TRAFFIC IMPACT STUDY

2421 & 2431 NEW STREET RESIDENTIAL DEVELOPMENT CITY OF BURLINGTON, REGIONAL MUNICIPALITY OF HALTON

PREPARED FOR:

TRG (NEW – GUELPH) INC.

PREPARED BY:

C.F. CROZIER & ASSOCIATES INC.
2800 HIGH POINT DRIVE, SUITE 100
MILTON, ONTARIO
L9T 6P4

DECEMBER 2017

CFCA FILE NO. 1473-4780

The material in this report reflects best judgment in light of the information available at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. C.F. Crozier & Associates Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

CROZIER
CONSULTING ENGINEERS

Identification	Date	Description of Work
Draft Submission	December 2017	Project Team Circulation
Final Submission	December 2017	Submission to City

1.0 EXECUTIVE SUMMARY

C.F. Crozier & Associates Inc. (Crozier) was retained by TRG (New – Guelph) Inc. to undertake a Traffic Impact Study to address the traffic impacts of the proposed residential development located at 2421 & 2431 New Street in the City of Burlington, Regional Municipality of Halton. The purpose of the study is to evaluate the transportation-related impacts of the proposed development on the boundary road network and to recommend any required mitigation measures, if warranted.

The Site Plan (prepared by WZMH Architects, dated December 12, 2017) proposes the removal of the existing commercial developments and the construction of a residential condominium with 139 units and senior's residence building with 223 units. The proposed building is 11-storeys in height. The development proposes a full-moves access to New Street.

The Traffic Impact Study analyzes the following existing intersections:

- New Street and Guelph Line
- New Street and 2421 New Street Site Access
- New Street and 2431 New Street Site Access

The segment of New Street between Guelph Line and Walker's Line currently consists of a road-diet configuration which was implemented in August 2016 as a one-year pilot project, and will remain in place if public feedback supports the road-diet conditions.

The boundary road network is currently operating at acceptable levels of service, with the eastbound left-turn and westbound through movements at New Street and Guelph Line operating near capacity during the p.m. peak hour.

Per the City's staff report TS-11-17, City staff has recommended the removal of the "road-diet" on New Street and the conversion back to it's previous four-lane configuration east of Guelph Line in 2018. Council has yet to vote on this recommendation and the timeline for reverting to the original configuration is unknown; accordingly, analysis of future background and future total conditions was conducted considering the roadway with and without the road diet.

It is assumed that the development will be fully built-out by 2022. Therefore, analysis was conducted for the years 2022 (full build-out) and 2027 (five-year horizon). City staff has instructed Crozier to apply a 1% growth rate (compounded annually) to determine future background traffic volumes in 2022 and 2027. This growth rate was applied to both scenarios with and without the New Street road-diet configuration.

With the existing road-diet configuration, the boundary road network is expected to operate at overall unchanged levels of service under 2027 future background conditions compared to 2017 existing conditions. The eastbound left-turn and westbound through movements at New Street and Guelph Line are expected to operate above capacity during the p.m. peak hour. The forecasted 95th percentile queue length for the eastbound left-turn movement, while expected to exceed the designated storage length by two car lengths, can be accommodated by the centre two-way left-turn lane on New Street.

Without the road-diet configuration, the boundary road network is expected to operate at overall improved levels of service compared to 2017 existing conditions.

The proposed development is forecasted to generate approximately 96 and 112 total two-way trips in the a.m. and p.m. peak hour, respectively. These trips were distributed to the boundary road

network based on Transportation Tomorrow Survey (TTS) data, with site generated trips primarily assigned to Guelph Line (north) and New Street (east and west).

With the existing road-diet configuration, the boundary road network is expected to operate at unchanged levels of service under 2027 future total conditions compared to 2027 future background conditions. The eastbound left-turn and westbound through movements are expected to continue operating above capacity. The forecasted 95th percentile queue length for this movement, while expected to exceed the designated storage length by four car lengths, can be accommodated by the centre two-way left-turn lane on New Street.

Without the road-diet configuration, the boundary road network is expected to operate at unchanged levels of service under 2027 future total conditions compared to 2027 future background conditions.

The traffic operations analysis indicates that the addition of site traffic to the boundary road network is not expected to significantly impact traffic operations.

The sight distance from the proposed site access on New Street exceeds sight distance requirements set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR). Therefore, the proposed development can be supported from a sight distance perspective.

There are existing Transportation Demand Management (TDM) opportunities in the City of Burlington to encourage the use of non-auto transportation to reduce pollution, reduce single-occupancy vehicle (SOV) trips, and improve community health. The existing modal split in the study area is approximately 65% for auto driver trips and 35% for non-auto trips including transit, cycling, walking and auto passenger. This modal split indicates a willingness to utilize alternate modes of transportation.

There is existing pedestrian, transit and cycling infrastructure in the study area to provide sufficient mobility to reduce automobile trips. There are TDM initiatives held by the City of Burlington and Smart Commute Halton including "Bike Month," an annual "Bike to Work Day", carpooling match services and incentives, flexible work arrangements, cycling and walking provisions, and transit pass programs.

The development proposes direct entrance to the senior's residence and condominium buildings fronting New Street, connecting to the existing pedestrian sidewalk infrastructure on New Street. However, there are other opportunities for the development to promote TDM measures, such as providing transit maps and schedules, trail and cycling route maps, information on Smart Commute, and a loadable PRESTO card.

The analysis contained within this report was prepared using the Site Plan prepared by WZMH Architects, dated December 12, 2017. Any minor revisions to the site plan are not expected to affect the conclusions contained with this report.

In conclusion, the proposed development can be supported from a transportation operations and safety perspective, regardless of if the road-diet configuration is maintained or if New Street will revert to the original four-lane cross section.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY ii

2.0 INTRODUCTION 1
2.1 Background 1
2.2 Development Proposal 1
2.3 Purpose and Scope 1

3.0 EXISTING CONDITIONS 2
3.1 Development Lands 2
3.2 Study Intersections 2
3.3 Boundary Road Network 2
3.4 Transit Operations 4
3.5 Traffic Data 4
3.6 Intersection Modelling 5
3.7 Intersection Operations 6

4.0 FUTURE BACKGROUND CONDITIONS 7
4.1 Road Configuration 7
4.2 Horizon Years 8
4.3 Growth Rate 8
4.4 Intersection Operations – Road-Diet 8
4.5 Intersection Operations – No Road-Diet 9

5.0 SITE GENERATED TRAFFIC 11
5.1 Trip Generation 11
5.2 Trip Distribution and Assignment 12

6.0 FUTURE TOTAL CONDITIONS 13
6.1 Basis of Assessment 13
6.2 Intersection Operations – Road-Diet 13
6.3 Intersection Operations – No Road-Diet 15

7.0 SIGHT DISTANCE ANALYSIS 16

8.0 TRANSPORTATION DEMAND MANAGEMENT (TDM) OPPORTUNITIES 17
8.1 Existing Modal Split 17
8.2 Existing Pedestrian Opportunities 18
8.3 Existing Transit Opportunities 18
8.4 Existing Cycling Opportunities 18
8.5 Future Cycling Opportunities 18
8.6 Smart Commute Halton 19
8.7 Site Specific TDM Opportunities 20

9.0 CONCLUSIONS 21

List of Appendices

Appendix A: Site Statistics
Appendix B: Correspondence
Appendix C: Transit Data
Appendix D: Traffic Data
Appendix E: Level of Service Definitions
Appendix F: Detailed Capacity Analysis Worksheets
Appendix G: TTS Data

List of Figures

Figure 1: Site Plan
Figure 2: Site Location
Figure 3: Boundary Road Network (with Road-Diet)
Figure 4: Boundary Road Network (without Road-Diet)
Figure 5: 2017 Existing Traffic Volumes
Figure 6: 2022 Future Background Traffic Volumes
Figure 7: 2027 Future Background Traffic Volumes
Figure 8: Trip Distribution
Figure 9: Trip Assignment
Figure 10: 2022 Future Total Traffic Volumes
Figure 11: 2027 Future Total Traffic Volumes

List of Tables

Table 1: Boundary Road Network
Table 2: Existing Transit Services
Table 3: Peak Hour Factors
Table 4: 2017 Existing Traffic Operations – Road-Diet
Table 5: 2022 Future Background Traffic Operations – Road-Diet
Table 6: 2027 Future Background Traffic Operations – Road-Diet
Table 7: 2022 Future Background Traffic Operations – No Road-Diet
Table 8: 2027 Future Background Traffic Operations – No Road-Diet
Table 9: Trip Generation
Table 10: Trip Distribution
Table 11: 2022 Future Total Traffic Operations – Road-Diet
Table 12: 2027 Future Total Traffic Operations – Road-Diet
Table 13: 2022 Future Total Traffic Operations – No Road-Diet
Table 14: 2027 Future Total Traffic Operations – No Road-Diet
Table 15: Existing Modal Split

2.0 INTRODUCTION

2.1 Background

C.F. Crozier & Associates Inc. (Crozier) was retained by TRG (New – Guelph) Inc. to undertake a Traffic Impact Study to address the traffic impacts of the proposed residential development located at 2421 & 2431 New Street in the City of Burlington, Regional Municipality of Halton.

2.2 Development Proposal

The Site Plan (prepared by WZMH Architects, dated December 12, 2017) proposes the removal of the existing commercial developments and the construction of a residential condominium and senior's residence. The proposed building is 11-storeys in height. **Table 1** below outlines the number of condominium and seniors units proposed.

Table 1
Proposed Development Statistics

Land Use	Breakdown	Number of Units
Condominium	One Bedroom	97
	Two Bedroom	42
	Total	**139**
Retirement Living (Senior's Residence)	One Bedroom	136
	Two Bedroom	28
	Studio	27
	Memory Care	32
	Total	**223**

The development proposes a total of 319 parking spaces; 309 spaces to be located in a two-level underground parking structure, and 10 spaces to be located on ground level.

The development proposes a full-moves access to New Street.

The Site Plan has been included as **Figure 1**. The site statistics have been included as **Appendix A.**

2.3 Purpose and Scope

The purpose of the study is to evaluate the transportation-related impacts of the proposed development on the boundary road network and to recommend any required mitigation measures, if warranted.

The study reviews the following main aspects of the proposed residential development from a transportation engineering perspective:

- Existing, future background, and future total traffic operations at the study intersections;
- Forecasted trip generation and distribution of the proposed development;
- Mitigation measures to support the proposed development, if required;
- Sight distance requirements at the site access on New Street; and
- Transportation Demand Management opportunities for the proposed development.

The study has been completed in accordance with the Region of Halton "Transportation Impact Study Guidelines" (January 2015) and agreed-upon Terms of Reference with City of Burlington staff (City Staff). Refer to **Appendix B** for correspondence.

3.0 EXISTING CONDITIONS

3.1 Development Lands

The subject property covers an area of approximately 0.70 hectares (ha) and currently consists of two one-storey commercial developments at 2421 New Street (the west portion of the subject property), and a restaurant at 2431 New Street (the east portion of the subject property).

The subject property is located in a mixed-use neighbourhood with commercial and residential developments, and is located approximately 1.5 kilometres east of the Downtown core. The subject property is bounded by existing residential developments to the north and west, New Street to the south, and existing commercial developments to the east. **Figure 2** illustrates the site location.

The subject property is zoned as "Neighbourhood Commercial – CN1" per the City of Burlington Zoning By-Law 2020.

3.2 Study Intersections

The Traffic Impact Study analyzes the following existing intersections:

- New Street and Guelph Line
- New Street and 2421 New Street Site Access
- New Street and 2431 New Street Site Access

3.3 Boundary Road Network

The boundary road network at the site frontage is described in **Table 1** below. Note that the roadway conditions for New Street are outlined with and without the road-diet configuration in place.

Table 1
Boundary Road Network

Roadway	Guelph Line	New Street (existing conditions - road-diet)	New Street (previous conditions – no road-diet)
Direction	Two-way (North-South)	Two-way (East-West)	
Classification	Minor Arterial	Minor Arterial	
Jurisdiction	City of Burlington	City of Burlington	
Speed Limit (km/h)	50	60 (east of Guelph Line) 50 (west of Guelph Line)	
Span	Lakeshore Road to Wellington County (Regional Road 1 north of Fairview Street)	James Street (Downtown Burlington) to Town of Oakville (continues as Rebecca Street)	
Freeway Connections	Highway 403 / Queen Elizabeth Way and Highway 401	None	
Number of lanes	2 (south of New Street) 4 (north of New Street)	2 (150 metres east of Guelph Line) 4 (Guelph Line to Beverley Drive) 2 (west of Beverley Drive)	4 (east of Beverley Drive) 2 (west of Beverley Drive)
Median type	Two-Way Left-Turn Lane (TWLTL)	Two-Way Left-Turn Lane (TWLTL)	None
Pedestrian Facilities	Sidewalks (both sides)	Sidewalks (both sides)	Sidewalks (both sides)
Cycling Facilities	On-street bike lanes (both sides)	Shared (immediately east and west of Guelph Line) On-street bikes lanes (east and west of Guelph Line)	None

The segment of New Street between Guelph Line and Walker's Line currently consists of a road-diet configuration which was implemented in August 2016 as a one-year pilot project, and will remain in place if public feedback supports the road-diet conditions. City Staff has indicated that the decision to keep or remove the road-diet conditions will likely be made in late November or early December of 2017. Thus, the long-term status of the road-diet is unknown at this time.

Figure 3 illustrates the boundary road network with existing lane configurations (under the road-diet configuration), storage lengths, bus stop locations, and intersection control for the existing road network. **Figure 4** illustrates the boundary road network without the road-diet configuration in place.

3.4 Transit Operations

Burlington Transit operates several bus routes within the study area. **Table 2** below outlines the existing transit routes, direction, days of operation, peak hour headways, and the location of bus stops in the study area.

Table 2
Existing Transit Services

Route	Direction	Span	Days of Operation	Peak Hour Headways (min)	Bus Stops in Study Area
3 (Guelph – Downtown)	Two-Way (North-South)	Burlington GO to Coventry Way	Monday to Sunday (incl. Holidays)	30	Guelph Line (north of New Street; both sides)
3A (Guelph – Downtown)	Two-Way (North-South)	Burlington GO to 407 Carpool	Monday to Friday	30	Guelph Line (north of New Street; both sides)
10 (New – Maple)	Two-Way (East-West)	Burlington GO to Appleby GO	Monday to Sunday (incl. Holidays)	20	New Street (south-west and north-east of Guelph Line)
50 (Burlington South)	One-Way (counter-clockwise)	Burlington GO to Burlington GO	Monday to Saturday (Late-Night)	N/A [1]	New Street (west of Guelph Line; south side)
52 (Burlington Northwest)	One-Way (clockwise)	Burlington GO to Burlington GO	Monday to Saturday (Late-Night)	N/A [1]	Guelph Line (north of New Street; west side)

Note 1: The route does not operate in the study area during the weekday a.m. or p.m. peak hours.

Appendix C contains relevant transit information.

3.5 Traffic Data

Turning movement counts for the study intersections were conducted by Spectrum Traffic staff on Tuesday November 21, 2017 between 6:00 a.m. – 9:00 a.m., and 3:00 p.m. – 6:00 p.m to reflect commuter peak hours.

The properties of 2421 New Street and 2431 New Street each feature two full-moves accesses to New Street, thus totalling four full-moves accesses. However, each "pair" of accesses at the aforementioned properties were counted assuming a consolidated access for each property.

Signal timing plans for the intersection of New Street and Guelph Line were provided by City staff for modelling purposes.

Intersection analysis was conducted utilizing peak hour factors (PHFs) as calculated for each intersection during each time period. **Table 3** below outlines the calculated peak hour factors at each intersection during each peak hour.

Table 3
Peak Hour Factors

Intersection	Peak Hour	Peak Hour Factor
New Street and Guelph Line	Weekday A.M. 8:00 a.m. – 9:00 a.m.	0.95
	Weekday P.M. 4:30 p.m. – 5:30 p.m.	0.92
New Street and 2421 New Street Site Access	Weekday A.M. 8:00 a.m. – 9:00 a.m.	0.93
	Weekday P.M. 4:15 p.m. – 5:15 p.m.	0.97
New Street and 2431 New Street Site Access	Weekday A.M. 8:00 a.m. – 9:00 a.m.	0.94
	Weekday P.M. 4:15 p.m. – 5:15 p.m.	0.97

The PHFs outlined above represent uniform traffic flow on the boundary road network, are reflective of typical urban commuter travel patterns.

The traffic count data and signal timing cards are provided in **Appendix D**. **Figure 5** illustrates the 2017 existing traffic volumes.

3.6 Intersection Modelling

The road network was modelled in Synchro 9.0 with measured roadway configurations per the existing road-diet conditions, collected traffic data, signal timing plans provided by City Staff, and default Synchro modelling parameters with the exception outlined below.

Lane Utilization Factor

New Street has a four-lane cross-section within approximately 150 metres east and west of Guelph Line. However, due to the "road diet" pilot project, New Street transitions to a two-lane cross section with a TWLTL beyond these limits. The effect of the road diet appears to have a noticeable impact on lane utilization on New Street (i.e., westbound and eastbound through vehicles were appreciably utilizing the through lane compared to the adjacent curb lane).

The dominant use of the through lane is a result of the roadway merging and diverging points east and west of Guelph Line. Beyond the four-lane New Street limits, through vehicles approaching the intersection would remain in the travel lane instead of maneuvering to the curb lane, travelling through the intersection, then merging into the through travel lane.

The existing traffic camera footage was reviewed during the weekday a.m. and p.m. peak periods to estimate the proportion of eastbound and westbound through vehicles on New Street and Guelph that remain in the through lane. It was estimated that approximately 75% of existing eastbound and westbound through vehicles utilized the through lane while the remainder utilized the curb lane. Accordingly, the lane utilization factors for the eastbound and westbound through movements on New Street were adjusted to reflect this observed driver behaviour.

The formula for calculating lane utilization factor from the Highway Capacity Manual (HCM) 2010 is outlined below.

$$f\,Lu = \frac{Vg}{Ne * Vg1}$$

Where,
f Lu = adjustment factor for lane utilization,
Vg = demand flow rate for movement group (veh/hr)
Vg1 = demand flow rate in the single exclusive lane with the highest flow rate of all exclusive lanes in movement group (veh/hr/ln)
Ne = number of exclusive lanes in movement group (ln).

The westbound through volume during the 2017 existing p.m. peak hour is 764 vehicles per hour. Applying the approximate 75% of through traffic remaining in the through lane, it is estimated that 573 of the 764 vehicles travel in the through (non-curb) lane and that the remaining 191 vehicles utilize the curb lane. When applying these volumes to the formula outlined above, a lane utilization factor of approximately 0.67 is calculated.

This lane utilization factor of 0.67 was applied to the eastbound and westbound through movements on the boundary road network to reflect the road-diet configuration on New Street. The results of this calibration were found to reflect existing conditions as observed in the field.

Consolidated Access

As the existing site accesses at 2421 & 2431 New Street were counted as a consolidated access for each property, the site accesses were modelled as a consolidated access for each property.

3.7 Intersection Operations

The existing traffic operations at the study intersections were analyzed using the 2017 existing traffic volumes illustrated in **Figure 5**. The current road-diet configuration on New Street was modelled for existing conditions, including the adjusted lane utilization factors for eastbound and westbound through traffic.

Intersection operations for signalized and unsignalized intersections were derived from HCM2010 analysis. 95th percentile queue lengths were derived from Synchro queuing reports.

The Level of Service (LOS) definitions for signalized and unsignalized intersections are included in **Appendix E**. Detailed capacity analysis worksheets are included in **Appendix F**.

Table 4 outlines the 2017 existing traffic operations.

Table 4
2017 Existing Traffic Operations – Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	26.2 s	0.51 (EBL)	None
		P.M.	D	40.2 s	0.97 (EBL) 0.97 (WBT)	None
New Street and 2421 New Street Site Access	Stop (Minor Street)	A.M.	B	12.6 s	0.01 (SBLR)	None
		P.M.	C	22.0 s	0.12 (SBLR)	None
New Street and 2431 New Street Site Access	Stop (Minor Street)	A.M.	B	14.0 s	0.01 (SBLR)	None
		P.M.	C	15.0 s	0.02 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

The intersection of New Street and Guelph Line is operating at LOS "C" and "D" during the weekday a.m. and p.m. peak hours, respectively. The eastbound left-turn and westbound through movements are operating near capacity during the p.m. peak hour, reflective of commuter travel patterns and the road-diet conditions on New Street.

The existing site accesses are operating at LOS "C" or better during the weekday a.m. and p.m. peak hours with minor control delays.

These operations indicate that the boundary road network is operating at acceptable levels of service.

4.0 FUTURE BACKGROUND CONDITIONS

4.1 Road Configuration

As mentioned in Section 3.3, the road-diet on New Street was implemented in August 2016 as a one-year pilot project, and would remain in place if public feedback supported the road-diet conditions.

Per the City's staff report TS-11-17, City staff has recommended the removal of the "road-diet" on New Street and the conversion back to it's previous four-lane configuration east of Guelph Line in 2018. Council has yet to vote on this recommendation and the timeline for implementation is unknown. Therefore, analysis of future background and future total conditions was conducted under the scenarios of both with and without the road-diet.

4.2 Horizon Years

While the year of full-build has not been confirmed at this time, it is assumed that the development will be fully built-out by 2022. Therefore, analysis was conducted for the years 2022 (full build-out) and 2027 (five-year horizon), as confirmed with City Staff in the Terms of Reference.

4.3 Growth Rate

City staff has instructed Crozier to apply a 1% growth rate (compounded annually) to determine future background traffic volumes in 2022 and 2027. This growth rate was applied to both scenarios with and without the New Street road-diet configuration.

4.4 Intersection Operations – Road-Diet

The future background traffic operations at the study intersections were analyzed using the 2022 and 2027 future background traffic volumes illustrated in **Figures 6 and 7**. This section contains analysis of 2022 and 2027 future background operations with the existing road-diet configuration remaining on New Street east of Guelph Line.

Intersection operations for signalized and unsignalized intersections were derived from HCM2010 analysis. 95th percentile queue lengths were derived from Synchro queuing reports.

The Level of Service (LOS) definitions for signalized and unsignalized intersections are included in **Appendix E**. Detailed capacity analysis worksheets are included in **Appendix F**.

Tables 5 and 6 outline the 2022 and 2027 future background traffic operations under road-diet conditions, respectively.

Table 5
2022 Future Background Traffic Operations – Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	26.7 s	0.55 (EBL)	None
		P.M.	D	44.8 s	1.06 (EBL) 1.00 (WBT)	89.4 m > 85 m (EBL)
New Street and 2421 New Street Site Access	Stop (Minor Street)	A.M.	B	12.9 s	0.01 (SBLR)	None
		P.M.	C	23.6 s	0.14 (SBLR)	None
New Street and 2431 New Street Site Access	Stop (Minor Street)	A.M.	B	14.4 s	0.01 (SBLR)	None
		P.M.	C	15.5 s	0.02 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

Table 6
2027 Future Background Traffic Operations – Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	27.3 s	0.59 (EBL)	None
		P.M.	D	48.0 s	1.11 (EBL) 1.03 (WBT)	95.5 m > 85 m (EBL)
New Street and 2421 New Street Site Access	Stop (Minor Street)	A.M.	B	13.2 s	0.01 (SBLR)	None
		P.M.	D	25.4 s	0.16 (SBLR)	None
New Street and 2431 New Street Site Access	Stop (Minor Street)	A.M.	B	14.8 s	0.01 (SBLR)	None
		P.M.	C	15.9 s	0.02 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

The intersection of New Street and Guelph Line is expected to operate at unchanged levels of service under 2027 future background conditions. The intersection is expected to experience a maximum increase in control delay of 7.8 seconds or less. The eastbound left-turn and westbound through movement is expected to operate above capacity during the p.m. peak hour, with volume-to-capacity expected to increase by 0.14 and 0.06, respectively. Overall, these operations are consistent with 2017 existing conditions.

The forecasted 95th percentile queue length for the eastbound left-turn movement at New Street and Guelph Line is 95.5 metres; approximately 10.5 metres longer than the designated storage length for the eastbound left-turn movement. This is equivalent to approximately two passenger cars in length. The designated storage length of 85 metres does not include the additional "effective" storage length provided by the centre TWLTL. Therefore, the forecasted 95th percentile queue length of 95.5 metres can be accommodated by the existing infrastructure.

The existing site access at 2421 New Street is expected to change from LOS "C" to "D" during the p.m. peak hour. However, control delays are expected to be minor, and the overall operations at both site accesses are not expected to change compared to 2017 existing conditions.

These operations indicate that the boundary road network is expected to at acceptable levels of service under 2027 future background conditions, with the existing road-diet configuration in place.

4.5 Intersection Operations – No Road-Diet

The future background traffic operations at the study intersections were analyzed using the 2022 and 2027 future background traffic volumes illustrated in **Figures 6 and 7**. This section contains analysis of 2022 and 2027 future background operations without the existing road-diet configuration on New Street. The Synchro default 0.95 lane utilization factor was modelled for the eastbound and westbound through movements on New Street, as drivers are assumed to be more equally distributed

between the two through lanes in each direction without the "road-diet" configuration in place.

Intersection operations for signalized and unsignalized intersections were derived from HCM2010 analysis. 95th percentile queue lengths were derived from Synchro queuing reports.

The Level of Service (LOS) definitions for signalized and unsignalized intersections are included in **Appendix E**. Detailed capacity analysis worksheets are included in **Appendix F**.

Tables 7 and 8 outline the 2022 and 2027 future background traffic operations without the road-diet conditions, respectively.

Table 7
2022 Future Background Traffic Operations – No Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	26.0 s	0.51 (EBL)	None
		P.M.	C	30.4 s	0.73 (EBL)	None
New Street and 2421 New Street Site Access	Stop (Minor Street)	A.M.	B	12.9 s	0.01 (SBLR)	None
		P.M.	C	23.6 s	0.14 (SBLR)	None
New Street and 2431 New Street Site Access	Stop (Minor Street)	A.M.	B	14.4 s	0.01 (SBLR)	None
		P.M.	C	15.5 s	0.02 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

Table 8
2027 Future Background Traffic Operations – No Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	26.5 s	0.55 (EBL)	None
		P.M.	C	31.7 s	0.78 (EBL)	None
New Street and 2421 New Street Site Access	Stop (Minor Street)	A.M.	B	13.2 s	0.01 (SBLR)	None
		P.M.	D	25.4 s	0.16 (SBLR)	None
New Street and 2431 New Street Site Access	Stop (Minor Street)	A.M.	B	14.8 s	0.01 (SBLR)	None
		P.M.	C	15.9 s	0.02 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

The traffic operations under 2027 future background conditions with no road-diet in place indicate that the boundary road network is expected to operate at improved levels of service, primarily at the intersection of New Street and Guelph Line during the p.m. peak hour.

The existing site access at 2421 New Street is expected to change from LOS "C" to "D" during the p.m. peak hour. However, control delays are expected to be minor, and the overall operations at both site accesses are not expected to change compared to 2017 existing conditions.

These operations indicate that the boundary road network is expected to at overall improved levels of service under 2027 future background conditions compared to 2017 existing conditions with no road-diet configuration in place.

5.0 SITE GENERATED TRAFFIC

5.1 Trip Generation

The proposed development will result in additional vehicles on the boundary road network that would otherwise not exist. The proposed development will also result in additional turning movements at the study intersections. As the development proposes the removal of the existing commercial developments at 2421 and 2431 New Street, existing trips entering and exiting the sites were removed from the site accesses on New Street (i.e. set to "zero" prior to adding site generated traffic). These volumes were not removed at the intersection of New Street and Guelph Line.

Trip generation for the proposed development was determined using the fitted curve equations provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.
Land Use Category (LUC) 222 (Multifamily Housing High-Rise) "…includes apartments, townhouses, and condominiums that have more than 10 levels (floors)." As the proposed development is 11-

storeys, this LUC was applied to the residential condominium units. Land Use Category 252 ("Senior Adult Housing – Attached") was applied to the senior residential units.

Table 9 below outlines the trip generation for the site.

Table 9
Trip Generation

Land Use	Units	Peak Hour	Trips Generated		
			Inbound	Outbound	Total
LUC 222 Multifamily Housing – High-Rise	139	A.M.	12	40	52
		P.M.	34	22	56
LUC 252 Senior's Adult Housing - Attached	223	A.M.	15	29	44
		P.M.	31	25	56
Total		**A.M.**	**27**	**69**	**96**
		P.M.	**65**	**47**	**112**

As the development is solely residential in nature, no internal synergy trips or pass-by trips are expected at the site.

5.2 Trip Distribution and Assignment

The trips generated by the development were distributed to the boundary road network based on Transportation Tomorrow Survey (TTS) data. TTS is a comprehensive survey of transportation characteristics of households in the Golden Horseshoe, Simcoe County and surrounding areas.

For the proposed development, TTS results were filtered to auto trips exiting 2006 GTA Zone 4061, a primarily residential zone in which the subject property is located in. Trips were filtered to the a.m. peak period. From this query, trip destinations were determined and percentage of trips assigned to each destination was accounted for. Trips were assumed to travel to and from their destination based on the most convenient route possible.

The trip distribution that was applied for the a.m. peak period was inversely applied to the p.m. peak period. **Table 10** below outlines the assumed trip distribution for the proposed development.

Table 10
Trip Distribution

Departing To / Arriving From	Percentage
Guelph Line (North)	45%
New Street (East)	20%
New Street (West)	30%
Guelph Line (South)	5%
Total	**100%**

Appendix G contains the TTS data.

Figure 8 outlines the trip distribution for the site and **Figure 9** outlines the trip assignment for the site. The trip assignment does not account for existing trips entering and exiting the site, as the development proposes the removal of the existing commercial businesses.

6.0 FUTURE TOTAL CONDITIONS

6.1 Basis of Assessment

The site generated traffic volumes illustrated in **Figure 9** was added to the 2022 and 2027 future background traffic volumes in **Figures 6 and 7** to determine the future total traffic volumes. **Figures 10 and 11** outline the 2022 and 2027 future total traffic volumes, respectively.

The proposed development will eliminate the existing site accesses on New Street and proposes a single full-moves access for site ingress and egress. Modelling of future total conditions was conducted for one full-moves access on New Street.

6.2 Intersection Operations – Road-Diet

The future total traffic operations at the study intersections were analyzed using the 2022 and 2027 future total traffic volumes illustrated in **Figures 10 and 11**. This section contains analysis of 2022 and 2027 future total operations with the existing road-diet configuration remaining on New Street east of Guelph Line.

Intersection operations for signalized and unsignalized intersections were derived from HCM2010 analysis. 95th percentile queue lengths were derived from Synchro queuing reports.

The Level of Service (LOS) definitions for signalized and unsignalized intersections are included in **Appendix E**. Detailed capacity analysis worksheets are included in **Appendix F**.

Tables 11 and 12 outline the 2022 and 2027 future total traffic operations under road-diet conditions, respectively.

Table 11
2022 Future Total Traffic Operations – Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	27.2 s	0.64 (EBL)	None
		P.M.	D	47.4 s	1.09 (EBL) 1.02 (WBT)	99.4 m > 85 m (EBL)
New Street and Site Access	Stop (Minor Street)	A.M.	C	15.0 s	0.17 (SBLR)	None
		P.M.	D	26.3 s	0.22 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).
Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

Table 12
2027 Future Total Traffic Operations – Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	27.9 s	0.68 (EBL)	None
		P.M.	D	50.9 s	1.14 (EBL) 1.04 (WBT)	105.5 m > 85 m (EBL)
New Street and Site Access	Stop (Minor Street)	A.M.	C	15.5 s	0.18 (SBLR)	None
		P.M.	D	28.4 s	0.24 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).
Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

The intersection of New Street and Guelph Line is expected to operate at unchanged levels of service under 2027 future total conditions compared to 2027 future background conditions. The intersection is expected to experience a maximum increase in control delay of 2.9 seconds or less. The volume-to-capacity ratios for the eastbound left-turn movement and westbound through movement during the p.m. peak hour are expected to minimally increase as a result of site traffic (i.e. by 0.03 and 0.01, respectively).

The forecasted 95th percentile queue length for the eastbound left-turn movement at New Street and Guelph Line is 105.5 metres; approximately 20.5 metres longer than the designated storage length of 85 metres and 10 metres longer than the forecasted 95th percentile queue length for this movement under 2027 future background conditions. This is equivalent to approximately four passenger cars in length exceeding the designated storage length. The 85 metres of storage length does not include

the additional "effective" storage length provided by the centre TWLTL. Therefore, the forecasted 95th percentile queue length of 105.5 metres can be accommodated by the existing infrastructure.

The proposed site access is expected to operate at LOS "C" and "D" during the weekday a.m. and p.m. peak hours, respectively, with minor delays.

These operations indicate that the boundary road network is expected to at overall acceptable levels of service under 2027 future total conditions, with the existing road-diet configuration in place. Therefore, the addition of site traffic to the boundary road network is not expected to significantly impact traffic operations.

6.3 Intersection Operations – No Road-Diet

The future total traffic operations at the study intersections were analyzed using the 2022 and 2027 future total traffic volumes illustrated in **Figures 10 and 11**. This section contains analysis of 2022 and 2027 future total operations without the existing road-diet configuration on New Street. The Synchro default 0.95 lane utilization factor was modelled for the eastbound and westbound through movements on New Street, as drivers are assumed to be more equally distributed between the two through lanes in each direction without the "road-diet" configuration in place.

Intersection operations for signalized and unsignalized intersections were derived from HCM2010 analysis. 95th percentile queue lengths were derived from Synchro queuing reports.

The Level of Service (LOS) definitions for signalized and unsignalized intersections are included in **Appendix E.** Detailed capacity analysis worksheets are included in **Appendix F**.

Tables 13 and 14 outline the 2022 and 2027 future total traffic operations without the road-diet conditions, respectively.

Table 13
2022 Future Total Traffic Operations – No Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	26.3 s	0.59 (EBL)	None
		P.M.	C	31.7 s	0.79 (EBL)	None
New Street and Site Access	Stop (Minor Street)	A.M.	C	15.0 s	0.17 (SBLR)	None
		P.M.	D	26.3 s	0.22 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

Table 14
2027 Future Total Traffic Operations – No Road-Diet

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Critical v/c ratio [2]	95th Percentile Queue Length > Storage Length
New Street and Guelph Line	Signal	A.M.	C	26.8 s	0.63 (EBL)	None
		P.M.	C	33.2 s	0.84 (EBL)	87.8 m > 85 m (EBL)
New Street and Site Access	Stop (Minor Street)	A.M.	C	15.5 s	0.18 (SBLR)	None
		P.M.	D	28.4 s	0.24 (SBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (HCM2010). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2010).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.85 for through movements or shared through/turning movements, and 0.95 for exclusive turning movements are outlined and highlighted (per Region of Halton TIS Guidelines).

The traffic operations under 2027 future total conditions with no road-diet in place indicate that the boundary road network is expected to operate at unchanged levels of service compared to 2027 future background conditions. The intersection of New Street and Guelph Line is expected to experience a maximum increase in control delay of 1.5 seconds. The forecasted 95th percentile queue length for the eastbound left-turn movement during the p.m. peak hour is 87.8 metres; 2.8 metres longer than the measured storage length of 85 metres. This is equivalent to approximately half a passenger car in length. As previously discussed, the centre TWLTL on New Street provides additional storage for this movement and thus can accommodate the additional queue length.

The proposed site access is expected to operate at LOS "C" and "D" during the weekday a.m. and p.m. peak hours, respectively, with minor delays.

These operations indicate that the boundary road network is expected to at overall acceptable levels of service under 2027 future total conditions, without the road-diet configuration in place. Therefore, the addition of site traffic to the boundary road network is not expected to materially impact traffic operations.

7.0 SIGHT DISTANCE ANALYSIS

The available sightlines at the proposed site access were measured and compared to the standards set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR). Sight distance was measured from the proposed site access using the following assumptions:

- A standard driver eye height of 1.05 metres for a passenger car, and
- A three-metre setback from the approximate extension of the outer curb to represent a vehicle waiting to exit the site.

The posted speed limit on New Street at the site frontage is 50 km/h. The design speed of an arterial roadway in urban environments is typically 10-20 km/h greater than the posted speed limit. Therefore, a design speed of 70 km/h was assumed for a conservative sight distance analysis.

The assumed time gap for passenger cars is 7.5 seconds (per Table 2.3.3.2a in the GDGCR) to turn left onto a two-lane highway. The extra time gap required for left-turning vehicles to cross lanes in excess of one is 0.5 seconds per lane. As left-turning vehicles will have to cross a second through lane and a centre TWLTL on New Street, the assumed time gap for left-turning vehicles at the New Street site access is increased to 8.5 seconds.

Per the Sight Distance equation 2.3.3 in the GDGCR, the minimum sight distance required at the site access is 166 metres.

The measured sight distance from the proposed site access exceeds 200 metres to the east and west. The geometric alignment of New Street is straight and flat, and thus was not considered as a factor in the sight distance analysis. Moreover, accesses to New Street currently exist at the subject property as well as neighbouring properties; therefore, sight distance issues are not anticipated.

Therefore, the proposed development can be supported from a sight distance perspective.

8.0 TRANSPORTATION DEMAND MANAGEMENT (TDM) OPPORTUNITIES

There are existing Transportation Demand Management (TDM) opportunities in the City of Burlington to encourage the use of non-auto transportation to reduce pollution, reduce single-occupancy vehicle (SOV) trips, reduce parking demand for the proposed development, and improve community health.

8.1 Existing Modal Split

TTS data was used to determine the existing modal split for trips entering the study area. Results were filtered to trips originating from 2006 GTA zone 4061 during the a.m. peak hour.

The existing modal split is outlined below in **Table 15**.

Table 15
Existing Modal Split

Mode	Percentage
Transit	11%
Cycling	1%
Auto Driver	65%
Auto Passenger	19%
Walking	4%

Approximately 65% of trips originating from the study area in the a.m. peak hour are by auto driver. Therefore, non-auto trips including transit, cycling and walking, as well as auto passenger (carpool) consist of approximately 35% of trips originating from the study area. This modal split indicates a willingness to utilize alternate modes of transportation.

Appendix G contains the TTS data.

8.2 Existing Pedestrian Opportunities

As outlined in Section 3.0, there is existing pedestrian connectivity from the subject property to the surrounding area via concrete sidewalks on both sides of New Street and Guelph Line. The subject property is located approximately 200 metres from the commercial plaza at the north-east corner of New Street and Guelph Line, which features many "walkable" destinations such as commercial and retail businesses, and fast-food and sit-down restaurants.

Burlington Mall is located approximately 1.5 kilometres to the north of the subject property, which is a relatively short walking distance to major shopping destinations. Downtown Burlington is located approximately 1.5 kilometres to the west of the subject property, which is a relatively short walking distance to major destinations in the Downtown area for employment and leisure.

8.3 Existing Transit Opportunities

As outlined in Section 3.0, Burlington Transit provides sufficient transit service at New Street and Guelph Line during peak hours which connect to major transit hubs such as Burlington GO and Appleby GO. The convenient connections to these major transit hubs provide opportunities to access the Greater Toronto-Hamilton Area (GTHA) via transit, thus reducing the dependency on automobile travel.

8.4 Existing Cycling Opportunities

The existing road-diet on New Street provides on-street bike lanes on both sides of the roadway, thus providing opportunities for cycling as an alternate mode of transportation. Road safety for cyclists is improved by the through lane reduction to one lane per direction on New Street. Burlington Mall is located approximately 1.5 kilometres to the north of the subject property, which is a relatively short cycling distance to major shopping destinations. Downtown Burlington is located approximately 1.5 kilometres to the west of the subject property, which is a relatively short cycling distance to major destinations in the Downtown area for employment and leisure (per TTS, approximately 10% of outbound trips from the study area travel to the Downtown area).

The City of Burlington also holds events to promote the use of cycling, such as "Bike Month" an annual "Bike to Work Day" in which the City collaborates with Smart Commute Halton and other local employers.

8.5 Future Cycling Opportunities

Per the article "Burlington committee votes to end New Street cycling 'road diet' project" posted on InsideHalton.Com, City Council unanimously voted to remove the "road-diet" on New Street. The roadway will be converted back to it's previous four-lane configuration east of Guelph Line in 2018, which will result in the removal of the existing on-street bike lanes.

However, the City will evaluate an alternative design for off-road cycling infrastructure on New Street. If this infrastructure were to be implemented in the future background horizon, the existing cycling opportunities in the study area would not only remain, but provide increased safety for cyclists. This increased safety may encourage further cycling activity in the study area.

8.6 Smart Commute Halton

Smart Commute is a non-profit Transportation Management Association (TMA) committed to reducing traffic congestion, improving air quality and taking action on climate change. The subject property is located in the Smart Commute Halton region. Smart Commute Halton works with many organizations/employers in the Burlington area and surrounding areas by providing resources and tools which allow commuters to consider transportation alternatives. The Smart Commute Program has similar initiatives in 13 regions across the Greater Toronto and Hamilton Area (GTHA), which provides services for residents not working in the Burlington and Halton area.

More specifically, the following TDM strategies are provided by Smart Commute and have been historically shown to reduce SOV trips to and from developments similar to the proposed mixed-use development:

a. Carpooling: Smart Commute Halton promotes carpooling as a viable transportation mode choice. The Smart Commute online tool, which is available at the Smart Commute Halton website, helps commuters find and share carpool trips. Employers can also set up their own networks to assist their staff in finding carpool partners. Additionally, Smart Commute Halton highlights the benefits of carpooling such as cost savings, benefits to the environment, and stress reduction, while also providing information on several carpool parking lots located along major corridors within the City of Burlington and Halton area. Highway 403 and Queen Elizabeth Way features two High-Occupancy Vehicle (HOV) lanes (one in each direction) which require two or more passengers in a vehicle to utilize. The HOV lanes offer increased incentive to carpool to major destinations in the GHTA and reduce travel time on the congested freeways.

b. Flexible Work Arrangements: Smart Commute Halton supports many alternative work arrangements as a means to reduce gridlock, clean the air and decrease stress levels for employees.
    - **Flexible work hours** can include a range of work options including compressed work weeks, earned days off, flex time, staggered work hours, and reduced work hours. These options help to ease congestion by reducing the number of commuters on the road, improving traffic flow and reducing idling times.
    - **Telework** allows employees to work from home by connecting to their employer's computer network and also conduct meetings remotely through conference calls. Telework allows employees to remain productive in spite of emergencies such as health issues, storms, natural disasters, transit strikes and road closures. Furthermore, telework reduces greenhouse gas emissions by decreasing the number of peak hour trips generated by the development.

c. Cycling and Walking: Smart Commute Halton encourages increased walking and cycling by offering an online tool where residents can set goals and track active commuting habits and calories burned. Members can also earn rewards for walking and cycling to work. Smart Commute Halton provides information on the Carrot Rewards application which allows users to earn rewards for walking from several programs such as Aeroplan and Scene Rewards. Smart Commute NTV also connects members to cycling tools such as Cycling Maps and Handbooks, Can-Bike Training Courses, and Bicycle User Groups to find bike buddies.

d. Transit Pass Programs: Smart Commute Halton supports the use of PRESTO passes, which makes it easier for commuters to pay their fare while travelling within and between transit systems; PRESTO passes can be used across 11 transit systems in the GTA. Schools and workplaces in the GTHA may offer discounted transit passes which can increase the convenience of public transport use. Smart Commute Halton offers regular transit information which facilitates increased transit use. Residents attending school and/or working in the City of Burlington or other participating municipalities can take advantage of such opportunities. The Government of Canada offers a tax credit for weekly or longer duration transit passes as increased incentive to utilize transit as an alternate mode of transportation.

The Smart Commute Halton program is utilized city wide by many employers and organizations, and will contribute to reduced SOV trips generated by the proposed development. As noted above, the Smart Commute Program has similar initiatives in 13 regions across the GHTA. This presents a collaborative opportunity for reduction in SOV trips and automobile dependency for the subject development through planned initiatives, infrastructure and programs throughout the GTHA.

8.7 Site Specific TDM Opportunities

The Site Plan identifies entrances to the senior's retirement building and condominium building fronting New Street, to be connected to the existing pedestrian sidewalk infrastructure. This direct connection to the existing pedestrian network increases pedestrian safety and convenience of travel.

There are several low impact opportunities for the development to promote TDM measures in support of reduced automobile use.

The provision of trail and cycling route maps within the lobby of the buildings will increase awareness of nearby pedestrian and cycling routes, and provide incentive for residents and visitors to utilize the existing network. Prior to occupancy, future residents can be informed of the active transportation and TDM opportunities of the proposed development.

It is expected that provision of up-to-date transit maps and schedules, and information on Smart Commute Halton within the lobbies will educate residents and visitors on the range of routes available by Burlington Transit and connecting GO Transit services. This increased awareness of convenient transit options has been historically shown to increase transit mode share in similar developments, and may provide similar benefit to the subject development.

Upon occupancy, a TDM information package can be provided to residents and can comprise of active transportation network maps, transit maps and schedules and a loadable PRESTO card. Information on Smart Commute opportunities may also be beneficial to educate residents of alternative transportation modes for their existing and future areas of employment.

9.0 CONCLUSIONS

The analysis contained within this report has resulted in the following key findings:

- The boundary road network is currently operating at acceptable levels of service, with the eastbound left-turn and westbound through movements at New Street and Guelph Line operating near capacity during the p.m. peak hour;

- With the existing road-diet configuration, the boundary road network is expected to operate at overall unchanged levels of service under 2027 future background conditions compared to 2017 existing conditions. The eastbound left-turn and westbound through movements at New Street and Guelph Line are expected to operate above capacity during the p.m. peak hour. The forecasted 95th percentile queue length for the eastbound left-turn movement, while expected to exceed the designated storage length by two car lengths, can be accommodated by the centre two-way left-turn lane on New Street;

- Without the road-diet configuration, the boundary road network is expected to operate at overall improved levels of service compared to 2017 existing conditions;

- The proposed development is forecasted to generate approximately 96 and 112 total two-way trips in the a.m. and p.m. peak hour, respectively. These trips were distributed to the boundary road network based on Transportation Tomorrow Survey (TTS) data, with site generated trips primarily assigned to Guelph Line (north) and New Street (east and west);

- With the existing road-diet configuration, the boundary road network is expected to operate at unchanged levels of service under 2027 future total conditions compared to 2027 future background conditions. The eastbound left-turn and westbound through movements are expected to continue operating above capacity. The forecasted 95th percentile queue length for this movement, while expected to exceed the designated storage length by four car lengths, can be accommodated by the centre two-way left-turn lane on New Street;

- Without the road-diet configuration, the boundary road network is expected to operate at unchanged levels of service under 2027 future total conditions compared to 2027 future background conditions;

- The traffic operations analysis indicates that the addition of site traffic to the boundary road network is not expected to significantly impact traffic operations;

- The sight distance from the proposed site access on New Street exceeds sight distance requirements set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR). Therefore, the proposed development can be supported from a sight distance perspective;

- There are existing Transportation Demand Management (TDM) opportunities in the City of Burlington to encourage the use of non-auto transportation to reduce pollution, reduce single-occupancy vehicle (SOV) trips, and improve community health. The existing modal split in the study area is approximately 65% for auto driver trips and 35% for non-auto trips including transit, cycling, walking and auto passenger. This modal split indicates a willingness to utilize alternate modes of transportation;

- There is existing pedestrian, transit and cycling infrastructure in the study area to provide sufficient mobility to reduce automobile trips. There are TDM initiatives held by the City of Burlington and Smart Commute Halton including "Bike Month," an annual "Bike to Work Day", carpooling match services and incentives, flexible work arrangements, cycling and walking provisions, and transit pass programs;

- The development proposes direct entrance to the senior's residence and condominium buildings fronting New Street, connecting to the existing pedestrian sidewalk infrastructure on New Street; and

- There are other opportunities for the development to promote TDM measures, such as providing transit maps and schedules, trail and cycling route maps, information on Smart Commute, and a loadable PRESTO card.

The analysis contained within this report was prepared using the Site Plan prepared by WZMH Architects, dated December 12, 2017. Any minor revisions to the site plan are not expected to affect the conclusions contained with this report.

In conclusion, the proposed development can be supported from a transportation operations and safety perspective, regardless of if the road-diet configuration is maintained or if New Street will revert to the original four-lane cross section.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.



Michael A. Linton, MASc., P. Eng.
Transportation Engineer

C.F. CROZIER & ASSOCIATES INC.



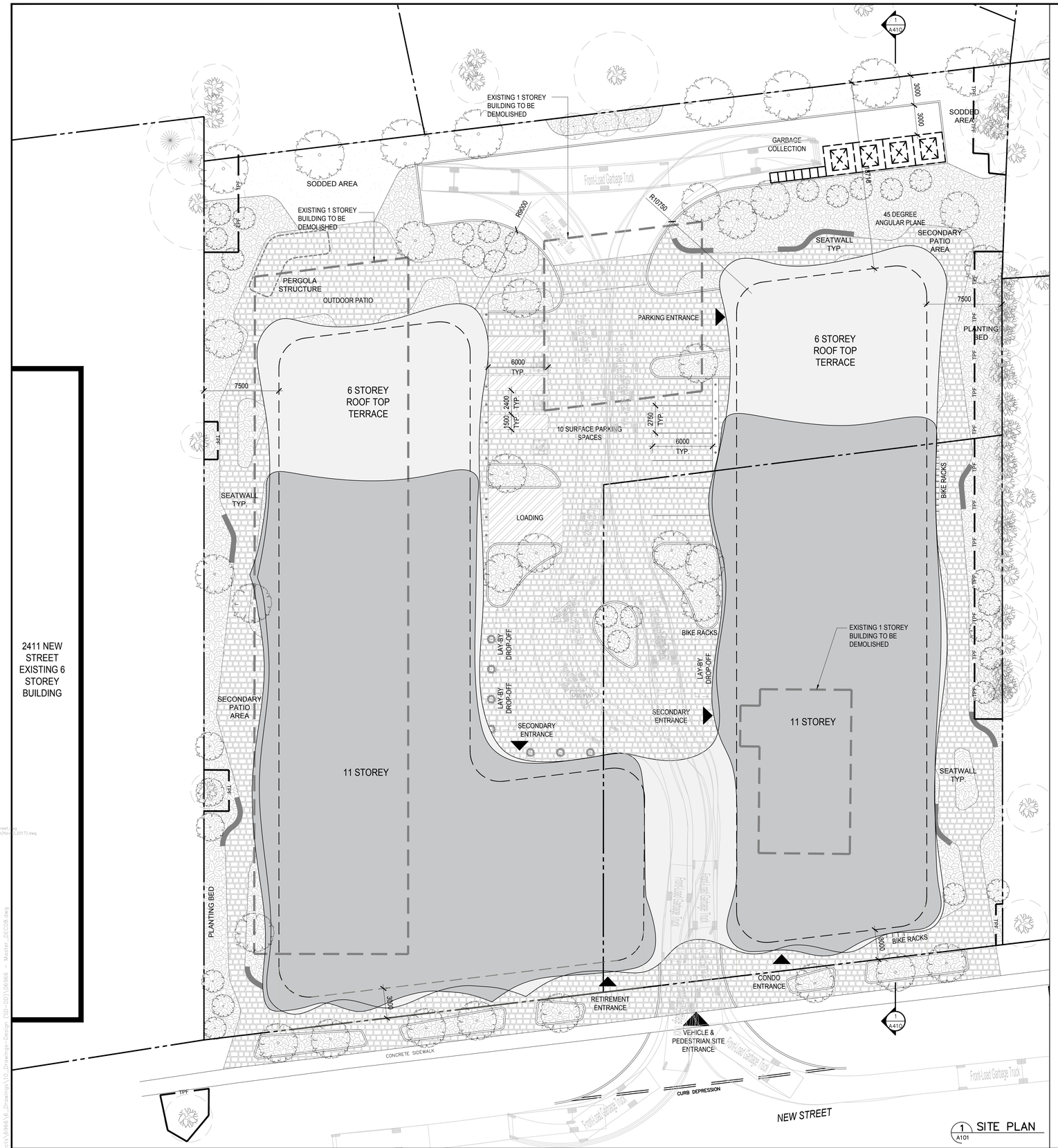
Darren J. Loro
Transportation Technologist

/DL

I:\1400\1473-TRG\4780-2421 & 2431 New St\Reports\4780_2421 & 2431 New Street (December 2017) DRAFT TIS v2.0.docx

APPENDIX A

Site Statistics



1 SITE PLAN
A101

1. SITE AREA:

DESCRIPTION	AREA (m2)
SITE AREA	7,032.1 m2
DENSITY (FAR)	4.05

2. UNIT COUNTS

FLOORS	RETIREMENT					CONDO (RESIDENTIAL)			
	MEMORY	STUDIO	1 BEDROOM	2 BEDROOM	TOTAL RETIREMENT	STUDIO	1 BEDROOM	2 BEDROOM	TOTAL RESIDENTIAL
LEVEL 2		3	16	4	23	-	11	6	17
LEVEL 3		3	16	4	23	-	11	6	17
LEVEL 4		3	16	4	23	-	11	6	17
LEVEL 5		3	16	4	23	-	11	6	17
LEVEL 6		3	16	4	23	-	13	6	19
LEVEL 7 MEMORY CARE	32	-	-	-	32	-	-	-	-
LEVEL 8		3	14	2	19	-	10	3	13
LEVEL 9		3	14	2	19	-	10	3	13
LEVEL 10		3	14	2	19	-	10	3	13
LEVEL 11		3	14	2	19	-	10	3	13
TOTAL UNITS	32	27	136	28	223	-	97	42	139

TOTAL RETIREMENT & RESIDENTIAL UNITS (223 + 139) = 362 UNITS

3. BUILDING AREA (m2)

FLOORS	RETIREMENT	CONDO (RESIDENTIAL)	TOTAL AREA
	m2	m2	m2
LEVEL P2			6,063
LEVEL P1			6,063
SUBTOTAL BELOW GRADE			12,126
GROUND (AMENITY)	1,590	1,250	2,840
LEVEL 2	1,590	1,250	2,840
LEVEL 3	1,590	1,250	2,840
LEVEL 4	1,590	1,250	2,840
LEVEL 5	1,590	1,250	2,840
LEVEL 6	1,590	1,374	2,964
LEVEL 7 (MEMORY CARE)	2,374		2,374
LEVEL 8	1,286	951	2,237
LEVEL 9	1,286	951	2,237
LEVEL 10	1,286	951	2,237
LEVEL 11	1,286	951	2,237
SUBTOTAL ABOVE GRADE	17,058	11,428	28,486
TOTAL ABOVE & BELOW GRADE			40,612

4a. AMENITY REQUIREMENT

AMENITY REQUIREMENT**		AREA (m2)
CONDO (20sm/UNIT)	139 X 20sm	2,780
RETIREMENT HOUSING (20sm/UNIT)	223 X 20sm	4,460
TOTAL AMENITY REQUIRED		7,240

**AS PER THE CITY OF BURLINGTON ZONE REQUIREMENTS FOR CN1 ZONE, AMENITY AREA = 20 sm PER UNIT

4b. AMENITY AREA PROVIDED

AMENITY PROVIDED	INDOOR AREA (sm)	OUTDOOR AREA (sm)
CONDO (RESIDENTIAL)		
GROUND	1,037	1085
LEVEL 7 (Memory Care)	-	298
LEVEL 8	-	136
TOTAL CONDO AMENITY	1,037	1,519
GROUND	1,511	1,230
LEVEL 7 (Memory Care)	917	306
TOTAL RETIREMENT AMENITY	2,428	1,536
TOTAL RETIREMENT & CONDO AMENITY	3,465	3,055

IN PROGRESS

5a. PARKING REQUIREMENTS

	UNIT BREAKDOWN		RATE	TOTAL PARKING REQUIREMENT
CONDO (RESIDENTIAL)	1 BEDROOM	97	1.25/unit	121
	2 BEDROOM	42	1.50/unit	63
	VISITOR	139	0.35/unit	49
TOTAL CONDO REQUIREMENT				233
RETIREMENT HOUSING	OCCUPANT SPACES (studio, 1bedroom & 2 bedroom)	191	0.50/unit	95
	MEMORY CARE	32	0.25/unit	8
	VISITOR	191	0.25/unit	48
TOTAL RETIREMENT REQUIREMENT				151
TOTAL SITE REQUIREMENT (CONDO & RETIREMENT HOUSING)				384

5b. PARKING PROVIDED

FLOORS	
LEVEL P2	158
LEVEL P1	151
SUBTOTAL BELOW GRADE	309
GROUND	10 (INCLUDES 4 ACCESSIBLE SPACES)
SUBTOTAL ABOVE GRADE	10
TOTAL BELOW & ABOVE GRADE	319

2 STATISTICS
A101

ISSUES/REVISIONS		
Item	Description	Date
A	ISSUED FOR REZONING APPLICATION	2017.12.15

Check and verify all dimensions and report any discrepancies to the Consultant whose seal is affixed to this drawing. This drawing is not to be scaled for the purpose of verifying dimensions.

This drawing shall not be used for construction purposes until signed and dated in the space below by the above mentioned Consultant.

Issued For Construction — Date

ONTARIO ASSOCIATION OF ARCHITECTS — NICOLA CASCIATO — LICENCE 6443

WZMH ARCHITECTS
95 St. Clair Av W
Suite 1501
Toronto, Ontario
Canada M4V 1N6
T 416.961.4111
F 416.961.3776

Key Plan

2421&2431 New Street, Burlington, Ontario

Sheet Title: SITE PLAN & STATISTICS
Scale: 1:150
Project Number: 06966.000
Drawing Number: A–101

XRefs:
XAcitTB.DWG
x:\Survey_NewStreet.dwg
17-218TP01-Exp(Nov 2,2017).dwg
NICOLA.dwg

Plot Time: Dec 12, 2017 - 10:14am
Drawing Name: \\wzmh\Projects\06966\6_Drawings\10_Drawings-Design (SD-DD)\06966 - Master_SEC08.dwg

APPENDIX B

Correspondence

Darren Loro

From: Zunic, John <John.Zunic@burlington.ca>
Sent: November-14-17 11:25 AM
To: Darren Loro
Cc: Michael Linton
Subject: RE: 2421 & 2431 New Street TIS Terms of Reference

Hi Darren,
I can confirm that the Terms of Reference for the TIS (2421-2431 New Street) reflects our discussion earlier today and is acceptable from Transportation Planning's perspective.
Thanks,

John Zunic
Transportation Planning Technologist
Transportation Services Department, City of Burlington
426 Brant Street, Burlington, Ontario L7R 3Z6

tel. 905-335-7600 ext. 7691
john.zunic@burlington.ca




Please consider the environment before printing this e-mail.

From: Darren Loro [mailto:dloro@cfcrozier.ca]
Sent: Tuesday, November 14, 2017 11:13 AM
To: Zunic, John
Cc: Minaji, Rosalind; Michael Linton
Subject: 2421 & 2431 New Street TIS Terms of Reference

Good morning John,

Thank you for calling me back this morning to discuss the 2421 & 2431 New Street TIS Terms of Reference.

Our proposed terms of reference for the Transportation Impact Study per our discussion is outlined below:

1. Analysis of the following intersections will suffice:
    a. New Street and Guelph Line
    b. New Street and Site Access
2. Analysis of the weekday a.m. and p.m. peak hours (6:00am-9:00am and 3:00pm-6:00pm) will suffice.
3. Existing conditions will be analyzed assuming the road diet configuration on New Street currently in place as part of the one-year pilot project.
4. The anticipated year of full-build out will be confirmed.
    a. Should full build-out occur on a short-term scale (i.e. within two years), analysis of the five-year horizon (2022) from the date of study will suffice.
    b. Should full-build out occur beyond the short-term scale, then analysis of the year of full-build out plus the five year horizon will suffice.
5. A background growth rate of 1% compounded annually will be applied to existing traffic to forecast future background traffic.
6. Future background conditions will be analyzed under two scenarios:

    a. With the road diet configuration remaining
    b. Without the road diet configuration (existing configuration)
7. Trip generation for the proposed development will be forecasting using rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition.
8. Trip distribution for the proposed development will be determined using Transportation Tomorrow Survey (TTS) data and will be supported by existing travel patterns.
9. Future total conditions will be analyzed under two scenarios:
    a. With the road diet configuration remaining
    b. Without the road diet configuration (existing configuration)
10. Mitigation measures will be analyzed to accommodate the addition of site generated traffic to the road network, if required.
11. Existing conditions, future background conditions, and future total conditions will be analyzed using Synchro 9.0.
12. The measured sight distance at the proposed access will be compared to the sight distance thresholds sets out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR).
13. The TIS will include a "Parking Justification Analysis," which will compare the proposed parking supply against the City's Zoning By-Law minimum parking requirements to justify the proposed parking supply (the current statistics indicate that the proposed parking supply exceeds the Zoning By-law parking requirements). Should the site plan be revised so that the proposed parking supply is deficient compared to Zoning By-law requirements, we will discuss the structure for parking analysis at that later time.
14. Transportation Demand Management (TDM) opportunities that may result in reduced trip generation and parking demand for the proposed development will be identified and evaluated.

John, *please review the proposed terms of reference for the TIS and provide confirmation.*

I looked at the active development applications for Wards 2 and 4, and did not identify any background developments in proximity of the subject property. ***Rosalind,*** *can you please provide confirmation that there are no background developments we are to account for in our TIS?*

If you wish to discuss further, please do not hesitate to give me a call.

Thank you both!

Darren

| **DARREN LORO** | TRANSPORTATION TECHNOLOGIST | C.F. CROZIER & ASSOCIATES
| 40 Huron Street, Suite 301 | Collingwood, ON L9Y 4R3
| cfcrozier.ca | dloro@cfcrozier.ca | tel 705 446 3510

CROZIER & ASSOCIATES
Consulting Engineers

Land development engineering, from the ground up.

Water Resources · Transportation · Structural · Mechanical · Electrical · Building Science

This communication is intended solely for the attention and use of the named recipients and contains information that is privileged and confidential. If you are not the intended recipient, or the person responsible for delivering this information to the intended recipient, please notify us immediately by telephone. If you have received this information in error, please be notified that you are not authorized to read, copy, distribute, use or retain this message or any part of it.

This message, including any attachments, is privileged and intended only for the addressee(s) named above. If you are not the intended recipient, you must not read, use or disseminate the information contained in this email/fax. If you have received this email/fax transmission in error, please notify the sender immediately by telephone, fax or email and permanently delete this email from your computer/shred this fax, including any attachments, without making a copy. Access to this email/fax by anyone else is unauthorized. Thank you.

APPENDIX C

Transit Data

ROUTE SERVICE TIMES

Route		Peak Only	M-F	Sat	Sun	Hol
1	Plains		●	●	●	●
1x	Plains		●			
2	Brant		●	●	●	●
2A	Brant	●	●			
3	Guelph - Downtown		●	●	●	●
3A	Guelph - Downtown		●			
4	Central		●	●	●	
5	Francis - Downtown		●	●		
6	Headon		●	●	●	●
10	New - Maple		●	●	●	●
11	Sutton - Alton		●	●	●	●
12	Upper Middle		●	●	●	●
15A	Appleby - Walkers	AM	●			
15B	Walkers - Appleby	PM	●			
20	Burloak - Lakeshore		●	●	●	●
21	Fairview		●	●	●	●
25	Walkers		●	●	●	
40A	Pinedale - Hampton Heath	AM	●			
40B	Pinedale - Hampton Heath	PM	●			
48	Millcroft	●	●	September to June		
80	Harvester		●			
81	North Service	●	●			
83	North Service	Midday	●			
87	North Service - Aldershot	●	●			
101	Plains Express		●			
50	Burlington South	Late Night	●	●		
51	Burlington Northeast	Late Night	●	●		
52	Burlington Northwest	Late Night	●	●		
300	Aldershot		●			
301	Pinedale		●			
302	Tansley Woods		●			

MAP LEGEND

Transit

- Regular Service Bus Route
- Peak Service Bus Route[1]
- Limited Service Bus Route
- Late Night Service Bus Route
- GO Station
- HSR Transfer Point
- Oakville Transit Transfer Point
- Community Connection Route

Symbols

- Hospital
- Shopping Centre
- Arena
- City Hall
- Courthouse
- Library
- Recreation Centre
- Community Centre
- Museum / Attraction
- Outdoor Pool
- Indoor Pool
- Information
- Public Secondary School
- Public Elementary School
- Catholic Secondary School
- Catholic Elementary School

[1]Peak hours are weekdays approximately 5 to 9 a.m. and 3 to 7 p.m.

0 0.5 1 Km
0 0.5 1 Mi

No 1 Side Rd
Tremaine Rd
407 ETR
Alton Village
Thomas Alton Bl
Tim Dobbie Dr
Dundas-Walmart Plaza
Dr. Frank J. Hayden
Haber
Dundas St
John William Boich
Appleby-Dundas Plaza
Sutton Dr
St. Christopher
Orchard Park
Alexander's
Hwy 407
Headon Forest
Northampton Bl
Berton Av
Berwick Dr
Sarazen Dr
Constable Henshaw Bl
Walkers Line
Charles R. Beaudoin
Sacred Heart Of Jesus
Country Club Dr
Millcroft Park Dr
Appleby Line
Millcroft Centre
St. Elizabeth Seton
Florence Meares
C.H. Norton
Notre Dame
St. Timothy's
Cavendish Dr
Coventry Way
Headon Forest Dr
Brant Hills
Bruce T. Lindley
Ireland House
Paul A. Fisher
Upper Brant Plaza
Upper Middle Rd
Tyandaga Park Dr
Kerns Rd
Brant St
Angela Coughlan
M.M. Robinson
Burlington Supercentre
Walker Place
Heron Way
Tansley Woods
Itabashi Way
Corporate Dr
Burloak Dr
Corpus Christi
Rolling Meadows
Augustine Dr
St. Gabriel's
Mountainside
Fisher Av
Burlington Heights Centre
Canadian Martyrs
Sir E. Macmillan
Dr. Charles Best
Lester B. Pearson
Headon Rd
Guelph Line
Lansdown Dr
Mainway Plaza
Dillon Rd
Mainway
Mainway Business Centre
Davidson Plaza
Clarksdale
Costco
Power Centre
Yorkton Plaza
Mount Forest Dr
Hwy 403
GO Station Access Rd
Waterdown Rd
Aldershot
Royal Botanical Gardens
Plains Rd W
Plains Rd E
King Rd
Holy Rosary
Maplehurst
Fortinos Plaza
Glenview
Townsend Av
North Shore Bl W
North Shore Bl E
Lasalle Park Rd
LaSalle Park (Wading)
Shadeland Av
Surrey La
Warwick Dr
Sainte-Philippe
Mapleview Mall
Maple Mews
Westgate Plaza
Brant Plaza
Burlington Square
Student Theatre
Tom Thomson
Burlington Mall
Prospect St
Woodview Place
Fairview St
Tecumseh
Assumption
Rotary Youth
Central
St. John's
Brant Plaza
Maple Av
Francis Rd
King's Road
Drury La
Cumberland Av
Rexway Dr
Ryerson
Longmoor Dr
Pauline Johnson
Appleby
Eastway Plaza
Nelson
Frontenac
Robert Bateman
Ascension
Appleby Mall
Centennial
Pinedale Av
New St
St. Paul's
YMCA Burlington Seniors
Music Centre
Roseland Plaza
St. Raphael's
Gary Allan
John T. Tuck
Walkers Line
Guelph Line
Renaissance
Ontario St
James St
Pine St
City Hall
Burlington Art Centre
John St
Elizabeth St
Discovery Landing
The Burlington Performing Art Centre
Visitor
Joseph Brant Museum
Joseph Brant Memorial
Lakeshore
Lakeshore Rd
Burlington Bay
Lake Ontario
Ontario Court of Justice
Queensway Dr
North Service Rd
Queen Elizabeth Way
Harvester Rd
Heritage Rd
Mainway
Appleby Ice Centre
Sherwood Forest
Wyecroft Rd
Rio-Can Burloak
Bronte Creek Provincial Park
Pineland
Mohawk Gardens
St. Patrick's
Skyway Arena
Lakeside Plaza
Heath Rd
Hampton
Clive Cr
Aldershot
Burlington
Downtown
Appleby

HAMILTON

Hwy 403
York Bl
Dundurn St N
Main St W
Queen St S
King St W
King St N
Bay
James St N
James St S
John St N
John St S
Catharine St N
Caimon St W
Wilson St
City Hall
Hamilton

MacLean Cartography
Cartography & Design 2017

Burlington Transit Fares

For complete details on fare options and fees, please refer to burlingtontransit.ca

Cash Fares

Note: Drivers cannot make change. If paying with cash, you must have the exact amount of fare.

Age	Price
All ages	$3.50
GO Fare integration*	$0.70

Children 5 and under ride for free.

**with valid GO Ticket or Pass*

Tickets and Monthly Passes

Please note that Burlington Transit does not accept Hamilton Street Railway and Oakville Transit tickets or monthly passes.

- Monthly pass is good for unlimited travel within Burlington
- If you load a monthly pass and need to travel to other transit properties you will require additional funds on your card in order to pay the other system's fare using your PRESTO card.

Age	Tickets	PRESTO Monthly Pass
Adult	10 / $27.50	$97.00
Youth (13 - 19)	10 / $19.00	$71.00
Student U-Pass	N/A	$25
Senior (65+)	10 / $19.00	$59.25
Child (6 - 12)	10 / $18.50	$50.00

PRESTO Card

What is Burlington's PRESTO Loyalty program?

With the PRESTO loyalty program, you'll never pay more than a monthly pass within a calendar month. The card tracks your trips and will stop charging a fare for the remainder of that calendar month on Burlington Transit.

Age	PRESTO Price	PRESTO Loyalty Program
Adult	$2.70	Free after 36 full-fare rides/calendar month
Youth	$1.85	Free after 38 full-fare rides/calendar month
Senior	$1.85	Free after 32 full-fare rides/calendar month
Child	$1.85	Free after 38 full-fare rides/calendar month

Fare Categories Defined

Category	Age	Additional information
Adult	20 +	
Youth	13 to 19	
Post-Secondary Student	19+	With post-secondary Student ID showing current transit endorsement from another provider.
Senior	65 +	
Child	6 to 12	Children five and under ride free when accompanied by a parent/guardian.

Veterans Transit Pass

Apply as part of the Veteran Parking Permit and Transit Pass application process. Applications are available at the Transportation Services counter at City Hall, 426 Brant St. For more information, please call 905-335-7816.

Veterans ride free on the following days:

Date	Event
1st Sunday in May	Battle of the Atlantic
June 6	D-Day
Closest Sunday to Aug. 19	Raid of Dieppe
Sept. 17	Battle of Britain
Nov. 11	Remembrance Day

Subsidized Passes for Low-Income Transit (SPLIT)

Funded by Halton Region, the Subsidized Passes for Low-Income Transit (SPLIT) program provides monthly transit passes at a reduced rate for Burlington residents who meet the low income threshold. Individuals receiving assistance from Ontario Works or the Ontario Disability Support Program may also be eligible.

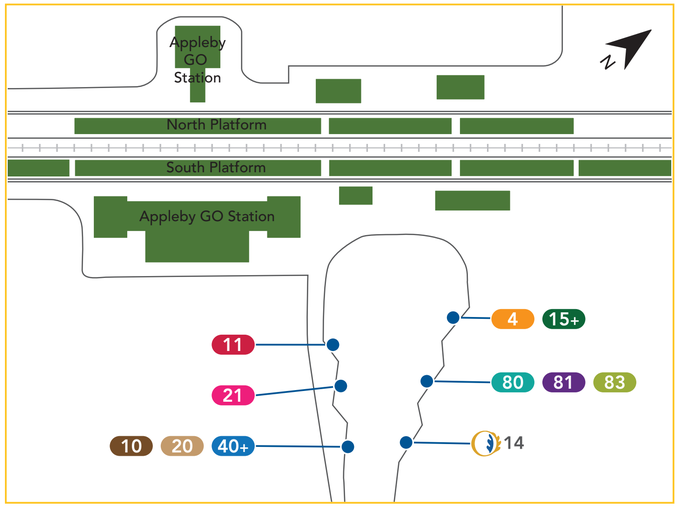
Upon eligibility confirmation, residents can purchase Burlington Transit monthly passes at a discounted rate.

Visit halton.ca/split for more information about eligibility and how to apply or contact Halton Region at 905-825-6000 or dial 311.

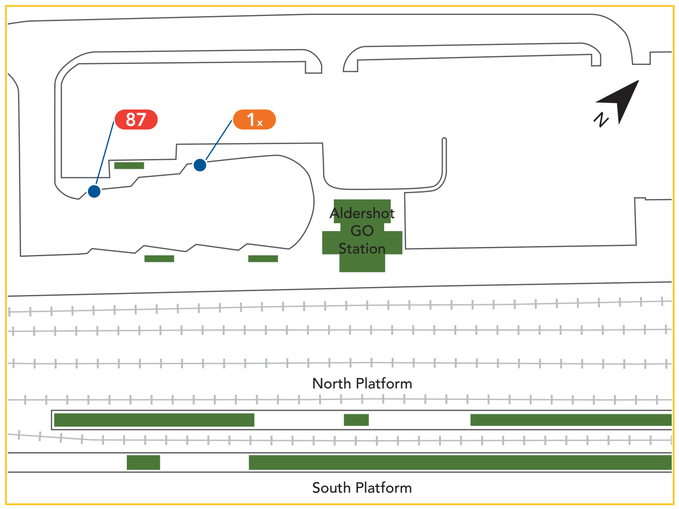
While every effort will be made to keep to the timetables, Burlington Transit will not be responsible for any loss, damage or inconvenience caused by any operating failure or in consequence of any inaccuracies in this timetable. Schedules are subject to change.

Burlington Transit is a service of the City of Burlington. www.burlington.ca

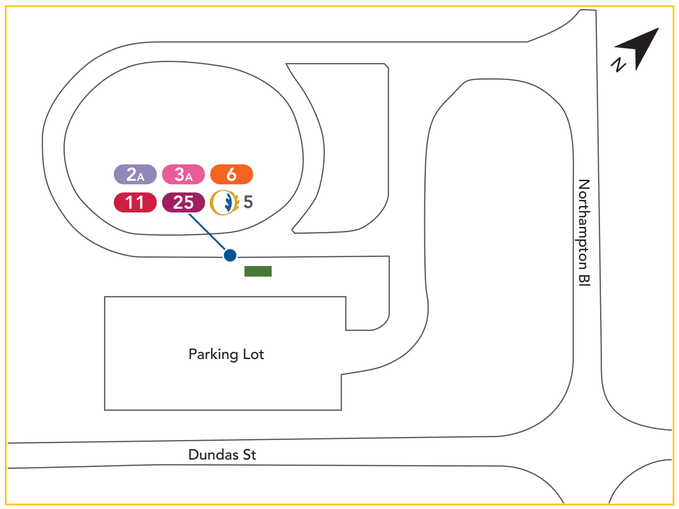
APPLEBY GO



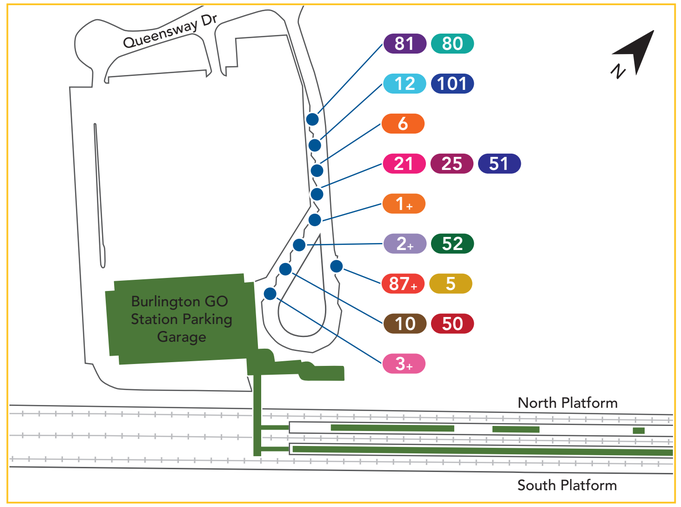
ALDERSHOT GO



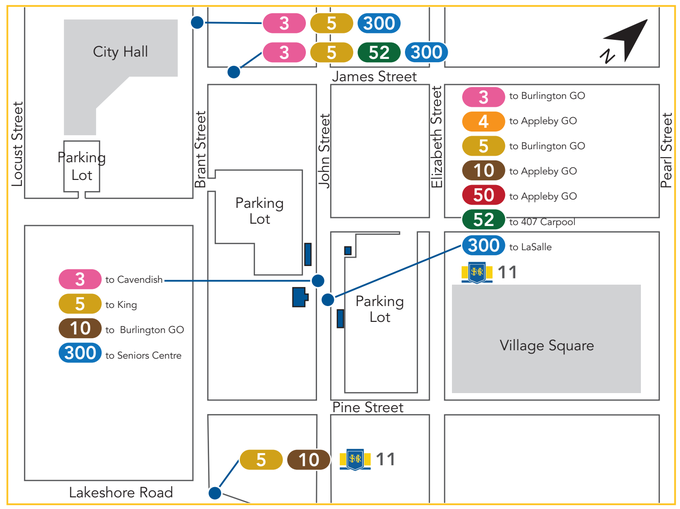
407 CARPOOL GO



BURLINGTON GO



DOWNTOWN



Rider Tips and Safety

Our Rider Guidelines include onboard and travel safety tips that ensure all passengers can move around the city in safety and comfort.

Need to bring a pet onboard?

Please note:
Service animals are permitted on board Burlington Transit buses but all other pets must be in an enclosed, secure container/pet carrier and not inconvenience other passengers. Passengers bringing pets onboard are responsible for their pets.

Safety Tips

- Stand back from the curb when waiting for a bus, especially when a bus is approaching the stop.
- Never run for a bus. You may slip and fall or be hit by a vehicle.
- Leave the bus by the rear doors whenever possible (except when you ask for a Request Stop at night).
- Never walk directly in front of or behind a stopped bus, where drivers may not be able to see you. Wait until the bus moves away before you step into the street so that you can clearly see other traffic.
- Always obey traffic signals and cross the street at corners.
- Take your headphones off when crossing the street or getting off the bus to be sure you can hear the traffic around you.
- Keep knapsacks and large bags in front of you when getting on or off the bus. Knapsacks and bags have big, long straps that can easily get caught in doors and railings.
- Keep your arms, legs and head inside all transit vehicles.

Request Stop

Request Stop allows you to exit between bus stops after dusk and during poor weather. Please notify the driver in advance to allow sufficient time for a safe stop.

General Information

Priority Seating

Priority seating is for the use of passengers with a disability. These seats are located close to the front of the vehicle. Customers are expected to respect and obey the purpose of the designated seating area, which means: if you are sitting in one of these designated seats, you MUST vacate the seat for a passenger with a disability.

Please note:

- A person with a disability occupying a Priority seat is not required to move for another customer with a disability. Use of these seats is on a first come-first served basis.
- You are not required or expected to leave a transit vehicle in order to make room for a customer with a disability.
- Bus drivers/operators will not intervene to enforce the requirement. We ask, however, that you show consideration for those whose need is greater than your own.



Courtesy Seating

Courtesy seating is intended to provide additional seating for people who will benefit from having a seat near the front of the vehicle including:

- seniors
- expectant mothers
- adults traveling with infants or small children
- any other passenger who may benefit from a seat

If you are sitting in one of these designated seats, please respect its purpose and give up your seat to those who need it.



Accessibility

All of our buses are fully accessible and have no stairs to climb at boarding. They are also low floor and can be lowered to curb level to make them fully accessible to all passengers. The driver will even extend a ramp upon request or if there is a visible need.
Great features that will assist passengers who may have difficulty boarding because of their use of a mobility aid, an injury, or even if they have a child in a stroller.

Lost & Found



If you've lost or found an item on Burlington Transit, please email contactbt@burlington.ca or call us at 905-639-0550 during hours of operation (see back cover) to speak with one of our staff (you cannot leave a message on this phone line, so if needed, please call back or email). If you're trying to locate a lost item please include the date, approximate time of travel and the route you travelled on. If you are reporting an item found, please contact us for further details.

All items are held at the downtown Transit Terminal (430 John St.) for a period of 30 days. Any item left unclaimed for longer than 30 days will be donated to a local charity.

Holiday Service

Burlington Transit operates a Holiday Service schedule on select statutory holidays throughout the calendar year. Holiday service is offered on routes 1, 2, 3, 6, 10, 11, 12, 20 & 21 on the following holidays:

- Family Day
- Victoria Day
- Civic Holiday
- Thanksgiving Day
- Good Friday
- Canada Day
- Labour Day

Christmas scheduling varies – watch for our Christmas break schedule in November.

burlingtontransit.ca

CONTACT US

BURLINGTON TRANSIT
3332 Harvester Rd.
Burlington, ON
L7N 3M8

Phone: 905-639-0550
E-mail: contactbt@burlington.ca
Toll-free: 1-877-213-3609, ext. 7154
Handi-Van: 905-639-5158

In Person:
430 John St. during hours of operation:
Monday to Friday 7 a.m. to 7 p.m.
Saturdays 9 a.m. to 5 p.m. and 2 to 6 p.m.

CONNECTING SERVICES

GO TRANSIT
1-888-GET-ON-GO (438-6646)
gotransit.com

HAMILTON STREET RAILWAY
905-527-4441
hamilton.ca/hsr

OAKVILLE TRANSIT
905-815-2020
oakvilletransit.com

4 x 6.5

Burlington Transit

System Map



Effective: September 2017

BURLINGTON TRANSIT

Need to plan a trip or find out when the next bus is?

Get it in real-time by using tripplanner.burlington.ca or calling 905-639-0550 whenever you travel.



All times are approximate and depend on traffic and other conditions. Please arrive at your stop at least 5 minutes prior.

Effective: September 3, 2017

ROUTES 2A Brant

407 Carpool

A is an extension of the route

Branch	Burlington GO Station (Depart)	Mount Royal Plaza	Brant St. & Cavendish Dr.	Guelph Line & Coventry Way	407 Carpool (Arrive)
	A	B	C	D	E
Monday to Friday					
A	5:00	5:07	5:13	5:17	5:24
A	5:30	5:37	5:43	5:47	5:54
A	6:00	6:07	6:13	6:17	6:24
A	6:30	6:37	6:43	6:47	6:54
A	7:00	7:07	7:13	7:17	7:24
A	7:30	7:37	7:43	7:47	7:54
A	8:00	8:07	8:13	8:17	8:24
A	8:30	8:37	8:43	8:47	8:54
A	9:00	9:07	9:13	9:17	9:24
A	9:30	9:37	9:43	9:47	9:54
A	10:00	10:07	10:13	10:17	10:24
A	10:30	10:37	10:43	10:47	10:54
A	11:00	11:07	11:13	11:17	11:24
A	11:30	11:37	11:43	11:47	11:54
A	**12:00**	**12:07**	**12:13**	**12:17**	**12:24**
A	**12:30**	**12:37**	**12:43**	**12:47**	**12:54**
A	**1:00**	**1:07**	**1:13**	**1:17**	**1:24**
A	**1:30**	**1:37**	**1:43**	**1:47**	**1:54**
A	**2:00**	**2:07**	**2:13**	**2:17**	**2:24**
A	**2:30**	**2:37**	**2:43**	**2:47**	**2:54**
A	**3:00**	**3:07**	**3:13**	**3:17**	**3:24**
A	**3:30**	**3:37**	**3:43**	**3:47**	**3:54**
A	**4:00**	**4:07**	**4:13**	**4:17**	**4:24**
A	**4:30**	**4:37**	**4:43**	**4:47**	**4:54**
A	**5:00**	**5:07**	**5:13**	**5:17**	**5:24**
A	**5:30**	**5:37**	**5:43**	**5:47**	**5:54**
A	**6:00**	**6:07**	**6:13**	**6:17**	**6:24**
A	**6:30**	**6:37**	**6:43**	**6:47**	**6:54**
A	**7:00**	**7:07**	**7:13**	**7:17**	**7:24**
A	**7:30**	**7:37**	**7:43**	**7:47**	**7:54**
A	**8:00**	**8:07**	**8:13**	**8:17**	**8:24**
A	**8:30**	**8:37**	**8:43**	**8:47**	**8:54**
A	**9:00**	**9:07**	**9:13**	**9:17**	**9:24**
A	**10:00**	**10:07**	**10:13**	**10:17**	**10:24**

At the end of Rt. 2 / 2A bus changes to Rt. 3 / 3A

ROUTES 3A Guelph - Downtown

to Burlington GO via Downtown

A is an extension of the route

Branch	407 Carpool (Depart)	Guelph Line & Coventry Way	Upper Middle & Cavendish Dr.	Upper Middle & Guelph Line	Guelph Line & Fairview St.	Guelph Line & New St.	Downtown Burlington	Burlington GO Station (Arrive)
	E	D	J	I	H	G	F	A
Monday to Friday								
A					4:26	4:29	4:39	4:50
A					4:56	4:59	5:09	5:20
A					5:26	5:29	5:39	5:50
A	5:34	5:41	5:46	5:48	5:56	5:59	6:09	6:20
A	6:04	6:11	6:16	6:18	6:26	6:29	6:39	6:50
A	6:34	6:41	6:46	6:48	6:56	6:59	7:09	7:20
A	7:04	7:11	7:16	7:18	7:26	7:29	7:39	7:50
A	7:34	7:41	7:46	7:48	7:56	7:59	8:09	8:20
A	8:04	8:11	8:16	8:18	8:26	8:29	8:39	8:50
A	8:34	8:41	8:46	8:48	8:56	8:59	9:09	9:20
A	9:04	9:11	9:16	9:18	9:26	9:29	9:39	9:50
A	9:34	9:41	9:46	9:48	9:56	9:59	10:09	10:20
A	10:04	10:11	10:16	10:18	10:26	10:29	10:39	10:50
A	10:34	10:41	10:46	10:48	10:56	10:59	11:09	11:20
A	11:04	11:11	11:16	11:18	11:26	11:29	11:39	11:50
A	11:34	11:41	11:46	11:48	11:56	11:59	**12:09**	**12:20**
A	**12:04**	**12:11**	**12:16**	**12:18**	**12:26**	**12:29**	**12:39**	**12:50**
A	**12:34**	**12:41**	**12:46**	**12:48**	**12:56**	**12:59**	**1:09**	**1:20**
A	**1:04**	**1:11**	**1:16**	**1:18**	**1:26**	**1:29**	**1:39**	**1:50**
A	**1:34**	**1:41**	**1:46**	**1:48**	**1:56**	**1:59**	**2:09**	**2:20**
A	**2:04**	**2:11**	**2:16**	**2:18**	**2:26**	**2:29**	**2:39**	**2:50**
A	**2:34**	**2:41**	**2:46**	**2:48**	**2:56**	**2:59**	**3:09**	**3:20**
A	**3:04**	**3:11**	**3:16**	**3:18**	**3:26**	**3:29**	**3:39**	**3:50**
A	**3:34**	**3:41**	**3:46**	**3:48**	**3:56**	**3:59**	**4:09**	**4:20**
A	**4:04**	**4:11**	**4:16**	**4:18**	**4:26**	**4:29**	**4:39**	**4:50**
A	**4:34**	**4:41**	**4:46**	**4:48**	**4:56**	**4:59**	**5:09**	**5:20**
A	**5:04**	**5:11**	**5:16**	**5:18**	**5:26**	**5:29**	**5:39**	**5:50**
A	**5:34**	**5:41**	**5:46**	**5:48**	**5:56**	**5:59**	**6:09**	**6:20**
A	**6:04**	**6:11**	**6:16**	**6:18**	**6:26**	**6:29**	**6:39**	**6:50**
A	**6:34**	**6:41**	**6:46**	**6:48**	**6:56**	**6:59**	**7:09**	**7:20**
A	**7:04**	**7:11**	**7:16**	**7:18**	**7:26**	**7:29**	**7:39**	**7:50**
A	**7:34**	**7:41**	**7:46**	**7:48**	**7:56**	**7:59**	**8:09**	**8:20**
A	**8:04**	**8:11**	**8:16**	**8:18**	**8:26**	**8:29**	**8:39**	**8:50**
	-	-	-	-	-	-	-	-
A	**9:04**	**9:11**	**9:16**	**9:18**	**9:26**	**9:29**	**9:39**	**9:50**

All times are approximate and depend on traffic and other conditions. Please arrive at your stop at last 5 minutes prior.

Effective: September 3, 2017

ROUTES **3A** **Guelph- Downtown**

to Cavendish via Downtown

A is an extension of the route

Branch	Burlington GO Station (Depart)	Downtown Burlington	Guelph Line & New St.	Guelph Line & Fairview St.	Upper Middle & Guelph Line	Upper Middle & Cavendish Dr.	Guelph Line & Coventry Way	407 Carpool (Arrive)
	A	F	G	H	I	J	D	E
Monday to Friday								
A	5:30	5:42	5:54	5:57	6:04	6:06	6:10	6:17
A	6:00	6:12	6:24	6:27	6:34	6:36	6:40	6:47
A	6:30	6:42	6:54	6:57	7:04	7:06	7:10	7:17
A	7:00	7:12	7:24	7:27	7:34	7:36	7:40	7:47
A	7:30	7:42	7:54	7:57	8:04	8:06	8:10	8:17
A	8:00	8:12	8:24	8:27	8:34	8:36	8:40	8:47
A	8:30	8:42	8:54	8:57	9:04	9:06	9:10	9:17
A	9:00	9:12	9:24	9:27	9:34	9:36	9:40	9:47
A	9:30	9:42	9:54	9:57	10:04	10:06	10:10	10:17
A	10:00	10:12	10:24	10:27	10:34	10:36	10:40	10:47
A	10:30	10:42	10:54	10:57	11:04	11:06	11:10	11:17
A	11:00	11:12	11:24	11:27	11:34	11:36	11:40	11:47
A	11:30	11:42	11:54	11:57	12:04	12:06	12:10	12:17
A	12:00	12:12	12:24	12:27	12:34	12:36	12:40	12:47
A	12:30	12:42	12:54	12:57	1:04	1:06	1:10	1:17
A	**1:00**	**1:12**	**1:24**	**1:27**	**1:34**	**1:36**	**1:40**	**1:47**
A	**1:30**	**1:42**	**1:54**	**1:57**	**2:04**	**2:06**	**2:10**	**2:17**
A	**2:00**	**2:12**	**2:24**	**2:27**	**2:34**	**2:36**	**2:40**	**2:47**
A	**2:30**	**2:42**	**2:54**	**2:57**	**3:04**	**3:06**	**3:10**	**3:17**
A	**3:00**	**3:12**	**3:24**	**3:27**	**3:34**	**3:36**	**3:40**	**3:47**
A	**3:30**	**3:42**	**3:54**	**3:57**	**4:04**	**4:06**	**4:10**	**4:17**
A	**4:00**	**4:12**	**4:24**	**4:27**	**4:34**	**4:36**	**4:40**	**4:47**
A	**4:30**	**4:42**	**4:54**	**4:57**	**5:04**	**5:06**	**5:10**	**5:17**
A	**5:00**	**5:12**	**5:24**	**5:27**	**5:34**	**5:36**	**5:40**	**5:47**
A	**5:30**	**5:42**	**5:54**	**5:57**	**6:04**	**6:06**	**6:10**	**6:17**
A	**6:00**	**6:12**	**6:24**	**6:27**	**6:34**	**6:36**	**6:40**	**6:47**
A	**6:30**	**6:42**	**6:54**	**6:57**	**7:04**	**7:06**	**7:10**	**7:17**
A	**7:00**	**7:12**	**7:24**	**7:27**	**7:34**	**7:36**	**7:40**	**7:47**
A	**7:30**	**7:42**	**7:54**	**7:57**	**8:04**	**8:06**	**8:10**	**8:17**
A	**8:00**	**8:12**	**8:24**	**8:27**	**8:34**	**8:36**	**8:40**	**8:47**
A	**8:30**	**8:42**	**8:54**	**8:57**	**9:04**	**9:06**	**9:10**	**9:17**
A	**9:00**	**9:12**	**9:24**	**9:27**	**9:34**	**9:36**	**9:40**	**9:47**
A	**10:00**	**10:12**	**10:24**	**10:27**	**10:34**	**10:36**	**10:40**	**10:47**

At the end of Rt.3 / 3A bus changes to Rt. 2 / 2A

ROUTES **2A** **Brant**

to Burlington GO

A is an extension of the route

Branch	407 Carpool (Depart)	Guelph Line & Coventry Way	Brant St. & Cavendish Dr.	Mount Royal Plaza	Burlington GO Station (Arrive)
	E	D	C	B	A
Monday to Friday					
A		4:44	4:48	4:54	5:00
A		5:04	5:08	5:14	5:20
A		5:34	5:38	5:44	5:50
A		6:04	6:08	6:14	6:20
A	6:27	6:34	6:38	6:44	6:50
A	6:57	7:04	7:08	7:14	7:20
A	7:27	7:34	7:38	7:44	7:50
A	7:57	8:04	8:08	8:14	8:20
A	8:27	8:34	8:38	8:44	8:50
A	8:57	9:04	9:08	9:14	9:20
A	9:27	9:34	9:38	9:44	9:50
A	9:57	10:04	10:08	10:14	10:20
A	10:27	10:34	10:38	10:44	10:50
A	10:57	11:04	11:08	11:14	11:20
A	11:27	11:34	11:38	11:44	11:50
A	11:57	12:04	12:08	12:14	12:20
A	12:27	12:34	12:38	12:44	12:50
A	12:57	1:04	1:08	1:14	1:20
A	**1:27**	**1:34**	**1:38**	**1:44**	**1:50**
A	**1:57**	**2:04**	**2:08**	**2:14**	**2:20**
A	**2:27**	**2:34**	**2:38**	**2:44**	**2:50**
A	**2:57**	**3:04**	**3:08**	**3:14**	**3:20**
A	**3:27**	**3:34**	**3:38**	**3:44**	**3:50**
A	**3:57**	**4:04**	**4:08**	**4:14**	**4:20**
A	**4:27**	**4:34**	**4:38**	**4:44**	**4:50**
A	**4:57**	**5:04**	**5:08**	**5:14**	**5:20**
A	**5:27**	**5:34**	**5:38**	**5:44**	**5:50**
A	**5:57**	**6:04**	**6:08**	**6:14**	**6:20**
A	**6:27**	**6:34**	**6:38**	**6:44**	**6:50**
A	**6:57**	**7:04**	**7:08**	**7:14**	**7:20**
A	**7:27**	**7:34**	**7:38**	**7:44**	**7:50**
A	**7:57**	**8:04**	**8:08**	**8:14**	**8:20**
A	**8:27**	**8:34**	**8:38**	**8:44**	**8:50**
	-	-	-	-	-
A	**9:27**	**9:34**	**9:38**	**9:44**	**9:50**

All times are approximate and depend on traffic and other conditions. Please arrive at your stop at least 5 minutes prior.

Effective: September 3, 2017

ROUTE 2 Brant

to Cavendish

Burlington GO Station (Depart)	Mount Royal Plaza	Brant St. & Cavendish Dr.	Guelph Line & Coventry Way (Arrive)	
A	B	C	D	
Saturday				
6:56	7:01	7:07	7:13	→
7:55	8:00	8:06	8:12	→
8:55	9:00	9:06	9:12	→
-	-	-	-	
9:56	10:01	10:07	10:13	→
10:26	10:31	10:37	10:43	→
10:56	11:01	11:07	11:13	→
11:26	11:31	11:37	11:43	→
11:55	**12:00**	**12:06**	**12:12**	→
12:25	**12:31**	**12:37**	**12:43**	→
12:56	**1:01**	**1:07**	**1:13**	→
1:26	**1:31**	**1:37**	**1:43**	→
1:56	**2:01**	**2:07**	**2:13**	→
2:26	**2:31**	**2:37**	**2:43**	→
2:56	**3:01**	**3:07**	**3:13**	→
3:26	**3:31**	**3:37**	**3:43**	→
3:56	**4:01**	**4:07**	**4:13**	→
4:26	**4:31**	**4:37**	**4:43**	→
4:56	**5:01**	**5:07**	**5:13**	→
5:26	**5:31**	**5:37**	**5:43**	→
5:56	**6:01**	**6:07**	**6:13**	→
6:26	**6:31**	**6:37**	**6:43**	→
6:56	**7:01**	**7:07**	**7:13**	→
7:25	**7:30**	**7:36**	**7:42**	→
7:55	**8:00**	**8:06**	**8:12**	→
8:25	**8:30**	**8:36**	**8:42**	→
8:55	**9:00**	**9:06**	**9:12**	→
9:25	**9:30**	**9:36**	**9:42**	→
9:55	**10:00**	**10:06**	**10:12**	→
Sunday				
7:55	8:00	8:06	8:12	→
8:55	9:00	9:06	9:12	→
-	-	-	-	
9:56	10:01	10:07	10:13	→
10:26	10:31	10:37	10:43	→
10:56	11:01	11:07	11:13	→
11:26	11:31	11:37	11:43	→
11:56	**12:01**	**12:07**	**12:13**	→
12:26	**12:31**	**12:37**	**12:43**	→
And every 30 minutes until				
4:56	**5:01**	**5:07**	**5:13**	→
5:26	**5:31**	**5:37**	**5:43**	→
5:56	**6:01**	**6:07**	**6:13**	→
6:26	**6:31**	**6:37**	**6:43**	→
6:56	**7:01**	**7:07**	**7:13**	→
7:25	**7:30**	**7:36**	**7:42**	//
7:55	**8:00**	**8:06**	**8:12**	//

At Guelph Line & Coventry Way, Rt. 2 bus changes to Rt. 3

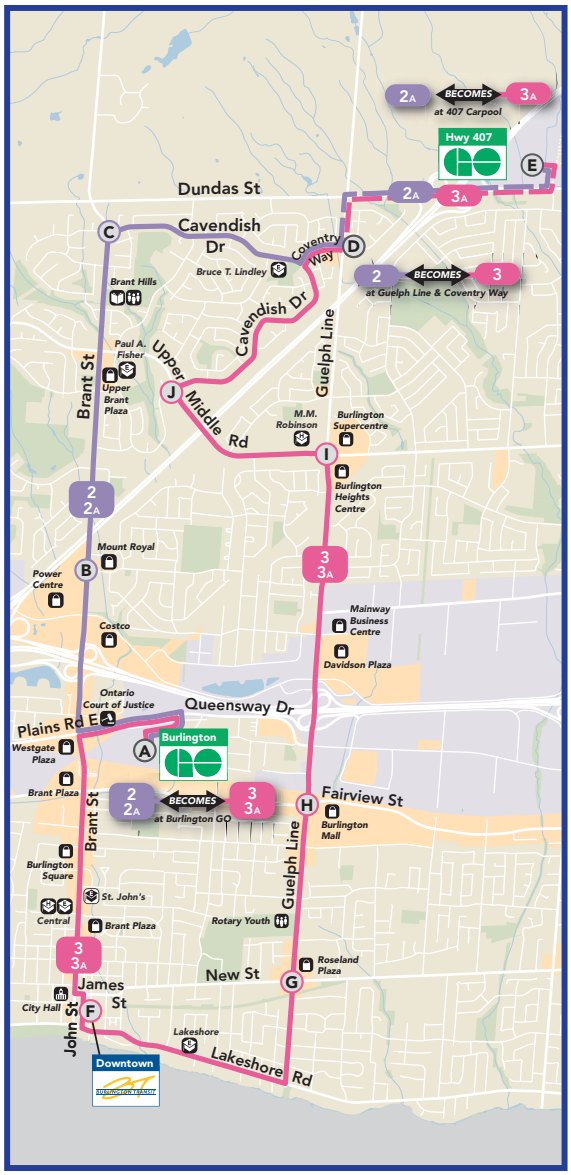
ROUTE 3 Guelph - Downtown

to Burlington GO via Downtown

Guelph Line & Coventry Way (Depart)	Upper Middle & Cavendish Dr.	Upper Middle & Guelph Line	Guelph Line & Fairview St.	Guelph Line & New St.	Downtown Burlington	Burlington GO Station (Arrive)
D	J	I	H	G	F	A
Saturday						
			6:33	6:37	6:44	6:55
7:15	7:18	7:20	7:28	7:32	7:39	7:50
8:15	8:18	8:20	8:28	8:32	8:39	8:50
9:15	9:18	9:20	9:28	9:32	9:39	9:51
9:45	9:48	9:50	9:58	10:02	10:09	10:21
10:15	10:18	10:20	10:28	10:32	10:39	10:51
10:45	10:48	10:50	10:58	11:02	11:09	11:21
11:15	11:18	11:20	11:28	11:32	11:39	11:51
11:45	11:48	11:50	11:58	**12:02**	**12:09**	**12:21**
12:15	**12:18**	**12:20**	**12:28**	**12:32**	**12:39**	**12:51**
12:45	**12:48**	**12:50**	**12:58**	**1:02**	**1:09**	**1:21**
1:15	**1:18**	**1:20**	**1:28**	**1:32**	**1:39**	**1:51**
1:45	**1:48**	**1:50**	**1:58**	**2:02**	**2:09**	**2:21**
2:15	**2:18**	**2:20**	**2:28**	**2:32**	**2:39**	**2:51**
2:45	**2:48**	**2:50**	**2:58**	**3:02**	**3:09**	**3:21**
3:15	**3:18**	**3:20**	**3:28**	**3:32**	**3:39**	**3:51**
3:45	**3:48**	**3:50**	**3:58**	**4:02**	**4:09**	**4:21**
4:15	**4:18**	**4:20**	**4:28**	**4:32**	**4:39**	**4:51**
4:45	**4:48**	**4:50**	**4:58**	**5:02**	**5:09**	**5:21**
5:15	**5:18**	**5:20**	**5:28**	**5:32**	**5:39**	**5:51**
5:45	**5:48**	**5:50**	**5:58**	**6:02**	**6:09**	**6:21**
6:15	**6:18**	**6:20**	**6:28**	**6:32**	**6:39**	**6:51**
6:45	**6:48**	**6:50**	**6:58**	**7:02**	**7:09**	**7:21**
7:15	**7:18**	**7:20**	**7:28**	**7:32**	**7:39**	**7:51**
7:44	**7:47**	**7:49**	**7:56**	**8:00**	**8:07**	**8:18**
8:14	**8:17**	**8:19**	**8:26**	**8:30**	**8:37**	**8:48**
8:44	**8:47**	**8:49**	**8:56**	**9:00**	**9:07**	**9:18**
9:14	**9:17**	**9:19**	**9:26**	**9:30**	**9:37**	**9:48**
9:44	**9:47**	**9:49**	**9:56**	**10:00**	**10:07**	**10:18**
10:14	**10:17**	**10:19**	**10:26**	**10:30**	**10:37**	**10:48**
Sunday						
7:15	7:18	7:20	7:28	7:32	7:39	7:50
8:15	8:18	8:20	8:28	8:32	8:39	8:51
9:15	9:18	9:20	9:28	9:32	9:39	9:51
9:45	9:48	9:50	9:58	10:02	10:09	10:21
10:15	10:18	10:20	10:28	10:32	10:39	10:51
10:45	10:48	10:50	10:58	11:02	11:09	11:21
11:15	11:18	11:20	11:28	11:32	11:39	11:51
11:45	11:48	11:50	11:58	**12:02**	**12:09**	**12:21**
12:15	**12:18**	**12:20**	**12:28**	**12:32**	**12:39**	**12:51**
12:45	**12:48**	**12:50**	**12:58**	**1:02**	**1:09**	**1:21**
And every 30 minutes until						
5:15	**5:18**	**5:20**	**5:28**	**5:32**	**5:39**	**5:51**
5:45	**5:48**	**5:50**	**5:58**	**6:02**	**6:09**	**6:21**
6:15	**6:18**	**6:20**	**6:28**	**6:32**	**6:39**	**6:51**
6:45	**6:48**	**6:50**	**6:58**	**7:02**	**7:09**	**7:21**
7:15	**7:18**	**7:20**	**7:28**	**7:32**	**7:39**	**7:51**

All times are approximate and depend on traffic and other conditions. Please arrive at your stop at least 5 minutes prior.

Effective: September 3, 2017



ROUTE 3 Guelph - Downtown

to Cavendish via Downtown

Burlington GO Station (Depart)	Downtown Burlington	Guelph Line & New St.	Guelph Line & Fairview St.	Upper Middle & Guelph Line	Upper Middle & Cavendish Dr.	Guelph Line & Coventry Way (Arrive)	
A	F	G	H	I	J	D	
Saturday							
6:55	7:05	7:12	7:16	7:24	7:26	7:33	→
7:55	8:05	8:12	8:16	8:24	8:26	8:33	→
8:55	9:05	9:12	9:16	9:24	9:26	9:33	→
9:25	9:35	9:42	9:46	9:54	9:56	10:03	→
9:55	10:05	10:12	10:16	10:24	10:26	10:33	→
10:25	10:35	10:42	10:46	10:54	10:56	11:03	→
10:55	11:05	11:12	11:16	11:24	11:26	11:33	→
11:25	11:35	11:42	11:46	11:54	11:56	**12:03**	→
11:55	**12:05**	**12:12**	**12:16**	**12:24**	**12:26**	**12:33**	→
12:25	**12:35**	**12:42**	**12:46**	**12:54**	**12:56**	**1:03**	→
12:55	**1:05**	**1:12**	**1:16**	**1:24**	**1:26**	**1:33**	→
1:25	**1:35**	**1:42**	**1:46**	**1:54**	**1:56**	**2:03**	→
1:55	**2:05**	**2:12**	**2:16**	**2:24**	**2:26**	**2:33**	→
2:25	**2:35**	**2:42**	**2:46**	**2:54**	**2:56**	**3:03**	→
2:55	**3:05**	**3:12**	**3:16**	**3:24**	**3:26**	**3:33**	→
3:25	**3:35**	**3:42**	**3:46**	**3:54**	**3:56**	**4:03**	→
3:55	**4:05**	**4:12**	**4:16**	**4:24**	**4:26**	**4:33**	→
4:25	**4:35**	**4:42**	**4:46**	**4:54**	**4:56**	**5:03**	→
4:55	**5:05**	**5:12**	**5:16**	**5:24**	**5:26**	**5:33**	→
5:25	**5:35**	**5:42**	**5:46**	**5:54**	**5:56**	**6:03**	→
5:55	**6:05**	**6:12**	**6:16**	**6:24**	**6:26**	**6:33**	→
6:25	**6:35**	**6:42**	**6:46**	**6:54**	**6:56**	**7:03**	→
6:55	**7:05**	**7:12**	**7:16**	**7:23**	**7:25**	**7:31**	→
7:25	**7:35**	**7:42**	**7:46**	**7:53**	**7:55**	**8:01**	→
7:55	**8:05**	**8:12**	**8:16**	**8:23**	**8:25**	**8:31**	→
8:25	**8:35**	**8:42**	**8:46**	**8:53**	**8:55**	**9:01**	→
8:55	**9:05**	**9:12**	**9:16**	**9:23**	**9:25**	**9:31**	→
9:25	**9:35**	**9:42**	**9:46**	**9:53**	**9:55**	**10:01**	\\
9:55	**10:05**	**10:12**	**10:16**	**10:23**	**10:25**	**10:31**	→
Sunday							
7:55	8:05	8:12	8:16	8:24	8:26	8:33	→
8:55	9:05	9:12	9:16	9:24	9:26	9:33	→
9:25	9:35	9:42	9:46	9:54	9:56	10:03	→
9:55	10:05	10:12	10:16	10:24	10:26	10:33	→
10:25	10:35	10:42	10:46	10:54	10:56	11:03	→
10:55	11:05	11:12	11:16	11:24	11:26	11:33	→
11:25	11:35	11:42	11:46	11:54	11:56	**12:03**	→
And every 30 minutes until							
5:55	**6:05**	**6:12**	**6:16**	**6:24**	**6:26**	**6:33**	→
6:25	**6:35**	**6:42**	**6:46**	**6:54**	**6:56**	**7:03**	→
6:55	**7:05**	**7:12**	**7:16**	**7:23**	**7:25**	**7:31**	→
7:25	**7:35**	**7:42**	**7:46**	**7:53**	**7:55**	**8:01**	\\
7:55	**8:05**	**8:12**	**8:16**	**8:23**	**8:25**	**8:31**	\\

At Guelph Line & Coventry Way, Rt. 3 bus changes to Rt. 2

ROUTE 2 Brant

to Burlington GO

Branch	Guelph Line & Coventry Way (Depart)	Brant St. & Cavendish Dr.	Mount Royal Plaza	Burlington GO Station (Arrive)
	D	C	B	A
Saturday				
	6:35	6:39	6:44	6:50
	7:35	7:39	7:44	7:50
	8:35	8:39	8:44	8:50
	9:35	9:38	9:43	9:49
	10:05	10:08	10:13	10:19
	10:35	10:38	10:43	10:49
	11:05	11:08	11:13	11:19
	11:35	11:38	11:43	11:49
	12:05	**12:08**	**12:13**	**12:19**
	12:35	**12:38**	**12:43**	**12:49**
	1:05	**1:08**	**1:13**	**1:19**
	1:35	**1:38**	**1:43**	**1:49**
	2:05	**2:08**	**2:13**	**2:19**
	2:35	**2:39**	**2:45**	**2:53**
	3:05	**3:09**	**3:15**	**3:23**
	3:35	**3:39**	**3:45**	**3:53**
	4:05	**4:09**	**4:15**	**4:23**
	4:35	**4:39**	**4:45**	**4:53**
	5:05	**5:09**	**5:15**	**5:23**
	5:35	**5:39**	**5:45**	**5:53**
	6:05	**6:09**	**6:15**	**6:23**
	6:35	**6:39**	**6:45**	**6:53**
	7:05	**7:08**	**7:13**	**7:19**
	7:35	**7:38**	**7:43**	**7:49**
	8:03	**8:06**	**8:11**	**8:17**
	8:33	**8:36**	**8:41**	**8:47**
	9:03	**9:06**	**9:11**	**9:17**
	9:33	**9:36**	**9:41**	**9:47**
	-	-	-	-
	10:33	**10:36**	**10:41**	**10:47**
Sunday				
	7:35	7:39	7:44	7:50
	8:35	8:39	8:44	8:50
	9:35	9:38	9:43	9:49
	10:05	10:08	10:13	10:19
	10:35	10:38	10:43	10:49
	11:05	11:08	11:13	11:19
	11:35	11:38	11:43	11:49
	12:05	**12:08**	**12:13**	**12:19**
	And every 30 minutes until			
	6:35	**6:39**	**6:45**	**6:53**
	7:05	**7:08**	**7:13**	**7:19**
	7:35	**7:38**	**7:43**	**7:49**

All times are approximate and depend on traffic and other conditions. Please arrive at your stop at least 5 minutes prior.

Effective: March 5, 2017

ROUTE 10 New - Maple

to Appleby GO

Burlington GO Station (Depart)	Downtown Burlington	New St. & Guelph Line	New St. & Walkers Line	New St. & Appleby Line	Appleby GO Station (Arrive)
A	B	C	D	E	F
Monday to Friday					
5:05	5:19	5:23	5:28	5:33	5:37
5:25	5:39	5:43	5:48	5:53	5:57
5:45	5:59	6:03	6:08	6:13	6:17
6:05	6:19	6:23	6:28	6:33	6:37
6:25	6:39	6:43	6:48	6:53	6:57
6:45	6:59	7:03	7:08	7:13	7:17
7:05	7:19	7:23	7:28	7:33	7:37
7:25	7:39	7:43	7:48	7:53	7:57
7:45	7:59	8:03	8:08	8:13	8:17
8:05	8:19	8:23	8:28	8:33	8:37
8:25	8:39	8:43	8:48	8:53	8:57
8:45	8:59	9:03	9:08	9:13	9:17
9:05	9:19	9:23	9:28	9:33	9:37
9:25	9:39	9:43	9:48	9:53	9:57
9:45	9:59	10:03	10:08	10:13	10:17
10:05	10:19	10:23	10:28	10:33	10:37
10:25	10:39	10:43	10:48	10:53	10:57
10:45	10:59	11:03	11:08	11:13	11:17
11:05	11:19	11:23	11:28	11:33	11:37
11:25	11:39	11:43	11:48	11:53	11:57
11:45	11:59	**12:03**	**12:08**	**12:13**	**12:17**
12:05	**12:19**	**12:23**	**12:28**	**12:33**	**12:37**
12:25	**12:39**	**12:43**	**12:48**	**12:53**	**12:57**
12:45	**12:59**	**1:03**	**1:08**	**1:13**	**1:17**
1:05	**1:19**	**1:23**	**1:28**	**1:33**	**1:37**
1:25	**1:39**	**1:43**	**1:48**	**1:53**	**1:57**
1:45	**1:59**	**2:03**	**2:08**	**2:13**	**2:17**
2:05	**2:19**	**2:23**	**2:28**	**2:33**	**2:37**
2:25	**2:39**	**2:43**	**2:48**	**2:53**	**2:57**
2:45	**2:59**	**3:03**	**3:08**	**3:13**	**3:17**
3:05	**3:19**	**3:23**	**3:28**	**3:33**	**3:37**
3:25	**3:39**	**3:43**	**3:48**	**3:53**	**3:57**
3:45	**3:59**	**4:03**	**4:08**	**4:13**	**4:17**
4:05	**4:19**	**4:23**	**4:28**	**4:33**	**4:37**
4:25	**4:39**	**4:43**	**4:48**	**4:53**	**4:57**
4:45	**4:59**	**5:03**	**5:08**	**5:13**	**5:17**
5:05	**5:19**	**5:23**	**5:28**	**5:33**	**5:37**
5:25	**5:39**	**5:43**	**5:48**	**5:53**	**5:57**
5:45	**5:59**	**6:03**	**6:08**	**6:13**	**6:17**
6:05	**6:19**	**6:23**	**6:28**	**6:33**	**6:37**
6:25	**6:39**	**6:43**	**6:48**	**6:53**	**6:57**
6:45	**6:59**	**7:03**	**7:08**	**7:13**	**7:17**
7:05	**7:19**	**7:23**	**7:28**	**7:33**	**7:37**
7:25	**7:37**	**7:41**	**7:46**	**7:51**	**7:55**
7:55	**8:07**	**8:11**	**8:16**	**8:21**	**8:25**
8:25	**8:37**	**8:41**	**8:46**	**8:51**	**8:55**
8:55	**9:07**	**9:11**	**9:16**	**9:21**	**9:25**
9:25	**9:37**	**9:41**	**9:46**	**9:51**	**9:55**
9:55	**10:07**	**10:11**	**10:16**	**10:21**	**10:25**
10:25	**10:37**	**10:41**	**10:46**	**10:51**	**10:55**

to Burlington GO

Appleby GO Station (Depart)	New St. & Appleby Line	New St. & Walkers Line	New St. & Guelph Line	Downtown Burlington	Burlington GO Station (Arrive)
F	E	D	C	B	A
			4:47	4:51	5:05
			5:07	5:11	5:25
			5:27	5:31	5:45
5:28	5:32	5:37	5:42	5:46	6:00
5:48	5:52	5:57	6:02	6:06	6:20
6:08	6:12	6:17	6:22	6:26	6:40
6:28	6:32	6:37	6:42	6:46	7:00
6:48	6:52	6:57	7:02	7:06	7:20
7:08	7:12	7:17	7:22	7:26	7:40
7:28	7:32	7:37	7:42	7:46	8:00
7:48	7:52	7:57	8:02	8:06	8:20
8:08	8:12	8:17	8:22	8:26	8:40
8:28	8:32	8:37	8:42	8:46	9:00
8:48	8:52	8:57	9:02	9:06	9:20
9:08	9:12	9:17	9:22	9:26	9:40
9:28	9:32	9:37	9:42	9:46	10:00
9:48	9:52	9:57	10:02	10:06	10:20
10:08	10:12	10:17	10:22	10:26	10:40
10:28	10:32	10:37	10:42	10:46	11:00
10:48	10:52	10:57	11:02	11:06	11:20
11:08	11:12	11:17	11:22	11:26	11:40
11:28	11:32	11:37	11:42	11:46	**12:00**
11:48	11:52	11:57	12:02	**12:06**	**12:20**
12:08	**12:12**	**12:17**	**12:22**	**12:26**	**12:40**
12:28	**12:32**	**12:37**	**12:42**	**12:46**	**1:00**
12:48	**12:52**	**12:57**	**1:02**	**1:06**	**1:20**
1:08	**1:12**	**1:17**	**1:22**	**1:26**	**1:40**
1:28	**1:32**	**1:37**	**1:42**	**1:46**	**2:00**
1:48	**1:52**	**1:57**	**2:02**	**2:06**	**2:20**
2:08	**2:12**	**2:17**	**2:22**	**2:26**	**2:40**
2:28	**2:32**	**2:37**	**2:42**	**2:46**	**3:00**
2:48	**2:52**	**2:57**	**3:02**	**3:06**	**3:20**
3:08	**3:12**	**3:17**	**3:22**	**3:26**	**3:40**
3:28	**3:32**	**3:37**	**3:42**	**3:46**	**4:00**
3:48	**3:52**	**3:57**	**4:02**	**4:06**	**4:20**
4:08	**4:12**	**4:17**	**4:22**	**4:26**	**4:40**
4:28	**4:32**	**4:37**	**4:42**	**4:46**	**5:00**
4:48	**4:52**	**4:57**	**5:02**	**5:06**	**5:20**
5:08	**5:12**	**5:17**	**5:22**	**5:26**	**5:40**
5:28	**5:32**	**5:37**	**5:42**	**5:46**	**6:00**
5:48	**5:52**	**5:57**	**6:02**	**6:06**	**6:20**
6:08	**6:12**	**6:17**	**6:22**	**6:26**	**6:40**
6:28	**6:32**	**6:37**	**6:42**	**6:46**	**7:00**
6:48	**6:52**	**6:57**	**7:02**	**7:06**	**7:20**
7:08	**7:12**	**7:17**	**7:22**	**7:26**	**7:40**
7:28	**7:32**	**7:37**	**7:42**	**7:46**	**8:00**
7:55	**7:59**	**8:04**	**8:09**	**8:13**	**8:25**
8:25	**8:29**	**8:34**	**8:39**	**8:43**	**8:55**
8:55	**8:59**	**9:04**	**9:09**	**9:13**	**9:25**
9:25	**9:29**	**9:34**	**9:39**	**9:43**	**9:55**
9:55	**9:59**	**10:04**	**10:09**	**10:13**	**10:25**
10:25	**10:29**	**10:34**	**10:39**	**10:43**	**10:55**

All times are approximate and depend on traffic and other conditions. Please arrive at your stop at least 5 minutes prior.

Effective: March 5, 2017

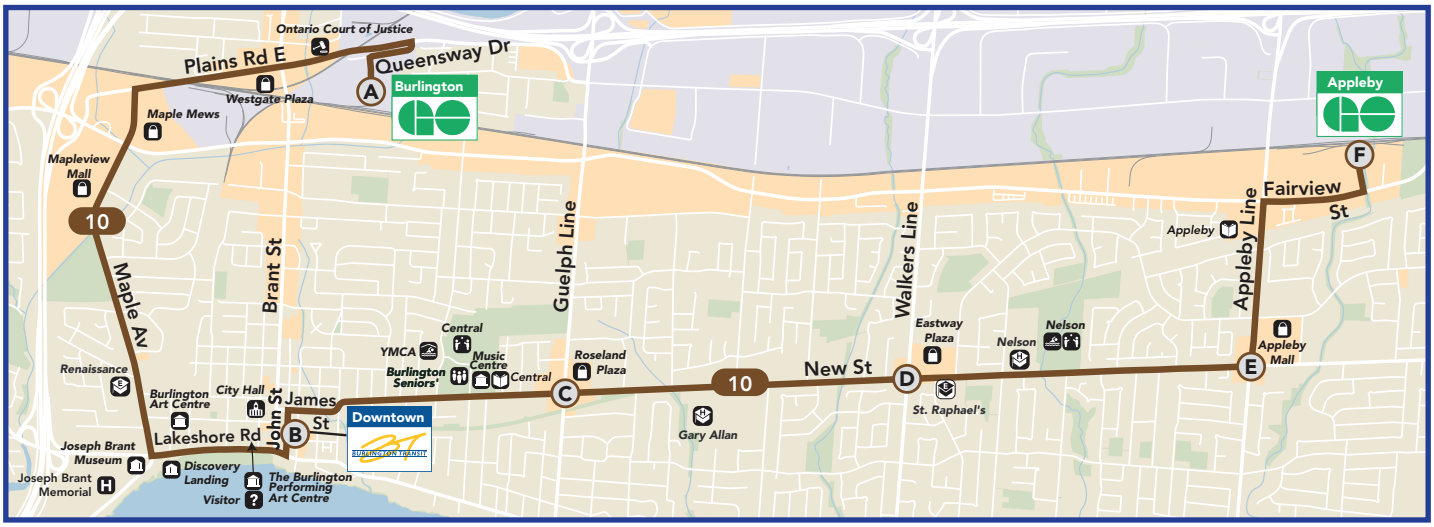
ROUTE 10 New - Maple

to Appleby GO

Burlington GO Station (Depart) A	Downtown Burlington B	New St. & Guelph Line C	New St. & Walkers Line D	New St. & Appleby Line E	Appleby GO Station (Arrive) F
Saturday					
6:55	7:08	7:12	7:15	7:19	7:22
7:25	7:38	7:42	7:45	7:49	7:52
7:55	8:08	8:12	8:15	8:19	8:22
8:25	8:38	8:42	8:45	8:49	8:52
8:55	9:08	9:12	9:15	9:19	9:22
9:25	9:38	9:42	9:45	9:49	9:52
9:55	10:08	10:12	10:15	10:19	10:22
10:25	10:38	10:42	10:45	10:49	10:52
10:55	11:08	11:12	11:15	11:19	11:22
11:25	11:38	11:42	11:45	11:49	**11:52**
11:55	**12:08**	**12:12**	**12:15**	**12:19**	**12:22**
12:25	**12:38**	**12:42**	**12:45**	**12:49**	**12:52**
12:55	**1:08**	**1:12**	**1:15**	**1:19**	**1:22**
1:25	**1:38**	**1:42**	**1:45**	**1:49**	**1:52**
1:55	**2:08**	**2:12**	**2:15**	**2:19**	**2:22**
	And every 30 minutes until				
6:55	**7:08**	**7:12**	**7:15**	**7:19**	**7:22**
7:25	**7:38**	**7:42**	**7:45**	**7:49**	**7:52**
7:55	**8:08**	**8:12**	**8:15**	**8:19**	**8:22**
8:25	**8:38**	**8:42**	**8:45**	**8:49**	**8:52**
8:55	**9:08**	**9:12**	**9:15**	**9:19**	**9:22**
9:25	**9:38**	**9:42**	**9:45**	**9:49**	**9:52**
9:55	**10:08**	**10:12**	**10:15**	**10:19**	**10:22**
10:25	**10:38**	**10:42**	**10:45**	**10:49**	**10:52**
Sunday					
7:55	8:08	8:12	8:15	8:19	8:22
8:25	8:38	8:42	8:45	8:49	8:52
8:55	9:08	9:12	9:15	9:19	9:22
9:25	9:38	9:42	9:45	9:49	9:52
	And every 30 minutes until				
7:25	**7:38**	**7:42**	**7:45**	**7:49**	**7:52**
7:55	**8:08**	**8:12**	**8:15**	**8:19**	**8:22**
8:25	**8:38**	**8:42**	**8:45**	**8:49**	**8:52**
8:55	**9:08**	**9:12**	**9:15**	**9:19**	**9:22**

to Burlington GO

Appleby GO Station (Depart) F	New St. & Appleby Line E	New St. & Walkers Line D	New St. & Guelph Line C	Downtown Burlington B	Burlington GO Station (Arrive) A
Saturday					
7:52	7:55	7:59	8:02	8:06	8:20
8:22	8:25	8:29	8:32	8:36	8:50
8:52	8:55	8:59	9:02	9:06	9:20
9:22	9:25	9:29	9:32	9:36	9:50
9:52	9:55	9:59	10:02	10:06	10:20
10:22	10:25	10:29	10:32	10:36	10:50
10:52	10:55	10:59	11:02	11:06	11:20
11:22	11:25	11:29	11:32	11:36	11:50
11:52	11:55	11:59	12:02	12:06	12:20
12:22	12:25	12:29	12:32	12:36	12:50
12:52	12:55	12:59	1:02	**1:06**	**1:20**
1:22	**1:25**	**1:29**	**1:32**	**1:36**	**1:50**
1:52	**1:55**	**1:59**	**2:02**	**2:06**	**2:20**
2:22	**2:25**	**2:29**	**2:32**	**2:36**	**2:50**
2:52	**2:55**	**2:59**	**3:02**	**3:06**	**3:20**
	And every 30 minutes until				
6:22	**6:25**	**6:29**	**6:32**	**6:36**	**6:50**
6:52	**6:55**	**6:59**	**7:02**	**7:06**	**7:20**
7:22	**7:25**	**7:29**	**7:32**	**7:36**	**7:50**
7:52	**7:55**	**7:59**	**8:02**	**8:06**	**8:20**
8:22	**8:25**	**8:29**	**8:32**	**8:36**	**8:50**
8:52	**8:55**	**8:59**	**9:02**	**9:06**	**9:20**
9:22	**9:25**	**9:29**	**9:32**	**9:36**	**9:50**
9:52	**9:55**	**9:59**	**10:02**	**10:06**	**10:20**
Sunday					
8:52	8:55	8:59	9:02	9:06	9:20
9:22	9:25	9:29	9:32	9:36	9:50
9:52	9:55	9:59	10:02	10:06	10:20
10:22	10:25	10:29	10:32	10:36	10:50
	And every 30 minutes until				
8:22	**8:25**	**8:29**	**8:32**	**8:36**	**8:50**
8:52	**8:55**	**8:59**	**9:02**	**9:06**	**9:20**
9:22	**9:25**	**9:29**	**9:32**	**9:36**	**9:50**
9:52	**9:55**	**9:59**	**10:02**	**10:06**	**10:20**



All times are approximate and depend on traffic and other conditions. Please arrive at your stop at least 5 minutes prior.

ROUTE 50 Burlington South

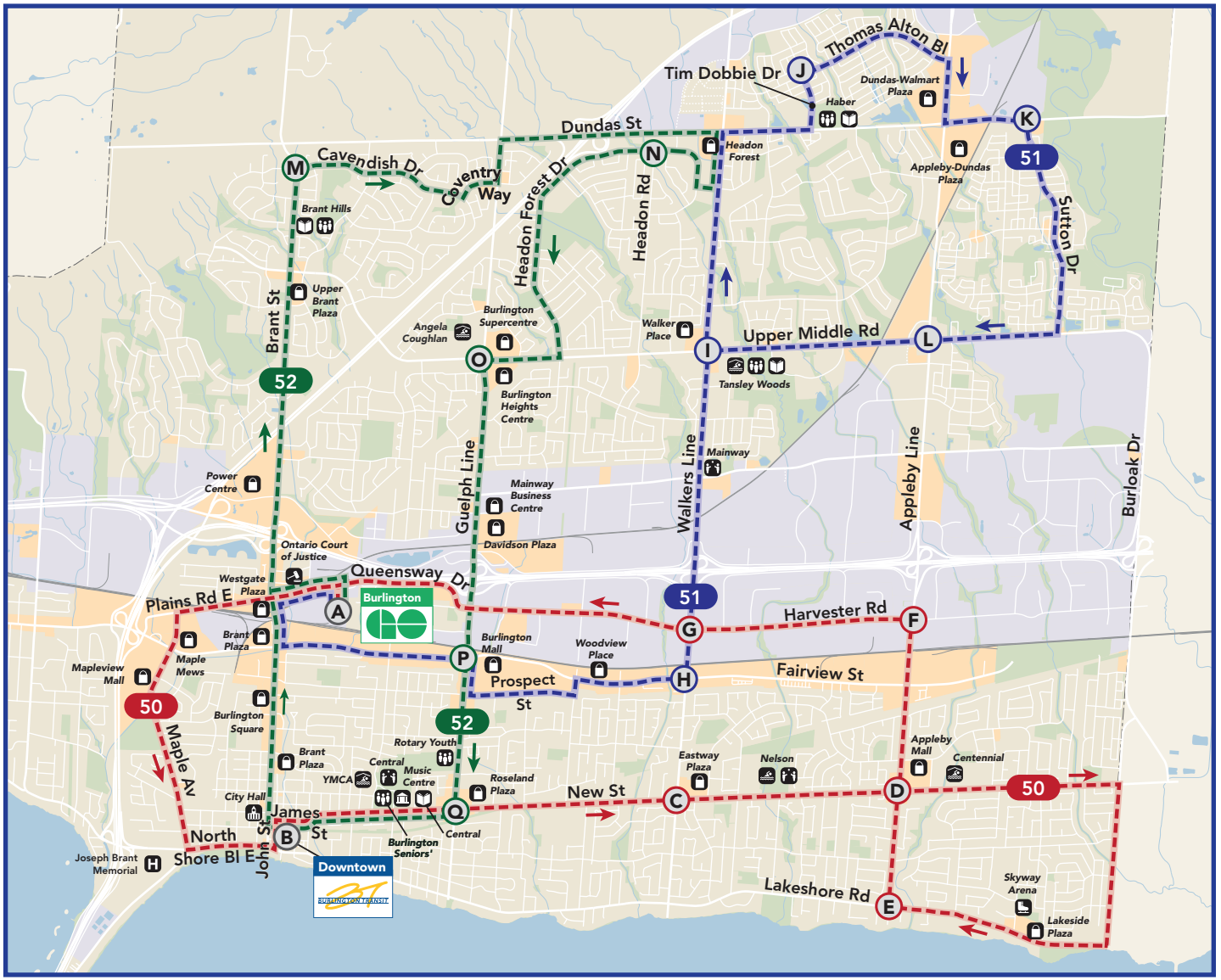
Burlington GO Station (Depart)	Downtown Burlington	Walkers Line & New St.	Appleby Line & New St.	Burloak Dr. & Lakeshore Rd.	Appleby Line & Harvester Rd.	Walkers Line & Harvester Rd.	Burlington GO Station (Arrive)
A	B	C	D	E	F	G	A
Monday to Saturday - Late Night Service							
10:55	**11:07**	**11:12**	**11:16**	**11:24**	**11:32**	**11:37**	**11:46**
11:55	12:07	12:12	12:16	12:24	12:32	12:37	12:46
12:55	1:07	1:12	1:16				

ROUTE 51 Burlington Northeast

Burlington GO Station (Depart)	Walkers Line & Fairview St.	Walkers Line & Upper Middle Rd.	Thomas Alton Bl. & Tim Dobbie	Dundas St. & Sutton Dr.	Appleby Line & Upper Middle	Walkers Line & Upper Middle	Burlington GO Station (Arrive)
A	H	I	J	K	L	I	A
Monday to Saturday - Late Night Service							
10:55	**11:01**	**11:09**	**11:14**	**11:19**	**11:24**	**11:30**	**11:45**
11:55	12:01	12:09	12:14	12:19	12:24	12:30	12:45
12:55	1:01	1:09	1:14	1:19	1:24	1:30	

ROUTE 52 Burlington Northwest

Burlington GO Station (Depart)	Brant St. & Cavendish Rd.	Headon Rd. & Headon Forest	Upper Middle & Guelph Line	Guelph Line & Fairview St.	Guelph Line & New St.	Downtown Burlington	Burlington GO Station (Arrive)
A	M	N	O	P	Q	B	A
Monday to Saturday - Late Night Service							
10:55	**11:05**	**11:15**	**11:22**	**11:30**	**11:34**	**11:37**	**11:45**
11:55	12:05	12:15	12:22	12:30	12:34	12:37	12:45
12:55	1:05	1:15	1:22				



All times are approximate and depend on traffic and other conditions. Please arrive at your stop at least 5 minutes prior.

Effective: March 5, 2017

ROUTE 300 Aldershot

to LaSalle Towers						to Seniors Centre					
Seniors Centre	Downtown Burlington	Joseph Brant Hospital	Mapleview Mall	Plains Rd. E & King Rd.	North Shore Blvd. & Lasalle Park Rd.	North Shore Blvd. & Lasalle Park Rd.	Plains Rd. E & King Rd.	Mapleview Mall	Joseph Brant Hospital	Downtown Burlington	Seniors Centre
A	B	C	D	E	F	F	E	D	C	B	A
Monday to Friday											
11:00	11:04	11:08	11:14	11:20	11:29	10:29	10:37	10:43	10:49	10:53	10:57
12:00	**12:04**	**12:08**	**12:14**	**12:20**	**12:29**	11:29	11:37	11:43	11:49	11:53	11:57
1:00	**1:04**	**1:08**	**1:14**	**1:20**	**1:29**	**12:29**	**12:37**	**12:43**	**12:49**	**12:53**	**12:57**
2:00	**2:04**	**2:08**	**2:14**	**2:20**	**2:29**	**1:29**	**1:37**	**1:43**	**1:49**	**1:53**	**1:57**

ROUTE 302 Tansley Woods

to Tansley Woods Community Centre				to Seniors Centre			
Seniors Centre	Burlington Mall	Upper Middle Rd & Super Centre	Tansley Woods Community Ctr.	Tansley Woods Community Ctr.	Upper Middle Rd & Super Centre	Burlington Mall	Seniors Centre
A	K	L	M	M	L	K	A
Monday to Friday							
11:00	11:06	11:16	11:28	10:28	10:40	10:50	10:56
12:00	**12:06**	**12:16**	**12:28**	11:28	11:40	11:50	11:56
1:00	**1:06**	**1:16**	**1:28**	**12:28**	**12:40**	**12:50**	**12:56**
2:00	**2:06**	**2:16**	**2:28**	**1:28**	**1:40**	**1:50**	**1:56**

ROUTE 301 Pinedale

to Lakeshore Place					to Seniors Centre				
Seniors Centre	New St. & Walkers Ln.	Appleby Village Mall	New St. & Hampton Heath Rd.	Lakeshore Place	Lakeshore Place	New St. & Hampton Heath Rd.	Appleby Village Mall	New St. & Walkers Ln.	Seniors Centre
A	G	H	I	J	J	I	H	G	A
Monday to Friday									
11:00	11:08	11:17	11:22	11:27	10:27	10:32	10:38	10:47	10:55
12:00	**12:08**	**12:17**	**12:22**	**12:27**	11:27	11:32	11:38	11:47	11:55
1:00	**1:08**	**1:17**	**1:22**	**1:27**	**12:27**	**12:32**	**12:38**	**12:47**	**12:55**
2:00	**2:08**	**2:17**	**2:22**	**2:27**	**1:27**	**1:32**	**1:38**	**1:47**	**1:55**

Community Connection

Serviced by smaller transit vehicles to bring passengers to the main entrance doors of popular destination spots in the city such as malls and community centres. An accessible service alternative that is offered mid-days, Monday through Friday (excluding holidays) during off-peak times.



APPENDIX D

Traffic Data

Turning Movement Count (1 . NEW ST & GUELPH LINE)

Start Time	N Approach GUELPH LINE						E Approach NEW ST						S Approach GUELPH LINE						W Approach NEW ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
06:00:00	4	2	4	0	1	10	4	4	1	0	1	9	5	24	1	0	0	30	0	16	16	0	2	32	81	
06:15:00	12	13	13	0	0	38	4	15	2	0	0	21	6	29	1	0	0	36	1	33	21	0	0	55	150	
06:30:00	10	17	20	0	2	47	4	17	1	0	0	22	6	34	1	0	0	41	2	60	29	0	0	91	201	
06:45:00	11	23	21	0	2	55	11	24	5	0	0	40	11	39	2	0	0	52	5	70	30	0	2	105	252	684
07:00:00	19	25	29	0	1	73	10	25	6	0	0	41	15	54	3	0	1	72	4	70	33	0	0	107	293	896
07:15:00	18	42	37	0	3	97	6	30	8	0	0	44	17	41	7	0	0	65	5	75	31	0	4	111	317	1063
07:30:00	22	40	41	0	0	103	12	33	9	0	0	54	15	64	3	0	1	82	7	102	49	0	3	158	397	1259
07:45:00	20	38	54	0	3	112	33	51	10	0	1	94	19	70	11	0	1	100	6	95	61	0	0	162	468	1475
08:00:00	32	39	54	0	2	125	35	61	12	0	1	108	18	57	7	0	1	82	6	90	56	0	1	152	467	1649
08:15:00	52	52	52	0	2	156	39	75	16	0	0	130	15	65	14	0	0	94	10	101	44	0	0	155	535	1867
08:30:00	49	55	47	0	0	151	31	80	21	0	0	132	14	88	11	0	4	113	8	74	56	0	4	138	534	2004
08:45:00	47	57	47	0	1	151	31	97	15	0	0	143	18	84	9	0	4	111	10	84	47	0	5	141	546	2082
BREAK																										
15:00:00	51	62	35	0	10	148	43	103	23	0	0	169	14	62	14	0	0	90	8	90	63	0	3	161	568	
15:15:00	53	57	39	0	9	149	37	123	20	0	0	180	14	84	11	0	4	109	8	75	39	0	10	122	560	
15:30:00	46	63	38	0	4	147	50	126	22	0	3	198	11	79	10	0	3	100	7	73	46	0	9	126	571	
15:45:00	70	70	48	0	10	188	61	137	23	0	0	221	14	76	19	0	3	109	10	75	53	0	3	138	656	2355
16:00:00	46	63	33	0	5	142	69	153	22	1	0	245	10	77	16	0	1	103	8	84	52	0	4	144	634	2421
16:15:00	60	64	35	0	12	159	46	217	19	0	0	282	6	57	13	0	2	76	18	87	37	0	9	142	659	2520
16:30:00	58	66	36	0	4	160	57	181	18	0	0	256	14	75	14	0	1	103	6	75	45	0	3	126	645	2594
16:45:00	77	71	43	0	7	191	56	197	13	0	0	266	13	92	27	0	1	132	6	87	54	0	3	147	736	2674
17:00:00	67	74	27	0	2	168	56	181	20	0	1	257	18	73	20	0	3	111	9	79	43	0	2	131	667	2707
17:15:00	73	65	34	0	3	172	50	205	23	0	1	278	14	79	25	0	2	118	9	49	49	0	5	107	675	2723
17:30:00	81	60	30	0	13	171	41	178	18	0	2	237	9	55	14	0	2	78	13	64	38	0	9	115	601	2679
17:45:00	92	64	24	0	2	180	35	148	24	0	3	207	8	51	21	0	3	80	10	63	35	0	5	108	575	2518
Grand Total	1070	1182	841	0	98	3093	821	2461	351	1	13	3634	304	1509	274	0	37	2087	176	1771	1027	0	86	2974	**11788**	-
Approach%	34.6%	38.2%	27.2%	0%		-	22.6%	67.7%	9.7%	0%		-	14.6%	72.3%	13.1%	0%		-	5.9%	59.5%	34.5%	0%		-	-	-
Totals %	9.1%	10%	7.1%	0%		26.2%	7%	20.9%	3%	0%		30.8%	2.6%	12.8%	2.3%	0%		17.7%	1.5%	15%	8.7%	0%		25.2%	-	-
Heavy	17	37	24	0		-	22	42	9	0		-	7	39	7	0		-	4	53	13	0		-	-	-
Heavy %	1.6%	3.1%	2.9%	0%		-	2.7%	1.7%	2.6%	0%		-	2.3%	2.6%	2.6%	0%		-	2.3%	3%	1.3%	0%		-	-	-
Bicycles	0	3	0	0		-	0	3	0	0		-	0	2	0	0		-	0	1	0	0		-	-	-
Bicycle %	0%	0.3%	0%	0%		-	0%	0.1%	0%	0%		-	0%	0.1%	0%	0%		-	0%	0.1%	0%	0%		-	-	-

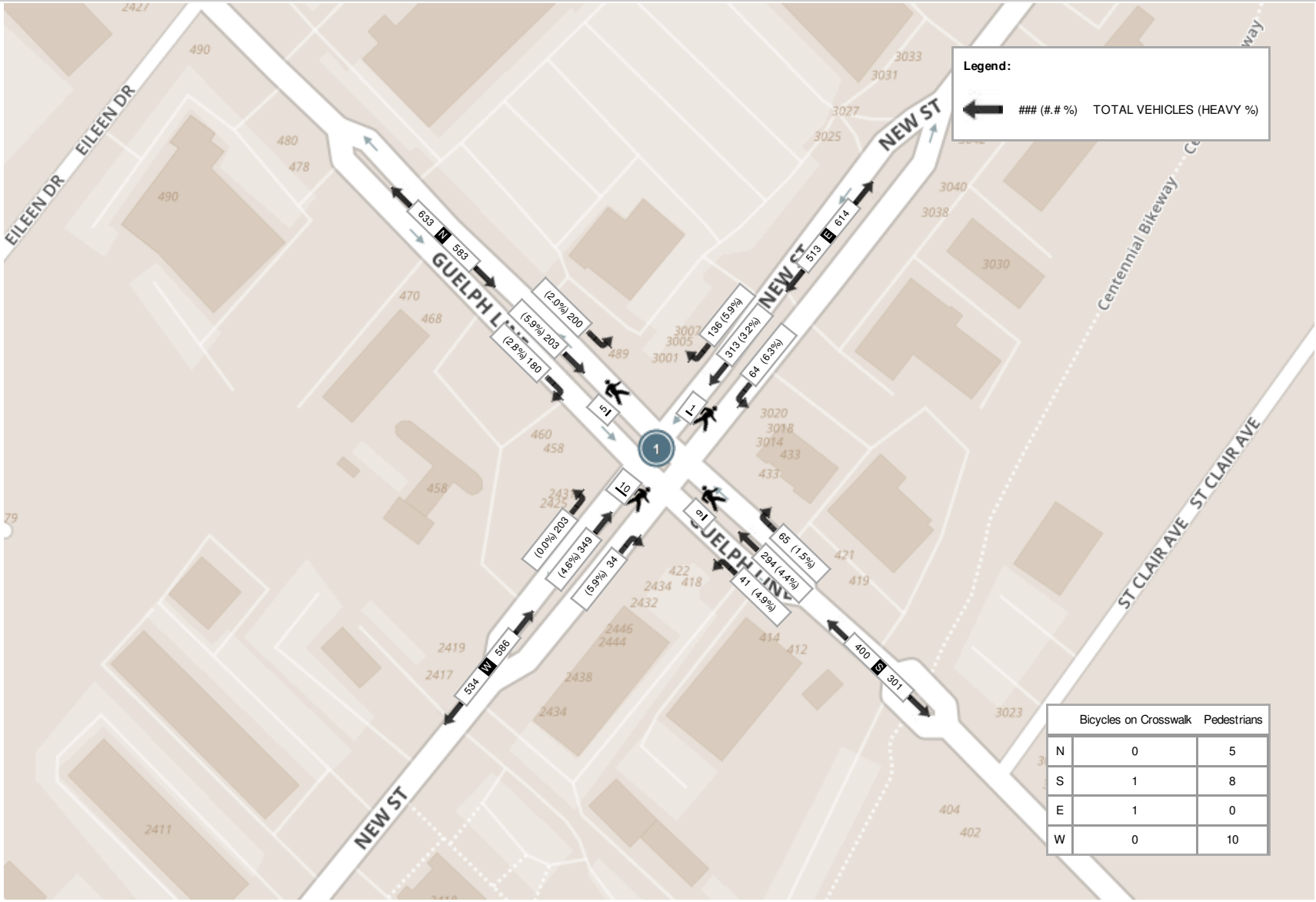
Peak Hour: 08:00 AM - 09:00 AM Weather: Unknown (6.4 °C)

Start Time	N Approach GUELPH LINE						E Approach NEW ST						S Approach GUELPH LINE						W Approach NEW ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	32	39	54	0	2	125	35	61	12	0	1	108	18	57	7	0	1	82	6	90	56	0	1	152	467
08:15:00	52	52	52	0	2	156	39	75	16	0	0	130	15	65	14	0	0	94	10	101	44	0	0	155	535
08:30:00	49	55	47	0	0	151	31	80	21	0	0	132	14	88	11	0	4	113	8	74	56	0	4	138	534
08:45:00	47	57	47	0	1	151	31	97	15	0	0	143	18	84	9	0	4	111	10	84	47	0	5	141	546
Grand Total	180	203	200	0	5	583	136	313	64	0	1	513	65	294	41	0	9	400	34	349	203	0	10	586	**2082**
Approach%	30.9%	34.8%	34.3%	0%		-	26.5%	61%	12.5%	0%		-	16.3%	73.5%	10.3%	0%		-	5.8%	59.6%	34.6%	0%		-	**-**
Totals %	8.6%	9.8%	9.6%	0%		28%	6.5%	15%	3.1%	0%		24.6%	3.1%	14.1%	2%	0%		19.2%	1.6%	16.8%	9.8%	0%		28.1%	**-**
PHF	0.87	0.89	0.93	0		0.93	0.87	0.81	0.76	0		0.9	0.9	0.84	0.73	0		0.88	0.85	0.86	0.91	0		0.95	**-**
Heavy	5	12	4	0		21	8	10	4	0		22	1	13	2	0		16	2	16	0	0		18	**-**
Heavy %	2.8%	5.9%	2%	0%		3.6%	5.9%	3.2%	6.3%	0%		4.3%	1.5%	4.4%	4.9%	0%		4%	5.9%	4.6%	0%	0%		3.1%	**-**
Lights	175	191	196	0		562	128	303	60	0		491	64	281	39	0		384	32	333	203	0		568	**-**
Lights %	97.2%	94.1%	98%	0%		96.4%	94.1%	96.8%	93.8%	0%		95.7%	98.5%	95.6%	95.1%	0%		96%	94.1%	95.4%	100%	0%		96.9%	**-**
Single-Unit Trucks	2	8	4	0		14	3	1	1	0		5	0	9	0	0		9	0	3	0	0		3	**-**
Single-Unit Trucks %	1.1%	3.9%	2%	0%		2.4%	2.2%	0.3%	1.6%	0%		1%	0%	3.1%	0%	0%		2.3%	0%	0.9%	0%	0%		0.5%	**-**
Buses	2	4	0	0		6	4	9	3	0		16	1	4	2	0		7	2	12	0	0		14	**-**
Buses %	1.1%	2%	0%	0%		1%	2.9%	2.9%	4.7%	0%		3.1%	1.5%	1.4%	4.9%	0%		1.8%	5.9%	3.4%	0%	0%		2.4%	**-**
Articulated Trucks	1	0	0	0		1	1	0	0	0		1	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0.6%	0%	0%	0%		0.2%	0.7%	0%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	10	-	**-**
Pedestrians%	-	-	-	-	20%		-	-	-	-	0%		-	-	-	-	32%		-	-	-	-	40%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	4%		-	-	-	-	4%		-	-	-	-	0%		**-**
Bicycles on Road	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 04:30 PM - 05:30 PM Weather: Unknown (11.4 °C)

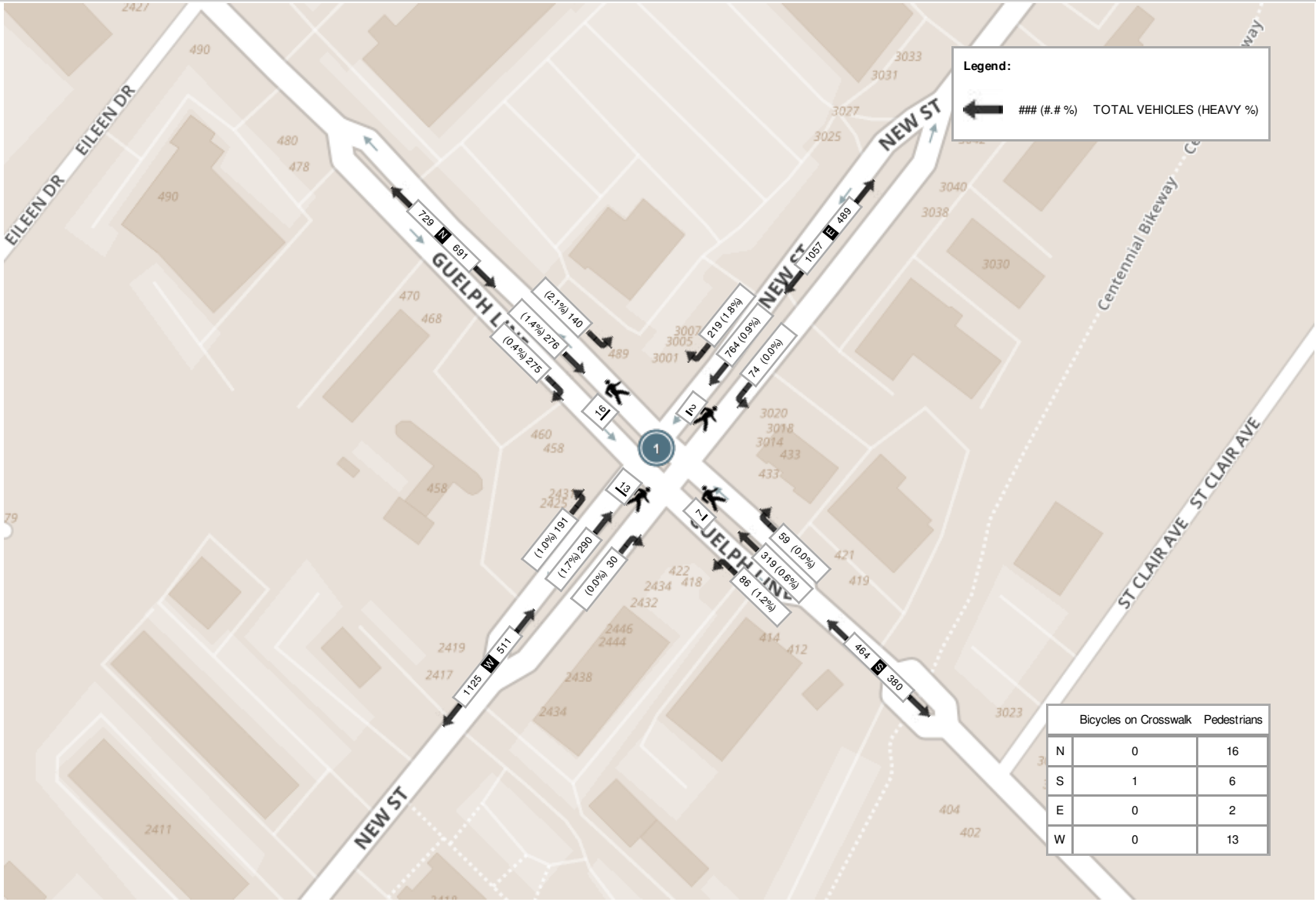
Start Time	N Approach GUELPH LINE						E Approach NEW ST						S Approach GUELPH LINE						W Approach NEW ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:30:00	58	66	36	0	4	160	57	181	18	0	0	256	14	75	14	0	1	103	6	75	45	0	3	126	645
16:45:00	77	71	43	0	7	191	56	197	13	0	0	266	13	92	27	0	1	132	6	87	54	0	3	147	736
17:00:00	67	74	27	0	2	168	56	181	20	0	1	257	18	73	20	0	3	111	9	79	43	0	2	131	667
17:15:00	73	65	34	0	3	172	50	205	23	0	1	278	14	79	25	0	2	118	9	49	49	0	5	107	675
Grand Total	275	276	140	0	16	691	219	764	74	0	2	1057	59	319	86	0	7	464	30	290	191	0	13	511	**2723**
Approach%	39.8%	39.9%	20.3%	0%		-	20.7%	72.3%	7%	0%		-	12.7%	68.8%	18.5%	0%		-	5.9%	56.8%	37.4%	0%		-	**-**
Totals %	10.1%	10.1%	5.1%	0%		25.4%	8%	28.1%	2.7%	0%		38.8%	2.2%	11.7%	3.2%	0%		17%	1.1%	10.7%	7%	0%		18.8%	**-**
PHF	0.89	0.93	0.81	0		0.9	0.96	0.93	0.8	0		0.95	0.82	0.87	0.8	0		0.88	0.83	0.83	0.88	0		0.87	**-**
Heavy	1	4	3	0		8	4	7	0	0		11	0	2	1	0		3	0	5	2	0		7	**-**
Heavy %	0.4%	1.4%	2.1%	0%		1.2%	1.8%	0.9%	0%	0%		1%	0%	0.6%	1.2%	0%		0.6%	0%	1.7%	1%	0%		1.4%	**-**
Lights	274	272	137	0		683	215	757	74	0		1046	59	317	85	0		461	30	285	189	0		504	**-**
Lights %	99.6%	98.6%	97.9%	0%		98.8%	98.2%	99.1%	100%	0%		99%	100%	99.4%	98.8%	0%		99.4%	100%	98.3%	99%	0%		98.6%	**-**
Single-Unit Trucks	1	0	2	0		3	2	1	0	0		3	0	0	1	0		1	0	2	1	0		3	**-**
Single-Unit Trucks %	0.4%	0%	1.4%	0%		0.4%	0.9%	0.1%	0%	0%		0.3%	0%	0%	1.2%	0%		0.2%	0%	0.7%	0.5%	0%		0.6%	**-**
Buses	0	4	1	0		5	1	6	0	0		7	0	2	0	0		2	0	3	0	0		3	**-**
Buses %	0%	1.4%	0.7%	0%		0.7%	0.5%	0.8%	0%	0%		0.7%	0%	0.6%	0%	0%		0.4%	0%	1%	0%	0%		0.6%	**-**
Articulated Trucks	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	0	0	1	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0.5%	0%	0%	0%		0.1%	0%	0%	0%	0%		0%	0%	0%	0.5%	0%		0.2%	**-**
Pedestrians	-	-	-	-	16	-	-	-	-	-	2	-	-	-	-	-	6	-	-	-	-	-	13	-	**-**
Pedestrians%	-	-	-	-	42.1%		-	-	-	-	5.3%		-	-	-	-	15.8%		-	-	-	-	34.2%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	2.6%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Unknown (6.4 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	5
S	1	8
E	1	0
W	0	10

Peak Hour: 04:30 PM - 05:30 PM Weather: Unknown (11.4 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	16
S	1	6
E	0	2
W	0	13

Turning Movement Count (2 . NEW ST & 2421 NEW ST (WEST ACCESSES))

Start Time	N Approach 2421 NEW ST (WEST ACCESSES)						E Approach NEW ST						S Approach SOUTH LEG DRIVEWAY						W Approach NEW ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
06:00:00	0	0	0	0	1	0	0	9	0	0	0	9	0	0	0	0	0	0	0	33	0	0	0	33	42	
06:15:00	0	0	0	0	0	0	0	25	0	0	0	25	0	0	0	0	0	0	1	51	0	0	0	52	77	
06:30:00	0	0	0	0	3	0	1	27	0	0	0	28	0	0	0	0	0	0	0	93	1	0	0	94	122	
06:45:00	0	0	0	0	0	0	0	29	0	0	0	29	0	0	0	0	0	0	0	102	0	0	0	102	131	372
07:00:00	0	0	0	0	1	0	0	50	0	0	0	50	0	0	0	0	0	0	0	103	0	0	0	103	153	483
07:15:00	1	0	0	0	3	1	0	50	0	0	0	50	0	0	0	0	0	0	0	116	0	0	0	116	167	573
07:30:00	0	0	0	0	1	0	0	55	0	0	1	55	0	0	0	0	0	0	0	164	1	0	0	165	220	671
07:45:00	0	0	0	0	4	0	1	85	0	0	0	86	0	0	0	0	0	0	0	168	1	0	1	169	255	795
08:00:00	0	0	1	0	3	1	0	94	0	0	0	94	0	0	0	0	0	0	0	135	1	0	0	136	231	873
08:15:00	0	0	1	0	4	1	1	137	3	0	0	141	0	0	0	0	0	0	1	145	0	0	0	146	288	994
08:30:00	1	0	0	0	4	1	1	142	1	0	0	144	0	0	0	0	3	0	0	135	0	0	0	135	280	1054
08:45:00	1	0	1	0	7	2	4	145	0	0	1	149	0	0	0	0	0	0	1	140	3	0	0	144	295	1094
BREAK																										
15:00:00	4	0	7	0	8	11	8	153	2	0	0	163	0	0	0	0	0	0	0	147	1	0	0	148	322	
15:15:00	4	0	4	0	5	8	6	186	0	0	0	192	0	0	0	0	0	0	0	117	4	0	0	121	321	
15:30:00	2	0	5	0	8	7	1	185	1	0	2	187	0	0	0	0	0	0	0	125	3	0	2	128	322	
15:45:00	2	0	6	0	3	8	10	215	3	0	1	228	0	0	0	0	0	0	0	124	4	0	0	128	364	1329
16:00:00	1	0	4	0	6	5	8	191	2	0	1	201	0	0	0	0	0	0	0	134	1	0	0	135	341	1348
16:15:00	0	0	2	0	9	2	6	289	0	0	0	295	0	0	0	0	0	0	0	137	3	0	0	140	437	1464
16:30:00	0	0	2	0	4	2	8	255	1	0	3	264	0	0	0	0	0	0	0	138	2	0	1	140	406	1548
16:45:00	0	0	12	0	8	12	11	283	0	0	0	294	0	0	0	0	0	0	1	125	7	0	2	133	439	1623
17:00:00	8	0	5	0	3	13	11	271	7	0	0	289	0	0	0	0	0	0	1	139	2	0	0	142	444	1726
17:15:00	5	0	4	0	7	9	12	284	0	0	0	296	1	0	0	0	0	1	0	85	1	0	0	86	392	1681
17:30:00	7	0	10	0	10	17	12	265	0	0	0	277	0	0	0	0	0	0	1	103	2	0	0	106	400	1675
17:45:00	7	0	5	0	5	12	15	254	4	0	0	273	0	0	0	0	0	0	2	100	3	0	0	105	390	1626
Grand Total	43	0	69	0	107	112	116	3679	24	0	9	3819	1	0	0	0	3	1	8	2859	40	0	6	2907	**6839**	-
Approach%	38.4%	0%	61.6%	0%		-	3%	96.3%	0.6%	0%		-	100%	0%	0%	0%		-	0.3%	98.3%	1.4%	0%		-	-	-
Totals %	0.6%	0%	1%	0%		1.6%	1.7%	53.8%	0.4%	0%		55.8%	0%	0%	0%	0%		0%	0.1%	41.8%	0.6%	0%		42.5%	-	-
Heavy	0	0	0	0		-	1	65	0	0		-	0	0	0	0		-	0	73	0	0		-	-	-
Heavy %	0%	0%	0%	0%		-	0.9%	1.8%	0%	0%		-	0%	0%	0%	0%		-	0%	2.6%	0%	0%		-	-	-
Bicycles	0	0	0	0		-	0	5	0	0		-	0	0	0	0		-	0	2	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	0%	0.1%	0%	0%		-	-	-

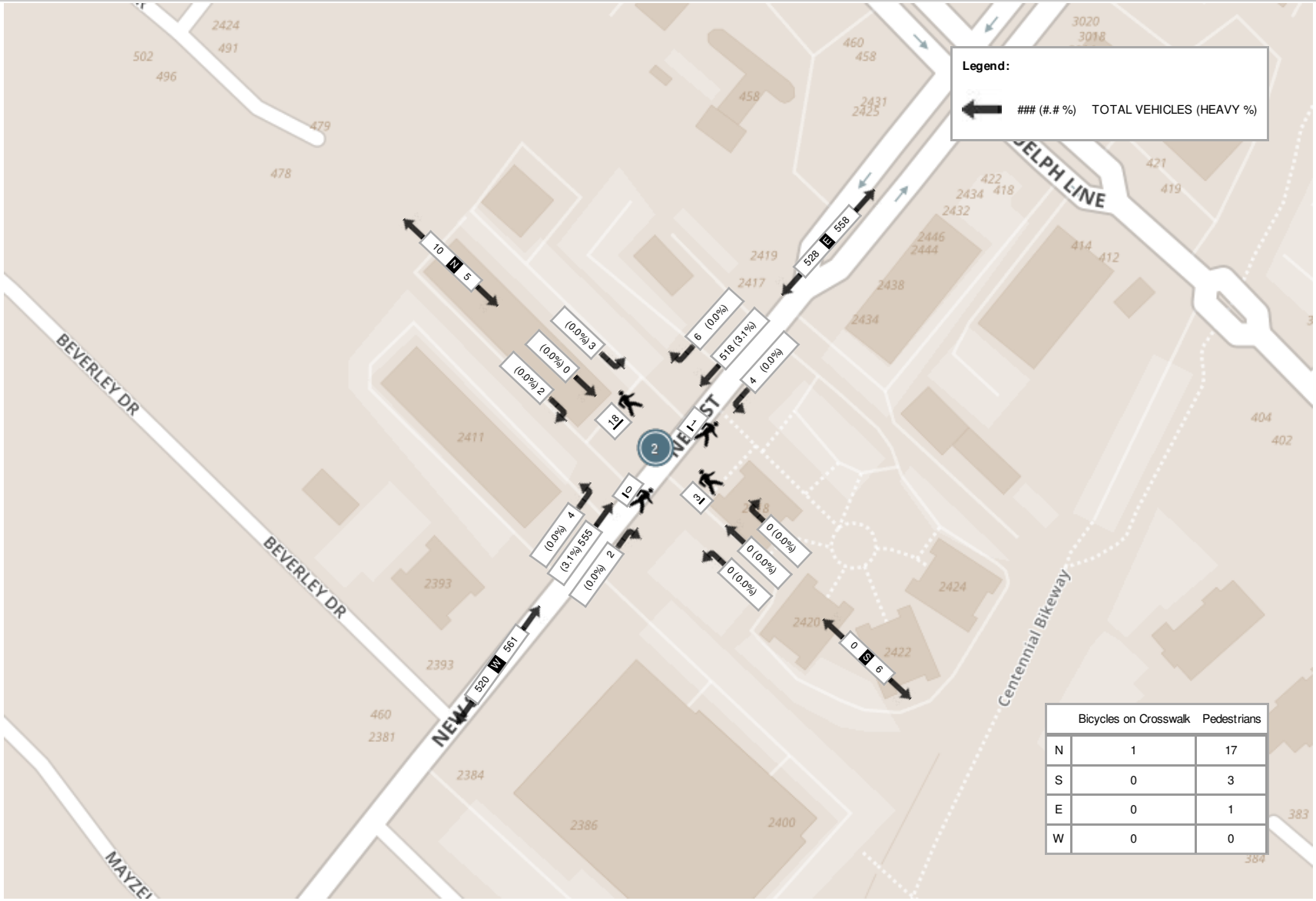
Peak Hour: 08:00 AM - 09:00 AM Weather: Unknown (6.4 °C)

Start Time	N Approach 2421 NEW ST (WEST ACCESSES)						E Approach NEW ST						S Approach SOUTH LEG DRIVEWAY						W Approach NEW ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	0	0	1	0	3	1	0	94	0	0	0	94	0	0	0	0	0	0	0	135	1	0	0	136	231
08:15:00	0	0	1	0	4	1	1	137	3	0	0	141	0	0	0	0	0	0	1	145	0	0	0	146	288
08:30:00	1	0	0	0	4	1	1	142	1	0	0	144	0	0	0	0	3	0	0	135	0	0	0	135	280
08:45:00	1	0	1	0	7	2	4	145	0	0	1	149	0	0	0	0	0	0	1	140	3	0	0	144	295
Grand Total	2	0	3	0	18	5	6	518	4	0	1	528	0	0	0	0	3	0	2	555	4	0	0	561	**1094**
Approach%	40%	0%	60%	0%		-	1.1%	98.1%	0.8%	0%		-	0%	0%	0%	0%		-	0.4%	98.9%	0.7%	0%		-	**-**
Totals %	0.2%	0%	0.3%	0%		0.5%	0.5%	47.3%	0.4%	0%		48.3%	0%	0%	0%	0%		0%	0.2%	50.7%	0.4%	0%		51.3%	**-**
PHF	0.5	0	0.75	0		0.63	0.38	0.89	0.33	0		0.89	0	0	0	0		0	0.5	0.96	0.33	0		0.96	**-**
Heavy	0	0	0	0		0	0	16	0	0		16	0	0	0	0		0	0	17	0	0		17	**-**
Heavy %	0%	0%	0%	0%		0%	0%	3.1%	0%	0%		3%	0%	0%	0%	0%		0%	0%	3.1%	0%	0%		3%	**-**
Lights	2	0	3	0		5	6	502	4	0		512	0	0	0	0		0	2	538	4	0		544	**-**
Lights %	100%	0%	100%	0%		100%	100%	96.9%	100%	0%		97%	0%	0%	0%	0%		0%	100%	96.9%	100%	0%		97%	**-**
Single-Unit Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.9%	**-**
Buses	0	0	0	0		0	0	12	0	0		12	0	0	0	0		0	0	12	0	0		12	**-**
Buses %	0%	0%	0%	0%		0%	0%	2.3%	0%	0%		2.3%	0%	0%	0%	0%		0%	0%	2.2%	0%	0%		2.1%	**-**
Articulated Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	17	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	77.3%		-	-	-	-	4.5%		-	-	-	-	13.6%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	4.5%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 04:15 PM - 05:15 PM Weather: Unknown (11.4 °C)

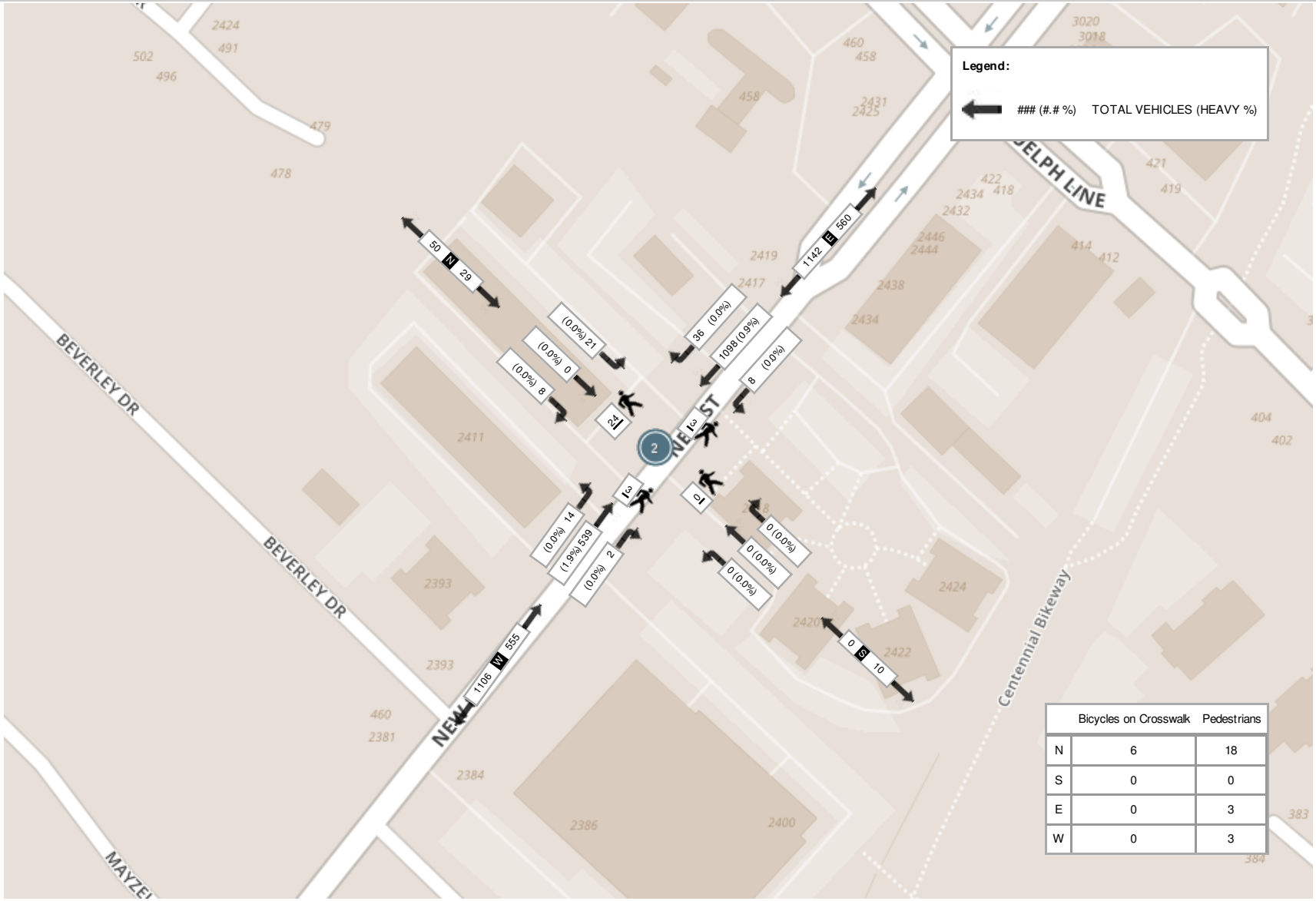
Start Time	N Approach 2421 NEW ST (WEST ACCESSES)						E Approach NEW ST						S Approach SOUTH LEG DRIVEWAY						W Approach NEW ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:15:00	0	0	2	0	9	2	6	289	0	0	0	295	0	0	0	0	0	0	0	137	3	0	0	140	437
16:30:00	0	0	2	0	4	2	8	255	1	0	3	264	0	0	0	0	0	0	0	138	2	0	1	140	406
16:45:00	0	0	12	0	8	12	11	283	0	0	0	294	0	0	0	0	0	0	1	125	7	0	2	133	439
17:00:00	8	0	5	0	3	13	11	271	7	0	0	289	0	0	0	0	0	0	1	139	2	0	0	142	444
Grand Total	8	0	21	0	24	29	36	1098	8	0	3	1142	0	0	0	0	0	0	2	539	14	0	3	555	**1726**
Approach%	27.6%	0%	72.4%	0%		-	3.2%	96.1%	0.7%	0%		-	0%	0%	0%	0%		-	0.4%	97.1%	2.5%	0%		-	**-**
Totals %	0.5%	0%	1.2%	0%		1.7%	2.1%	63.6%	0.5%	0%		66.2%	0%	0%	0%	0%		0%	0.1%	31.2%	0.8%	0%		32.2%	**-**
PHF	0.25	0	0.44	0		0.56	0.82	0.95	0.29	0		0.97	0	0	0	0		0	0.5	0.97	0.5	0		0.98	**-**
Heavy	0	0	0	0		0	0	10	0	0		10	0	0	0	0		0	0	10	0	0		10	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.9%	0%	0%	0%	0%		0%	0%	1.9%	0%	0%		1.8%	**-**
Lights	8	0	21	0		29	36	1088	8	0		1132	0	0	0	0		0	2	529	14	0		545	**-**
Lights %	100%	0%	100%	0%		100%	100%	99.1%	100%	0%		99.1%	0%	0%	0%	0%		0%	100%	98.1%	100%	0%		98.2%	**-**
Single-Unit Trucks	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.9%	**-**
Buses	0	0	0	0		0	0	7	0	0		7	0	0	0	0		0	0	4	0	0		4	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.7%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	18	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	60%		-	-	-	-	10%		-	-	-	-	0%		-	-	-	-	10%		**-**
Bicycles on Crosswalk	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	20%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM Weather: Unknown (6.4 °C)



	Bicycles on Crosswalk	Pedestrians
N	1	17
S	0	3
E	0	1
W	0	0

Peak Hour: 04:15 PM - 05:15 PM Weather: Unknown (11.4 °C)



	Bicycles on Crosswalk	Pedestrians
N	6	18
S	0	0
E	0	3
W	0	3

Turning Movement Count (3 . NEW ST & 2431 NEW ST (EAST ACCESSES))

Start Time	N Approach 2431 NEW ST (EAST ACCESSES)					E Approach NEW ST					W Approach NEW ST					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	U-Turn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
06:00:00	0	0	0	0	0	0	9	0	0	9	33	0	0	0	33	42	
06:15:00	0	0	0	0	0	0	25	0	0	25	51	0	0	0	51	76	
06:30:00	0	0	0	0	0	0	28	1	0	29	93	0	0	0	93	122	
06:45:00	0	0	0	0	0	0	29	0	3	29	100	0	0	0	100	129	369
07:00:00	0	0	0	1	0	0	49	1	0	50	105	0	0	0	105	155	482
07:15:00	0	0	0	3	0	0	49	0	0	49	114	0	0	0	114	163	569
07:30:00	0	0	0	2	0	0	56	0	0	56	161	0	0	0	161	217	664
07:45:00	0	0	0	3	0	0	85	0	0	85	166	0	0	0	166	251	786
08:00:00	0	0	0	3	0	0	93	0	0	93	140	0	0	0	140	233	864
08:15:00	0	0	0	5	0	0	139	1	0	140	148	0	0	0	148	288	989
08:30:00	0	1	0	1	1	0	144	2	0	146	135	0	0	0	135	282	1054
08:45:00	0	0	0	8	0	0	149	0	0	149	143	0	0	1	143	292	1095
BREAK																	
15:00:00	0	0	0	7	0	0	154	5	1	159	153	0	0	0	153	312	
15:15:00	0	1	0	4	1	0	187	4	0	191	119	1	0	0	120	312	
15:30:00	1	0	0	8	1	0	186	5	0	191	130	1	0	0	131	323	
15:45:00	1	2	0	8	3	1	225	2	0	228	128	0	0	2	128	359	1306
16:00:00	0	0	0	6	0	0	193	0	0	193	138	0	0	0	138	331	1325
16:15:00	1	0	0	7	1	2	292	1	0	295	140	0	0	0	140	436	1449
16:30:00	0	0	0	5	0	0	263	1	1	264	139	0	0	1	139	403	1529
16:45:00	2	1	0	7	3	3	294	1	1	298	140	0	0	0	140	441	1611
17:00:00	2	0	0	1	2	0	289	0	0	289	145	0	0	0	145	436	1716
17:15:00	0	0	0	2	0	0	299	1	1	300	89	0	0	0	89	389	1669
17:30:00	0	1	0	1	1	1	272	0	0	273	110	1	0	0	111	385	1651

17:45:00	2	0	0	1	2	3	272	1	0	276	103	0	0	0	103	381	1591
Grand Total	9	6	0	83	15	10	3781	26	7	3817	2923	3	0	4	2926	**6758**	-
Approach%	60%	40%	0%		-	0.3%	99.1%	0.7%		-	99.9%	0.1%	0%		-	**-**	-
Totals %	0.1%	0.1%	0%		0.2%	0.1%	55.9%	0.4%		56.5%	43.3%	0%	0%		43.3%	**-**	-
Heavy	0	0	0		-	0	63	1		-	70	0	0		-	**-**	-
Heavy %	0%	0%	0%		-	0%	1.7%	3.8%		-	2.4%	0%	0%		-	**-**	-
Bicycles	0	0	0		-	0	3	0		-	2	0	0		-	**-**	-
Bicycle %	0%	0%	0%		-	0%	0.1%	0%		-	0.1%	0%	0%		-	**-**	-

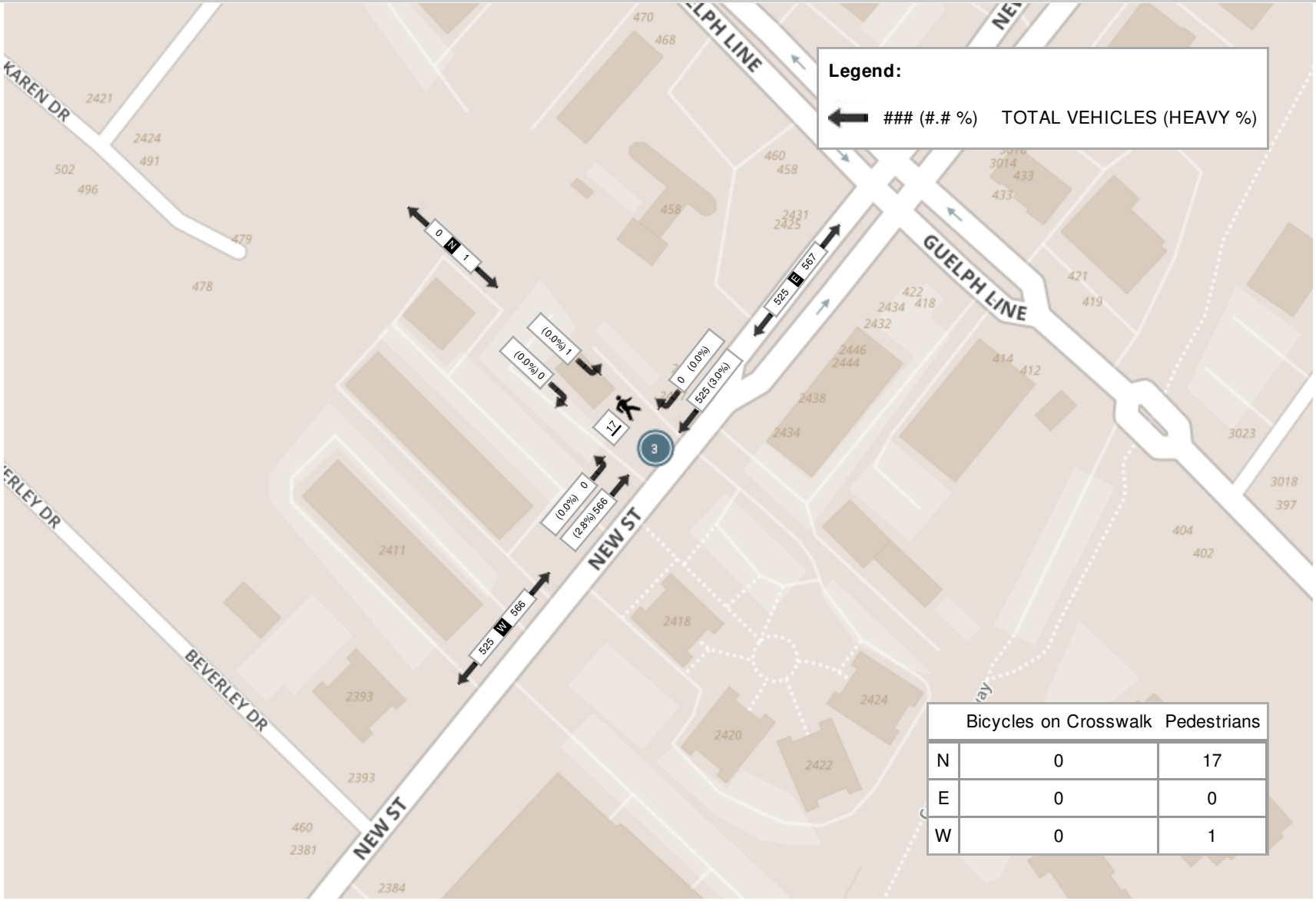
Peak Hour: 08:00 AM - 09:00 AM Weather: Unknown (6.4 °C)

Start Time	N Approach 2431 NEW ST (EAST ACCESSES)					E Approach NEW ST					W Approach NEW ST					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	0	0	0	3	0	0	93	0	0	93	140	0	0	0	140	233
08:15:00	0	0	0	5	0	0	139	1	0	140	148	0	0	0	148	288
08:30:00	0	1	0	1	1	0	144	2	0	146	135	0	0	0	135	282
08:45:00	0	0	0	8	0	0	149	0	0	149	143	0	0	1	143	292
Grand Total	0	1	0	17	1	0	525	3	0	528	566	0	0	1	566	**1095**
Approach%	0%	100%	0%		-	0%	99.4%	0.6%		-	100%	0%	0%		-	-
Totals %	0%	0.1%	0%		0.1%	0%	47.9%	0.3%		48.2%	51.7%	0%	0%		51.7%	-
PHF	0	0.25	0		0.25	0	0.88	0.38		0.89	0.96	0	0		0.96	-
Heavy	0	0	0		0	0	16	0		16	16	0	0		16	-
Heavy %	0%	0%	0%		0%	0%	3%	0%		3%	2.8%	0%	0%		2.8%	-
Lights	0	1	0		1	0	509	3		512	550	0	0		550	-
Lights %	0%	100%	0%		100%	0%	97%	100%		97%	97.2%	0%	0%		97.2%	-
Single-Unit Trucks	0	0	0		0	0	3	0		3	4	0	0		4	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.6%	0%		0.6%	0.7%	0%	0%		0.7%	-
Buses	0	0	0		0	0	13	0		13	12	0	0		12	-
Buses %	0%	0%	0%		0%	0%	2.5%	0%		2.5%	2.1%	0%	0%		2.1%	-
Articulated Trucks	0	0	0		0	0	0	0		0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Pedestrians	-	-	-	17	-	-	-	-	0	-	-	-	-	1	-	-
Pedestrians%	-	-	-	94.4%		-	-	-	0%		-	-	-	5.6%		-
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 04:15 PM - 05:15 PM Weather: Unknown (11.4 °C)

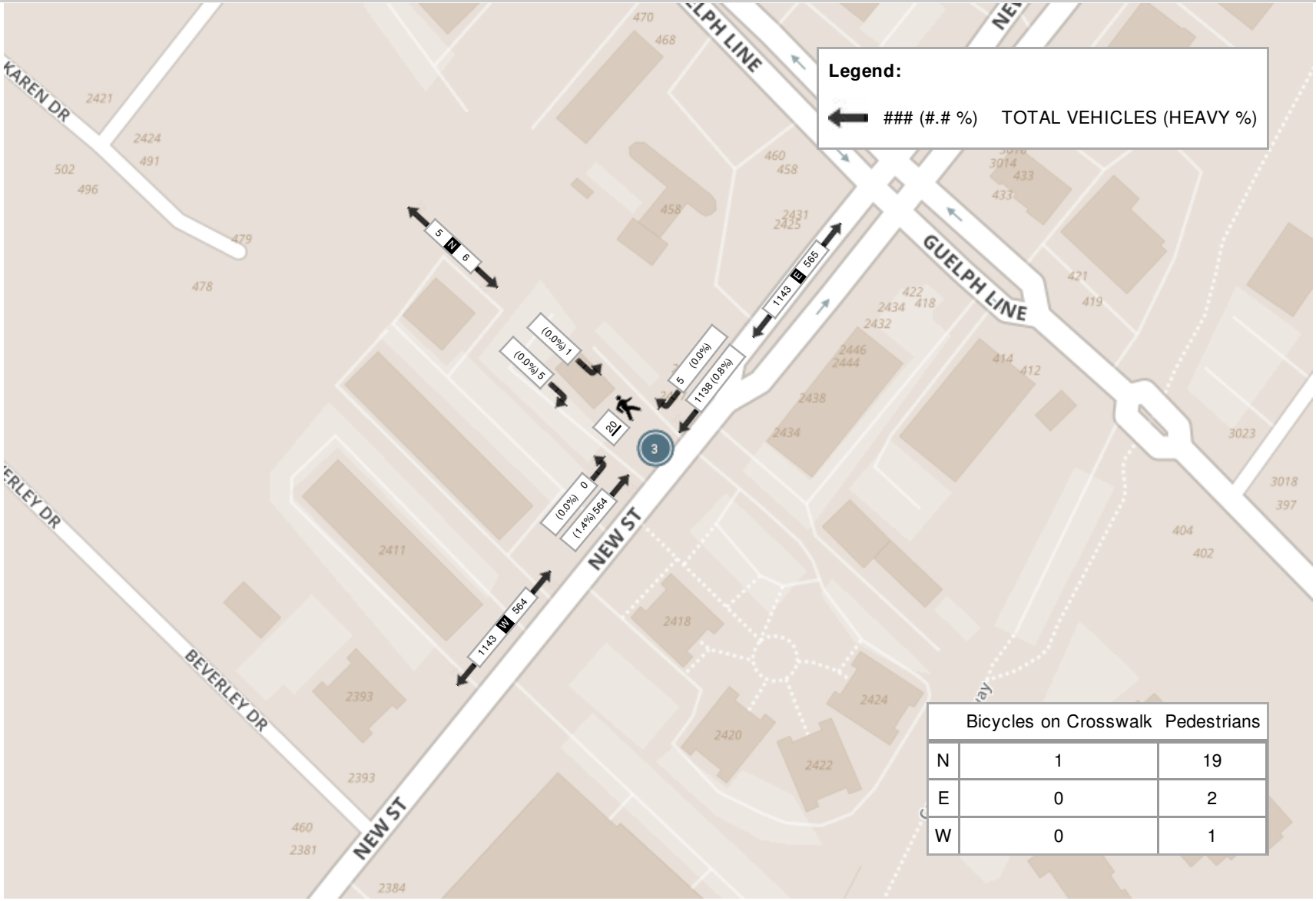
Start Time	N Approach 2431 NEW ST (EAST ACCESSES)					E Approach NEW ST					W Approach NEW ST					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
16:15:00	1	0	0	7	1	2	292	1	0	295	140	0	0	0	140	436
16:30:00	0	0	0	5	0	0	263	1	1	264	139	0	0	1	139	403
16:45:00	2	1	0	7	3	3	294	1	1	298	140	0	0	0	140	441
17:00:00	2	0	0	1	2	0	289	0	0	289	145	0	0	0	145	436
Grand Total	5	1	0	20	6	5	1138	3	2	1146	564	0	0	1	564	**1716**
Approach%	83.3%	16.7%	0%		-	0.4%	99.3%	0.3%		-	100%	0%	0%		-	-
Totals %	0.3%	0.1%	0%		0.3%	0.3%	66.3%	0.2%		66.8%	32.9%	0%	0%		32.9%	-
PHF	0.63	0.25	0		0.5	0.42	0.97	0.75		0.96	0.97	0	0		0.97	-
Heavy	0	0	0		0	0	9	0		9	8	0	0		8	-
Heavy %	0%	0%	0%		0%	0%	0.8%	0%		0.8%	1.4%	0%	0%		1.4%	-
Lights	5	1	0		6	5	1129	3		1137	556	0	0		556	-
Lights %	100%	100%	0%		100%	100%	99.2%	100%		99.2%	98.6%	0%	0%		98.6%	-
Single-Unit Trucks	0	0	0		0	0	3	0		3	4	0	0		4	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.3%	0%		0.3%	0.7%	0%	0%		0.7%	-
Buses	0	0	0		0	0	6	0		6	3	0	0		3	-
Buses %	0%	0%	0%		0%	0%	0.5%	0%		0.5%	0.5%	0%	0%		0.5%	-
Articulated Trucks	0	0	0		0	0	0	0		0	1	0	0		1	-
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.2%	0%	0%		0.2%	-
Pedestrians	-	-	-	19	-	-	-	-	2	-	-	-	-	1	-	-
Pedestrians%	-	-	-	82.6%		-	-	-	8.7%		-	-	-	4.3%		-
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
Bicycles on Crosswalk%	-	-	-	4.3%		-	-	-	0%		-	-	-	0%		-
Bicycles on Road	0	0	0	0	-	0	1	0	0	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	0%		-	-	-	0%		-	-	-	0%		-

Peak Hour: 08:00 AM - 09:00 AM Weather: Unknown (6.4 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	17
E	0	0
W	0	1

Peak Hour: 04:15 PM - 05:15 PM Weather: Unknown (11.4 °C)



	Bicycles on Crosswalk	Pedestrians
N	1	19
E	0	2
W	0	1

Intersection Name:	TS ID:	Line No:	Model:	IP address:	Controller Make:
New Street @ Guelph Line	220	2	ACS/3	172.22.81.2	Econolite

Type of Operation: 8 Phase Semi-Actuated

*-Start from Main Menu

No	Date			Description	Prepared by
	Y	M	D		EN
4	17	9	1	Increased Ped timings (Cycle length increased and redistribution of timings)	

PHASE DESCRIPTION

Ph1	SBL-Guelph Ln	Ph5	NBL-Guelph Ln
Ph2	NB - Guelph Ln	Ph6	SB - Guelph Ln
Ph3	WBL- New St	Ph7	EBL- New St
Ph4	EB- New St	Ph8	WB- New St

CONFIGURATION (PHASE SEQ): PHASE IN USE/EXCLUSIVE PED (MM) *- 1 - 2

Phase:	1	2	3	4	5	6	7	8
Phase in Use	X	X	X	X	X	X	X	X
Exclusive PED								

CONTROLLER TIMING DATA - VEHICLE TIMING * - 2 - 1

Timing Plan: 1	Phase: 1	2	3	4	5	6	7	8
Minimum Green	6	8	6	8	6	8	6	8
Walk		17		17		17		17
Ped. Clearance		19		19		19		19
Pedestrian Carry Over								
Vehicle Extension	3	3	3	3	3	3	5	3
MAX 1	10	30	10	25	10	30	10	25
MAX 2	10	30	30	25	10	30	10	25
Yellow Change	3	4	3	4	3	4	3	4
Red Clearance	0	2	0	2	0	2	0	2
Phase Minimum:	9	43	9	43	9	43	9	43

PHASE DATA - VEHICLE AND PEDESTRIAN RECALLS * - 2 - 8

Phase:	1	2	3	4	5	6	7	8
Lock Detector								
Vehicle Recall								
Pedestrian Recall		X				X		
MAX Recall		X				X		
Min Recall								

COORDINATION: COORDINATOR PATTERN, SPLIT PATTERN * - 3 - 2, - 3 - 3

Coordinator	Cycle	Offset (sec)	Timing Plan	Split	Phases (sec)							
					1	2	3	4	5	6	7	8
1	110	48	1	1	12	43	12	43	12	43	12	43
2	110	80	1	2	12	43	12	43	12	43	12	43
3	110	25	1	3	12	43	12	43	12	43	12	43
4	110	8	1	4	12	43	12	43	12	43	12	43
10	0	0	1	10	0	0	0	0	0	0	0	0

TIME BASE: ACTION PLAN, DAY PLAN * - 5 - 2, - 5 - 3, -5 - 4

Day Plan	Sched. #	Action Plan	Time Period	Pattern	Timing Plan
1	1	1	07:00	1	1
1	1	2	09:00	2	1
1	1	3	15:00	3	1
1	1	4	19:00	4	1
1	1	10	22:00	254	1
2	2	1	07:00	1	1
2	2	10	22:00	254	1
3	3	1	08:30	1	1
3	3	10	20:30	254	1

Schedule 1 = Day Plan 1
Schedule 2 = Day Plan 2
Schedule 3 = Day Plan 3

Day Plan 1 (Weekday)
Day Plan 2 (Saturday)
Day Plan 3 (Sunday, Holidays)

Action Plan 10 = free (254)

Special Programming:

TIME BASE DATA - TIME OF YEAR EVENTS * - 5 - 5

Events	Exception Day		MON/ MON	DOW/ DOW	WOM/ Year	Day Plan
New Year's Day	1	Fixed	1	1	0	3
Family Day	2	Float	2	2	3	3
Good Friday	3	Float	4	6	1	3
Victoria Day	4	Float	5	2	3	3
Canada Day	5	Fixed	7	1	0	3
Civic Day	6	Float	8	2	1	3
Labour Day	7	Float	9	2	1	3
Thanksgiving	8	Float	10	2	2	3
Christmas Day	9	Fixed	12	25	0	3

APPENDIX E

Level of Service Definitions

Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

APPENDIX F

Detailed Capacity Analysis Worksheets



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	214	403	67	329	143	43	377	211	403
v/c Ratio	0.54	0.49	0.20	0.41	0.26	0.10	0.34	0.49	0.31
Control Delay	24.0	29.9	17.6	30.1	5.6	16.5	26.4	22.4	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	29.9	17.6	30.1	5.6	16.5	26.4	22.4	13.7
Queue Length 50th (m)	28.3	52.6	8.1	42.4	0.0	5.1	30.9	27.9	17.5
Queue Length 95th (m)	45.2	76.3	16.4	61.7	13.8	11.7	44.2	44.6	31.0
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	393	828	352	794	559	445	1099	432	1283
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	0.54	0.49	0.19	0.41	0.26	0.10	0.34	0.49	0.31

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	349	34	64	313	136	41	294	65	200	203	180
Future Volume (veh/h)	203	349	34	64	313	136	41	294	65	200	203	180
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	214	367	36	67	329	143	43	309	68	211	214	189
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	418	1003	98	388	831	482	393	956	207	448	672	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.34	0.34	0.08	0.38	0.38
Ln Grp Delay, s/veh	22.0	27.5	26.8	22.2	29.4	28.5	22.2	28.6	28.7	21.4	25.4	25.9
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		617			539			420			614	
Approach Delay, s/veh		25.3			28.2			28.0			24.2	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	43.0	8.2	46.8	7.4	47.6	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	9.0	37.0	9.0	37.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	10.8	11.0	4.9	12.9	3.8	11.9	10.7	13.2
Green Ext Time (g_e), s	0.0	6.2	0.1	6.5	0.0	6.1	0.0	6.5
Prob of Phs Call (p_c)	1.00	1.00	0.87	1.00	0.73	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.51	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2843		2706		1776		2472

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		617		264		1489		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	211	0	67	0	43	0	214	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	8.8	0.0	2.9	0.0	1.8	0.0	8.7	0.0
Cycle Q Clear Time (g_c), s	8.8	0.0	2.9	0.0	1.8	0.0	8.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	958	0	900	0	908	0	896	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	28.0	0.0	29.9	0.0	31.7	0.0	25.8	0.0
Perm LT Q Serve Time (g_ps), s	3.1	0.0	0.6	0.0	0.3	0.0	4.1	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	448	0	388	0	393	0	418	0
V/C Ratio (X)	0.47	0.00	0.17	0.00	0.11	0.00	0.51	0.00
Avail Cap (c_a), veh/h	448	0	444	0	462	0	418	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.7	0.0	22.0	0.0	22.1	0.0	21.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.2	0.0	0.1	0.0	1.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	21.4	0.0	22.2	0.0	22.2	0.0	22.0	0.0
1st-Term Q (Q1), veh/ln	4.0	0.0	1.3	0.0	0.8	0.0	4.1	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.1	0.0	1.3	0.0	0.8	0.0	4.2	0.0
%ile Storage Ratio (RQ%)	17.28	0.00	5.36	0.00	4.68	0.00	12.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	188	0	163	0	208	0	329
Grp Sat Flow (s), veh/h/ln	0	1742	0	1211	0	1726	0	1236
Q Serve Time (g_s), s	0.0	8.8	0.0	10.8	0.0	9.4	0.0	11.2
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	10.8	0.0	9.4	0.0	11.2
Lane Grp Cap (c), veh/h	0	586	0	449	0	653	0	831
V/C Ratio (X)	0.00	0.32	0.00	0.36	0.00	0.32	0.00	0.40
Avail Cap (c_a), veh/h	0	586	0	449	0	653	0	831
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.1	0.0	25.2	0.0	24.2	0.0	27.9
Incr Delay (d2), s/veh	0.0	1.4	0.0	2.3	0.0	1.3	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.6	0.0	27.5	0.0	25.4	0.0	29.4
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	3.6	0.0	4.4	0.0	3.8

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	0.0	3.9	0.0	4.7	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	19.45	0.00	13.77	0.00	8.46	0.00	6.87
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	189	0	240	0	195	0	143
Grp Sat Flow (s), veh/h/ln	0	1718	0	1759	0	1540	0	1433
Q Serve Time (g_s), s	0.0	9.0	0.0	10.9	0.0	9.9	0.0	8.1
Cycle Q Clear Time (g_c), s	0.0	9.0	0.0	10.9	0.0	9.9	0.0	8.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.15	0.00	0.97	0.00	1.00
Lane Grp Cap (c), veh/h	0	578	0	652	0	582	0	482
V/C Ratio (X)	0.00	0.33	0.00	0.37	0.00	0.34	0.00	0.30
Avail Cap (c_a), veh/h	0	578	0	652	0	582	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.2	0.0	25.2	0.0	24.3	0.0	26.9
Incr Delay (d2), s/veh	0.0	1.5	0.0	1.6	0.0	1.6	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.7	0.0	26.8	0.0	25.9	0.0	28.5
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	5.3	0.0	4.2	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	0.0	5.6	0.0	4.5	0.0	3.4
%ile Storage Ratio (RQ%)	0.00	19.67	0.00	19.96	0.00	8.13	0.00	7.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	555	518	6	3	2
Future Vol, veh/h	4	555	518	6	3	2
Conflicting Peds, #/hr	18	0	0	18	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	4	597	557	6	3	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	581	0	-	0	886	300
Stage 1	-	-	-	-	578	-
Stage 2	-	-	-	-	308	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1003	-	-	-	288	702
Stage 1	-	-	-	-	530	-
Stage 2	-	-	-	-	725	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1003	-	-	-	278	691
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	522	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1003	-	-	-	478
HCM Lane V/C Ratio	0.004	-	-	-	0.011
HCM Control Delay (s)	8.6	-	-	-	12.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	566	525	0	1	0
Future Vol, veh/h	0	566	525	0	1	0
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	0	602	559	0	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	576	0	-	0	877	296
Stage 1	-	-	-	-	576	-
Stage 2	-	-	-	-	301	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1007	-	-	-	292	706
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	731	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1007	-	-	-	284	696
Mov Cap-2 Maneuver	-	-	-	-	400	-
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	720	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1007	-	-	-	400
HCM Lane V/C Ratio	-	-	-	-	0.003
HCM Control Delay (s)	0	-	-	-	14
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	208	348	80	830	238	93	411	152	599
v/c Ratio	1.03	0.41	0.20	1.02	0.37	0.27	0.36	0.37	0.47
Control Delay	98.6	28.3	17.5	74.1	5.2	18.5	27.1	19.8	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.6	28.3	17.5	74.1	5.2	18.5	27.1	19.8	17.3
Queue Length 50th (m)	~34.8	43.9	9.7	~149.4	0.0	11.4	34.7	19.3	32.0
Queue Length 95th (m)	#84.4	64.6	18.8	#206.0	17.2	21.3	48.5	32.7	49.2
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	202	854	412	812	637	354	1134	415	1280
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	1.03	0.41	0.19	1.02	0.37	0.26	0.36	0.37	0.47

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 (veh/h)	191	290	30	74	764	219	86	319	59	140	276	275
Future Volume (veh/h)	191	290	30	74	764	219	86	319	59	140	276	275
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	208	315	33	80	830	238	93	347	64	152	300	299
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	215	1030	107	443	855	502	323	1024	187	426	649	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.05	0.34	0.34	0.07	0.36	0.36
Ln Grp Delay, s/veh	78.1	26.0	25.5	21.7	60.0	31.6	22.9	28.4	28.5	20.8	29.0	30.7
Ln Grp LOS	E	C	C	C	E	C	C	C	C	C	C	C
Approach Vol, veh/h		556			1148			504			751	
Approach Delay, s/veh		45.3			51.4			27.4			28.1	
Approach LOS		D			D			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	11.1	43.0	8.5	46.5	8.6	45.5	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	9.0	37.0	9.0	37.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	8.1	11.5	5.2	10.8	5.8	18.1	10.5	37.4
Green Ext Time (g_e), s	0.0	8.4	0.1	12.3	0.1	7.4	0.0	0.0
Prob of Phs Call (p_c)	0.99	1.00	0.91	1.00	0.94	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3019		2772		1796		2521

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		551		289		1590		1481

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	152	0	80	0	93	0	208	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	6.1	0.0	3.2	0.0	3.8	0.0	8.5	0.0
Cycle Q Clear Time (g_c), s	6.1	0.0	3.2	0.0	3.8	0.0	8.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	927	0	999	0	788	0	510	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	38.5	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	27.5	0.0	31.7	0.0	23.3	0.0	1.6	0.0
Perm LT Q Serve Time (g_ps), s	2.1	0.0	0.5	0.0	1.8	0.0	1.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	426	0	443	0	323	0	215	0
V/C Ratio (X)	0.36	0.00	0.18	0.00	0.29	0.00	0.97	0.00
Avail Cap (c_a), veh/h	440	0	500	0	376	0	215	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.3	0.0	21.5	0.0	22.4	0.0	26.7	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.2	0.0	0.5	0.0	51.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.8	0.0	21.7	0.0	22.9	0.0	78.1	0.0
1st-Term Q (Q1), veh/ln	2.9	0.0	1.5	0.0	1.8	0.0	6.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	3.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.9	0.0	1.5	0.0	1.8	0.0	9.3	0.0
%ile Storage Ratio (RQ%)	12.23	0.00	6.46	0.00	10.39	0.00	26.49	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	204	0	141	0	300	0	830
Grp Sat Flow (s), veh/h/ln	0	1790	0	1250	0	1796	0	1260
Q Serve Time (g_s), s	0.0	9.3	0.0	8.7	0.0	14.0	0.0	35.4
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	8.7	0.0	14.0	0.0	35.4
Lane Grp Cap (c), veh/h	0	607	0	465	0	649	0	855
V/C Ratio (X)	0.00	0.34	0.00	0.30	0.00	0.46	0.00	0.97
Avail Cap (c_a), veh/h	0	607	0	465	0	649	0	855
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.9	0.0	24.3	0.0	26.7	0.0	35.5
Incr Delay (d2), s/veh	0.0	1.5	0.0	1.7	0.0	2.4	0.0	24.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.4	0.0	26.0	0.0	29.0	0.0	60.0
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	3.0	0.0	6.9	0.0	12.3

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.4	0.0	2.9
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	3.2	0.0	7.3	0.0	15.2
%ile Storage Ratio (RQ%)	0.00	21.44	0.00	11.66	0.00	13.60	0.00	26.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	207	0	207	0	299	0	238
Grp Sat Flow (s), veh/h/ln	0	1779	0	1811	0	1590	0	1481
Q Serve Time (g_s), s	0.0	9.5	0.0	8.8	0.0	16.1	0.0	13.8
Cycle Q Clear Time (g_c), s	0.0	9.5	0.0	8.8	0.0	16.1	0.0	13.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	603	0	673	0	575	0	502
V/C Ratio (X)	0.00	0.34	0.00	0.31	0.00	0.52	0.00	0.47
Avail Cap (c_a), veh/h	0	603	0	673	0	575	0	502
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.0	0.0	24.3	0.0	27.4	0.0	28.4
Incr Delay (d2), s/veh	0.0	1.5	0.0	1.2	0.0	3.3	0.0	3.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.5	0.0	25.5	0.0	30.7	0.0	31.6
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	4.4	0.0	7.1	0.0	5.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.5	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.9	0.0	4.6	0.0	7.6	0.0	6.1
%ile Storage Ratio (RQ%)	0.00	21.74	0.00	16.75	0.00	14.07	0.00	13.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	40.2
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	539	1098	36	21	8
Future Vol, veh/h	14	539	1098	36	21	8
Conflicting Peds, #/hr	24	0	0	24	3	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	14	556	1132	37	22	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1193	0	-	0	1485	612
Stage 1	-	-	-	-	1175	-
Stage 2	-	-	-	-	310	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	592	-	-	-	118	441
Stage 1	-	-	-	-	260	-
Stage 2	-	-	-	-	723	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	591	-	-	-	111	431
Mov Cap-2 Maneuver	-	-	-	-	207	-
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	692	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	22
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	591	-	-	-	242
HCM Lane V/C Ratio	0.024	-	-	-	0.124
HCM Control Delay (s)	11.2	-	-	-	22
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	564	1138	5	1	5
Future Vol, veh/h	0	564	1138	5	1	5
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	0	581	1173	5	1	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1198	0	-	0	1487	609
Stage 1	-	-	-	-	1196	-
Stage 2	-	-	-	-	291	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	590	-	-	-	117	443
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	739	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	590	-	-	-	113	435
Mov Cap-2 Maneuver	-	-	-	-	205	-
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	726	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	590	-	-	-	366
HCM Lane V/C Ratio	-	-	-	-	0.017
HCM Control Delay (s)	0	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	224	424	71	346	151	45	397	221	423
v/c Ratio	0.58	0.51	0.22	0.44	0.27	0.11	0.36	0.52	0.34
Control Delay	25.5	30.6	17.9	30.5	5.5	16.6	26.8	23.5	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	30.6	17.9	30.5	5.5	16.6	26.8	23.5	14.3
Queue Length 50th (m)	29.9	56.2	8.6	45.0	0.0	5.4	33.0	29.5	18.4
Queue Length 95th (m)	47.3	80.8	17.1	65.0	14.2	11.9	46.6	46.8	32.5
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	383	827	340	794	565	431	1099	421	1238
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	0.58	0.51	0.21	0.44	0.27	0.10	0.36	0.52	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	367	36	67	329	143	43	309	68	210	213	189
Future Volume (veh/h)	213	367	36	67	329	143	43	309	68	210	213	189
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	224	386	38	71	346	151	45	325	72	221	224	199
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	408	1000	98	378	831	482	384	955	209	439	667	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.34	0.34	0.08	0.38	0.38
Ln Grp Delay, s/veh	23.0	27.9	27.2	22.3	29.7	28.8	22.2	28.9	29.0	22.0	25.8	26.3
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		648			568			442			644	
Approach Delay, s/veh		26.0			28.5			28.3			24.6	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	43.0	8.3	46.7	7.5	47.5	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	9.0	37.0	9.0	37.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	11.0	11.6	5.1	13.6	3.9	12.5	11.0	13.9
Green Ext Time (g_e), s	0.0	6.5	0.1	6.9	0.0	6.4	0.0	6.8
Prob of Phs Call (p_c)	1.00	1.00	0.89	1.00	0.75	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.56	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2839		2705		1768		2472

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		620		265		1496		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	221	0	71	0	45	0	224	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	9.0	0.0	3.1	0.0	1.9	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	9.0	0.0	3.1	0.0	1.9	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	940	0	883	0	891	0	876	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	27.4	0.0	29.1	0.0	31.0	0.0	25.1	0.0
Perm LT Q Serve Time (g_ps), s	4.1	0.0	0.7	0.0	0.3	0.0	5.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	439	0	378	0	384	0	408	0
V/C Ratio (X)	0.50	0.00	0.19	0.00	0.12	0.00	0.55	0.00
Avail Cap (c_a), veh/h	439	0	433	0	452	0	408	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.1	0.0	22.1	0.0	22.1	0.0	21.4	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	0.0	0.1	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.0	0.0	22.3	0.0	22.2	0.0	23.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.4	0.0	0.9	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	1.4	0.0	0.9	0.0	1.4	0.0
%ile Storage Ratio (RQ%)	4.73	0.00	5.68	0.00	4.90	0.00	3.92	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	198	0	172	0	218	0	346
Grp Sat Flow (s), veh/h/ln	0	1742	0	1211	0	1726	0	1236
Q Serve Time (g_s), s	0.0	9.3	0.0	11.5	0.0	9.9	0.0	11.9
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	11.5	0.0	9.9	0.0	11.9
Lane Grp Cap (c), veh/h	0	586	0	448	0	651	0	831
V/C Ratio (X)	0.00	0.34	0.00	0.38	0.00	0.34	0.00	0.42
Avail Cap (c_a), veh/h	0	586	0	448	0	651	0	831
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.3	0.0	25.5	0.0	24.4	0.0	28.2
Incr Delay (d2), s/veh	0.0	1.6	0.0	2.5	0.0	1.4	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.9	0.0	27.9	0.0	25.8	0.0	29.7
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	3.8	0.0	4.7	0.0	4.0

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	4.1	0.0	5.0	0.0	4.2
%ile Storage Ratio (RQ%)	0.00	20.77	0.00	14.70	0.00	9.02	0.00	7.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	199	0	252	0	205	0	151
Grp Sat Flow (s), veh/h/ln	0	1717	0	1759	0	1539	0	1433
Q Serve Time (g_s), s	0.0	9.6	0.0	11.6	0.0	10.5	0.0	8.6
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	11.6	0.0	10.5	0.0	8.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.15	0.00	0.97	0.00	1.00
Lane Grp Cap (c), veh/h	0	578	0	651	0	581	0	482
V/C Ratio (X)	0.00	0.35	0.00	0.39	0.00	0.35	0.00	0.31
Avail Cap (c_a), veh/h	0	578	0	651	0	581	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	25.5	0.0	24.6	0.0	27.1
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.7	0.0	1.7	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.0	0.0	27.2	0.0	26.3	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	5.6	0.0	4.4	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	5.9	0.0	4.7	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	20.97	0.00	21.03	0.00	8.52	0.00	7.63
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	583	544	6	3	2
Future Vol, veh/h	4	583	544	6	3	2
Conflicting Peds, #/hr	18	0	0	18	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	4	627	585	6	3	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	609	0	-	0	929	314
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	979	-	-	-	270	688
Stage 1	-	-	-	-	513	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	979	-	-	-	261	678
Mov Cap-2 Maneuver	-	-	-	-	381	-
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	698	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	979	-	-	-	462
HCM Lane V/C Ratio	0.004	-	-	-	0.012
HCM Control Delay (s)	8.7	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	595	552	0	1	0
Future Vol, veh/h	0	595	552	0	1	0
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	0	633	587	0	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	604	0	-	0	920	311
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	316	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	984	-	-	-	274	691
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	984	-	-	-	266	681
Mov Cap-2 Maneuver	-	-	-	-	385	-
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	708	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	984	-	-	-	385
HCM Lane V/C Ratio	-	-	-	-	0.003
HCM Control Delay (s)	0	-	-	-	14.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	218	367	85	873	250	98	431	160	629
v/c Ratio	1.08	0.42	0.22	1.05	0.38	0.32	0.38	0.40	0.51
Control Delay	113.3	28.0	17.1	80.7	5.0	19.9	27.5	21.2	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.3	28.0	17.1	80.7	5.0	19.9	27.5	21.2	18.8
Queue Length 50th (m)	~39.6	46.3	10.2	~160.7	0.0	12.3	36.7	20.9	35.4
Queue Length 95th (m)	#89.4	67.1	19.4	#218.0	17.3	22.6	51.0	34.9	53.3
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	202	872	406	832	654	311	1131	397	1223
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	1.08	0.42	0.21	1.05	0.38	0.32	0.38	0.40	0.51

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 (veh/h)	201	305	32	78	803	230	90	335	62	147	290	289
Future Volume (veh/h)	201	305	32	78	803	230	90	335	62	147	290	289
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	218	332	35	85	873	250	98	364	67	160	315	314
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	206	1044	109	439	871	512	308	1016	185	412	640	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.38	0.38	0.05	0.35	0.35	0.05	0.34	0.34	0.07	0.36	0.36
Ln Grp Delay, s/veh	108.3	26.0	25.5	21.5	67.1	31.7	23.6	29.2	29.3	21.7	30.3	32.3
Ln Grp LOS	F	C	C	C	F	C	C	C	C	C	C	C
Approach Vol, veh/h		585			1208			529			789	
Approach Delay, s/veh		56.5			56.6			28.2			29.4	
Approach LOS		E			E			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	11.0	43.0	8.6	47.4	8.8	45.2	12.0	44.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	8.0	37.0	9.0	38.0	8.0	37.0	9.0	38.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	8.6	12.1	5.4	11.4	6.1	19.4	11.0	40.0
Green Ext Time (g_e), s	0.0	8.8	0.1	13.1	0.1	7.5	0.0	0.0
Prob of Phs Call (p_c)	0.99	1.00	0.93	1.00	0.95	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3019		2770		1796		2521

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		550		291		1589		1481

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	160	0	85	0	98	0	218	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	6.6	0.0	3.4	0.0	4.1	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	6.6	0.0	3.4	0.0	4.1	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	910	0	982	0	767	0	484	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	38.2	0.0	38.0	0.0	37.0	0.0	40.0	0.0
Perm LT Serve Time (g_u), s	26.9	0.0	32.1	0.0	21.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.4	0.0	0.6	0.0	2.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	412	0	439	0	308	0	206	0
V/C Ratio (X)	0.39	0.00	0.19	0.00	0.32	0.00	1.06	0.00
Avail Cap (c_a), veh/h	412	0	494	0	342	0	206	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.1	0.0	21.3	0.0	23.0	0.0	29.7	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.2	0.0	0.6	0.0	78.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	21.7	0.0	21.5	0.0	23.6	0.0	108.3	0.0
1st-Term Q (Q1), veh/ln	3.1	0.0	1.6	0.0	1.9	0.0	6.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	4.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	1.6	0.0	2.0	0.0	10.7	0.0
%ile Storage Ratio (RQ%)	13.08	0.00	6.87	0.00	11.13	0.00	30.57	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	214	0	149	0	315	0	873
Grp Sat Flow (s), veh/h/ln	0	1790	0	1250	0	1796	0	1260
Q Serve Time (g_s), s	0.0	9.9	0.0	9.3	0.0	15.1	0.0	38.0
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	9.3	0.0	15.1	0.0	38.0
Lane Grp Cap (c), veh/h	0	602	0	471	0	640	0	871
V/C Ratio (X)	0.00	0.36	0.00	0.32	0.00	0.49	0.00	1.00
Avail Cap (c_a), veh/h	0	602	0	471	0	640	0	871
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	24.2	0.0	27.6	0.0	36.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.8	0.0	2.7	0.0	31.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.2	0.0	26.0	0.0	30.3	0.0	67.1
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	3.2	0.0	7.4	0.0	13.2

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.5	0.0	3.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	3.4	0.0	7.9	0.0	16.9
%ile Storage Ratio (RQ%)	0.00	22.81	0.00	12.31	0.00	14.66	0.00	29.34
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	217	0	218	0	314	0	250
Grp Sat Flow (s), veh/h/ln	0	1779	0	1811	0	1589	0	1481
Q Serve Time (g_s), s	0.0	10.1	0.0	9.4	0.0	17.4	0.0	14.6
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	9.4	0.0	17.4	0.0	14.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	599	0	682	0	566	0	512
V/C Ratio (X)	0.00	0.36	0.00	0.32	0.00	0.55	0.00	0.49
Avail Cap (c_a), veh/h	0	599	0	682	0	566	0	512
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.6	0.0	24.3	0.0	28.4	0.0	28.3
Incr Delay (d2), s/veh	0.0	1.7	0.0	1.2	0.0	3.9	0.0	3.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.3	0.0	25.5	0.0	32.3	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	4.7	0.0	7.7	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.6	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	4.9	0.0	8.3	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	23.09	0.00	17.66	0.00	15.35	0.00	13.81
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	44.8
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	566	1154	38	22	8
Future Vol, veh/h	15	566	1154	38	22	8
Conflicting Peds, #/hr	24	0	0	24	3	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	15	584	1190	39	23	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1253	0	-	0	1559	641
Stage 1	-	-	-	-	1233	-
Stage 2	-	-	-	-	326	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	562	-	-	-	105	422
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	710	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	561	-	-	-	98	413
Mov Cap-2 Maneuver	-	-	-	-	192	-
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	561	-	-	-	224
HCM Lane V/C Ratio	0.028	-	-	-	0.138
HCM Control Delay (s)	11.6	-	-	-	23.6
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	593	1196	5	1	5
Future Vol, veh/h	0	593	1196	5	1	5
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	0	611	1233	5	1	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1258	0	-	0	1562	639
Stage 1	-	-	-	-	1256	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	560	-	-	-	105	424
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	560	-	-	-	101	417
Mov Cap-2 Maneuver	-	-	-	-	190	-
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	714	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	560	-	-	-	348
HCM Lane V/C Ratio	-	-	-	-	0.018
HCM Control Delay (s)	0	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	224	424	71	346	151	45	397	221	423
v/c Ratio	0.48	0.35	0.18	0.31	0.27	0.11	0.36	0.52	0.33
Control Delay	21.8	25.2	17.5	28.0	5.5	16.7	26.8	22.8	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	25.2	17.5	28.0	5.5	16.7	26.8	22.8	13.6
Queue Length 50th (m)	29.9	35.5	8.6	30.2	0.0	5.4	33.0	29.5	18.1
Queue Length 95th (m)	47.3	49.2	17.1	42.7	14.2	11.9	46.6	46.8	31.0
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	465	1228	392	1126	565	396	1099	429	1271
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	0.48	0.35	0.18	0.31	0.27	0.11	0.36	0.52	0.33

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	367	36	67	329	143	43	309	68	210	213	189
Future Volume (veh/h)	213	367	36	67	329	143	43	309	68	210	213	189
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	224	386	38	71	346	151	45	325	72	221	224	199
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	438	1168	114	393	1179	482	384	955	209	439	667	565
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.34	0.34	0.08	0.38	0.38
Ln Grp Delay, s/veh	21.8	26.2	26.3	22.2	27.5	28.8	22.2	28.9	29.0	22.0	25.8	26.3
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		648			568			442			644	
Approach Delay, s/veh		24.7			27.2			28.3			24.6	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	43.0	8.3	46.7	7.5	47.5	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	6.0	40.0	6.0	40.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	11.0	11.6	5.1	11.7	3.9	12.5	11.0	10.6
Green Ext Time (g_e), s	0.0	6.5	0.0	7.3	0.0	6.7	0.0	7.1
Prob of Phs Call (p_c)	1.00	1.00	0.89	1.00	0.75	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2839		3159		1768		3505

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		620		309		1496		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	221	0	71	0	45	0	224	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	9.0	0.0	3.1	0.0	1.9	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	9.0	0.0	3.1	0.0	1.9	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	940	0	883	0	891	0	875	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	27.4	0.0	31.0	0.0	31.0	0.0	29.0	0.0
Perm LT Q Serve Time (g_ps), s	4.1	0.0	0.5	0.0	0.3	0.0	3.9	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	439	0	393	0	384	0	438	0
V/C Ratio (X)	0.50	0.00	0.18	0.00	0.12	0.00	0.51	0.00
Avail Cap (c_a), veh/h	439	0	403	0	407	0	438	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.1	0.0	21.9	0.0	22.1	0.0	20.8	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	0.0	0.1	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.0	0.0	22.2	0.0	22.2	0.0	21.8	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.4	0.0	0.9	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	1.4	0.0	0.9	0.0	1.0	0.0
%ile Storage Ratio (RQ%)	4.73	0.00	5.68	0.00	4.90	0.00	2.87	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	198	0	209	0	218	0	346
Grp Sat Flow (s), veh/h/ln	0	1742	0	1718	0	1726	0	1752
Q Serve Time (g_s), s	0.0	9.3	0.0	9.6	0.0	9.9	0.0	8.0
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	9.6	0.0	9.9	0.0	8.0
Lane Grp Cap (c), veh/h	0	586	0	635	0	651	0	1179
V/C Ratio (X)	0.00	0.34	0.00	0.33	0.00	0.34	0.00	0.29
Avail Cap (c_a), veh/h	0	586	0	635	0	651	0	1179
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.3	0.0	24.9	0.0	24.4	0.0	26.9
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.4	0.0	1.4	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.9	0.0	26.2	0.0	25.8	0.0	27.5
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	4.5	0.0	4.7	0.0	3.8

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	4.8	0.0	5.0	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	20.77	0.00	16.97	0.00	9.02	0.00	6.78
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	199	0	215	0	205	0	151
Grp Sat Flow (s), veh/h/ln	0	1717	0	1751	0	1539	0	1433
Q Serve Time (g_s), s	0.0	9.6	0.0	9.7	0.0	10.5	0.0	8.6
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	9.7	0.0	10.5	0.0	8.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.18	0.00	0.97	0.00	1.00
Lane Grp Cap (c), veh/h	0	578	0	648	0	581	0	482
V/C Ratio (X)	0.00	0.35	0.00	0.33	0.00	0.35	0.00	0.31
Avail Cap (c_a), veh/h	0	578	0	648	0	581	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	24.9	0.0	24.6	0.0	27.1
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.4	0.0	1.7	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.0	0.0	26.3	0.0	26.3	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	4.7	0.0	4.4	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	4.9	0.0	4.7	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	20.97	0.00	17.46	0.00	8.52	0.00	7.63
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	583	544	6	3	2
Future Vol, veh/h	4	583	544	6	3	2
Conflicting Peds, #/hr	18	0	0	18	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	4	627	585	6	3	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	609	0	-	0	929	314
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	979	-	-	-	270	688
Stage 1	-	-	-	-	513	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	979	-	-	-	261	678
Mov Cap-2 Maneuver	-	-	-	-	381	-
Stage 1	-	-	-	-	505	-
Stage 2	-	-	-	-	698	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	979	-	-	-	462
HCM Lane V/C Ratio	0.004	-	-	-	0.012
HCM Control Delay (s)	8.7	-	-	-	12.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	595	552	0	1	0
Future Vol, veh/h	0	595	552	0	1	0
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	0	633	587	0	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	604	0	-	0	920	311
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	316	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	984	-	-	-	274	691
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	984	-	-	-	266	681
Mov Cap-2 Maneuver	-	-	-	-	385	-
Stage 1	-	-	-	-	507	-
Stage 2	-	-	-	-	708	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	984	-	-	-	385
HCM Lane V/C Ratio	-	-	-	-	0.003
HCM Control Delay (s)	0	-	-	-	14.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	218	367	85	873	250	98	431	160	629
v/c Ratio	0.78	0.27	0.20	0.76	0.39	0.35	0.38	0.43	0.52
Control Delay	37.2	22.2	16.1	37.6	5.2	21.9	27.5	23.8	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	22.2	16.1	37.6	5.2	21.9	27.5	23.8	18.9
Queue Length 50th (m)	27.3	28.4	9.8	91.9	0.0	12.7	36.7	21.7	35.4
Queue Length 95th (m)	#59.4	40.1	18.6	116.5	17.6	23.5	51.0	36.2	53.3
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	284	1352	435	1151	645	279	1134	368	1216
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	0.77	0.27	0.20	0.76	0.39	0.35	0.38	0.43	0.52

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 (veh/h)	201	305	32	78	803	230	90	335	62	147	290	289
Future Volume (veh/h)	201	305	32	78	803	230	90	335	62	147	290	289
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	218	332	35	85	873	250	98	364	67	160	315	314
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	298	1270	133	470	1236	512	292	1020	186	383	611	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.39	0.39	0.05	0.35	0.35	0.05	0.34	0.34	0.05	0.34	0.34
Ln Grp Delay, s/veh	31.0	23.4	23.5	21.2	34.4	31.5	23.9	28.9	29.0	24.6	32.0	34.2
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		585			1208			529			789	
Approach Delay, s/veh		26.3			32.9			28.0			31.4	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.0	43.0	8.5	49.0	8.7	43.3	13.7	43.9
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	6.0	37.0	6.0	43.0	6.0	37.0	12.0	37.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	8.0	12.1	5.4	9.7	6.0	19.8	10.6	25.2
Green Ext Time (g_e), s	0.0	8.9	0.0	14.6	0.0	7.4	0.1	7.8
Prob of Phs Call (p_c)	0.99	1.00	0.92	1.00	0.95	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3019		3236		1796		3574

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		550		339		1589		1481

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	160	0	85	0	98	0	218	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	6.0	0.0	3.4	0.0	4.0	0.0	8.6	0.0
Cycle Q Clear Time (g_c), s	6.0	0.0	3.4	0.0	4.0	0.0	8.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	910	0	982	0	767	0	484	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	37.0	0.0	37.9	0.0	37.0	0.0	39.9	0.0
Perm LT Serve Time (g_u), s	26.9	0.0	35.3	0.0	19.5	0.0	14.7	0.0
Perm LT Q Serve Time (g_ps), s	4.0	0.0	0.2	0.0	2.6	0.0	14.7	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	383	0	470	0	292	0	298	0
V/C Ratio (X)	0.42	0.00	0.18	0.00	0.34	0.00	0.73	0.00
Avail Cap (c_a), veh/h	383	0	478	0	296	0	319	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	23.9	0.0	21.0	0.0	23.2	0.0	23.3	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.2	0.0	0.7	0.0	7.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.6	0.0	21.2	0.0	23.9	0.0	31.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.6	0.0	1.9	0.0	4.1	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	1.7	0.0	1.9	0.0	4.7	0.0
%ile Storage Ratio (RQ%)	4.34	0.00	6.96	0.00	11.00	0.00	13.37	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	214	0	181	0	315	0	873
Grp Sat Flow (s), veh/h/ln	0	1790	0	1773	0	1796	0	1787
Q Serve Time (g_s), s	0.0	9.9	0.0	7.6	0.0	15.4	0.0	23.2
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	7.6	0.0	15.4	0.0	23.2
Lane Grp Cap (c), veh/h	0	605	0	696	0	611	0	1236
V/C Ratio (X)	0.00	0.35	0.00	0.26	0.00	0.52	0.00	0.71
Avail Cap (c_a), veh/h	0	605	0	696	0	611	0	1236
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.3	0.0	22.5	0.0	28.9	0.0	31.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.9	0.0	3.1	0.0	3.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.9	0.0	23.4	0.0	32.0	0.0	34.4
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	3.7	0.0	7.6	0.0	11.4

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.5	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	3.9	0.0	8.1	0.0	12.0
%ile Storage Ratio (RQ%)	0.00	22.80	0.00	14.03	0.00	15.07	0.00	20.75
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	217	0	186	0	314	0	250
Grp Sat Flow (s), veh/h/ln	0	1779	0	1802	0	1589	0	1481
Q Serve Time (g_s), s	0.0	10.1	0.0	7.7	0.0	17.8	0.0	14.6
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	7.7	0.0	17.8	0.0	14.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.19	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	601	0	707	0	540	0	512
V/C Ratio (X)	0.00	0.36	0.00	0.26	0.00	0.58	0.00	0.49
Avail Cap (c_a), veh/h	0	601	0	707	0	540	0	512
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	22.5	0.0	29.7	0.0	28.2
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.9	0.0	4.5	0.0	3.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.0	0.0	23.5	0.0	34.2	0.0	31.5
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	3.8	0.0	7.8	0.0	5.9
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.7	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	4.0	0.0	8.4	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	23.09	0.00	14.44	0.00	15.63	0.00	13.76
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	30.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	566	1154	38	22	8
Future Vol, veh/h	15	566	1154	38	22	8
Conflicting Peds, #/hr	24	0	0	24	3	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	15	584	1190	39	23	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1253	0	-	0	1559	641
Stage 1	-	-	-	-	1233	-
Stage 2	-	-	-	-	326	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	562	-	-	-	105	422
Stage 1	-	-	-	-	242	-
Stage 2	-	-	-	-	710	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	561	-	-	-	98	413
Mov Cap-2 Maneuver	-	-	-	-	192	-
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	561	-	-	-	224
HCM Lane V/C Ratio	0.028	-	-	-	0.138
HCM Control Delay (s)	11.6	-	-	-	23.6
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	593	1196	5	1	5
Future Vol, veh/h	0	593	1196	5	1	5
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	0	611	1233	5	1	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1258	0	-	0	1562	639
Stage 1	-	-	-	-	1256	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	560	-	-	-	105	424
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	560	-	-	-	101	417
Mov Cap-2 Maneuver	-	-	-	-	190	-
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	714	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	560	-	-	-	348
HCM Lane V/C Ratio	-	-	-	-	0.018
HCM Control Delay (s)	0	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	236	446	75	364	158	47	418	233	445
v/c Ratio	0.64	0.54	0.24	0.46	0.28	0.12	0.38	0.57	0.36
Control Delay	27.8	31.2	18.2	31.0	5.5	16.7	27.2	24.9	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	31.2	18.2	31.0	5.5	16.7	27.2	24.9	14.4
Queue Length 50th (m)	31.8	60.0	9.1	47.7	0.0	5.6	35.1	31.4	19.5
Queue Length 95th (m)	49.8	85.7	17.8	68.8	14.3	12.4	49.2	49.3	34.1
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	370	826	327	794	569	419	1099	410	1245
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	0.64	0.54	0.23	0.46	0.28	0.11	0.38	0.57	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	386	38	71	346	150	45	325	72	221	224	199
Future Volume (veh/h)	224	386	38	71	346	150	45	325	72	221	224	199
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	236	406	40	75	364	158	47	342	76	233	236	209
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	397	998	98	368	831	482	375	954	209	430	666	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.34	0.34	0.08	0.38	0.38
Ln Grp Delay, s/veh	24.8	28.4	27.7	22.4	30.1	29.0	22.3	29.2	29.4	23.3	26.2	26.7
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		682			597			465			678	
Approach Delay, s/veh		26.9			28.8			28.6			25.3	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	43.0	8.4	46.6	7.6	47.4	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	9.0	37.0	9.0	37.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	11.0	12.2	5.2	14.3	4.0	13.1	11.0	14.6
Green Ext Time (g_e), s	0.0	6.8	0.1	7.2	0.0	6.8	0.0	7.2
Prob of Phs Call (p_c)	1.00	1.00	0.90	1.00	0.76	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.62	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2836		2705		1768		2472

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		622		266		1496		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	233	0	75	0	47	0	236	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	9.0	0.0	3.2	0.0	2.0	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	9.0	0.0	3.2	0.0	2.0	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	923	0	865	0	874	0	856	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	26.8	0.0	28.3	0.0	30.3	0.0	24.4	0.0
Perm LT Q Serve Time (g_ps), s	5.9	0.0	0.8	0.0	0.4	0.0	7.4	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	430	0	368	0	375	0	397	0
V/C Ratio (X)	0.54	0.00	0.20	0.00	0.13	0.00	0.59	0.00
Avail Cap (c_a), veh/h	430	0	422	0	441	0	397	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.9	0.0	22.1	0.0	22.1	0.0	22.5	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.3	0.0	0.1	0.0	2.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.3	0.0	22.4	0.0	22.3	0.0	24.8	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	1.4	0.0	0.9	0.0	1.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	1.5	0.0	0.9	0.0	2.0	0.0
%ile Storage Ratio (RQ%)	6.69	0.00	6.01	0.00	5.12	0.00	5.57	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	208	0	181	0	230	0	364
Grp Sat Flow (s), veh/h/ln	0	1742	0	1211	0	1726	0	1236
Q Serve Time (g_s), s	0.0	9.9	0.0	12.2	0.0	10.6	0.0	12.6
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	12.2	0.0	10.6	0.0	12.6
Lane Grp Cap (c), veh/h	0	586	0	447	0	650	0	831
V/C Ratio (X)	0.00	0.36	0.00	0.40	0.00	0.35	0.00	0.44
Avail Cap (c_a), veh/h	0	586	0	447	0	650	0	831
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	25.7	0.0	24.7	0.0	28.4
Incr Delay (d2), s/veh	0.0	1.7	0.0	2.7	0.0	1.5	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.2	0.0	28.4	0.0	26.2	0.0	30.1
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	4.1	0.0	5.1	0.0	4.3

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	4.4	0.0	5.3	0.0	4.5
%ile Storage Ratio (RQ%)	0.00	21.92	0.00	15.68	0.00	9.64	0.00	7.71
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	210	0	265	0	215	0	158
Grp Sat Flow (s), veh/h/ln	0	1717	0	1759	0	1538	0	1433
Q Serve Time (g_s), s	0.0	10.2	0.0	12.3	0.0	11.1	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	12.3	0.0	11.1	0.0	9.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.15	0.00	0.97	0.00	1.00
Lane Grp Cap (c), veh/h	0	578	0	649	0	579	0	482
V/C Ratio (X)	0.00	0.36	0.00	0.41	0.00	0.37	0.00	0.33
Avail Cap (c_a), veh/h	0	578	0	649	0	579	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.6	0.0	25.8	0.0	24.8	0.0	27.2
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.9	0.0	1.8	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.4	0.0	27.7	0.0	26.7	0.0	29.0
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	6.0	0.0	4.7	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	6.3	0.0	5.0	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	22.35	0.00	22.42	0.00	9.07	0.00	7.99
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	613	572	7	3	2
Future Vol, veh/h	4	613	572	7	3	2
Conflicting Peds, #/hr	18	0	0	18	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	4	659	615	8	3	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	641	0	-	0	976	329
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	953	-	-	-	252	673
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	953	-	-	-	243	663
Mov Cap-2 Maneuver	-	-	-	-	365	-
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	953	-	-	-	445
HCM Lane V/C Ratio	0.005	-	-	-	0.012
HCM Control Delay (s)	8.8	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	625	580	0	1	0
Future Vol, veh/h	0	625	580	0	1	0
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	0	665	617	0	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	634	0	-	0	966	326
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	332	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	959	-	-	-	256	676
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	959	-	-	-	249	666
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	489	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	959	-	-	-	370
HCM Lane V/C Ratio	-	-	-	-	0.003
HCM Control Delay (s)	0	-	-	-	14.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	229	384	89	917	263	103	454	168	662
v/c Ratio	1.13	0.43	0.23	1.07	0.39	0.37	0.40	0.45	0.54
Control Delay	130.1	27.6	16.7	87.5	4.9	21.5	27.9	23.3	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.1	27.6	16.7	87.5	4.9	21.5	27.9	23.3	19.8
Queue Length 50th (m)	~44.7	48.2	10.5	~172.3	0.0	13.2	39.2	22.4	39.1
Queue Length 95th (m)	#95.5	69.4	19.7	#230.3	17.4	24.1	54.0	37.2	57.7
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	202	891	403	854	673	281	1131	370	1218
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	1.13	0.43	0.22	1.07	0.39	0.37	0.40	0.45	0.54

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 (veh/h)	211	320	33	82	844	242	95	352	65	155	305	304
Future Volume (veh/h)	211	320	33	82	844	242	95	352	65	155	305	304
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	229	348	36	89	917	263	103	383	71	168	332	330
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	206	1070	110	441	894	525	289	1014	186	387	620	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.39	0.39	0.05	0.35	0.35	0.05	0.34	0.34	0.06	0.35	0.35
Ln Grp Delay, s/veh	125.5	25.5	25.0	20.9	72.4	31.2	24.1	29.5	29.6	23.6	32.2	34.6
Ln Grp LOS	F	C	C	C	F	C	C	C	C	C	C	C
Approach Vol, veh/h		613			1269			557			830	
Approach Delay, s/veh		62.7			60.3			28.6			31.4	
Approach LOS		E			E			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	10.0	43.0	8.6	48.4	9.0	44.0	12.0	45.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	7.0	37.0	9.0	39.0	7.0	37.0	9.0	39.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	9.0	12.7	5.5	11.7	6.3	20.9	11.0	41.0
Green Ext Time (g_e), s	0.0	9.3	0.1	14.1	0.0	7.6	0.0	0.0
Prob of Phs Call (p_c)	0.99	1.00	0.93	1.00	0.96	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3015		2776		1796		2521

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		554		286		1589		1481

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	168	0	89	0	103	0	229	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	7.0	0.0	3.5	0.0	4.3	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	7.0	0.0	3.5	0.0	4.3	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	891	0	968	0	744	0	459	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	37.0	0.0	39.0	0.0	37.0	0.0	41.0	0.0
Perm LT Serve Time (g_u), s	26.3	0.0	32.7	0.0	19.1	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.0	0.0	0.6	0.0	2.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	387	0	441	0	289	0	206	0
V/C Ratio (X)	0.43	0.00	0.20	0.00	0.36	0.00	1.11	0.00
Avail Cap (c_a), veh/h	387	0	495	0	304	0	206	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.9	0.0	20.7	0.0	23.4	0.0	30.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.2	0.0	0.7	0.0	95.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.6	0.0	20.9	0.0	24.1	0.0	125.5	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	1.7	0.0	2.0	0.0	6.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	5.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.8	0.0	1.7	0.0	2.1	0.0	11.7	0.0
%ile Storage Ratio (RQ%)	3.27	0.00	7.09	0.00	11.73	0.00	33.32	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	5.7	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	226	0	156	0	332	0	917
Grp Sat Flow (s), veh/h/ln	0	1790	0	1250	0	1796	0	1260
Q Serve Time (g_s), s	0.0	10.5	0.0	9.6	0.0	16.3	0.0	39.0
Cycle Q Clear Time (g_c), s	0.0	10.5	0.0	9.6	0.0	16.3	0.0	39.0
Lane Grp Cap (c), veh/h	0	602	0	482	0	620	0	894
V/C Ratio (X)	0.00	0.38	0.00	0.32	0.00	0.54	0.00	1.03
Avail Cap (c_a), veh/h	0	602	0	482	0	620	0	894
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.7	0.0	23.7	0.0	28.9	0.0	35.5
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.8	0.0	3.3	0.0	36.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.5	0.0	25.5	0.0	32.2	0.0	72.4
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	3.3	0.0	8.1	0.0	13.5

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.6	0.0	4.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	3.6	0.0	8.7	0.0	18.1
%ile Storage Ratio (RQ%)	0.00	24.36	0.00	12.87	0.00	16.08	0.00	31.36
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	228	0	330	0	263
Grp Sat Flow (s), veh/h/ln	0	1779	0	1812	0	1589	0	1481
Q Serve Time (g_s), s	0.0	10.7	0.0	9.7	0.0	18.9	0.0	15.3
Cycle Q Clear Time (g_c), s	0.0	10.7	0.0	9.7	0.0	18.9	0.0	15.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	598	0	698	0	549	0	525
V/C Ratio (X)	0.00	0.38	0.00	0.33	0.00	0.60	0.00	0.50
Avail Cap (c_a), veh/h	0	598	0	698	0	549	0	525
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.8	0.0	23.8	0.0	29.8	0.0	27.9
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.2	0.0	4.8	0.0	3.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.6	0.0	25.0	0.0	34.6	0.0	31.2
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	4.9	0.0	8.3	0.0	6.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.7	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	5.1	0.0	9.0	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	24.62	0.00	18.46	0.00	16.64	0.00	14.52
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	48.0
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	595	1213	40	23	9
Future Vol, veh/h	15	595	1213	40	23	9
Conflicting Peds, #/hr	24	0	0	24	3	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	15	613	1251	41	24	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1316	0	-	0	1636	673
Stage 1	-	-	-	-	1295	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	532	-	-	-	93	402
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	531	-	-	-	87	393
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	219	-
Stage 2	-	-	-	-	664	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	25.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	531	-	-	-	209
HCM Lane V/C Ratio	0.029	-	-	-	0.158
HCM Control Delay (s)	12	-	-	-	25.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	623	1257	6	1	6
Future Vol, veh/h	0	623	1257	6	1	6
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	0	642	1296	6	1	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1322	0	-	0	1640	671
Stage 1	-	-	-	-	1319	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	529	-	-	-	93	404
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	529	-	-	-	90	397
Mov Cap-2 Maneuver	-	-	-	-	176	-
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	702	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	529	-	-	-	337
HCM Lane V/C Ratio	-	-	-	-	0.021
HCM Control Delay (s)	0	-	-	-	15.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	236	446	75	364	158	47	418	233	445
v/c Ratio	0.52	0.36	0.20	0.32	0.28	0.12	0.38	0.56	0.35
Control Delay	22.8	25.5	17.6	28.2	5.5	16.8	27.2	24.0	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	25.5	17.6	28.2	5.5	16.8	27.2	24.0	13.7
Queue Length 50th (m)	31.8	37.7	9.1	32.0	0.0	5.6	35.1	31.4	19.1
Queue Length 95th (m)	49.8	52.0	17.8	45.0	14.3	12.4	49.2	49.3	32.5
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	455	1228	384	1126	569	388	1099	418	1279
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	0.52	0.36	0.20	0.32	0.28	0.12	0.38	0.56	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	386	38	71	346	150	45	325	72	221	224	199
Future Volume (veh/h)	224	386	38	71	346	150	45	325	72	221	224	199
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	236	406	40	75	364	158	47	342	76	233	236	209
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	430	1166	114	384	1179	482	375	954	209	430	666	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.34	0.34	0.08	0.38	0.38
Ln Grp Delay, s/veh	23.0	26.6	26.6	22.2	27.7	29.0	22.3	29.2	29.4	23.3	26.2	26.7
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		682			597			465			678	
Approach Delay, s/veh		25.4			27.4			28.6			25.3	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	43.0	8.4	46.6	7.6	47.4	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	6.0	40.0	6.0	40.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	11.0	12.2	5.2	12.3	4.0	13.1	11.0	11.0
Green Ext Time (g_e), s	0.0	6.8	0.0	7.7	0.0	7.0	0.0	7.5
Prob of Phs Call (p_c)	1.00	1.00	0.90	1.00	0.76	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2836		3159		1768		3505

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		622		310		1496		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	233	0	75	0	47	0	236	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	9.0	0.0	3.2	0.0	2.0	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	9.0	0.0	3.2	0.0	2.0	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	923	0	865	0	874	0	856	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	26.8	0.0	30.3	0.0	30.3	0.0	28.5	0.0
Perm LT Q Serve Time (g_ps), s	5.9	0.0	0.6	0.0	0.4	0.0	5.8	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	430	0	384	0	375	0	430	0
V/C Ratio (X)	0.54	0.00	0.20	0.00	0.13	0.00	0.55	0.00
Avail Cap (c_a), veh/h	430	0	393	0	396	0	430	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.9	0.0	22.0	0.0	22.1	0.0	21.6	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.2	0.0	0.1	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.3	0.0	22.2	0.0	22.3	0.0	23.0	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	1.4	0.0	0.9	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	1.5	0.0	0.9	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	6.69	0.00	6.00	0.00	5.12	0.00	4.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	208	0	220	0	230	0	364
Grp Sat Flow (s), veh/h/ln	0	1742	0	1718	0	1726	0	1752
Q Serve Time (g_s), s	0.0	9.9	0.0	10.2	0.0	10.6	0.0	8.5
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	10.2	0.0	10.6	0.0	8.5
Lane Grp Cap (c), veh/h	0	586	0	634	0	650	0	1179
V/C Ratio (X)	0.00	0.36	0.00	0.35	0.00	0.35	0.00	0.31
Avail Cap (c_a), veh/h	0	586	0	634	0	650	0	1179
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	25.1	0.0	24.7	0.0	27.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	1.5	0.0	1.5	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.2	0.0	26.6	0.0	26.2	0.0	27.7
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	4.8	0.0	5.1	0.0	4.1

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	5.1	0.0	5.3	0.0	4.2
%ile Storage Ratio (RQ%)	0.00	21.92	0.00	18.10	0.00	9.64	0.00	7.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	210	0	226	0	215	0	158
Grp Sat Flow (s), veh/h/ln	0	1717	0	1751	0	1538	0	1433
Q Serve Time (g_s), s	0.0	10.2	0.0	10.3	0.0	11.1	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	10.3	0.0	11.1	0.0	9.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.18	0.00	0.97	0.00	1.00
Lane Grp Cap (c), veh/h	0	578	0	646	0	579	0	482
V/C Ratio (X)	0.00	0.36	0.00	0.35	0.00	0.37	0.00	0.33
Avail Cap (c_a), veh/h	0	578	0	646	0	579	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.6	0.0	25.1	0.0	24.8	0.0	27.2
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.5	0.0	1.8	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.4	0.0	26.6	0.0	26.7	0.0	29.0
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	5.0	0.0	4.7	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	5.2	0.0	5.0	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	22.35	0.00	18.60	0.00	9.07	0.00	7.99
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.5
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	613	572	7	3	2
Future Vol, veh/h	4	613	572	7	3	2
Conflicting Peds, #/hr	18	0	0	18	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	4	659	615	8	3	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	641	0	-	0	976	329
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	953	-	-	-	252	673
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	699	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	953	-	-	-	243	663
Mov Cap-2 Maneuver	-	-	-	-	365	-
Stage 1	-	-	-	-	486	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	953	-	-	-	445
HCM Lane V/C Ratio	0.005	-	-	-	0.012
HCM Control Delay (s)	8.8	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	625	580	0	1	0
Future Vol, veh/h	0	625	580	0	1	0
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	0	665	617	0	1	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	634	0	-	0	966	326
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	332	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	959	-	-	-	256	676
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	959	-	-	-	249	666
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	489	-
Stage 2	-	-	-	-	695	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	959	-	-	-	370
HCM Lane V/C Ratio	-	-	-	-	0.003
HCM Control Delay (s)	0	-	-	-	14.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	229	384	89	917	263	103	454	168	662
v/c Ratio	0.85	0.28	0.21	0.80	0.40	0.39	0.40	0.47	0.54
Control Delay	48.3	22.4	16.3	39.4	5.2	22.9	27.9	24.9	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.3	22.4	16.3	39.4	5.2	22.9	27.9	24.9	19.8
Queue Length 50th (m)	29.3	29.9	10.2	98.2	0.0	13.4	39.2	22.9	39.1
Queue Length 95th (m)	#72.7	42.0	19.3	124.2	18.0	24.5	54.0	37.9	57.7
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	270	1357	428	1148	652	265	1131	355	1215
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	0.85	0.28	0.21	0.80	0.40	0.39	0.40	0.47	0.54

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 (veh/h)	211	320	33	82	844	242	95	352	65	155	305	304
Future Volume (veh/h)	211	320	33	82	844	242	95	352	65	155	305	304
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	229	348	36	89	917	263	103	383	71	168	332	330
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	293	1272	131	463	1222	506	282	1018	187	373	607	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.39	0.39	0.05	0.34	0.34	0.05	0.34	0.34	0.05	0.34	0.34
Ln Grp Delay, s/veh	35.8	23.6	23.7	21.5	36.2	32.7	24.2	29.3	29.4	25.4	33.0	35.5
Ln Grp LOS	D	C	C	C	D	C	C	C	C	C	C	D
Approach Vol, veh/h		613			1269			557			830	
Approach Delay, s/veh		28.2			34.4			28.4			32.5	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.0	43.0	8.6	49.0	9.0	43.0	14.1	43.5
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	6.0	37.0	6.0	43.0	6.0	37.0	12.0	37.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	8.0	12.7	5.6	10.1	6.2	21.0	11.1	26.9
Green Ext Time (g_e), s	0.0	9.3	0.0	15.5	0.0	7.5	0.1	7.1
Prob of Phs Call (p_c)	0.99	1.00	0.93	1.00	0.96	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3015		3242		1796		3574

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		554		333		1588		1481

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	168	0	89	0	103	0	229	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	6.0	0.0	3.6	0.0	4.2	0.0	9.1	0.0
Cycle Q Clear Time (g_c), s	6.0	0.0	3.6	0.0	4.2	0.0	9.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	891	0	967	0	744	0	458	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	37.0	0.0	37.5	0.0	37.0	0.0	39.5	0.0
Perm LT Serve Time (g_u), s	26.3	0.0	34.9	0.0	18.0	0.0	12.6	0.0
Perm LT Q Serve Time (g_ps), s	5.2	0.0	0.3	0.0	3.1	0.0	12.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	373	0	463	0	282	0	293	0
V/C Ratio (X)	0.45	0.00	0.19	0.00	0.37	0.00	0.78	0.00
Avail Cap (c_a), veh/h	373	0	469	0	282	0	307	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	24.6	0.0	21.3	0.0	23.5	0.0	24.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	0.0	0.8	0.0	11.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.4	0.0	21.5	0.0	24.2	0.0	35.8	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	1.7	0.0	2.0	0.0	4.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	1.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	1.7	0.0	2.0	0.0	5.2	0.0
%ile Storage Ratio (RQ%)	5.58	0.00	7.29	0.00	11.58	0.00	14.86	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	226	0	189	0	332	0	917
Grp Sat Flow (s), veh/h/ln	0	1790	0	1773	0	1796	0	1787
Q Serve Time (g_s), s	0.0	10.5	0.0	8.0	0.0	16.5	0.0	24.9
Cycle Q Clear Time (g_c), s	0.0	10.5	0.0	8.0	0.0	16.5	0.0	24.9
Lane Grp Cap (c), veh/h	0	604	0	696	0	607	0	1222
V/C Ratio (X)	0.00	0.37	0.00	0.27	0.00	0.55	0.00	0.75
Avail Cap (c_a), veh/h	0	604	0	696	0	607	0	1222
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	22.7	0.0	29.5	0.0	31.9
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.0	0.0	3.5	0.0	4.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.3	0.0	23.6	0.0	33.0	0.0	36.2
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	3.9	0.0	8.1	0.0	12.2

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.6	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	4.1	0.0	8.7	0.0	13.0
%ile Storage Ratio (RQ%)	0.00	24.36	0.00	14.69	0.00	16.13	0.00	22.43
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	195	0	330	0	263
Grp Sat Flow (s), veh/h/ln	0	1779	0	1803	0	1588	0	1481
Q Serve Time (g_s), s	0.0	10.7	0.0	8.1	0.0	19.0	0.0	15.6
Cycle Q Clear Time (g_c), s	0.0	10.7	0.0	8.1	0.0	19.0	0.0	15.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.18	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	601	0	707	0	537	0	506
V/C Ratio (X)	0.00	0.38	0.00	0.28	0.00	0.61	0.00	0.52
Avail Cap (c_a), veh/h	0	601	0	707	0	537	0	506
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.6	0.0	22.7	0.0	30.3	0.0	28.9
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.0	0.0	5.2	0.0	3.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.4	0.0	23.7	0.0	35.5	0.0	32.7
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	4.0	0.0	8.3	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.8	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	4.2	0.0	9.1	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	24.62	0.00	15.12	0.00	16.89	0.00	14.76
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	31.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	595	1213	40	23	9
Future Vol, veh/h	15	595	1213	40	23	9
Conflicting Peds, #/hr	24	0	0	24	3	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	2	1	0	0	0
Mvmt Flow	15	613	1251	41	24	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1316	0	-	0	1636	673
Stage 1	-	-	-	-	1295	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	532	-	-	-	93	402
Stage 1	-	-	-	-	224	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	531	-	-	-	87	393
Mov Cap-2 Maneuver	-	-	-	-	177	-
Stage 1	-	-	-	-	219	-
Stage 2	-	-	-	-	664	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	25.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	531	-	-	-	209
HCM Lane V/C Ratio	0.029	-	-	-	0.158
HCM Control Delay (s)	12	-	-	-	25.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	623	1257	6	1	6
Future Vol, veh/h	0	623	1257	6	1	6
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	0	642	1296	6	1	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1322	0	-	0	1640	671
Stage 1	-	-	-	-	1319	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	529	-	-	-	93	404
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	529	-	-	-	90	397
Mov Cap-2 Maneuver	-	-	-	-	176	-
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	702	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	529	-	-	-	337
HCM Lane V/C Ratio	-	-	-	-	0.021
HCM Control Delay (s)	0	-	-	-	15.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	257	442	71	352	151	46	397	221	436
v/c Ratio	0.68	0.54	0.23	0.44	0.27	0.12	0.36	0.53	0.35
Control Delay	29.9	31.1	18.0	30.7	5.5	16.6	26.8	23.5	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	31.1	18.0	30.7	5.5	16.6	26.8	23.5	14.0
Queue Length 50th (m)	35.1	59.3	8.6	45.9	0.0	5.5	33.0	29.5	18.4
Queue Length 95th (m)	54.3	84.7	17.1	66.2	14.2	12.2	46.6	46.8	32.7
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	379	826	329	794	565	424	1099	420	1244
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	0.68	0.54	0.22	0.44	0.27	0.11	0.36	0.53	0.35

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	381	39	67	334	143	44	309	68	210	213	201
Future Volume (veh/h)	244	381	39	67	334	143	44	309	68	210	213	201
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	257	401	41	71	352	151	46	325	72	221	224	212
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	405	996	101	370	831	482	378	955	209	439	651	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.34	0.34	0.08	0.38	0.38
Ln Grp Delay, s/veh	27.0	28.3	27.5	22.4	29.8	28.8	22.3	28.9	29.0	22.0	26.0	26.6
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		699			574			443			657	
Approach Delay, s/veh		27.5			28.6			28.3			24.8	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	43.0	8.3	46.7	7.5	47.5	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	9.0	37.0	9.0	37.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	11.0	11.6	5.1	14.2	4.0	13.0	11.0	14.1
Green Ext Time (g_e), s	0.0	6.6	0.1	7.0	0.0	6.5	0.0	7.0
Prob of Phs Call (p_c)	1.00	1.00	0.89	1.00	0.75	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.59	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2839		2694		1727		2472

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		620		274		1533		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	221	0	71	0	46	0	257	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	9.0	0.0	3.1	0.0	2.0	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	9.0	0.0	3.1	0.0	2.0	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	940	0	868	0	881	0	871	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	27.4	0.0	28.5	0.0	30.5	0.0	24.9	0.0
Perm LT Q Serve Time (g_ps), s	4.1	0.0	0.8	0.0	0.4	0.0	10.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	439	0	370	0	378	0	405	0
V/C Ratio (X)	0.50	0.00	0.19	0.00	0.12	0.00	0.64	0.00
Avail Cap (c_a), veh/h	439	0	425	0	445	0	405	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.1	0.0	22.1	0.0	22.1	0.0	23.8	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	0.0	0.1	0.0	3.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.0	0.0	22.4	0.0	22.3	0.0	27.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.4	0.0	0.9	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	1.4	0.0	0.9	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	4.73	0.00	5.68	0.00	5.01	0.00	7.81	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	198	0	179	0	224	0	352
Grp Sat Flow (s), veh/h/ln	0	1742	0	1211	0	1727	0	1236
Q Serve Time (g_s), s	0.0	9.3	0.0	12.1	0.0	10.2	0.0	12.1
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	12.1	0.0	10.2	0.0	12.1
Lane Grp Cap (c), veh/h	0	586	0	448	0	651	0	831
V/C Ratio (X)	0.00	0.34	0.00	0.40	0.00	0.34	0.00	0.42
Avail Cap (c_a), veh/h	0	586	0	448	0	651	0	831
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.3	0.0	25.6	0.0	24.5	0.0	28.2
Incr Delay (d2), s/veh	0.0	1.6	0.0	2.7	0.0	1.4	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.9	0.0	28.3	0.0	26.0	0.0	29.8
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	4.0	0.0	4.9	0.0	4.1

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	4.4	0.0	5.1	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	20.77	0.00	15.54	0.00	9.27	0.00	7.36
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	199	0	263	0	212	0	151
Grp Sat Flow (s), veh/h/ln	0	1717	0	1757	0	1533	0	1433
Q Serve Time (g_s), s	0.0	9.6	0.0	12.2	0.0	11.0	0.0	8.6
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	12.2	0.0	11.0	0.0	8.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	578	0	650	0	578	0	482
V/C Ratio (X)	0.00	0.35	0.00	0.40	0.00	0.37	0.00	0.31
Avail Cap (c_a), veh/h	0	578	0	650	0	578	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	25.7	0.0	24.8	0.0	27.1
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.9	0.0	1.8	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.0	0.0	27.5	0.0	26.6	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	5.9	0.0	4.7	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	6.2	0.0	4.9	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	20.97	0.00	22.21	0.00	8.95	0.00	7.63
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	595	552	19	48	21
Future Vol, veh/h	8	595	552	19	48	21
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	9	633	587	20	51	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	624	0	-	0	948	321
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	334	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	967	-	-	-	263	681
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	703	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	967	-	-	-	253	671
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	686	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	967	-	-	-	433
HCM Lane V/C Ratio	0.009	-	-	-	0.17
HCM Control Delay (s)	8.8	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.6



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	241	378	85	887	250	101	431	160	661
v/c Ratio	1.12	0.43	0.22	1.07	0.38	0.36	0.38	0.42	0.54
Control Delay	122.9	27.7	16.6	85.9	5.0	21.4	27.5	22.4	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.9	27.7	16.6	85.9	5.0	21.4	27.5	22.4	18.6
Queue Length 50th (m)	~46.8	47.0	9.9	~165.6	0.0	12.9	36.7	21.3	36.4
Queue Length 95th (m)	#99.4	69.3	19.0	#222.9	17.3	23.6	51.0	35.6	55.0
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	216	887	420	832	654	281	1131	382	1228
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	1.12	0.43	0.20	1.07	0.38	0.36	0.38	0.42	0.54

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 (veh/h)	222	314	34	78	816	230	93	335	62	147	290	318
Future Volume (veh/h)	222	314	34	78	816	230	93	335	62	147	290	318
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	241	341	37	85	887	250	101	364	67	160	315	346
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	222	1066	115	444	871	512	280	1016	185	396	622	550
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.39	0.39	0.05	0.35	0.35	0.05	0.34	0.34	0.06	0.35	0.35
Ln Grp Delay, s/veh	116.2	25.4	24.9	21.4	71.2	31.7	24.4	29.2	29.3	23.0	31.4	35.4
Ln Grp LOS	F	C	C	C	F	C	C	C	C	C	C	D
Approach Vol, veh/h		619			1222			532			821	
Approach Delay, s/veh		60.6			59.7			28.3			31.5	
Approach LOS		E			E			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	10.0	43.0	8.6	48.4	8.9	44.1	13.0	44.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	7.0	37.0	10.0	38.0	7.0	37.0	10.0	38.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	8.8	12.1	5.4	11.6	6.2	22.0	12.0	40.0
Green Ext Time (g_e), s	0.0	9.2	0.1	13.4	0.0	7.1	0.0	0.0
Prob of Phs Call (p_c)	0.99	1.00	0.93	1.00	0.95	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3019		2762		1796		2521

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		550		298		1589		1481

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	160	0	85	0	101	0	241	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	6.8	0.0	3.4	0.0	4.2	0.0	10.0	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	3.4	0.0	4.2	0.0	10.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	910	0	972	0	745	0	478	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	37.1	0.0	38.0	0.0	37.0	0.0	40.0	0.0
Perm LT Serve Time (g_u), s	26.9	0.0	32.9	0.0	18.1	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.2	0.0	0.5	0.0	3.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	396	0	444	0	280	0	222	0
V/C Ratio (X)	0.40	0.00	0.19	0.00	0.36	0.00	1.09	0.00
Avail Cap (c_a), veh/h	396	0	514	0	297	0	222	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.4	0.0	21.2	0.0	23.6	0.0	30.8	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.2	0.0	0.8	0.0	85.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.0	0.0	21.4	0.0	24.4	0.0	116.2	0.0
1st-Term Q (Q1), veh/ln	3.2	0.0	1.6	0.0	2.0	0.0	6.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	5.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.2	0.0	1.6	0.0	2.0	0.0	12.0	0.0
%ile Storage Ratio (RQ%)	13.47	0.00	6.87	0.00	11.52	0.00	34.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	214	0	153	0	315	0	887
Grp Sat Flow (s), veh/h/ln	0	1790	0	1250	0	1796	0	1260
Q Serve Time (g_s), s	0.0	9.9	0.0	9.4	0.0	15.3	0.0	38.0
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	9.4	0.0	15.3	0.0	38.0
Lane Grp Cap (c), veh/h	0	602	0	483	0	622	0	871
V/C Ratio (X)	0.00	0.36	0.00	0.32	0.00	0.51	0.00	1.02
Avail Cap (c_a), veh/h	0	602	0	483	0	622	0	871
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	23.6	0.0	28.5	0.0	36.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.7	0.0	2.9	0.0	35.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.2	0.0	25.4	0.0	31.4	0.0	71.2
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	3.2	0.0	7.6	0.0	13.2

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.5	0.0	4.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	3.5	0.0	8.1	0.0	17.4
%ile Storage Ratio (RQ%)	0.00	22.81	0.00	12.51	0.00	15.04	0.00	30.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	217	0	225	0	346	0	250
Grp Sat Flow (s), veh/h/ln	0	1779	0	1809	0	1589	0	1481
Q Serve Time (g_s), s	0.0	10.1	0.0	9.6	0.0	20.0	0.0	14.6
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	9.6	0.0	20.0	0.0	14.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	599	0	698	0	550	0	512
V/C Ratio (X)	0.00	0.36	0.00	0.32	0.00	0.63	0.00	0.49
Avail Cap (c_a), veh/h	0	599	0	698	0	550	0	512
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.6	0.0	23.7	0.0	30.1	0.0	28.3
Incr Delay (d2), s/veh	0.0	1.7	0.0	1.2	0.0	5.4	0.0	3.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.3	0.0	24.9	0.0	35.4	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	4.8	0.0	8.7	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.8	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	5.0	0.0	9.6	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	23.09	0.00	18.16	0.00	17.72	0.00	13.81
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.4
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	593	1196	46	33	14
Future Vol, veh/h	20	593	1196	46	33	14
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	21	611	1233	47	34	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1300	0	-	0	1624	660
Stage 1	-	-	-	-	1277	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	540	-	-	-	95	410
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	540	-	-	-	88	403
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	225	-
Stage 2	-	-	-	-	655	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	26.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	540	-	-	-	217
HCM Lane V/C Ratio	0.038	-	-	-	0.223
HCM Control Delay (s)	11.9	-	-	-	26.3
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	257	442	71	352	151	46	397	221	436
v/c Ratio	0.56	0.36	0.18	0.31	0.27	0.12	0.36	0.52	0.34
Control Delay	23.9	25.4	17.5	28.0	5.5	16.8	26.8	22.8	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	25.4	17.5	28.0	5.5	16.8	26.8	22.8	13.2
Queue Length 50th (m)	35.1	37.3	8.6	30.8	0.0	5.5	33.0	29.5	18.1
Queue Length 95th (m)	54.2	51.4	17.1	43.4	14.2	12.2	46.6	46.8	31.2
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	461	1226	385	1126	565	392	1099	429	1277
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	0.56	0.36	0.18	0.31	0.27	0.12	0.36	0.52	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	381	39	67	334	143	44	309	68	210	213	201
Future Volume (veh/h)	244	381	39	67	334	143	44	309	68	210	213	201
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	257	401	41	71	352	151	46	325	72	221	224	212
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	436	1164	118	385	1179	482	378	955	209	439	651	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.34	0.34	0.08	0.38	0.38
Ln Grp Delay, s/veh	24.7	26.5	26.5	22.2	27.6	28.8	22.3	28.9	29.0	22.0	26.0	26.6
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		699			574			443			657	
Approach Delay, s/veh		25.8			27.2			28.3			24.8	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	43.0	8.3	46.7	7.5	47.5	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	6.0	40.0	6.0	40.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	11.0	11.6	5.1	12.2	4.0	13.0	11.0	10.6
Green Ext Time (g_e), s	0.0	6.6	0.0	7.5	0.0	6.8	0.0	7.4
Prob of Phs Call (p_c)	1.00	1.00	0.89	1.00	0.75	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2839		3146		1727		3505

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		620		320		1533		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	221	0	71	0	46	0	257	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	9.0	0.0	3.1	0.0	2.0	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	9.0	0.0	3.1	0.0	2.0	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	940	0	868	0	881	0	871	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	27.4	0.0	30.5	0.0	30.5	0.0	28.8	0.0
Perm LT Q Serve Time (g_ps), s	4.1	0.0	0.6	0.0	0.4	0.0	8.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	439	0	385	0	378	0	436	0
V/C Ratio (X)	0.50	0.00	0.18	0.00	0.12	0.00	0.59	0.00
Avail Cap (c_a), veh/h	439	0	396	0	400	0	436	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.1	0.0	22.0	0.0	22.1	0.0	22.6	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	0.0	0.1	0.0	2.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.0	0.0	22.2	0.0	22.3	0.0	24.7	0.0
1st-Term Q (Q1), veh/ln	4.2	0.0	1.4	0.0	0.9	0.0	4.9	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.3	0.0	1.4	0.0	0.9	0.0	5.2	0.0
%ile Storage Ratio (RQ%)	18.14	0.00	5.68	0.00	5.01	0.00	14.80	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	198	0	218	0	224	0	352
Grp Sat Flow (s), veh/h/ln	0	1742	0	1718	0	1727	0	1752
Q Serve Time (g_s), s	0.0	9.3	0.0	10.1	0.0	10.2	0.0	8.2
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	10.1	0.0	10.2	0.0	8.2
Lane Grp Cap (c), veh/h	0	586	0	635	0	651	0	1179
V/C Ratio (X)	0.00	0.34	0.00	0.34	0.00	0.34	0.00	0.30
Avail Cap (c_a), veh/h	0	586	0	635	0	651	0	1179
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.3	0.0	25.0	0.0	24.5	0.0	26.9
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.5	0.0	1.4	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.9	0.0	26.5	0.0	26.0	0.0	27.6
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	4.8	0.0	4.9	0.0	4.0

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	5.0	0.0	5.1	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	20.77	0.00	17.93	0.00	9.27	0.00	6.98
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	199	0	224	0	212	0	151
Grp Sat Flow (s), veh/h/ln	0	1717	0	1749	0	1533	0	1433
Q Serve Time (g_s), s	0.0	9.6	0.0	10.2	0.0	11.0	0.0	8.6
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	10.2	0.0	11.0	0.0	8.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.18	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	578	0	647	0	578	0	482
V/C Ratio (X)	0.00	0.35	0.00	0.35	0.00	0.37	0.00	0.31
Avail Cap (c_a), veh/h	0	578	0	647	0	578	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	25.0	0.0	24.8	0.0	27.1
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.5	0.0	1.8	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.0	0.0	26.5	0.0	26.6	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	4.9	0.0	4.7	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	5.2	0.0	4.9	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	20.97	0.00	18.43	0.00	8.95	0.00	7.63
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.3
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	595	552	19	48	21
Future Vol, veh/h	8	595	552	19	48	21
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	9	633	587	20	51	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	624	0	-	0	948	321
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	334	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	967	-	-	-	263	681
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	703	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	967	-	-	-	253	671
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	686	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	967	-	-	-	433
HCM Lane V/C Ratio	0.009	-	-	-	0.17
HCM Control Delay (s)	8.8	-	-	-	15
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.6



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	241	378	85	887	250	101	431	160	661
v/c Ratio	0.86	0.28	0.20	0.77	0.39	0.38	0.38	0.44	0.54
Control Delay	48.9	22.3	16.2	38.2	5.2	22.7	27.5	23.8	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	22.3	16.2	38.2	5.2	22.7	27.5	23.8	19.0
Queue Length 50th (m)	30.7	29.3	9.8	93.9	0.0	13.1	36.7	21.7	37.2
Queue Length 95th (m)	#75.0	41.3	18.6	118.9	17.6	24.1	51.0	36.2	55.8
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	279	1356	431	1148	644	265	1131	367	1220
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	0.86	0.28	0.20	0.77	0.39	0.38	0.38	0.44	0.54

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 (veh/h)	222	314	34	78	816	230	93	335	62	147	290	318
Future Volume (veh/h)	222	314	34	78	816	230	93	335	62	147	290	318
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	241	341	37	85	887	250	101	364	67	160	315	346
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	305	1268	137	465	1206	500	273	1019	186	382	608	538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.39	0.39	0.05	0.34	0.34	0.05	0.34	0.34	0.05	0.34	0.34
Ln Grp Delay, s/veh	36.6	23.5	23.5	21.8	36.0	32.5	24.6	29.0	29.1	24.7	32.2	36.5
Ln Grp LOS	D	C	C	C	D	C	C	C	C	C	C	D
Approach Vol, veh/h		619			1222			532			821	
Approach Delay, s/veh		28.6			34.3			28.2			32.5	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.0	43.0	8.5	49.1	8.9	43.1	14.6	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	6.0	37.0	6.0	43.0	6.0	37.0	12.0	37.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	8.0	12.1	5.5	9.9	6.2	22.2	11.6	26.0
Green Ext Time (g_e), s	0.0	9.2	0.0	14.9	0.0	7.0	0.0	7.5
Prob of Phs Call (p_c)	0.99	1.00	0.92	1.00	0.95	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3019		3226		1796		3574

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		550		347		1589		1480

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	160	0	85	0	101	0	241	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	6.0	0.0	3.5	0.0	4.2	0.0	9.6	0.0
Cycle Q Clear Time (g_c), s	6.0	0.0	3.5	0.0	4.2	0.0	9.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	910	0	972	0	745	0	477	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	37.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	26.9	0.0	35.2	0.0	16.9	0.0	13.0	0.0
Perm LT Q Serve Time (g_ps), s	4.0	0.0	0.2	0.0	3.1	0.0	13.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	382	0	465	0	273	0	305	0
V/C Ratio (X)	0.42	0.00	0.18	0.00	0.37	0.00	0.79	0.00
Avail Cap (c_a), veh/h	382	0	472	0	275	0	311	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	23.9	0.0	21.6	0.0	23.7	0.0	23.9	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.2	0.0	0.8	0.0	12.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.7	0.0	21.8	0.0	24.6	0.0	36.6	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.6	0.0	1.9	0.0	4.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	1.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	1.7	0.0	2.0	0.0	5.6	0.0
%ile Storage Ratio (RQ%)	4.36	0.00	6.96	0.00	11.37	0.00	15.82	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	214	0	186	0	315	0	887
Grp Sat Flow (s), veh/h/ln	0	1790	0	1773	0	1796	0	1787
Q Serve Time (g_s), s	0.0	9.9	0.0	7.8	0.0	15.4	0.0	24.0
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	7.8	0.0	15.4	0.0	24.0
Lane Grp Cap (c), veh/h	0	604	0	697	0	608	0	1206
V/C Ratio (X)	0.00	0.35	0.00	0.27	0.00	0.52	0.00	0.74
Avail Cap (c_a), veh/h	0	604	0	697	0	608	0	1206
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.3	0.0	22.6	0.0	29.1	0.0	32.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.9	0.0	3.1	0.0	4.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.0	0.0	23.5	0.0	32.2	0.0	36.0
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	3.8	0.0	7.6	0.0	11.8

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.5	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	4.0	0.0	8.1	0.0	12.5
%ile Storage Ratio (RQ%)	0.00	22.80	0.00	14.46	0.00	15.08	0.00	21.64
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	217	0	192	0	346	0	250
Grp Sat Flow (s), veh/h/ln	0	1779	0	1800	0	1589	0	1480
Q Serve Time (g_s), s	0.0	10.1	0.0	7.9	0.0	20.2	0.0	14.8
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	7.9	0.0	20.2	0.0	14.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.19	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	600	0	708	0	538	0	500
V/C Ratio (X)	0.00	0.36	0.00	0.27	0.00	0.64	0.00	0.50
Avail Cap (c_a), veh/h	0	600	0	708	0	538	0	500
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	22.6	0.0	30.7	0.0	29.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.9	0.0	5.8	0.0	3.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.1	0.0	23.5	0.0	36.5	0.0	32.5
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	3.9	0.0	8.8	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.9	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	4.1	0.0	9.7	0.0	6.5
%ile Storage Ratio (RQ%)	0.00	23.09	0.00	14.87	0.00	17.99	0.00	13.95
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	31.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	593	1196	46	33	14
Future Vol, veh/h	20	593	1196	46	33	14
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	21	611	1233	47	34	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1300	0	-	0	1624	660
Stage 1	-	-	-	-	1277	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	540	-	-	-	95	410
Stage 1	-	-	-	-	229	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	540	-	-	-	88	403
Mov Cap-2 Maneuver	-	-	-	-	181	-
Stage 1	-	-	-	-	225	-
Stage 2	-	-	-	-	655	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	26.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	540	-	-	-	217
HCM Lane V/C Ratio	0.038	-	-	-	0.223
HCM Control Delay (s)	11.9	-	-	-	26.3
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	268	464	75	369	158	48	418	233	458
v/c Ratio	0.73	0.56	0.25	0.46	0.28	0.12	0.38	0.57	0.37
Control Delay	33.4	31.8	18.4	31.1	5.5	16.7	27.2	24.9	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	31.8	18.4	31.1	5.5	16.7	27.2	24.9	14.1
Queue Length 50th (m)	36.9	63.1	9.1	48.6	0.0	5.7	35.1	31.4	19.5
Queue Length 95th (m)	#61.9	89.5	17.8	69.5	14.3	12.6	49.2	49.3	34.2
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	367	825	317	794	569	413	1099	410	1249
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	0.73	0.56	0.24	0.46	0.28	0.12	0.38	0.57	0.37

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 (veh/h)	255	400	41	71	351	150	46	325	72	221	224	211
Future Volume (veh/h)	255	400	41	71	351	150	46	325	72	221	224	211
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	268	421	43	75	369	158	48	342	76	233	236	222
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	395	995	101	360	831	482	368	954	209	430	650	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.34	0.34	0.08	0.38	0.38
Ln Grp Delay, s/veh	29.4	28.8	28.0	22.5	30.2	29.0	22.3	29.2	29.4	23.3	26.4	27.0
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		732			602			466			691	
Approach Delay, s/veh		28.7			28.9			28.6			25.5	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	12.0	43.0	8.4	46.6	7.6	47.4	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	9.0	37.0	9.0	37.0	9.0	37.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	11.0	12.2	5.2	14.9	4.0	13.6	11.0	14.8
Green Ext Time (g_e), s	0.0	7.0	0.1	7.3	0.0	6.8	0.0	7.3
Prob of Phs Call (p_c)	1.00	1.00	0.90	1.00	0.77	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.65	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2836		2694		1727		2472

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		622		274		1532		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	233	0	75	0	48	0	268	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	9.0	0.0	3.2	0.0	2.0	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	9.0	0.0	3.2	0.0	2.0	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	923	0	851	0	863	0	852	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	39.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	26.8	0.0	27.7	0.0	29.8	0.0	24.2	0.0
Perm LT Q Serve Time (g_ps), s	5.9	0.0	0.9	0.0	0.4	0.0	12.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	430	0	360	0	368	0	395	0
V/C Ratio (X)	0.54	0.00	0.21	0.00	0.13	0.00	0.68	0.00
Avail Cap (c_a), veh/h	430	0	414	0	434	0	395	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	21.9	0.0	22.2	0.0	22.1	0.0	24.8	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.3	0.0	0.2	0.0	4.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.3	0.0	22.5	0.0	22.3	0.0	29.4	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	1.4	0.0	0.9	0.0	3.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	1.5	0.0	0.9	0.0	3.5	0.0
%ile Storage Ratio (RQ%)	6.69	0.00	6.01	0.00	5.23	0.00	9.89	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	208	0	188	0	236	0	369
Grp Sat Flow (s), veh/h/ln	0	1742	0	1211	0	1727	0	1236
Q Serve Time (g_s), s	0.0	9.9	0.0	12.8	0.0	10.9	0.0	12.8
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	12.8	0.0	10.9	0.0	12.8
Lane Grp Cap (c), veh/h	0	586	0	447	0	650	0	831
V/C Ratio (X)	0.00	0.36	0.00	0.42	0.00	0.36	0.00	0.44
Avail Cap (c_a), veh/h	0	586	0	447	0	650	0	831
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	25.9	0.0	24.8	0.0	28.5
Incr Delay (d2), s/veh	0.0	1.7	0.0	2.9	0.0	1.6	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.2	0.0	28.8	0.0	26.4	0.0	30.2
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	4.3	0.0	5.2	0.0	4.4

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	4.7	0.0	5.5	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	21.92	0.00	16.55	0.00	9.90	0.00	7.82
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	210	0	276	0	222	0	158
Grp Sat Flow (s), veh/h/ln	0	1717	0	1757	0	1532	0	1433
Q Serve Time (g_s), s	0.0	10.2	0.0	12.9	0.0	11.6	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	12.9	0.0	11.6	0.0	9.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	578	0	649	0	577	0	482
V/C Ratio (X)	0.00	0.36	0.00	0.42	0.00	0.39	0.00	0.33
Avail Cap (c_a), veh/h	0	578	0	649	0	577	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.6	0.0	26.0	0.0	25.0	0.0	27.2
Incr Delay (d2), s/veh	0.0	1.8	0.0	2.0	0.0	1.9	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.4	0.0	28.0	0.0	27.0	0.0	29.0
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	6.3	0.0	4.9	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	6.6	0.0	5.2	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	22.35	0.00	23.62	0.00	9.50	0.00	7.99
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	625	580	19	48	21
Future Vol, veh/h	8	625	580	19	48	21
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	9	665	617	20	51	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	654	0	-	0	993	336
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	943	-	-	-	246	666
Stage 1	-	-	-	-	490	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	237	656
Mov Cap-2 Maneuver	-	-	-	-	360	-
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	675	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	943	-	-	-	417
HCM Lane V/C Ratio	0.009	-	-	-	0.176
HCM Control Delay (s)	8.9	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.6



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	252	396	89	932	263	107	454	168	694
v/c Ratio	1.17	0.44	0.23	1.09	0.39	0.42	0.40	0.47	0.57
Control Delay	139.8	27.3	16.2	93.4	4.9	23.9	27.9	24.9	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	139.8	27.3	16.2	93.4	4.9	23.9	27.9	24.9	19.8
Queue Length 50th (m)	~52.0	49.2	10.2	~177.6	0.0	14.0	39.2	22.9	40.7
Queue Length 95th (m)	#105.5	71.9	19.3	#235.6	17.4	25.3	54.0	37.9	60.1
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	216	907	417	854	673	252	1131	355	1223
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	1.17	0.44	0.21	1.09	0.39	0.42	0.40	0.47	0.57

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 (veh/h)	232	329	35	82	857	242	98	352	65	155	305	333
Future Volume (veh/h)	232	329	35	82	857	242	98	352	65	155	305	333
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	252	358	38	89	932	263	107	383	71	168	332	362
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	222	1092	115	445	894	525	261	1014	186	371	604	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.39	0.39	0.05	0.35	0.35	0.05	0.34	0.34	0.05	0.34	0.34
Ln Grp Delay, s/veh	133.1	24.9	24.4	20.9	77.3	31.2	25.3	29.5	29.6	25.7	33.3	38.1
Ln Grp LOS	F	C	C	C	F	C	C	C	C	C	C	D
Approach Vol, veh/h		648			1284			561			862	
Approach Delay, s/veh		66.8			64.0			28.7			33.8	
Approach LOS		E			E			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.0	43.0	8.6	49.4	9.0	43.0	13.0	45.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	6.0	37.0	10.0	39.0	6.0	37.0	10.0	39.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	8.0	12.7	5.5	11.9	6.4	23.5	12.0	41.0
Green Ext Time (g_e), s	0.0	9.6	0.1	14.3	0.0	7.0	0.0	0.0
Prob of Phs Call (p_c)	0.99	1.00	0.93	1.00	0.96	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3015		2768		1796		2521

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		554		292		1589		1481

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	168	0	89	0	107	0	252	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	6.0	0.0	3.5	0.0	4.4	0.0	10.0	0.0
Cycle Q Clear Time (g_c), s	6.0	0.0	3.5	0.0	4.4	0.0	10.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	891	0	957	0	722	0	452	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	37.0	0.0	39.0	0.0	37.0	0.0	41.0	0.0
Perm LT Serve Time (g_u), s	26.3	0.0	33.4	0.0	15.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	5.3	0.0	0.6	0.0	3.7	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	371	0	445	0	261	0	222	0
V/C Ratio (X)	0.45	0.00	0.20	0.00	0.41	0.00	1.14	0.00
Avail Cap (c_a), veh/h	371	0	514	0	261	0	222	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	24.8	0.0	20.6	0.0	24.2	0.0	31.1	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	0.0	1.0	0.0	101.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.7	0.0	20.9	0.0	25.3	0.0	133.1	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	1.7	0.0	2.1	0.0	6.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	6.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	1.7	0.0	2.2	0.0	13.0	0.0
%ile Storage Ratio (RQ%)	5.66	0.00	7.09	0.00	12.26	0.00	36.97	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	7.5	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	226	0	161	0	332	0	932
Grp Sat Flow (s), veh/h/ln	0	1790	0	1250	0	1796	0	1260
Q Serve Time (g_s), s	0.0	10.5	0.0	9.8	0.0	16.6	0.0	39.0
Cycle Q Clear Time (g_c), s	0.0	10.5	0.0	9.8	0.0	16.6	0.0	39.0
Lane Grp Cap (c), veh/h	0	602	0	493	0	604	0	894
V/C Ratio (X)	0.00	0.38	0.00	0.33	0.00	0.55	0.00	1.04
Avail Cap (c_a), veh/h	0	602	0	493	0	604	0	894
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.7	0.0	23.1	0.0	29.7	0.0	35.5
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.8	0.0	3.6	0.0	41.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.5	0.0	24.9	0.0	33.3	0.0	77.3
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	3.4	0.0	8.2	0.0	13.5

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.6	0.0	5.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	3.6	0.0	8.8	0.0	18.7
%ile Storage Ratio (RQ%)	0.00	24.36	0.00	13.10	0.00	16.31	0.00	32.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	235	0	362	0	263
Grp Sat Flow (s), veh/h/ln	0	1779	0	1810	0	1589	0	1481
Q Serve Time (g_s), s	0.0	10.7	0.0	9.9	0.0	21.5	0.0	15.3
Cycle Q Clear Time (g_c), s	0.0	10.7	0.0	9.9	0.0	21.5	0.0	15.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	598	0	714	0	534	0	525
V/C Ratio (X)	0.00	0.38	0.00	0.33	0.00	0.68	0.00	0.50
Avail Cap (c_a), veh/h	0	598	0	714	0	534	0	525
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.8	0.0	23.2	0.0	31.4	0.0	27.9
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.2	0.0	6.8	0.0	3.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.6	0.0	24.4	0.0	38.1	0.0	31.2
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	5.0	0.0	9.5	0.0	6.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	1.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	5.2	0.0	10.5	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	24.62	0.00	18.78	0.00	19.37	0.00	14.52
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.9
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	623	1257	46	33	14
Future Vol, veh/h	20	623	1257	46	33	14
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	21	642	1296	47	34	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1363	0	-	0	1702	692
Stage 1	-	-	-	-	1340	-
Stage 2	-	-	-	-	362	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	511	-	-	-	85	391
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	511	-	-	-	79	384
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	28.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	511	-	-	-	202
HCM Lane V/C Ratio	0.04	-	-	-	0.24
HCM Control Delay (s)	12.3	-	-	-	28.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	268	464	75	369	158	48	418	233	458
v/c Ratio	0.59	0.38	0.20	0.33	0.28	0.13	0.37	0.57	0.36
Control Delay	25.0	25.7	17.7	28.2	5.5	16.8	26.4	25.0	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	25.7	17.7	28.2	5.5	16.8	26.4	25.0	13.4
Queue Length 50th (m)	36.9	39.5	9.1	32.5	0.0	5.7	34.5	31.4	19.1
Queue Length 95th (m)	56.7	54.1	17.8	45.5	14.3	12.6	48.5	49.3	32.6
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	452	1226	375	1126	569	381	1128	407	1283
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	0.59	0.38	0.20	0.33	0.28	0.13	0.37	0.57	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	255	400	41	71	351	150	46	325	72	221	224	211
Future Volume (veh/h)	255	400	41	71	351	150	46	325	72	221	224	211
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1824	1808	1900	1721	1845	1721	1737	1833	1900	1788	1817	1900
Adj Flow Rate, veh/h	268	421	43	75	369	158	48	342	76	233	236	222
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5	5	6	3	6	5	4	4	2	6	6
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	428	1162	118	377	1179	482	369	980	215	424	650	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.37	0.37	0.05	0.34	0.34	0.04	0.35	0.35	0.07	0.38	0.38
Ln Grp Delay, s/veh	26.3	26.8	26.9	22.3	27.8	29.0	21.7	28.3	28.5	24.4	26.4	27.0
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		732			602			466			691	
Approach Delay, s/veh		26.6			27.4			27.7			25.9	
Approach LOS		C			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	11.0	44.0	8.4	46.6	7.6	47.4	12.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	8.0	38.0	6.0	40.0	6.0	40.0	9.0	37.0
Max Allow Headway (MAH), s	4.6	5.8	4.6	5.6	4.6	5.8	4.6	5.6
Max Q Clear (g_c+I1), s	10.0	12.0	5.2	12.8	4.0	13.6	11.0	11.0
Green Ext Time (g_e), s	0.0	7.1	0.0	7.9	0.0	7.1	0.0	7.8
Prob of Phs Call (p_c)	1.00	1.00	0.90	1.00	0.77	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1639		1654		1737	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2836		3146		1727		3505

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		622		320		1532		1433

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	233	0	75	0	48	0	268	0
Grp Sat Flow (s), veh/h/ln	1703	0	1639	0	1654	0	1737	0
Q Serve Time (g_s), s	8.0	0.0	3.2	0.0	2.0	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	8.0	0.0	3.2	0.0	2.0	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	923	0	851	0	864	0	852	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	40.0	0.0	37.0	0.0	38.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	28.0	0.0	29.8	0.0	29.8	0.0	28.4	0.0
Perm LT Q Serve Time (g_ps), s	8.0	0.0	0.7	0.0	0.5	0.0	10.7	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	424	0	377	0	369	0	428	0
V/C Ratio (X)	0.55	0.00	0.20	0.00	0.13	0.00	0.63	0.00
Avail Cap (c_a), veh/h	424	0	386	0	389	0	428	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.9	0.0	22.0	0.0	21.6	0.0	23.4	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.3	0.0	0.2	0.0	2.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.4	0.0	22.3	0.0	21.7	0.0	26.3	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	1.4	0.0	0.9	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	1.5	0.0	0.9	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	8.99	0.00	6.00	0.00	5.16	0.00	7.93	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	208	0	229	0	236	0	369
Grp Sat Flow (s), veh/h/ln	0	1742	0	1718	0	1727	0	1752
Q Serve Time (g_s), s	0.0	9.8	0.0	10.7	0.0	10.9	0.0	8.6
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	10.7	0.0	10.9	0.0	8.6
Lane Grp Cap (c), veh/h	0	602	0	634	0	650	0	1179
V/C Ratio (X)	0.00	0.35	0.00	0.36	0.00	0.36	0.00	0.31
Avail Cap (c_a), veh/h	0	602	0	634	0	650	0	1179
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.8	0.0	25.3	0.0	24.8	0.0	27.1
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.6	0.0	1.6	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.3	0.0	26.8	0.0	26.4	0.0	27.8
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	5.0	0.0	5.2	0.0	4.2

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	5.3	0.0	5.5	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	21.62	0.00	18.86	0.00	9.90	0.00	7.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	210	0	235	0	222	0	158
Grp Sat Flow (s), veh/h/ln	0	1717	0	1749	0	1532	0	1433
Q Serve Time (g_s), s	0.0	10.0	0.0	10.8	0.0	11.6	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	10.0	0.0	10.8	0.0	11.6	0.0	9.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	0.18	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	593	0	646	0	577	0	482
V/C Ratio (X)	0.00	0.35	0.00	0.36	0.00	0.39	0.00	0.33
Avail Cap (c_a), veh/h	0	593	0	646	0	577	0	482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.8	0.0	25.3	0.0	25.0	0.0	27.2
Incr Delay (d2), s/veh	0.0	1.6	0.0	1.6	0.0	1.9	0.0	1.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.5	0.0	26.9	0.0	27.0	0.0	29.0
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	5.2	0.0	4.9	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	5.5	0.0	5.2	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	21.79	0.00	19.60	0.00	9.50	0.00	7.99
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	625	580	19	48	21
Future Vol, veh/h	8	625	580	19	48	21
Conflicting Peds, #/hr	17	0	0	17	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	0	3	3	0	0	0
Mvmt Flow	9	665	617	20	51	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	654	0	-	0	993	336
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	943	-	-	-	246	666
Stage 1	-	-	-	-	490	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	943	-	-	-	237	656
Mov Cap-2 Maneuver	-	-	-	-	360	-
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	675	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	943	-	-	-	417
HCM Lane V/C Ratio	0.009	-	-	-	0.176
HCM Control Delay (s)	8.9	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.6



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	252	396	89	932	263	107	454	168	694
v/c Ratio	0.95	0.29	0.21	0.81	0.40	0.42	0.40	0.47	0.57
Control Delay	67.7	22.5	16.3	40.1	5.2	23.9	27.9	24.9	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.7	22.5	16.3	40.1	5.2	23.9	27.9	24.9	20.4
Queue Length 50th (m)	36.5	31.0	10.2	100.5	0.0	14.0	39.2	22.9	42.0
Queue Length 95th (m)	#87.8	43.4	19.3	126.6	18.0	25.3	54.0	37.9	61.4
Internal Link Dist (m)		64.7		135.3			50.2		120.0
Turn Bay Length (m)	85.0		55.0		110.0	40.0		55.0	
Base Capacity (vph)	266	1357	424	1148	652	252	1131	355	1216
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	0.95	0.29	0.21	0.81	0.40	0.42	0.40	0.47	0.57

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 (veh/h)	232	329	35	82	857	242	98	352	65	155	305	333
Future Volume (veh/h)	232	329	35	82	857	242	98	352	65	155	305	333
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	0.99		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1806	1866	1900	1824	1881	1788	1806	1884	1900	1788	1891	1900
Adj Flow Rate, veh/h	252	358	38	89	932	263	107	383	71	168	332	362
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	2	2	0	1	2	1	1	1	2	1	1
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	299	1276	134	459	1202	498	261	1014	186	371	604	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.39	0.39	0.05	0.34	0.34	0.05	0.34	0.34	0.05	0.34	0.34
Ln Grp Delay, s/veh	43.4	23.7	23.7	22.0	37.7	33.4	25.3	29.5	29.6	25.7	33.3	38.1
Ln Grp LOS	D	C	C	C	D	C	C	C	C	C	C	D
Approach Vol, veh/h		648			1284			561			862	
Approach Delay, s/veh		31.4			35.7			28.7			33.8	
Approach LOS		C			D			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.0	43.0	8.6	49.4	9.0	43.0	15.0	43.0
Change Period (Y+Rc), s	3.0	6.0	3.0	6.0	3.0	6.0	3.0	6.0
Max Green (Gmax), s	6.0	37.0	6.0	43.0	6.0	37.0	12.0	37.0
Max Allow Headway (MAH), s	4.6	5.9	4.6	5.6	4.6	5.9	4.6	5.6
Max Q Clear (g_c+I1), s	8.0	12.7	5.6	10.4	6.4	23.5	12.1	27.7
Green Ext Time (g_e), s	0.0	9.6	0.0	15.8	0.0	7.0	0.0	6.7
Prob of Phs Call (p_c)	0.99	1.00	0.93	1.00	0.96	1.00	1.00	1.00
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1703		1737		1720		1720	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3015		3233		1796		3574

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		554		341		1589		1480

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0
Lane Assignment	(Pr/Pm)		(Pr/Pm)		(Pr/Pm)		(Pr/Pm)	

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	168	0	89	0	107	0	252	0
Grp Sat Flow (s), veh/h/ln	1703	0	1737	0	1720	0	1720	0
Q Serve Time (g_s), s	6.0	0.0	3.6	0.0	4.4	0.0	10.1	0.0
Cycle Q Clear Time (g_c), s	6.0	0.0	3.6	0.0	4.4	0.0	10.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	891	0	956	0	722	0	452	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	37.0	0.0	37.0	0.0	37.0	0.0	39.0	0.0
Perm LT Serve Time (g_u), s	26.3	0.0	35.0	0.0	15.5	0.0	11.3	0.0
Perm LT Q Serve Time (g_ps), s	5.3	0.0	0.2	0.0	3.7	0.0	11.3	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	371	0	459	0	261	0	299	0
V/C Ratio (X)	0.45	0.00	0.19	0.00	0.41	0.00	0.84	0.00
Avail Cap (c_a), veh/h	371	0	465	0	261	0	299	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	24.8	0.0	21.8	0.0	24.2	0.0	24.4	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	0.0	1.0	0.0	19.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.7	0.0	22.0	0.0	25.3	0.0	43.4	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	1.7	0.0	2.1	0.0	4.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	1.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	1.7	0.0	2.2	0.0	6.3	0.0
%ile Storage Ratio (RQ%)	5.66	0.00	7.29	0.00	12.26	0.00	17.84	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	226	0	195	0	332	0	932
Grp Sat Flow (s), veh/h/ln	0	1790	0	1773	0	1796	0	1787
Q Serve Time (g_s), s	0.0	10.5	0.0	8.2	0.0	16.6	0.0	25.7
Cycle Q Clear Time (g_c), s	0.0	10.5	0.0	8.2	0.0	16.6	0.0	25.7
Lane Grp Cap (c), veh/h	0	602	0	699	0	604	0	1202
V/C Ratio (X)	0.00	0.38	0.00	0.28	0.00	0.55	0.00	0.78
Avail Cap (c_a), veh/h	0	602	0	699	0	604	0	1202
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.7	0.0	22.7	0.0	29.7	0.0	32.8
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.0	0.0	3.6	0.0	4.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.5	0.0	23.7	0.0	33.3	0.0	37.7
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	4.0	0.0	8.2	0.0	12.7

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.6	0.0	0.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	4.2	0.0	8.8	0.0	13.5
%ile Storage Ratio (RQ%)	0.00	24.36	0.00	15.16	0.00	16.31	0.00	23.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	201	0	362	0	263
Grp Sat Flow (s), veh/h/ln	0	1779	0	1801	0	1589	0	1480
Q Serve Time (g_s), s	0.0	10.7	0.0	8.4	0.0	21.5	0.0	15.8
Cycle Q Clear Time (g_c), s	0.0	10.7	0.0	8.4	0.0	21.5	0.0	15.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	0.19	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	598	0	711	0	534	0	498
V/C Ratio (X)	0.00	0.38	0.00	0.28	0.00	0.68	0.00	0.53
Avail Cap (c_a), veh/h	0	598	0	711	0	534	0	498
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.8	0.0	22.7	0.0	31.4	0.0	29.5
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.0	0.0	6.8	0.0	4.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.6	0.0	23.7	0.0	38.1	0.0	33.4
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	4.1	0.0	9.5	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	1.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	4.3	0.0	10.5	0.0	7.0
%ile Storage Ratio (RQ%)	0.00	24.62	0.00	15.58	0.00	19.37	0.00	14.96
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	623	1257	46	33	14
Future Vol, veh/h	20	623	1257	46	33	14
Conflicting Peds, #/hr	20	0	0	20	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	0	1	1	0	0	0
Mvmt Flow	21	642	1296	47	34	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1363	0	-	0	1702	692
Stage 1	-	-	-	-	1340	-
Stage 2	-	-	-	-	362	-
Critical Hdwy	4.1	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	511	-	-	-	85	391
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	511	-	-	-	79	384
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	28.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	511	-	-	-	202
HCM Lane V/C Ratio	0.04	-	-	-	0.24
HCM Control Delay (s)	12.3	-	-	-	28.4
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

APPENDIX G

TTS Data

Thu Nov 16 2017 12:20:32 GMT-0500 (Eastern Standard Time) - Run Time: 3564ms

Cross Tabulation Query Form - Trip - 2011

Row: 2006 GTA zone of destination - gta06_dest
Column: Primary travel mode of trip - mode_prime
Table: Planning district of destination - pd_dest

Filters:
(2006 GTA zone of origin - gta06_orig In 4061
and
Start time of trip - start_time In 600-900
and
Primary travel mode of trip - mode_prime In D)

Trip 2011
Table: Mississauga

	Auto driver	**ROUTE**
3612	23	Guelph Line (North)
3613	20	Guelph Line (North)
3642	43	Guelph Line (North)
3674	23	Guelph Line (North)
3701	23	Guelph Line (North)
3703	15	Guelph Line (North)
3721	23	Guelph Line (North)

ROUTE	TRIPS	%	**Assumed**
Guelph Line (North)	536	46%	45%
New Street (East)	261	22%	20%
New Street (West)	335	29%	30%
Guelph Line (South)	37	3%	5%
	1169	1	

Trip 2011
Table: Milton

	Auto driver	
4113	23	Guelph Line (North)

Trip 2011
Table: Oakville

	Auto driver	
4008	20	New Street (East)
4015	23	New Street (East)
4023	23	New Street (East)
4039	20	New Street (East)
4180	20	New Street (East)

Trip 2011
Table: Burlington

	Auto driver	
4054	15	New Street (West)
4056	23	New Street (West)
4057	23	New Street (West)
4059	70	New Street (West)
4060	43	New Street (West)
4,061	148	3/4 New Street (West) and 1/4 Guelph Line (South)
4062	67	Guelph Line (North)
4063	55	Guelph Line (North)
4,064	111	Guelph Line (North)
4067	20	New Street (East)

4068	13	New Street (East)
4069	49	New Street (East)
4071	15	New Street (East)
4078	13	New Street (East)
4081	45	New Street (East)
4082	45	Guelph Line (North)
4083	23	Guelph Line (North)

Trip 2011
Table: Hamilton PD

	Auto driver	
5197	20	New Street (West)
5212	16	Guelph Line (North)

Trip 2011
Table: Grimsby

	Auto driver	
6014	30	New Street (West)

Trip 2011
Table: Brantford

	Auto driver	
8904	26	Guelph Line (North)

Thu Nov 16 2017 12:56:11 GMT-0500 (Eastern Standard Time) - Run Time: 2766ms

Cross Tabulation Query Form - Trip - 2011

Row: 2006 GTA zone of destination - gta06_dest
Column: Primary travel mode of trip - mode_prime

Filters:
(2006 GTA zone of origin - gta06_orig In 4061
and
Start time of trip - start_time In 600-900)

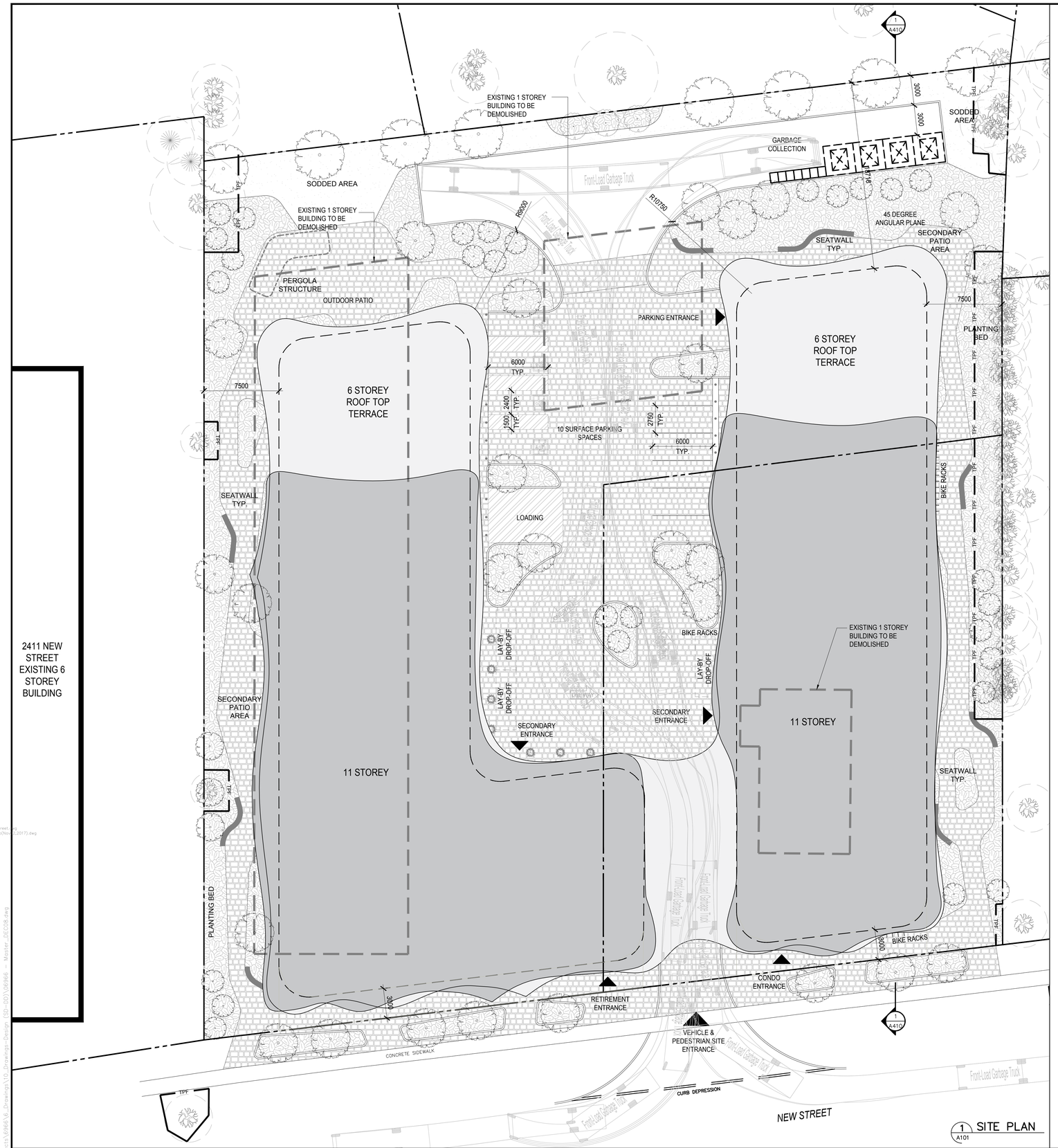
Trip 2011
Table:

	Transit excluding GO rail	Cycle	Auto driver	GO rail only	Joint GO rail and local transit	Auto passenger	School bus	Walk
64	0	0	0	23	0	0	0	0
66	0	0	0	30	0	0	0	0
69	0	0	0	0	20	0	0	0
2367	0	0	0	0	0	30	0	0
3325	23	0	0	0	0	0	0	0
3612	0	0	23	0	0	0	0	0
3613	0	0	20	0	0	0	0	0
3642	0	0	43	0	0	0	0	0
3674	0	0	23	0	0	0	0	0
3701	0	0	23	0	0	0	0	0
3703	0	0	15	0	0	0	0	0
3721	0	0	23	0	0	0	0	0
4008	0	0	20	0	0	0	0	0
4015	0	0	23	0	0	0	0	0
4023	0	0	23	0	0	0	0	0
4039	0	0	20	0	0	0	0	0
4054	0	0	15	0	0	0	0	0
4056	0	0	23	0	0	0	0	0
4057	23	0	23	0	0	0	0	0
4059	0	0	70	0	0	65	22	43
4060	0	0	43	0	0	0	0	0
4061	0	15	148	0	0	0	0	0
4062	0	0	67	0	0	23	0	0
4063	0	0	55	0	0	15	0	30
4064	0	0	111	0	0	95	0	0
4065	29	0	0	0	0	0	0	0
4067	0	0	20	0	0	0	0	0
4068	0	0	13	0	0	0	0	0
4069	0	0	49	0	0	0	0	0
4071	0	0	15	0	0	15	0	0
4077	23	0	0	0	0	0	0	0
4078	0	0	13	0	0	15	0	0
4080	0	0	0	0	0	0	22	0
4081	0	0	45	0	0	0	0	0
4082	23	0	45	0	0	0	0	0
4083	0	0	23	0	0	0	0	0
4113	0	0	23	0	0	0	0	0
4124	0	0	0	0	0	54	0	0
4180	0	0	20	0	0	0	0	0
5142	0	0	0	0	0	30	0	0
5197	0	0	20	0	0	0	0	0
5212	0	0	16	0	0	0	0	0
6014	0	0	30	0	0	0	0	0
8904	0	0	26	0	0	0	0	0
	121	15	1169	53	20	342	44	73

Transit	194	11%
Cycle	15	1%
Walk	73	4%
Auto Driver	1169	65%
Auto Passenger	342	19%
	1793	

FIGURES

Figure 1: Site Plan
Figure 2: Site Location
Figure 3: Boundary Road Network (with Road-Diet)
Figure 4: Boundary Road Network (without Road-Diet)
Figure 5: 2017 Existing Traffic Volumes
Figure 6: 2022 Future Background Traffic Volumes
Figure 7: 2027 Future Background Traffic Volumes
Figure 8: Trip Distribution
Figure 9: Trip Assignment
Figure 10: 2022 Future Total Traffic Volumes
Figure 11: 2027 Future Total Traffic Volumes



1 SITE PLAN
A101

1. SITE AREA:

DESCRIPTION	AREA (m2)
SITE AREA	7,032.1 m2
DENSITY (FAR)	4.05

2. UNIT COUNTS

FLOORS	RETIREMENT					CONDO (RESIDENTIAL)			
	MEMORY	STUDIO	1 BEDROOM	2 BEDROOM	TOTAL RETIREMENT	STUDIO	1 BEDROOM	2 BEDROOM	TOTAL RESIDENTIAL
LEVEL 2		3	16	4	23	-	11	6	17
LEVEL 3		3	16	4	23	-	11	6	17
LEVEL 4		3	16	4	23	-	11	6	17
LEVEL 5		3	16	4	23	-	11	6	17
LEVEL 6		3	16	4	23	-	13	6	19
LEVEL 7 MEMORY CARE	32	-	-	-	32	-	-	-	-
LEVEL 8		3	14	2	19	-	10	3	13
LEVEL 9		3	14	2	19	-	10	3	13
LEVEL 10		3	14	2	19	-	10	3	13
LEVEL 11		3	14	2	19	-	10	3	13
TOTAL UNITS	32	27	136	28	223	-	97	42	139

TOTAL RETIREMENT & RESIDENTIAL UNITS (223 + 139) = 362 UNITS

3. BUILDING AREA (m2)

FLOORS	RETIREMENT	CONDO (RESIDENTIAL)	TOTAL AREA
	m2	m2	m2
LEVEL P2			6,063
LEVEL P1			6,063
SUBTOTAL BELOW GRADE			12,126
GROUND (AMENITY)	1,590	1,250	2,840
LEVEL 2	1,590	1,250	2,840
LEVEL 3	1,590	1,250	2,840
LEVEL 4	1,590	1,250	2,840
LEVEL 5	1,590	1,250	2,840
LEVEL 6	1,590	1,374	2,964
LEVEL 7 (MEMORY CARE)	2,374		2,374
LEVEL 8	1,286	951	2,237
LEVEL 9	1,286	951	2,237
LEVEL 10	1,286	951	2,237
LEVEL 11	1,286	951	2,237
SUBTOTAL ABOVE GRADE	17,058	11,428	28,486
TOTAL ABOVE & BELOW GRADE			40,612

4a. AMENITY REQUIREMENT

AMENITY REQUIREMENT**		AREA (m2)
CONDO (20sm/UNIT)	139 X 20sm	2,780
RETIREMENT HOUSING (20sm/UNIT)	223 X 20sm	4,460
TOTAL AMENITY REQUIRED		7,240

**AS PER THE CITY OF BURLINGTON ZONE REQUIREMENTS FOR CN1 ZONE, AMENITY AREA = 20 sm PER UNIT

4b. AMENITY AREA PROVIDED

AMENITY PROVIDED	INDOOR AREA (sm)	OUTDOOR AREA (sm)
CONDO (RESIDENTIAL)		
GROUND	1,037	1085
LEVEL 7 (Memory Care)	-	298
LEVEL 8	-	136
TOTAL CONDO AMENITY	1,037	1,519
GROUND	1,511	1,230
LEVEL 7 (Memory Care)	917	306
TOTAL RETIREMENT AMENITY	2,428	1,536
TOTAL RETIREMENT & CONDO AMENITY	3,465	3,055

IN PROGRESS

5a. PARKING REQUIREMENTS

	UNIT BREAKDOWN		RATE	TOTAL PARKING REQUIREMENT
CONDO (RESIDENTIAL)	1 BEDROOM	97	1.25/unit	121
	2 BEDROOM	42	1.50/unit	63
	VISITOR	139	0.35/unit	49
TOTAL CONDO REQUIREMENT				233
RETIREMENT HOUSING	OCCUPANT SPACES (studio, 1bedroom & 2 bedroom)	191	0.50/unit	95
	MEMORY CARE	32	0.25/unit	8
	VISITOR	191	0.25/unit	48
TOTAL RETIREMENT REQUIREMENT				151
TOTAL SITE REQUIREMENT (CONDO & RETIREMENT HOUSING)				384

5b. PARKING PROVIDED

FLOORS	
LEVEL P2	158
LEVEL P1	151
SUBTOTAL BELOW GRADE	309
GROUND	10 (INCLUDES 4 ACCESSIBLE SPACES)
SUBTOTAL ABOVE GRADE	10
TOTAL BELOW & ABOVE GRADE	319

2 STATISTICS
A101

ISSUES/REVISIONS		
Item	Description	Date
A	ISSUED FOR REZONING APPLICATION	2017.12.15

Check and verify all dimensions and report any discrepancies to the Consultant whose seal is affixed to this drawing. This drawing is not to be scaled for the purpose of verifying dimensions.

This drawing shall not be used for construction purposes until signed and dated in the space below by the above mentioned Consultant.

Issued For Construction — Date

ONTARIO ASSOCIATION OF ARCHITECTS — NICOLA CASCIATO — LICENCE 6443

WZMH ARCHITECTS
95 St. Clair Av W
Suite 1501
Toronto, Ontario
Canada M4V 1N6
T 416.961.4111
F 416.961.3776

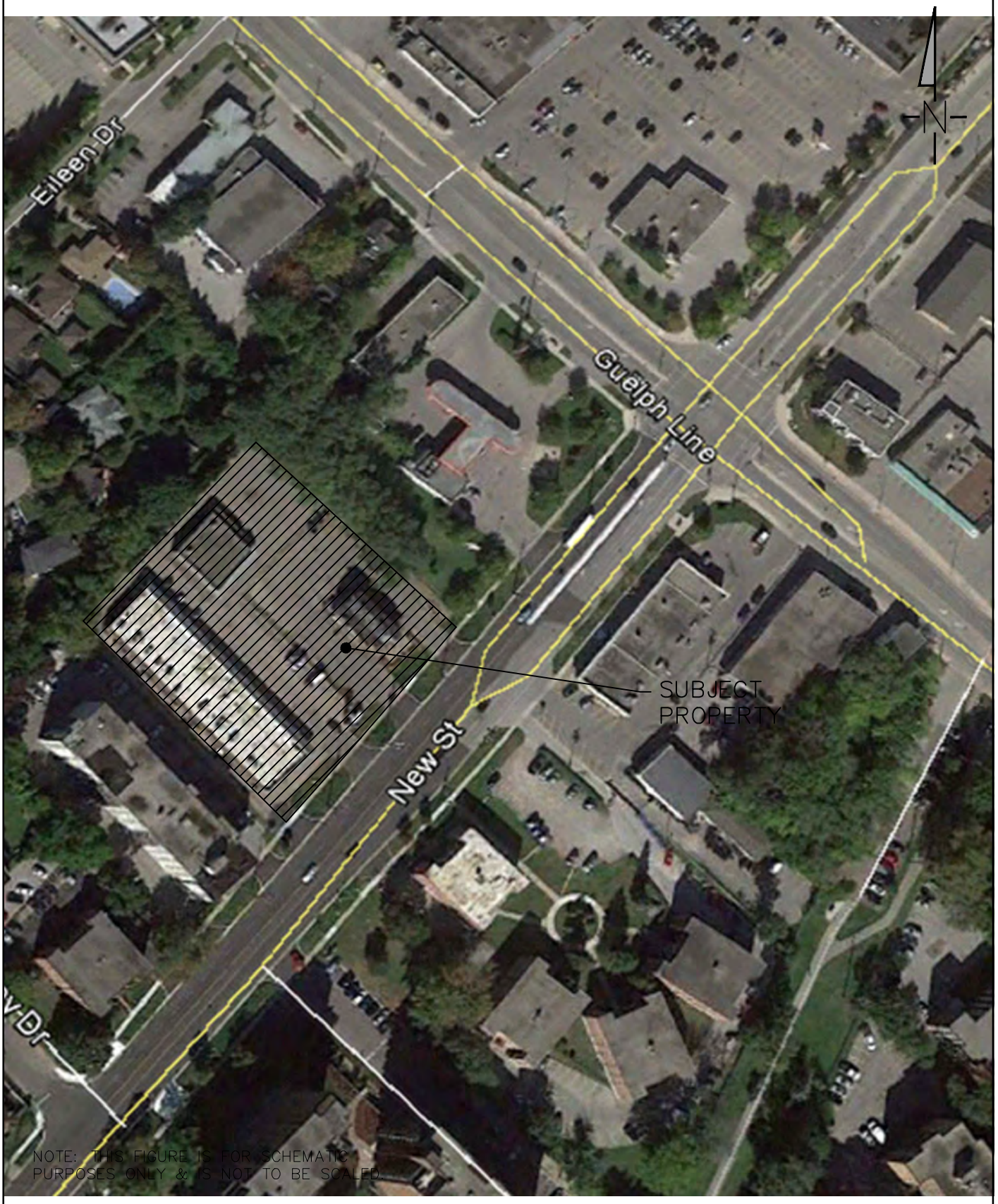
Key Plan

2421&2431 New Street, Burlington, Ontario

Sheet Title: SITE PLAN & STATISTICS
Scale: 1:150
Project Number: 06966.000
Drawing Number: A–101

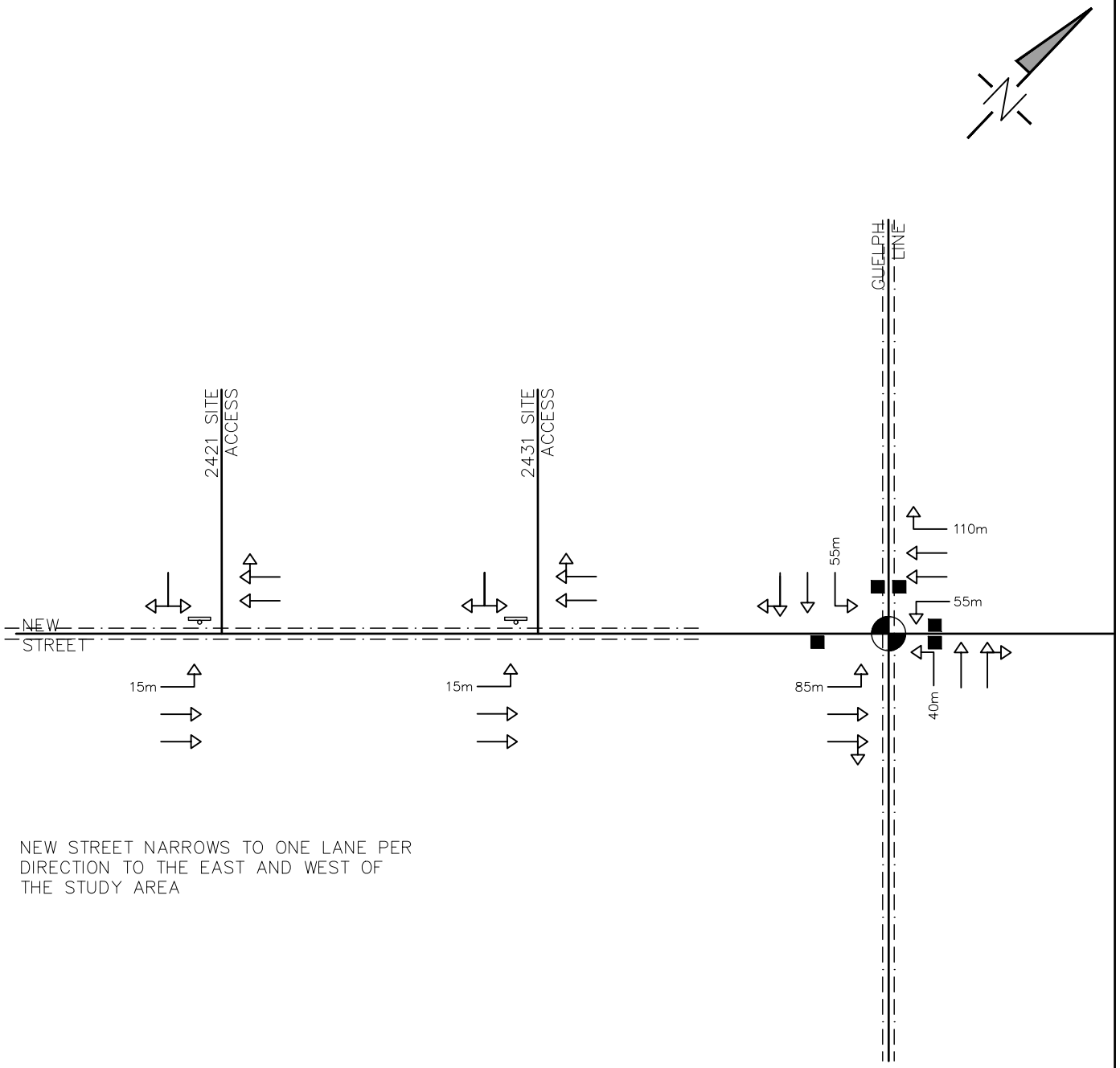
XRefs:
XAcitTB.DWG
x:\Survey_NewStreet.dwg
17-218TP01-Exp(Nov 2,2017).dwg
NICOLA.dwg

Plot Time: Dec 12, 2017 - 10:14am
Drawing Name: \\wzmh\Projects\06966\6_Drawings\10_Drawings-Design (SD-DD)\06966 - Master_SEC08.dwg



Legend	Project	
	2421 & 2431 NEW STREET	CROZIER & ASSOCIATES Consulting Engineers
	Drawing	The HarbourEdge Building, 40 Huron Street, Suite 301, Collingwood, ON L9Y 4R3 705 446-3510 T 705 446-3520 F www.cfcrozier.ca info@cfcrozier.ca
	SITE LOCATION	

Drawn By	Design By	Project
D.L.	D.L.	1473-4780
Scale	**Date**	**Check By**
N.T.S.	DEC. 12, 2017	M.L.
Drawing		
FIG. 2		



NEW STREET NARROWS TO ONE LANE PER DIRECTION TO THE EAST AND WEST OF THE STUDY AREA

NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

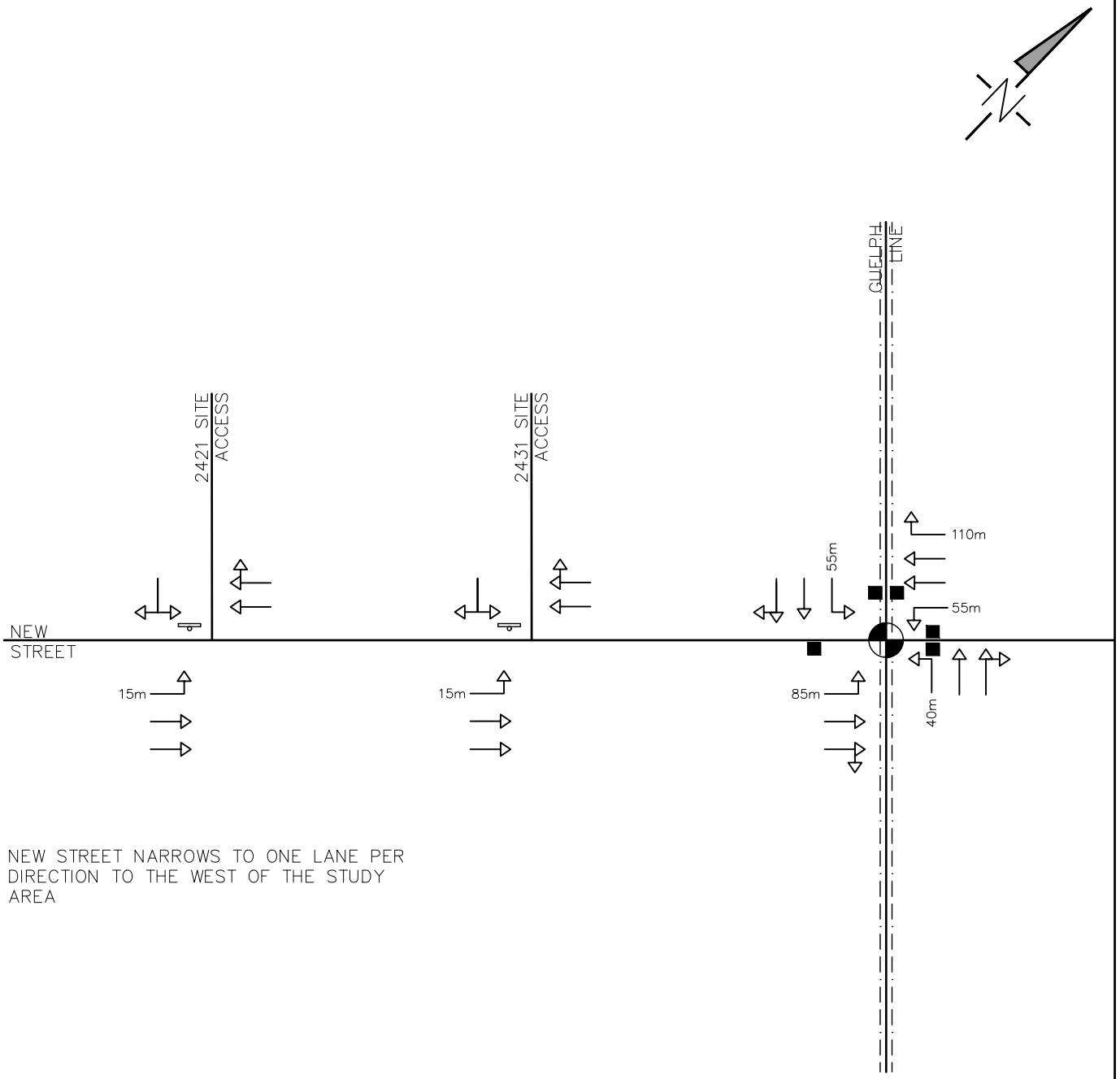
- SIGNAL CONTROL
- STOP CONTROL
- BUS STOP
- ON-STREET BIKE LANE

Project: 2421 & 2431 NEW STREET

Drawing: BOUNDARY ROAD NETWORK (WITH ROAD-DIET)

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project	Scale	Date	Check By	Drawing
D.L.	D.L.	1473-4780	N.T.S.	DEC. 11, 2017	A.F.	FIG. 3



NEW STREET NARROWS TO ONE LANE PER DIRECTION TO THE WEST OF THE STUDY AREA

NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- BUS STOP
- ON-STREET BIKE LANE

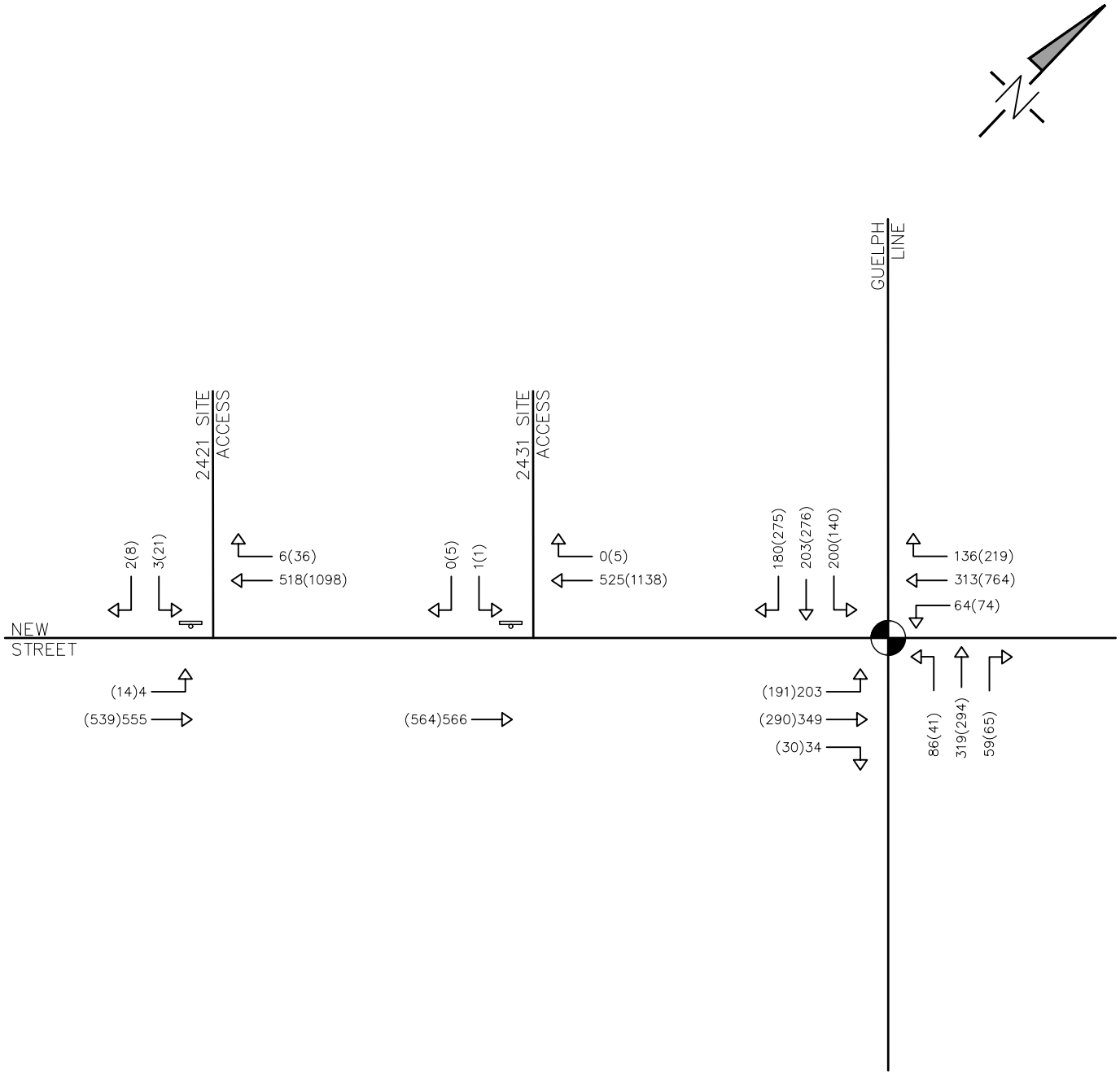
Project: 2421 & 2431 NEW STREET

Drawing: BOUNDARY ROAD NETWORK (WITHOUT ROAD-DIET)

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
D.L.	D.L.	1473-4780

Scale	Date	Check By	Drawing
N.T.S.	DEC. 11, 2017	A.F.	FIG. 4



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) A.M. (P.M.) PEAK HOUR TRAFFIC VOLUMES

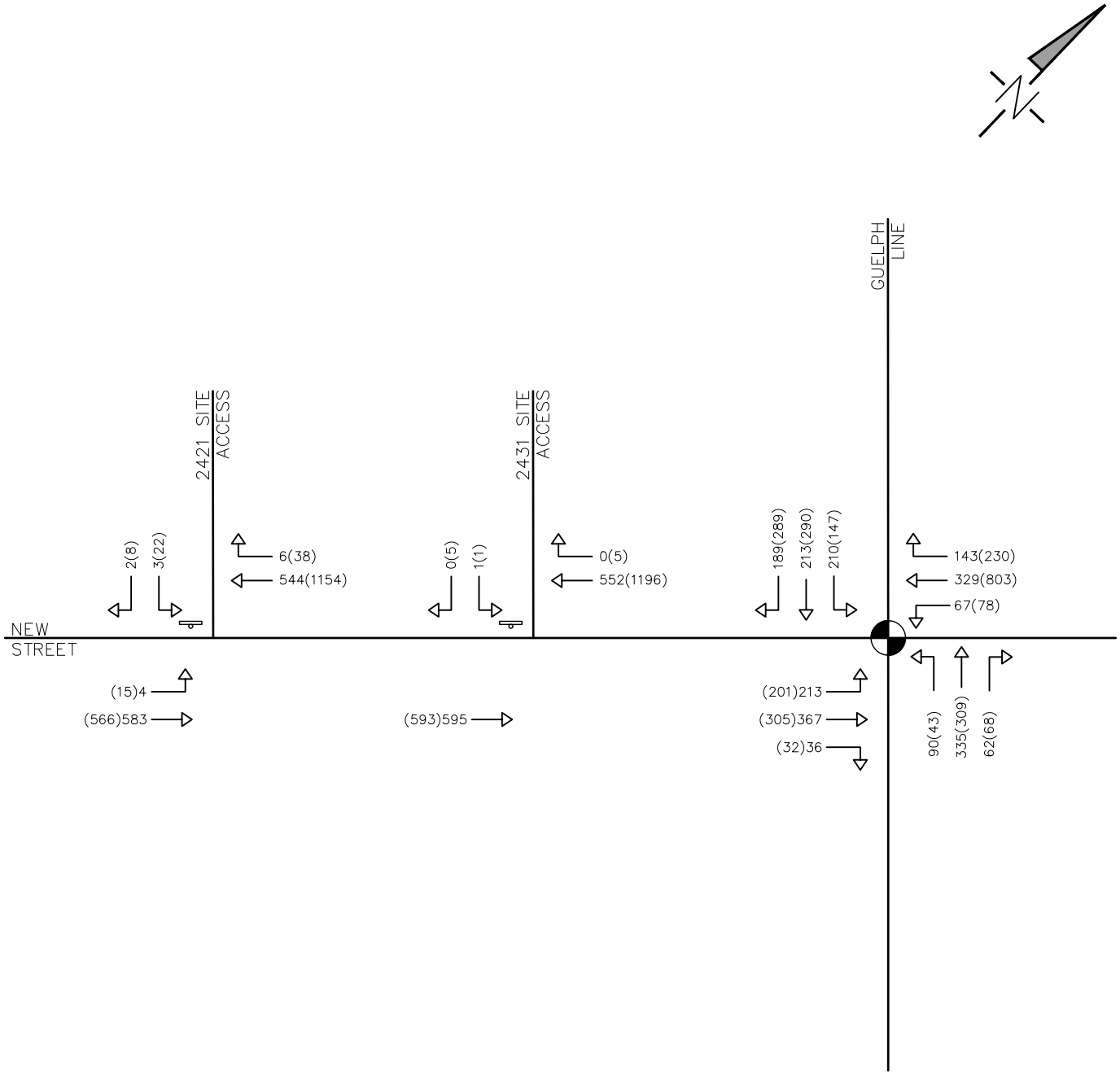
Project: 2421 & 2431 NEW STREET

Drawing: 2017 EXISTING TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
T.T.	D.L.	1473-4780

Scale	Date	Check By	Drawing
N.T.S.	DEC. 11, 2017	A.F.	FIG. 5



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) A.M. (P.M.) PEAK HOUR TRAFFIC VOLUMES

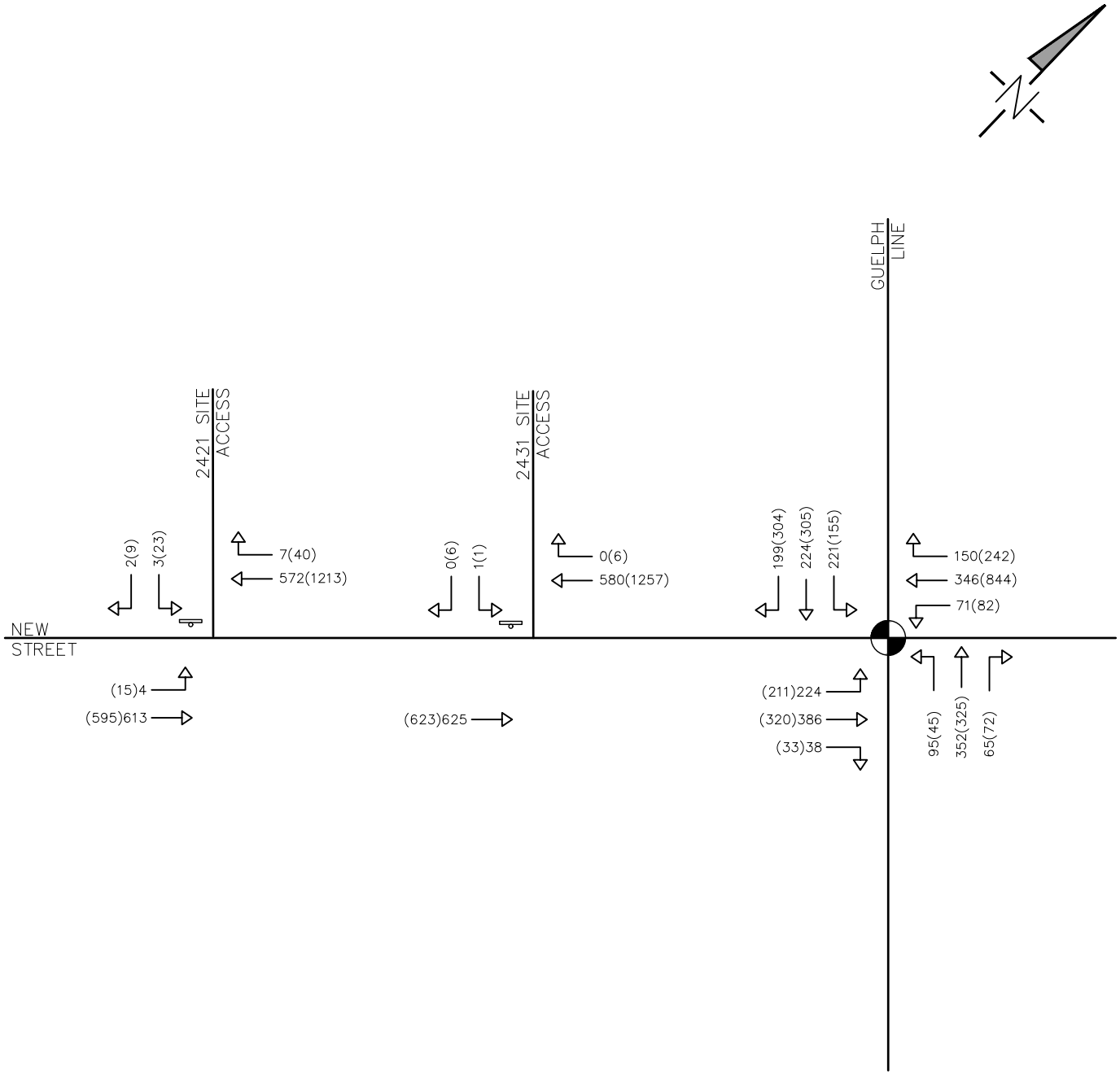
Project: 2421 & 2431 NEW STREET

Drawing: 2022 FUTURE BACKGROUND TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
T.T.	D.L.	1473-4780

Scale	Date	Check By	Drawing
N.T.S.	DEC. 11, 2017	A.F.	FIG. 6



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) A.M. (P.M.) PEAK HOUR TRAFFIC VOLUMES

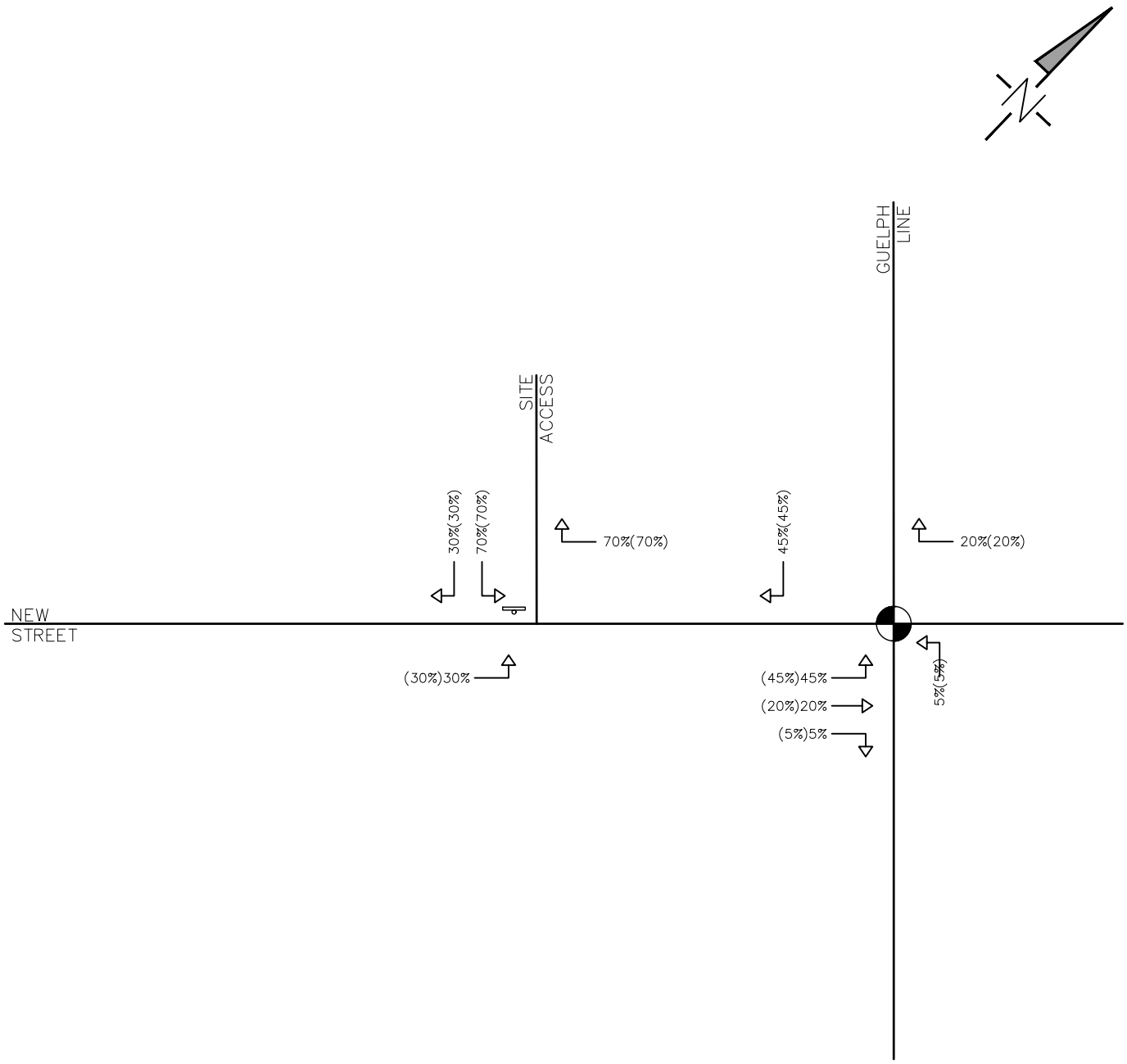
Project: 2421 & 2431 NEW STREET

Drawing: 2027 FUTURE BACKGROUND TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
T.T.	D.L.	1473-4780

Scale	Date	Check By	Drawing
N.T.S.	DEC. 11, 2017	A.F.	FIG. 7



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) A.M. (P.M.) PEAK HOUR TRAFFIC VOLUMES

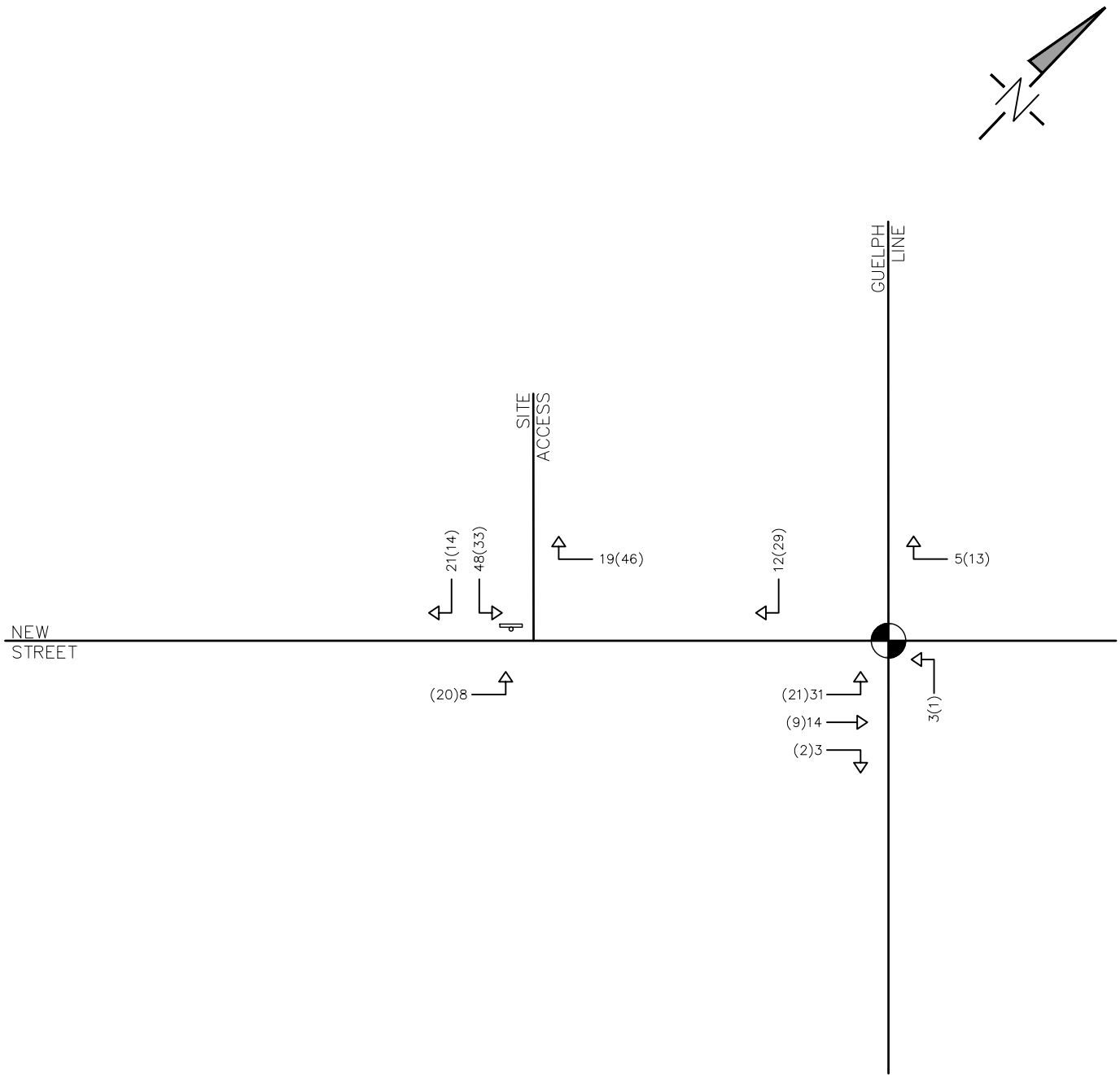
Project: 2421 & 2431 NEW STREET

Drawing: TRIP DISTRIBUTION

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
T.T.	D.L.	1473-4780

Scale	Date	Check By	Drawing
N.T.S.	DEC. 11, 2017	A.F.	FIG. 8



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) A.M. (P.M.) PEAK HOUR TRAFFIC VOLUMES

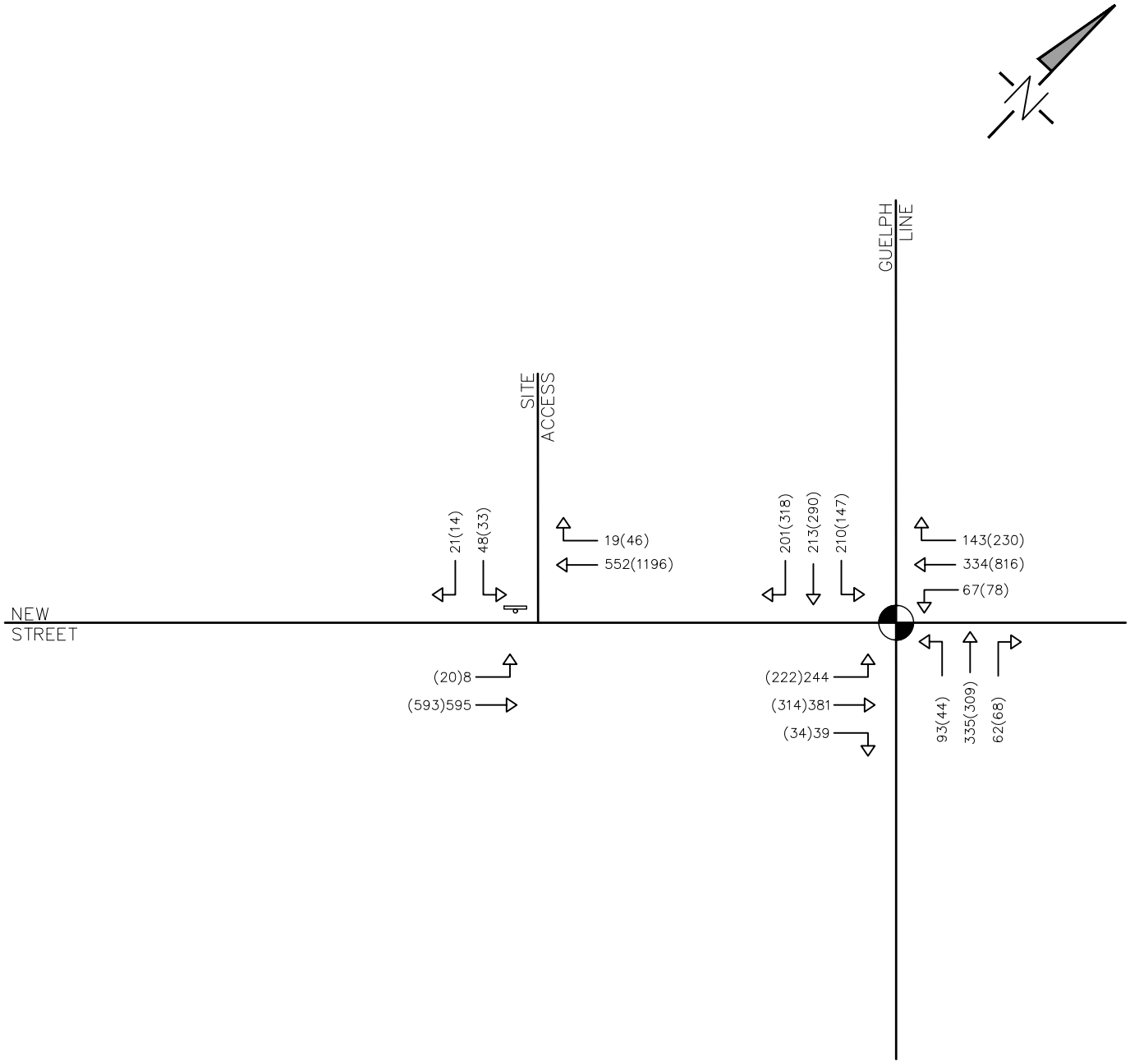
Project: 2421 & 2431 NEW STREET

Drawing: TRIP ASSIGNMENT

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
T.T.	D.L.	1473-4780

Scale	Date	Check By	Drawing
N.T.S.	DEC. 11, 2017	A.F.	FIG. 9



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) A.M. (P.M.) PEAK HOUR TRAFFIC VOLUMES

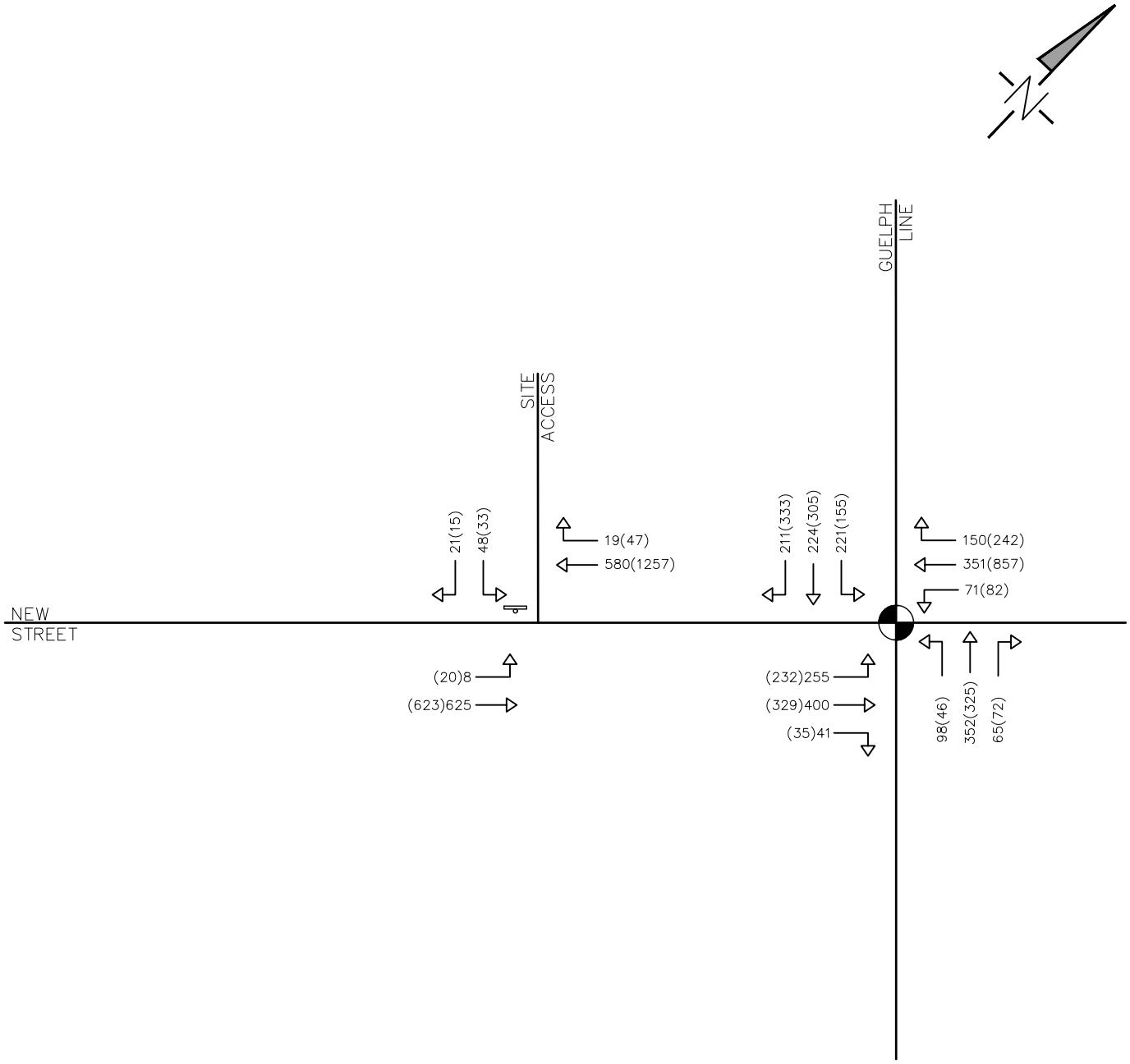
Project: 2421 & 2431 NEW STREET

Drawing: 2022 FUTURE TOTAL TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
T.T.	D.L.	1473-4780

Scale	Date	Check By	Drawing
N.T.S.	DEC. 11, 2017	A.F.	FIG. 10



NOTE: THIS FIGURE IS FOR SCHEMATIC PURPOSES ONLY & IS NOT TO BE SCALED.

Legend

- SIGNAL CONTROL
- STOP CONTROL
- XX(YY) A.M. (P.M.) PEAK HOUR TRAFFIC VOLUMES

Project: 2421 & 2431 NEW STREET

Drawing: 2027 FUTURE TOTAL TRAFFIC VOLUMES

CROZIER & ASSOCIATES Consulting Engineers
The HarbourEdge Building,
40 Huron Street, Suite 301,
Collingwood, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project
T.T.	D.L.	1473-4780

Scale	Date	Check By	Drawing
N.T.S.	DEC. 11, 2017	A.F.	FIG. 11