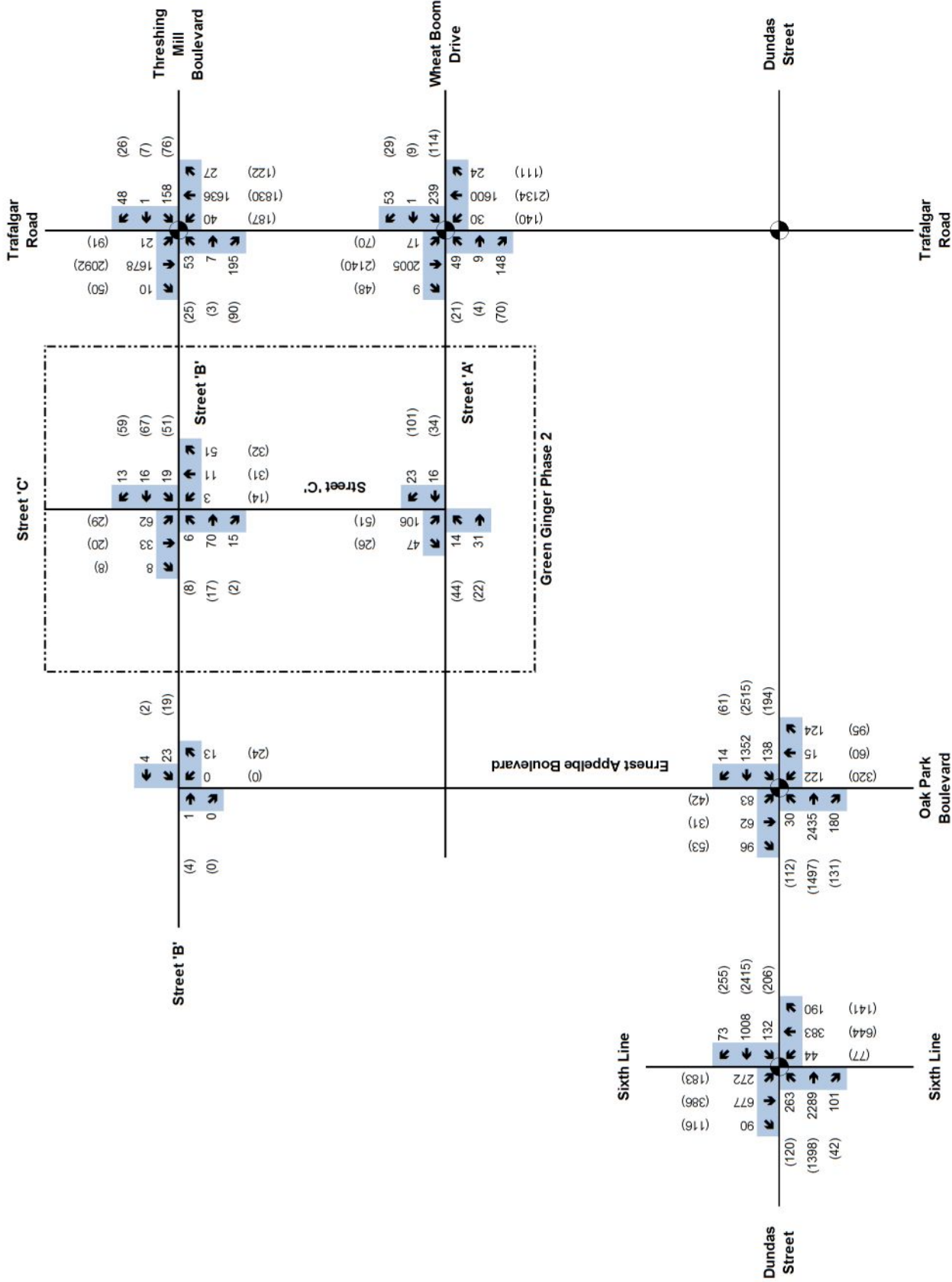
To/From	via	Inbound/Outbound Distribution (%)
North	Trafalgar Road	15%
South	Trafalgar Road / Oak Park Boulevard	45%
East	Dundas Street	25%
West	Dundas Street	15%
Total		100%

The estimated Green Ginger Phase 2 site trips generated by the proposed development assigned to the adjacent road network for the 2025 (build-out) planning horizon during the weekday am and pm peak hours is shown in **Figure 5**.

6. Total traffic volumes

The future total traffic volumes in the weekday peak study hours for the 2025 planning horizon was derived by combining the projected future background traffic with the corresponding estimate of site generated traffic.

Figure 6 summarizes the future total traffic volumes at the 2025 planning horizon during the weekday am and pm peak hours.



7. Traffic analysis

7.1 High occupancy vehicle (HOV) lanes

To account for the road capacity effect of the planned HOV lanes along Dundas Street and Trafalgar Road in the weekday am and pm peak period capacity analyses, we have adopted the established methodology of 'removing' one through lane from the intersection configuration and reducing the through movement flow by an appropriate 'reduction factor' that represents the estimated volume of traffic using the HOV lane. The capacity analysis would therefore better reflect the heavier loading of the two non-HOV lanes. Based on previous experience in the GTA which included HOV lanes, and given the urban characteristics of both Dundas Street and Trafalgar Road through the study area, we adopted the following reduction factors based on existing traffic volumes:

- 15% and 10% of the total approaching eastbound/southbound and westbound/northbound through volume, respectively, is assumed to be using the HOV lanes during the am peak period; and
- 20% and 25% of the total approaching eastbound/southbound and westbound/northbound through volume, respectively, is assumed to be using the HOV lanes during the pm peak period.

These HOV adjustments were applied to Dundas Street and to Trafalgar Road for the 2025 traffic condition.

7.2 Capacity analysis

The capacity analysis identifies how well the intersections and driveways are operating. The analysis contained within this report utilized the Highway Capacity Manual (HCM) 2010 techniques within the Synchro Version 9 Software package. The reported intersection volume-to-capacity ratios (v/c) are a measure of the saturation volume for each turning movement, while the levels-of-service (LOS) are a measure of the average delay for each turning movement. Queuing characteristics are reported as the predicted 95th percentile queue for each turning movement.

The following tables summarize the HCM capacity results for the study intersections during the weekday am and pm peak hours. The detailed calculation sheets are provided appended.

In accordance with Halton Region Guidelines for the Preparation of Traffic Impact Studies, 'critical' intersection movements are defined for signalized intersections where:

- Volume/capacity (v/c) ratios for overall intersection operations, through movements, or shared through/turning movements increased to 0.85 or above; or
- v/c ratios for exclusive movements increased to 0.95 or above

Identification of unsignalized intersections where:

- Level of Service (LOS), based on average delay per vehicle, on individual movements exceeds LOS 'E'; or
- The predicted 95th percentile queue length for an individual movement exceeds the available queue storage.

7.3 2025 Background traffic conditions

Table 4 summarizes the results of the future 2025 background capacity analysis. Detailed capacity analysis reports are found in **Appendix B**.

Table 3 Future background 2025 capacity analysis

Intersection (control type)	Overall: (LOS) delay in seconds Critical Movements: v/c (LOS) delay in seconds, 95 th Percentile Queue	
	AM Peak Hour	PM Peak Hour
Dundas Street & Ernest Appelbe Boulevard / Oak Park Boulevard (signalized)	<u>Overall: (C) 31s</u> EBT: 0.95 (D) 36s	<u>Overall: (C) 34s</u> WBT: 0.93 (D) 37s
Dundas Street & Sixth Line (signalized)	<u>Overall: (E) 59s</u> EBT: 1.07 (F) 76s WBL: 0.99 (F) 112s SBL: 0.97 (F) 88s	<u>Overall: (D) 48s</u> WBT: 0.96 (D) 44s NBT: 0.97 (F) 89s SBL: 0.95 (F) 91s
Trafalgar Road & Wheat Boom Drive (signalized)	<u>Overall: (B) 11s</u>	<u>Overall: (A) 7s</u>
Trafalgar Road & Threshing Mill Boulevard (signalized)	<u>Overall: (B) 12s</u>	<u>Overall: (A) 5s</u>

Dundas Street & Ernest Appelbe Boulevard / Oak Park Boulevard

Under future background (2025) traffic conditions, this signalized intersection is expected to operate with good operational characteristics with overall LOS 'C' during both weekday am and pm peak hours with average delays of 31 and 34 seconds respectively.

Critical movements include the eastbound through (0.95) and westbound through (0.93) during the am and pm peak hours respectively. The predicted 95th percentile queue lengths for the eastbound, westbound, northbound and southbound left turn movements can be accommodated within the minimum 150, 115, 60 and 50 metre storage lanes provided respectively.

Dundas Street & Sixth Line

Under future background (2025) traffic conditions, this signalized intersection is expected to operate with acceptable operational characteristics with overall LOS 'E' and LOS 'D' during the weekday am and pm peak hours with average delays of 59 and 48 seconds respectively.

Critical movements include the eastbound through (1.07), westbound left (0.99) and southbound left (0.97) during the am peak hour. During the pm peak hour, the westbound through (0.96), northbound through (0.97) and southbound left (0.95) are critical.

The predicted 95th percentile queue lengths for the eastbound, westbound, and northbound left turn movements can be accommodated within the minimum 100, 150, and 120 metre storage lanes provided respectively. The southbound left turn queue length is predicted to extend beyond the available 30 metre storage lane.

Trafalgar Road & Wheat Boom Drive

Under future background (2025) traffic conditions, this signalized 'T'-intersection is expected to operate with very good operational characteristics and substantial reserve capacity during both the

weekday am peak hour and pm peak hours. There are no critical movements or predicted queuing issues during the peak hours.

Trafalgar Road & Threshing Mill Boulevard

Under future background (2025) traffic conditions, this signalized 'T'-intersection is expected to operate with very good operational characteristics and substantial reserve capacity during both the weekday am peak hour and pm peak hours. There are no critical movements or predicted queuing issues during the peak hours.

7.4 2025 Total traffic condition

The capacity analysis of the future total 2025 traffic condition, full build-out of the development, is summarized below with detailed capacity sheets attached in **Appendix B**.

It should be noted that outside the scope of this study is the future redistribution of existing traffic to the planned ring-road system which will allow vehicles to bypass the Dundas Street and Trafalgar Road intersection nor did this study account for the redistribution of traffic from Dundas Street onto the William Halton Parkway which is scheduled to connect Trafalgar Road to Hwy 25 by the 2020 horizon year providing an attractive alternative for east/west traffic over Dundas Street. Incorporating the impact of both of these will result in modified traffic patterns within the study area reducing the capacity demands on Dundas Street and Trafalgar Road.

Table 4 Future total 2025 capacity analysis

Intersection (control type)	v/c (LOS) delay in seconds	
	AM Peak Hour	PM Peak Hour
Dundas Street & Ernest Appelbe Boulevard (signalized)	<u>Overall: (C) 31s</u> EBT: 0.95 (D) 36s	<u>Overall: (D) 38s</u> WBT: 0.96 (D) 42s
Dundas Street & Sixth Line (signalized)	<u>Overall: (E) 60s</u> EBT: 1.08 (F) 79s WBL: 0.99 (F) 112s SBL: 0.97 (F) 88s	<u>Overall: (D) 50s</u> WBT: 0.98 (D) 49s NBT: 0.97 (F) 89s SBL: 0.95 (F) 91s
Trafalgar Road & Street 'A' / Wheat Boom Drive (signalized)	<u>Overall: (C) 21s</u> SBT: 0.86 (C) 21s	<u>Overall: (B) 12s</u>
Trafalgar Road & Street 'B' / Threshing Mill Boulevard (signalized)	<u>Overall: (B) 20s</u>	<u>Overall: (B) 11s</u>
Street 'C' & Street 'B' (unsignalized)	<u>Overall: (A) 6s</u>	<u>Overall: (A) 5s</u>
Street 'A' & Street 'C' (unsignalized)	<u>Overall: (A) 9s</u>	<u>Overall: (A) 9s</u>
Ernest Appelbe Boulevard & Street 'B' (unsignalized)	<u>Overall: (A) 8s</u>	<u>Overall: (A) 8s</u>

Dundas Street & Ernest Appelbe Boulevard / Oak Park Boulevard

Under future total (2025) traffic conditions, with full build-out of the development, this signalized intersection is expected to continue to operate with good operational characteristics with overall LOS 'C' and LOS 'D' during the weekday am and pm peak hour with average delays of 31 and 38 seconds respectively.

Critical movements remain unchanged and include the eastbound through (0.95) and westbound through (0.96) during the am and pm peak hours respectively. The predicted 95th percentile queue lengths for the eastbound, westbound, northbound and southbound left turn movements can be accommodated within the minimum 150, 115, 60 and 50 metre storage lanes provided respectively.

Under the future total traffic conditions including both full build-out of Phase 2, the impact of the added site traffic is only marginally apparent during the study peak hours. The incremental impact of the new site traffic can be accommodated during all peak study hours and there are no recommended improvements to this intersection.

Dundas Street & Sixth Line

Under future total (2025) traffic conditions, with full build-out of the development, this signalized intersection is expected to continue to operate with acceptable operational characteristics with overall LOS 'E' and LOS 'D' during the weekday am and pm peak hours with average delays of 60 and 50 seconds respectively.

Critical movements include the eastbound through (1.08), westbound left (0.99) and southbound left (0.97) during the am peak hour. During the pm peak hour, the westbound through (0.98), northbound through (0.97) and southbound left (0.95) are critical.

The predicted 95th percentile queue lengths for the eastbound, westbound, and northbound left turn movements can be accommodated within the minimum 100, 150, and 120 metre storage lanes provided respectively. The southbound left turn queue length is predicted to extend beyond the available 30 metre storage lane.

Under the future total traffic conditions including full build-out of Phase 2, the impact of the added site traffic is only marginally apparent during the study peak hours. The incremental impact of the new site traffic can be accommodated during all peak study hours and there are no recommended improvements to this intersection.

Trafalgar Road & Street 'A' / Wheat Boom Drive

Under future total (2025) traffic conditions, this signalized is expected to operate with very good operational characteristics and substantial reserve capacity during both the weekday am peak hour and pm peak hours. There are no critical movements or predicted queuing issues during the peak hours.

Trafalgar Road & Street 'B' / Threshing Mill Boulevard

Under future total (2025) traffic conditions, this signalized is expected to operate with very good operational characteristics and substantial reserve capacity during both the weekday am peak hour and pm peak hours. There are no critical movements or predicted queuing issues during the peak hours.

Internal transit corridor unsignalized intersections

Under future total (2025) traffic conditions, the three unsignalized transit corridor intersections within the subdivision are expected to operate with very good operational characteristics and substantial reserve capacity during both the weekday am peak hour and pm peak hours. There are no critical movements during the peak hours. The predicted 95th percentile queues are expected to be not more than one vehicle for all movements.

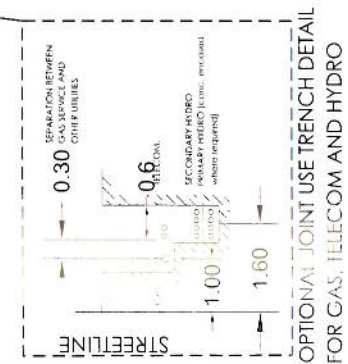
7.5 North-south corridor

As per the North Oakville East Secondary Plan, Ernest Appelbe Boulevard, Street 'A' and Street 'C' are classified as Avenue/Transit Corridors and Street 'B' is classified as a Connector/Transit Corridor. The alternative alignment of Ernest Appelbe Boulevard from the Secondary Plan creates an alternative north-south corridor offset west of Ernest Appelbe Boulevard renamed as Street 'C'. This offset Avenue/Transit Corridor is bisected by the Connector/Transit Corridor; Street 'B'.

Estimated future road volumes are low along the north/south collector road and the study intersections created by the alternative Street 'C' are operating with substantial reserve capacity resulting and is consistent with the main function of the collector road system.

Appendix A

Background information and traffic data



TOWN OF OAKVILLE
STANDARD STREET SECTION
AVENUE/TRANSIT CORRIDOR
24.0m RIGHT OF WAY
URBAN CORE AREA

APPROVED	STD 7-25
REVISION DATE	May 2011





Job Number	28-20785
Revision	A

Date | Apr 2016

Figure A2

6705 Millcreek Drive, Unit 1, Mississauga Ontario L5N 5M4 **T** 1 416 213 7121 **F** 1 416 890 8499 **E** info@dhdcanada.com **W** www.dhd.ca

Figure 2. Figures, two

Plot Date: 19 April 2016 - 2:06 PM
Plotted by: Michael Dowdell

Plot Date: 19 April 2016 - 2:06 PM

Plot 1



Job Number | 28-20785
Revision | A
Date | Apr 2016

Plot Date: 19 April 2016 - 2:08 PM
 Plotted by: Michael Dowdall
 Cad File No: G:\Legacy\SemasTransTech\Projects\2016 project\Green Ginger Phase 2\Analysis\Green Ginger Phase 2 Figures\Wvgj

Plotted by: Michael Dowdall

Plot Date: 19 April 2016 - 2:08 PM







Appendix B

Capacity analysis

HCM 2010 Signalized Intersection Summary

2: Oak Park Blvd/Ernest Appelbe Boulevard & Dundas Street

2025 Background Traffic

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	2067	180	139	1201	21	122	11	124	135	42	50
Future Volume (veh/h)	22	2067	180	139	1201	21	122	11	124	135	42	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1827	1845	1597	1743	1881	1743	1655	1900	1881	1881	1900
Adj Flow Rate, veh/h	22	2067	180	139	1201	21	122	11	124	135	42	50
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	4	3	19	9	1	9	1	1	1	1	1
Cap, veh/h	305	2171	981	151	2366	1142	272	359	322	218	408	365
Arrive On Green	0.63	0.63	0.63	0.06	0.71	0.71	0.21	0.23	0.21	0.21	0.23	0.21
Sat Flow, veh/h	459	3471	1568	1521	3312	1599	1216	1573	1407	1262	1787	1599
Grp Volume(v), veh/h	22	2067	180	139	1201	21	122	11	124	135	42	50
Grp Sat Flow(s),veh/h/ln	459	1736	1568	1521	1656	1599	1216	1573	1407	1262	1787	1599
Q Serve(g_s), s	3.2	77.2	6.8	7.3	22.8	0.5	12.8	0.8	10.6	14.6	2.6	3.5
Cycle Q Clear(g_c), s	13.5	77.2	6.8	7.3	22.8	0.5	16.3	0.8	10.6	25.1	2.6	3.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	2171	981	151	2366	1142	272	359	322	218	408	365
V/C Ratio(X)	0.07	0.95	0.18	0.92	0.51	0.02	0.45	0.03	0.39	0.62	0.10	0.14
Avail Cap(c_a), veh/h	305	2171	981	211	2366	1142	272	359	322	218	408	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	24.3	11.1	44.4	9.0	5.8	52.1	42.0	46.6	59.1	42.7	43.8
Incr Delay (d2), s/veh	0.5	10.9	0.4	33.6	0.8	0.0	5.2	0.2	3.5	12.6	0.5	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	40.0	3.1	6.7	10.6	0.2	4.7	0.3	4.4	5.9	1.3	1.6
LnGrp Delay(d),s/veh	15.2	35.2	11.5	78.0	9.7	5.8	57.3	42.1	50.0	71.7	43.2	44.6
LnGrp LOS	B	D	B	E	A	A	E	D	D	E	D	D
Approach Vol, veh/h	2269				1361				257			
Approach Delay, s/veh	33.1				16.7				53.2			
Approach LOS	C				B				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.4	91.6		36.0		104.0		36.0				
Change Period (Y+Rc), s	3.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	15.0	80.0		30.0		98.0		30.0				
Max Q Clear Time (g_c+I1), s	9.3	79.2		27.1		24.8		18.3				
Green Ext Time (p_c), s	0.2	0.8		0.8		66.6		2.2				
Intersection Summary												
HCM 2010 Ctrl Delay	30.4											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

3: Sixth Line & Dundas Street

2025 Background Traffic

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	1936	101	132	850	73	44	383	190	272	677	90
Future Volume (veh/h)	263	1936	101	132	850	73	44	383	190	272	677	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1845	1727	1727	1727	1845	1900	1900	1863	1900	1900
Adj Flow Rate, veh/h	263	1936	101	132	850	73	44	383	190	272	677	90
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	3	10	10	10	3	0	0	2	0	0
Cap, veh/h	377	1813	803	134	1556	706	165	492	241	280	928	123
Arrive On Green	0.09	0.51	0.51	0.05	0.47	0.48	0.03	0.21	0.22	0.11	0.29	0.30
Sat Flow, veh/h	1810	3539	1568	1645	3282	1468	1757	2352	1150	1774	3204	426
Grp Volume(v), veh/h	263	1936	101	132	850	73	44	293	280	272	381	386
Grp Sat Flow(s),veh/h/ln	1810	1770	1568	1645	1641	1468	1757	1805	1697	1774	1805	1825
Q Serve(g_s), s	10.6	71.7	4.7	6.8	25.7	3.8	2.8	21.4	21.9	16.0	26.6	26.7
Cycle Q Clear(g_c), s	10.6	71.7	4.7	6.8	25.7	3.8	2.8	21.4	21.9	16.0	26.6	26.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.23
Lane Grp Cap(c), veh/h	377	1813	803	134	1556	706	165	377	355	280	523	528
V/C Ratio(X)	0.70	1.07	0.13	0.99	0.55	0.10	0.27	0.78	0.79	0.97	0.73	0.73
Avail Cap(c_a), veh/h	501	1813	803	134	1556	706	206	413	388	280	523	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	34.1	17.8	38.0	26.1	19.8	44.4	52.3	52.1	42.7	44.8	44.7
Incr Delay (d2), s/veh	2.8	41.9	0.3	73.8	1.4	0.3	0.9	8.3	9.8	45.3	5.1	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	45.3	2.1	7.8	12.0	1.6	1.4	11.6	11.2	6.2	14.0	14.1
LnGrp Delay(d),s/veh	23.8	76.0	18.1	111.8	27.5	20.1	45.3	60.6	61.9	88.0	49.9	49.8
LnGrp LOS	C	F	B	F	C	C	D	E	E	F	D	D
Approach Vol, veh/h	2300			1055			617			1039		
Approach Delay, s/veh	67.5			37.5			60.1			59.8		
Approach LOS	E			D			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	75.7	8.7	44.5	16.4	70.4	20.0	33.3				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	8.0	67.0	9.0	38.0	23.0	52.0	17.0	30.0				
Max Q Clear Time (g_c+l1), s	8.8	73.7	4.8	28.7	12.6	27.7	18.0	23.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8	0.8	22.4	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay	58.7											
HCM 2010 LOS	E											

HCM 2010 Signalized Intersection Summary

4: Trafalgar Road & Wheat Boom Drive

2025 Background Traffic

AM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	239	53	1445	24	17	1544		
Future Volume (veh/h)	239	53	1445	24	17	1544		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	239	53	1445	24	17	1544		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	292	261	2485	1112	258	2485		
Arrive On Green	0.16	0.16	0.70	0.70	0.70	0.70		
Sat Flow, veh/h	1774	1583	3632	1583	359	3632		
Grp Volume(v), veh/h	239	53	1445	24	17	1544		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	359	1770		
Q Serve(g_s), s	11.7	2.6	18.5	0.4	2.3	20.8		
Cycle Q Clear(g_c), s	11.7	2.6	18.5	0.4	20.8	20.8		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	292	261	2485	1112	258	2485		
V/C Ratio(X)	0.82	0.20	0.58	0.02	0.07	0.62		
Avail Cap(c_a), veh/h	591	528	2485	1112	258	2485		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.80	0.80		
Uniform Delay (d), s/veh	36.3	32.5	6.8	4.1	12.0	7.1		
Incr Delay (d2), s/veh	5.6	0.4	1.0	0.0	0.4	0.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.2	1.2	9.2	0.2	0.3	10.2		
LnGrp Delay(d),s/veh	41.9	32.9	7.8	4.1	12.4	8.0		
LnGrp LOS	D	C	A	A	B	A		
Approach Vol, veh/h	292		1469			1561		
Approach Delay, s/veh	40.3		7.7			8.1		
Approach LOS	D		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		69.2				69.2		20.8
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		48.0				48.0		30.0
Max Q Clear Time (g_c+I1), s		20.5				22.8		13.7
Green Ext Time (p_c), s		25.3				23.4		1.1
Intersection Summary								
HCM 2010 Ctrl Delay			10.7					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

5: Trafalgar Road & Threshing Mill Boulevard

2025 Background Traffic

AM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	158	48	1469	27	21	1425		
Future Volume (veh/h)	158	48	1469	27	21	1425		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	158	48	1469	27	21	1425		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	207	185	2654	1187	242	2654		
Arrive On Green	0.12	0.12	0.50	0.50	0.75	0.75		
Sat Flow, veh/h	1774	1583	3632	1583	350	3632		
Grp Volume(v), veh/h	158	48	1469	27	21	1425		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	350	1770		
Q Serve(g_s), s	7.8	2.5	25.7	0.8	3.1	15.2		
Cycle Q Clear(g_c), s	7.8	2.5	25.7	0.8	28.8	15.2		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	207	185	2654	1187	242	2654		
V/C Ratio(X)	0.76	0.26	0.55	0.02	0.09	0.54		
Avail Cap(c_a), veh/h	591	528	2654	1187	242	2654		
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.78	0.78	1.00	1.00		
Uniform Delay (d), s/veh	38.5	36.2	12.0	5.8	13.8	4.7		
Incr Delay (d2), s/veh	5.7	0.7	0.7	0.0	0.7	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	1.1	12.9	0.3	0.3	7.6		
LnGrp Delay(d),s/veh	44.3	36.9	12.7	5.8	14.5	5.5		
LnGrp LOS	D	D	B	A	B	A		
Approach Vol, veh/h	206		1496			1446		
Approach Delay, s/veh	42.6		12.5			5.6		
Approach LOS	D		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		73.5				73.5		16.5
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		48.0				48.0		30.0
Max Q Clear Time (g_c+I1), s		27.7				30.8		9.8
Green Ext Time (p_c), s		18.8				16.1		0.8
Intersection Summary								
HCM 2010 Ctrl Delay			11.3					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

2: Oak Park Blvd/Ernest Appelbe Boulevard & Dundas Street

2025 Background Traffic

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1183	131	195	1880	95	320	42	95	63	23	32
Future Volume (veh/h)	71	1183	131	195	1880	95	320	42	95	63	23	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1810	1900	1792	1845	1881	1881	1716	1900	1881	1881	1900
Adj Flow Rate, veh/h	71	1183	131	195	1880	95	320	42	95	63	23	32
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	5	0	6	3	1	1	1	1	1	1	1
Cap, veh/h	109	1843	866	269	2017	920	413	403	361	338	408	365
Arrive On Green	0.02	0.54	0.54	0.06	0.58	0.58	0.06	0.25	0.23	0.04	0.23	0.21
Sat Flow, veh/h	1792	3438	1615	1707	3505	1599	1792	1630	1459	1792	1787	1599
Grp Volume(v), veh/h	71	1183	131	195	1880	95	320	42	95	63	23	32
Grp Sat Flow(s),veh/h/ln	1792	1719	1615	1707	1752	1599	1792	1630	1459	1792	1787	1599
Q Serve(g_s), s	2.7	34.1	5.7	7.4	68.7	3.8	8.0	2.8	7.5	3.8	1.4	2.2
Cycle Q Clear(g_c), s	2.7	34.1	5.7	7.4	68.7	3.8	8.0	2.8	7.5	3.8	1.4	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	1843	866	269	2017	920	413	403	361	338	408	365
V/C Ratio(X)	0.65	0.64	0.15	0.72	0.93	0.10	0.77	0.10	0.26	0.19	0.06	0.09
Avail Cap(c_a), veh/h	155	1843	866	416	2017	920	413	403	361	345	408	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	23.0	16.4	22.1	27.2	13.4	48.8	40.7	43.3	41.4	42.2	43.3
Incr Delay (d2), s/veh	6.4	1.7	0.4	3.7	9.3	0.2	8.9	0.5	1.8	0.3	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	16.5	2.6	4.0	35.8	1.7	8.9	1.3	3.2	1.9	0.7	1.0
LnGrp Delay(d),s/veh	39.5	24.7	16.8	25.8	36.5	13.6	57.7	41.2	45.1	41.6	42.5	43.8
LnGrp LOS	D	C	B	C	D	B	E	D	D	D	D	D
Approach Vol, veh/h	1385				2170				457			
Approach Delay, s/veh	24.7				34.6				53.5			
Approach LOS	C				C				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	79.1	12.0	36.0	7.4	84.6	9.4	38.6				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	22.0	61.0	9.0	30.0	8.0	75.0	7.0	32.0				
Max Q Clear Time (g_c+I1), s	9.4	36.1	10.0	4.2	4.7	70.7	5.8	9.5				
Green Ext Time (p_c), s	0.6	23.6	0.0	1.3	0.0	4.2	0.0	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay	33.6											
HCM 2010 LOS	C											
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 2010 Signalized Intersection Summary

3: Sixth Line & Dundas Street

2025 Background Traffic

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	1071	42	206	1789	255	85	644	141	183	386	116
Future Volume (veh/h)	120	1071	42	206	1789	255	85	644	141	183	386	116
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1863	1900	1696	1819	1900	1900	1871	1900
Adj Flow Rate, veh/h	120	1071	42	206	1789	255	85	644	141	183	386	116
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	4	0	0	2	0	12	5	5	0	2	2
Cap, veh/h	134	1751	815	307	1872	866	227	665	145	194	724	215
Arrive On Green	0.04	0.50	0.50	0.07	0.53	0.54	0.05	0.24	0.24	0.08	0.27	0.27
Sat Flow, veh/h	1810	3471	1615	1810	3539	1615	1616	2821	617	1810	2704	803
Grp Volume(v), veh/h	120	1071	42	206	1789	255	85	394	391	183	252	250
Grp Sat Flow(s),veh/h/ln	1810	1736	1615	1810	1770	1615	1616	1728	1710	1810	1778	1729
Q Serve(g_s), s	4.8	31.0	1.9	7.8	67.4	12.2	5.7	31.6	31.7	10.9	17.0	17.3
Cycle Q Clear(g_c), s	4.8	31.0	1.9	7.8	67.4	12.2	5.7	31.6	31.7	10.9	17.0	17.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.46
Lane Grp Cap(c), veh/h	134	1751	815	307	1872	866	227	407	403	194	476	463
V/C Ratio(X)	0.90	0.61	0.05	0.67	0.96	0.29	0.37	0.97	0.97	0.95	0.53	0.54
Avail Cap(c_a), veh/h	134	1751	815	432	1872	866	278	407	403	194	476	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.8	24.9	17.7	21.5	31.4	17.9	41.0	53.0	52.8	41.0	43.8	43.7
Incr Delay (d2), s/veh	48.1	1.6	0.1	2.5	12.6	0.9	1.0	36.1	36.8	49.0	1.1	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	15.1	0.8	4.1	36.1	5.6	2.6	19.2	19.1	8.0	8.5	8.4
LnGrp Delay(d),s/veh	81.9	26.5	17.8	24.0	44.0	18.7	42.0	89.0	89.6	90.1	44.9	44.9
LnGrp LOS	F	C	B	C	D	B	D	F	F	F	D	D
Approach Vol, veh/h	1233			2250			870			685		
Approach Delay, s/veh	31.6			39.3			84.7			57.0		
Approach LOS	C			D			F			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	74.6	10.5	41.5	9.9	78.1	15.0	37.0				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	20.0	59.0	12.0	31.0	7.0	72.0	12.0	31.0				
Max Q Clear Time (g_c+l1), s	9.8	33.0	7.7	19.3	6.8	69.4	12.9	33.7				
Green Ext Time (p_c), s	0.5	24.2	0.1	6.7	0.0	2.6	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	47.7											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

4: Trafalgar Road & Wheat Boom Drive

2025 Background Traffic

PM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	114	29	1473	111	70	1676		
Future Volume (veh/h)	114	29	1473	111	70	1676		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	114	29	1473	111	70	1676		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	156	140	2755	1233	279	2755		
Arrive On Green	0.09	0.09	0.78	0.78	0.78	0.78		
Sat Flow, veh/h	1774	1583	3632	1583	321	3632		
Grp Volume(v), veh/h	114	29	1473	111	70	1676		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	321	1770		
Q Serve(g_s), s	5.6	1.5	14.2	1.5	9.5	17.9		
Cycle Q Clear(g_c), s	5.6	1.5	14.2	1.5	23.7	17.9		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	156	140	2755	1233	279	2755		
V/C Ratio(X)	0.73	0.21	0.53	0.09	0.25	0.61		
Avail Cap(c_a), veh/h	591	528	2755	1233	279	2755		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.80	0.80		
Uniform Delay (d), s/veh	40.0	38.1	3.8	2.4	8.3	4.2		
Incr Delay (d2), s/veh	6.3	0.7	0.7	0.1	1.7	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.0	0.7	7.0	0.7	1.0	8.9		
LnGrp Delay(d),s/veh	46.3	38.8	4.5	2.5	10.0	5.0		
LnGrp LOS	D	D	A	A	B	A		
Approach Vol, veh/h	143		1584			1746		
Approach Delay, s/veh	44.8		4.4			5.2		
Approach LOS	D		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		76.1				76.1		13.9
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		48.0				48.0		30.0
Max Q Clear Time (g_c+I1), s		16.2				25.7		7.6
Green Ext Time (p_c), s		30.1				21.4		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			6.5					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

5: Trafalgar Road & Threshing Mill Boulevard

2025 Background Traffic

PM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	76	26	1370	122	91	1671		
Future Volume (veh/h)	76	26	1370	122	91	1671		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	76	26	1370	122	91	1671		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	149	98	2927	1309	332	2927		
Arrive On Green	0.08	0.06	0.83	0.83	0.83	0.83		
Sat Flow, veh/h	1774	1583	3632	1583	351	3632		
Grp Volume(v), veh/h	76	26	1370	122	91	1671		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1583	351	1770		
Q Serve(g_s), s	3.7	1.4	9.8	1.3	8.9	13.9		
Cycle Q Clear(g_c), s	3.7	1.4	9.8	1.3	18.7	13.9		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	149	98	2927	1309	332	2927		
V/C Ratio(X)	0.51	0.26	0.47	0.09	0.27	0.57		
Avail Cap(c_a), veh/h	631	528	2927	1309	332	2927		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.84	0.84	1.00	1.00		
Uniform Delay (d), s/veh	39.4	40.3	2.2	1.5	4.8	2.6		
Incr Delay (d2), s/veh	2.7	1.4	0.5	0.1	2.0	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	0.7	4.8	0.6	1.0	6.8		
LnGrp Delay(d),s/veh	42.1	41.7	2.7	1.6	6.9	3.4		
LnGrp LOS	D	D	A	A	A	A		
Approach Vol, veh/h	102		1492			1762		
Approach Delay, s/veh	42.0		2.6			3.6		
Approach LOS	D		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		78.4				78.4		11.6
Change Period (Y+Rc), s		6.0				6.0		6.0
Max Green Setting (Gmax), s		48.0				48.0		30.0
Max Q Clear Time (g_c+I1), s		11.8				20.7		5.7
Green Ext Time (p_c), s		33.7				25.8		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			4.3					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

2: Oak Park Blvd/Ernest Appelbe Boulevard & Dundas Street

2025 Total Traffic
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	2071	180	138	1221	14	122	15	124	83	62	96
Future Volume (veh/h)	30	2071	180	138	1221	14	122	15	124	83	62	96
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1827	1845	1597	1743	1881	1743	1661	1900	1881	1881	1900
Adj Flow Rate, veh/h	30	2071	180	138	1221	14	122	15	124	83	62	96
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	4	3	19	9	1	9	1	1	1	1	1
Cap, veh/h	300	2173	981	150	2366	1142	231	361	323	217	408	365
Arrive On Green	0.63	0.63	0.63	0.06	0.71	0.71	0.21	0.23	0.21	0.21	0.23	0.21
Sat Flow, veh/h	454	3471	1568	1521	3312	1599	1145	1578	1412	1257	1787	1599
Grp Volume(v), veh/h	30	2071	180	138	1221	14	122	15	124	83	62	96
Grp Sat Flow(s),veh/h/ln	454	1736	1568	1521	1656	1599	1145	1578	1412	1257	1787	1599
Q Serve(g_s), s	4.5	77.5	6.8	7.2	23.4	0.4	14.1	1.0	10.5	8.6	3.9	7.0
Cycle Q Clear(g_c), s	15.5	77.5	6.8	7.2	23.4	0.4	21.1	1.0	10.5	19.1	3.9	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	2173	981	150	2366	1142	231	361	323	217	408	365
V/C Ratio(X)	0.10	0.95	0.18	0.92	0.52	0.01	0.53	0.04	0.38	0.38	0.15	0.26
Avail Cap(c_a), veh/h	300	2173	981	211	2366	1142	231	361	323	217	408	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	24.3	11.1	44.4	9.1	5.8	55.7	42.1	46.6	56.5	43.2	45.2
Incr Delay (d2), s/veh	0.7	11.1	0.4	33.4	0.8	0.0	8.4	0.2	3.4	5.0	0.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	40.2	3.1	6.7	10.8	0.2	5.0	0.5	4.4	3.3	2.0	3.3
LnGrp Delay(d),s/veh	16.0	35.3	11.5	77.8	9.9	5.8	64.0	42.3	50.0	61.5	43.9	46.9
LnGrp LOS	B	D	B	E	A	A	E	D	D	E	D	D
Approach Vol, veh/h	2281				1373				261			
Approach Delay, s/veh	33.2				16.6				56.1			
Approach LOS	C				B				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.4	91.6		36.0		104.0		36.0				
Change Period (Y+Rc), s	3.0	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	15.0	80.0		30.0		98.0		30.0				
Max Q Clear Time (g_c+l1), s	9.2	79.5		21.1		25.4		23.1				
Green Ext Time (p_c), s	0.2	0.5		2.1		66.4		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay	30.2											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

3: Sixth Line & Dundas Street

2025 Total Traffic
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	263	1951	101	132	921	73	44	383	190	272	677	90
Future Volume (veh/h)	263	1951	101	132	921	73	44	383	190	272	677	90
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1845	1727	1727	1727	1845	1900	1900	1863	1900	1900
Adj Flow Rate, veh/h	263	1951	101	132	921	73	44	383	190	272	677	90
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	3	10	10	10	3	0	0	2	0	0
Cap, veh/h	354	1813	803	134	1556	706	165	492	241	280	928	123
Arrive On Green	0.09	0.51	0.51	0.05	0.47	0.48	0.03	0.21	0.22	0.11	0.29	0.30
Sat Flow, veh/h	1810	3539	1568	1645	3282	1468	1757	2352	1150	1774	3204	426
Grp Volume(v), veh/h	263	1951	101	132	921	73	44	293	280	272	381	386
Grp Sat Flow(s),veh/h/ln	1810	1770	1568	1645	1641	1468	1757	1805	1697	1774	1805	1825
Q Serve(g_s), s	10.6	71.7	4.7	6.8	28.7	3.8	2.8	21.4	21.9	16.0	26.6	26.7
Cycle Q Clear(g_c), s	10.6	71.7	4.7	6.8	28.7	3.8	2.8	21.4	21.9	16.0	26.6	26.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.23
Lane Grp Cap(c), veh/h	354	1813	803	134	1556	706	165	377	355	280	523	528
V/C Ratio(X)	0.74	1.08	0.13	0.99	0.59	0.10	0.27	0.78	0.79	0.97	0.73	0.73
Avail Cap(c_a), veh/h	478	1813	803	134	1556	706	206	413	388	280	523	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	34.1	17.8	38.0	26.9	19.8	44.4	52.3	52.1	42.7	44.8	44.7
Incr Delay (d2), s/veh	4.2	44.9	0.3	73.8	1.7	0.3	0.9	8.3	9.8	45.3	5.1	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	46.1	2.1	7.8	13.4	1.6	1.4	11.6	11.2	6.2	14.0	14.1
LnGrp Delay(d),s/veh	26.6	79.0	18.1	111.8	28.6	20.1	45.3	60.6	61.9	88.0	49.9	49.8
LnGrp LOS	C	F	B	F	C	C	D	E	E	F	D	D
Approach Vol, veh/h	2315			1126				617			1039	
Approach Delay, s/veh	70.4			37.8				60.1			59.8	
Approach LOS	E			D				E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	75.7	8.7	44.5	16.4	70.4	20.0	33.3				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	8.0	67.0	9.0	38.0	23.0	52.0	17.0	30.0				
Max Q Clear Time (g_c+l1), s	8.8	73.7	4.8	28.7	12.6	30.7	18.0	23.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	5.8	0.8	20.0	0.0	3.4				
Intersection Summary												
HCM 2010 Ctrl Delay	59.8											
HCM 2010 LOS	E											

HCM 2010 Signalized Intersection Summary

4: Trafalgar Road & Street A/Wheat Boom Drive

2025 Total Traffic
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	9	148	239	1	53	30	1445	24	17	1733	9
Future Volume (veh/h)	49	9	148	239	1	53	30	1445	24	17	1733	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	49	9	148	239	1	53	30	1445	24	17	1733	9
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	446	525	470	354	525	470	123	2018	903	178	2018	903
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.57	0.57	0.57	0.57	0.57	0.57
Sat Flow, veh/h	1345	1770	1583	1225	1770	1583	276	3539	1583	359	3539	1583
Grp Volume(v), veh/h	49	9	148	239	1	53	30	1445	24	17	1733	9
Grp Sat Flow(s),veh/h/ln	1345	1770	1583	1225	1770	1583	276	1770	1583	359	1770	1583
Q Serve(g_s), s	2.5	0.3	6.5	16.9	0.0	2.2	9.3	26.7	0.6	3.2	37.1	0.2
Cycle Q Clear(g_c), s	4.7	0.3	6.5	23.5	0.0	2.2	46.4	26.7	0.6	29.9	37.1	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	446	525	470	354	525	470	123	2018	903	178	2018	903
V/C Ratio(X)	0.11	0.02	0.32	0.67	0.00	0.11	0.24	0.72	0.03	0.10	0.86	0.01
Avail Cap(c_a), veh/h	495	590	528	399	590	528	123	2018	903	178	2018	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76
Uniform Delay (d), s/veh	24.7	22.4	24.6	33.7	22.3	23.0	35.8	14.1	8.4	24.9	16.3	8.4
Incr Delay (d2), s/veh	0.1	0.0	0.4	3.8	0.0	0.1	4.6	2.2	0.1	0.8	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.2	2.9	6.1	0.0	1.0	0.9	13.5	0.3	0.4	18.9	0.1
LnGrp Delay(d),s/veh	24.8	22.4	24.9	37.5	22.3	23.1	40.4	16.3	8.5	25.7	20.2	8.4
LnGrp LOS	C	C	C	D	C	C	D	B	A	C	C	A
Approach Vol, veh/h	206			293			1499			1759		
Approach Delay, s/veh	24.8			34.8			16.6			20.2		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	57.3		32.7		57.3		32.7					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	48.0		30.0		48.0		30.0					
Max Q Clear Time (g_c+l1), s	48.4		8.5		39.1		25.5					
Green Ext Time (p_c), s	0.0		3.0		8.7		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay	20.1											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

5: Trafalgar Road & Street B/Threshing Mill Boulevard

2025 Total Traffic
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	7	195	158	1	48	40	1478	27	21	1428	10
Future Volume (veh/h)	53	7	195	158	1	48	40	1478	27	21	1428	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	53	7	195	158	1	48	40	1478	27	21	1428	10
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	416	481	431	279	481	431	199	2105	942	165	2105	942
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.40	0.40	0.40	0.59	0.59	0.59
Sat Flow, veh/h	1351	1770	1583	1175	1770	1583	370	3539	1583	347	3539	1583
Grp Volume(v), veh/h	53	7	195	158	1	48	40	1478	27	21	1428	10
Grp Sat Flow(s),veh/h/ln	1351	1770	1583	1175	1770	1583	370	1770	1583	347	1770	1583
Q Serve(g_s), s	2.8	0.3	9.2	11.6	0.0	2.0	8.2	31.4	0.9	4.4	24.7	0.2
Cycle Q Clear(g_c), s	4.8	0.3	9.2	20.8	0.0	2.0	32.9	31.4	0.9	35.8	24.7	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	416	481	431	279	481	431	199	2105	942	165	2105	942
V/C Ratio(X)	0.13	0.01	0.45	0.57	0.00	0.11	0.20	0.70	0.03	0.13	0.68	0.01
Avail Cap(c_a), veh/h	499	590	528	352	590	528	199	2105	942	165	2105	942
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	24.0	27.2	35.8	23.9	24.6	31.3	20.4	11.2	27.2	12.4	7.4
Incr Delay (d2), s/veh	0.1	0.0	0.7	1.8	0.0	0.1	1.6	1.4	0.0	1.6	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.1	4.1	3.9	0.0	0.9	0.9	15.7	0.4	0.5	12.4	0.1
LnGrp Delay(d),s/veh	26.5	24.0	28.0	37.6	23.9	24.7	32.9	21.8	11.3	28.8	14.2	7.5
LnGrp LOS	C	C	C	D	C	C	C	C	B	C	B	A
Approach Vol, veh/h	255			207			1545			1459		
Approach Delay, s/veh	27.5			34.6			21.9			14.3		
Approach LOS	C			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	59.5		30.5		59.5		30.5					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	48.0		30.0		48.0		30.0					
Max Q Clear Time (g_c+I1), s	34.9		11.2		37.8		22.8					
Green Ext Time (p_c), s	12.5		2.8		9.9		1.7					
Intersection Summary												
HCM 2010 Ctrl Delay	19.9											
HCM 2010 LOS	B											

HCM 2010 TWSC
6: Street C & Street B

2025 Total Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	6	70	15	19	16	13	3	11	51	62	33	8
Future Vol, veh/h	6	70	15	19	16	13	3	11	51	62	33	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	70	15	19	16	13	3	11	51	62	33	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	29	0	0	85	0	0	153	157	43	114	158	15
Stage 1	-	-	-	-	-	-	90	90	-	61	61	-
Stage 2	-	-	-	-	-	-	63	67	-	53	97	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1582	-	-	1509	-	-	799	734	1018	851	733	1061
Stage 1	-	-	-	-	-	-	907	820	-	943	843	-
Stage 2	-	-	-	-	-	-	941	838	-	953	814	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1582	-	-	1509	-	-	755	722	1018	789	721	1061
Mov Cap-2 Maneuver	-	-	-	-	-	-	755	722	-	789	721	-
Stage 1	-	-	-	-	-	-	903	817	-	939	832	-
Stage 2	-	-	-	-	-	-	885	827	-	889	811	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.5			2.9			9			10.1		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	733	979	1582	-	-	1509	-	-	774	805		
HCM Lane V/C Ratio	0.012	0.058	0.004	-	-	0.013	-	-	0.101	0.03		
HCM Control Delay (s)	10	8.9	7.3	0	-	7.4	0	-	10.2	9.6		
HCM Lane LOS	B	A	A	A	-	A	A	-	B	A		
HCM 95th %tile Q(veh)	0	0.2	0	-	-	0	-	-	0.3	0.1		

HCM 2010 AWSC
7: Street A & Street C

2025 Total Traffic
AM Peak Hour

Intersection									
Intersection Delay, s/veh	8.1								
Intersection LOS	A								
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	14	31	0	16	23	0	106	47
Future Vol, veh/h	0	14	31	0	16	23	0	106	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	14	31	0	16	23	0	106	47
Number of Lanes	0	0	2	0	2	0	0	1	1
Approach									
Approach	EB			WB			SB		
Opposing Approach	WB			EB					
Opposing Lanes	2			2			0		
Conflicting Approach Left	SB						WB		
Conflicting Lanes Left	2			0			2		
Conflicting Approach Right				SB			EB		
Conflicting Lanes Right	0			2			2		
HCM Control Delay	8			7.4			8.3		
HCM LOS	A			A			A		
Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2			
Vol Left, %	58%	0%	0%	0%	100%	0%			
Vol Thru, %	42%	100%	100%	19%	0%	0%			
Vol Right, %	0%	0%	0%	81%	0%	100%			
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop			
Traffic Vol by Lane	24	21	11	28	106	47			
LT Vol	14	0	0	0	106	0			
Through Vol	10	21	11	5	0	0			
RT Vol	0	0	0	23	0	47			
Lane Flow Rate	24	21	11	28	106	47			
Geometry Grp	7	7	7	7	7	7			
Degree of Util (X)	0.035	0.028	0.015	0.035	0.152	0.052			
Departure Headway (Hd)	5.247	4.958	4.969	4.399	5.174	3.973			
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes			
Cap	686	726	725	819	688	891			
Service Time	2.949	2.66	2.669	2.099	2.946	1.745			
HCM Lane V/C Ratio	0.035	0.029	0.015	0.034	0.154	0.053			
HCM Control Delay	8.1	7.8	7.7	7.3	8.9	7			
HCM Lane LOS	A	A	A	A	A	A			
HCM 95th-tile Q	0.1	0.1	0	0.1	0.5	0.2			

HCM 2010 AWSC

11: Ernest Appelbe Boulevard & Street B

2025 Total Traffic
AM Peak Hour

Intersection									
Intersection Delay, s/veh	7.4								
Intersection LOS	A								
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	1	0	0	23	4	0	0	13
Future Vol, veh/h	0	1	0	0	23	4	0	0	13
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	0	0	23	4	0	0	13
Number of Lanes	0	2	0	0	0	2	0	1	1
Approach		EB		WB		NB			
Opposing Approach		WB		EB					
Opposing Lanes		2		2		0			
Conflicting Approach Left				NB		EB			
Conflicting Lanes Left		0		2		2			
Conflicting Approach Right		NB				WB			
Conflicting Lanes Right		2		0		2			
HCM Control Delay		6.4		7.8		6.7			
HCM LOS		A		A		A			
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2			
Vol Left, %	0%	0%	0%	0%	95%	0%			
Vol Thru, %	100%	0%	100%	100%	5%	100%			
Vol Right, %	0%	100%	0%	0%	0%	0%			
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop			
Traffic Vol by Lane	0	13	1	1	24	3			
LT Vol	0	0	0	0	23	0			
Through Vol	0	0	1	1	1	3			
RT Vol	0	13	0	0	0	0			
Lane Flow Rate	0	13	0	0	24	3			
Geometry Grp	7	7	7	7	7	7			
Degree of Util (X)	0	0.014	0.001	0	0.034	0.003			
Departure Headway (Hd)	4.581	3.88	4.571	2.836	5.03	4.558			
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes			
Cap	0	922	786	1264	715	789			
Service Time	2.307	1.607	2.282	0.547	2.735	2.262			
HCM Lane V/C Ratio	0	0.014	0	0	0.034	0.004			
HCM Control Delay	7.3	6.7	7.3	5.5	7.9	7.3			
HCM Lane LOS	N	A	A	A	A	A			
HCM 95th-tile Q	0	0	0	0	0.1	0			

HCM 2010 Signalized Intersection Summary

2: Oak Park Blvd/Ernest Appelbe Boulevard & Dundas Street

2025 Total Traffic
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	1201	131	194	1891	61	320	60	95	42	31	53
Future Volume (veh/h)	112	1201	131	194	1891	61	320	60	95	42	31	53
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1881	1810	1900	1792	1845	1881	1881	1734	1900	1881	1881	1900
Adj Flow Rate, veh/h	112	1201	131	194	1891	61	320	60	95	42	31	53
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	1	5	0	6	3	1	1	1	1	1	1	1
Cap, veh/h	124	1844	866	265	1974	900	392	416	372	332	408	365
Arrive On Green	0.04	0.54	0.54	0.06	0.56	0.56	0.06	0.25	0.24	0.03	0.23	0.21
Sat Flow, veh/h	1792	3438	1615	1707	3505	1599	1792	1647	1474	1792	1787	1599
Grp Volume(v), veh/h	112	1201	131	194	1891	61	320	60	95	42	31	53
Grp Sat Flow(s),veh/h/ln	1792	1719	1615	1707	1752	1599	1792	1647	1474	1792	1787	1599
Q Serve(g_s), s	4.2	34.8	5.7	7.3	71.7	2.4	8.0	4.0	7.3	2.6	1.9	3.8
Cycle Q Clear(g_c), s	4.2	34.8	5.7	7.3	71.7	2.4	8.0	4.0	7.3	2.6	1.9	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	124	1844	866	265	1974	900	392	416	372	332	408	365
V/C Ratio(X)	0.90	0.65	0.15	0.73	0.96	0.07	0.82	0.14	0.26	0.13	0.08	0.15
Avail Cap(c_a), veh/h	148	1844	866	412	1974	900	392	416	372	350	408	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	23.1	16.4	22.6	29.0	13.9	49.5	40.6	42.6	41.4	42.4	43.9
Incr Delay (d2), s/veh	42.2	1.8	0.4	3.9	12.5	0.1	12.6	0.7	1.6	0.2	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	17.0	2.6	4.1	37.8	1.1	9.5	1.9	3.1	1.3	1.0	1.7
LnGrp Delay(d),s/veh	75.6	24.9	16.7	26.5	41.5	14.0	62.1	41.3	44.3	41.6	42.8	44.7
LnGrp LOS	E	C	B	C	D	B	E	D	D	D	D	D
Approach Vol, veh/h	1444				2146				475			
Approach Delay, s/veh	28.1				39.4				55.9			
Approach LOS	C				D				E			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	79.1	12.0	36.0	9.2	82.8	8.6	39.4				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	22.0	61.0	9.0	30.0	8.0	75.0	7.0	32.0				
Max Q Clear Time (g_c+I1), s	9.3	36.8	10.0	5.8	6.2	73.7	4.6	9.3				
Green Ext Time (p_c), s	0.6	22.9	0.0	1.6	0.1	1.3	0.0	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	37.5											
HCM 2010 LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM 2010 Signalized Intersection Summary

3: Sixth Line & Dundas Street

2025 Total Traffic
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	1144	42	206	1830	255	77	644	141	183	386	116
Future Volume (veh/h)	120	1144	42	206	1830	255	77	644	141	183	386	116
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1827	1900	1900	1863	1900	1696	1819	1900	1900	1871	1900
Adj Flow Rate, veh/h	120	1144	42	206	1830	255	77	644	141	183	386	116
Adj No. of Lanes	1	2	1	1	2	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	4	0	0	2	0	12	5	5	0	2	2
Cap, veh/h	129	1751	815	288	1871	865	224	665	145	194	735	218
Arrive On Green	0.04	0.50	0.50	0.07	0.53	0.54	0.04	0.24	0.24	0.08	0.27	0.28
Sat Flow, veh/h	1810	3471	1615	1810	3539	1615	1616	2821	617	1810	2704	803
Grp Volume(v), veh/h	120	1144	42	206	1830	255	77	394	391	183	252	250
Grp Sat Flow(s),veh/h/ln	1810	1736	1615	1810	1770	1615	1616	1728	1710	1810	1778	1729
Q Serve(g_s), s	5.2	34.1	1.9	7.8	70.7	12.2	5.2	31.6	31.7	10.9	16.9	17.2
Cycle Q Clear(g_c), s	5.2	34.1	1.9	7.8	70.7	12.2	5.2	31.6	31.7	10.9	16.9	17.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.46
Lane Grp Cap(c), veh/h	129	1751	815	288	1871	865	224	407	403	194	484	470
V/C Ratio(X)	0.93	0.65	0.05	0.72	0.98	0.29	0.34	0.97	0.97	0.95	0.52	0.53
Avail Cap(c_a), veh/h	129	1751	815	412	1871	865	282	407	403	194	484	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	25.6	17.7	23.2	32.2	17.9	41.2	53.0	52.8	41.0	43.2	43.1
Incr Delay (d2), s/veh	57.1	1.9	0.1	3.3	16.3	0.9	0.9	36.1	36.8	49.0	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	16.8	0.8	4.2	38.5	5.7	2.4	19.2	19.1	8.0	8.4	8.4
LnGrp Delay(d),s/veh	93.9	27.6	17.8	26.5	48.5	18.8	42.1	89.0	89.6	90.1	44.2	44.3
LnGrp LOS	F	C	B	C	D	B	D	F	F	F	D	D
Approach Vol, veh/h	1306			2291			862			685		
Approach Delay, s/veh	33.3			43.2			85.1			56.5		
Approach LOS	C			D			F			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	74.6	9.9	42.1	10.0	78.0	15.0	37.0				
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0				
Max Green Setting (Gmax), s	20.0	59.0	12.0	31.0	7.0	72.0	12.0	31.0				
Max Q Clear Time (g_c+l1), s	9.8	36.1	7.2	19.2	7.2	72.7	12.9	33.7				
Green Ext Time (p_c), s	0.5	21.7	0.1	6.7	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	49.5											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

4: Trafalgar Road & Street A/Wheat Boom Drive

2025 Total Traffic
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	4	70	114	9	29	140	1648	111	70	1731	48
Future Volume (veh/h)	21	4	70	114	9	29	140	1648	111	70	1731	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	21	4	70	114	9	29	140	1648	111	70	1731	48
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	279	249	236	279	249	195	2510	1123	204	2510	1123
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	1364	1770	1583	1320	1770	1583	266	3539	1583	271	3539	1583
Grp Volume(v), veh/h	21	4	70	114	9	29	140	1648	111	70	1731	48
Grp Sat Flow(s),veh/h/ln	1364	1770	1583	1320	1770	1583	266	1770	1583	271	1770	1583
Q Serve(g_s), s	1.2	0.2	3.5	7.5	0.4	1.4	38.8	22.8	2.0	17.0	25.0	0.8
Cycle Q Clear(g_c), s	2.6	0.2	3.5	11.0	0.4	1.4	63.8	22.8	2.0	39.8	25.0	0.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	279	249	236	279	249	195	2510	1123	204	2510	1123
V/C Ratio(X)	0.08	0.01	0.28	0.48	0.03	0.12	0.72	0.66	0.10	0.34	0.69	0.04
Avail Cap(c_a), veh/h	513	590	528	469	590	528	195	2510	1123	204	2510	1123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	33.7	32.0	33.4	38.3	32.1	32.5	29.1	7.1	4.1	18.0	7.4	3.9
Incr Delay (d2), s/veh	0.1	0.0	0.6	1.5	0.0	0.2	20.4	1.4	0.2	3.6	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.1	1.6	2.8	0.2	0.6	4.6	11.5	0.9	1.5	12.5	0.4
LnGrp Delay(d),s/veh	33.8	32.0	34.0	39.8	32.2	32.7	49.5	8.5	4.3	21.5	8.7	4.0
LnGrp LOS	C	C	C	D	C	C	D	A	A	C	A	A
Approach Vol, veh/h	95			152			1899			1849		
Approach Delay, s/veh	33.9			38.0			11.3			9.1		
Approach LOS	C			D			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	69.8		20.2		69.8		20.2					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	48.0		30.0		48.0		30.0					
Max Q Clear Time (g_c+l1), s	65.8		5.5		41.8		13.0					
Green Ext Time (p_c), s	0.0		1.4		6.1		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay	11.8											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

5: Trafalgar Road & Street B/Threshing Mill Boulevard

2025 Total Traffic
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	3	90	76	7	26	187	1378	122	91	1684	50
Future Volume (veh/h)	25	3	90	76	7	26	187	1378	122	91	1684	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	25	3	90	76	7	26	187	1378	122	91	1684	50
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	1	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	290	259	226	290	259	224	2646	1184	284	2646	1184
Arrive On Green	0.16	0.16	0.14	0.16	0.16	0.14	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	1370	1770	1583	1298	1770	1583	278	3539	1583	348	3539	1583
Grp Volume(v), veh/h	25	3	90	76	7	26	187	1378	122	91	1684	50
Grp Sat Flow(s),veh/h/ln	1370	1770	1583	1298	1770	1583	278	1770	1583	348	1770	1583
Q Serve(g_s), s	1.4	0.1	4.6	5.0	0.3	1.3	46.6	14.5	1.9	13.2	20.6	0.7
Cycle Q Clear(g_c), s	2.7	0.1	4.6	9.6	0.3	1.3	67.3	14.5	1.9	27.6	20.6	0.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	285	290	259	226	290	259	224	2646	1184	284	2646	1184
V/C Ratio(X)	0.09	0.01	0.35	0.34	0.02	0.10	0.83	0.52	0.10	0.32	0.64	0.04
Avail Cap(c_a), veh/h	548	629	563	475	629	563	224	2646	1184	284	2646	1184
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.2	31.5	34.3	37.7	31.6	32.9	27.0	4.7	3.1	10.4	5.5	3.0
Incr Delay (d2), s/veh	0.1	0.0	0.8	0.9	0.0	0.2	23.5	0.6	0.1	2.9	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.1	2.1	1.8	0.1	0.6	6.1	7.1	0.9	1.5	10.3	0.3
LnGrp Delay(d),s/veh	33.3	31.5	35.1	38.5	31.6	33.0	50.6	5.3	3.2	13.4	6.7	3.0
LnGrp LOS	C	C	D	D	C	C	D	A	A	B	A	A
Approach Vol, veh/h	118			109			1687			1825		
Approach Delay, s/veh	34.6			36.8			10.1			6.9		
Approach LOS	C			D			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	71.3		18.7		71.3		18.7					
Change Period (Y+Rc), s	6.0		6.0		6.0		6.0					
Max Green Setting (Gmax), s	48.0		30.0		48.0		30.0					
Max Q Clear Time (g_c+I1), s	69.3		6.6		29.6		11.6					
Green Ext Time (p_c), s	0.0		1.3		18.0		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay	10.1											
HCM 2010 LOS	B											

HCM 2010 TWSC
6: Street C & Street B

2025 Total Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	5.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	9	34	7	51	67	59	14	31	32	29	20	8
Future Vol, veh/h	9	34	7	51	67	59	14	31	32	29	20	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	34	7	51	67	59	14	31	32	29	20	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	126	0	0	41	0	0	202	284	21	250	258	63
Stage 1	-	-	-	-	-	-	56	56	-	199	199	-
Stage 2	-	-	-	-	-	-	146	228	-	51	59	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1458	-	-	1567	-	-	738	624	1051	683	645	988
Stage 1	-	-	-	-	-	-	949	848	-	784	735	-
Stage 2	-	-	-	-	-	-	842	714	-	956	845	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1458	-	-	1567	-	-	692	599	1051	616	619	988
Mov Cap-2 Maneuver	-	-	-	-	-	-	692	599	-	616	619	-
Stage 1	-	-	-	-	-	-	943	843	-	779	709	-
Stage 2	-	-	-	-	-	-	783	689	-	887	840	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			2.2			10			10.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	640	843	1458	-	-	1567	-	-	617	742		
HCM Lane V/C Ratio	0.046	0.056	0.006	-	-	0.033	-	-	0.063	0.024		
HCM Control Delay (s)	10.9	9.5	7.5	0	-	7.4	0.1	-	11.2	10		
HCM Lane LOS	B	A	A	A	-	A	A	-	B	B		
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0.1	-	-	0.2	0.1		

HCM 2010 AWSC
7: Street A & Street C

2025 Total Traffic
PM Peak Hour

Intersection									
Intersection Delay, s/veh	7.9								
Intersection LOS	A								
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBU	SBL	SBR
Traffic Vol, veh/h	0	44	22	0	34	101	0	51	26
Future Vol, veh/h	0	44	22	0	34	101	0	51	26
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	44	22	0	34	101	0	51	26
Number of Lanes	0	0	2	0	2	0	0	1	1
Approach	EB			WB			SB		
Opposing Approach	WB			EB					
Opposing Lanes	2			2			0		
Conflicting Approach Left	SB						WB		
Conflicting Lanes Left	2			0			2		
Conflicting Approach Right				SB			EB		
Conflicting Lanes Right	0			2			2		
HCM Control Delay	8.2			7.5			8.2		
HCM LOS	A			A			A		
Lane	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2			
Vol Left, %	86%	0%	0%	0%	100%	0%			
Vol Thru, %	14%	100%	100%	10%	0%	0%			
Vol Right, %	0%	0%	0%	90%	0%	100%			
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop			
Traffic Vol by Lane	51	15	23	112	51	26			
LT Vol	44	0	0	0	51	0			
Through Vol	7	15	23	11	0	0			
RT Vol	0	0	0	101	0	26			
Lane Flow Rate	51	15	23	112	51	26			
Geometry Grp	7	7	7	7	7	7			
Degree of Util (X)	0.074	0.019	0.03	0.127	0.078	0.031			
Departure Headway (Hd)	5.272	4.843	4.803	4.172	5.497	4.295			
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes			
Cap	684	744	750	865	656	839			
Service Time	2.972	2.543	2.503	1.872	3.197	1.995			
HCM Lane V/C Ratio	0.075	0.02	0.031	0.129	0.078	0.031			
HCM Control Delay	8.4	7.6	7.7	7.5	8.7	7.1			
HCM Lane LOS	A	A	A	A	A	A			
HCM 95th-tile Q	0.2	0.1	0.1	0.4	0.3	0.1			

11: Ernest Appelbe Boulevard & Street B

PM Peak Hour

Intersection									
Intersection Delay, s/veh	7.2								
Intersection LOS	A								
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBU	NBL	NBR
Traffic Vol, veh/h	0	4	0	0	19	2	0	0	24
Future Vol, veh/h	0	4	0	0	19	2	0	0	24
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	0	0	19	2	0	0	24
Number of Lanes	0	2	0	0	0	2	0	1	1
Approach		EB		WB		NB			
Opposing Approach		WB		EB					
Opposing Lanes		2		2		0			
Conflicting Approach Left				NB		EB			
Conflicting Lanes Left		0		2		2			
Conflicting Approach Right		NB				WB			
Conflicting Lanes Right		2		0		2			
HCM Control Delay		6.5		7.9		6.7			
HCM LOS		A		A		A			
Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2			
Vol Left, %	0%	0%	0%	0%	97%	0%			
Vol Thru, %	100%	0%	100%	100%	3%	100%			
Vol Right, %	0%	100%	0%	0%	0%	0%			
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop			
Traffic Vol by Lane	0	24	2	2	20	1			
LT Vol	0	0	0	0	19	0			
Through Vol	0	0	2	2	1	1			
RT Vol	0	24	0	0	0	0			
Lane Flow Rate	0	24	2	2	20	1			
Geometry Grp	7	7	7	7	7	7			
Degree of Util (X)	0	0.026	0.003	0.002	0.028	0.002			
Departure Headway (Hd)	4.576	3.876	4.586	2.851	5.061	4.578			
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes			
Cap	0	924	782	1256	710	785			
Service Time	2.301	1.6	2.302	0.567	2.772	2.289			
HCM Lane V/C Ratio	0	0.026	0.003	0.002	0.028	0.001			
HCM Control Delay	7.3	6.7	7.3	5.6	7.9	7.3			
HCM Lane LOS	N	A	A	A	A	A			
HCM 95th-tile Q	0	0.1	0	0	0.1	0			

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