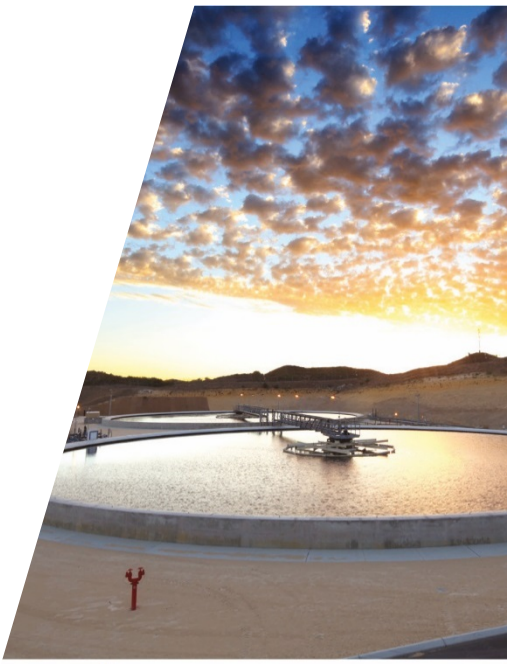


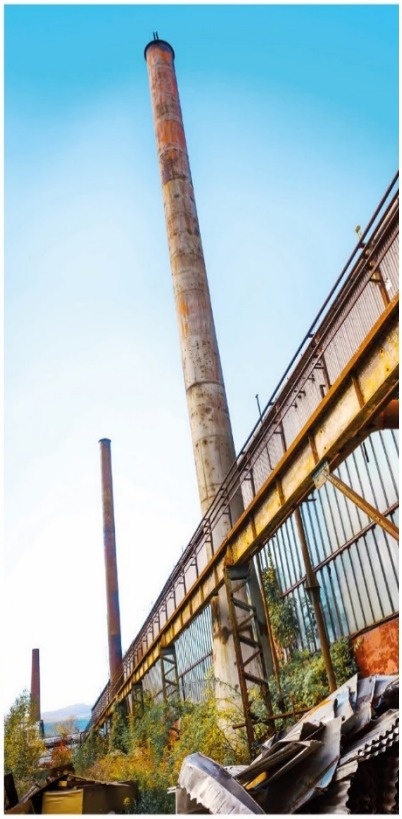
Proposed Retirement Residence

Traffic Impact Study

20 McCraney Street East,

Town of Oakville

Branthaven McCraney Inc.



Executive summary

GHD was retained to prepare a Traffic Impact Study (TIS) for the proposed nine storey Retirement Residence located on McCraney Street East between Sixth Line and Montclair Drive, in the Town of Oakville. This report determines the site related traffic and the subsequent traffic-related impacts on the adjacent road network during the weekday a.m. and p.m. peak hours from the proposed development. These impacts are based on projected future background traffic and road network conditions derived for a 2025 planning horizon.

The proposed site plan prepared by Michael Spaziani Architect Inc. consists of a single nine storey retirement residence with a total of 219 units.

The proposed development is expected to generate a total of 38 new vehicle trips during the AM peak hour consisting of 121inbound and 17 outbound trips. During the PM peak hour it is expected to generate a total of 56 vehicle trips consisting of 25 inbound and 31 outbound trips.

Based on the results of the capacity analysis, the subject development is expected to have a negligible impact on intersection operations within the study area.

Although the intersection of Trafalgar Road at McCraney Street East is expected to be nearing capacity under existing conditions, and reach capacity under 2025 future background conditions, this is a result of existing and future background traffic demand, and not a result of the estimated site traffic. It is recommended the Town consider intersection and corridor-wide improvements as a long-term measure to improve the intersections future operational performance.

The proposed site access is expected to operate satisfactorily, with a negligible operational impact on McCraney Street East. Furthermore, as per the results of the analysis, any peak hour queueing on McCraney Street East is not expected to extend to the subject site access.

We trust that this satisfies your requirements, but do not hesitate to contact the undersigned if you have any questions.

Sincerely,

GHD

October 18, 2019

William Maria, P.Eng.
Senior Project Manager

Dhaval Harpal, Dipl. T.
Transportation Planner

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Appendices

1. Introduction

1.1 Retainer and objective

GHD Ltd. Is pleased to submit the following update to a previously Traffic Impact Study (TIS) for the proposed retirement residence development dated July 2019. This update is in response to address comments received from Town of Oakville based on a review of the July report. The comments are provided in **Appendix A** along with the GHD's responses.

The subject site is located on the north side of McCraney Street East between Sixth Line and Montclair Drive (see **Figure 1**). The objective of the study is to determine the following:

- Establish baseline traffic conditions for the study area and update the existing traffic conditions to derive the future background operating conditions for the study intersections at a future 2025 planning horizon (5 years post build-out); and
- Determine the traffic volumes anticipated to be generated by the proposed development during the weekday a.m. and p.m. peak hours; to assess the impact of this traffic on the study intersections and if needed, to recommend improvements to accommodate the forecasted traffic volumes.

Figure 1 Site Location

1.2 Study team

The GHD team involved in the preparation of the study are

- William Maria, P.Eng., Senior Project Manager
- Dhaval Harpal, Dipl. In T., Transportation Planner

2. Site characteristics

2.1 Study area

The study area includes the following intersections:

- Trafalgar Road at McCraney Street East (signalized);
- McCraney Street East at Montclair Drive (all-way stop);
- McCraney Street East at proposed site access (unsignalized);
- McCraney Street East at Sixth Line (signalized); and
- Sixth Line at Upper Middle Road (signalized).

2.2 Site plan

The proposed site plan prepared by Michael Spaziani Architect Inc. consists of a single nine storey retirement residence, which consists of the following units:

- 132 Assisted Living Units
- 25 Care Units
- 62 Senior apartment units

As per *Section 5: Parking, Loading, and Stacking Lane Provisions* of the Town's Zoning By-Law 2014-014, which applies to all properties in Oakville south of Dundas Street and north of Highway 407, the senior parking rate for apartment dwellings is 0.33 spaces per living unit.

This results in a required provision of 73 spaces (0.33 space per unit). The proposed site plan provides a total of 145 spaces consisting of 43 surface spaces and 102 underground spaces. The site therefore provide parking in excess of the Bylaw requirement and no variance is required.

Bicycle parking is provided consisting of 12 visitor bicycle parking spaces located on the surface and 22 resident bicycle parking spaces provided in the underground garage.

A new unsignalized full moves access will provide direct access to McCraney Street East from the subject site.

Vehicle Swept Path Analysis was conducted to assess the required vehicle movements for loading/unloading activities and passenger car movements within the proposed site plan. The results of analysis, as provided in **Appendix B**, illustrate that the site plan can accommodate the aforementioned design vehicles and their expected movements.

A Traffic Control Plan has also been prepared for the subject site, which includes the recommended signage and pavement markings are per Ontario Traffic Manual (OTM) guidelines. The plan is provided in **Appendix G**.

The proposed site plan is shown in **Figure 2**.

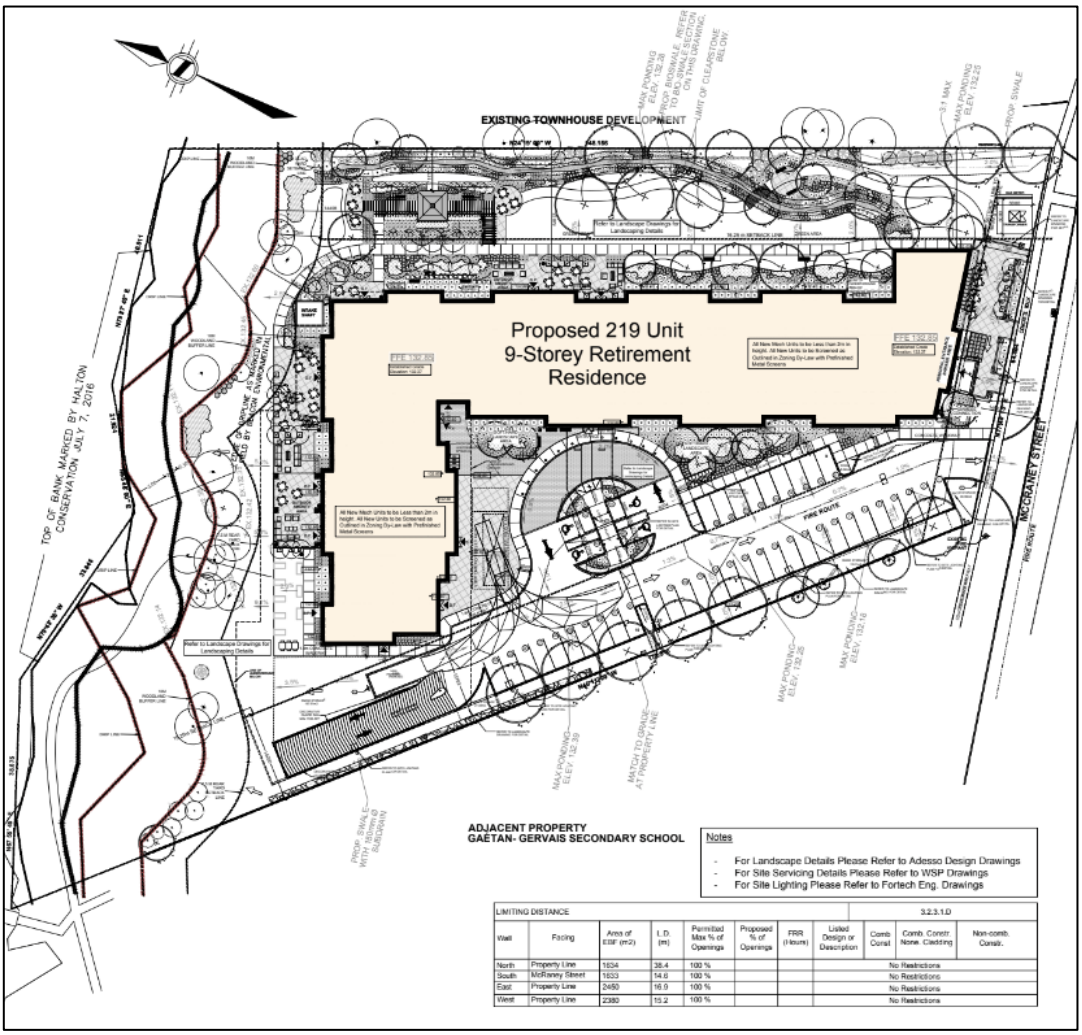

Figure 2 Site plan

3. Existing conditions

3.1 Existing road network

Trafalgar Road is a north-south oriented urban arterial road with a posted speed limit of 60 km/h and a 6 lane cross-section. It has a signalized intersection with McCraney Street East / White Oaks Boulevard in the study area, including auxiliary left-turn lanes in the northbound and southbound directions. There are no significant horizontal or vertical curves in its alignment within the study area that are of concern, although there is a noticeable southbound downgrade through the study area.

McCraney Street East is an east-west oriented urban collector road with a posted speed limit of generally 50 km/h (posted 40 km/h in the school zone between Sixth Line and Montclair Drive) and a 2 lane cross-section. In the study area it has signalized intersections with Trafalgar Road and Sixth Line and an all-way stop controlled intersection with Montclair Drive / Kelsey Court. It transitions into White Oaks Boulevard east of Trafalgar Road. It has auxiliary left-turn lanes in both directions and an auxiliary right-turn lane in the eastbound direction at Trafalgar Road, an auxiliary left-turn lane in the westbound direction at Montclair Drive / Kelsey Court, and auxiliary left-turn lanes in both directions

at Sixth Line. The horizontal alignment has several curves between Sixth Line and Trafalgar Road, however there are no significant horizontal or vertical curves in its alignment within the study area that are of concern.

Montclair Drive is a north-south oriented urban local road with a posted speed limit of 40 km/h and a 2 lane cross-section. It has an all-way stop controlled intersection with McCraney Street East in the study area, and transitions into Kelsey Court north of McCraney Street East. There are no significant horizontal or vertical curves in its alignment within the study area that are of concern, although there is a minor horizontal curve south of McCraney Street East.

Sixth Line is a north-south oriented urban collector road with a posted speed limit of 50 km/h and a 2 lane cross-section. It has a signalized intersection with McCraney Street East and Upper Middle Road in the study area, including auxiliary left-turn lanes in both directions at McCraney Street East and auxiliary left-turn lanes in both directions and an auxiliary right-turn lane in the northbound direction at Upper Middle Road. There are no significant horizontal or vertical curves in its alignment within the study area that are of concern.

Upper Middle Road is an east-west oriented urban arterial road with a posted speed limit of 60 km/h and a 4 lane cross-section. It has a signalized intersection with Sixth Line in the study area, including auxiliary left and right-turn lanes in both directions. There are no significant horizontal or vertical curves in its alignment within the study area that are of concern.

3.2 Pedestrian routes

Sidewalks are currently provided on both sides of all study area roads within the study area, with the addition of multi-use path on the north side of Upper Middle Road; sidewalks are not provided on Kelsey Court.

3.3 Transit services

Oakville Transit provides numerous transit services within the immediate study area, including:

- Trafalgar Road at McCraney Street East / White Oaks Boulevard
    - Eastbound near-side stop (Route #19)
    - Westbound near-side stop (Route #19)
    - Northbound near-side stop (Route #1 and #24)
- McCraney Street East at Sewell Drive
    - Eastbound far-side stop (Route #19)
    - Westbound mid-intersection stop (Route #19)
- McCraney Street East at 40 metres west of Romain Crescent
    - Eastbound mid-intersection stop (Route #19)
- McCraney Street East at east leg of Kirstie Court
    - Westbound mid-intersection stop (Route #19)
- McCraney Street East at west leg of Kirstie Court
    - Eastbound near-side stop (Route #19)
- McCraney Street East at Montclair Drive / Kelsey Court

    - Eastbound near-side stop (Route #19)
- McCraney Street East at White Oaks Secondary School (Route #19)
- McCraney Street East at 90 metres east of Sixth Line (Route #19)
- McCraney Street East at Sixth Line
    - Westbound near-side stop (Route #19)
- Sixth Line at Miller Road
    - Northbound near-side stop (Route #19)
    - Southbound near-side stop (Route #19)
- Sixth Line at Elm Road
    - Southbound near-side stop (Route #19)
- Sixth Line at Upper Middle Road
    - Eastbound near-side stop (Route #6)
    - Westbound near-side stop (Route #6)

Nearby transit routes are illustrated in **Figure 1** and **Figure 3**, respectively.

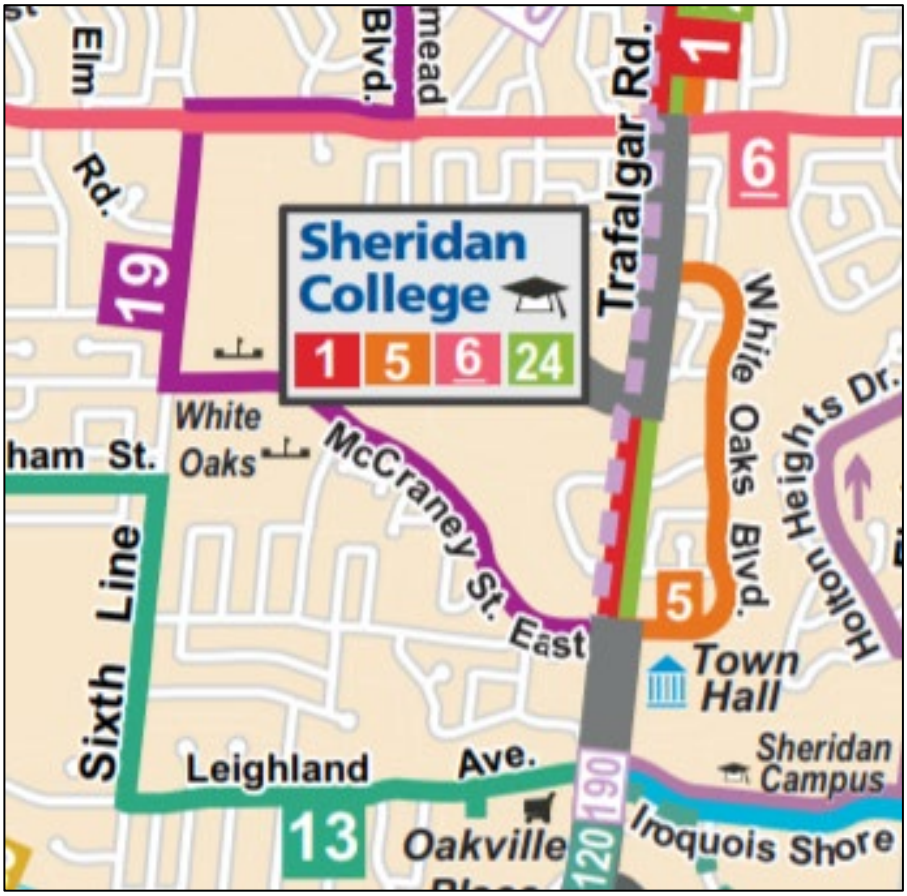

Figure 3 Transit Services in Area

3.4 Bicycle facilities

On-street bike lanes are provided on both sides of McCraney Street East and Sixth Line, and multi-use path is provided on the north side of Upper Middle Road

3.5 Existing traffic data

GHD collected a.m. and p.m. peak hour turning movement counts at the study area intersections, which are included in **Appendix C**. Furthermore, as requested by the Town, GHD adopted 2011 traffic data for the intersection of Trafalgar Road at McCraney Street from the 2017 traffic study conducted by LEA Consulting Ltd. for the proposed development at 297 Queens Avenue.

Figure 4 summarizes the adopted existing traffic volumes during the weekday a.m. and p.m. peak hours.

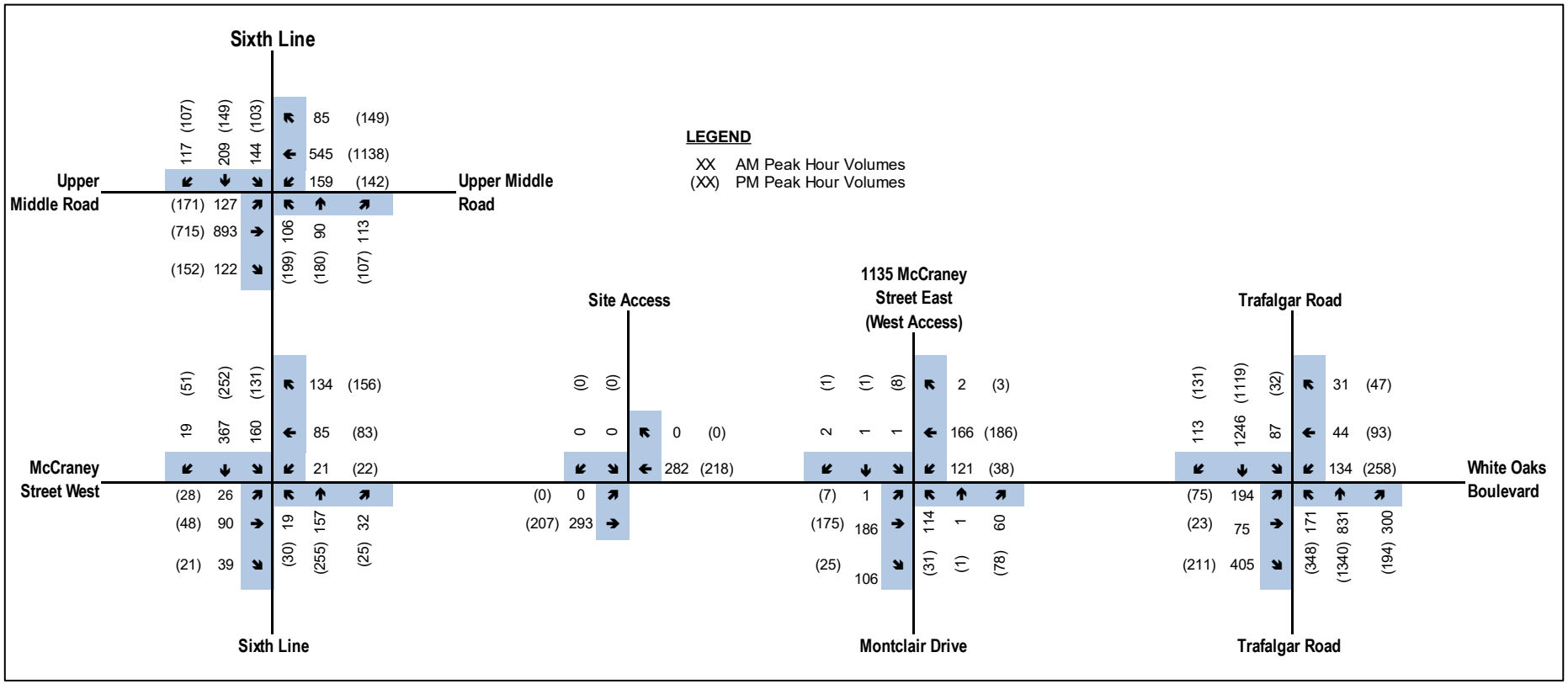

Figure 4 2017 Existing Volumes

4. Future background traffic

4.1 Background Growth

Future background growth was conservatively applied to all intersection movements for the 2025 horizon (5 years post build-out). A growth rate of 2% per annum was applied to all regional roads and 1% per annum to all Town roads to account for traffic growth in the area.

4.2 Background Developments

The following background developments were included in the analysis, with supporting traffic data provided in **Appendix C**:

- 297 Queens Avenue, TIS report by LEA Consulting Ltd., dated October 2017; and

Proposed Gaetan Gervais Secondary School, included as a background development in the 297 Queens Avenue TIS report by LEA Consulting Ltd., dated October 2017

4.3 Background Traffic

The 2025 background traffic volumes are presented in **Figure 5**.

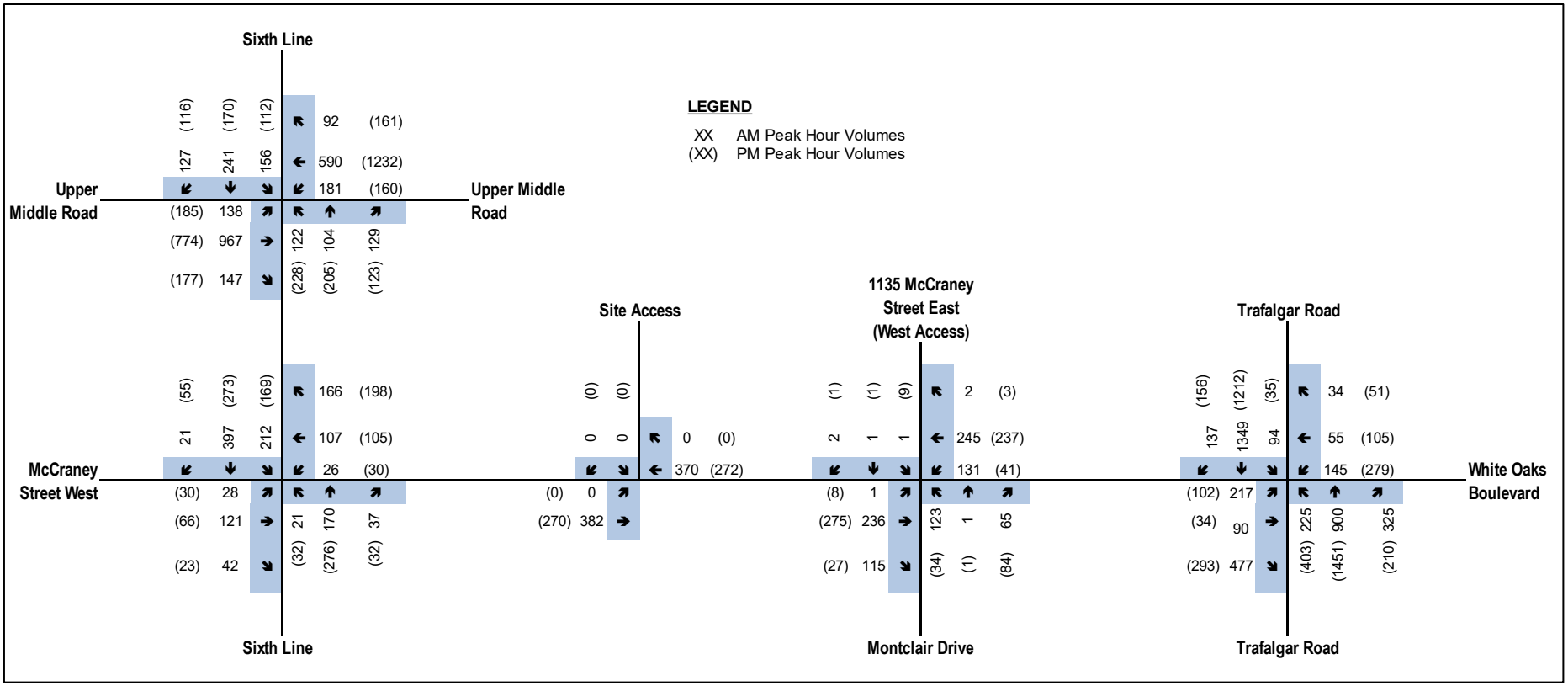

Figure 5 2025 Future Background Volumes

5. Site generated traffic

5.1 Modal split

A 5% transit modal split has been adopted for the site generated traffic. Given the variety of transit facilities and interconnections present within close proximity of the subject site, this modal split reduction is considered conservative.

5.2 Site trip generation

Trip generation during the weekday peak hours for the proposed senior development was estimated using the Institute of Transportation Engineer's (ITE) 10th Edition Land Use Code (LUC) #255 for Continuing Care Retirement Community, as presented in **Table 1**.

The proposed development is expected to generate a total of 38 new vehicle trips during the a.m. peak hour consisting of 21 inbound and 17 outbound trips. During the p.m. peak hour it is expected to generate a total of 56 vehicle trips consisting of 25 inbound and 31 outbound trips.

Table 1 Site trip generation

Land Use Code	Units	Parameters	Peak Hour Trip Generation					
			Weekday AM			Weekday PM		
			In	Out	Total	In	Out	Total
Senior Adult Housing - Attached (LUC 252)	62 Units	Trip Rate	0.065	0.112	0.177	0.129	0.113	0.242
		Trip Ratio	35%	65%	-	40%	60%	-
		Gross Trips	4	8	12	9	7	16
		Modal Split (5%)	0	1	1	1	0	1
		Vehicle Trips	**4**	**7**	**11**	**8**	**7**	**15**
Congregate Care Facility (LUC 253)	25 Units	Trip Rate	0.080	0.040	0.120	0.200	0.160	0.360
		Trip Ratio	60%	40%	-	53%	47%	-
		Gross Trips	2	1	3	5	4	9
		Modal Split (5%)	0	0	0	0	0	0
		Vehicle Trips	**2**	**1**	**3**	**5**	**4**	**9**
Assisted Living (LUC 254)	132 Units	Trip Rate	0.114	0.068	0.182	0.098	0.160	0.258
		Trip Ratio	63%	37%	-	38%	62%	-
		Gross Trips	15	9	24	13	21	34
		Modal Split (5%)	1	0	1	1	1	2
		Vehicle Trips	**15**	**9**	**24**	**12**	**20**	**32**
Net New Vehicle Trips			**21**	**17**	**38**	**25**	**31**	**56**

5.3 Site trip distribution and assignment

The distribution and assignment of site traffic was based on Transportation Tomorrow Survey (TTS) data for Ward 5 in the Town of Oakville. The raw TTS data is provided in **Appendix D**. A review of the TTS data, and the application of engineering judgement in estimating expected route choices, results in the adopted trip distribution as shown in **Table 2**.

Table 2 Trip Distribution

Destination	Proportion	Route Choice
Toronto	21%	McCraney Street East to Trafalgar Road to QEW
Brampton	2%	McCraney Street East to Trafalgar Road to QEW to Hwy 403
Mississauga	22%	McCraney Street East to Trafalgar Road (north and south)
Milton	2%	McCraney Street East to Sixth Line to Upper Middle Road
Oakville	45%	McCraney Street East to Trafalgar Road (50%) and to Sixth Line (50%)
Burlington	4%	McCraney Street East to Trafalgar Road to QEW
Vaughan	2%	McCraney Street East to Trafalgar Road to QEW to Hwy 403
Hamilton	2%	McCraney Street East to Trafalgar Road to QEW

5.4 Site Traffic

The estimated site trips generated by the proposed development as assigned to the nearby road network for the weekday a.m. and p.m. peak hours are shown in **Figure 6**.

6. Future total traffic

The future total traffic conditions for the 2025 planning horizon were derived by combining the projected future background traffic with the corresponding estimate of the total site generated traffic.

Figure 7 summarizes the future total traffic volumes for the 2025 planning horizon during the weekday a.m. and p.m. peak hours.

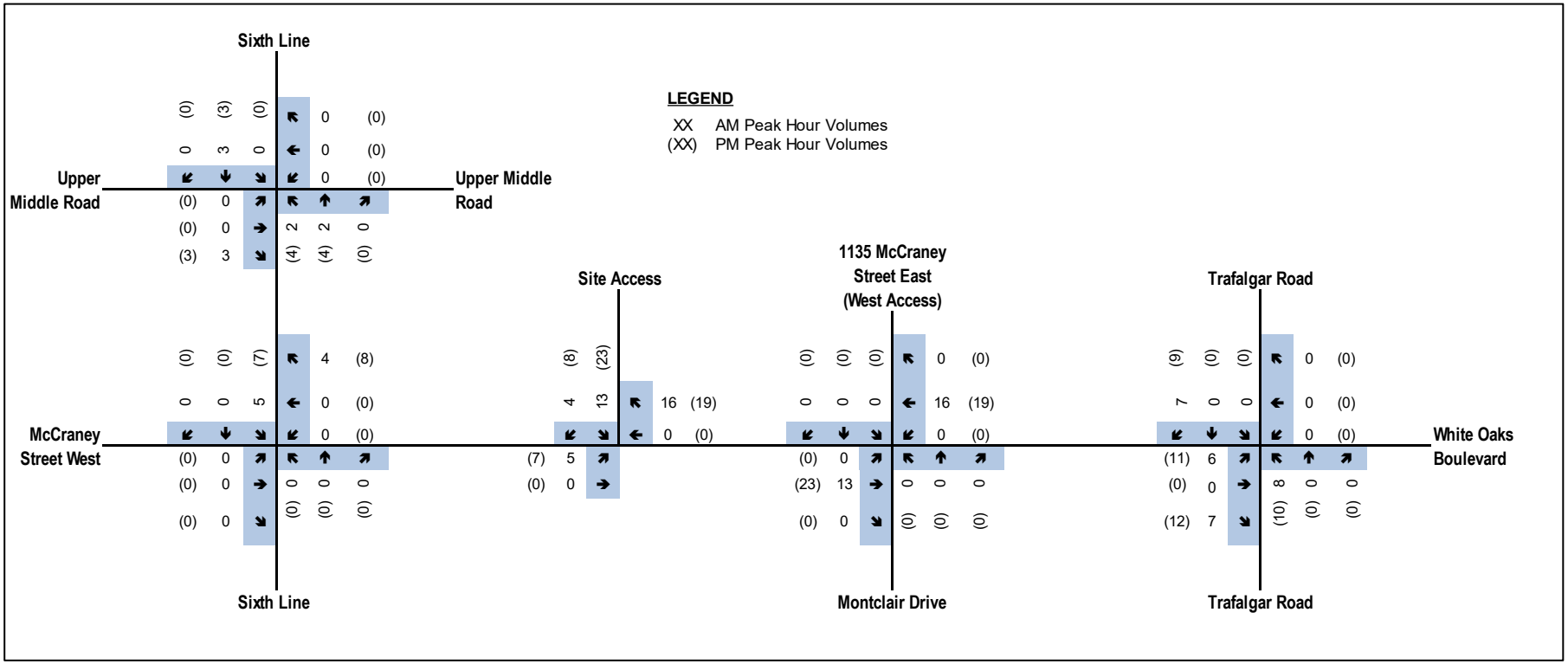

Figure 6 Estimated Site Trips

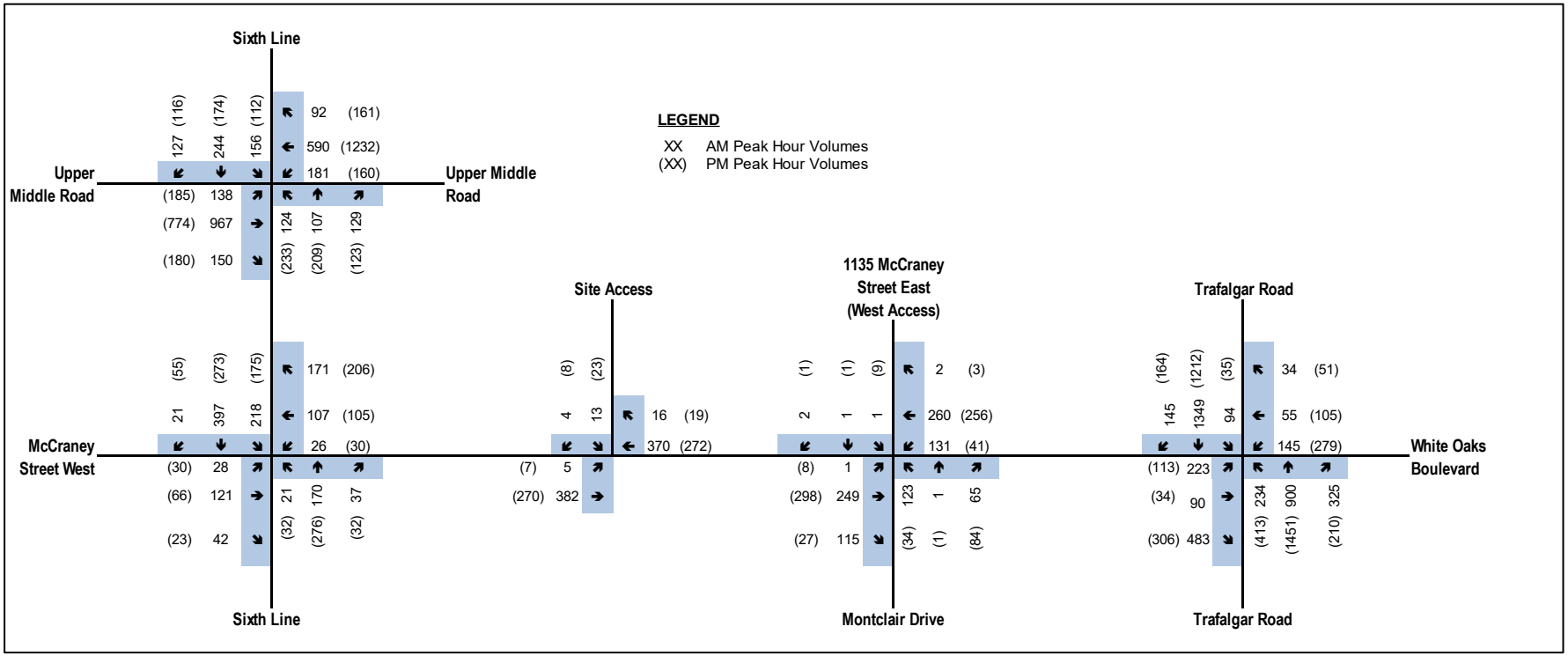

Figure 7 2025 Future Total Volumes

7. Intersection 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) 2000 procedure within the Synchro Version 10 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.

In accordance with the Town's Traffic Impact Study Guidelines, the analysis includes identification of conditions at signalized intersections where:

- V/c ratios for overall intersection increased to 0.85 or above;
- V/c ratios for individual movements increased to 1.00 or above;
- 95th percentile queues for an individual movement are projected to exceed available turning lane storage; or
- 95th percentile queues for a through movement are projected to block vehicles from entering turning lanes.

The analysis includes identification of conditions at unsignalized intersections where:

- Level of service if LOS "E" or greater; or
- 95th percentile queues for an individual movement are projected to exceed available turning lane storage.

The following tables summarize the HCM capacity results for the study intersections during the weekday a.m. and p.m. hours under existing 2017, future background 2025, and future total 2025 traffic conditions. The detailed calculation sheets are provided in **Appendix E**.

7.1.1 Trafalgar Road at McCraney Street East

Signalized capacity analyses during the weekday a.m. and p.m. peak hours are summarized in **Table 3** from detailed Synchro reports attached in the appendix.

Table 3 Capacity analyses of Trafalgar Road at McCraney Street East

Traffic Condition	Movement v/c (LOS) 95th Percentile Queue	
	AM Peak Hour	PM Peak Hour
Existing 2017	Overall 0.71 (C) EBL: 0.78 (E) **81m** EBT: 0.20 (D) 31m EBR: 0.76 (E) **88m** WBL: 0.54 (D) 55m WBTR: 0.17 (D) 26m NBL: 0.68 (E) 47m NBTR: 0.50 (C) 101m SBL: 0.67 (E) **55m** SBTR: 0.59 (C) 133m	Overall **0.90** (D) EBL: 0.31 (D) 33m EBT: 0.06 (D) 13m EBR: 0.15 (D) 19m WBL: 0.87 (E) **110m** WBTR: 0.33 (D) 49m NBL: 0.91 (E) **141m** NBTR: 0.72 (D) 152m SBL: 0.57 (F) 26m SBTR: 0.58 (D) 115m

Future Background 2025	Overall **1.00** (D) EBL: 0.78 (E) **90m** EBT: 0.22 (D) 36m EBR: 0.92 (D) **140m** WBL: 0.53 (D) **60m** WBTR: 0.20 (C) 31m NBL: 0.88 (E) 90m NBTR: 0.61 (C) 112m SBL: **1.08** (F) **70m** SBTR: 0.72 (C) 150m	Overall **1.25** (E) EBL: 0.43 (D) 45m EBT: 0.08 (D) 17m EBR: 0.35 (B) 39m WBL: 0.94 (F) **132m** WBTR: 0.36 (D) 56m NBL: 1.39 (F) **211m** NBTR: 0.86 (D) 178m SBL: 0.76 (F) 31m SBTR: 0.70 (C) 134m
Future Total 2025	Overall **1.02** (D) EBL: 0.79 (E) **94m** EBT: 0.22 (D) 36m EBR: 0.94 (D) **144m** WBL: 0.53 (D) **60m** WBTR: 0.19 (C) 32m NBL: 0.91 (E) 99m NBTR: 0.62 (C) 113m SBL: **1.10** (F) **70m** SBTR: 0.73 (C) 152m	Overall **1.28** (E) EBL: 0.48 (D) 49m EBT: 0.08 (D) 17m EBR: 0.39 (D) 44m WBL: 0.94 (E) **132m** WBTR: 0.36 (D) 56m NBL: **1.43**(F) **218m** NBTR: 0.86 (E) 178m SBL: 0.76 (F) 31m SBTR: 0.70 (D) 135m

Under existing conditions the intersection is generally operating well, although the intersection overall is reporting to be nearing capacity during the p.m. peak hour, primarily as a result of the northbound left-turn movement nearing capacity. There are some existing nominal queueing concerns for several movements as well.

Under future background conditions with the additional corridor growth, conditions are expected to deteriorate, with the intersection considered to have exceed capacity in the a.m. peak hour and generally nearing capacity during the p.m. peak hour. The critical movement in the a.m. peak hour is the southbound left-turn, reporting to be at-capacity.

Under future total traffic conditions, with the added site traffic, the change in operations is very nominal, and generally is not expected to be identifiable from a driver's perspective. The critical movements noted under existing and future background conditions, which are primarily the southbound left-turn and northbound left-turn movements, are expected to have reached capacity.

No improvements are recommended at this intersection in response to the estimated site traffic.

7.1.2 McCraney Street East at Montclair Drive

Unsignalized capacity analyses during the weekday a.m. and p.m. peak hours are summarized in **Table 4** from detailed Synchro reports attached in the appendix.

Table 4 Capacity analyses of McCraney Street East at Montclair Drive

Traffic Condition	Movement v/c (LOS) 95th Percentile Queue	
	AM Peak Hour	PM Peak Hour
Existing 2017	NBLTR: 0.38 (B) <1 veh EBL: 0.002 (A) <1 veh EBTR: 0.61 (C) <1 veh WBL: 0.23 (B) <1 veh WBTR: 0.36 (B) <1 veh SBLTR: 0.009 (A) <1 veh	NBLTR: 0.18 (A) <1 veh EBL: 0.01 (A) <1 veh EBTR: 0.34 (B) <1 veh WBL: 0.07 (A) <1 veh WBTR: 0.33 (B) <1 veh SBLTR: 0.02 (A) <1 veh
Future Background 2025	NBLTR: 0.44 (B) <1 veh EBL: 0.002 (A) <1 veh EBTR: 0.777 (D) 1 veh WBL: 0.323 (B) <1 veh WBTR: 0.561 (C) <1 veh SBLTR: 0.001 (A) <1 veh	NBLTR: 0.250 (B) <1 veh EBL: 0.016 (A) <1 veh EBTR: 0.610 (C) <1 veh WBL: 0.089 (A) <1 veh WBTR: 0.501 (B) <1 veh SBLTR: 0.022 (A) <1 veh

Future Total 2025	NBLTR: 0.454 (B) <1 veh EBL: 0.002 (A) <1 veh EBLTR: 0.821 (D) 8m WBL: 0.327 (B) <1 veh WBLTR: 0.593 (C) <1 veh SBLTR: 0.01 (B) <1 veh	NBLTR: 0.25 (B) <1 veh EBL: 0.016 (A) <1 veh EBLTR: 0.674 (B) <1 veh WBL: 0.089 (A) <1 veh WBLTR: 0.541 (B) <1 veh SBLTR: 0.028 (A) <1 veh

Under existing and 2025 future background conditions, which included corridor growth, this intersection is expected to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queuing. Under 2025 future total traffic conditions the operational impact of the site traffic is nominal, with any operational impact expected to be unidentifiable from a driver's perspective. The intersection is still expected to operate satisfactorily with reserve capacity, acceptable levels of delay and minimal queuing.

No improvements are recommended at this intersection in response to the estimated site traffic.

7.1.3 McCraney Street East at Sixth Line

Signalized capacity analyses during the weekday a.m. and p.m. peak hours are summarized in **Table 5** from detailed Synchro reports attached in the appendix.

Table 5 Capacity analyses of McCraney Street East at Sixth Line

Traffic Condition	Movement v/c (LOS) 95th Percentile Queue	
	AM Peak Hour	PM Peak Hour
Existing 2017	Overall 0.40 (B) EBL: 0.12 (A) 11m EBTR: 0.26 (A) 31m WBL: 0.07 (A) 9m WBTR: 0.40 (A) 44m NBL: 0.06 (A) 7m NBTR: 0.29 (A) 40m SBL: 0.24 (B) 21m SBTR: 0.38 (B) 53m	Overall 0.38 (B) EBL: 0.12 (C) 11m EBTR: 0.12 (B) 17m WBL: 0.07 (C) 9m WBTR: 0.40 (B) 43m NBL: 0.08 (B) 9m NBTR: 0.40 (C) 56m SBL: 0.20 (A) 16m SBTR: 0.28 (A) 35m
Future Background 2025	Overall 0.47 (B) EBL: 0.16 (C) 12m EBTR: 0.34 (C) 40 WBL: 0.10 (C) 11m WBTR: 0.53 (C) 58m NBL: 0.06 (B) 8m NBTR: 0.32 (B) 43m SBL: 0.33 (A) 27m SBTR: 0.41 (B) 58m	Overall 0.48 (B) EBL: 0.19 (C) 13m EBTR: 0..17 (C) 23m WBL: 0.10 (C) 12m WBTR: 0.58 (C) 64m NBL: 0.09 (B) 10m NBTR: 0.48 (C) 67m SBL: 0.30 (A) 22m SBTR: 0.32 (A) 42m
Future Total 2025	Overall 0.47 (B) EBL: 0.16 (C) <12m EBTR: 0.34 (C) 41m WBL: 0..10 (C) <11m WBTR: 0.54 (C) 60m NBL: 0.06 (B) <8m NBTR: 0.32 (B) 43m SBL: 0.33 (A) 27m SBTR: 0.41 (B) 58m	Overall 0.49 (C) EBL: 0.20 (C) 13m EBTR: 0.17(C) 23m WBL: 0.10 (C) 12m WBTR: 0.59 (C) 66m NBL: 0.09 (B) 10m NBTR: 0.48 (C) 67m SBL: 0.31 (A) 22m SBTR: 0.32 (A) 42m

Under existing and 2025 future background conditions, which included corridor growth, this intersection is expected to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queuing. Under 2025 future total traffic conditions the operational impact of the site traffic is nominal, with any operational impact expected to be unidentifiable from a driver's perspective. The intersection is still expected to operate satisfactorily with reserve capacity, acceptable levels of delay and minimal queuing.

No improvements are recommended at this intersection in response to the estimated site traffic.

7.1.4 Sixth Line at Upper Middle Road

Signalized capacity analyses during the weekday a.m. and p.m. peak hours are summarized in **Table 6** from detailed Synchro reports attached in the appendix.

Table 6 Capacity analyses of Sixth Line at Upper Middle Road

Traffic Condition	Movement v/c (LOS) 95th Percentile Queue	
	AM Peak Hour	PM Peak Hour
Existing 2017	Overall 0.61 (C) EBL: 0.28 (B) 27m EBT: 0.56 (C) 114m EBR: 0.10 (A) 15m WBL: 0.51 (B) 33m WBT: 0.34 (C) 64m WBR: 0.06 (A) 8m NBL: 0.47 (C) 27m NBT: 0.22 (D) 29m NBR: 0.07 (A) 13m SBL: 0.35 (C) 35m SBTR: 0.80 (E) 94m	Overall 0.75 (C) EBL: 0.56 (C) 44m EBT: 0.42 (C) 88m EBR: 0.10 (A) 13m WBL: 0.35 (B) 27m WBT: 0.74 (C) 160m WBR: 0.14 (A) 21m NBL: 0.87 (E) **58m** NBT: 0.54 (D) 59m NBR: 0.07 (A) 14m SBL: 0.36 (C) 29m SBTR: 0.76 (E) 77m
Future Background 2025	Overall 0.71 (C) EBL: 0.33 (B) 29m EBT: 0.65 (C) 126m EBR: 0.21 (A) 18m WBL: 0.65 (C) 53m WBT: 0.38 (C) 70m WBR: 0.13 (A) 9m NBL: 0.54 (C) 30m NBT: 0.24 (D) 33m NBR: 0.28 (A) 14m SBL: 0.34 (C) 38m SBTR: 0.84 (E) 110m	Overall 0.86 (D) EBL: 0.62 (C) 69m EBT: 0.47 (C) 96m EBR: 0.12 (A) 15m WBL: 0.42 (B) 31m WBT: 0.84 (D) 180m WBR: 0.16 (B) 24m NBL: 1.00 (F) **75m** NBT: 0.56 (D) 64m NBR: 0.08(A) 15m SBL: 0.38 (C) 30m SBTR: 0.78 (E) 84m
Future Total 2025	Overall 0.71 (C) EBL: 0..34 (B) 29m EBT: 0.65 (C) 126m EBR: 0.13 (C) 18m WBL: 0.66 (C) 53m WBT: 0.38 (C) 70m WBR: 0.06 (B) 9m NBL: 0.56 (C) 31m NBT: 0.24 (D) 33m NBR: 0.08 (D) 14m SBL: 0.36 (C) 38m SBTR: 0.83 (E) 108m	Overall 0.87 (D) EBL: 0.62 (C) 71m EBT: 0.47 (C) 95m EBR: 0.12 (A) 15m WBL: 0.43 (B) 31m WBT: 0.84 (D) 180m WBR: 0.16 (B) 24m NBL: 1.02 (F) **78m** NBT: 0.56 (D) 65m NBR: 0.08 (A) 15m SBL: 0.36 (C) 30m SBTR: 0.78 (E) 86m

Under existing and 2025 future background conditions, which included corridor growth, this intersection is expected to operate satisfactorily with substantial reserve capacity, low levels of delay and nominal queuing. Under 2025 future total traffic conditions the operational impact of the site traffic is nominal, with any operational impact expected to be unidentifiable from a driver's perspective. The intersection is still expected to operate satisfactorily with reserve capacity, acceptable levels of delay and minimal queuing.

No improvements are recommended at this intersection in response to the estimated site traffic.

7.1.5 McCraney Street East at Proposed Site Access

Unsignalized capacity analyses during the weekday a.m. and p.m. peak hours are summarized in **Table 7** from detailed Synchro reports attached in the appendix.

Table 7 Capacity analyses of McCraney Street East at Proposed Site Access

Traffic Condition	Movement v/c (LOS) 95th Percentile Queue	
	AM Peak Hour	PM Peak Hour
Future Total 2025	EBLT: 0.00 (A) <1 veh SBLR: 0.05 (B) <1 veh	EBLT: 0.01 (A) <1 veh SBLR: 0.05 (B) <1 veh

The site access is expected to operate acceptably under future conditions, with substantial reserve capacity, low delay, and negligible queueing.

8. Queueing interactions

Sim Traffic software version 10 was used to extract queuing data at the intersection of McCrayne Street East and Montclair Drive. Five simulations comprising of one-hour simulation run plus a 10 minutes of seeding time for a vehicle to travel through the entire network was used to extract reports as appended in **Appendix E**. As per the results of the report, the intersection of Montclair Drive at McCraney Street East is expected to have nominal peak hour queueing in all directions under the 2025 future total traffic condition. The eastbound direction reported a 95th percentile queue of 33 metres during the a.m. peak hour and 35 meters during the p.m. peak hour. It is therefore expected any queueing at the intersection occurring during the site's a.m. and p.m. peak hours will not extend to the subject site's proposed access.

Furthermore, the results of the capacity analysis also indicate that the proposed site access is not expected to generate any measurable level of queueing on McCraney Street East fronting the site. Overall the findings from Sim Traffic and Synchro analysis indicates that the subject development is expected to have a negligible impact on intersection operations at the study area intersections.

Therefore GHD considers the proposed location of site access to be satisfactory, with no expected queueing interaction between the site access and adjacent intersections, and overall no identifiable operational concerns in the study area as a result of the subject development.

9. Access Review

9.1 Access Design

The proposed access is to have a single inbound and a single outbound lane, with no auxiliary turning lanes on McCraney Street, as justified in the very satisfactory results of the intersection operational analysis presented in this report.

The access width at the property line is approximately 6.9 metres, and reduces to approximately 6.2 metres at its minimum in the drive aisle between the access corners and the first parking spot. The corner radii are approximately 8.6 metres and 8.9 metres on the west and east corners, respectively.

9.2 Access Spacing

The recommended minimum spacing of the proposed access Montclair Drive, if considered a “minor intersection,” is 2 metres (not including corner radii) as per Section 8.9.7 of Chapter 8 of GDGCR, or 20 metres if considered a “major intersection” (including corner radii) as per Section 8.8.2 of Chapter 8 of GDGCR. The proposed access locations well surpasses these minimums by having a 40 metre tangent separation from Montclair (not including corner radii) and approximately 50 metre separation (including corner radii).

As per the Section 8.9.8 of Chapter 8 of Geometric Design Guide for Canadian Roads (GDGCR) by Transportation Association of Canada (TAC), the recommended minimum tangent spacing of the proposed access from the adjacent school access to the west is 1 metres (not including corner radii). Accordingly, the proposed access has an approximate 3 metre tangent from the adjacent school access. Further, the adjacent school access is one-way inbound only, therefore traffic entering school via driveway would not create any conflict with proposed site traffic.

9.3 Sightlines

As per the TAC Geometric Design Guide for Canadian Roads, Figure 9.9.4 of Chapter 9, the recommended intersection sight distance for a left-turning vehicle at a road with a design speed of 50 km/h is 105 metres, and 130 metres for a design speed of 60 km/h. The site also includes internal sidewalks and a sidewalk connection to the existing external sidewalk network, with a minimum clear width of at least 1.5 metres.

A sightline review at the proposed access location found that a vehicle exiting the future access would have a clear line of sight to the pedestrian crosswalk situated approximately 200 metres to the west, and a clear line of sight to the all-way stop at Montclair Drive immediately to the east (as the stop-controlled intersection is situated within the TAC recommended sightline thresholds, the sightline in this direction is considered sufficient). Based on these findings, the access is considered to have more than adequate sightlines as per TAC guidelines.

10. Collision Analysis

A nine year (2010-2019) collision summary within vicinity of proposed site was obtained from Town of Oakville. The raw collision data is provided in **Appendix F.**

The following summarizes the key findings of the collision data:

- At the intersection of McCraney Street East and Montclair Drive there was a total of 6 collisions reported;
- Three of the collisions were rear end collisions that occurred due to improper driver action;
- Two of the collisions were single motor vehicle collisions due to the driver failing to yield right-of-way and colliding with a pedestrian resulting in a non-fatal injury;
- One collision occurred due to improper turning or lane changing.

A review of the previous nine year collision data shows a small number of collisions and did not reveal any clear correlation between the existing geometry of McCraney Street East along the frontage of the subject site, operating speeds or traffic volumes and an increased possibility of collisions in the area.

11. Conclusions and Recommendations

Based on the results of the capacity analysis, the subject development is expected to have a negligible impact on intersection operations at the study area intersections.

Although the intersection of Trafalgar Road at McCraney Street East is expected to be nearing capacity under existing conditions, and reach capacity under 2025 future background conditions, this is a result of existing and future background traffic demand, and not a result of the estimated site traffic. It is recommended the Town consider intersection and corridor-wide improvements as a long-term measure to improve the intersections future operational performance.

The proposed site access is expected to operate satisfactorily, with a negligible operational impact on McCraney Street East. Furthermore, as per the results of the analysis, any peak hour queueing on McCraney Street East is also not expected to extend to the subject site access.

Therefore there are no recommended geometric improvements at any of the study area intersections in response to the proposed development and associated site traffic.

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Appendix A
Response Letter to Town Comments

October 18, 2019 Ref. Number: 11148874

Asad Yousfani
Town of Oakville
1225 Trafalgar Road
Oakville, Ontario
L6H 0H3

Attention: Mr. Yousfani

**RE: 20 McCraney Street East,
Retirement Residence Development,
Traffic Impact Study (TIS)**

GHD was retained by Branthaven McCraney Incorporation to prepare a Traffic Impact Study (TIS) for the proposed retirement residence located on the north side of McCraney Street East west of Montclair Drive. The TIS report, submitted in July 2019, has been reviewed by the Town of Oakville resulting in Town comments dated September 21, 2019.

This letter summarizes the Town's comments and GHD's respective response.

Site Plan Comments

Comment #1

Town: McCraney Street is classified as a collector street and as such the clear throat length at the proposed driveway on McCraney Street doesn't seem to be appropriate. Provide the clear throat length at the proposed driveway (i.e., a no conflict and storage zone within the driveway). Refer to the June 2017 Geometric Design Guide for Canadian Road, chapter 8 – Access. In particular, review figure 8.5.2 on page 20, section 8.9.10 titled Clear Throat Lengths, table 8.9.3 on page 56 for guidance. The first two parking spots at the entrance will likely require relocation on site.

GHD: GHD has reviewed the request to provide a longer clear throat length at the proposed driveway and has following comments:

- The proposed development is a retirement residence, therefore the expected trip generation is significantly lower than a typical condominium building with the same number of units
- As summarized in Section 5 of the report, there are an expected total 38 two-way trips during the a.m. peak hour (approximately one vehicle every two minutes) and a total 56 two-way trips during the p.m. peak hour (approximately one vehicle very one minute utilizing driveway.
- As per Chapter 8 of the Geometric Design Guide for Canadian Roads Table 8.9.3, the suggested minimum clear throat length for a "major" driveway on a collector road is 8 metres for an apartment development with less than 100 units.
- Despite having over 200 units, the development is expected to generate traffic that is similar to a development with less than 100 units and therefore the less onerous guideline of providing an 8 metre clear throat is more appropriate.
- GHD has run multiple sim traffic simulations of the proposed site access and adjacent stop controlled intersection of McCraney Street and Montclair Drive which concluded that the 95th percentile queue length for the eastbound movement measured from the stop bar is 33 metres during a.m. peak and 35 meters during p.m. peak hours.

- The eastbound queue length back from the stop bar is not expected to extend and block the proposed driveway location for any significant period of time resulting in unacceptable on-site queueing.
- The available throat length of 6 metres provides sufficient stacking space to accommodate one vehicle on-site between the first conflict point and the pedestrian sidewalk. That is sufficient based on the expected queuing on the site.

Traffic Impact Study Comments

Comment #1

Town: Provide the title on synchro/HCM output on the top of the sheet. For example, the title "2017 Existing conditions 12/15/2017 AM peak hour" should be provided on the top of the sheet.

GHD: The Synchro reports provided in Appendix D has been updated to include the proper titles.

Comment #2

Town: The existing/future background/future total turning volumes (i.e., EBT and EBR) are always high at the intersection of Montclair Dr/Kelsey Ct and McCraney street E. Look into the possibility of removing dedicated EBL lane, and modify the pavement marking on the leg as EBTL lane (eastbound through and left shared) and EBR lane.

GHD: The existing lane configuration and right-of-way of the McCraney Street East has been reviewed and it has been summarized that EBL lane is not possible to convert in to EBTL lane without making any physical changes to the right-of-way of road. Indeed, through traffic would create a conflict with WBL turn lane. Therefore, GHD does not recommend any changes in to the pavement marking to convert EBL lane into the EBTL lane.

Comment #3

Town: As per item 3 above, under site plan, identify and mitigate any safety issues that may arise because of a closely spaced proposed driveway in relation to an existing school driveway on McCraney street/ intersection of Montclair Dr/Kelsey Ct and McCraney street E.

GHD: The proposed development and closed proximity accesses has been reviewed and summarized in Section 9.2 of Traffic Impact Study report. It has been summarized that the proposed access fulfills the minimum distance requirement between two accesses as per Geometric Design Guide for Canadian Roads by Transportation Association of Canada. Furthermore, school access is only one-way inbound access; therefore, it would not create any conflict with proposed development traffic.

Comment #4

Town: Transportation Impact Study didn't include discussion on collision statistics in the vicinity of site. Include the safety analysis (such as, site distances, vehicle-pedestrian conflicts, etc) in the report.

GHD: A nine-year of collision history within close vicinity of proposed development has been reviewed summarized in the Section 10 of the Traffic Impact Study report.

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

Respectfully submitted,

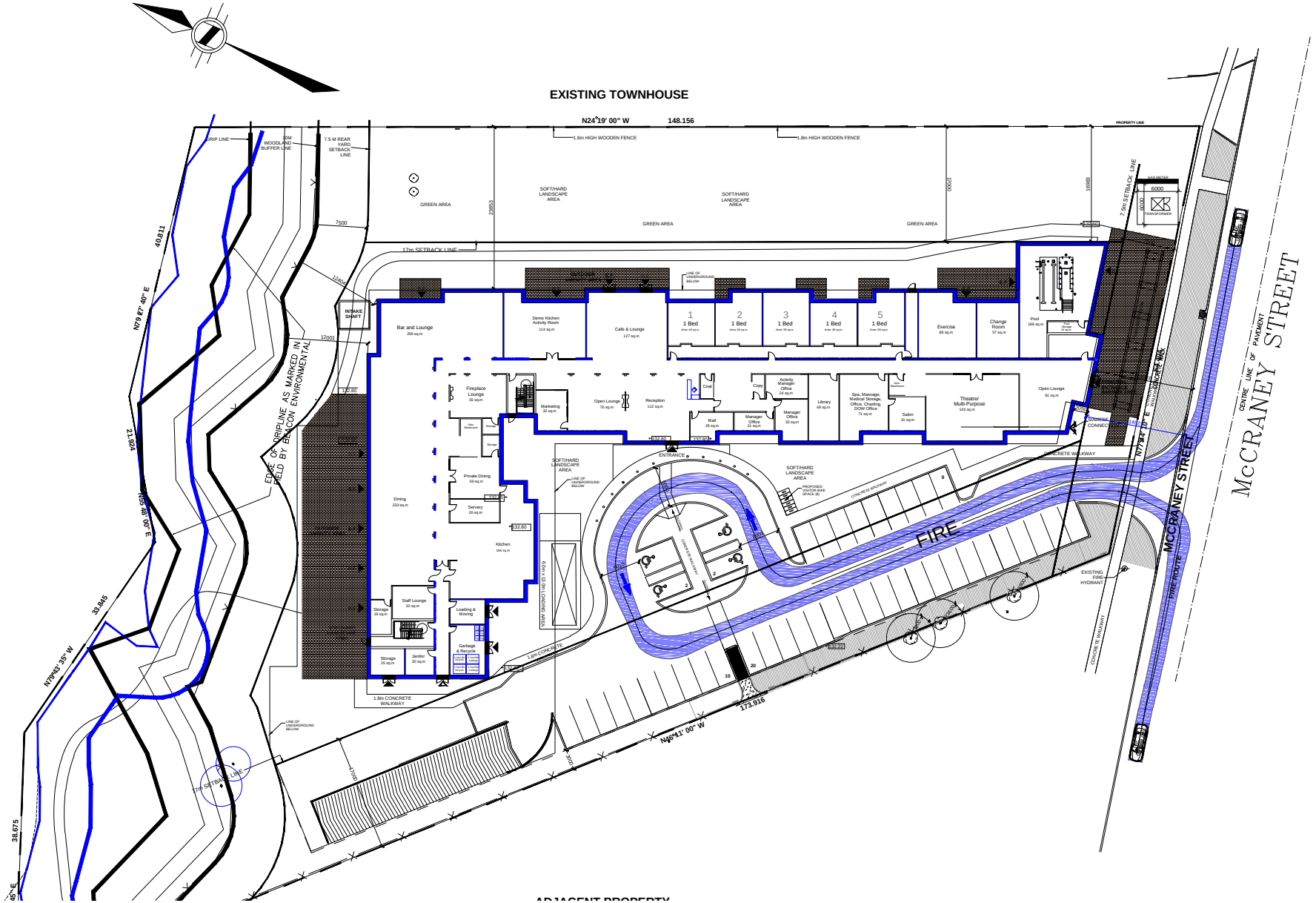
GHD

October 18, 2019

William Maria, P. Eng.
Senior Project Manager

Dhaval Harpal, Dipl. T.
Transportation Planner

Appendix B
Vehicle Swept Path Analysis



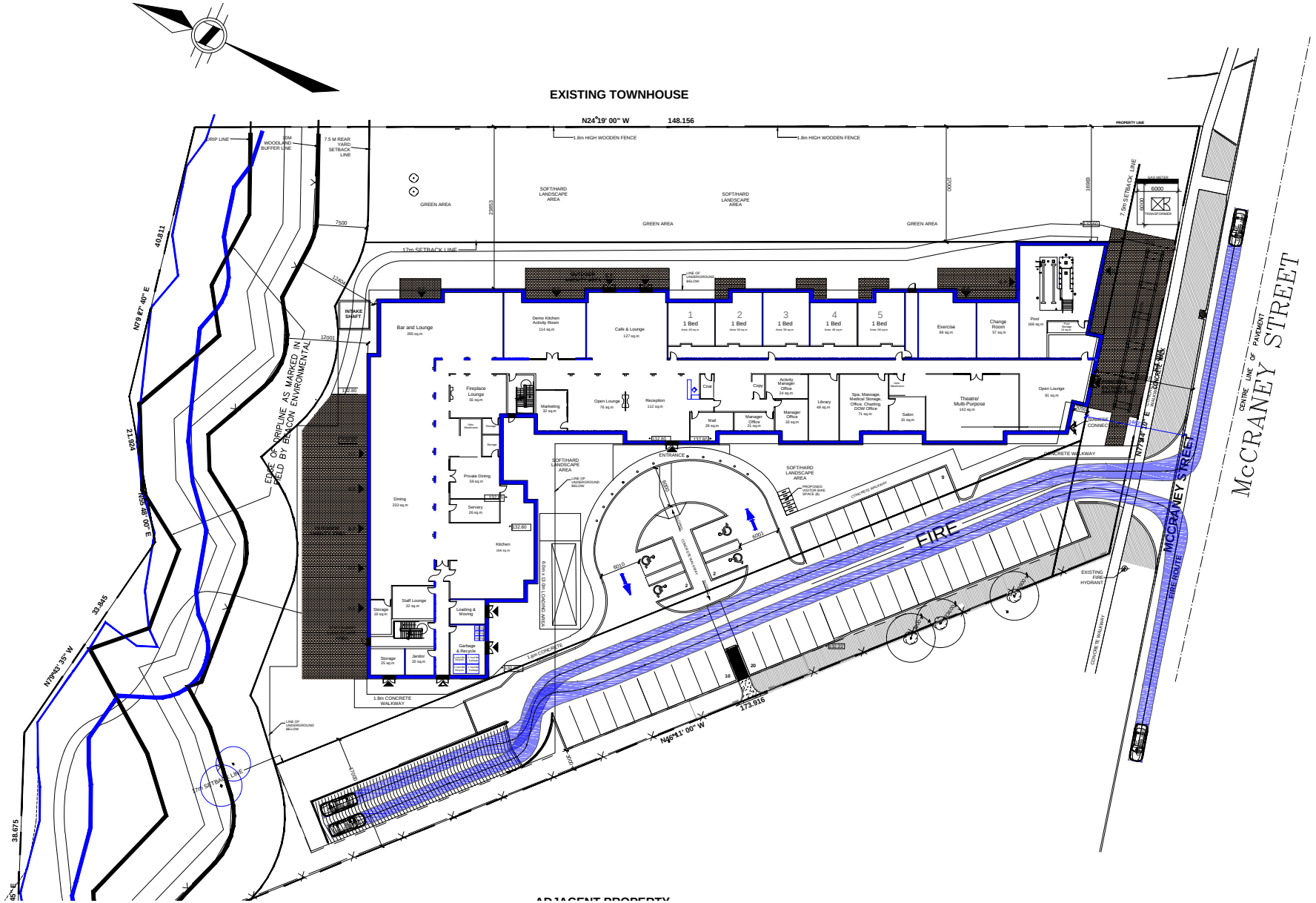
McCraney Retirement
Traffic Impact Study
Vehicle Swept Path Analysis
Passenger Vehicle

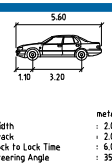
Job Number
Revision
Date Jan 31, 2019

Figure 1

6705 Millcreek Drive, Unit 1, Mississauga, ON L5N 5M4 **T** 1 416 213 7121 **F** 1 905 890 8499 **W** www.ghd.com

Plot Date: 31 January 2019 - 12:24 PM Plotted by: Ivan Drewnitski Cad File No: G:\Legacy\SernasTransTech\Projects\2019\xxxxxxx_McCraney Retirement\AutoTURN\xxxxxxx_McCraney Retirement_AutoTurn_GHD_31Jan2019.dwg





McCraney Retirement
Traffic Impact Study

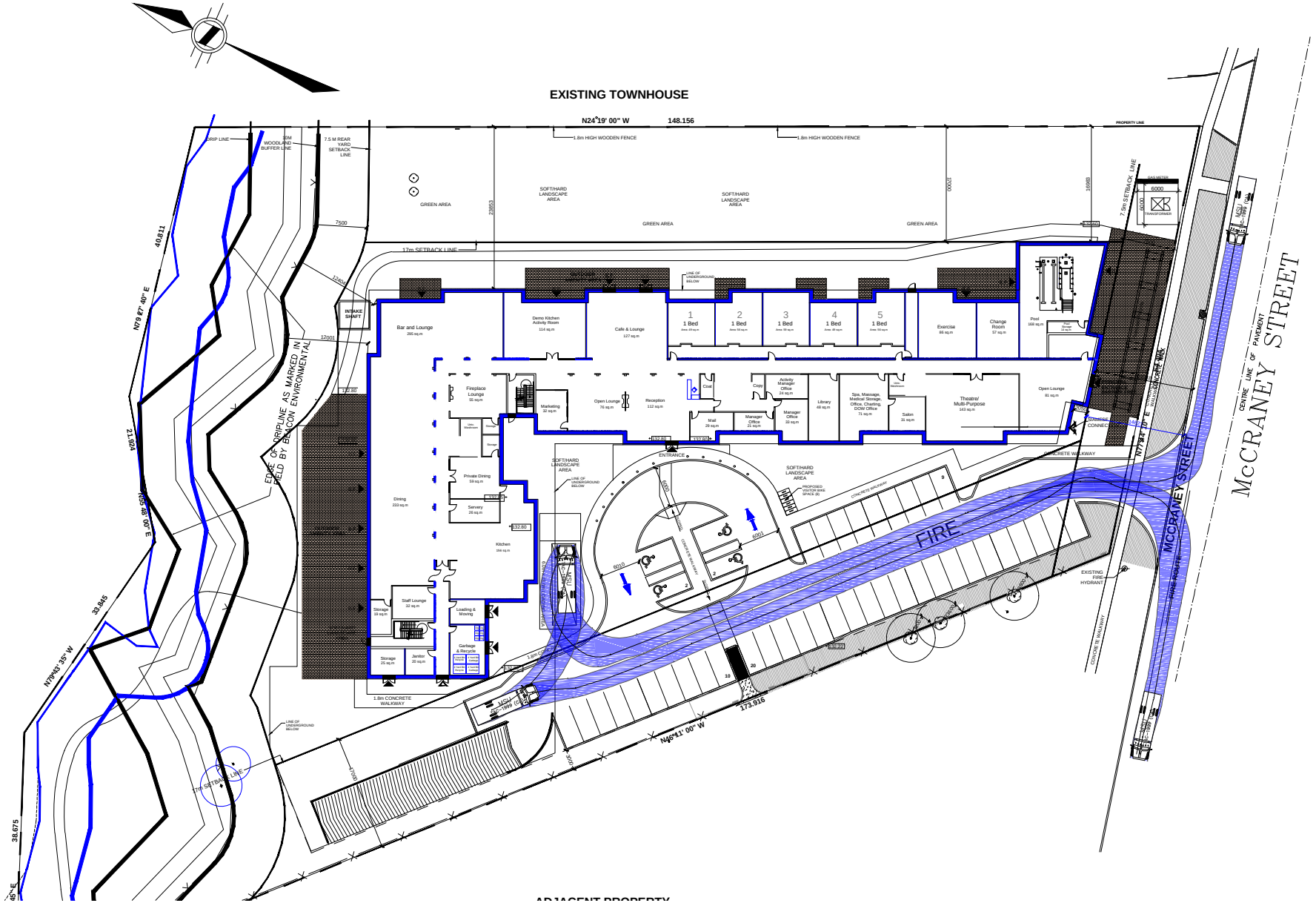
Vehicle Swept Path Analysis
Passenger Vehicle

Job Number
Revision
Date Jan 31, 2019

Figure 2

6705 Millcreek Drive, Unit 1, Mississauga, ON L5N 5M4 **T** 1 416 213 7121 **F** 1 905 890 8499 **W** www.ghd.com

Plot Date: 31 January 2019 - 12:25 PM Plotted by: Ivan Drewnitski Cad File No: G:\Legacy\SernasTransTech\Projects\2019\xxxxxxx_McCraney Retirement\AutoTURN\xxxxxxx_McCraney Retirement_AutoTurn_GHD_31Jan2019.dwg



MSU

	meters
Width	2.60
Track	2.60
Lock to Lock Time	6.0
Steering Angle	48.2

McCraney Retirement
Traffic Impact Study
Vehicle Swept Path Analysis
Medium Single Unit (MSU) Vehicle

Job Number
Revision
Date Jan 31, 2019

Figure 3

6705 Millcreek Drive, Unit 1, Mississauga, ON L5N 5M4 **T** 1 416 213 7121 **F** 1 905 890 8499 **W** www.ghd.com

Plot Date: 31 January 2019 - 12:31 PM Plotted by: Ivan Drewnitski Cad File No: G:\Legacy\SernasTransTech\Projects\2019\xxxxxxx_McCraney Retirement\AutoTURN\xxxxxxx_McCraney Retirement_AutoTurn_GHD_31Jan2019.dwg

Appendix C
Traffic Data

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

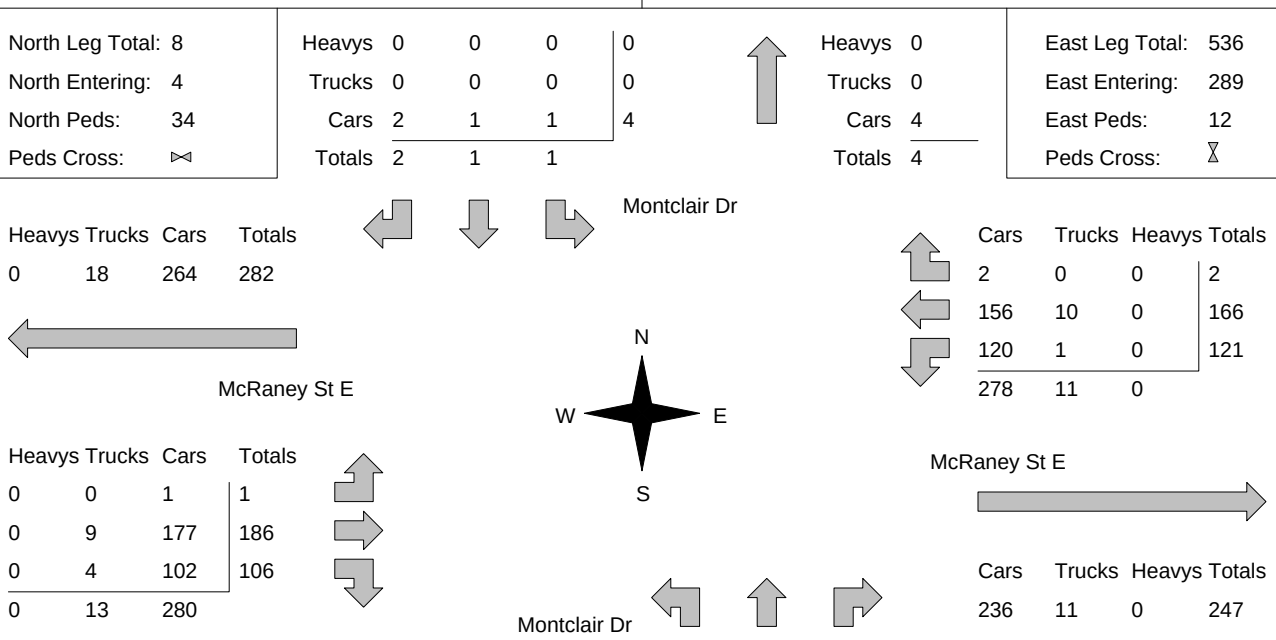
Municipality: Oakville
Site #: 1733400002
Intersection: McRaney St E & Montclair Dr
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: McRaney St E runs W/E



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 14:30:00
To: 16:30:00

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

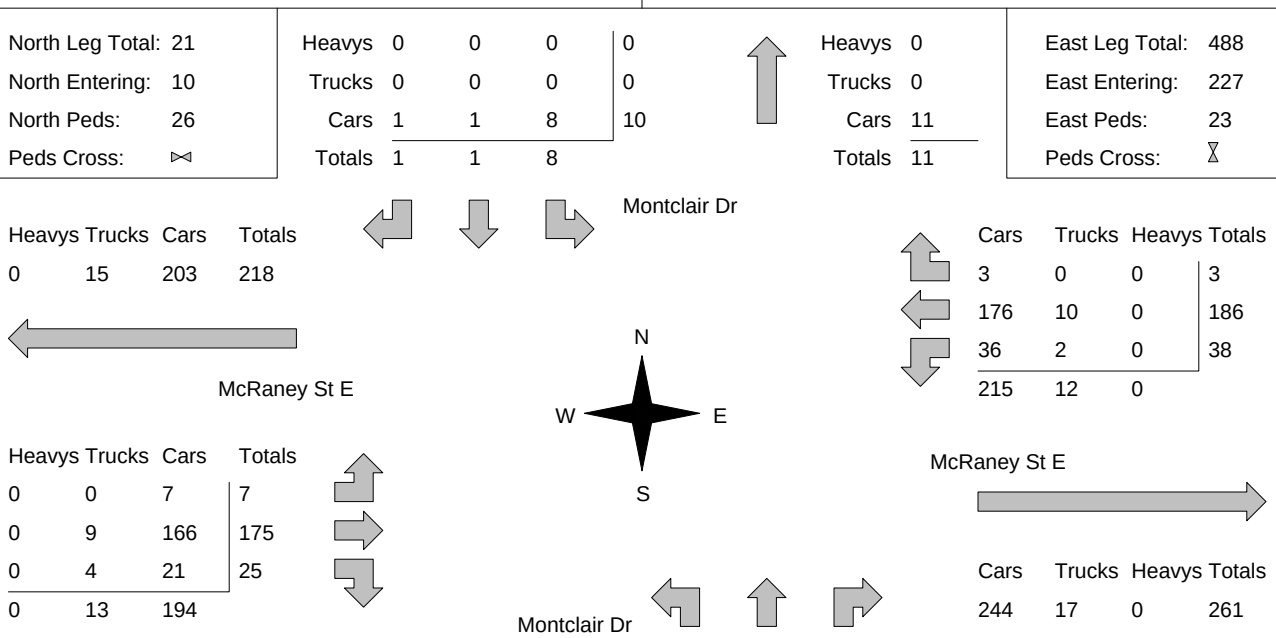
Municipality: Oakville
Site #: 1733400002
Intersection: McRaney St E & Montclair Dr
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: McRaney St E runs W/E



Comments

Ontario Traffic Inc.

Total Count Diagram

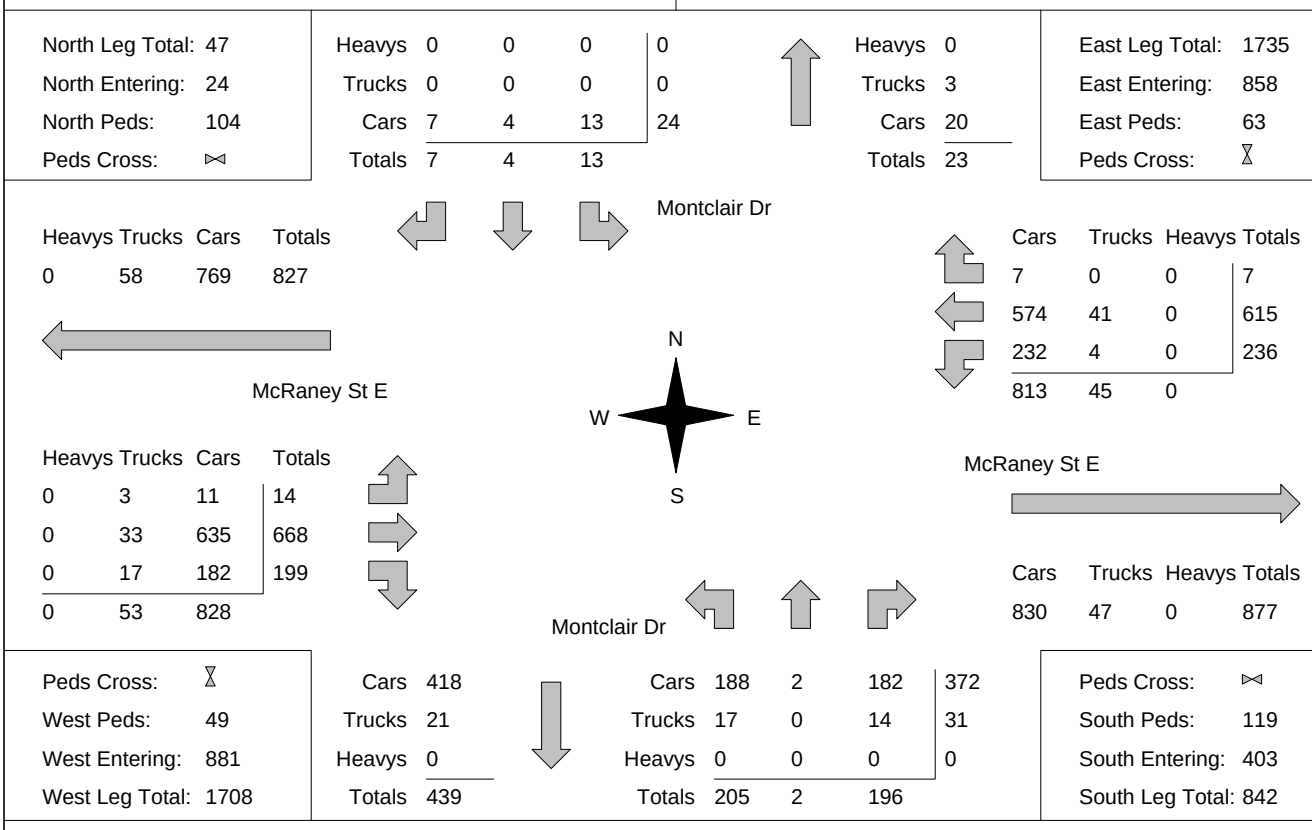
Municipality: Oakville
Site #: 1733400002
Intersection: McRaney St E & Montclair Dr
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: McRaney St E runs W/E



Comments

Ontario Traffic Inc.
Traffic Count Summary

Intersection: McRaney St E & Montclair Dr | **Count Date:** 26-Oct-17 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	2	1	3	6	16	57
9:00:00	1	1	2	4	34	179
15:00:00	0	1	1	2	12	31
16:00:00	10	1	1	12	29	101
Totals:	13	4	7	24	91	368

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	29	0	22	51	7
9:00:00	114	1	60	175	50
15:00:00	13	0	16	29	18
16:00:00	33	1	55	89	34
Totals:	189	2	153	344	109

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	0
8:00:00	57	105	0	162	9	333
9:00:00	121	166	2	289	12	582
15:00:00	12	66	2	80	12	188
16:00:00	34	167	3	204	26	394
Totals:	224	504	7	735	59	1497

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	3	136	32	171	12
9:00:00	1	186	106	293	9
15:00:00	1	86	21	108	3
16:00:00	5	161	24	190	18
Totals:	10	569	183	762	42

Calculated Values for Traffic Crossing Major Street

Hours Ending:	0:00	0:00	0:00	7:00	8:00	9:00	15:00	16:00
Crossing Values:	0	0	0	0	53	137	29	88

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400002

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2
7:30:00	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	7	5
7:45:00	2	1	1	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	9	2
8:00:00	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	16	7
8:15:00	3	1	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	24	8
8:30:00	3	0	2	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	36	12
8:45:00	3	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	44	8
9:00:00	3	0	2	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	50	6
9:00:14	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
14:30:00	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	50	0
14:45:00	3	0	2	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	56	6
15:00:00	3	0	3	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	62	6
15:15:00	5	2	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	72	10
15:30:00	8	3	3	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	80	8
15:45:00	10	2	3	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	85	5
16:00:00	13	3	4	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	91	6
16:15:00	13	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	98	7
16:30:00	13	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	104	6
16:45:00	13	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	104	0
16:47:05	13	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	104	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400002

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	7	7	23	23	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
7:30:00	18	11	41	18	0	0	0	0	4	3	0	0	0	0	0	0	0	0	2	2
7:45:00	31	13	72	31	0	0	0	0	5	1	0	0	0	0	0	0	0	0	4	2
8:00:00	57	26	97	25	0	0	0	0	8	3	0	0	0	0	0	0	0	0	9	5
8:15:00	80	23	121	24	2	2	0	0	12	4	0	0	0	0	0	0	0	0	12	3
8:30:00	104	24	166	45	2	0	0	0	15	3	0	0	0	0	0	0	0	0	16	4
8:45:00	134	30	197	31	2	0	1	1	15	0	0	0	0	0	0	0	0	0	19	3
9:00:00	177	43	253	56	2	0	1	0	18	3	0	0	0	0	0	0	0	0	21	2
9:00:14	177	0	253	0	2	0	1	0	18	0	0	0	0	0	0	0	0	0	21	0
14:30:00	177	0	253	0	2	0	1	0	18	0	0	0	0	0	0	0	0	0	21	0
14:45:00	184	7	285	32	3	1	1	0	21	3	0	0	0	0	0	0	0	0	25	4
15:00:00	188	4	314	29	4	1	2	1	23	2	0	0	0	0	0	0	0	0	33	8
15:15:00	192	4	345	31	4	0	2	0	29	6	0	0	0	0	0	0	0	0	40	7
15:30:00	211	19	390	45	6	2	3	1	31	2	0	0	0	0	0	0	0	0	46	6
15:45:00	216	5	426	36	6	0	3	0	34	3	0	0	0	0	0	0	0	0	55	9
16:00:00	221	5	468	42	7	1	3	0	36	2	0	0	0	0	0	0	0	0	59	4
16:15:00	228	7	521	53	7	0	4	1	39	3	0	0	0	0	0	0	0	0	63	4
16:30:00	232	4	574	53	7	0	4	0	41	2	0	0	0	0	0	0	0	0	63	0
16:45:00	232	0	574	0	7	0	4	0	41	0	0	0	0	0	0	0	0	0	63	0
16:47:05	232	0	574	0	7	0	4	0	41	0	0	0	0	0	0	0	0	0	63	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400002

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	3	3	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	9	6	0	0	11	5	1	1	0	0	0	0	0	0	0	0	0	0	1	1
7:45:00	15	6	0	0	17	6	1	0	0	0	0	0	0	0	0	0	0	0	3	2
8:00:00	27	12	0	0	21	4	2	1	0	0	1	1	0	0	0	0	0	0	7	4
8:15:00	45	18	0	0	31	10	3	1	0	0	1	0	0	0	0	0	0	0	16	9
8:30:00	69	24	0	0	39	8	5	2	0	0	2	1	0	0	0	0	0	0	29	13
8:45:00	98	29	1	1	53	14	7	2	0	0	3	1	0	0	0	0	0	0	45	16
9:00:00	133	35	1	0	79	26	10	3	0	0	3	0	0	0	0	0	0	0	57	12
9:00:14	133	0	1	0	79	0	10	0	0	0	3	0	0	0	0	0	0	0	57	0
14:30:00	133	0	1	0	79	0	10	0	0	0	3	0	0	0	0	0	0	0	57	0
14:45:00	136	3	1	0	85	6	10	0	0	0	3	0	0	0	0	0	0	0	64	7
15:00:00	145	9	1	0	95	10	11	1	0	0	3	0	0	0	0	0	0	0	75	11
15:15:00	153	8	1	0	103	8	12	1	0	0	5	2	0	0	0	0	0	0	81	6
15:30:00	162	9	1	0	121	18	15	3	0	0	6	1	0	0	0	0	0	0	90	9
15:45:00	170	8	1	0	134	13	16	1	0	0	7	1	0	0	0	0	0	0	102	12
16:00:00	172	2	2	1	143	9	17	1	0	0	10	3	0	0	0	0	0	0	109	7
16:15:00	179	7	2	0	173	30	17	0	0	0	13	3	0	0	0	0	0	0	115	6
16:30:00	188	9	2	0	182	9	17	0	0	0	14	1	0	0	0	0	0	0	119	4
16:45:00	188	0	2	0	182	0	17	0	0	0	14	0	0	0	0	0	0	0	119	0
16:47:05	188	0	2	0	182	0	17	0	0	0	14	0	0	0	0	0	0	0	119	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400002

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	37	37	3	3	0	0	1	1	0	0	0	0	0	0	0	0	3	3
7:30:00	0	0	65	28	7	4	1	1	2	1	1	1	0	0	0	0	0	0	5	2
7:45:00	1	1	95	30	17	10	1	0	3	1	4	3	0	0	0	0	0	0	7	2
8:00:00	1	0	131	36	26	9	2	1	5	2	6	2	0	0	0	0	0	0	12	5
8:15:00	1	0	171	40	38	12	2	0	9	4	8	2	0	0	0	0	0	0	15	3
8:30:00	2	1	230	59	58	20	2	0	10	1	9	1	0	0	0	0	0	0	19	4
8:45:00	2	0	265	35	84	26	2	0	12	2	10	1	0	0	0	0	0	0	21	2
9:00:00	2	0	308	43	128	44	2	0	14	2	10	0	0	0	0	0	0	0	21	0
9:00:14	2	0	308	0	128	0	2	0	14	0	10	0	0	0	0	0	0	0	21	0
14:30:00	2	0	308	0	128	0	2	0	14	0	10	0	0	0	0	0	0	0	21	0
14:45:00	2	0	341	33	137	9	2	0	16	2	10	0	0	0	0	0	0	0	21	0
15:00:00	2	0	389	48	148	11	3	1	19	3	11	1	0	0	0	0	0	0	24	3
15:15:00	3	1	425	36	156	8	3	0	20	1	13	2	0	0	0	0	0	0	29	5
15:30:00	6	3	460	35	161	5	3	0	25	5	14	1	0	0	0	0	0	0	32	3
15:45:00	7	1	495	35	163	2	3	0	26	1	16	2	0	0	0	0	0	0	38	6
16:00:00	7	0	540	45	167	4	3	0	29	3	16	0	0	0	0	0	0	0	42	4
16:15:00	10	3	591	51	177	10	3	0	29	0	17	1	0	0	0	0	0	0	48	6
16:30:00	11	1	635	44	182	5	3	0	33	4	17	0	0	0	0	0	0	0	49	1
16:45:00	11	0	635	0	182	0	3	0	33	0	17	0	0	0	0	0	0	0	49	0
16:47:05	11	0	635	0	182	0	3	0	33	0	17	0	0	0	0	0	0	0	49	0

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

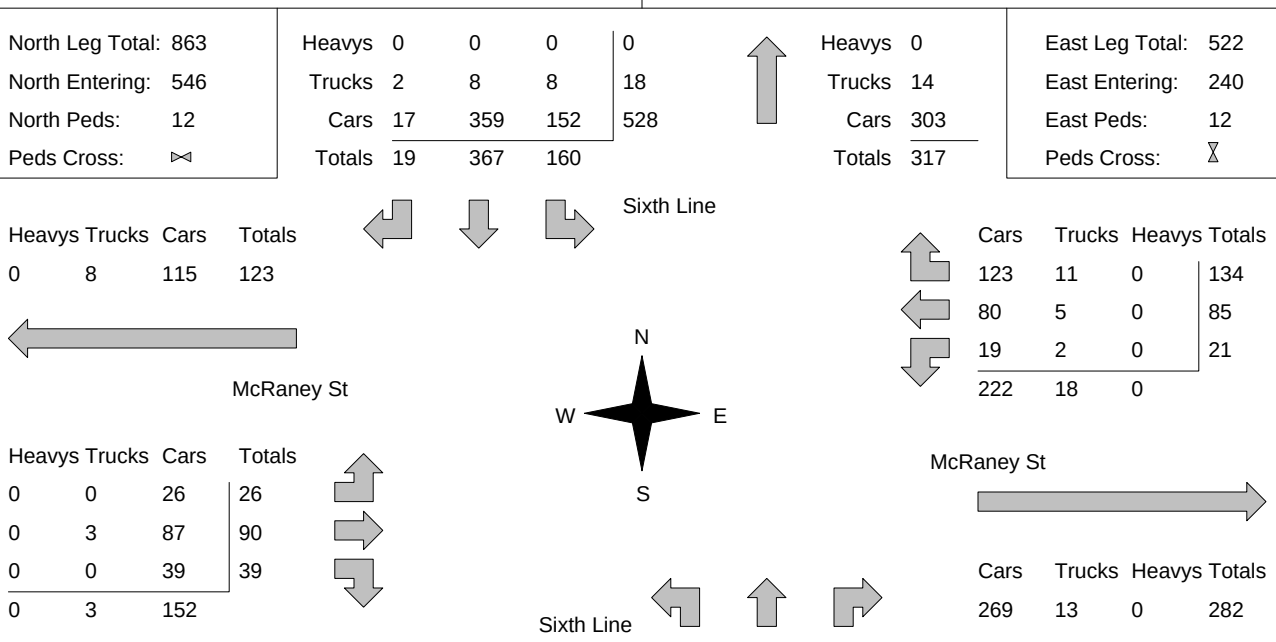
Municipality: Oakville
Site #: 1733400003
Intersection: Sixth Line & McRaney St
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Sixth Line runs N/S



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 14:30:00
To: 16:30:00

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

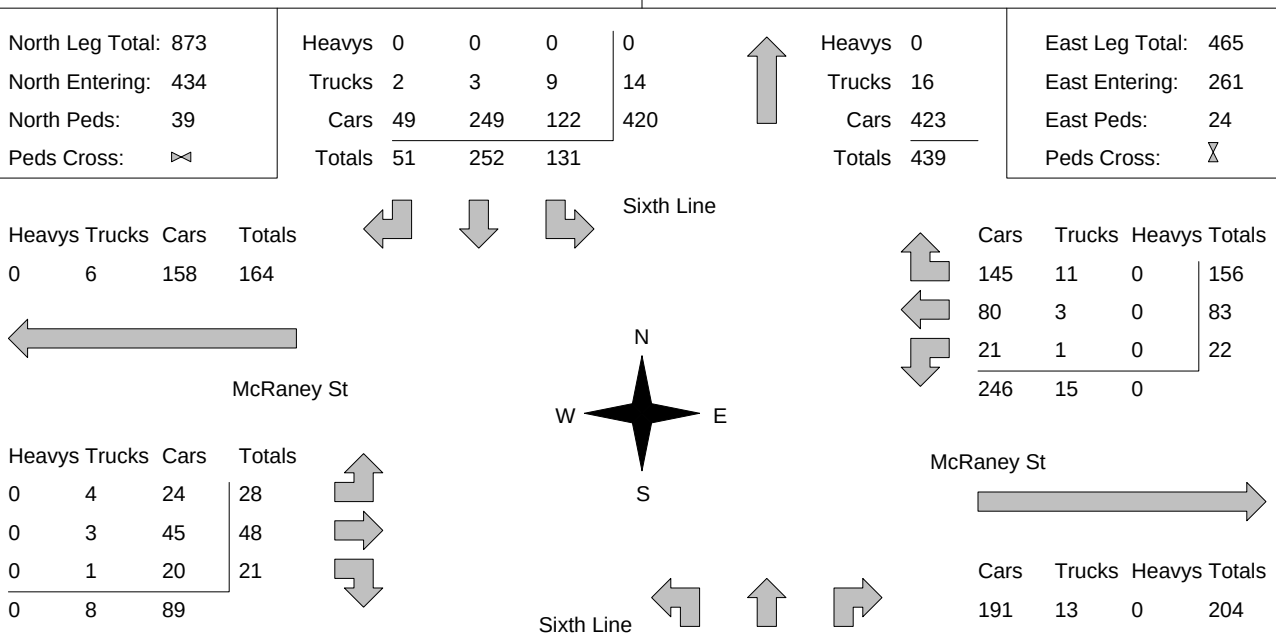
Municipality: Oakville
Site #: 1733400003
Intersection: Sixth Line & McRaney St
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Sixth Line runs N/S



Comments

Ontario Traffic Inc.

Total Count Diagram

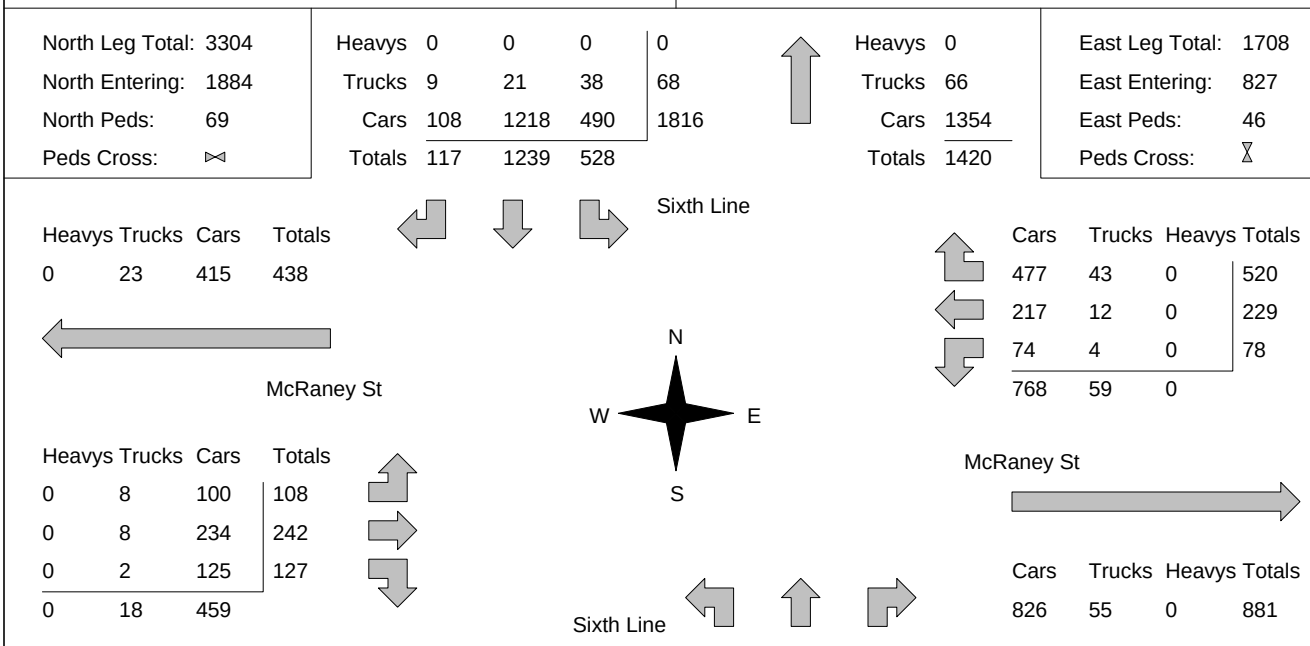
Municipality: Oakville
Site #: 1733400003
Intersection: Sixth Line & McRaney St
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Sixth Line runs N/S



Comments

Ontario Traffic Inc.
Traffic Count Summary

Intersection: Sixth Line & McRaney St | **Count Date:** 26-Oct-17 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	0	3	0	3	1	3
8:00:00	122	333	17	472	3	634
9:00:00	160	367	19	546	12	754
15:00:00	63	150	11	224	7	380
16:00:00	125	268	42	435	39	728
Totals:	470	1121	89	1680	62	2499

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	0	0	0	0
8:00:00	14	132	16	162	2
9:00:00	19	157	32	208	22
15:00:00	14	131	11	156	6
16:00:00	27	238	28	293	40
Totals:	74	658	87	819	70

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	0	0	0	0	3
8:00:00	17	28	82	127	4	240
9:00:00	21	85	134	240	12	395
15:00:00	8	18	54	80	1	139
16:00:00	21	65	156	242	26	332
Totals:	67	196	426	689	43	1109

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	2	1	3	0
8:00:00	24	53	36	113	1
9:00:00	26	90	39	155	10
15:00:00	14	26	19	59	2
16:00:00	25	48	17	90	8
Totals:	89	219	112	420	21

Calculated Values for Traffic Crossing Major Street

Hours Ending:	7:00	8:00	9:00	9:00	15:00	15:00	16:00	16:00
Crossing Values:	3	99	171	171	61	61	190	190

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400003

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:15:00	33	33	73	70	0	0	1	1	1	1	0	0	0	0	0	0	0	0	2	1
7:30:00	59	26	147	74	6	6	2	1	3	2	0	0	0	0	0	0	0	0	3	1
7:45:00	87	28	233	86	13	7	6	4	4	1	0	0	0	0	0	0	0	0	3	0
8:00:00	112	25	332	99	15	2	10	4	4	0	2	2	0	0	0	0	0	0	4	1
8:15:00	143	31	435	103	18	3	14	4	7	3	3	1	0	0	0	0	0	0	7	3
8:30:00	178	35	530	95	21	3	15	1	8	1	4	1	0	0	0	0	0	0	8	1
8:45:00	216	38	621	91	24	3	17	2	10	2	4	0	0	0	0	0	0	0	9	1
9:00:00	264	48	691	70	32	8	18	1	12	2	4	0	0	0	0	0	0	0	16	7
9:00:19	265	1	693	2	32	0	18	0	12	0	4	0	0	0	0	0	0	0	16	0
14:30:00	265	0	698	5	32	0	18	0	12	0	4	0	0	0	0	0	0	0	16	0
14:45:00	291	26	778	80	36	4	19	1	16	4	5	1	0	0	0	0	0	0	20	4
15:00:00	323	32	836	58	41	5	22	3	17	1	6	1	0	0	0	0	0	0	23	3
15:15:00	357	34	906	70	48	7	25	3	18	1	6	0	0	0	0	0	0	0	26	3
15:30:00	386	29	971	65	57	9	29	4	18	0	6	0	0	0	0	0	0	0	41	15
15:45:00	412	26	1036	65	69	12	30	1	19	1	7	1	0	0	0	0	0	0	56	15
16:00:00	437	25	1100	64	81	12	33	3	21	2	8	1	0	0	0	0	0	0	62	6
16:15:00	479	42	1155	55	97	16	34	1	21	0	8	0	0	0	0	0	0	0	65	3
16:30:00	490	11	1215	60	108	11	38	4	21	0	9	1	0	0	0	0	0	0	69	4
16:30:06	490	0	1218	3	108	0	38	0	21	0	9	0	0	0	0	0	0	0	69	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400003

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	3	3	1	1	18	18	0	0	0	0	1	1	0	0	0	0	0	0	1	1
7:30:00	5	2	7	6	30	12	0	0	1	1	4	3	0	0	0	0	0	0	3	2
7:45:00	6	1	14	7	58	28	0	0	1	0	5	1	0	0	0	0	0	0	3	0
8:00:00	17	11	26	12	74	16	0	0	2	1	8	3	0	0	0	0	0	0	4	1
8:15:00	17	0	50	24	91	17	0	0	3	1	12	4	0	0	0	0	0	0	4	0
8:30:00	23	6	63	13	128	37	0	0	4	1	16	4	0	0	0	0	0	0	4	0
8:45:00	27	4	78	15	154	26	0	0	5	1	18	2	0	0	0	0	0	0	10	6
9:00:00	36	9	106	28	197	43	2	2	7	2	19	1	0	0	0	0	0	0	16	6
9:00:19	36	0	106	0	197	0	2	0	7	0	19	0	0	0	0	0	0	0	16	0
14:30:00	36	0	106	0	197	0	2	0	7	0	19	0	0	0	0	0	0	0	16	0
14:45:00	39	3	116	10	218	21	2	0	7	0	22	3	0	0	0	0	0	0	16	0
15:00:00	43	4	122	6	247	29	3	1	9	2	23	1	0	0	0	0	0	0	17	1
15:15:00	45	2	124	2	282	35	3	0	9	0	30	7	0	0	0	0	0	0	19	2
15:30:00	49	4	154	30	335	53	4	1	11	2	32	2	0	0	0	0	0	0	27	8
15:45:00	55	6	172	18	361	26	4	0	11	0	36	4	0	0	0	0	0	0	41	14
16:00:00	63	8	185	13	387	26	4	0	11	0	39	3	0	0	0	0	0	0	43	2
16:15:00	66	3	204	19	427	40	4	0	12	1	41	2	0	0	0	0	0	0	43	0
16:30:00	74	8	217	13	477	50	4	0	12	0	43	2	0	0	0	0	0	0	46	3
16:30:06	74	0	217	0	477	0	4	0	12	0	43	0	0	0	0	0	0	0	46	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400003

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	4	4	53	23	5	5	0	0	1	1	2	2	0	0	0	0	0	0	0	0
7:45:00	9	5	92	39	7	2	0	0	1	0	2	0	0	0	0	0	0	0	1	1
8:00:00	14	5	130	38	13	6	0	0	2	1	3	1	0	0	0	0	0	0	2	1
8:15:00	18	4	178	48	20	7	0	0	3	1	4	1	0	0	0	0	0	0	2	0
8:30:00	21	3	213	35	29	9	0	0	4	1	4	0	0	0	0	0	0	0	5	3
8:45:00	29	8	241	28	35	6	0	0	5	1	4	0	0	0	0	0	0	0	17	12
9:00:00	32	3	284	43	43	8	1	1	5	0	5	1	0	0	0	0	0	0	24	7
9:00:19	32	0	286	2	43	0	1	0	5	0	5	0	0	0	0	0	0	0	24	0
14:30:00	32	0	286	0	43	0	1	0	5	0	5	0	0	0	0	0	0	0	24	0
14:45:00	41	9	347	61	45	2	1	0	8	3	6	1	0	0	0	0	0	0	27	3
15:00:00	46	5	408	61	52	7	1	0	12	4	7	1	0	0	0	0	0	0	30	3
15:15:00	52	6	457	49	61	9	1	0	12	0	8	1	0	0	0	0	0	0	39	9
15:30:00	54	2	512	55	68	7	1	0	12	0	9	1	0	0	0	0	0	0	49	10
15:45:00	62	8	583	71	72	4	2	1	13	1	9	0	0	0	0	0	0	0	70	21
16:00:00	72	10	645	62	78	6	2	0	13	0	9	0	0	0	0	0	0	0	70	0
16:15:00	81	9	711	66	85	7	2	0	13	0	9	0	0	0	0	0	0	0	79	9
16:30:00	90	9	777	66	102	17	2	0	15	2	9	0	0	0	0	0	0	0	82	3
16:30:06	90	0	777	0	102	0	2	0	15	0	9	0	0	0	0	0	0	0	82	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400003

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	3	3	16	14	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	5	2	24	8	14	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	14	9	37	13	20	6	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:00:00	24	10	55	18	37	17	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:15:00	32	8	71	16	44	7	0	0	1	1	0	0	0	0	0	0	0	0	1	0
8:30:00	39	7	93	22	56	12	0	0	2	1	0	0	0	0	0	0	0	0	3	2
8:45:00	42	3	111	18	65	9	0	0	3	1	0	0	0	0	0	0	0	0	6	3
9:00:00	50	8	142	31	76	11	0	0	3	0	0	0	0	0	0	0	0	0	11	5
9:00:19	50	0	142	0	76	0	0	0	3	0	0	0	0	0	0	0	0	0	11	0
14:30:00	50	0	142	0	77	1	0	0	3	0	0	0	0	0	0	0	0	0	11	0
14:45:00	53	3	153	11	89	12	3	3	4	1	0	0	0	0	0	0	0	0	13	2
15:00:00	60	7	166	13	95	6	4	1	5	1	0	0	0	0	0	0	0	0	13	0
15:15:00	66	6	175	9	97	2	4	0	5	0	0	0	0	0	0	0	0	0	15	2
15:30:00	71	5	187	12	100	3	7	3	6	1	0	0	0	0	0	0	0	0	17	2
15:45:00	76	5	203	16	105	5	7	0	8	2	0	0	0	0	0	0	0	0	19	2
16:00:00	82	6	211	8	112	7	7	0	8	0	0	0	0	0	0	0	0	0	21	2
16:15:00	90	8	220	9	117	5	8	1	8	0	1	1	0	0	0	0	0	0	23	2
16:30:00	100	10	234	14	125	8	8	0	8	0	2	1	0	0	0	0	0	0	26	3
16:30:06	100	0	234	0	125	0	8	0	8	0	2	0	0	0	0	0	0	0	26	0

Trafalgar @ White Oaks Blvd/McCraney St E

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

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

Municipality: Halton Region
Site #: 1030890100
Intersection: Trafalgar Rd & White Oaks Blvd
TFR File #: 7
Count date: 1-Dec-2011

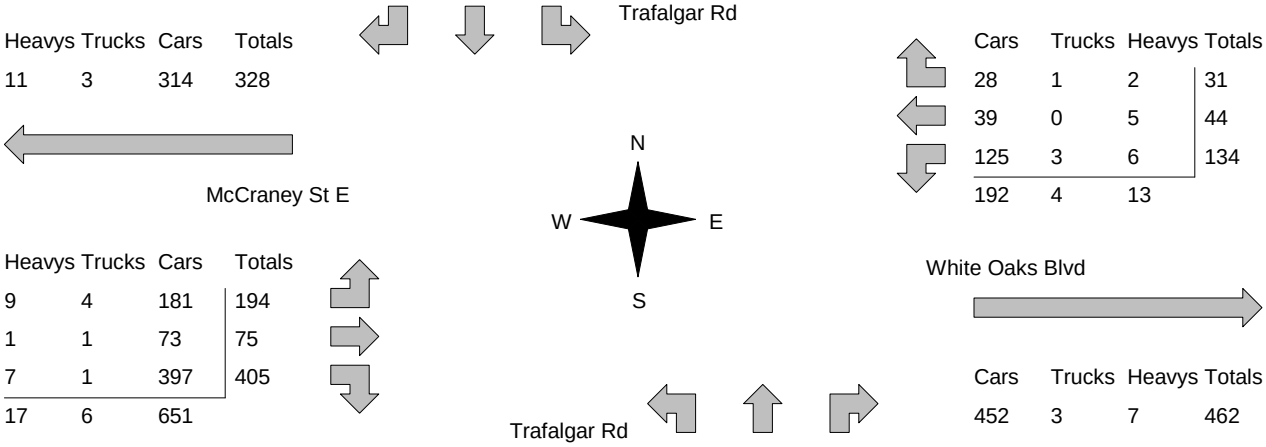
Weather conditions:
Partly Cloudy/Dry

Person(s) who counted:
Radek
Tatiana

**** Signalized Intersection ****

Major Road: Trafalgar Rd runs N/S

North Leg Total:	2502			
North Entering:	1446			
North Peds:	16			
Peds Cross:	⋈			
Heavys	3	19	0	22
Trucks	0	23	1	24
Cars	110	1204	86	1400
Totals	113	1246	87	
Heavys	29			
Trucks	27			
Cars	1000			
Totals	1056			
East Leg Total:	671			
East Entering:	209			
East Peds:	4			
Peds Cross:	⧖			



Peds Cross:	⧖			
West Peds:	39			
West Entering:	674			
West Leg Total:	1002			
Cars	1726			
Trucks	27			
Heavys	32			
Totals	1785			
Cars	165	791	293	1249
Trucks	3	22	1	26
Heavys	3	18	6	27
Totals	171	831	300	
Peds Cross:	⋈			
South Peds:	7			
South Entering:	1302			
South Leg Total:	3087			

Comments

Trafalgar @ White Oaks Blvd/McCraney St E

Afternoon Peak Diagram

Specified Period
From: 15:00:00
To: 18:00:00

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

Municipality: Halton Region
Site #: 1030890100
Intersection: Trafalgar Rd & White Oaks Blvd
TFR File #: 7
Count date: 1-Dec-2011

Weather conditions:
Partly Cloudy/Dry

Person(s) who counted:
Radek
Tatiana

**** Signalized Intersection ****

Major Road: Trafalgar Rd runs N/S

North Leg Total:	2744			
North Entering:	1282			
North Peds:	13			
Peds Cross:	⋈			

Heavys	1	15	0	16
Trucks	0	18	0	18
Cars	130	1086	32	1248
Totals	131	1119	32	

Heavys	16			
Trucks	21			
Cars	1425			
Totals	1462			

East Leg Total:	647			
East Entering:	398			
East Peds:	23			
Peds Cross:	⧖			

Trafalgar Rd

Heavys	Trucks	Cars	Totals
4	3	565	572

Cars	Trucks	Heavys	Totals
47	0	0	47
93	0	0	93
253	2	3	258
393	2	3	

McCraney St E

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	75	75
0	0	23	23
3	2	206	211
3	2	304	

White Oaks Blvd

Cars	Trucks	Heavys	Totals
244	3	2	249

Trafalgar Rd

Peds Cross:	⧖			
West Peds:	67			
West Entering:	309			
West Leg Total:	881			

Cars	1545			
Trucks	22			
Heavys	21			
Totals	1588			

Cars	342	1303	189	1834
Trucks	3	21	3	27
Heavys	3	16	2	21
Totals	348	1340	194	

Peds Cross:	⋈			
South Peds:	18			
South Entering:	1882			
South Leg Total:	3470			

Comments

Ontario Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 8:00:00
To: 9:00:00

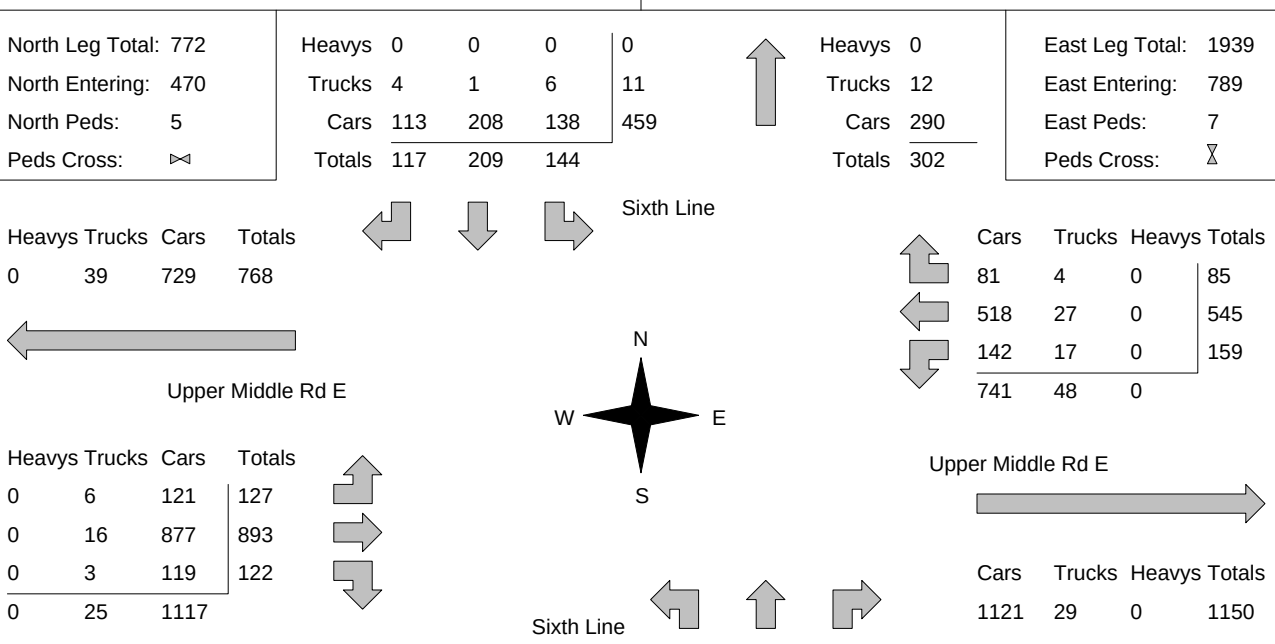
Municipality: Oakville
Site #: 1733400004
Intersection: Upper Middle Rd E & Sixth Line
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Upper Middle Rd E runs W/E



Comments

Ontario Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 14:30:00
To: 16:30:00

One Hour Peak
From: 15:30:00
To: 16:30:00

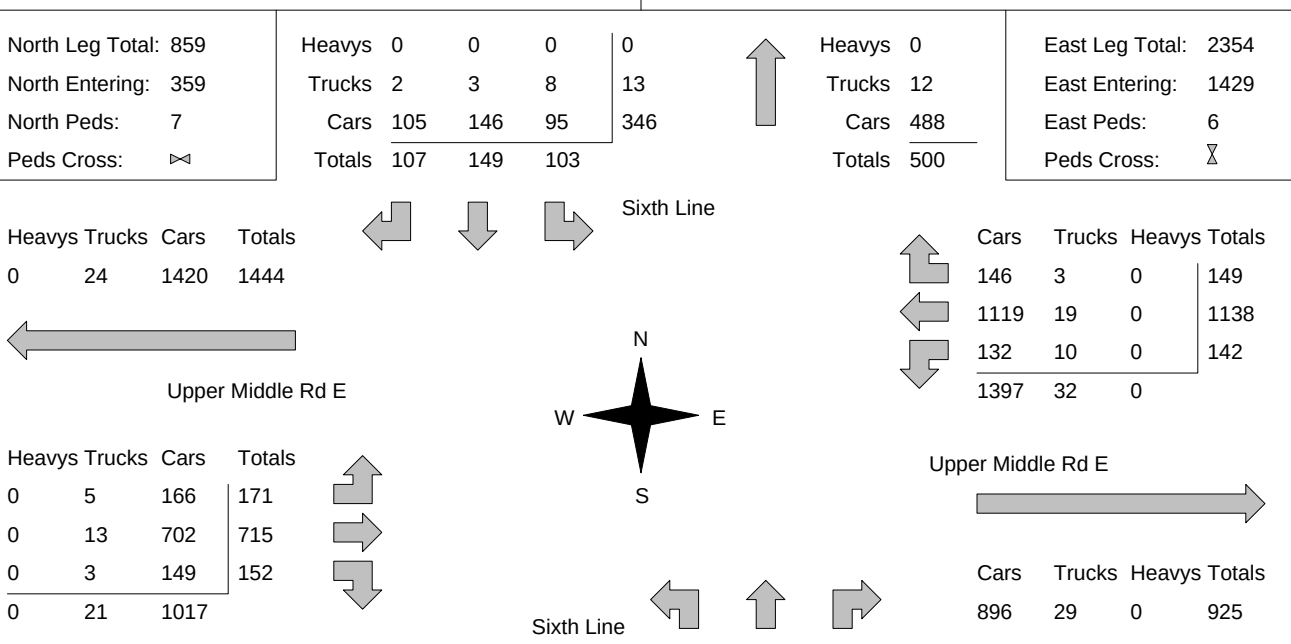
Municipality: Oakville
Site #: 1733400004
Intersection: Upper Middle Rd E & Sixth Line
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Upper Middle Rd E runs W/E



Comments

Ontario Traffic Inc.

Total Count Diagram

Municipality: Oakville
Site #: 1733400004
Intersection: Upper Middle Rd E & Sixth Line
TFR File #: 1
Count date: 26-Oct-17

Weather conditions:

Person(s) who counted:

**** Signalized Intersection ****

Major Road: Upper Middle Rd E runs W/E

North Leg Total:	3029
North Entering:	1666
North Peds:	22
Peds Cross:	⋈

Heavys	0	0	0	0
Trucks	15	12	21	48
Cars	404	757	457	1618
Totals	419	769	478	

Heavys	0
Trucks	45
Cars	1318
Totals	1363

East Leg Total:	7530
East Entering:	3738
East Peds:	21
Peds Cross:	⧖

Sixth Line

Heavys	Trucks	Cars	Totals
0	113	3741	3854

Cars	Trucks	Heavys	Totals
363	14	0	377
2798	80	0	2878
441	42	0	483
3602	136	0	

Upper Middle Rd E

N
W E
S

Heavys	Trucks	Cars	Totals
0	19	506	525
0	54	2850	2904
0	17	548	565
0	90	3904	

Upper Middle Rd E

Cars	Trucks	Heavys	Totals
3681	111	0	3792

Sixth Line

Peds Cross:	⧖
West Peds:	19
West Entering:	3994
West Leg Total:	7848

Cars	1746
Trucks	71
Heavys	0
Totals	1817

Cars	539	449	374	1362
Trucks	18	12	36	66
Heavys	0	0	0	0
Totals	557	461	410	

Peds Cross:	⋈
South Peds:	10
South Entering:	1428
South Leg Total:	3245

Comments

Ontario Traffic Inc.
Traffic Count Summary

Intersection: Upper Middle Rd E & Sixth Line | **Count Date:** 26-Oct-17 | **Municipality:** Oakville

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	North/South Total Approaches
7:00:00	2	2	0	4	0	6
8:00:00	140	247	71	458	4	671
9:00:00	144	209	117	470	5	779
15:00:00	43	93	56	192	5	402
16:00:00	106	143	131	380	5	815
Totals:	435	694	375	1504	19	2673

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	0	1	1	2	0
8:00:00	86	52	75	213	2
9:00:00	106	90	113	309	1
15:00:00	73	72	65	210	2
16:00:00	197	133	105	435	2
Totals:	462	348	359	1169	7

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches
7:00:00	0	1	0	1	0	4
8:00:00	66	354	49	469	3	1430
9:00:00	159	545	85	789	7	1931
15:00:00	59	403	42	504	2	885
16:00:00	124	1020	131	1275	5	2269
Totals:	408	2323	307	3038	17	6519

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys: Left	Thru	Right	Grand Total	Total Peds
7:00:00	1	2	0	3	1
8:00:00	80	732	149	961	0
9:00:00	127	893	122	1142	0
15:00:00	71	243	67	381	1
16:00:00	170	664	160	994	11
Totals:	449	2534	498	3481	13

Calculated Values for Traffic Crossing Major Street

Hours Ending:	0:00	0:00	0:00	7:00	8:00	9:00	15:00	16:00
Crossing Values:	0	0	0	5	476	466	212	462

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400004

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	23	21	50	48	17	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	54	31	105	55	38	21	0	0	1	1	0	0	0	0	0	0	0	0	3	3
7:45:00	86	32	177	72	50	12	0	0	1	0	2	2	0	0	0	0	0	0	3	0
8:00:00	140	54	246	69	68	18	2	2	3	2	3	1	0	0	0	0	0	0	4	1
8:15:00	186	46	296	50	99	31	5	3	3	0	4	1	0	0	0	0	0	0	6	2
8:30:00	211	25	350	54	116	17	7	2	3	0	5	1	0	0	0	0	0	0	8	2
8:45:00	247	36	404	54	140	24	7	0	3	0	7	2	0	0	0	0	0	0	8	0
9:00:00	278	31	454	50	181	41	8	1	4	1	7	0	0	0	0	0	0	0	9	1
9:00:05	278	0	454	0	183	2	8	0	4	0	7	0	0	0	0	0	0	0	9	0
14:30:00	279	1	455	1	184	1	8	0	4	0	7	0	0	0	0	0	0	0	9	0
14:45:00	297	18	496	41	215	31	8	0	6	2	9	2	0	0	0	0	0	0	12	3
15:00:00	320	23	543	47	235	20	9	1	8	2	9	0	0	0	0	0	0	0	14	2
15:15:00	341	21	581	38	267	32	11	2	9	1	11	2	0	0	0	0	0	0	15	1
15:30:00	362	21	611	30	299	32	13	2	9	0	13	2	0	0	0	0	0	0	15	0
15:45:00	390	28	648	37	332	33	16	3	10	1	13	0	0	0	0	0	0	0	15	0
16:00:00	418	28	683	35	362	30	17	1	11	1	13	0	0	0	0	0	0	0	19	4
16:15:00	436	18	712	29	386	24	18	1	11	0	13	0	0	0	0	0	0	0	22	3
16:30:00	456	20	755	43	404	18	21	3	12	1	15	2	0	0	0	0	0	0	22	0
16:30:04	457	1	757	2	404	0	21	0	12	0	15	0	0	0	0	0	0	0	22	0
16:45:00	457	0	757	0	404	0	21	0	12	0	15	0	0	0	0	0	0	0	22	0
16:45:15	457	0	757	0	404	0	21	0	12	0	15	0	0	0	0	0	0	0	22	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400004

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	11	11	64	63	12	12	2	2	1	1	0	0	0	0	0	0	0	0	1	1
7:30:00	18	7	125	61	22	10	3	1	2	1	0	0	0	0	0	0	0	0	1	0
7:45:00	29	11	247	122	34	12	7	4	8	6	0	0	0	0	0	0	0	0	2	1
8:00:00	58	29	343	96	48	14	8	1	12	4	1	1	0	0	0	0	0	0	3	1
8:15:00	118	60	471	128	64	16	17	9	20	8	4	3	0	0	0	0	0	0	4	1
8:30:00	151	33	592	121	75	11	20	3	26	6	4	0	0	0	0	0	0	0	4	0
8:45:00	177	26	725	133	99	24	23	3	32	6	4	0	0	0	0	0	0	0	7	3
9:00:00	200	23	861	136	129	30	25	2	39	7	5	1	0	0	0	0	0	0	10	3
9:00:05	200	0	861	0	129	0	25	0	39	0	5	0	0	0	0	0	0	0	10	0
14:30:00	202	2	863	2	130	1	25	0	39	0	5	0	0	0	0	0	0	0	10	0
14:45:00	238	36	1034	171	151	21	27	2	44	5	5	0	0	0	0	0	0	0	11	1
15:00:00	255	17	1250	216	169	18	29	2	53	9	7	2	0	0	0	0	0	0	12	1
15:15:00	278	23	1455	205	187	18	30	1	57	4	10	3	0	0	0	0	0	0	12	0
15:30:00	309	31	1679	224	217	30	32	2	61	4	11	1	0	0	0	0	0	0	15	3
15:45:00	344	35	1947	268	262	45	34	2	67	6	13	2	0	0	0	0	0	0	15	0
16:00:00	370	26	2249	302	293	31	38	4	74	7	14	1	0	0	0	0	0	0	17	2
16:15:00	399	29	2517	268	334	41	39	1	77	3	14	0	0	0	0	0	0	0	19	2
16:30:00	441	42	2798	281	362	28	42	3	80	3	14	0	0	0	0	0	0	0	21	2
16:30:04	441	0	2798	0	363	1	42	0	80	0	14	0	0	0	0	0	0	0	21	0
16:45:00	441	0	2798	0	363	0	42	0	80	0	14	0	0	0	0	0	0	0	21	0
16:45:15	441	0	2798	0	363	0	42	0	80	0	14	0	0	0	0	0	0	0	21	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400004

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	12	12	13	12	16	15	0	0	0	0	1	1	0	0	0	0	0	0	0	0
7:30:00	27	15	29	16	30	14	0	0	0	0	3	2	0	0	0	0	0	0	2	2
7:45:00	57	30	39	10	50	20	0	0	0	0	4	1	0	0	0	0	0	0	2	0
8:00:00	84	27	53	14	71	21	2	2	0	0	5	1	0	0	0	0	0	0	2	0
8:15:00	103	19	72	19	112	41	7	5	1	1	7	2	0	0	0	0	0	0	2	0
8:30:00	123	20	96	24	147	35	9	2	1	0	10	3	0	0	0	0	0	0	2	0
8:45:00	145	22	123	27	158	11	10	1	2	1	11	1	0	0	0	0	0	0	3	1
9:00:00	182	37	141	18	177	19	10	0	2	0	12	1	0	0	0	0	0	0	3	0
9:00:05	182	0	141	0	177	0	10	0	2	0	12	0	0	0	0	0	0	0	3	0
14:30:00	182	0	141	0	178	1	10	0	2	0	12	0	0	0	0	0	0	0	3	0
14:45:00	210	28	178	37	203	25	12	2	2	0	18	6	0	0	0	0	0	0	3	0
15:00:00	253	43	211	33	232	29	12	0	4	2	22	4	0	0	0	0	0	0	5	2
15:15:00	301	48	241	30	242	10	14	2	6	2	25	3	0	0	0	0	0	0	5	0
15:30:00	343	42	273	32	275	33	15	1	8	2	28	3	0	0	0	0	0	0	6	1
15:45:00	397	54	301	28	306	31	17	2	9	1	30	2	0	0	0	0	0	0	6	0
16:00:00	444	47	339	38	327	21	18	1	9	0	32	2	0	0	0	0	0	0	7	1
16:15:00	491	47	389	50	354	27	18	0	11	2	33	1	0	0	0	0	0	0	9	2
16:30:00	539	48	449	60	374	20	18	0	12	1	36	3	0	0	0	0	0	0	10	1
16:30:04	539	0	449	0	374	0	18	0	12	0	36	0	0	0	0	0	0	0	10	0
16:45:00	539	0	449	0	374	0	18	0	12	0	36	0	0	0	0	0	0	0	10	0
16:45:15	539	0	449	0	374	0	18	0	12	0	36	0	0	0	0	0	0	0	10	0

Ontario Traffic Inc.

Count Date: 26-Oct-17 Site #: 1733400004

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	1
7:15:00	23	23	142	141	29	29	1	0	2	1	0	0	0	0	0	0	0	0	1	0
7:30:00	35	12	283	141	66	37	1	0	4	2	1	1	0	0	0	0	0	0	1	0
7:45:00	53	18	486	203	109	43	2	1	9	5	2	1	0	0	0	0	0	0	1	0
8:00:00	78	25	721	235	145	36	3	1	13	4	4	2	0	0	0	0	0	0	1	0
8:15:00	95	17	980	259	176	31	6	3	17	4	5	1	0	0	0	0	0	0	1	0
8:30:00	124	29	1189	209	202	26	7	1	22	5	5	0	0	0	0	0	0	0	1	0
8:45:00	158	34	1374	185	234	32	8	1	26	4	6	1	0	0	0	0	0	0	1	0
9:00:00	199	41	1598	224	264	30	9	1	29	3	7	1	0	0	0	0	0	0	1	0
9:00:05	199	0	1598	0	264	0	9	0	29	0	7	0	0	0	0	0	0	0	1	0
14:30:00	200	1	1602	4	266	2	9	0	30	1	7	0	0	0	0	0	0	0	1	0
14:45:00	228	28	1714	112	293	27	10	1	33	3	9	2	0	0	0	0	0	0	1	0
15:00:00	268	40	1834	120	328	35	11	1	36	3	10	1	0	0	0	0	0	0	2	1
15:15:00	300	32	1965	131	368	40	13	2	40	4	12	2	0	0	0	0	0	0	2	0
15:30:00	340	40	2148	183	399	31	14	1	41	1	14	2	0	0	0	0	0	0	4	2
15:45:00	383	43	2335	187	447	48	15	1	44	3	15	1	0	0	0	0	0	0	4	0
16:00:00	431	48	2487	152	482	35	18	3	47	3	16	1	0	0	0	0	0	0	13	9
16:15:00	470	39	2678	191	520	38	19	1	51	4	16	0	0	0	0	0	0	0	19	6
16:30:00	506	36	2850	172	548	28	19	0	54	3	17	1	0	0	0	0	0	0	19	0
16:30:04	506	0	2850	0	548	0	19	0	54	0	17	0	0	0	0	0	0	0	19	0
16:45:00	506	0	2850	0	548	0	19	0	54	0	17	0	0	0	0	0	0	0	19	0
16:45:15	506	0	2850	0	548	0	19	0	54	0	17	0	0	0	0	0	0	0	19	0

Appendix D
TTS Data

Wed Dec 13 2017 12:41:12 GMT-0500 (Eastern Standard Time) - Run Time: 1391ms

Cross Tabulation Query Form - Trip - 2011

Row: Ward number of household - ward_hhld
Column: Planning district of employment - pd_emp

Filters:
(Ward number of household - ward_hhld In 163)

Trip 2011
Table:

	Not employed	PD 1 of Toronto	PD 2 of Toronto	PD 3 of Toronto	PD 4 of Toronto	PD 5 of Toronto	PD 6 of Toronto	PD 7 of Toronto	PD 8 of Toronto	PD 9 of Toronto	PD 10 of Toronto	PD 11 of Toronto	PD 12 of Toronto	PD 13 of Toronto	PD 16 of Toronto	Richmond Hill	Markham	Vaughan	Caledon	Brampton	Mississauga	Halton Hills	Milton	Oakville	Burlington	Dundas PD	Stoney Creek PD	Hamilton PD	Grimsby	Waterloo	Cambridge	City of Guelph	Northumberland	Brantford	No Usual Place	Total
163	25349	6353	344	409	288	601	36	533	745	377	309	154	36	36	46	144	136	755	100	625	10614	232	614	21273	2069	100	72	347	92	36	133	83	36	23	3270	76370
		13%	1%	1%	1%	1%	0%	1%	2%	1%	1%	0%	0%	0%	0%	0%	0%	2%	0%	1%	22%	0%	1%	45%	4%	0%	0%	1%	0%	0%	0%	0%	0%	0%	100.0%	

Unemployed	25349
Employed	47751
Unusual Location of Employment	3270
TOTAL	**76370**

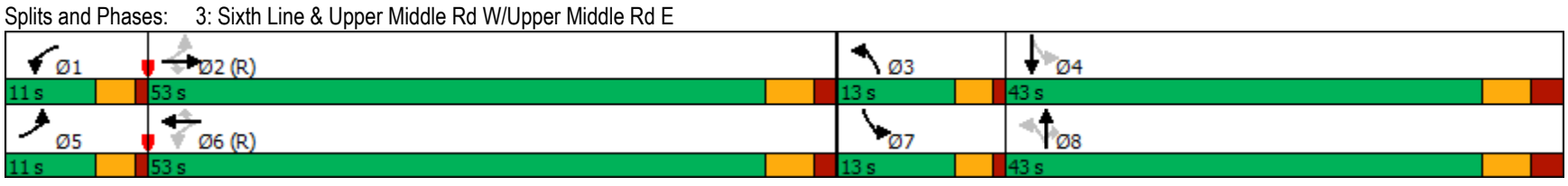
Toronto	21%
Brampton	2%
Mississauga	22%
Milton	2%
Oakville	45%
Burlington	4%
Vaughan	2%
Hamilton	2%
	100%

Appendix E
Capacity Analysis

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	893	122	159	545	85	106	90	113	144	209	117
Future Volume (vph)	127	893	122	159	545	85	106	90	113	144	209	117
Satd. Flow (prot)	1789	3579	1601	1789	3579	1601	1789	1883	1601	1789	1782	0
Flt Permitted	0.392			0.203			0.246			0.692		
Satd. Flow (perm)	735	3579	1565	382	3579	1551	463	1883	1570	1295	1782	0
Satd. Flow (RTOR)			106			104			116		24	
Lane Group Flow (vph)	131	921	126	164	562	88	109	93	116	148	336	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	11.0	32.5	32.5	11.0	32.5	32.5	11.0	40.4	40.4	11.0	40.4	
Total Split (s)	11.0	53.0	53.0	11.0	53.0	53.0	13.0	43.0	43.0	13.0	43.0	
Total Split (%)	9.2%	44.2%	44.2%	9.2%	44.2%	44.2%	10.8%	35.8%	35.8%	10.8%	35.8%	
Maximum Green (s)	7.0	47.5	47.5	7.0	47.5	47.5	9.0	36.6	36.6	9.0	36.6	
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7	
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes		
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)		20.0	20.0		20.0	20.0		27.0	27.0		27.0	
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	
Act Effct Green (s)	65.3	55.1	55.1	67.2	56.1	56.1	37.5	26.4	26.4	38.1	26.7	
Actuated g/C Ratio	0.54	0.46	0.46	0.56	0.47	0.47	0.31	0.22	0.22	0.32	0.22	
v/c Ratio	0.28	0.56	0.16	0.50	0.34	0.11	0.45	0.22	0.27	0.33	0.81	
Control Delay	14.4	26.7	6.6	19.2	22.3	3.4	31.7	37.5	7.4	28.6	55.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	14.4	26.7	6.6	19.2	22.3	3.4	31.7	37.5	7.4	28.6	55.7	
LOS	B	C	A	B	C	A	C	D	A	C	E	
Approach Delay		23.1			19.6			24.5			47.4	
Approach LOS		C			B			C			D	
90th %ile Green (s)	7.9	47.5	47.5	7.9	47.5	47.5	9.0	35.7	35.7	9.0	35.7	
90th %ile Term Code	Max	Coord	Coord	Max	Coord	Coord	Max	Hold	Hold	Max	Gap	
70th %ile Green (s)	10.9	48.3	48.3	12.6	50.0	50.0	9.0	30.2	30.2	9.0	30.2	
70th %ile Term Code	Gap	Coord	Coord	Gap	Coord	Coord	Max	Hold	Hold	Max	Gap	
50th %ile Green (s)	9.4	53.6	53.6	10.8	55.0	55.0	9.0	26.7	26.7	9.0	26.7	
50th %ile Term Code	Gap	Coord	Coord	Gap	Coord	Coord	Max	Hold	Hold	Max	Gap	
30th %ile Green (s)	8.1	58.7	58.7	9.3	59.9	59.9	9.0	23.1	23.1	9.0	23.1	
30th %ile Term Code	Gap	Coord	Coord	Gap	Coord	Coord	Max	Hold	Hold	Max	Gap	
10th %ile Green (s)	7.0	67.4	67.4	7.5	67.9	67.9	7.3	16.5	16.5	8.7	17.9	
10th %ile Term Code	Min	Coord	Coord	Gap	Coord	Coord	Gap	Hold	Hold	Gap	Gap	
Queue Length 50th (m)	13.2	83.2	2.6	16.8	43.7	0.0	17.6	18.0	0.0	24.5	70.5	
Queue Length 95th (m)	26.8	113.6	14.7	32.8	64.1	7.6	27.1	29.3	13.2	35.4	94.1	
Internal Link Dist (m)		118.7			140.6			678.2			43.2	
Turn Bay Length (m)	55.0		55.0	50.0		50.0	30.0		30.0	40.0		
Base Capacity (vph)	475	1643	775	326	1672	779	245	574	559	448	560	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.56	0.16	0.50	0.34	0.11	0.44	0.16	0.21	0.33	0.60	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 118 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 26.5	Intersection LOS: C
Intersection Capacity Utilization 74.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Sixth Line & Upper Middle Rd W/Upper Middle Rd E



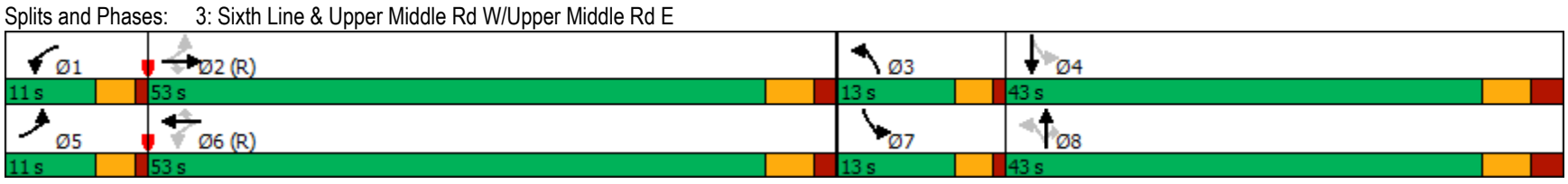
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	893	122	159	545	85	106	90	113	144	209	117
Future Volume (vph)	127	893	122	159	545	85	106	90	113	144	209	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1786	3579	1565	1789	3579	1551	1789	1883	1570	1781	1782	
Flt Permitted	0.39	1.00	1.00	0.20	1.00	1.00	0.25	1.00	1.00	0.69	1.00	
Satd. Flow (perm)	736	3579	1565	382	3579	1551	464	1883	1570	1297	1782	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	131	921	126	164	562	88	109	93	116	148	215	121
RTOR Reduction (vph)	0	0	57	0	0	47	0	0	90	0	19	0
Lane Group Flow (vph)	131	921	69	164	562	41	109	93	26	148	317	0
Confl. Peds. (#/hr)	5		1	1		5			7	7		
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	63.8	55.1	55.1	65.6	56.0	56.0	35.2	26.5	26.5	35.6	26.7	
Effective Green, g (s)	63.8	55.1	55.1	65.6	56.0	56.0	35.2	26.5	26.5	35.6	26.7	
Actuated g/C Ratio	0.53	0.46	0.46	0.55	0.47	0.47	0.29	0.22	0.22	0.30	0.22	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	467	1643	718	321	1670	723	232	415	346	420	396	
v/s Ratio Prot	0.02	c0.26		c0.04	0.16		c0.03	0.05		0.03	c0.18	
v/s Ratio Perm	0.13		0.04	0.24		0.03	0.10		0.02	0.08		
v/c Ratio	0.28	0.56	0.10	0.51	0.34	0.06	0.47	0.22	0.07	0.35	0.80	
Uniform Delay, d1	14.4	23.6	18.4	15.7	20.2	17.5	32.9	38.3	37.0	32.4	44.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	1.4	0.3	1.4	0.5	0.1	1.5	0.3	0.1	0.5	11.1	
Delay (s)	14.7	25.0	18.6	17.1	20.8	17.7	34.4	38.6	37.1	32.9	55.2	
Level of Service	B	C	B	B	C	B	C	D	D	C	E	
Approach Delay (s)		23.2			19.7			36.6			48.4	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	171	715	152	142	1138	149	199	180	107	103	149
Future Volume (vph)	171	715	152	142	1138	149	199	180	107	103	149
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	11.0	32.5	32.5	11.0	32.5	32.5	11.0	40.4	40.4	11.0	40.4
Total Split (s)	11.0	53.0	53.0	11.0	53.0	53.0	13.0	43.0	43.0	13.0	43.0
Total Split (%)	9.2%	44.2%	44.2%	9.2%	44.2%	44.2%	10.8%	35.8%	35.8%	10.8%	35.8%
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	74.0	59.4	59.4	65.3	53.9	53.9	33.6	22.2	22.2	32.9	21.9
Actuated g/C Ratio	0.62	0.50	0.50	0.54	0.45	0.45	0.28	0.18	0.18	0.27	0.18
v/c Ratio	0.56	0.42	0.19	0.34	0.74	0.21	0.83	0.54	0.29	0.33	0.78
Control Delay	23.2	21.7	3.9	13.1	31.6	8.9	60.7	49.2	8.8	31.8	56.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	21.7	3.9	13.1	31.6	8.9	60.7	49.2	8.8	31.8	56.1
LOS	C	C	A	B	C	A	E	D	A	C	E
Approach Delay		19.3			27.4			45.0			49.1
Approach LOS		B			C			D			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 80 (67%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 29.8	Intersection LOS: C
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Sixth Line & Upper Middle Rd W/Upper Middle Rd E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	178	745	158	148	1185	155	207	188	111	107	266
v/c Ratio	0.56	0.42	0.19	0.34	0.74	0.21	0.83	0.54	0.29	0.33	0.78
Control Delay	23.2	21.7	3.9	13.1	31.6	8.9	60.7	49.2	8.8	31.8	56.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	21.7	3.9	13.1	31.6	8.9	60.7	49.2	8.8	31.8	56.1
Queue Length 50th (m)	16.4	56.7	0.0	13.4	117.6	6.7	37.9	40.6	0.0	18.4	53.4
Queue Length 95th (m)	43.7	87.2	12.7	26.6	159.5	21.0	#58.2	58.8	13.8	29.1	76.6
Internal Link Dist (m)		118.7			140.6			678.2			43.2
Turn Bay Length (m)	55.0		55.0	50.0		50.0	30.0		30.0	40.0	
Base Capacity (vph)	320	1771	849	432	1608	751	249	574	556	325	553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.42	0.19	0.34	0.74	0.21	0.83	0.33	0.20	0.33	0.48

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	171	715	152	142	1138	149	199	180	107	103	149	107
Future Volume (vph)	171	715	152	142	1138	149	199	180	107	103	149	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	3579	1555	1788	3579	1545	1785	1883	1572	1785	1745	
Flt Permitted	0.10	1.00	1.00	0.33	1.00	1.00	0.30	1.00	1.00	0.51	1.00	
Satd. Flow (perm)	189	3579	1555	618	3579	1545	566	1883	1572	949	1745	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	178	745	158	148	1185	155	207	188	111	107	155	111
RTOR Reduction (vph)	0	0	80	0	0	57	0	0	90	0	25	0
Lane Group Flow (vph)	178	745	78	148	1185	98	207	188	21	107	241	0
Confl. Peds. (#/hr)	7		4	4		7	15		6	6		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	73.2	59.4	59.4	63.7	53.9	53.9	31.3	22.3	22.3	30.5	21.9	
Effective Green, g (s)	73.2	59.4	59.4	63.7	53.9	53.9	31.3	22.3	22.3	30.5	21.9	
Actuated g/C Ratio	0.61	0.49	0.49	0.53	0.45	0.45	0.26	0.19	0.19	0.25	0.18	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	319	1771	769	423	1607	693	239	349	292	301	318	
v/s Ratio Prot	c0.07	0.21		0.03	c0.33		c0.06	0.10		0.03	0.14	
v/s Ratio Perm	0.27		0.05	0.16		0.06	c0.16		0.01	0.06		
v/c Ratio	0.56	0.42	0.10	0.35	0.74	0.14	0.87	0.54	0.07	0.36	0.76	
Uniform Delay, d1	17.9	19.3	16.1	14.6	27.2	19.4	40.1	44.2	40.3	35.6	46.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.7	0.3	0.5	3.1	0.4	26.3	1.6	0.1	0.7	9.9	
Delay (s)	20.0	20.1	16.4	15.1	30.3	19.9	66.4	45.8	40.4	36.3	56.4	
Level of Service	C	C	B	B	C	B	E	D	D	D	E	
Approach Delay (s)		19.5			27.7			53.1			50.6	
Approach LOS		B			C			D			D	

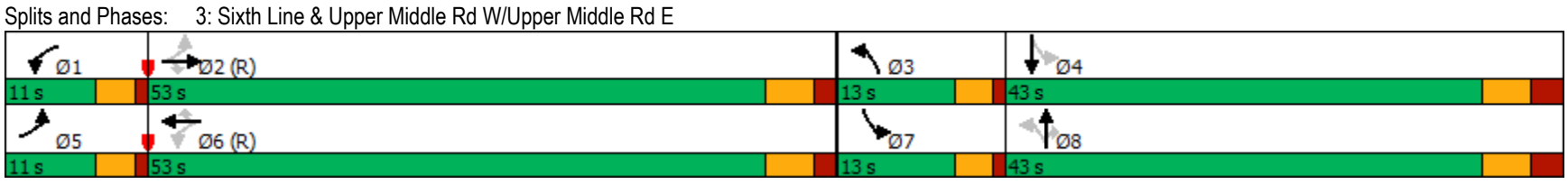
Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	138	967	150	181	590	92	124	107	129	156	244
Future Volume (vph)	138	967	150	181	590	92	124	107	129	156	244
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	11.0	32.5	32.5	11.0	32.5	32.5	11.0	40.4	40.4	11.0	40.4
Total Split (s)	11.0	53.0	53.0	11.0	53.0	53.0	13.0	43.0	43.0	13.0	43.0
Total Split (%)	9.2%	44.2%	44.2%	9.2%	44.2%	44.2%	10.8%	35.8%	35.8%	10.8%	35.8%
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	61.3	51.4	51.4	65.3	53.4	53.4	40.5	29.3	29.3	40.9	29.5
Actuated g/C Ratio	0.51	0.43	0.43	0.54	0.44	0.44	0.34	0.24	0.24	0.34	0.25
v/c Ratio	0.33	0.65	0.21	0.65	0.38	0.13	0.54	0.24	0.28	0.34	0.84
Control Delay	16.6	30.6	7.4	28.7	24.3	4.1	33.1	36.0	6.7	27.0	56.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	30.6	7.4	28.7	24.3	4.1	33.1	36.0	6.7	27.0	56.7
LOS	B	C	A	C	C	A	C	D	A	C	E
Approach Delay		26.3			23.0			24.5			47.9
Approach LOS		C			C			C			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 118 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 28.9	Intersection LOS: C
Intersection Capacity Utilization 80.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Sixth Line & Upper Middle Rd W/Upper Middle Rd E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	142	997	155	187	608	95	128	110	133	161	383
v/c Ratio	0.33	0.65	0.21	0.65	0.38	0.13	0.54	0.24	0.28	0.34	0.84
Control Delay	16.6	30.6	7.4	28.7	24.3	4.1	33.1	36.0	6.7	27.0	56.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	30.6	7.4	28.7	24.3	4.1	33.1	36.0	6.7	27.0	56.7
Queue Length 50th (m)	15.4	102.1	4.9	20.9	51.1	0.0	20.0	20.7	0.0	25.7	81.2
Queue Length 95th (m)	29.2	125.7	18.1	#52.9	69.7	8.9	30.6	33.4	13.8	37.7	109.1
Internal Link Dist (m)		118.7			140.6			678.2			43.2
Turn Bay Length (m)	55.0		55.0	50.0		50.0	30.0		30.0	40.0	
Base Capacity (vph)	427	1532	739	288	1592	747	238	574	571	472	560
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.65	0.21	0.65	0.38	0.13	0.54	0.19	0.23	0.34	0.68

Intersection Summary

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

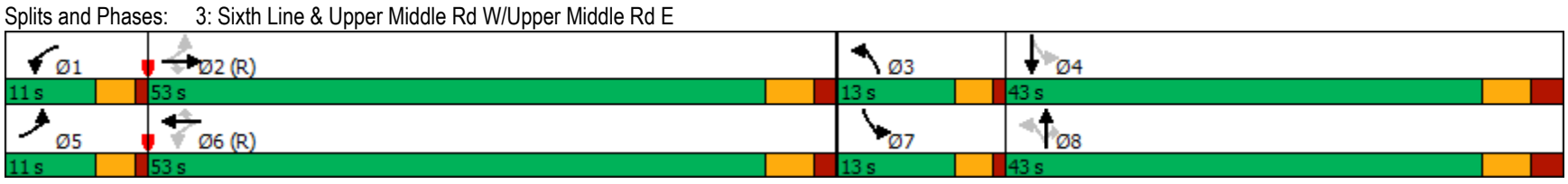
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	967	150	181	590	92	124	107	129	156	244	127
Future Volume (vph)	138	967	150	181	590	92	124	107	129	156	244	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	3579	1565	1789	3579	1551	1789	1883	1570	1782	1787	
Flt Permitted	0.37	1.00	1.00	0.15	1.00	1.00	0.21	1.00	1.00	0.68	1.00	
Satd. Flow (perm)	687	3579	1565	291	3579	1551	393	1883	1570	1278	1787	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	142	997	155	187	608	95	128	110	133	161	252	131
RTOR Reduction (vph)	0	0	69	0	0	53	0	0	101	0	17	0
Lane Group Flow (vph)	142	997	86	187	608	42	128	110	32	161	366	0
Confl. Peds. (#/hr)	5		1	1		5			7	7		
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	59.8	51.4	51.4	63.8	53.4	53.4	38.1	29.3	29.3	38.5	29.5	
Effective Green, g (s)	59.8	51.4	51.4	63.8	53.4	53.4	38.1	29.3	29.3	38.5	29.5	
Actuated g/C Ratio	0.50	0.43	0.43	0.53	0.44	0.44	0.32	0.24	0.24	0.32	0.25	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	419	1533	670	284	1592	690	227	459	383	447	439	
v/s Ratio Prot	0.02	0.28		c0.06	0.17		c0.04	0.06		0.03	c0.21	
v/s Ratio Perm	0.15		0.05	c0.29		0.03	0.14		0.02	0.09		
v/c Ratio	0.34	0.65	0.13	0.66	0.38	0.06	0.56	0.24	0.08	0.36	0.83	
Uniform Delay, d1	16.6	27.2	20.7	18.6	22.3	19.0	31.6	36.4	35.0	30.4	42.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	2.2	0.4	5.4	0.7	0.2	3.2	0.3	0.1	0.5	12.8	
Delay (s)	17.1	29.3	21.1	24.0	23.0	19.2	34.8	36.7	35.1	30.9	55.8	
Level of Service	B	C	C	C	C	B	C	D	D	C	E	
Approach Delay (s)		27.0			22.8			35.5			48.4	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	185	774	180	160	1232	161	233	209	123	112	174
Future Volume (vph)	185	774	180	160	1232	161	233	209	123	112	174
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA
Protected Phases	5	2		1	6		3	8		7	4
Permitted Phases	2		2	6		6	8		8	4	
Detector Phase	5	2	2	1	6	6	3	8	8	7	4
Switch Phase											
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	11.0	32.5	32.5	11.0	32.5	32.5	11.0	40.4	40.4	11.0	40.4
Total Split (s)	11.0	53.0	53.0	11.0	53.0	53.0	13.0	43.0	43.0	13.0	43.0
Total Split (%)	9.2%	44.2%	44.2%	9.2%	44.2%	44.2%	10.8%	35.8%	35.8%	10.8%	35.8%
Yellow Time (s)	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7	3.7	3.0	3.7
All-Red Time (s)	1.0	1.8	1.8	1.0	1.8	1.8	1.0	2.7	2.7	1.0	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None
Act Effct Green (s)	71.8	57.2	57.2	62.0	50.6	50.6	35.7	24.3	24.3	35.1	24.0
Actuated g/C Ratio	0.60	0.48	0.48	0.52	0.42	0.42	0.30	0.20	0.20	0.29	0.20
v/c Ratio	0.62	0.47	0.22	0.42	0.84	0.23	0.98	0.56	0.30	0.36	0.79
Control Delay	34.3	23.7	4.2	15.4	38.0	10.2	86.6	48.1	8.1	30.8	56.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	23.7	4.2	15.4	38.0	10.2	86.6	48.1	8.1	30.8	56.0
LOS	C	C	A	B	D	B	F	D	A	C	E
Approach Delay		22.3			32.8			55.3			49.0
Approach LOS		C			C			E			D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 118 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 34.8	Intersection LOS: C
Intersection Capacity Utilization 90.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Sixth Line & Upper Middle Rd W/Upper Middle Rd E



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	191	798	186	165	1270	166	240	215	127	115	299
v/c Ratio	0.62	0.47	0.22	0.42	0.84	0.23	0.98	0.56	0.30	0.36	0.79
Control Delay	34.3	23.7	4.2	15.4	38.0	10.2	86.6	48.1	8.1	30.8	56.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	23.7	4.2	15.4	38.0	10.2	86.6	48.1	8.1	30.8	56.0
Queue Length 50th (m)	25.8	65.3	0.6	15.9	139.4	8.7	43.7	46.1	0.2	19.4	61.3
Queue Length 95th (m)	#70.1	95.3	14.5	30.9	#179.6	23.6	#77.2	64.6	14.6	30.0	85.1
Internal Link Dist (m)		118.7			140.6			678.2			43.2
Turn Bay Length (m)	55.0		55.0	50.0		50.0	30.0		30.0	40.0	
Base Capacity (vph)	309	1705	840	394	1509	713	246	574	566	323	560
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.47	0.22	0.42	0.84	0.23	0.98	0.37	0.22	0.36	0.53

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	774	180	160	1232	161	233	209	123	112	174	116
Future Volume (vph)	185	774	180	160	1232	161	233	209	123	112	174	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	3579	1565	1789	3579	1551	1789	1883	1570	1785	1770	
Flt Permitted	0.07	1.00	1.00	0.30	1.00	1.00	0.27	1.00	1.00	0.46	1.00	
Satd. Flow (perm)	138	3579	1565	568	3579	1551	505	1883	1570	865	1770	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	191	798	186	165	1270	166	240	215	127	115	179	120
RTOR Reduction (vph)	0	0	95	0	0	60	0	0	100	0	23	0
Lane Group Flow (vph)	191	798	91	165	1270	106	240	215	27	115	276	0
Confl. Peds. (#/hr)	5		1	1		5			7	7		
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	71.1	57.2	57.2	60.5	50.6	50.6	33.3	24.3	24.3	32.7	24.0	
Effective Green, g (s)	71.1	57.2	57.2	60.5	50.6	50.6	33.3	24.3	24.3	32.7	24.0	
Actuated g/C Ratio	0.59	0.48	0.48	0.50	0.42	0.42	0.28	0.20	0.20	0.27	0.20	
Clearance Time (s)	4.0	5.5	5.5	4.0	5.5	5.5	4.0	6.4	6.4	4.0	6.4	
Vehicle Extension (s)	3.0	0.2	0.2	3.0	0.2	0.2	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	308	1705	745	387	1509	654	236	381	317	302	354	
v/s Ratio Prot	c0.09	0.22		0.04	c0.35		c0.08	0.11		0.03	0.16	
v/s Ratio Perm	0.28		0.06	0.18		0.07	c0.21		0.02	0.08		
v/c Ratio	0.62	0.47	0.12	0.43	0.84	0.16	1.02	0.56	0.08	0.38	0.78	
Uniform Delay, d1	28.1	21.2	17.5	16.5	31.1	21.5	41.2	43.1	38.8	34.1	45.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.8	0.9	0.3	0.8	5.9	0.5	63.0	1.9	0.1	0.8	10.4	
Delay (s)	32.0	22.1	17.8	17.3	37.0	22.1	104.2	45.0	38.9	34.9	55.8	
Level of Service	C	C	B	B	D	C	F	D	D	C	E	
Approach Delay (s)		23.0			33.4			68.1			50.0	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	30	66	30	105	32	276	175	273
Future Volume (vph)	30	66	30	105	32	276	175	273
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases		4		8		2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	1	6
Switch Phase								
Minimum Initial (s)	20.0	20.0	20.0	20.0	24.0	24.0	5.0	24.0
Minimum Split (s)	25.3	25.3	25.3	25.3	29.3	29.3	9.5	29.6
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	44.4%	44.4%	22.2%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.0	3.0	3.0	3.3
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	4.0	5.6
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	24.7	24.7	24.7	24.7	34.7	34.7	56.0	54.4
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.39	0.39	0.62	0.60
v/c Ratio	0.20	0.20	0.10	0.66	0.09	0.48	0.31	0.33
Control Delay	28.9	21.2	25.4	26.3	18.6	23.1	8.6	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	21.2	25.4	26.3	18.6	23.1	8.6	9.2
LOS	C	C	C	C	B	C	A	A
Approach Delay		23.2		26.2		22.7		9.0
Approach LOS		C		C		C		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 78.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Sixth Line & McCraney St W/McCraney St E

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	99	33	346	36	343	194	364
v/c Ratio	0.20	0.20	0.10	0.66	0.09	0.48	0.31	0.33
Control Delay	28.9	21.2	25.4	26.3	18.6	23.1	8.6	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	21.2	25.4	26.3	18.6	23.1	8.6	9.2
Queue Length 50th (m)	4.4	10.4	4.2	36.1	3.9	42.7	12.9	26.5
Queue Length 95th (m)	12.2	22.5	11.3	65.3	10.0	66.7	21.7	41.7
Internal Link Dist (m)		150.6		307.4		226.4		678.2
Turn Bay Length (m)	15.0		30.0		25.0		40.0	
Base Capacity (vph)	165	501	341	528	389	715	636	1109
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.20	0.10	0.66	0.09	0.48	0.31	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	66	23	30	105	206	32	276	32	175	273	55
Future Volume (vph)	30	66	23	30	105	206	32	276	32	175	273	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.95	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.90		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1766	1774		1704	1641		1762	1844		1781	1822	
Flt Permitted	0.32	1.00		0.69	1.00		0.54	1.00		0.39	1.00	
Satd. Flow (perm)	602	1774		1243	1641		1009	1844		723	1822	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	33	73	26	33	117	229	36	307	36	194	303	61
RTOR Reduction (vph)	0	15	0	0	78	0	0	5	0	0	8	0
Lane Group Flow (vph)	33	84	0	33	268	0	36	338	0	194	356	0
Confl. Peds. (#/hr)	12		22	22		12	10		12	12		10
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Grp Cap (vph)	165	486		341	450		389	710		625	1101	
v/s Ratio Prot		0.05			c0.16			c0.18		0.06	c0.20	
v/s Ratio Perm	0.05			0.03			0.04			0.13		
v/c Ratio	0.20	0.17		0.10	0.59		0.09	0.48		0.31	0.32	
Uniform Delay, d1	25.1	24.9		24.3	28.3		17.6	20.8		8.8	8.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.8		0.6	5.7		0.5	2.3		1.3	0.8	
Delay (s)	27.8	25.7		24.9	34.0		18.1	23.1		10.1	9.5	
Level of Service	C	C		C	C		B	C		B	A	
Approach Delay (s)		26.2			33.2			22.6			9.7	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	113	34	306	279	105	413	1451	35	1212
Future Volume (vph)	113	34	306	279	105	413	1451	35	1212
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		4			4	1	2		2
Permitted Phases	4		4	4		2		2	
Detector Phase	4	4	4	4	4	1	2	2	2
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	7.0	30.0	30.0	30.0
Minimum Split (s)	42.0	42.0	42.0	42.0	42.0	12.0	37.0	37.0	37.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	25.0	70.0	70.0	70.0
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	17.9%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.0	7.0	7.0	7.0
Lead/Lag						Lead	Lag	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	36.7	36.7	36.7	36.7	36.7	86.3	63.0	63.0	63.0
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.62	0.45	0.45	0.45
v/c Ratio	0.48	0.08	0.60	0.94	0.38	1.42	0.86	0.77	0.71
Control Delay	49.8	38.7	15.2	85.2	40.4	238.7	39.0	108.5	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	38.7	15.2	85.2	40.4	238.7	39.0	108.5	32.7
LOS	D	D	B	F	D	F	D	F	C
Approach Delay		25.6			69.1		78.8		34.6
Approach LOS		C			E		E		C

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 106 (76%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 58.0	Intersection LOS: E
Intersection Capacity Utilization 120.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 15: Trafalgar Rd & McCraney St E/White Oaks Blvd

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	131	40	356	324	181	480	1931	41	1600
v/c Ratio	0.48	0.08	0.60	0.94	0.38	1.42	0.86	0.77	0.71
Control Delay	49.8	38.7	15.2	85.2	40.4	238.7	39.0	108.5	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	38.7	15.2	85.2	40.4	238.7	39.0	108.5	32.7
Queue Length 50th (m)	30.4	8.3	17.8	87.1	36.8	~165.0	171.2	9.4	127.1
Queue Length 95th (m)	48.3	16.9	43.3	#131.6	55.3	#217.4	177.9	#31.2	134.6
Internal Link Dist (m)		157.9			138.2		135.0		143.4
Turn Bay Length (m)	30.0		30.0	55.0		114.0		30.0	
Base Capacity (vph)	284	511	609	358	494	338	2245	53	2264
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.08	0.58	0.91	0.37	1.42	0.86	0.77	0.71

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	34	306	279	105	51	413	1451	210	35	1212	164
Future Volume (vph)	113	34	306	279	105	51	413	1451	210	35	1212	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1883	1512	1714	1775		1789	4960		1789	5005	
Flt Permitted	0.56	1.00	1.00	0.73	1.00		0.08	1.00		0.06	1.00	
Satd. Flow (perm)	1049	1883	1512	1319	1775		143	4960		120	5005	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	131	40	356	324	122	59	480	1687	244	41	1409	191
RTOR Reduction (vph)	0	0	201	0	13	0	0	14	0	0	13	0
Lane Group Flow (vph)	131	40	155	324	168	0	480	1917	0	41	1587	0
Confl. Peds. (#/hr)	13		37	37		13	24		49	49		24
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			4		1	2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	36.7	36.7	36.7	36.7	36.7		84.3	63.0		63.0	63.0	
Effective Green, g (s)	36.7	36.7	36.7	36.7	36.7		84.3	63.0		63.0	63.0	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.60	0.45		0.45	0.45	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	274	493	396	345	465		336	2232		54	2252	
v/s Ratio Prot		0.02			0.09		c0.22	0.39			0.32	
v/s Ratio Perm	0.12		0.10	c0.25			c0.64			0.34		
v/c Ratio	0.48	0.08	0.39	0.94	0.36		1.43	0.86		0.76	0.70	
Uniform Delay, d1	43.6	38.9	42.5	50.6	42.1		43.5	34.5		32.2	31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.1	0.6	32.6	0.5		209.3	4.6		65.5	1.9	
Delay (s)	44.9	39.0	43.1	83.2	42.6		252.8	39.1		97.7	32.9	
Level of Service	D	D	D	F	D		F	D		F	C	
Approach Delay (s)		43.2			68.6			81.6			34.5	
Approach LOS		D			E			F			C	

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	120.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	298	27	41	256	3	34	1	84	9	1	1
Future Volume (vph)	8	298	27	41	256	3	34	1	84	9	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	11	403	36	55	346	4	46	1	114	12	1	1

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	11	439	55	350	161	14
Volume Left (vph)	11	0	55	0	46	12
Volume Right (vph)	0	36	0	4	114	1
Hadj (s)	0.53	-0.02	0.53	0.03	-0.33	0.16
Departure Headway (s)	6.0	5.5	6.1	5.6	5.7	6.6
Degree Utilization, x	0.02	0.67	0.09	0.54	0.25	0.03
Capacity (veh/h)	579	635	570	631	562	458
Control Delay (s)	8.0	17.6	8.5	13.7	10.6	9.7
Approach Delay (s)	17.3		13.0		10.6	9.7
Approach LOS	C		B		B	A

Intersection Summary				
Delay	14.5			
Level of Service	B			
Intersection Capacity Utilization	40.5%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	298	27	41	256	3	34	1	84	9	1	1
Future Vol, veh/h	8	298	27	41	256	3	34	1	84	9	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	403	36	55	346	4	46	1	114	12	1	1
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	18.5	14	10.8	9.9
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	100%	0%	100%	0%	82%
Vol Thru, %	1%	0%	92%	0%	99%	9%
Vol Right, %	71%	0%	8%	0%	1%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	119	8	325	41	259	11
LT Vol	34	8	0	41	0	9
Through Vol	1	0	298	0	256	1
RT Vol	84	0	27	0	3	1
Lane Flow Rate	161	11	439	55	350	15
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.256	0.018	0.67	0.094	0.542	0.027
Departure Headway (Hd)	5.739	6.053	5.489	6.085	5.571	6.618
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	593	659	590	648	540
Service Time	3.779	3.776	3.212	3.807	3.293	4.673
HCM Lane V/C Ratio	0.257	0.019	0.666	0.093	0.54	0.028
HCM Control Delay	10.8	8.9	18.7	9.4	14.7	9.9
HCM Lane LOS	B	A	C	A	B	A
HCM 95th-tile Q	1	0.1	5.1	0.3	3.3	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	90	39	21	85	134	19	157	32	160	367	19
Future Volume (vph)	26	90	39	21	85	134	19	157	32	160	367	19
Satd. Flow (prot)	1789	1759	0	1789	1658	0	1789	1819	0	1789	1866	0
Flt Permitted	0.488			0.657			0.513			0.529		
Satd. Flow (perm)	902	1759	0	1182	1658	0	953	1819	0	978	1866	0
Satd. Flow (RTOR)		24			87			13			5	
Lane Group Flow (vph)	29	143	0	23	243	0	21	210	0	178	429	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Act Effct Green (s)	24.7	24.7		24.7	24.7		34.7	34.7		56.0	54.4	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.39	0.39		0.62	0.60	
v/c Ratio	0.12	0.29		0.07	0.47		0.06	0.30		0.24	0.38	
Control Delay	26.1	23.1		25.0	20.5		18.1	19.3		8.0	10.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.1	23.1		25.0	20.5		18.1	19.3		8.0	10.2	
LOS	C	C		C	C		B	B		A	B	
Approach Delay		23.6			20.9			19.2			9.6	
Approach LOS		C			C			B			A	
Queue Length 50th (m)	3.8	16.0		3.0	21.6		2.3	23.0		11.7	34.4	
Queue Length 95th (m)	10.6	31.0		8.8	43.2		6.9	39.4		20.1	52.1	
Internal Link Dist (m)		150.6			307.4			226.4			678.2	
Turn Bay Length (m)	15.0			30.0			25.0			40.0		
Base Capacity (vph)	247	500		324	518		367	709		752	1129	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.29		0.07	0.47		0.06	0.30		0.24	0.38	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Control Type: Pretimed
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 15.6 — Intersection LOS: B
Intersection Capacity Utilization 75.6% — ICU Level of Service D
Analysis Period (min) 15

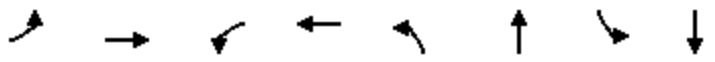
Splits and Phases: 6: Sixth Line & McCraney St W/McCraney St E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	90	39	21	85	134	19	157	32	160	367	19
Future Volume (vph)	26	90	39	21	85	134	19	157	32	160	367	19
Satd. Flow (prot)	1789	1759	0	1789	1658	0	1789	1819	0	1789	1866	0
Flt Permitted	0.488			0.657			0.513			0.529		
Satd. Flow (perm)	902	1759	0	1182	1658	0	953	1819	0	978	1866	0
Satd. Flow (RTOR)		24			87			13			5	
Lane Group Flow (vph)	29	143	0	23	243	0	21	210	0	178	429	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.3	25.3		25.3	25.3		29.3	29.3		9.5	29.6	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		20.0	60.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		44.4%	44.4%		22.2%	66.7%	
Maximum Green (s)	24.7	24.7		24.7	24.7		34.7	34.7		16.0	54.4	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.0	3.0		3.0	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.3	2.3		1.0	2.3	
Total Lost Time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	24.7	24.7		24.7	24.7		34.7	34.7		56.0	54.4	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.39	0.39		0.62	0.60	
v/c Ratio	0.12	0.29		0.07	0.47		0.06	0.30		0.24	0.38	
Control Delay	26.1	23.1		25.0	20.5		18.1	19.3		8.0	10.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.1	23.1		25.0	20.5		18.1	19.3		8.0	10.2	
LOS	C	C		C	C		B	B		A	B	
Approach Delay		23.6			20.9			19.2			9.6	
Approach LOS		C			C			B			A	
Queue Length 50th (m)	3.8	16.0		3.0	21.6		2.3	23.0		11.7	34.4	
Queue Length 95th (m)	10.6	31.0		8.8	43.2		6.9	39.4		20.1	52.1	
Internal Link Dist (m)		150.6			307.4			226.4			678.2	
Turn Bay Length (m)	15.0			30.0			25.0			40.0		
Base Capacity (vph)	247	500		324	518		367	709		752	1129	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.29		0.07	0.47		0.06	0.30		0.24	0.38	

Intersection Summary

Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Control Type: Pretimed
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 15.6 — Intersection LOS: B
Intersection Capacity Utilization 75.6% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 6: Sixth Line & McCraney St W/McCraney St E



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	143	23	243	21	210	178	429
v/c Ratio	0.12	0.29	0.07	0.47	0.06	0.30	0.24	0.38
Control Delay	26.1	23.1	25.0	20.5	18.1	19.3	8.0	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	23.1	25.0	20.5	18.1	19.3	8.0	10.2
Queue Length 50th (m)	3.8	16.0	3.0	21.6	2.3	23.0	11.7	34.4
Queue Length 95th (m)	10.6	31.0	8.8	43.2	6.9	39.4	20.1	52.1
Internal Link Dist (m)		150.6		307.4		226.4		678.2
Turn Bay Length (m)	15.0		30.0		25.0		40.0	
Base Capacity (vph)	247	500	324	518	367	709	752	1129
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.29	0.07	0.47	0.06	0.30	0.24	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	90	39	21	85	134	19	157	32	160	367	19
Future Volume (vph)	26	90	39	21	85	134	19	157	32	160	367	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.97		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.96	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.95		1.00	0.91		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1756	1759		1709	1658		1765	1819		1772	1866	
Flt Permitted	0.49	1.00		0.66	1.00		0.51	1.00		0.53	1.00	
Satd. Flow (perm)	901	1759		1182	1658		952	1819		986	1866	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	100	43	23	94	149	21	174	36	178	408	21
RTOR Reduction (vph)	0	17	0	0	63	0	0	8	0	0	2	0
Lane Group Flow (vph)	29	126	0	23	180	0	21	202	0	178	427	0
Confl. Peds. (#/hr)	12		22	22		12	10		12	12		10
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Grp Cap (vph)	247	482		324	455		367	701		735	1127	
v/s Ratio Prot		0.07			c0.11			0.11		0.04	c0.23	
v/s Ratio Perm	0.03			0.02			0.02			0.10		
v/c Ratio	0.12	0.26		0.07	0.40		0.06	0.29		0.24	0.38	
Uniform Delay, d1	24.5	25.5		24.2	26.6		17.4	19.1		8.1	9.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	1.3		0.4	2.6		0.3	1.0		0.8	1.0	
Delay (s)	25.4	26.8		24.6	29.1		17.7	20.1		8.8	10.1	
Level of Service	C	C		C	C		B	C		A	B	
Approach Delay (s)		26.6			28.7			19.9			9.7	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	28	48	22	83	30	255	131	252
Future Volume (vph)	28	48	22	83	30	255	131	252
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases		4		8		2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	23.3	23.3	23.3	23.3	23.3	23.3	9.5	23.6
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	44.4%	44.4%	22.2%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.0	3.0	3.0	3.3
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	4.0	5.6
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	24.7	24.7	24.7	24.7	34.7	34.7	56.0	54.4
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.39	0.39	0.62	0.60
v/c Ratio	0.12	0.14	0.07	0.49	0.08	0.40	0.20	0.28
Control Delay	26.4	19.1	25.0	19.3	18.3	21.8	7.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	19.1	25.0	19.3	18.3	21.8	7.7	8.7
LOS	C	B	C	B	B	C	A	A
Approach Delay		21.2		19.8		21.5		8.4
Approach LOS		C		B		C		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Pretimed	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 15.9	Intersection LOS: B
Intersection Capacity Utilization 57.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Sixth Line & McCraney St W/McCraney St E

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	71	23	247	31	289	135	313
v/c Ratio	0.12	0.14	0.07	0.49	0.08	0.40	0.20	0.28
Control Delay	26.4	19.1	25.0	19.3	18.3	21.8	7.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	19.1	25.0	19.3	18.3	21.8	7.7	8.7
Queue Length 50th (m)	3.8	6.3	3.0	19.9	3.3	34.9	8.6	21.7
Queue Length 95th (m)	10.6	16.3	8.7	42.1	9.0	55.6	15.6	35.0
Internal Link Dist (m)		150.6		296.1		226.4		678.2
Turn Bay Length (m)	15.0		30.0		25.0		40.0	
Base Capacity (vph)	233	491	334	505	408	715	677	1110
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.14	0.07	0.49	0.08	0.40	0.20	0.28

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	48	21	22	83	156	30	255	25	131	252	51
Future Volume (vph)	28	48	21	22	83	156	30	255	25	131	252	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.96		1.00	0.92		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.94	1.00		0.91	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.95		1.00	0.90		1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1683	1730		1627	1571		1766	1845		1767	1823	
Flt Permitted	0.48	1.00		0.71	1.00		0.57	1.00		0.44	1.00	
Satd. Flow (perm)	852	1730		1217	1571		1060	1845		822	1823	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	29	49	22	23	86	161	31	263	26	135	260	53
RTOR Reduction (vph)	0	16	0	0	75	0	0	4	0	0	8	0
Lane Group Flow (vph)	29	55	0	23	172	0	31	285	0	135	305	0
Confl. Peds. (#/hr)	39		40	40		39	8		24	24		8
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Grp Cap (vph)	233	474		333	431		408	711		664	1101	
v/s Ratio Prot		0.03			c0.11			c0.15		0.04	c0.17	
v/s Ratio Perm	0.03			0.02			0.03			0.09		
v/c Ratio	0.12	0.12		0.07	0.40		0.08	0.40		0.20	0.28	
Uniform Delay, d1	24.5	24.5		24.1	26.6		17.5	20.1		8.2	8.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.5		0.4	2.8		0.4	1.7		0.7	0.6	
Delay (s)	25.6	25.0		24.5	29.4		17.9	21.8		8.9	9.1	
Level of Service	C	C		C	C		B	C		A	A	
Approach Delay (s)		25.2			29.0			21.4			9.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	28	121	26	107	21	170	218	397
Future Volume (vph)	28	121	26	107	21	170	218	397
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases		4		8		2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	1	6
Switch Phase								
Minimum Initial (s)	20.0	20.0	20.0	20.0	24.0	24.0	5.0	24.0
Minimum Split (s)	25.3	25.3	25.3	25.3	29.3	29.3	9.5	29.6
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	44.4%	44.4%	22.2%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.0	3.0	3.0	3.3
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	4.0	5.6
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	24.7	24.7	24.7	24.7	34.7	34.7	56.0	54.4
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.39	0.39	0.62	0.60
v/c Ratio	0.16	0.36	0.10	0.60	0.06	0.32	0.33	0.41
Control Delay	27.5	25.9	25.6	25.4	18.2	19.8	8.8	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	25.9	25.6	25.4	18.2	19.8	8.8	10.6
LOS	C	C	C	C	B	B	A	B
Approach Delay		26.2		25.5		19.6		10.0
Approach LOS		C		C		B		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 79.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Sixth Line & McCraney St W/McCraney St E

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	181	29	309	23	230	242	464
v/c Ratio	0.16	0.36	0.10	0.60	0.06	0.32	0.33	0.41
Control Delay	27.5	25.9	25.6	25.4	18.2	19.8	8.8	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	25.9	25.6	25.4	18.2	19.8	8.8	10.6
Queue Length 50th (m)	4.1	22.3	3.7	32.7	2.5	25.5	16.6	38.2
Queue Length 95th (m)	11.3	40.1	10.4	59.1	7.4	43.0	27.0	57.5
Internal Link Dist (m)		150.6		307.4		226.4		678.2
Turn Bay Length (m)	15.0		30.0		25.0		40.0	
Base Capacity (vph)	194	500	293	518	355	708	741	1129
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.36	0.10	0.60	0.06	0.32	0.33	0.41

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	121	42	26	107	171	21	170	37	218	397	21
Future Volume (vph)	28	121	42	26	107	171	21	170	37	218	397	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.97		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.96	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.91		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	1775		1717	1658		1766	1817		1789	1865	
Flt Permitted	0.38	1.00		0.59	1.00		0.50	1.00		0.51	1.00	
Satd. Flow (perm)	708	1775		1068	1658		923	1817		953	1865	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	31	134	47	29	119	190	23	189	41	242	441	23
RTOR Reduction (vph)	0	14	0	0	64	0	0	9	0	0	2	0
Lane Group Flow (vph)	31	167	0	29	245	0	23	221	0	242	462	0
Confl. Peds. (#/hr)	12		22	22		12	10		12			10
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Grp Cap (vph)	194	487		293	455		355	700		724	1127	
v/s Ratio Prot		0.09			c0.15			0.12		0.06	c0.25	
v/s Ratio Perm	0.04			0.03			0.02			0.14		
v/c Ratio	0.16	0.34		0.10	0.54		0.06	0.32		0.33	0.41	
Uniform Delay, d1	24.8	26.2		24.4	27.8		17.4	19.3		8.5	9.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	1.9		0.7	4.5		0.4	1.2		1.2	1.1	
Delay (s)	26.5	28.1		25.0	32.3		17.8	20.5		9.7	10.5	
Level of Service	C	C		C	C		B	C		A	B	
Approach Delay (s)		27.8			31.7			20.3			10.2	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	30	66	30	105	32	276	175	273
Future Volume (vph)	30	66	30	105	32	276	175	273
Turn Type	Perm	NA	Perm	NA	Perm	NA	pm+pt	NA
Protected Phases		4		8		2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	1	6
Switch Phase								
Minimum Initial (s)	20.0	20.0	20.0	20.0	24.0	24.0	5.0	24.0
Minimum Split (s)	25.3	25.3	25.3	25.3	29.3	29.3	9.5	29.6
Total Split (s)	30.0	30.0	30.0	30.0	40.0	40.0	20.0	60.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	44.4%	44.4%	22.2%	66.7%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.0	3.0	3.0	3.3
All-Red Time (s)	2.0	2.0	2.0	2.0	2.3	2.3	1.0	2.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.3	5.3	5.3	5.3	5.3	4.0	5.6
Lead/Lag					Lag	Lag	Lead	
Lead-Lag Optimize?					Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	24.7	24.7	24.7	24.7	34.7	34.7	56.0	54.4
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.39	0.39	0.62	0.60
v/c Ratio	0.20	0.20	0.10	0.66	0.09	0.48	0.31	0.33
Control Delay	28.9	21.2	25.4	26.3	18.6	23.1	8.6	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	21.2	25.4	26.3	18.6	23.1	8.6	9.2
LOS	C	C	C	C	B	C	A	A
Approach Delay		23.2		26.2		22.7		9.0
Approach LOS		C		C		C		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 78.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 6: Sixth Line & McCraney St W/McCraney St E

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	33	99	33	346	36	343	194	364
v/c Ratio	0.20	0.20	0.10	0.66	0.09	0.48	0.31	0.33
Control Delay	28.9	21.2	25.4	26.3	18.6	23.1	8.6	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	21.2	25.4	26.3	18.6	23.1	8.6	9.2
Queue Length 50th (m)	4.4	10.4	4.2	36.1	3.9	42.7	12.9	26.5
Queue Length 95th (m)	12.2	22.5	11.3	65.3	10.0	66.7	21.7	41.7
Internal Link Dist (m)		150.6		307.4		226.4		678.2
Turn Bay Length (m)	15.0		30.0		25.0		40.0	
Base Capacity (vph)	165	501	341	528	389	715	636	1109
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.20	0.10	0.66	0.09	0.48	0.31	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	66	23	30	105	206	32	276	32	175	273	55
Future Volume (vph)	30	66	23	30	105	206	32	276	32	175	273	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.95	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.90		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1766	1774		1704	1641		1762	1844		1781	1822	
Flt Permitted	0.32	1.00		0.69	1.00		0.54	1.00		0.39	1.00	
Satd. Flow (perm)	602	1774		1243	1641		1009	1844		723	1822	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	33	73	26	33	117	229	36	307	36	194	303	61
RTOR Reduction (vph)	0	15	0	0	78	0	0	5	0	0	8	0
Lane Group Flow (vph)	33	84	0	33	268	0	36	338	0	194	356	0
Confl. Peds. (#/hr)	12		22	22		12	10		12	12		10
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Effective Green, g (s)	24.7	24.7		24.7	24.7		34.7	34.7		54.4	54.4	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.39	0.39		0.60	0.60	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.3	5.3		4.0	5.6	
Lane Grp Cap (vph)	165	486		341	450		389	710		625	1101	
v/s Ratio Prot		0.05			c0.16			c0.18		0.06	c0.20	
v/s Ratio Perm	0.05			0.03			0.04			0.13		
v/c Ratio	0.20	0.17		0.10	0.59		0.09	0.48		0.31	0.32	
Uniform Delay, d1	25.1	24.9		24.3	28.3		17.6	20.8		8.8	8.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.8		0.6	5.7		0.5	2.3		1.3	0.8	
Delay (s)	27.8	25.7		24.9	34.0		18.1	23.1		10.1	9.5	
Level of Service	C	C		C	C		B	C		B	A	
Approach Delay (s)		26.2			33.2			22.6			9.7	
Approach LOS		C			C			C			A	

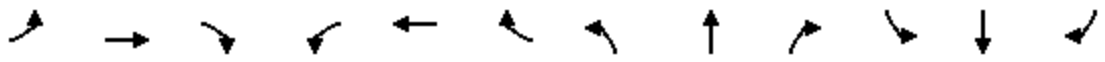
Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	1	186	106	121	166	2	114	1	60	1	1	2
Future Volume (vph)	1	186	106	121	166	2	114	1	60	1	1	2
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	1	251	143	164	224	3	154	1	81	1	1	3

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	1	394	164	227	236	5
Volume Left (vph)	1	0	164	0	154	1
Volume Right (vph)	0	143	0	3	81	3
Hadj (s)	0.53	-0.22	0.53	0.02	-0.04	-0.29
Departure Headway (s)	6.3	5.5	6.3	5.8	5.8	6.1
Degree Utilization, x	0.00	0.61	0.29	0.36	0.38	0.01
Capacity (veh/h)	551	621	551	601	572	474
Control Delay (s)	8.1	15.6	10.6	10.8	12.2	9.2
Approach Delay (s)	15.5		10.7		12.2	9.2
Approach LOS	C		B		B	A

Intersection Summary				
Delay	12.9			
Level of Service	B			
Intersection Capacity Utilization	51.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	175	25	38	186	3	31	1	78	8	1	1
Future Volume (vph)	7	175	25	38	186	3	31	1	78	8	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	9	213	30	46	227	4	38	1	95	10	1	1

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	9	243	46	231	134	12
Volume Left (vph)	9	0	46	0	38	10
Volume Right (vph)	0	30	0	4	95	1
Hadj (s)	0.53	-0.05	0.53	0.02	-0.33	0.15
Departure Headway (s)	5.7	5.1	5.7	5.1	4.8	5.5
Degree Utilization, x	0.01	0.34	0.07	0.33	0.18	0.02
Capacity (veh/h)	613	683	612	678	680	576
Control Delay (s)	7.6	9.6	7.9	9.4	8.9	8.6
Approach Delay (s)	9.5		9.2		8.9	8.6
Approach LOS	A		A		A	A

Intersection Summary				
Delay	9.2			
Level of Service	A			
Intersection Capacity Utilization	36.7%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	175	25	38	186	3	31	1	78	8	1	1
Future Vol, veh/h	7	175	25	38	186	3	31	1	78	8	1	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	213	30	46	227	4	38	1	95	10	1	1
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.4	10	9	8.7
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	28%	100%	0%	100%	0%	80%
Vol Thru, %	1%	0%	88%	0%	98%	10%
Vol Right, %	71%	0%	12%	0%	2%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	110	7	200	38	189	10
LT Vol	31	7	0	38	0	8
Through Vol	1	0	175	0	186	1
RT Vol	78	0	25	0	3	1
Lane Flow Rate	134	9	244	46	230	12
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.181	0.013	0.343	0.072	0.327	0.019
Departure Headway (Hd)	4.848	5.659	5.068	5.624	5.11	5.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	738	631	707	635	701	646
Service Time	2.895	3.409	2.818	3.374	2.859	3.578
HCM Lane V/C Ratio	0.182	0.014	0.345	0.072	0.328	0.019
HCM Control Delay	9	8.5	10.5	8.8	10.3	8.7
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.7	0	1.5	0.2	1.4	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	1	249	115	131	260	2	123	1	65	1	1	2
Future Volume (vph)	1	249	115	131	260	2	123	1	65	1	1	2
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	1	336	155	177	351	3	166	1	88	1	1	3

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	1	491	177	354	255	5
Volume Left (vph)	1	0	177	0	166	1
Volume Right (vph)	0	155	0	3	88	3
Hadj (s)	0.53	-0.19	0.53	0.03	-0.04	-0.29
Departure Headway (s)	6.7	6.0	6.6	6.1	6.3	7.0
Degree Utilization, x	0.00	0.82	0.33	0.60	0.45	0.01
Capacity (veh/h)	522	589	525	564	533	438
Control Delay (s)	8.5	28.8	11.6	16.7	14.4	10.1
Approach Delay (s)	28.8		15.0		14.4	10.1
Approach LOS	D		C		B	B

Intersection Summary				
Delay	20.2			
Level of Service	C			
Intersection Capacity Utilization	56.6%	ICU Level of Service		B
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	249	115	131	260	2	123	1	65	1	1	2
Future Vol, veh/h	1	249	115	131	260	2	123	1	65	1	1	2
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	336	155	177	351	3	166	1	88	1	1	3
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	29.5	16	14.7	10.3
HCM LOS	D	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	65%	100%	0%	100%	0%	25%
Vol Thru, %	1%	0%	68%	0%	99%	25%
Vol Right, %	34%	0%	32%	0%	1%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	1	364	131	262	4
LT Vol	123	1	0	131	0	1
Through Vol	1	0	249	0	260	1
RT Vol	65	0	115	0	2	2
Lane Flow Rate	255	1	492	177	354	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.454	0.003	0.813	0.325	0.6	0.011
Departure Headway (Hd)	6.396	6.682	5.949	6.612	6.098	7.221
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	559	534	605	542	588	499
Service Time	4.467	4.447	3.713	4.378	3.864	5.221
HCM Lane V/C Ratio	0.456	0.002	0.813	0.327	0.602	0.01
HCM Control Delay	14.7	9.5	29.6	12.6	17.7	10.3
HCM Lane LOS	B	A	D	B	C	B
HCM 95th-tile Q	2.3	0	8.2	1.4	4	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	298	27	41	256	3	34	1	84	9	1	1
Future Volume (vph)	8	298	27	41	256	3	34	1	84	9	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	11	403	36	55	346	4	46	1	114	12	1	1

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total (vph)	11	439	55	350	161	14
Volume Left (vph)	11	0	55	0	46	12
Volume Right (vph)	0	36	0	4	114	1
Hadj (s)	0.53	-0.02	0.53	0.03	-0.33	0.16
Departure Headway (s)	6.0	5.5	6.1	5.6	5.7	6.6
Degree Utilization, x	0.02	0.67	0.09	0.54	0.25	0.03
Capacity (veh/h)	579	635	570	631	562	458
Control Delay (s)	8.0	17.6	8.5	13.7	10.6	9.7
Approach Delay (s)	17.3		13.0		10.6	9.7
Approach LOS	C		B		B	A

Intersection Summary				
Delay	14.5			
Level of Service	B			
Intersection Capacity Utilization	40.5%	ICU Level of Service		A
Analysis Period (min)	15			

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	298	27	41	256	3	34	1	84	9	1	1
Future Vol, veh/h	8	298	27	41	256	3	34	1	84	9	1	1
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	403	36	55	346	4	46	1	114	12	1	1
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	18.5	14	10.8	9.9
HCM LOS	C	B	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	29%	100%	0%	100%	0%	82%
Vol Thru, %	1%	0%	92%	0%	99%	9%
Vol Right, %	71%	0%	8%	0%	1%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	119	8	325	41	259	11
LT Vol	34	8	0	41	0	9
Through Vol	1	0	298	0	256	1
RT Vol	84	0	27	0	3	1
Lane Flow Rate	161	11	439	55	350	15
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.256	0.018	0.67	0.094	0.542	0.027
Departure Headway (Hd)	5.739	6.053	5.489	6.085	5.571	6.618
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	626	593	659	590	648	540
Service Time	3.779	3.776	3.212	3.807	3.293	4.673
HCM Lane V/C Ratio	0.257	0.019	0.666	0.093	0.54	0.028
HCM Control Delay	10.8	8.9	18.7	9.4	14.7	9.9
HCM Lane LOS	B	A	C	A	B	A
HCM 95th-tile Q	1	0.1	5.1	0.3	3.3	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	75	405	134	44	31	171	831	300	87	1246	113
Future Volume (vph)	197	75	405	134	44	31	171	831	300	87	1246	113
Satd. Flow (prot)	1789	1883	1601	1789	1747	0	1789	4763	0	1789	5049	0
Flt Permitted	0.701			0.701			0.101			0.152		
Satd. Flow (perm)	1302	1883	1512	1268	1747	0	190	4763	0	283	5049	0
Satd. Flow (RTOR)			271		25			85			14	
Lane Group Flow (vph)	229	87	471	156	87	0	199	1315	0	101	1580	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			4		1	2			2	
Permitted Phases	4		4	4			2			2		
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	70.0		70.0	70.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Act Effct Green (s)	31.7	31.7	31.7	31.7	31.7		91.3	74.4		74.4	74.4	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.65	0.53		0.53	0.53	
v/c Ratio	0.78	0.20	0.85	0.54	0.21		0.68	0.51		0.67	0.59	
Control Delay	68.2	43.1	36.5	53.9	30.2		31.1	22.0		53.7	24.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	68.2	43.1	36.5	53.9	30.2		31.1	22.0		53.7	24.9	
LOS	E	D	D	D	C		C	C		D	C	
Approach Delay		46.4			45.4			23.2			26.7	
Approach LOS		D			D			C			C	
Queue Length 50th (m)	58.7	19.3	56.4	37.6	13.6		22.8	81.2		20.7	109.7	
Queue Length 95th (m)	80.8	31.1	88.1	55.1	25.5		46.8	100.8		#54.8	132.7	
Internal Link Dist (m)		157.9			138.2			135.0			143.4	
Turn Bay Length (m)	30.0		30.0	55.0			114.0			30.0		
Base Capacity (vph)	353	511	607	344	492		356	2571		150	2689	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.65	0.17	0.78	0.45	0.18		0.56	0.51		0.67	0.59	

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 106 (76%), Referenced to phase 2:NBSB and 6:, Start of Green	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 30.2	Intersection LOS: C
Intersection Capacity Utilization 93.3%	ICU Level of Service F
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

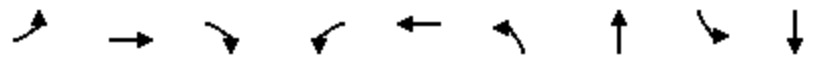
Splits and Phases: 15: Trafalgar Rd & McCraney St E/White Oaks Blvd

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	75	405	134	44	31	171	831	300	87	1246	113
Future Volume (vph)	197	75	405	134	44	31	171	831	300	87	1246	113
Satd. Flow (prot)	1789	1883	1601	1789	1747	0	1789	4763	0	1789	5049	0
Flt Permitted	0.701			0.701			0.101			0.152		
Satd. Flow (perm)	1302	1883	1512	1268	1747	0	190	4763	0	283	5049	0
Satd. Flow (RTOR)			271		25			85			14	
Lane Group Flow (vph)	229	87	471	156	87	0	199	1315	0	101	1580	0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			4		1	2			2	
Permitted Phases	4		4	4			2			2		
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		7.0	30.0		30.0	30.0	
Minimum Split (s)	42.0	42.0	42.0	42.0	42.0		12.0	37.0		37.0	37.0	
Total Split (s)	45.0	45.0	45.0	45.0	45.0		25.0	70.0		70.0	70.0	
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%		17.9%	50.0%		50.0%	50.0%	
Maximum Green (s)	38.0	38.0	38.0	38.0	38.0		20.0	63.0		63.0	63.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		3.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0		2.0	3.0		3.0	3.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Lead/Lag							Lead	Lag		Lag	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	28.0	28.0	28.0	28.0	28.0			23.0		23.0	23.0	
Pedestrian Calls (#/hr)	0	0	0	0	0			0		0	0	
Act Effct Green (s)	31.7	31.7	31.7	31.7	31.7		91.3	74.4		74.4	74.4	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.65	0.53		0.53	0.53	
v/c Ratio	0.78	0.20	0.85	0.54	0.21		0.68	0.51		0.67	0.59	
Control Delay	68.2	43.1	36.5	53.9	30.2		31.1	22.0		53.7	24.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	68.2	43.1	36.5	53.9	30.2		31.1	22.0		53.7	24.9	
LOS	E	D	D	D	C		C	C		D	C	
Approach Delay		46.4			45.4			23.2			26.7	
Approach LOS		D			D			C			C	
90th %ile Green (s)	38.0	38.0	38.0	38.0	38.0		20.0	63.0		63.0	63.0	
90th %ile Term Code	Max	Max	Max	Max	Max		Max	Coord		Coord	Coord	
70th %ile Green (s)	38.0	38.0	38.0	38.0	38.0		18.3	64.7		64.7	64.7	
70th %ile Term Code	Max	Max	Max	Max	Max		Gap	Coord		Coord	Coord	
50th %ile Green (s)	33.9	33.9	33.9	33.9	33.9		15.4	71.7		71.7	71.7	
50th %ile Term Code	Gap	Gap	Gap	Gap	Gap		Gap	Coord		Coord	Coord	
30th %ile Green (s)	28.2	28.2	28.2	28.2	28.2		12.5	80.3		80.3	80.3	
30th %ile Term Code	Gap	Gap	Gap	Gap	Gap		Gap	Coord		Coord	Coord	
10th %ile Green (s)	20.4	20.4	20.4	20.4	20.4		8.3	92.3		92.3	92.3	
10th %ile Term Code	Gap	Gap	Gap	Gap	Gap		Gap	Coord		Coord	Coord	
Queue Length 50th (m)	58.7	19.3	56.4	37.6	13.6		22.8	81.2		20.7	109.7	
Queue Length 95th (m)	80.8	31.1	88.1	55.1	25.5		46.8	100.8		#54.8	132.7	
Internal Link Dist (m)		157.9			138.2			135.0			143.4	
Turn Bay Length (m)	30.0		30.0	55.0			114.0			30.0		
Base Capacity (vph)	353	511	607	344	492		356	2571		150	2689	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.65	0.17	0.78	0.45	0.18		0.56	0.51		0.67	0.59	

Intersection Summary

Cycle Length: 140
Actuated Cycle Length: 140
Offset: 106 (76%), Referenced to phase 2:NBSB and 6:, Start of Green
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 30.2 — Intersection LOS: C
Intersection Capacity Utilization 93.3% — ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 15: Trafalgar Rd & McCraney St E/White Oaks Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	229	87	471	156	87	199	1315	101	1580
v/c Ratio	0.78	0.20	0.85	0.54	0.21	0.68	0.51	0.67	0.59
Control Delay	68.2	43.1	36.5	53.9	30.2	31.1	22.0	53.7	24.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.2	43.1	36.5	53.9	30.2	31.1	22.0	53.7	24.9
Queue Length 50th (m)	58.7	19.3	56.4	37.6	13.6	22.8	81.2	20.7	109.7
Queue Length 95th (m)	80.8	31.1	88.1	55.1	25.5	46.8	100.8	#54.8	132.7
Internal Link Dist (m)		157.9			138.2		135.0		143.4
Turn Bay Length (m)	30.0		30.0	55.0		114.0		30.0	
Base Capacity (vph)	353	511	607	344	492	356	2571	150	2689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.17	0.78	0.45	0.18	0.56	0.51	0.67	0.59

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	197	75	405	134	44	31	171	831	300	87	1246	113
Future Volume (vph)	197	75	405	134	44	31	171	831	300	87	1246	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	0.96		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.96	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1765	1883	1512	1719	1747		1789	4764		1766	5046	
Flt Permitted	0.70	1.00	1.00	0.70	1.00		0.10	1.00		0.15	1.00	
Satd. Flow (perm)	1301	1883	1512	1268	1747		190	4764		283	5046	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	229	87	471	156	51	36	199	966	349	101	1449	131
RTOR Reduction (vph)	0	0	210	0	19	0	0	40	0	0	7	0
Lane Group Flow (vph)	229	87	261	156	68	0	199	1275	0	101	1573	0
Confl. Peds. (#/hr)	13		37	37		13	24		49	49		24
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			4		1	2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	31.7	31.7	31.7	31.7	31.7		89.3	74.4		74.4	74.4	
Effective Green, g (s)	31.7	31.7	31.7	31.7	31.7		89.3	74.4		74.4	74.4	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.64	0.53		0.53	0.53	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	294	426	342	287	395		291	2531		150	2681	
v/s Ratio Prot		0.05			0.04		c0.07	0.27			0.31	
v/s Ratio Perm	c0.18		0.17	0.12			c0.36			0.36		
v/c Ratio	0.78	0.20	0.76	0.54	0.17		0.68	0.50		0.67	0.59	
Uniform Delay, d1	50.9	43.9	50.7	47.8	43.6		18.8	21.0		23.9	22.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.3	0.2	9.7	2.1	0.2		6.5	0.7		21.6	0.9	
Delay (s)	63.1	44.2	60.4	49.9	43.8		25.3	21.7		45.5	23.3	
Level of Service	E	D	E	D	D		C	C		D	C	
Approach Delay (s)		59.4			47.7			22.2			24.6	
Approach LOS		E			D			C			C	

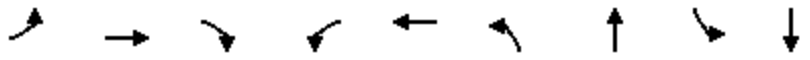
Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	75	23	211	258	93	348	1340	32	1119
Future Volume (vph)	75	23	211	258	93	348	1340	32	1119
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		4			4	1	2		2
Permitted Phases	4		4	4		2		2	
Detector Phase	4	4	4	4	4	1	2	2	2
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	7.0	30.0	30.0	30.0
Minimum Split (s)	42.0	42.0	42.0	42.0	42.0	12.0	37.0	37.0	37.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	25.0	70.0	70.0	70.0
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	17.9%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.0	7.0	7.0	7.0
Lead/Lag						Lead	Lag	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	33.3	33.3	33.3	33.3	33.3	89.7	64.1	64.1	64.1
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.64	0.46	0.46	0.46
v/c Ratio	0.31	0.06	0.43	0.87	0.35	0.91	0.72	0.56	0.58
Control Delay	45.7	39.0	7.3	76.6	40.0	56.7	32.6	67.1	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	39.0	7.3	76.6	40.0	56.7	32.6	67.1	29.1
LOS	D	D	A	E	D	E	C	E	C
Approach Delay		19.0			63.7		37.1		30.0
Approach LOS		B			E		D		C

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 137 (98%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 95	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 36.0	Intersection LOS: D
Intersection Capacity Utilization 115.5%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 15: Trafalgar Rd & McCraney St E/White Oaks Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	25	227	277	151	374	1650	34	1344
v/c Ratio	0.31	0.06	0.43	0.87	0.35	0.91	0.72	0.56	0.58
Control Delay	45.7	39.0	7.3	76.6	40.0	56.7	32.6	67.1	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	39.0	7.3	76.6	40.0	56.7	32.6	67.1	29.1
Queue Length 50th (m)	18.1	5.2	0.0	72.3	29.9	70.7	133.4	6.8	99.3
Queue Length 95th (m)	32.5	12.6	19.7	#110.2	48.9	#140.3	151.2	#25.8	114.3
Internal Link Dist (m)		157.9			138.2		135.0		143.4
Turn Bay Length (m)	30.0		30.0	55.0		114.0		30.0	
Base Capacity (vph)	300	511	577	364	490	413	2293	61	2305
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.05	0.39	0.76	0.31	0.91	0.72	0.56	0.58

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	23	211	258	93	47	348	1340	194	32	1119	131
Future Volume (vph)	75	23	211	258	93	47	348	1340	194	32	1119	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.97	1.00	1.00	0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1737	1883	1520	1721	1759		1788	4977		1789	5011	
Flt Permitted	0.61	1.00	1.00	0.74	1.00		0.13	1.00		0.07	1.00	
Satd. Flow (perm)	1108	1883	1520	1342	1759		239	4977		133	5011	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	81	25	227	277	100	51	374	1441	209	34	1203	141
RTOR Reduction (vph)	0	0	173	0	14	0	0	14	0	0	10	0
Lane Group Flow (vph)	81	25	54	277	137	0	374	1636	0	34	1334	0
Confl. Peds. (#/hr)	31		33	33		31	32		37	37		32
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			4		1	2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	33.3	33.3	33.3	33.3	33.3		87.7	64.1		64.1	64.1	
Effective Green, g (s)	33.3	33.3	33.3	33.3	33.3		87.7	64.1		64.1	64.1	
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.63	0.46		0.46	0.46	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	263	447	361	319	418		410	2278		60	2294	
v/s Ratio Prot		0.01			0.08		c0.15	0.33			0.27	
v/s Ratio Perm	0.07		0.04	c0.21			c0.42			0.26		
v/c Ratio	0.31	0.06	0.15	0.87	0.33		0.91	0.72		0.57	0.58	
Uniform Delay, d1	43.9	41.2	42.2	51.2	44.1		32.3	30.7		27.8	28.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.1	0.2	21.3	0.5		24.2	2.0		33.5	1.1	
Delay (s)	44.5	41.3	42.4	72.5	44.6		56.5	32.6		61.3	29.1	
Level of Service	D	D	D	E	D		E	C		E	C	
Approach Delay (s)		42.8			62.6			37.0			29.9	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	115.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	223	90	483	145	55	234	900	94	1349
Future Volume (vph)	223	90	483	145	55	234	900	94	1349
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		4			4	1	2		2
Permitted Phases	4		4	4		2		2	
Detector Phase	4	4	4	4	4	1	2	2	2
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	7.0	30.0	30.0	30.0
Minimum Split (s)	42.0	42.0	42.0	42.0	42.0	12.0	37.0	37.0	37.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	25.0	70.0	70.0	70.0
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	17.9%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.0	7.0	7.0	7.0
Lead/Lag						Lead	Lag	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	35.9	35.9	35.9	35.9	35.9	87.1	65.9	65.9	65.9
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.62	0.47	0.47	0.47
v/c Ratio	0.79	0.22	0.96	0.53	0.22	0.90	0.62	1.09	0.73
Control Delay	66.0	41.4	54.1	50.9	32.6	72.6	28.0	155.9	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	41.4	54.1	50.9	32.6	72.6	28.0	155.9	32.5
LOS	E	D	D	D	C	E	C	F	C
Approach Delay		56.0			43.9		35.1		39.8
Approach LOS		E			D		D		D

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 106 (76%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 41.5	Intersection LOS: D
Intersection Capacity Utilization 94.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 15: Trafalgar Rd & McCraney St E/White Oaks Blvd

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	259	105	562	169	104	272	1425	109	1738
v/c Ratio	0.79	0.22	0.96	0.53	0.22	0.90	0.62	1.09	0.73
Control Delay	66.0	41.4	54.1	50.9	32.6	72.6	28.0	155.9	32.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	41.4	54.1	50.9	32.6	72.6	28.0	155.9	32.5
Queue Length 50th (m)	65.8	22.6	89.1	39.6	17.4	58.3	104.5	~35.1	144.3
Queue Length 95th (m)	93.1	36.2	#144.0	59.6	31.2	#98.1	112.4	#69.6	151.6
Internal Link Dist (m)		157.9			138.2		135.0		143.4
Turn Bay Length (m)	30.0		30.0	55.0		114.0		30.0	
Base Capacity (vph)	347	511	606	338	492	312	2287	100	2376
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.21	0.93	0.50	0.21	0.87	0.62	1.09	0.73

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	223	90	483	145	55	34	234	900	325	94	1349	145
Future Volume (vph)	223	90	483	145	55	34	234	900	325	94	1349	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	0.96		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.96	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1765	1883	1512	1721	1756		1789	4764		1772	5030	
Flt Permitted	0.69	1.00	1.00	0.69	1.00		0.06	1.00		0.11	1.00	
Satd. Flow (perm)	1282	1883	1512	1248	1756		116	4764		212	5030	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	259	105	562	169	64	40	272	1047	378	109	1569	169
RTOR Reduction (vph)	0	0	200	0	16	0	0	45	0	0	9	0
Lane Group Flow (vph)	259	105	362	169	88	0	272	1380	0	109	1729	0
Confl. Peds. (#/hr)	13		37	37		13	24		49	49		24
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			4		1	2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	35.9	35.9	35.9	35.9	35.9		85.1	65.9		65.9	65.9	
Effective Green, g (s)	35.9	35.9	35.9	35.9	35.9		85.1	65.9		65.9	65.9	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.61	0.47		0.47	0.47	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	328	482	387	320	450		299	2242		99	2367	
v/s Ratio Prot		0.06			0.05		c0.12	0.29			0.34	
v/s Ratio Perm	0.20		c0.24	0.14			0.43			c0.51		
v/c Ratio	0.79	0.22	0.94	0.53	0.19		0.91	0.62		1.10	0.73	
Uniform Delay, d1	48.5	41.0	50.9	44.8	40.7		43.3	27.6		37.0	29.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.9	0.2	29.6	1.6	0.2		29.5	1.3		120.3	2.0	
Delay (s)	60.5	41.2	80.5	46.3	41.0		72.8	28.9		157.4	31.9	
Level of Service	E	D	F	D	D		E	C		F	C	
Approach Delay (s)		70.5			44.3			35.9			39.3	
Approach LOS		E			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	113	34	306	279	105	413	1451	35	1212
Future Volume (vph)	113	34	306	279	105	413	1451	35	1212
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	NA
Protected Phases		4			4	1	2		2
Permitted Phases	4		4	4		2		2	
Detector Phase	4	4	4	4	4	1	2	2	2
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	7.0	30.0	30.0	30.0
Minimum Split (s)	42.0	42.0	42.0	42.0	42.0	12.0	37.0	37.0	37.0
Total Split (s)	45.0	45.0	45.0	45.0	45.0	25.0	70.0	70.0	70.0
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	17.9%	50.0%	50.0%	50.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	5.0	7.0	7.0	7.0
Lead/Lag						Lead	Lag	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	36.7	36.7	36.7	36.7	36.7	86.3	63.0	63.0	63.0
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.62	0.45	0.45	0.45
v/c Ratio	0.48	0.08	0.60	0.94	0.38	1.42	0.86	0.77	0.71
Control Delay	49.8	38.7	15.2	85.2	40.4	238.7	39.0	108.5	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	38.7	15.2	85.2	40.4	238.7	39.0	108.5	32.7
LOS	D	D	B	F	D	F	D	F	C
Approach Delay		25.6			69.1		78.8		34.6
Approach LOS		C			E		E		C

Intersection Summary	
Cycle Length: 140	
Actuated Cycle Length: 140	
Offset: 106 (76%), Referenced to phase 2:NBSB and 6:, Start of Green	
Natural Cycle: 135	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.42	
Intersection Signal Delay: 58.0	Intersection LOS: E
Intersection Capacity Utilization 120.1%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 15: Trafalgar Rd & McCraney St E/White Oaks Blvd

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	131	40	356	324	181	480	1931	41	1600
v/c Ratio	0.48	0.08	0.60	0.94	0.38	1.42	0.86	0.77	0.71
Control Delay	49.8	38.7	15.2	85.2	40.4	238.7	39.0	108.5	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.8	38.7	15.2	85.2	40.4	238.7	39.0	108.5	32.7
Queue Length 50th (m)	30.4	8.3	17.8	87.1	36.8	~165.0	171.2	9.4	127.1
Queue Length 95th (m)	48.3	16.9	43.3	#131.6	55.3	#217.4	177.9	#31.2	134.6
Internal Link Dist (m)		157.9			138.2		135.0		143.4
Turn Bay Length (m)	30.0		30.0	55.0		114.0		30.0	
Base Capacity (vph)	284	511	609	358	494	338	2245	53	2264
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.08	0.58	0.91	0.37	1.42	0.86	0.77	0.71

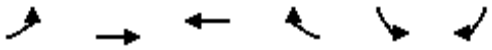
Intersection Summary

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

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

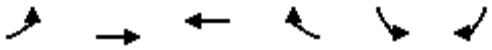
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	34	306	279	105	51	413	1451	210	35	1212	164
Future Volume (vph)	113	34	306	279	105	51	413	1451	210	35	1212	164
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1769	1883	1512	1714	1775		1789	4960		1789	5005	
Flt Permitted	0.56	1.00	1.00	0.73	1.00		0.08	1.00		0.06	1.00	
Satd. Flow (perm)	1049	1883	1512	1319	1775		143	4960		120	5005	
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Adj. Flow (vph)	131	40	356	324	122	59	480	1687	244	41	1409	191
RTOR Reduction (vph)	0	0	201	0	13	0	0	14	0	0	13	0
Lane Group Flow (vph)	131	40	155	324	168	0	480	1917	0	41	1587	0
Confl. Peds. (#/hr)	13		37	37		13	24		49	49		24
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			4		1	2			2	
Permitted Phases	4		4	4			2			2		
Actuated Green, G (s)	36.7	36.7	36.7	36.7	36.7		84.3	63.0		63.0	63.0	
Effective Green, g (s)	36.7	36.7	36.7	36.7	36.7		84.3	63.0		63.0	63.0	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.60	0.45		0.45	0.45	
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0		5.0	7.0		7.0	7.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	274	493	396	345	465		336	2232		54	2252	
v/s Ratio Prot		0.02			0.09		c0.22	0.39			0.32	
v/s Ratio Perm	0.12		0.10	c0.25			c0.64			0.34		
v/c Ratio	0.48	0.08	0.39	0.94	0.36		1.43	0.86		0.76	0.70	
Uniform Delay, d1	43.6	38.9	42.5	50.6	42.1		43.5	34.5		32.2	31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.1	0.6	32.6	0.5		209.3	4.6		65.5	1.9	
Delay (s)	44.9	39.0	43.1	83.2	42.6		252.8	39.1		97.7	32.9	
Level of Service	D	D	D	F	D		F	D		F	C	
Approach Delay (s)		43.2			68.6			81.6			34.5	
Approach LOS		D			E			F			C	

Intersection Summary			
HCM 2000 Control Delay	61.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization	120.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	270	272	19	18	6
Future Volume (vph)	7	270	272	19	18	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991		0.968	
Flt Protected		0.999			0.963	
Satd. Flow (prot)	0	1882	1866	0	1756	0
Flt Permitted		0.999			0.963	
Satd. Flow (perm)	0	1882	1866	0	1756	0
Link Speed (k/h)		50	48		48	
Link Distance (m)		103.0	83.3		58.4	
Travel Time (s)		7.4	6.2		4.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	7	278	280	20	19	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	285	300	0	25	0
Sign Control		Free	Free		Stop	

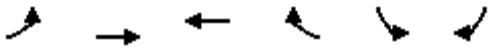
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	270	272	19	18	6
Future Volume (Veh/h)	7	270	272	19	18	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	7	278	280	20	19	6
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	300				582	290
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	300				582	290
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	99
cM capacity (veh/h)	1261				473	749

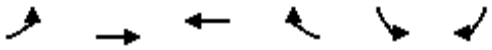
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	285	300	25
Volume Left	7	0	19
Volume Right	0	20	6
cSH	1261	1700	519
Volume to Capacity	0.01	0.18	0.05
Queue Length 95th (m)	0.1	0.0	1.2
Control Delay (s)	0.2	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	12.3
Approach LOS			B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	29.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	4	382	370	11	14	5
Future Volume (vph)	4	382	370	11	14	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.996		0.964	
Flt Protected		0.999			0.964	
Satd. Flow (prot)	0	1882	1876	0	1750	0
Flt Permitted		0.999			0.964	
Satd. Flow (perm)	0	1882	1876	0	1750	0
Link Speed (k/h)		50	48		48	
Link Distance (m)		92.5	80.4		51.7	
Travel Time (s)		6.7	6.0		3.9	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	4	394	381	11	14	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	398	392	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	382	370	11	14	5
Future Volume (Veh/h)	4	382	370	11	14	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	4	394	381	11	14	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	392				788	386
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	392				788	386
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				96	99
cM capacity (veh/h)	1167				358	661

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	398	392	19
Volume Left	4	0	14
Volume Right	0	11	5
cSH	1167	1700	408
Volume to Capacity	0.00	0.23	0.05
Queue Length 95th (m)	0.1	0.0	1.1
Control Delay (s)	0.1	0.0	14.3
Lane LOS	A		B
Approach Delay (s)	0.1	0.0	14.3
Approach LOS			B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	33.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection: 19: Montclair Dr/Kelsey Ct & McCraney St E

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (m)	8.2	39.0	25.1	34.2	32.1	8.9
Average Queue (m)	0.3	21.3	11.0	15.5	14.4	1.2
95th Queue (m)	4.7	32.5	18.6	26.2	24.5	6.2
Link Distance (m)		67.7		93.3	66.9	31.3
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0		30.0			
Storage Blk Time (%)		1	0	0		
Queuing Penalty (veh)		0	0	0		

Network Summary

Network wide Queuing Penalty: 761

Intersection: Montclair Dr/Kelsey Ct & McCraney St E

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (m)	8.7	42.5	12.3	27.8	26.3	8.9
Average Queue (m)	1.2	20.8	6.3	14.7	12.2	2.6
95th Queue (m)	6.2	35.1	12.8	23.7	20.5	9.3
Link Distance (m)		70.4		93.3	66.9	31.3
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0		30.0			
Storage Blk Time (%)		1		0		
Queuing Penalty (veh)		0		0		

Network Summary

Network wide Queuing Penalty: 1152

Appendix F
Collision Data

Collision Details Report

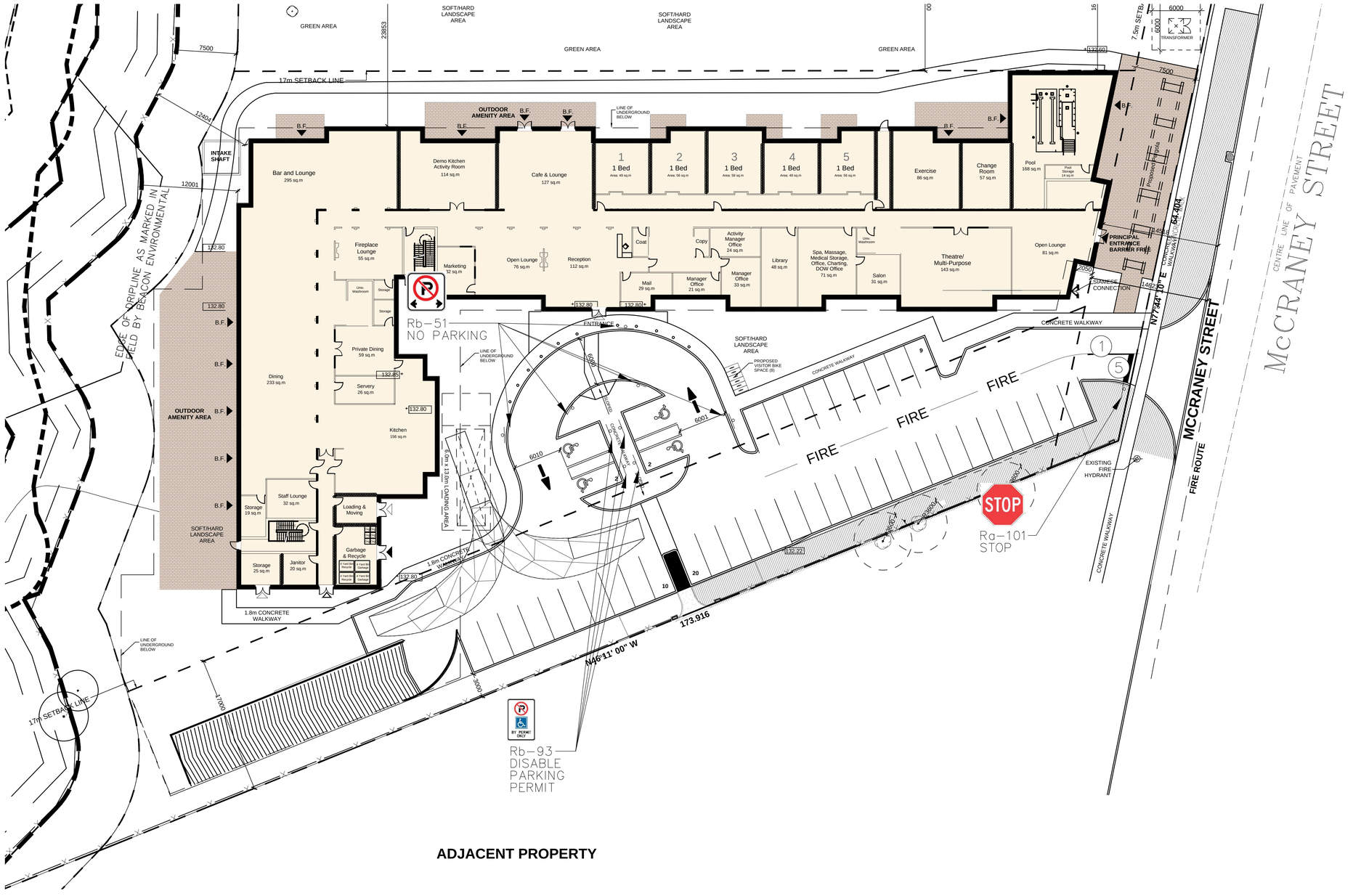
From: January 1, 2010 **To:** July 12, 2019

Location ..... MCCRANEY STREET EAST @ MONTCLAIR DRIVE **Municipality.....** OAKVILLE

Traffic Control.... Stop sign **Total Collisions....** 6

Collision ID	Date/Day/Time	Environment	Impact Type	Classification	Direction	Surface Cond'n	Vehicle Manoeuver	Vehicle type	First Event	Driver Action	No. Ped
1522713	2015-Jan-28, Wed,08:15	Clear	SMV other	Non-fatal injury	East	Dry	Going ahead	Automobile, station wagon	Pedestrian	Failed to yield right-of-way	1
Comments:											
16077378s	2016-Mar-11, Fri,15:36	Clear	Rear End	Non-reportable	West	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	
Comments:					West	Dry					
17039657s	2017-Feb-02, Thu,12:15	Clear	Turning movement	Non-reportable	West	Dry	Turning left	Automobile, station wagon	Other motor vehicle	Driving properly	
Comments:					West	Dry	Going ahead	Automobile, station wagon	Other motor vehicle	Driving properly	
17135460s	2017-Apr-21, Fri,12:30	Clear	Rear End	Non-reportable	East	Dry	Going ahead	Passenger van	Other motor vehicle	Driving properly	
Comments:					East	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	
17164806	2017-May-15, Mon,08:00	Clear	SMV other	Non-fatal injury	East	Dry	Turning right	Automobile, station wagon	Pedestrian	Failed to yield right-of-way	1
Comments:											
17199137s	2017-Jun-09, Fri,10:55	Clear	Rear End	Non-reportable	West	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	
Comments:					West	Dry					

Appendix G
Traffic Control Plan



ADJACENT PROPERTY

PAVEMENT MARKING LEGEND

IDENTIFICATION	TYPE	COLOUR	WIDTH (cm)
1	SOLID	YELLOW	10
2	3–3–3 BROKEN	WHITE	10
3	SOLID	WHITE	10
4	1–1–1 BROKEN	WHITE	10
5	SOLID	WHITE	60
6	SYMBOLS	WHITE	–
7	YIELD TO PEDESTRIAN	WHITE	45–90

NOTES

1. 3–3–3, 3–6–3, 3–9–3, DENOTES PAVEMENT MARKING SPACING (IE., 3m LINE, 3m GAP, 3m LINE)

TRAFFIC SIGN SCHEDULE

SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Ra–1	STOP	1	60cm WIDTH
Rb–51	NO PARKING	5	BOTH SIDES
Rb–93	DISABLED PARKING PERMIT	4	60cm WIDTH
TOTAL		10	

NOTES

1. STOP SIGNS AND ALL OTHER REGULATORY AND WARNING SIGNS TO BE PLACED AS PER THE ONTARIO TRAFFIC MANUAL.

Regional

Commioner of Public Works — Date

Director of Design and Construction — Date

No.	Revision	Drawn	Job Manager	Project Director	Date

Drawing Revisions

Note: * indicates signatures on original issue of drawing or last revision of drawing

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Mississauga Ontario L5N 5M4
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E ytomail@ghd.com **W** www.ghd.com

Client **Branthaven Development Corp.**

Project **20 McCraney Street East**

Title **Traffic Control Plan**

Scale	1:500
Drawn	A.M.
Designer	A.M.
Drafting Check	W.M.
Design Check	W.M.
Approved (Project Director)	W.M.
Date	Feb 15, 2018

LICENSED PROFESSIONAL ENGINEER — Feb 15, 2019 — W.C. MARIA — PROVINCE OF ONTARIO

This Drawing must not be used for Construction unless signed as Approved

Drawing No. **TCP-101**

Original Size **Arch D**

Rev.

Plot Date: 15 February 2019 - 9:40 AM Plotted by: Ivan Drewnitski Cad File No: G:\Legacy\SernasTransTech\Projects\2019\xxxxxxx_McCraney Retirement\Drawings\TCP\McCraney TCP_v01.dwg