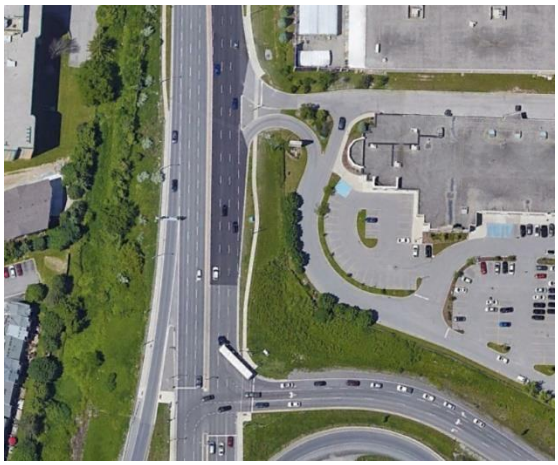

1755 Pickering Parkway Mixed-Use Development

Traffic Impact Study

FINAL

July 4, 2022

arva

CAN-DIAS BEST MANAGED COMPANIES Platinum member

Prepared for:

Bayfield Realty Advisors

EXECUTIVE SUMMARY

R.V. Anderson Associates Limited (RVA) was retained by Bayfield Realty Advisors to complete a Traffic Impact Study (TIS) for the Zoning By-Law Amendment (ZBA) for Phase 1 of a proposed mixed-use development at 1755 Pickering Parkway, in the City of Pickering. Phase 1 has an anticipated build-out year of 2026, and represents the initial phase of a larger multi-phased mixed-use re-development plan for the lands east of the subject site, bounded by Pickering Parkway on the north, Brock Road on the west, Notion Road on the east, and the Highway 401 corridor on the south.

The proposed development consists of 678 residential units and approximately 1,669m^2 of ground floor commercial space. Vehicular site access to/from Brock Road will be provided via the existing right-in/right-out access on Brock Road, and to/from Pickering Parkway through the existing adjacent commercial property to the east. A minimum of two vehicular accesses for the site are recommended in consideration for emergency vehicle accessibility, and given the right-in/right-out configuration of the access on Brock Road.

The proposed development is estimated to generate the following new auto trips to the surrounding study area road network: 27 inbound trips and 86 outbound trips in the a.m. peak hour, 64 inbound trips and 50 outbound trips in the p.m. peak hour, and 55 inbound trips and 75 outbound trips in the Saturday peak hour. These estimates consider trip reductions associated with anticipated transit modal splits, internal capture rates, pass-by trip rates for the ground floor commercial space, and the demolition of an existing commercial establishment to accommodate this new development which will eliminate any traffic generation from that existing commercial use.

The analysis adopted future planning horizons of 2026 for full build-out of the subject development, 2031 for a 5-year horizon, and 2036 for a 10-year horizon. Background traffic growth for the study area road network was forecasted by applying growth assumptions provided by the respective road authorities, traffic generation estimates for planned background developments provided by the City, and traffic generated from the future phases of the multi-phased re-development lands to the east that are anticipated to be built-out within this study's ultimate 2036 horizon year.

As per the results of the capacity analysis for the study area intersections, the site generated traffic is not expected to result in any new capacity, delay, or queuing concerns requiring mitigation through intersection geometric improvements. It is expected a future signal will be constructed on Pickering Parkway to support the future primary accesses for the planned larger re-development occurring on both the north and south sides of Pickering Parkway , but that improvement is not required in support of the Phase 1 development which is the subject of this study.

With a significant level of intensification occurring in the surrounding area, the capacity analysis confirms the existing study area road network is expected to require capacity improvements to accommodate this overall forecasted traffic growth while maintaining an acceptable level of service at intersections.

City Council adopted Pickering Official Plan Amendment 38 (OPA 38) which promotes the development and intensification of the Kingston Road Corridor and the Specialty Retailing Node which is inclusive of the Brock Mixed Node Intensification area (which the subject site is situated within), and directs the City to undertake municipal studies to identify future transportation infrastructure improvements to mitigate the anticipated capacity constraints.

Such municipal initiated transportation planning studies, and Traffic Impact Study submissions associated with private development applications for planned future developments in the area (such as the future phases of the overall subject redevelopment lands), will assist the City, Region and MTO in comprehensively confirming future required transportation network improvements.

It is expected the City's ongoing transportation planning efforts will develop a phased implementation plan for capacity improvements to meet the growing traffic demands on the study area road network associated with the City's intensification plans. However, it is our understanding such transportation infrastructure capacity improvements have not been made public at this time.

The study concludes that there are no geometric improvements recommended at the existing study area intersections in response to the site generated traffic from the proposed Phase 1 development.

It is recommended the City utilize the findings from this TIS to confirm the understand the traffic generation of the subject Phase 1 development, as well as consider the identified capacity concerns on the surrounding road network associated with the area's overall future intensification and resulting increasing vehicular demands.

Bayfield Realty Advisors

1755 Pickering Parkway Mixed-Use Development

Traffic Impact Study

FINAL

Bayfield Realty Advisors

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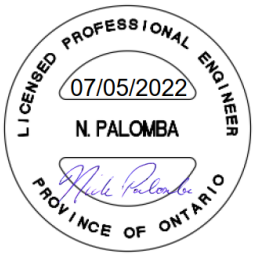

RVA 205517

July 4, 2022

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1.0 INTRODUCTION

1.1 Study Objective

R.V. Anderson Associates Limited (RVA) was retained by Bayfield Realty Advisors to complete a Traffic Impact Study (TIS) for the Zoning By-Law Amendment (ZBA) for Phase 1 of a proposed mixed-use development at 1755 Pickering Parkway, in the City of Pickering. Phase 1 has an anticipated build-out year of 2026, and represents the initial phase of a larger multi-phased mixed-use re-development plan for the lands west of the subject development.

1.2 Site Location

The Phase 1 mixed-use development is to be situated within the westernmost portion of the existing “Shops at Pickering Ridge” lands, bounded by Pickering Parkway on the north, Brock Road on the west, Notion Road on the east, and the Highway 401 corridor on the south.

The subject site resides within walking distance of numerous commercial and retail establishments, residential areas, transit stops, and the surrounding area consists of numerous properties currently planned for redevelopment and intensification. Vehicular connections to the Highway 401, Pickering Town Centre, and major arterial corridors (Brock Road, Kingston Road) are also conveniently available.

The project site location and the surrounding area roadway network is shown in **Figure 1**.

1.3 Study Area

Based on consultation with City, Regional and MTO staff, the study intersections considered for traffic impact analysis are listed below:

- Brock Road at Kingston Road
- Brock Road at Pickering Way
- Brock Road at the QEW Westbound Ramp Terminal
- Brock Road at the QEW Eastbound Ramp Terminal
- Kingston Road at Notion Road
- Notion Road at Pickering Parkway
- Pickering Parkway at the Canadian Tire/Walmart Site Access

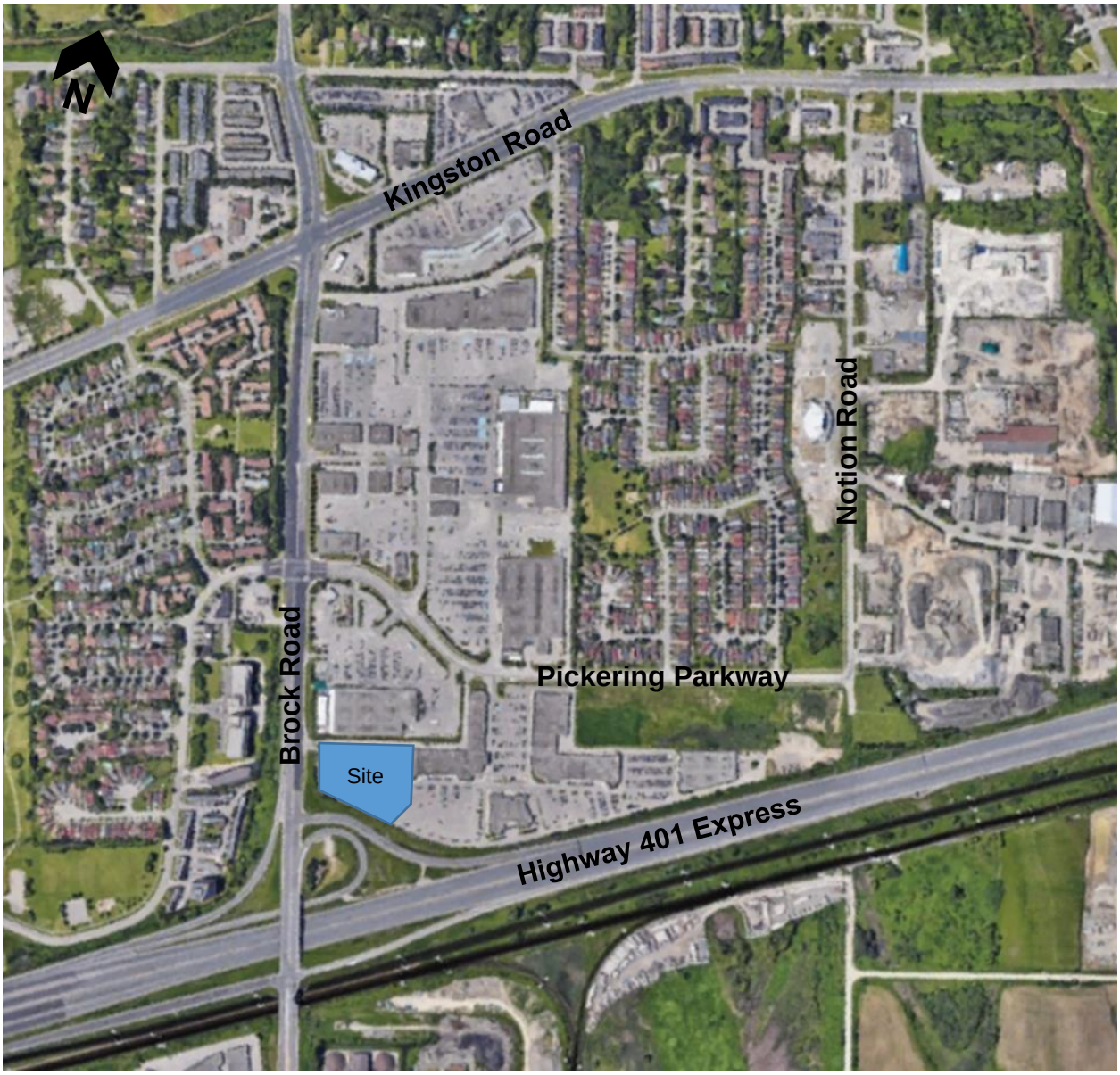


Figure 1: Site Location

2.0 EXISTING CONDITIONS

2.1 Existing Road Network

The study area road network consists primarily of arterial and collector roads under the jurisdiction of the City (Pickering Parkway, Notion Road) and Region (Brock Road, Kingston Road), with the QEW ramp terminal intersections and their associated ramps under the jurisdiction of the Ministry of Transportation of Ontario (MTO).

Pickering Parkway is an east-west arterial under the jurisdiction of the City of Pickering, with a wide two-lane cross-section and an assumed posted speed of 50km/hr. There are exclusive

turning lanes at various accesses along the corridor. On-street parking is available in some spots on the westerly side of the corridor, but it is prohibited as you travel east towards Notion Road. The vertical alignment is flat throughout, whereas there are multiple horizontal curvatures along the corridor.

Notion Road is a north-south arterial under the jurisdiction of the City of Pickering, with a two-lane cross-section and assumed speed limit of 50km/hr. The roadway is approximately 10m wide at the south end, narrowing down to approximately 9m wide as you travel north. The wide road configuration provides ample space for turning movements and passing opportunities, and as a result, there are currently no auxiliary turning lanes along this corridor. An overpass bridge from Squires Beach Road to Notion Road is expected to be built beyond 2031, which will improve north-south circulation within the study area.

Brock Road is a north-south arterial under the jurisdiction of the Durham Region. It is a four-lane cross-section on the northerly and southerly ends, but transitions to a six-lane cross-section between Bayly Street and Finch Avenue, with additional exclusive turning lanes at every intersecting road within the study area. The roadway is posted at 60km/hr and presents no concerns pertaining to vertical and horizonal alignment.

Kingston Road is an east-west arterial under the jurisdiction of the Durham Region. The roadway alters between a four-lane cross-section and six-lane cross-section throughout the corridor, with additional exclusive turning lanes at every intersecting road within the study area. For the six-lane cross-section, one lane in each direction acts as a dedicated bus lane. The roadway is posted at 60km/hr, with minor variances in the vertical and horizontal alignment throughout the corridor.

2.2 Transit

Durham Region Transit provides public transportation services for the City of Pickering. For the subject location, there is one route (291) that services the site directly and multiple routes that bring you to the intersection of Brock Road and Kingston Road, which is a significant distance from the site. All of these routes connect with the Pickering Parkway Terminal, which resides approximately 2 kilometres west of the study location. The routes that operate in close proximity to the study location are as follows:

Eastbound/Westbound/Northbound stops at Kingston Road and Brock Road (approximately 700m north of the site)

- Route 92 (Oshawa GO) – Operates 7 days a week, travelling from the Yorkdale Bus Terminal to the Oshawa GO station;
- Route 900 (PULSE) – Operates 7 days a week, travelling from Centennial College Morningside Campus to Downtown Oshawa;

- Route 916 – Operates 7 days a week, travelling from the Pickering Parkway Terminal to the Harmony Terminal; and
- Route 920 – Operates 7 days a week, travelling from McCowan Station to Ontario Tech/Durham College North Campus.

Westbound stop at 1738 Pickering Parkway (approximately 120m west of the site)

- Route 291 – Operates 7 days a week on limited hours, travelling from Pickering Town Centre to Westney Eastbound at Harwood Avenue South.

Eastbound/Westbound stops at 1755/1766 Pickering Parkway (north frontage of site)

- Route 291 – Operates 7 days a week on limited hours, travelling from Pickering Town Centre to Westney Eastbound at Harwood Avenue South.

2.3 Active Transportation

Pedestrians are accommodated by sidewalks in all areas surrounding the site. For cyclists, there is a multi-use path on the west side of Brock Road between Pickering Parkway and Kingston Road, as well as bike lanes on portions of Kingston Road. However, there is a general lack of connectivity for active transportation users in the network; the multi-use path only spans a short segment of Brock Road, and the bike lanes on Kingston Road end at Southview Drive, providing no connection to other facilities.

The City of Pickering recently developed an Integrated Transportation Master Plan (ITMP) that outlined a public desire for a more connected active transportation network. This plan indicates that Brock Road, Kingston Road, and a few other arterial roads throughout the city, will become Primary Bikeways in the future. Additionally, there are Primary/Secondary Recreational Trails that will provide enhanced connectivity and efficiency for active transportation users.

2.4 Existing Traffic Data

Intersection Turning Movement Count (TMC) data was collected for the study intersections in October 2019 during the weekday a.m. and p.m. peak periods; raw count data is provided in **Appendix A**. An analysis of the data determined that the overall peak hours for the study area road network generally occurred between 7:45 a.m. and 8:45 a.m. during the weekday a.m. peak period and between 4:30 p.m. and 5:30 p.m. during the weekday p.m. peak period.

Given the traffic counts were collected prior to COVID-19 restrictions, it is expected that the 2019 peak hour intersection traffic volumes have not grown considerably to the present 2022 year (existing conditions), if at all. Therefore, 2018 traffic volumes were adopted without application of an annualized growth rate. The 2022 existing intersection volumes for the weekday a.m. and p.m. peak hours are presented in **Figure 2**.

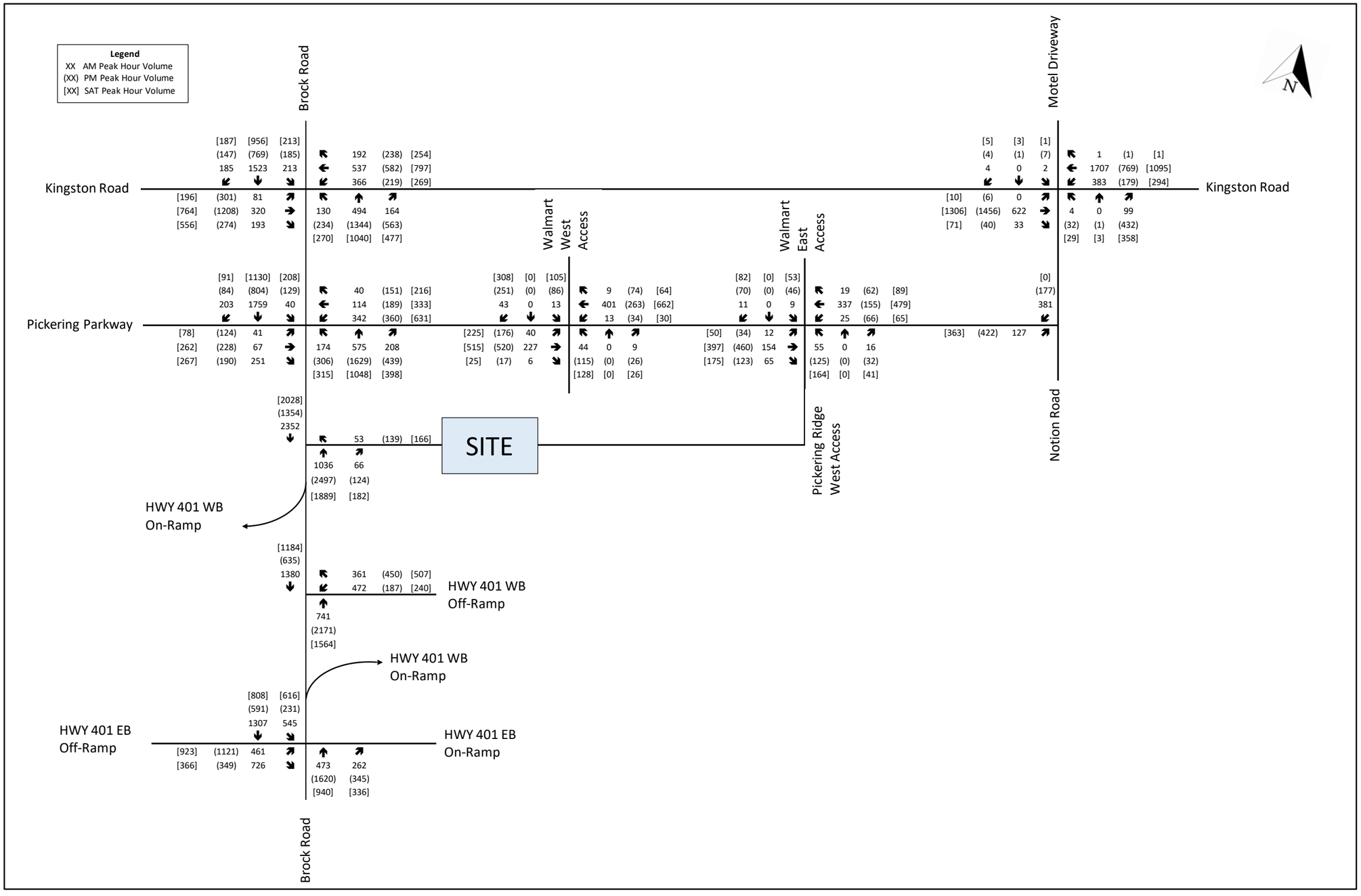


Figure 2: Existing 2022 Volumes

3.0 FUTURE BACKGROUND TRAFFIC

3.1 Study Horizon Years

As per our review of City, Regional, and MTO TIS Guidelines, the analysis adopted future planning horizons of 2026 for full build-out of the subject development, 2031 for a 5-year horizon, and 2036 for a 10-year horizon.

3.2 Study Area Transportation Network Improvements

3.2.1 Notion Road Fly-Over

The Region of Durham and the City of Pickering have completed a Municipal Class Environmental Assessment (EA) for the north-south bridge connection between Squires Beach Road and Notion Road. The recommended phasing for this project, as outlined in the Region of Durham Transportation Master Plan (TMP), is anytime from 2031 and on. For the purpose of the intersection modelling as part of this traffic study, and as a conservative approach, this improvement was considered for the 2031 and 2036 horizon years only, and not considered for the 2026 horizon year. This improvement results in a redistribution of traffic in the area, as the additional connection can accommodate north-south trips that were previously restricted to Brock Road. Furthermore, Notion Road will be converted to a four-lane cross-section, which will provide additional capacity for the diverted trips. The redistribution assumptions used in the Notion Road Environmental Assessment were adopted for the 2031 and 2036 horizon years in this study, and are provided in **Appendix B**.

3.2.2 Planned Public Roads within Subject Redevelopment Lands

As part of the redevelopment of the subject site, three new public roads are planned:

- An east-west public road connecting to Brock Road via the current right-in/right-out access intersection, approximately 100 metres north of the Ontario Highway 401 Express Westbound off-ramp, with a cul-de-sac at its eastern limit within the site;
- A north-south public road connecting the aforementioned future east-west public road with Pickering Parkway to the north; and
- A “crescent” public road within the subject site that has two intersections with the aforementioned future west-west public road.

3.2.3 Kingston Road Corridor and Specialty Retailing Node

In January 2022, City Council adopted Pickering Official Plan Amendment 38 (OPA 38), which is now under final review for approval by the Region of Durham. This amendment will change existing policies and land use designations to promote the development and intensification of the

Kingston Road Corridor and Specialty Retailing Node, which is inclusive of the Brock Mixed Node Intensification area (which the subject site is situated within). The amendment will also identify areas where traffic capacity issues are expected to occur and propose transportation infrastructure improvements to mitigate projected capacity constraints in the transportation system.

Schedule "B" to amendment OPA 38 indicates that the subject site, as well as the mixed-use property on the north side of Pickering Parkway, could receive additional public and private roadways to accommodate projected traffic demands placed on this area at a result of planned intensification. Therefore, any City initiated transportation studies (associated with OPA 38) and Traffic Impact Study submissions associated with development applications associated with potential future phases of the overall subject redevelopment lands (as we as for other ongoing redevelopment projects in the area) will assist the City, Region and MTO in confirming future required transportation network improvements.

3.2.4 Transit Improvements

The amendment will complement the "Sustainable Placemaking" corporate vision, which is a goal to create a sustainable city through transit-oriented development and enhanced walkability. The Durham Region (DRT) Transit service has denoted Brock Road as a future (2031) high-frequency bus route with headways expected to be between 5-10 minutes, and Kingston Road as a future (2031) rapid transit route with an estimated headway of 5 minutes. This enhanced transit service will greatly reduce the discrepancy in travel time between automobile and transit, which has the potential to significantly decrease the amount of single-occupancy vehicle trips.

3.3 Future Background Development Traffic

As confirmed with City, Regional, and MTO staff, numerous background developments were considered in this study. Completed and partially completed Transportation Impact Studies (TIS) were provided to RVA, with expected build-out dates ranging from 2019 to beyond 2031. For the purpose of this study, all developments have been partitioned into the two specified horizon years of 2031 and 2036.

The names of the background developments and their general locations in the context of the surrounding road network are described below:

- 2165 Brock Road Residential Development – East side of Brock Road, approximately 100m north of Major Oaks Road (pre-2031 build-out)
- 2065 and 2071 Brock Road Mixed-use Development – Northeast corner of Brock Road at Usman Road (pre-2031 build-out)

- 2055 Brock Road Residential Development – Southeast corner of Brock Road at Usman Road (pre-2031 build-out)
- 1640 Kingston Road Residential Development – Northwest corner of Kingston Road at Guild Road (pre-2031 build-out)
- 1856 Notion Road Residential Development – Southwest corner of Pickering Parkway at Notion Road (pre-2031 build-out)
- Film Studio and Pickering Casino Development – Southeast corner of Squires Beach Road at Kellino Street and the northwest corner of Church Street South at Kellino Street respectively (pre-2031 build-out)
- 1695 Bayly Street Commercial Development – Southwest corner of Brock Road at Bayly Street (pre-2031 build-out)
- 1889 Brock Road Mixed-use Development – Northeast corner of Brock Road at Pickering Parkway (pre-2031 build-out for Phase 1, post-2031 full build-out)
- 1970 Brock Road Mixed-use Development – Northwest corner of Kingston Road at Brock Road (post-2031 build-out)

The subject development is the first of three phases anticipated to take place within the overall re-development lands before this study's 2036 final horizon year; the timing and phasing of future phases of development beyond the 2036 horizon year are not known at this time, and therefore have not been considered as background developments captured within this study's timeframe. The two future phases captured within the timeframe of this study are treated as background developments, given they are not the subject of this ZBA application, and are described as follows:

- Phase 2 (assumed pre-2031 build-out)
  - Three mixed-use buildings consisting of 24 storeys, 32 storeys, and 43 storeys, respectively, for a total of 1090 residential units and 1006m^2 of commercial GFA.
- Phase 3 (assumed post-2031 build-out)
  - 22-storey mixed-use development consisting of 446 residential units and 920m^2 of commercial GFA.

Turning Movement Diagrams (TMDs) for each horizon year, as well as each individual development, can be found in **Appendix C**.

3.4 Future Background Growth

As approved by Regional and MTO staff, a 0.5% per annum growth rate has been applied to all through movements along Brock Road and Kingston Road, as well as all turning movements from the MTO off-ramps. Turning movement diagrams reflecting the 2026, 2031, and 2036 corridor growth are available in **Appendix C**.

3.5 Future Background Traffic Volumes

The future background intersection volumes for the future horizon years were projected by combining the estimated generated traffic from the background developments with the corridor growth at each horizon year. The resulting 2026, 2031, and 2036 future background intersection volumes are presented in **Figure 3, Figure 4**, and **Figure 5**, respectively.

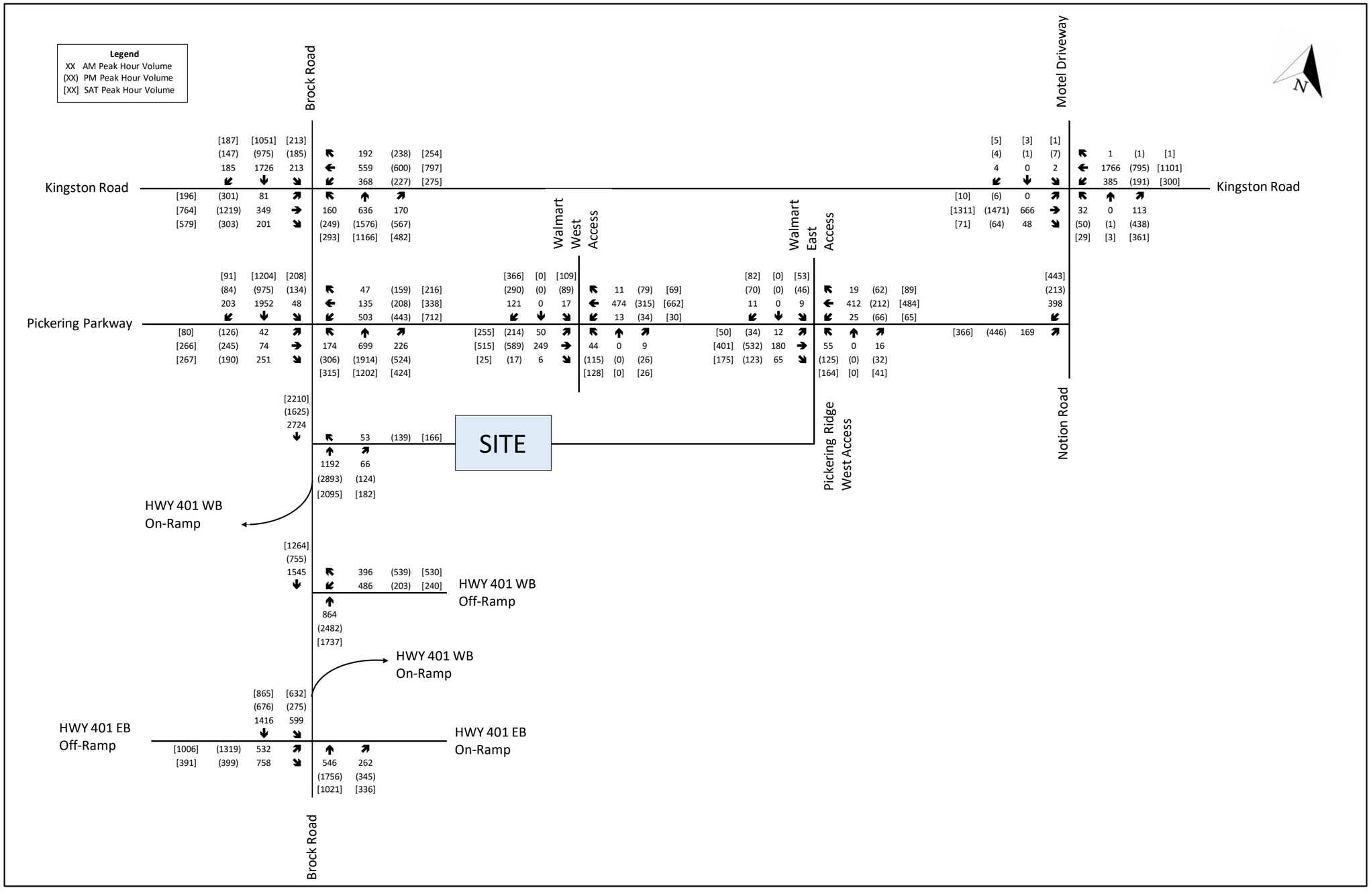


Figure 3: 2026 Future Background Volumes

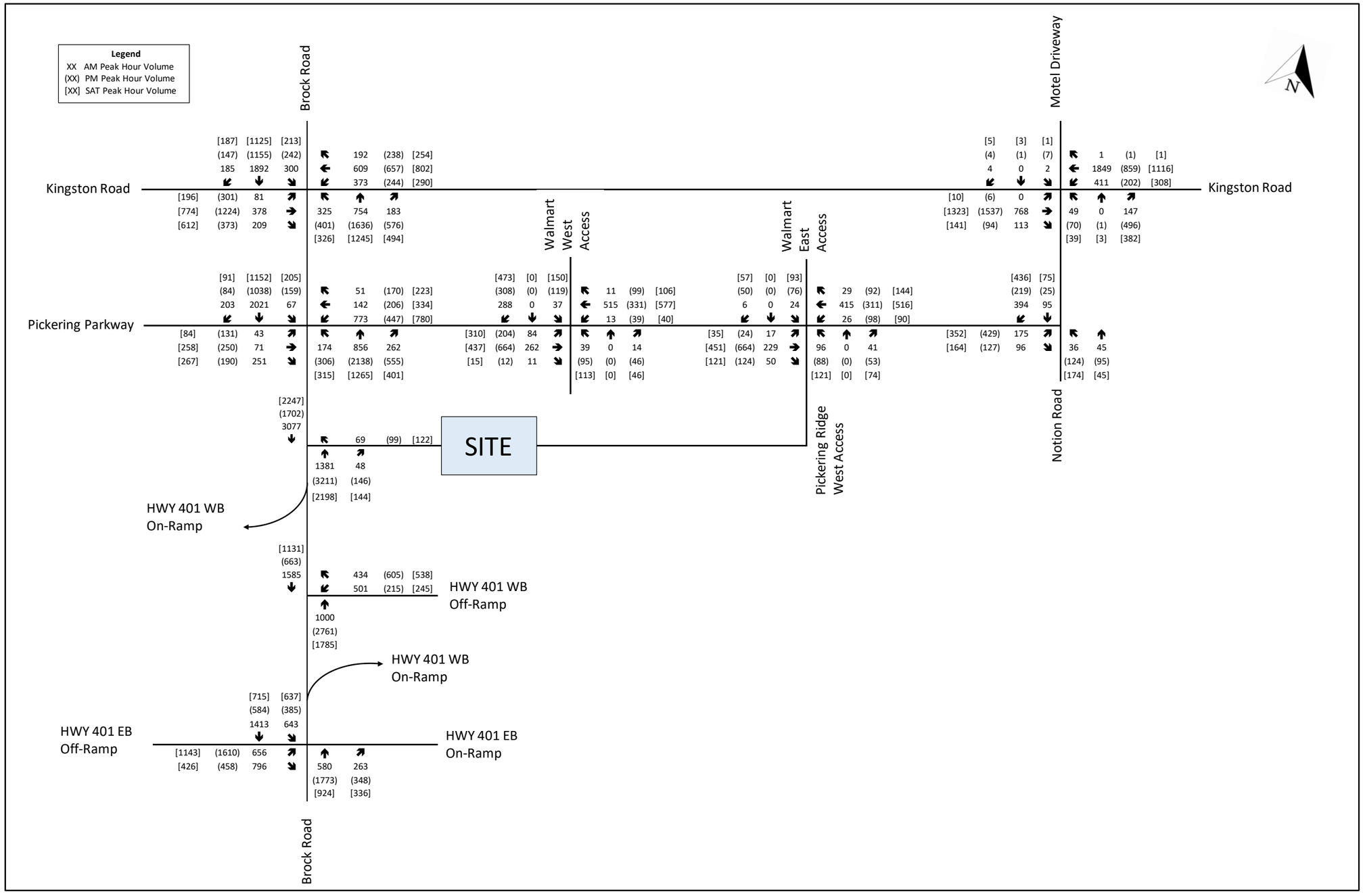


Figure 4: 2031 Future Background Volumes

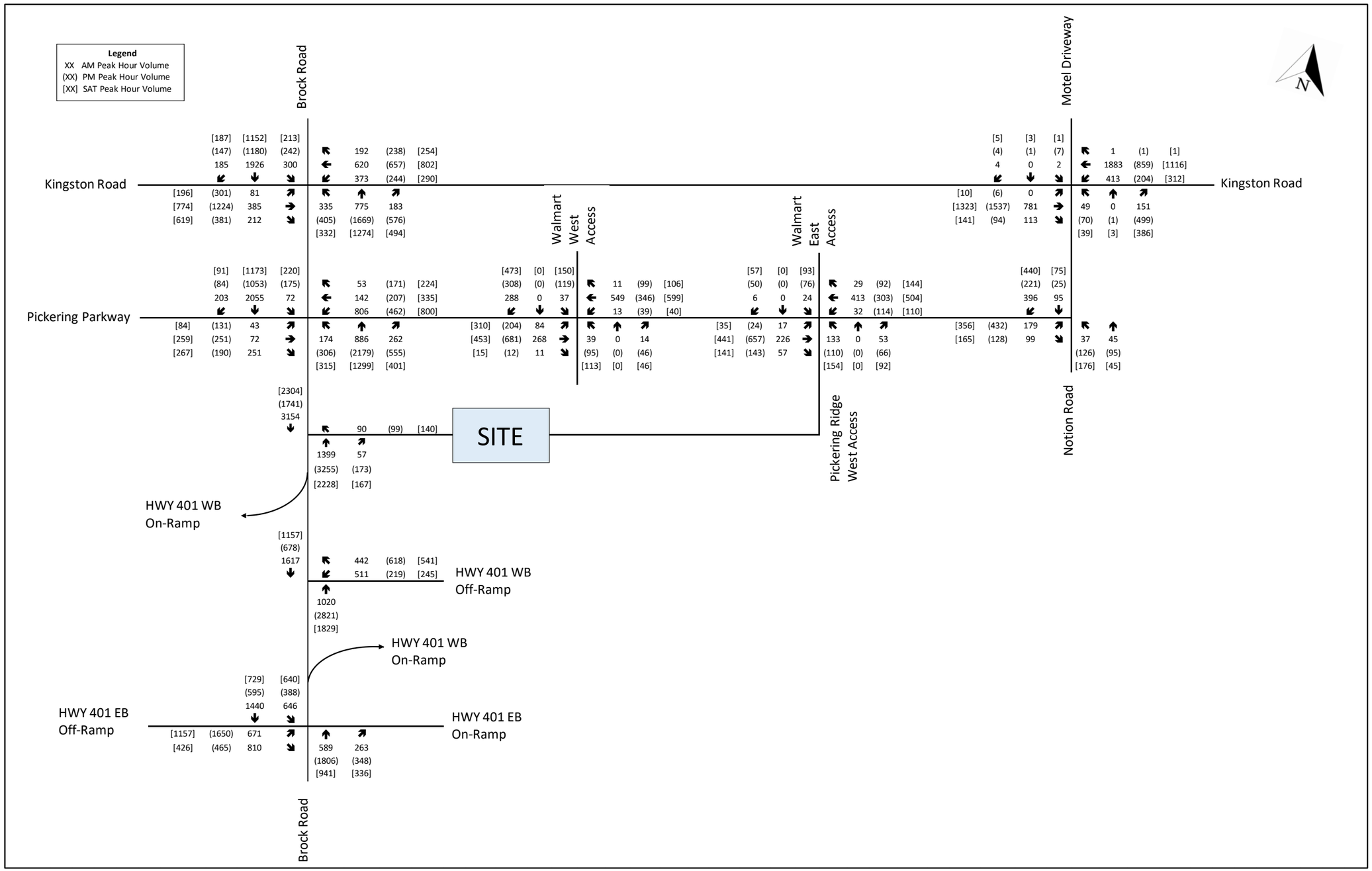


Figure 5: 2036 Future Background Volumes

4.0 SITE GENERATED TRAFFIC

4.1 Site Plan Layout and Parking

The proposed site plan, as shown in **Figure 6**, prepared by Turner Fleischer Architects Incorporated and dated February 2022, consists of 678 residential units and approximately 1,669m^2 of ground floor commercial space.

Vehicular site access to/from Brock Road is provided via the existing right-in/right-out access on Brock Road, and to/from Pickering Parkway through the adjacent commercial property to the east. A minimum of two vehicular accesses for the site are recommended in consideration for emergency vehicle access.

Due to the absence of applicable Zoning By-Laws for the study area, and the applicability of the City of Pickering *Zoning By-Law 7553/17* to the subject lands, the *Pickering City Centre Zoning By-Law* has been adopted for this development. The subject development resides less than one (1) kilometre east of the City Centre boundary and consists of a similar development context. Furthermore, with many similarities in population density, transit routes, and active transportation infrastructure, it is anticipated that the rates provided in *Zoning By-Law 7553/17* are well suited to the proposed development.

The vehicular parking ratios as per the City of Pickering *Zoning By-Law 7553/17* require a minimum of 0.80 residential parking spaces per dwelling unit, 0.15 visitor parking spaces per dwelling unit, and 3.5 commercial parking spaces per 100m^2 of GFA, which results in a minimum required total of 700 vehicular parking spaces for the subject site. This includes a minimum of 16 accessible parking spaces as per City of Pickering *Zoning By-Law 6604/05*.

The proposed parking is provided by a four-level underground garage directly beneath the development. This parking storage will provide 503 residential parking spaces, 97 visitor parking spaces, 59 commercial parking spaces, and 16 accessible parking spaces, for a total of 668 parking spaces across all levels. The development also provides indoor and outdoor bicycle parking, with a total of 325 bicycle parking spaces.

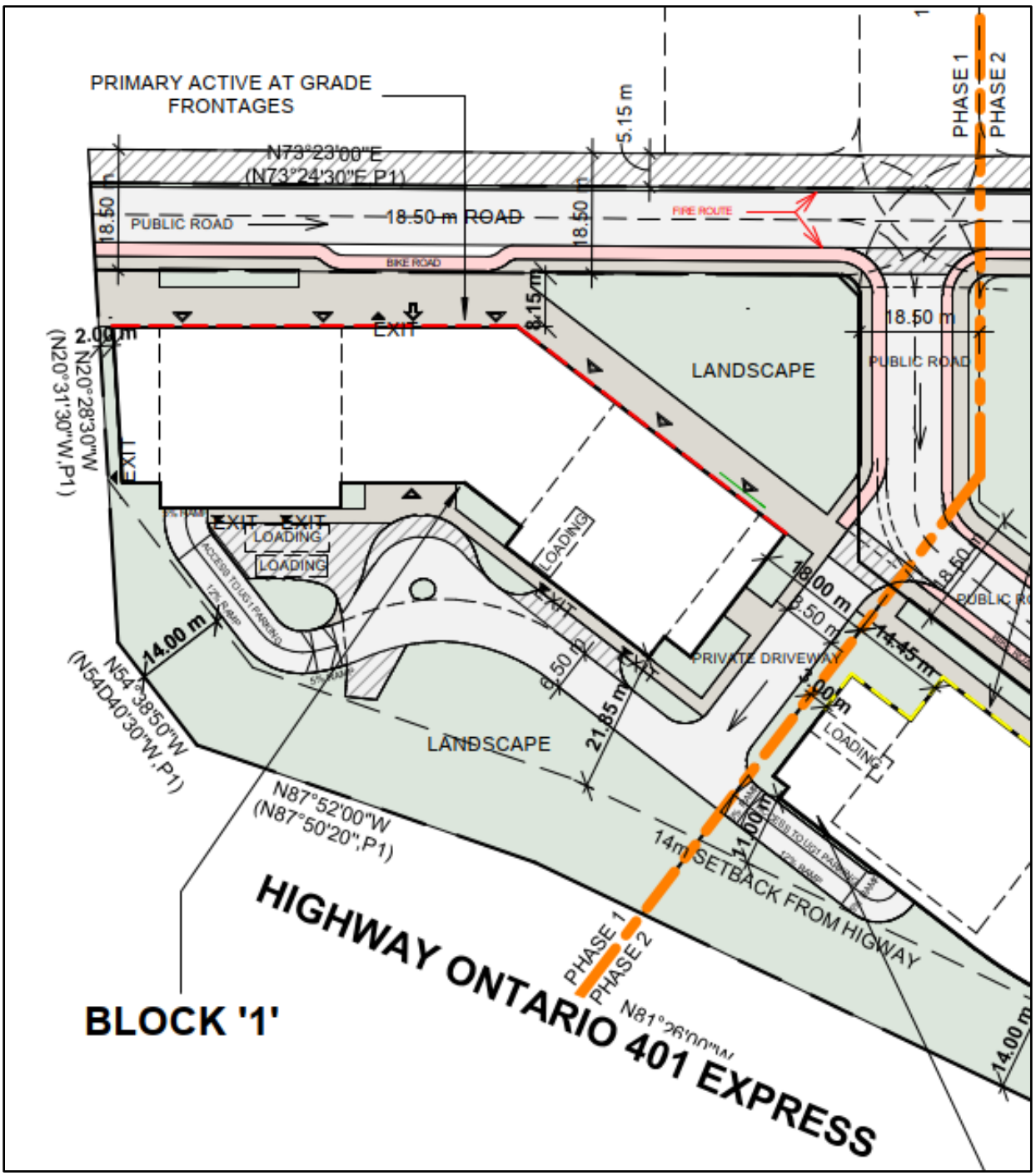


Figure 6: Site Layout

4.2 Transportation Demand Management

The proposed development will offer an ample amount of indoor and outdoor bicycle parking spaces, providing convenient and secure bicycle parking that is afforded close proximity to the new public green space to be situated on the parcel. The minimum bicycle parking requirements, as per City of Pickering *Zoning By-Law 7553/17*, consists of 315 residential bicycle parking spaces and 2 commercial bicycle parking spaces, for a total of 317 bicycle parking spaces.
The development provides indoor and outdoor bicycle parking, with a total of 358 bicycle parking spaces. Based on the minimum requirements and the proposed vehicular, accessible, and bicycle parking, the development adheres to the specified Zoning By-Laws, with a surplus of 4 accessible parking spaces and 41 bicycle parking spaces.

4.3 Site Trip Generation

Baseline vehicle Trip generation for the proposed development during peak periods of the adjacent street traffic was estimated by using the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th edition) methodology for a Multifamily Housing (High-Rise) (LUC 222) and Shopping Center (LUC 820). Application of either the trip generation equation or trip generation rate for each land use was based on the methodology described in Chapter 4 of the ITE Trip Generation Handbook. The trip generation plots for each use are provided in **Appendix D**.

Due to the presence of both residential and commercial uses, which are complimentary, within proximity of each other (i.e., within the same building), there will be interaction between these uses known as “internal capture”. Therefore, to estimate the volume of external trips entering/exiting the site, the anticipated volume of internally captured trips needs to be removed from the baseline vehicle trip generation estimates. The Internal Trip Capture Estimation Tool, which is detailed in National Cooperative Highway Research Program (NCHRP) Report 684 and described in Chapter 6 of the ITE Trip Generation Handbook, was completed for the site and is provided in **Appendix D**. For the residential trips, the internal capture estimates for the a.m. peak hour are 0% inbound and 1% outbound, whereas the estimates for the p.m./Saturday peak hours are 17% inbound and 13% outbound. For the commercial trips, the internal capture estimates for the a.m. peak hour are 4% inbound and 0% outbound, whereas the estimates for the p.m./Saturday peak hours are 10% inbound and 26% outbound.

Given it is conservatively assumed that vehicle trips are single-occupancy vehicles (SOVs), a single external vehicle trip equates to a single external person trip. To identify the portion of External Person Trips that are auto based (for the purpose of intersection analysis in this study), the mode shares for transit trips and non-motorized trips (walking and bicycling) need to be determined and removed from the External Person Trips. The Modal split estimates used in this study have been adopted from a prior Transportation Impact Study (TIS) completed by WSP (see

Appendix E). For the a.m. peak hour, it is estimated that 7.2% of vehicles coming in will be non-auto trips, and 24.5% going out will be non-auto trips. For the p.m. and Saturday peak hours, it is estimated that 26.2% of vehicles coming in will be non-auto trips, and 5.4% of vehicles going out will be non-auto trips.

Although all External Auto Trips generated by the residential portion of the site are expected to be primary trips (i.e., new trips added to the study area road network), the auto trips generated by the commercial portion of the site are expected to consist of both primary trips and pass-by trips (i.e., trips already passing the site on the study area road network but now entering and exiting the site as an intermediary stop on their route). This study utilized pass-by trip percentages consisting of 34% for the a.m. peak hour, 26% for the p.m. peak hour, and 26% for the Saturday peak hour, with all other trips being allocated to primary trips.

The results of the trip generation calculations for the ground floor commercial space, residential units, and combined total, can be found in **Tables 1-3**, respectively.

Table 1: Ground Floor Commercial Trip Generation

Trip Type	AM Peak Hour *2.41 trips / 1,000 ft²*			PM Peak Hour *4.92 trips / 1,000 ft²*			SAT Peak Hour 6.35 trips / 1000 ft²		
	Total	In *(54%)*	Out *(46%)*	Total	In *(48%)*	Out *(52%)*	Total	In (50%)	Out (50%)
Baseline Vehicle Trips	43	23	20	88	42	46	114	57	57
Internal Capture *(4%/0% AM IN/OUT, 10%/26% PM/SAT IN/OUT)*	1	1	0	16	4	12	21	6	15
Total External Person Trips	42	22	20	72	38	34	93	51	42
External Non-Auto Trips *(7.2%/24.5% AM IN/OUT, 26.2%/5.4% PM/SAT IN/OUT)*	7	2	5	12	10	2	15	13	2
External Auto Trips	35	20	15	60	28	32	78	38	40
Primary External Auto Trips *(66% AM & 74% PM/SAT of External Auto Trips)*	**23**	**14**	**9**	**44**	**20**	**24**	**58**	**28**	**30**
Pass-by External Auto Trips *(34% AM & 26% PM/SAT of External Auto Trips)*	**12**	**6**	**6**	**16**	**8**	**8**	**20**	**10**	**10**

Table 2: Residential Trip Generation

Trip Type	AM Peak Hour *Ln(T) = 0.84Ln(X) – 0.65*			PM Peak Hour *Ln(T) = 0.81Ln(X) – 0.60*			SAT Peak Hour *T = 3.94(X) + 211.81*		
	Total	In *(12%)*	Out *(88%)*	Total	In *(70%)*	Out *(30%)*	Total	In (44%)	Out (56%)
Baseline Vehicle Trips	125	15	110	109	76	33	105	46	59
Internal Capture *(0%/1% AM IN/OUT, 17%/13% PM/SAT IN/OUT)*	1	0	1	17	13	4	16	8	8
Total External Person Trips	124	15	109	91	63	28	89	38	51
External Non-Auto Trips *(7.2%/24.5% AM IN/OUT, 26.2%/5.4% PM/SAT IN/OUT)*	28	1	27	19	17	2	13	10	3
External Auto Trips	96	14	82	72	46	26	76	28	48
Primary External Auto Trips *(100% AM/PM/SAT of External Auto Trips)*	**96**	**14**	**82**	**72**	**46**	**26**	**76**	**28**	**48**
Pass-by External Auto Trips *(0% AM & 0% PM/SAT of External Auto Trips)*	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Table 3: Combined Trip Generation

Trip Type	AM Peak Hour			PM Peak Hour			SAT Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Baseline Vehicle Trips	168	38	130	197	118	79	219	103	116
Internal Capture	2	1	1	33	17	16	37	14	23
Total External Person Trips	166	37	129	163	101	62	182	89	93
External Non-Auto Trips	35	3	32	31	27	4	28	23	5
External Auto Trips	131	34	97	132	74	58	154	66	88
Primary External Auto Trips	**119**	**28**	**91**	**116**	**66**	**50**	**134**	**56**	**78**
Pass-by External Auto Trips	**12**	**6**	**6**	**16**	**8**	**8**	**20**	**10**	**10**

4.4 Site Trip Distribution

The approved WSP Transportation Impact Study for a high-rise residential building with ground floor commercial space (1899 Brock Road) used 2016 Transportation Tomorrow Survey (TTS) data to estimate the distribution of site generated traffic to the surrounding road network (see **Appendix F**). Given the similarities between 1899 Brock Road and the subject development (predominantly residential), as well as the close proximity to one another, it is expected that each development will exhibit very similar commuter patterns. Therefore, RVA has adopted the same trip distribution percentages for use in this study.

Table 4 and **Table 5** outline the estimated trip distribution percentages for the commercial inbound and outbound trips, respectively. **Table 6** outlines the estimated trip distribution percentages for the residential trips.

Table 4: Site Distribution – Commercial Inbound

Origin		Period		
Direction	**Corridor**	**AM Peak Hour**	**PM Peak Hour**	**SAT Peak Hour**
North	Brock Road	19%	21%	19%
East	Highway 401 West	14%	20%	14%
	Pickering Parkway	7%	7%	7%
	Kingston Road	12%	17%	12%
South	Brock Road	12%	9%	12%
West	Highway 401 West	12%	6%	12%
	Pickering Parkway	16%	7%	8%
	Kingston Road	8%	13%	16%
Total		**100%**	**100%**	**100%**

Table 5: Site Distribution – Commercial Outbound

Origin		Period		
Direction	**Corridor**	**AM Peak Hour**	**PM Peak Hour**	**SAT Peak Hour**
North	Brock Road	20%	24%	20%
East	Highway 401 West	12%	16%	12%
	Pickering Parkway	9%	7%	9%
	Kingston Road	15%	18%	15%
South	Brock Road	9%	9%	9%
West	Highway 401 West	12%	8%	12%
	Pickering Parkway	8%	6%	8%
	Kingston Road	15%	12%	15%
Total		**100%**	**100%**	**100%**

Table 6: Site Distribution - Residential

Origin		Period		
Direction	**Corridor**	**AM Peak Hour**	**PM Peak Hour**	**SAT Peak Hour**
North	Brock Road	17%	17%	17%
East	Highway 401 West	4%	5%	5%
	Kingston Road	5%	6%	6%
South	Brock Road	10%	10%	10%
West	Highway 401 East	45%	43%	43%
	Pickering Parkway	16%	16%	16%
	Kingston Road	3%	3%	3%
Total		**100%**	**100%**	**100%**

4.5 Site Trip Assignment

The site generated traffic will be comprised of primary residential trips, primary commercial trips, and pass-by commercial trips; these values are illustrated in **Figure 7**, **Figure 8**, and **Figure 9**, respectively, with the total site traffic shown in **Figure 10**.

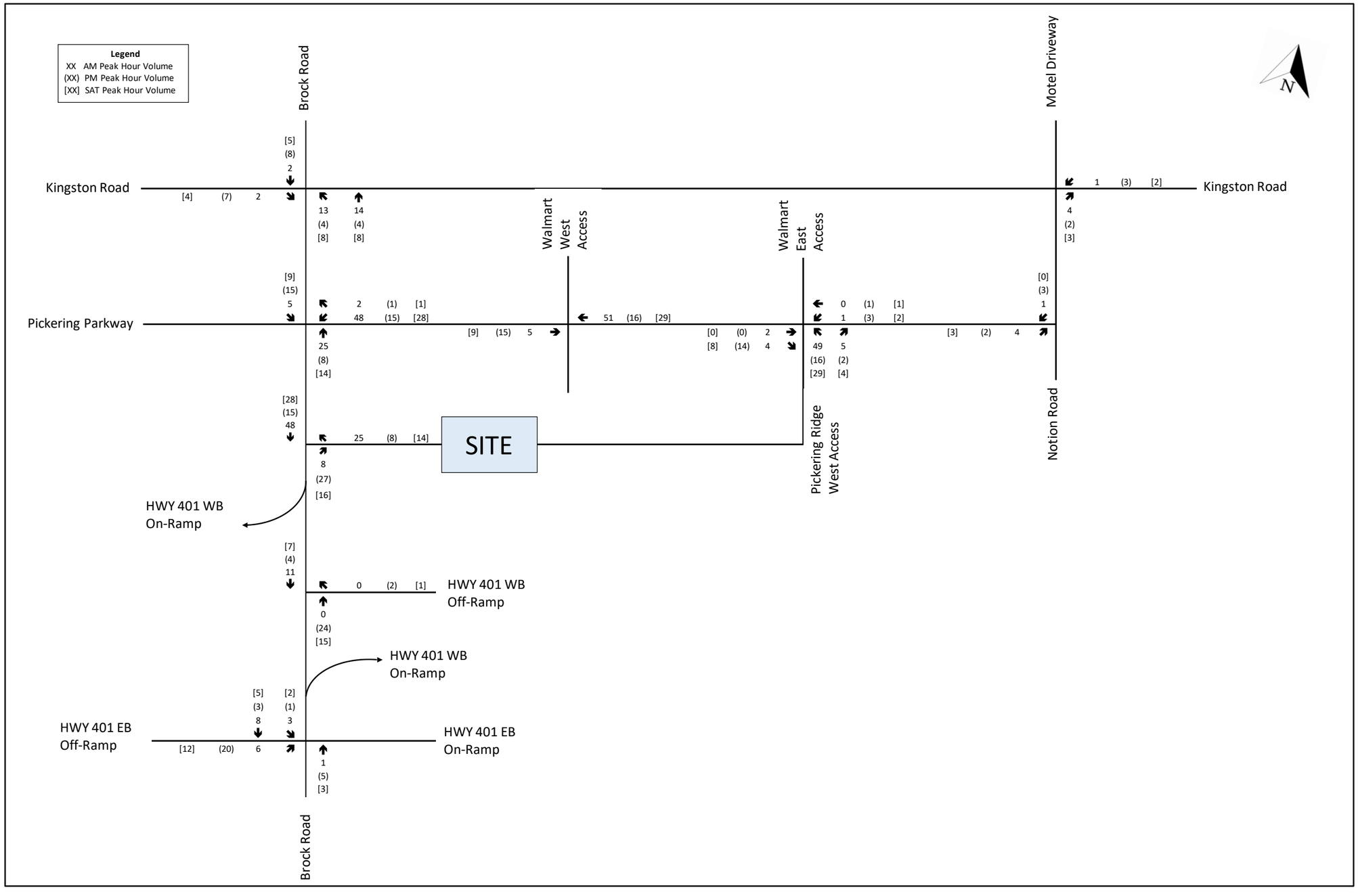


Figure 7: Primary Residential Site Trips

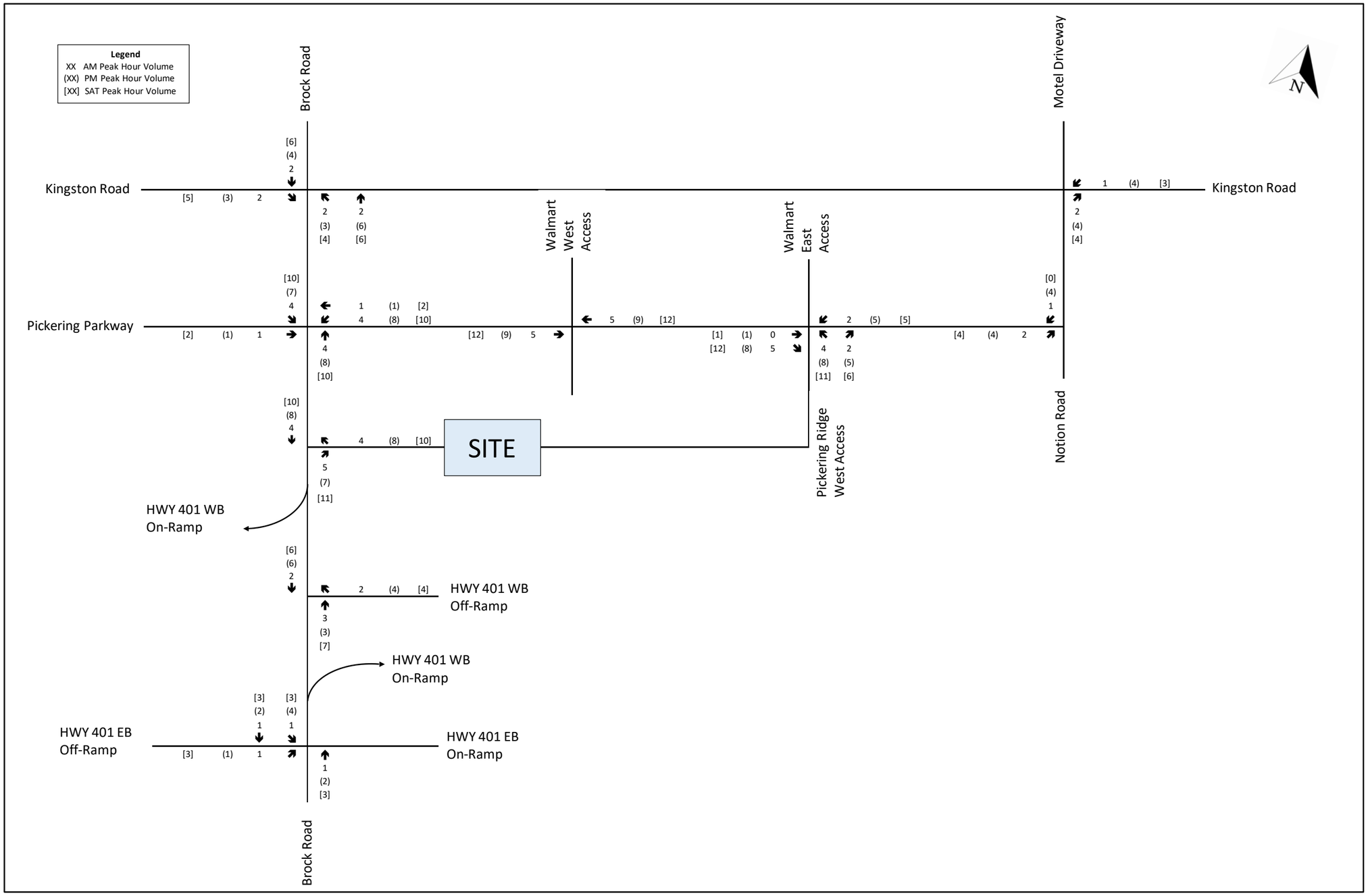


Figure 8: Primary Commercial Site Trips

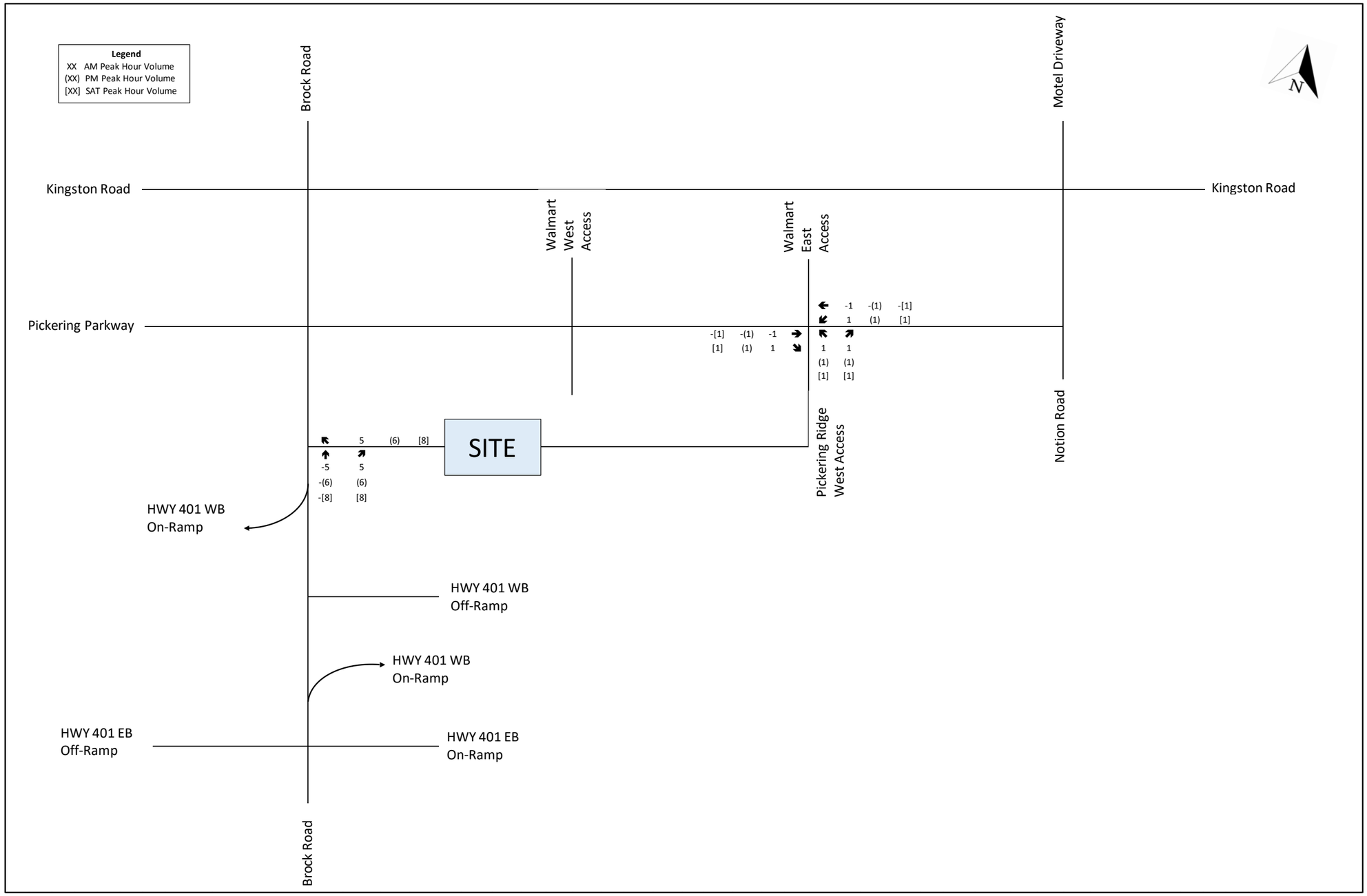


Figure 9: Pass-by Commercial Trips

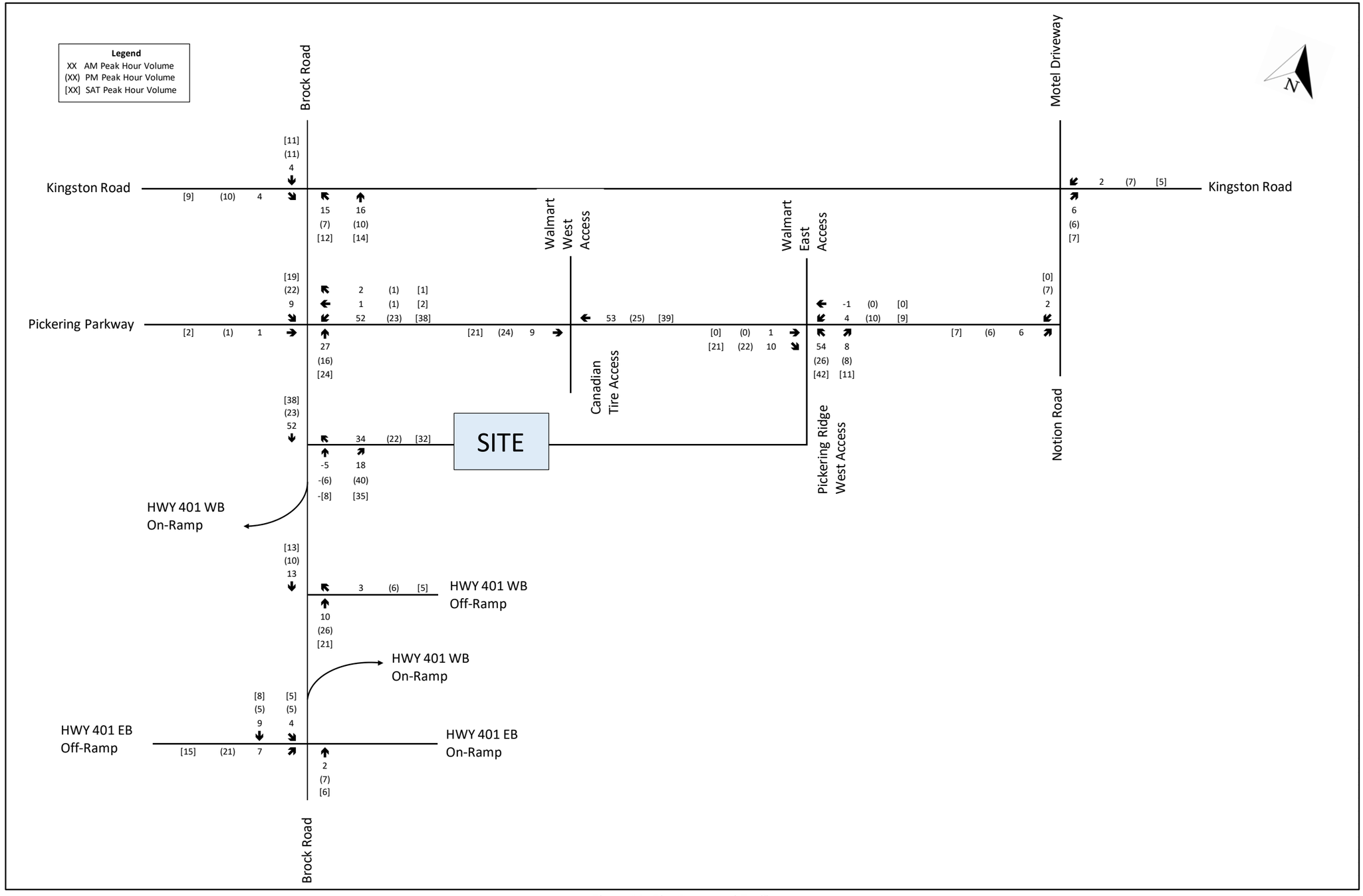


Figure 10: Site Generated Traffic

4.6 Traffic Reduction from Site Demolition

As the existing parcel continues to develop, various commercial establishments that currently reside on the property will be demolished to accommodate the proposed developments. Therefore, the trip loss to the surrounding road network was estimated for the 2026 and 2031/2036 horizon years by using the ITE Trip Generation Manual (11th edition) methodology for Shopping Center (LUC 820). The trip reductions were distributed to the surrounding road network based on the same commuter patterns assumed for the proposed commercial portion of the site.

The 2026 trip reduction and net site generated traffic are shown in **Figure 11** and **Figure 12**, respectively, with the trip reduction for the 2031 and 2036 horizon years shown in **Appendix G**.

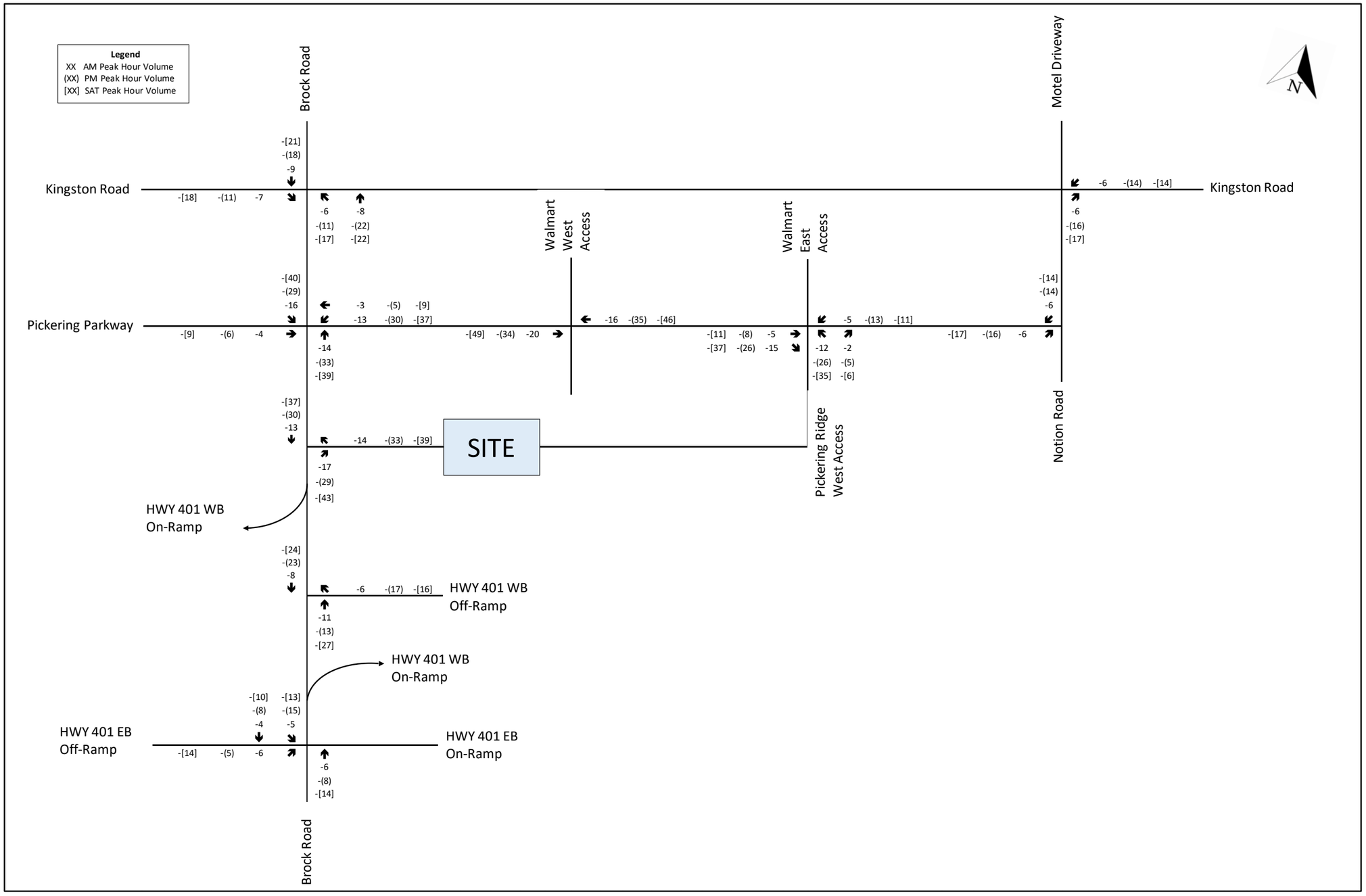


Figure 11: Traffic Reduction from Site Demolition

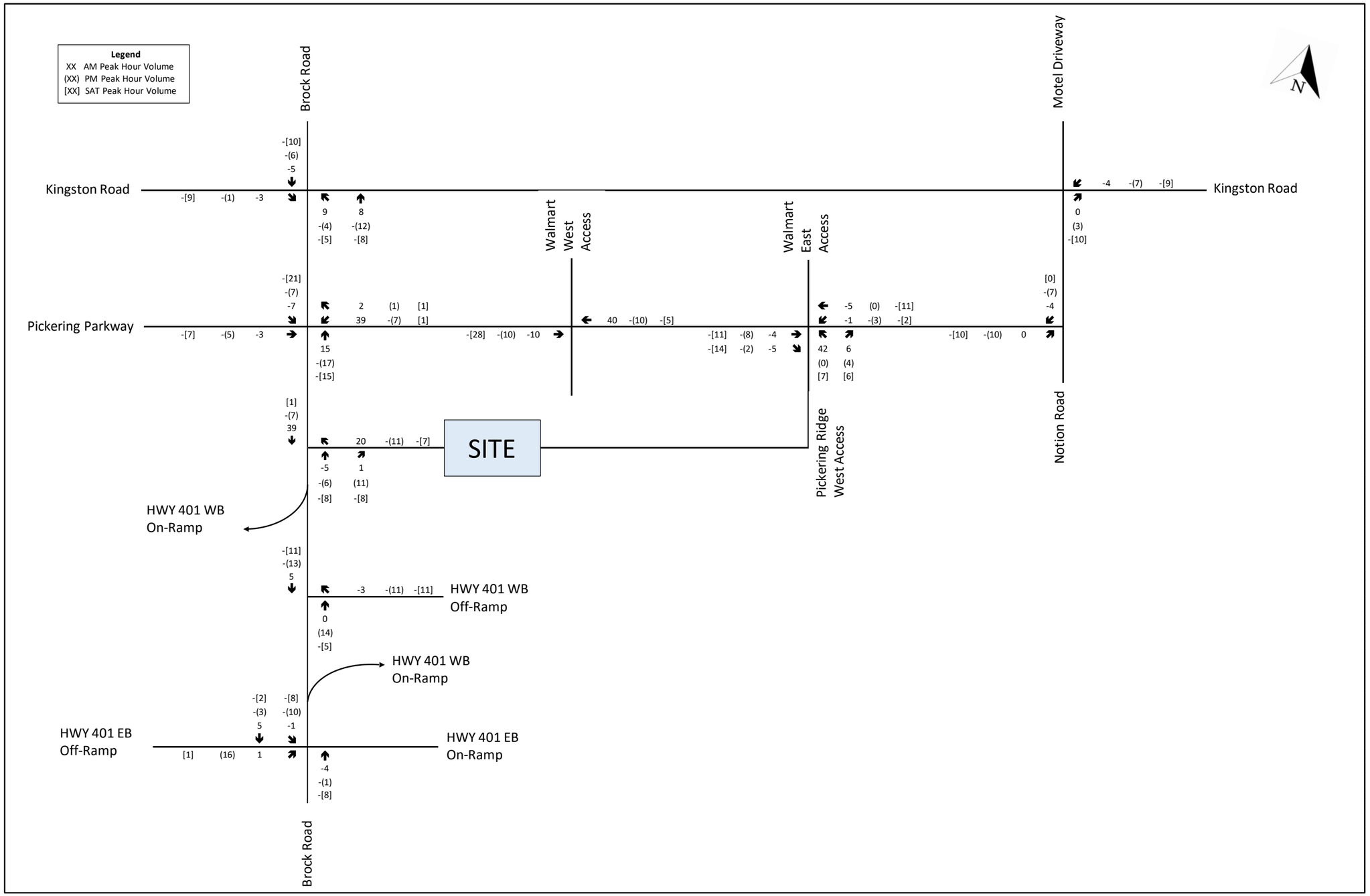


Figure 12: Net Site Traffic for Proposed Development

5.0 FUTURE TOTAL TRAFFIC

5.1 Access Redistribution

As part of future phases, the service access between the two Walmart accesses will be removed. This will result in a redistribution of 10 vehicles in the a.m. peak hour, 4 vehicles in the p.m. peak hour, and 9 vehicles in the Saturday peak hour. These trips have been applied to the Pickering Ridge West Access for the 2036 horizon year only. A Turning Movement Diagram (TMC) that illustrates this redistribution is available in **Appendix G**.

5.2 Future Total Traffic Volumes

The future total intersection volumes for each future horizon year were projected by combining the estimated site generated traffic from the subject development (2026 occupancy) with the future background traffic projections for each horizon year. The resulting 2026, 2031, and 2036 future total intersection volumes are presented in **Figure 13**, **Figure 14**, and **Figure 15**, respectively.

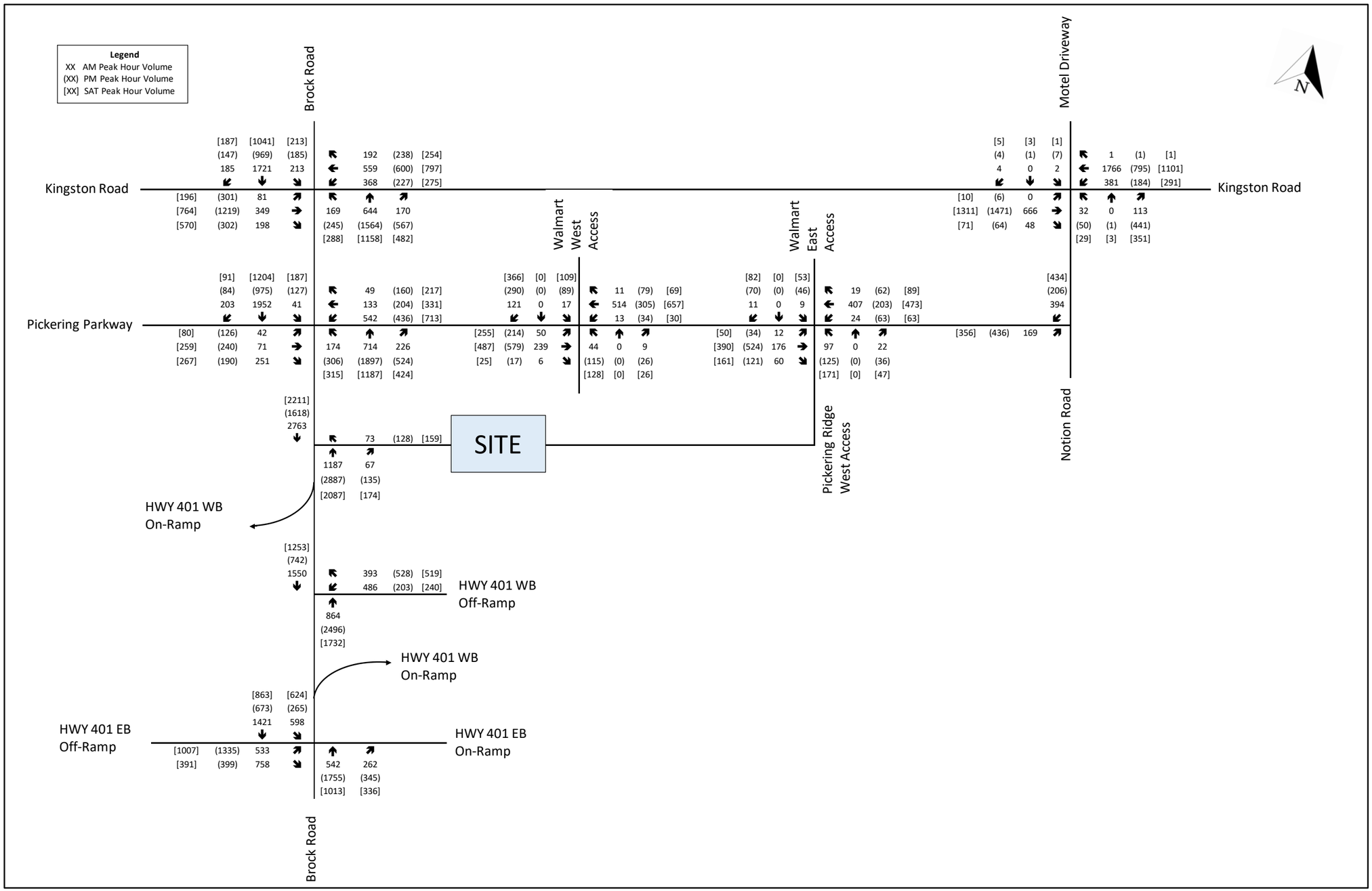


Figure 13: 2026 Future Total Traffic Volumes

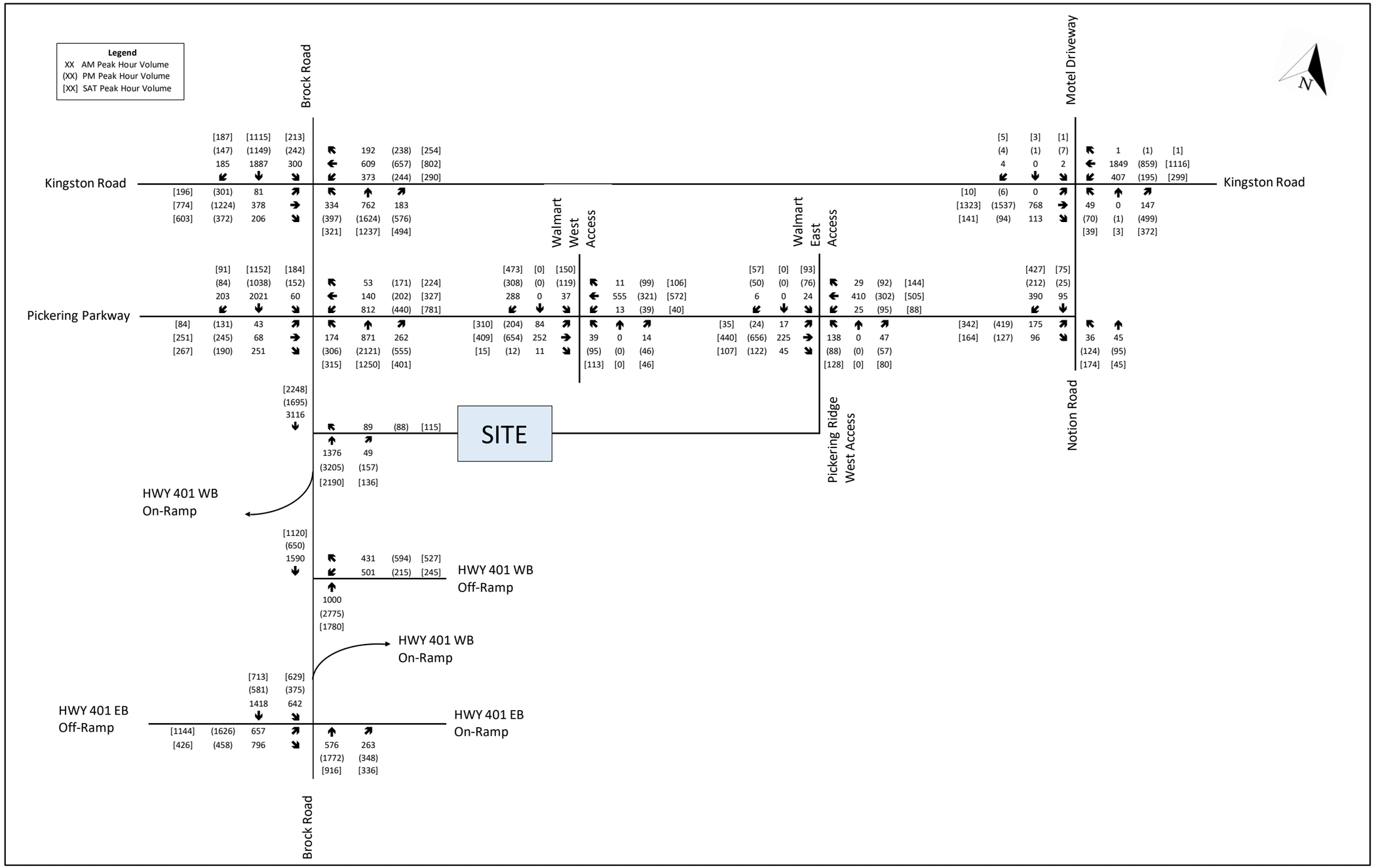


Figure 14: 2031 Future Total Traffic Volumes

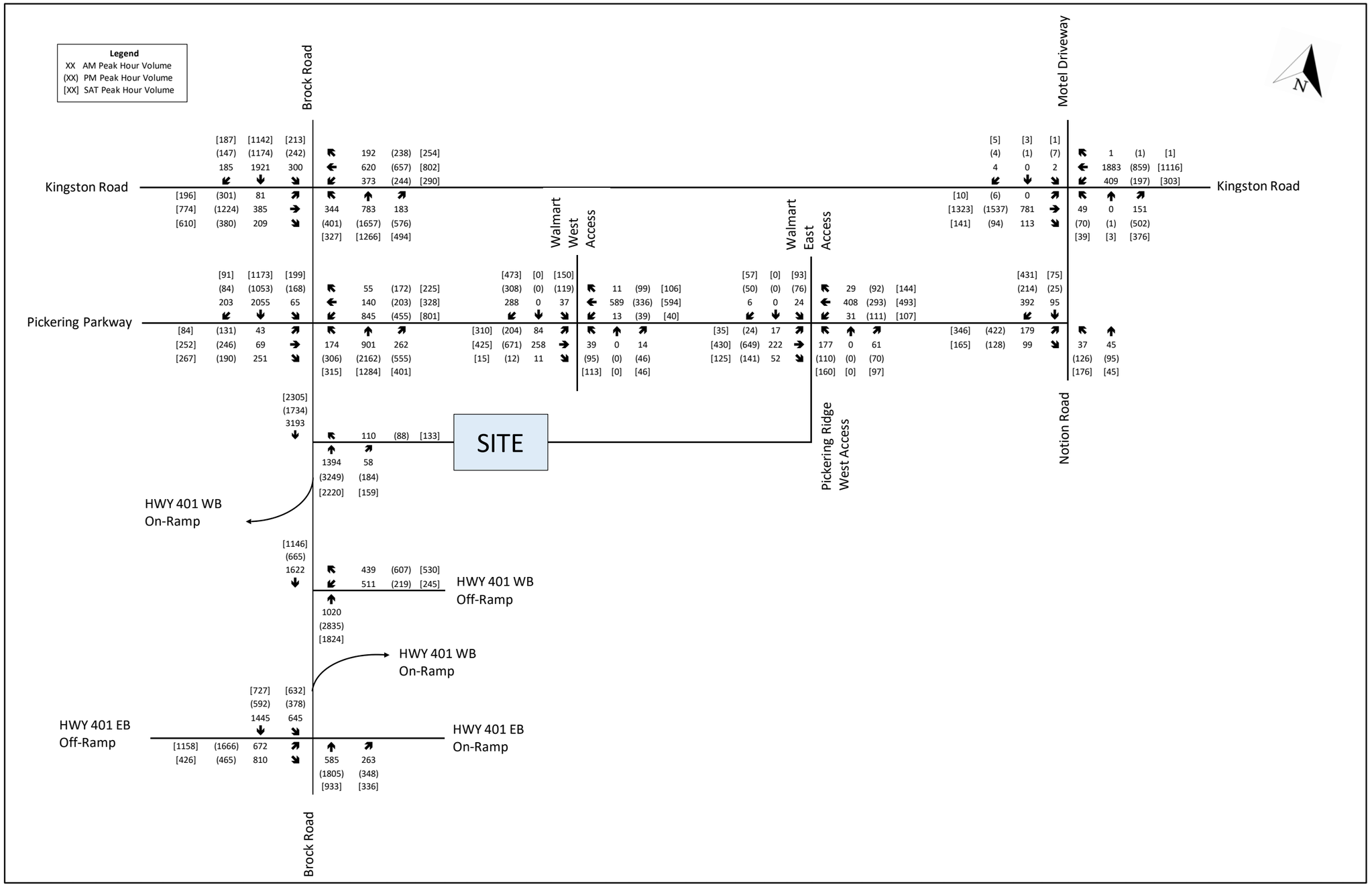


Figure 15: 2036 Future Total Traffic Volumes

6.0 CAPACITY ANALYSIS

6.1 Intersection Capacity Analysis

The industry standard Synchro macroscopic traffic analysis software was utilized to analyse the study intersections. Key performance measures such as Level of Service (LOS), volume-to-capacity ratio (v/c ratio), and 95th percentile queuing were reported, and are defined below:

- **Average vehicle control delay** is used to characterize LOS for the entire intersection, an approach, or movement. Delay quantifies the variations in travel time and is also a surrogate measure of driver discomfort and fuel consumption.
- **V/c ratio** quantifies the degree to which the capacity of each signal phase is utilized by a defined lane group.
- **95th percentile queue** is the queue length which is expected to be exceeded only 5% of the time; it is common practice to identify preferred storage length requirements for auxiliary turn lanes at signalized intersections based on estimated peak hour 95th percentile queueing.

Table 7 identifies the control delay thresholds (seconds of delay per vehicle) for each LOS based on Highway Capacity Manual (HCM) methodology. The Region has stipulated that each movement at any Regional signalized intersection should operate at LOS D or better, and the MTO has stipulated that the minimum v/c ratio for ramp terminal and through movements are 0.75 and 0.85, respectively.

Table 7: Characteristics of Level of Service at Intersections

LEVEL OF SERVICE (LOS)	CONTROL DELAY (seconds / vehicle)	
	SIGNALIZED INTERSECTION	UNSIGNALIZED INTERSECTION
A	≤ 10	≤ 10
B	> 10 to 20	> 10 to 15
C	> 20 to 35	> 15 to 25
D	> 35 to 55	> 25 to 35
E	> 55 to 80	> 35 to 50
F	> 80	> 50

Existing signal timing plans for the signalized study area intersections were provided by the City and Region for use in the analysis; the signal timing plans are provided in **Appendix H.**

Detailed Highway Capacity Manual (HCM) output reports from the capacity analysis are provided in **Appendix I**.

The following sections present and describe the results of the intersection capacity analysis at each study area intersection.

6.2 Calibration Parametres

Given it is impossible for existing conditions to be operating with a v/c ratio over 1.00, calibration parameters were utilized in the Synchro analysis to more realistically reflect existing conditions, where required (only required for p.m. and Saturday peak hours). The calibration parameters are generally consistent with those utilized in the 1899 Brock Road TIS Report (see **Appendix D**), with minor modifications made to the calibration parametres in this study to account for some variability in assumed traffic volumes. The calibrated movements and their respective calibrations are shown in **Table 8**.

Table 8: Synchro Calibration Parameters

INTERSECTION	CALIBRATION PARAMETERS	
	PM PEAK HOUR	SAT PEAK HOUR
Brock Road at Kingston Road	EBT lost time adjustment = -4 WBL left-turn factor (pm) = 0.145	NBL lost time adjustment = -1.5* WBL left-turn factor (pt) = 1.00 WBL left-turn factor (pm) = 0.285
Brock Road at Highway 401 Express East Off-Ramp	EBL lost time adjustment = -2 EBL left-turn factor (pt) = 0.98* NBTR lost time adjustment = -3 NBT lane utilization factor = 0.92	EBL lost time adjustment = -2.5 EBL left-turn factor (pt) = 1.00 SBL left-turn factor (pt) = 1.00 SBL left-turn factor (pm) = 0.240
Kingston Road at Notion Road	None	WBL left-turn factor (pt) = 0.98 WBL lost time adjustment = -1.0*
Pickering Parkway at Walmart West Access	NBL lost time adjustment = -0.6*	NBL lost time adjustment = -2

*Added or modified by RVA

Consistent with the approach taken in the 1899 Brock Road TIS and documented as being required per Regional direction, lost time adjustments were only implemented for the existing conditions model and were not carried forward to future conditions.

For the Highway 401 East Off-Ramp, the lane configuration recommended in the Notion Road Environmental Assessment Report was adopted for the 2031 and 2036 horizons, and consists of a dual left-turn lane and single exclusive right-turn lane. With the change in approach configuration, all calibration parameters have been removed from this approach for the 2031 and 2036 models.

6.3 Brock Road at Pickering Parkway

Table 9: Capacity Analysis Results – Brock Road & Pickering Parkway

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	EBL	0.31	D	19	0.71	D	**44**	0.55	D	32
	EBTTR	0.90	D	37	0.55	D	39	0.81	D	64
	WBL	0.74	D	**56**	0.71	D	**54**	0.91	**E**	**105**
	WBT	0.20	C	27	0.28	C	43	0.45	C	78
	WBR	0.03	D	<1 veh	0.10	C	14	0.19	C	26
	NBL	0.77	D	**67**	0.78	C	**77**	0.97	**E**	**110**
	NBTTT	0.29	B	41	0.83	C	151	0.62	C	93
	NBR	0.16	C	13	0.41	D	**58**	0.27	**E**	**37**
	SBL	0.11	B	10	0.65	C	42	0.97	**E**	**70**
	SBTTT	0.94	D	181	0.50	C	66	0.87	D	105
	SBR	0.15	B	15	0.06	C	<1 veh	0.06	C	<1 veh
Future Background 2026	EBL	0.31	D	19	0.66	D	**42**	0.43	D	28
	EBTTR	0.86	D	36	0.58	D	42	0.72	D	58
	WBL	**1.23**	**F**	**106**	**1.29**	**F**	**95**	**1.62**	**F**	**152**
	WBT	0.25	C	39	0.33	C	48	0.49	C	72
	WBR	0.04	**E**	9	0.11	C	15	0.17	B	16
	NBL	0.58	C	**43**	0.67	C	**92**	0.80	D	**115**
	NBTTT	0.35	B	51	0.96	D	220	0.88	D	119
	NBR	0.18	C	13	0.56	D	**95**	0.37	**E**	**55**
	SBL	0.15	B	11	0.56	C	27	0.59	C	**59**
	SBTTT	**1.13**	**F**	243	0.70	C	82	0.96	D	126
	SBR	0.15	C	17	0.06	C	<1 veh	0.06	C	<1 veh
Future Total 2026	EBL	0.31	D	19	0.66	D	**42**	0.43	D	29
	EBTTR	0.87	D	36	0.57	D	42	0.71	D	57
	WBL	**1.32**	**F**	**117**	**1.27**	**F**	**93**	**1.62**	**F**	**153**
	WBT	0.25	C	39	0.33	C	47	0.48	C	71
	WBR	0.04	**E**	10	0.11	C	15	0.17	C	16
	NBL	0.58	D	**43**	0.67	C	**90**	0.79	D	**115**
	NBTTT	0.35	C	52	0.94	D	217	0.80	C	116
	NBR	0.18	C	13	0.56	D	**91**	0.35	D	**53**
	SBL	0.14	B	10	0.54	C	**25**	0.59	C	**44**
	SBTTT	**1.13**	**F**	242	0.70	C	82	0.96	D	126
	SBR	0.15	C	17	0.06	C	<1 veh	0.06	C	<1 veh
Future Total 2031	EBL	0.32	**E**	25	0.49	D	**42**	0.53	**E**	**41**
	EBTTR	**1.03**	**E**	56	0.74	**E**	65	0.77	**E**	74
	WBL	**1.31**	**F**	**211**	**0.97**	**F**	**104**	**1.00**	**F**	**171**
	WBT	0.23	C	44	0.48	D	75	0.41	C	85
	WBR	0.04	C	9	0.11	D	19	0.15	C	14
	NBL	0.64	D	**80**	0.74	C	**87**	0.82	D	**153**
	NBTTT	0.43	C	95	0.95	D	275	0.78	D	168
	NBR	0.21	**E**	34	0.62	D	**134**	0.49	D	**75**
	SBL	0.22	B	1 veh	0.64	D	30	0.78	D	43
	SBTTT	**1.18**	**F**	255	0.54	C	119	0.99	**E**	166
	SBR	0.15	**E**	21	0.06	C	8	0.06	**F**	11

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Future Total 2036	EBL	0.32	**E**	25	0.52	D	**41**	0.57	**E**	**44**
	EBTTR	**1.02**	**E**	56	0.75	**E**	67	0.85	**E**	87
	WBL	**1.37**	**F**	**224**	0.85	**E**	**89**	0.96	**E**	**166**
	WBT	0.23	C	44	0.44	D	73	0.41	C	91
	WBR	0.04	C	9	0.21	D	30	0.17	C	18
	NBL	0.64	D	**80**	0.83	D	**88**	0.97	**F**	**145**
	NBTTT	0.45	C	96	0.96	D	252	0.81	D	155
	NBR	0.22	**E**	34	0.61	D	**106**	0.48	D	73
	SBL	0.25	B	9	0.94	**E**	**73**	0.88	D	48
	SBTTT	**1.20**	**F**	270	0.55	C	119	0.90	D	163
	SBR	0.15	**F**	25	0.06	C	1 veh	0.06	**E**	10

Under existing conditions, the intersection is operating with reserve capacity and no delay issues during the a.m. and p.m. peak hours, but has several movements nearing capacity with delays of LOS “E” during the Saturday peak hour. Under the 2026 Future background scenario with traffic growth associated with the surrounding intensification, the westbound left-turn and southbound through movements are over capacity, with several movements across all peak hours nearing capacity, despite signal timing optimizations. The added site traffic from the subject development in 2026 does not have a noticeable impact on traffic operations, with a negligible change in LOS and no new critical movements to report. Therefore, there are no geometric improvements recommended at this intersection in response to the subject development. By the ultimate 2036 horizon year, it is expected the intersection overall will require additional physical capacity to accommodate projected peak hour traffic demands.

6.4 Pickering Parkway at Walmart West Access

Table 10: Capacity Analysis Results – Pickering Parkway & Walmart West Access

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	EBL	0.06	A	<1 veh	0.31	A	31	0.65	B	75
	EBT	0.17	A	20	0.49	A	98	0.52	B	130
	EBR	0.00	A	<1 veh	0.01	A	<1 veh	0.02	C	<1 veh
	WBL	0.02	A	<1 veh	0.08	A	<1 veh	0.07	A	1 veh
	WBTTR	0.17	A	23	0.15	A	18	0.35	A	61
	NBL	0.44	D	20	0.99	**F**	**51**	0.99	**F**	**55**
	NBTR	0.01	D	<1 veh	0.02	C	<1 veh	0.02	C	<1 veh
	SBL	0.13	D	9	0.35	D	28	0.36	C	31
	SBTR	0.03	D	<1 veh	0.17	C	<1 veh	0.52	C	48

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Future Background 2026	EBL	0.06	A	<1 veh	0.43	B	40	0.74	C	103
	EBT	0.19	A	9	0.59	B	98	0.53	B	117
	EBR	0.00	A	<1 veh	0.01	A	<1 veh	0.02	B	<1 veh
	WBL	0.02	A	<1 veh	0.09	A	<1 veh	0.08	A	<1 veh
	WBTTR	0.21	A	20	0.18	A	19	0.36	B	67
	NBL	0.44	D	21	0.73	D	37	0.74	D	**47**
	NBTR	0.01	D	<1 veh	0.02	C	<1 veh	0.02	C	<1 veh
	SBL	0.13	D	10	0.57	D	34	0.58	D	45
	SBTR	0.08	D	<1 veh	0.20	D	<1 veh	0.85	**E**	93
Future Total 2026	EBL	0.08	A	<1 veh	0.42	B	40	0.74	C	**103**
	EBT	0.18	A	9	0.58	B	93	0.50	B	108
	EBR	0.01	A	<1 veh	0.01	A	<1 veh	0.02	B	<1 veh
	WBL	0.02	A	<1 veh	0.09	A	<1 veh	0.07	A	<1 veh
	WBTTR	0.23	A	25	0.18	A	18	0.35	B	66
	NBL	0.44	D	21	0.73	D	37	0.74	D	**47**
	NBTR	0.01	D	<1 veh	0.02	C	<1 veh	0.02	C	<1 veh
	SBL	0.13	D	10	0.57	D	34	0.58	D	44
	SBTR	0.08	D	<1 veh	0.20	D	<1 veh	0.85	**E**	91
Future Total 2031	EBL	0.16	A	11	0.43	B	56	0.68	B	59
	EBT	0.22	A	35	0.67	B	193	0.38	B	83
	EBR	0.01	A	<1 veh	0.01	A	<1 veh	0.01	A	<1 veh
	WBL	0.02	A	<1 veh	0.13	A	8	0.10	B	17
	WBTTR	0.29	A	49	0.20	A	28	0.46	C	98
	NBL	0.29	D	15	0.71	D	28	0.61	D	33
	NBTR	0.01	C	<1 veh	0.03	C	<1 veh	0.03	D	<1 veh
	SBL	0.31	D	18	0.64	D	42	0.49	D	43
	SBTR	0.20	D	16	0.21	D	<1 veh	0.49	D	43
Future Total 2036	EBL	0.16	A	11	0.45	B	57	0.72	B	57
	EBT	0.22	A	36	0.70	C	203	0.47	B	98
	EBR	0.01	A	<1 veh	0.01	A	<1 veh	0.01	B	<1 veh
	WBL	0.02	A	<1 veh	0.14	B	8	0.10	B	9
	WBTTR	0.30	A	52	0.21	A	31	0.55	C	93
	NBL	0.42	D	15	0.57	D	27	0.65	D	31
	NBTR	0.01	D	<1 veh	0.03	C	<1 veh	0.03	C	<1 veh
	SBL	0.29	D	17	0.64	D	42	0.70	D	51
	SBTR	0.24	D	26	0.21	D	<1 veh	0.63	D	59

The intersection of Pickering Parkway at the westerly Walmart access is currently operating with reserve capacity and no queueing concerns for most movements under all peak periods. However, the northbound left is approaching capacity in the p.m. and Saturday peak hours, and the eastbound left is exhibiting queueing issues in the Saturday peak hour. With the implementation of protected/permissive left-turn phasing for the northbound and eastbound left-turn movements (as shown in the 2026 Future Background scenario, and carried forward to subsequent scenarios), all capacity and queuing issues are resolved, with the intersection expected to operate with reserve capacity through to the 2036 horizon year. The added site traffic from the subject development in 2026 does not have a noticeable impact on traffic operations, with no change in LOS and no new critical movements to report. Therefore, there are no geometric

improvements recommended at this intersection in response to the subject development., Protected/permissive left-turn phasing for the northbound and eastbound left-turn movements is recommended to provide additional capacity for the left-turn movements which are currently nearing capacity.

6.5 Pickering Parkway at Walmart East Access

Table 11: Capacity Analysis Results – Pickering Parkway & Walmart East Access

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	EBLTR	0.01	A	<1 veh	0.03	A	<1 veh	0.06	A	<1 veh
	WBL	0.02	A	<1 veh	0.08	A	<1 veh	0.08	A	<1 veh
	WBTR	0.23	A	<1 veh	0.14	A	<1 veh	0.36	A	<1 veh
	NBL	0.11	B	<1 veh	0.37	C	13	0.79	**F**	46
	NBTR	0.02	A	<1 veh	0.06	B	<1 veh	0.07	B	<1 veh
	SBL	0.02	B	<1 veh	0.16	C	<1 veh	0.22	C	<1 veh
	SBTR	0.02	B	<1 veh	0.09	A	<1 veh	0.17	B	<1 veh
Future Background 2026	EBLTR	0.01	A	<1 veh	0.03	A	<1 veh	0.06	A	<1 veh
	WBL	0.02	A	<1 veh	0.09	A	<1 veh	0.08	A	<1 veh
	WBTR	0.28	A	<1 veh	0.17	A	<1 veh	0.37	A	<1 veh
	NBL	0.13	B	<1 veh	0.42	C	16	0.80	**F**	46
	NBTR	0.02	A	<1 veh	0.07	B	<1 veh	0.07	B	<1 veh
	SBL	0.02	B	<1 veh	0.18	C	<1 veh	0.23	C	<1 veh
	SBTR	0.02	B	<1 veh	0.10	B	<1 veh	0.17	B	<1 veh
Future Total 2026	EBLTR	0.01	A	<1 veh	0.03	A	<1 veh	0.06	A	<1 veh
	WBL	0.02	A	<1 veh	0.08	A	<1 veh	0.07	A	<1 veh
	WBTR	0.27	A	<1 veh	0.17	A	<1 veh	0.36	A	<1 veh
	NBL	0.22	B	<1 veh	0.41	C	15	0.80	**F**	46
	NBTR	0.03	A	<1 veh	0.07	B	<1 veh	0.08	B	<1 veh
	SBL	0.02	B	<1 veh	0.18	C	<1 veh	0.22	C	1 veh
	SBTR	0.02	B	<1 veh	0.10	B	<1 veh	0.17	B	<1 veh
Future Total 2031	EBLTR	0.02	A	<1 veh	0.02	A	<1 veh	0.04	A	<1 veh
	WBL	0.02	A	<1 veh	0.15	B	<1 veh	0.10	A	<1 veh
	WBTR	0.28	A	<1 veh	0.25	A	<1 veh	0.42	A	<1 veh
	NBL	0.32	C	11	0.37	D	20	0.60	**E**	41
	NBTR	0.07	A	<1 veh	0.15	B	<1 veh	0.15	B	<1 veh
	SBL	0.06	B	<1 veh	0.52	**F**	27	0.48	**E**	21
	SBTR	0.01	B	<1 veh	0.08	B	<1 veh	0.13	B	<1 veh
Future Total 2036	EBLTR	0.02	A	<1 veh	0.02	A	<1 veh	0.04	A	<1 veh
	WBL	0.03	A	<1 veh	0.18	B	<1 veh	0.12	A	<1 veh
	WBTR	0.28	A	<1 veh	0.25	A	<1 veh	0.41	A	<1 veh
	NBL	0.42	C	16	0.49	D	28	0.80	**F**	46
	NBTR	0.08	B	<1 veh	0.18	C	<1 veh	0.17	B	<1 veh
	SBL	0.06	B	<1 veh	0.65	**F**	32	0.55	**E**	23
	SBTR	0.01	B	<1 veh	0.08	B	<1 veh	0.13	B	<1 veh

Under existing conditions, the intersection is operating with reserve capacity and no queuing concerns for all movements in the a.m. and p.m. peak hours, and most movements in the Saturday peak hour. The northbound left movement, which is the only problematic movement at the intersection under existing conditions, is experiencing significant delays (LOS F) in the Saturday peak period. This issue can be primarily attributed to the heavy free-flow traffic on the east and west approaches, which provides very few gaps for vehicles to safely make their turn. Under all future scenarios, the intersection is still expected to operate well for most movements,

but the left-turn movements from the minor approaches continue to worsen as through traffic volumes increase on the major approaches. The added site traffic from the subject development in 2026 does not have a noticeable impact on traffic operations, generating only negligible changes in LOS and no new critical movements to report. Therefore, there are no geometric improvements required at this intersection in response to the addition of subject development.

6.6 Brock Road at Right-in/Right-out Access

Table 12: Capacity Analysis Results – Brock Road & RIRO Access

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	WBR	0.07	C	<1 veh	0.18	B	<1 veh	0.20	A	<1 veh
	NBT	0.22	A	<1 veh	0.53	A	<1 veh	0.40	A	<1 veh
	NBR	0.04	A	<1 veh	0.08	A	<1 veh	0.12	A	<1 veh
	SBT	0.50	A	<1 veh	0.29	A	<1 veh	0.43	A	<1 veh
Future Background 2026	WBR	0.07	A	<1 veh	0.21	B	<1 veh	0.20	B	<1 veh
	NBT	0.25	A	<1 veh	0.62	A	<1 veh	0.45	A	<1 veh
	NBR	0.04	A	<1 veh	0.08	A	<1 veh	0.12	A	<1 veh
	SBT	0.58	A	<1 veh	0.35	A	<1 veh	0.47	A	<1 veh
Future Total 2026	WBR	0.10	A	<1 veh	0.20	B	<1 veh	0.20	B	1 veh
	NBT	0.25	A	<1 veh	0.62	A	<1 veh	0.44	A	<1 veh
	NBR	0.04	A	<1 veh	0.09	A	<1 veh	0.11	A	<1 veh
	SBT	0.59	A	<1 veh	0.34	A	<1 veh	0.47	A	<1 veh
Future Total 2031	WBR	0.12	B	<1 veh	0.15	B	<1 veh	0.14	A	<1 veh
	NBT	0.29	A	<1 veh	0.68	A	<1 veh	0.47	A	<1 veh
	NBR	0.03	A	<1 veh	0.10	A	<1 veh	0.09	A	<1 veh
	SBT	0.66	A	<1 veh	0.36	A	<1 veh	0.48	A	<1 veh
Future Total 2036	WBR	0.15	A	<1 veh	0.16	B	<1 veh	0.16	B	<1 veh
	NBT	0.30	A	<1 veh	0.69	A	<1 veh	0.47	A	<1 veh
	NBR	0.04	A	<1 veh	0.12	A	<1 veh	0.10	A	<1 veh
	SBT	0.68	A	<1 veh	0.37	A	<1 veh	0.49	A	<1 veh

The RIRO site access of off Brock Road is currently operating with reserve capacity, delays not exceeding LOS “B” (10 to 20 seconds of delay) and no queuing concerns. The intersection continues to operate well through the 2036 horizon year, even with the addition of all future background development site traffic. The added site traffic from the subject development in 2026 does not have a noticeable impact on traffic operations, with a negligible change in LOS and no new critical movements to report. There are no geometric improvements recommended at this intersection in response to the addition of the subject development traffic.

6.7 Pickering Parkway at Notion Road

Table 13: Capacity Analysis Results – Pickering Parkway & Notion Road

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	EBLR	0.19	B	<1 veh	0.51	B	23	0.56	C	29
	NBTR	0.00	A	<1 veh	0.00	A	<1 veh	0.00	A	<1 veh
	SBTR	0.25	A	<1 veh	0.11	A	<1 veh	0.30	A	<1 veh
Future Background 2026	EBLR	0.26	B	<1 veh	0.55	B	27	0.57	C	29
	NBTR	0.00	A	<1 veh	0.00	A	<1 veh	0.00	A	<1 veh
	SBTR	0.26	A	<1 veh	0.13	A	<1 veh	0.30	A	<1 veh
Future Total 2026	EBLR	0.26	B	8	0.53	B	26	0.55	C	27
	NBTR	0.00	A	<1 veh	0.00	A	<1 veh	0.00	A	<1 veh
	SBTR	0.26	A	<1 veh	0.13	A	<1 veh	0.29	A	<1 veh
Future Total 2031	EBL	0.27	A	17	0.60	A	47	0.60	B	68
	EBR	0.07	A	<1 veh	0.09	A	<1 veh	0.12	A	11
	NBL	0.19	B	8	0.40	A	21	0.59	B	37
	NBT	0.11	B	9	0.18	A	15	0.06	A	9
	SBTTR	0.28	B	12	0.11	A	1 veh	0.22	A	10
Future Total 2036	EBL	0.28	A	18	0.60	A	48	0.60	B	70
	EBR	0.07	A	<1 veh	0.09	A	<1 veh	0.12	A	11
	NBL	0.20	B	8	0.41	B	22	0.60	B	38
	NBT	0.11	B	9	0.18	A	15	0.06	A	9
	SBTTR	0.29	B	12	0.10	A	1 veh	0.22	A	10

The intersection of Pickering Parkway at Notion Road is currently operating with reserve capacity and no delay issues in the a.m., p.m., and Saturday peak hours, respectively. With the implementation of the Notion Road fly-over, the intersection continues to operate with reserve capacity and no delay issues, despite the redistribution of traffic. The added site traffic from the subject development in 2026 does not have a noticeable impact on traffic operations, with the reduction in existing commercial trips (due to site demolition) actually resulting in a marginal improvement in operations for two movements. Therefore, no geometric improvements are recommended at this intersection in response to the subject development.

6.8 Brock Road at Kingston Road

Table 14: Capacity Analysis Results – Brock Road & Kingston Road

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	EBL	0.29	C	22	0.88	D	**86**	0.84	D	55
	EBTT	0.31	C	45	0.96	D	203	0.64	C	99
	EBR	0.18	C	23	0.20	C	21	0.80	D	**145**
	WBL	0.86	D	**106**	0.92	**E**	**76**	0.91	**E**	**104**
	WBTT	0.46	C	75	0.51	C	80	0.66	D	124
	WBR	0.14	C	17	0.16	C	18	0.24	**F**	56
	NBL	0.78	D	49	0.69	C	53	0.97	**E**	80
	NBTTT	0.35	C	47	0.85	D	137	0.62	C	89
	NBR	0.12	C	16	0.89	**E**	**167**	0.67	D	**102**
	SBL	0.51	C	48	0.80	D	64	0.95	**E**	68
	SBTTT	0.86	D	153	0.51	D	73	0.57	C	81
	SBR	0.14	C	15	0.10	C	15	0.12	C	16
Future Background 2026	EBL	0.31	C	22	0.78	D	**66**	0.99	**F**	73
	EBTT	0.35	C	51	0.92	D	198	0.74	D	116
	EBR	0.23	C	30	0.33	C	45	0.87	**E**	**162**
	WBL	0.89	D	**110**	**1.10**	**F**	**89**	0.99	**F**	**96**
	WBTT	0.47	C	77	0.52	C	83	0.77	D	122
	WBR	0.14	C	16	0.24	C	32	0.16	C	20
	NBL	**1.03**	**F**	72	**1.00**	**F**	91	**1.05**	**F**	**120**
	NBTTT	0.45	C	61	0.97	**E**	179	0.65	C	108
	NBR	0.12	C	16	0.95	**E**	**185**	0.62	D	**103**
	SBL	0.57	C	47	**1.16**	**F**	84	0.79	D	60
	SBTTT	0.95	D	192	0.68	D	96	**1.01**	**E**	201
	SBR	0.14	C	15	0.10	C	16	0.12	C	16
Future Total 2026	EBL	0.31	C	22	0.78	C	**66**	0.99	**F**	73
	EBTT	0.35	C	51	0.92	D	198	0.74	D	116
	EBR	0.22	C	29	0.33	C	44	0.84	**E**	**153**
	WBL	0.89	D	**110**	**1.10**	**F**	**89**	0.99	**F**	**96**
	WBTT	0.47	C	77	0.52	C	83	0.77	D	122
	WBR	0.14	C	16	0.24	C	32	0.16	C	20
	NBL	**1.09**	**F**	78	0.98	**E**	**88**	0.91	D	93
	NBTTT	0.45	C	62	0.97	**E**	176	0.65	C	108
	NBR	0.12	C	16	0.95	**E**	**185**	0.62	D	**103**
	SBL	0.58	C	47	**1.16**	**F**	84	0.79	D	60
	SBTTT	0.95	D	191	0.68	D	96	0.61	C	96
	SBR	0.14	C	15	0.10	C	16	0.12	C	16

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Future Total 2031	EBL	0.39	D	27	0.84	D	**88**	0.73	D	52
	EBTT	0.44	D	67	**1.01**	**E**	245	0.72	D	134
	EBR	0.15	D	20	0.32	D	40	0.73	D	**131**
	WBL	**1.08**	**F**	**168**	**1.13**	**F**	**114**	0.75	C	**75**
	WBTT	0.60	D	104	0.64	D	113	0.69	D	135
	WBR	0.14	D	19	0.18	D	24	0.16	C	20
	NBL	**1.16**	**F**	**170**	**1.08**	**F**	**138**	0.93	**E**	**128**
	NBTTT	0.48	D	101	0.97	**E**	205	0.78	D	155
	NBR	0.13	**F**	**47**	0.92	**E**	**171**	0.65	**E**	**134**
	SBL	0.75	C	68	**1.15**	**F**	**122**	0.89	**E**	91
	SBTTT	**1.09**	**F**	266	0.94	**E**	152	0.85	**E**	140
	SBR	0.16	C	22	0.10	D	18	0.12	D	20
Future Total 2036	EBL	0.53	D	31	0.92	**E**	**120**	0.71	D	51
	EBTT	0.72	**E**	78	**1.12**	**F**	265	0.70	D	133
	EBR	0.15	D	24	0.37	D	49	0.75	D	**143**
	WBL	**1.24**	**F**	**167**	**1.41**	**F**	**133**	0.75	C	**74**
	WBTT	0.86	**E**	129	0.83	**E**	129	0.69	D	137
	WBR	0.14	D	22	0.16	D	23	0.16	C	20
	NBL	0.97	**E**	**140**	0.94	D	**91**	0.96	**E**	**129**
	NBTTT	0.42	C	96	0.96	D	211	0.81	D	161
	NBR	0.13	**E**	**48**	0.89	D	**164**	0.63	**E**	**132**
	SBL	0.70	C	57	0.88	**E**	93	0.89	**E**	90
	SBTTT	**1.04**	**E**	266	0.89	**E**	158	0.89	**E**	150
	SBR	0.14	C	16	0.10	D	18	0.12	D	20

Under existing conditions, the intersection is operating near capacity for multiple movements in the p.m. and Saturday peak hours, with queuing issues for many auxiliary turn lanes under all scenarios. Under future conditions, the intensification within the area will result in many movements operating near or over capacity, exhibiting significant delays (LOS E and LOS F) and queueing issues. However, the added site traffic from the subject development in 2026 does not have a noticeable impact on traffic operations, with no change in LOS and no new critical movements to report. Therefore, there are no geometric improvements recommended at this intersection in response to the subject development. By the ultimate 2036 horizon year, it is expected the intersection overall will require additional physical capacity to accommodate projected peak hour traffic demands.

6.9 Brock Road at Highway 401 West Off-Ramp

Table 15: Capacity Analysis Results – Brock Road & Highway 401 West Off-Ramp

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	WBL	0.75	D	68	0.67	D	52	0.68	D	59
	WBR	0.43	C	44	**0.76**	D	71	0.75	D	76
	NBTTT	0.25	A	31	0.63	A	68	0.48	B	63
	SBTTT	0.45	A	54	0.19	A	19	0.36	A	42
Future Background 2026	WBL	**0.76**	D	71	0.68	D	59	0.65	D	59
	WBR	0.59	D	61	**0.81**	D	86	**0.76**	D	79
	NBTTT	0.30	A	30	0.76	A	80	0.55	B	72
	SBTTT	0.51	A	41	0.24	A	26	0.40	B	43
Future Total 2026	WBL	**0.76**	D	71	0.67	D	58	0.66	D	59
	WBR	0.58	D	60	**0.80**	D	**84**	**0.76**	D	78
	NBTTT	0.30	A	30	0.76	A	80	0.54	B	72
	SBTTT	0.51	A	42	0.23	A	21	0.39	B	43
Future Total 2031	WBL	**0.80**	E	104	0.71	D	86	0.70	D	84
	WBR	0.70	D	**97**	**0.87**	E	**127**	**0.80**	E	**108**
	NBTTT	0.33	A	18	0.82	B	133	0.52	A	54
	SBTTT	0.50	B	59	0.20	A	12	0.33	A	44
Future Total 2036	WBL	**0.80**	D	104	0.72	D	89	0.70	D	84
	WBR	0.73	E	**102**	**0.88**	E	**134**	**0.80**	E	**109**
	NBTTT	0.34	A	24	0.84	B	98	0.54	B	57
	SBTTT	0.52	B	64	0.20	A	22	0.34	A	49

The Highway 401 West off-ramp at Brock Road is operating with reserve capacity and no delay issues under existing conditions for the a.m., p.m., and Saturday peak hours. However, with the MTO stipulation that ramp terminal movements should be operating with v/c ratios not exceeding 0.75, the westbound right movement would be deemed problematic for the p.m. peak hour. In contrast, the through movements continue to operate well through the ultimate horizon year of 2036, with all v/c ratios residing under the MTO maximum of 0.85 for through movements. The ramp terminal issues progressively worsen as intensification in the surrounding area is realized through the horizon year of 2036, and it is therefore anticipated that the intersection will require additional capacity to accommodate the projected peak hour traffic demands. However, the added site traffic from the subject development in 2026 does not have a noticeable impact on traffic operations, with no change in LOS and no new critical movements to report. Therefore, there are no geometric improvements recommended at this intersection in response to the subject development.

6.10 Brock Road at Highway 401 East Off-Ramp

Table 16: Capacity Analysis Results – Brock Road & Highway 401 East Off-Ramp

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	EBL	**0.86**	D	134	**0.97**	E	200	**0.98**	E	182
	EBR	**0.81**	D	115	0.34	C	36	0.60	C	74
	NBTTTR	0.65	D	59	**0.97**	D	204	**0.93**	D	132
	SBL	**0.96**	D	158	**0.77**	D	60	**0.98**	E	**175**
	SBTT	0.71	B	130	0.34	B	52	0.41	B	69
Future Background 2026	EBL	**0.94**	E	161	**1.08**	**F**	243	**0.94**	D	189
	EBR	**0.91**	E	141	0.51	C	64	0.66	C	87
	NBTTTR	**0.86**	D	77	**1.14**	**F**	215	**1.08**	**F**	150
	SBL	**0.99**	E	**181**	**1.12**	**F**	102	**1.07**	**F**	**199**
	SBTT	0.76	B	153	0.42	B	52	0.47	B	79
Future Total 2026	EBL	**0.95**	E	161	**1.09**	**F**	247	**0.94**	D	189
	EBR	**0.91**	E	141	0.51	C	64	0.66	C	87
	NBTTTR	**0.85**	D	76	**1.14**	**F**	215	**1.08**	**F**	149
	SBL	**0.99**	E	**183**	**1.08**	**F**	96	**1.05**	**F**	**194**
	SBTT	0.76	B	153	0.41	B	51	0.47	B	78
Future Total 2031	EBL	0.49	C	92	**1.18**	**F**	341	**1.11**	**F**	256
	EBR	**1.29**	**F**	**380**	0.58	C	97	0.67	D	117
	NBTTTR	**1.06**	**F**	126	**1.14**	**F**	293	**1.00**	**E**	185
	SBL	**1.26**	**F**	**310**	**1.67**	**F**	**212**	**0.98**	E	**236**
	SBTT	**0.89**	C	190	0.36	B	77	0.37	C	77
Future Total 2036	EBL	0.48	C	90	**1.27**	**F**	365	**1.12**	**F**	261
	EBR	**1.23**	**F**	**377**	0.61	D	102	0.68	D	119
	NBTTTR	**1.09**	**F**	130	**1.20**	**F**	308	**1.02**	**F**	189
	SBL	**1.41**	**F**	**330**	**1.32**	**F**	**194**	**0.98**	E	**238**
	SBTT	**0.96**	D	269	0.35	B	63	0.38	C	80

The Highway 401 East off-ramp is currently nearing capacity for many movements during all peak hours. In the 2026 horizon year, many movements are operating over capacity, with significant queueing concerns and excessive delays for all approaches. Improvements to provide additional capacity for several movements should be considered at this location, especially as intensification in the surrounding area is realized. However, the added site traffic from the subject development in 2026 does not have a noticeable impact on traffic operations, with a negligible change in LOS and no new critical movements to report. Therefore, there are no geometric improvements recommended at this intersection in response to the subject development.

6.11 Kingston Road at Notion Road

Table 17: Capacity Analysis Results – Kingston Road & Notion Road

SCENARIO	MOVE.	WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR			SATURDAY PEAK HOUR		
		V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)	V/C	LOS	95TH % QUEUE (M)
Existing Conditions 2020	EBL	0.00	A	<1 veh	0.02	B	<1 veh	0.05	B	<1 veh
	EBTT	0.31	A	47	0.82	C	174	0.76	C	177
	EBR	0.03	A	<1 veh	0.03	B	<1 veh	0.06	C	8
	WBL	0.62	A	26	0.80	D	59	0.98	**E**	127
	WBTTR	0.66	A	100	0.35	A	54	0.50	A	91
	NBLTR	0.10	D	17	0.88	**E**	117	0.86	**E**	106
	SBLTR	0.00	D	<1 veh	0.03	C	<1 veh	0.01	C	<1 veh
Future Background 2026	EBL	0.00	A	<1 veh	0.02	B	<1 veh	0.05	B	<1 veh
	EBTT	0.36	B	71	0.84	C	177	0.73	C	189
	EBR	0.04	A	<1 veh	0.04	B	1 veh	0.06	B	11
	WBL	0.63	A	33	0.83	D	23	0.80	D	98
	WBTTR	0.70	A	132	0.37	A	42	0.45	A	88
	NBLTR	0.34	D	26	0.91	**E**	66	0.70	D	60
	SBLTR	0.00	D	<1 veh	0.03	C	<1 veh	0.02	C	<1 veh
Future Total 2026	EBL	0.00	A	<1 veh	0.02	B	<1 veh	0.04	B	<1 veh
	EBTT	0.36	B	70	0.84	C	177	0.72	C	189
	EBR	0.04	A	<1 veh	0.04	B	1 veh	0.06	B	11
	WBL	0.63	A	33	0.81	D	58	0.78	D	87
	WBTTR	0.70	A	132	0.37	A	55	0.45	A	87
	NBLTR	0.34	D	26	0.92	**E**	129	0.68	D	58
	SBLTR	0.00	D	<1 veh	0.03	C	<1 veh	0.02	D	<1 veh
Future Total 2031	EBL	0.00	A	<1 veh	0.02	B	<1 veh	0.05	B	<1 veh
	EBTT	0.47	B	82	0.89	C	207	0.73	C	195
	EBR	0.13	B	18	0.08	B	12	0.15	B	25
	WBL	0.67	A	52	0.84	D	63	0.79	D	91
	WBTTR	0.73	A	144	0.40	B	60	0.45	A	86
	NBL	0.44	D	22	0.20	C	23	0.21	D	17
	NBTR	0.11	D	<1 veh	0.92	**E**	133	0.66	D	55
	SBLTR	0.00	D	<1 veh	0.03	C	<1 veh	0.04	D	<1 veh
Future Total 2036	EBL	0.00	A	<1 veh	0.02	B	<1 veh	0.05	B	<1 veh
	EBTT	0.46	B	91	0.84	C	261	0.73	C	195
	EBR	0.13	B	19	0.09	B	16	0.15	B	25
	WBL	0.70	A	52	0.83	D	70	0.79	D	96
	WBTTR	0.75	A	150	0.38	B	76	0.45	A	87
	NBL	0.44	D	22	0.21	D	25	0.21	D	17
	NBTR	0.11	D	<1 veh	0.88	**E**	115	0.67	D	57
	SBLTR	0.00	D	<1 veh	0.04	C	<1 veh	0.04	D	<1 veh

The intersection of Kingston Road at Notion Road is operating with reserve capacity and no delay issues for most movements under existing conditions, but is experiencing capacity and delay issues for select movements in the p.m. and Saturday peak hours. With the new lane configuration implemented as part of the Notion Road fly-over in the 2031 horizon year, many movements are greatly improved, with only the northbound through/right experiencing delays of LOS “E” through the 2036 horizon year. However, the added site traffic from the subject development in 2026 does

not have a noticeable impact on traffic operations, with a negligible change in LOS and no new critical movements to report. Therefore, there are no geometric improvements recommended at this intersection in response to the subject development. The City should monitor the northbound through/right movement to determine whether the allocation of additional green time is required.

7.0 SUMMARY OF FINDINGS

The results of the traffic impact study can be summarized as follows:

- The proposed development is estimated to generate the following new auto trips to the surrounding study area road network: 27 inbound trips and 86 outbound trips in the a.m. peak hour, 64 inbound trips and 50 outbound trips in the p.m. peak hour, and 55 inbound trips and 75 outbound trips in the Saturday peak hour.
- These trip generation estimates consider trip reductions associated with assumed transit modal splits, internal capture, pass-by trips associated with the ground floor commercial space, and the demolition of the existing commercial space and thus eliminating any traffic generation from that land use.
- The analysis adopted future planning horizons of 2026 for full build-out of the subject development, 2031 for a 5-year horizon, and 2036 for a 10-year horizon.
- Background traffic growth for the study area road network was forecasted by applying growth assumptions provided by the respective road authorities, traffic generation estimates for planned background developments provided by the City, and traffic generated from the future phases of the multi-phased re-development lands to the east that are anticipated to be built-out within this study's ultimate 2036 horizon year.
- As per the results of the capacity analysis for the study area intersections, the site generated traffic is not expected to result in any new capacity, delay, or queuing concerns requiring mitigation through intersection geometric improvements.
- With a significant level of intensification occurring in the surrounding area, the capacity analysis confirms the existing study area road network is expected to require capacity improvements to accommodate forecasted traffic growth while maintaining an acceptable level of service at intersections.
- City Council adopted Pickering Official Plan Amendment 38 (OPA 38) which promotes the development and intensification of the Kingston Road Corridor and Specialty Retailing Node, which is inclusive of the Brock Mixed Node Intensification area (which the subject site is situated within), and also directs future studies to identify future transportation infrastructure improvements to mitigate projected capacity constraints.

8.0 RECOMMENDATIONS

City initiated transportation planning studies transportation planning studies, and Traffic Impact Study submissions associated with development applications for planned future developments (including potential future phases of the overall subject redevelopment lands), will assist the City, Region and MTO in confirming future required transportation network improvements.

It is expected the City's ongoing transportation planning efforts will develop a phased implementation plan for capacity improvements to meet the growing traffic demands on the study area road network associated with the City's intensification plans. However, such transportation infrastructure capacity improvements are not known at this time.

There are no geometric improvements recommended at the existing study area intersections in response to the addition of site generated traffic from the proposed development.

It is recommended the City utilize the findings from this TIS in confirming the traffic generation associated with Phase 1 of the overall redevelopment lands for the subject site, as well as consider the specific capacity concerns on the study area road network associated with the area's growing intensification as identified in this study.

APPENDIX A

Traffic Count Raw Data

Spectrum

Turning Movement Count
Location Name: BROCK RD & KINGSTON RD
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (1 . BROCK RD & KINGSTON RD)

Start Time	N Approach BROCK RD						E Approach KINGSTON RD						S Approach BROCK RD						W Approach KINGSTON RD						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		
07:00:00	29	330	28	0	7	387	41	98	98	0	3	237	23	132	15	0	7	170	36	39	16	0	7	91	885	
07:15:00	53	329	25	0	2	407	36	129	108	0	3	273	17	154	20	1	10	192	33	54	21	0	17	108	980	
07:30:00	101	243	50	0	3	394	40	156	72	0	3	268	36	136	17	0	12	189	46	86	18	0	6	150	1001	
07:45:00	63	268	68	0	2	399	40	144	78	0	2	262	49	105	27	0	7	181	53	85	19	0	6	157	999	3865
08:00:00	42	388	53	0	4	483	63	147	86	1	6	297	39	134	24	0	4	197	55	76	22	0	13	153	1130	4110
08:15:00	49	410	52	0	1	511	43	132	101	0	3	276	46	128	30	0	7	204	48	77	19	0	6	144	1135	4265
08:30:00	38	375	52	0	5	465	45	136	93	0	4	274	44	99	34	0	9	177	36	69	18	0	8	123	1039	4303
08:45:00	54	335	54	0	9	443	39	117	82	0	7	238	33	128	41	1	2	203	52	95	21	0	5	168	1052	4356
BREAK																										
16:00:00	34	179	35	0	8	248	55	124	53	0	8	232	153	304	56	1	4	514	72	252	66	0	6	390	1384	
16:15:00	38	172	45	0	6	255	74	116	54	0	15	244	130	323	57	0	8	510	64	283	73	0	7	420	1429	
16:30:00	44	141	52	0	12	237	57	145	44	0	8	246	129	361	57	0	9	547	57	288	66	0	12	411	1441	
16:45:00	37	189	41	0	6	267	52	164	53	0	11	269	132	334	62	0	10	528	71	272	63	0	9	406	1470	5724
17:00:00	28	165	46	0	11	239	64	125	61	0	14	250	155	328	53	1	2	537	67	275	81	0	3	423	1449	5789
17:15:00	38	211	50	0	11	299	62	145	54	0	10	261	143	334	58	0	11	535	67	282	80	0	6	429	1524	5884
17:30:00	43	196	46	0	5	285	58	142	49	0	10	249	127	335	59	0	13	521	66	307	74	0	8	447	1502	5945
17:45:00	48	215	45	0	10	308	51	140	53	0	13	244	146	307	52	1	11	506	64	254	81	0	7	399	1457	5932
Grand Total	739	4146	742	0	102	5627	820	2160	1139	1	120	4120	1402	3642	662	5	126	5711	887	2794	738	0	126	4419	**19877**	-
Approach%	13.1%	73.7%	13.2%	0%		-	19.9%	52.4%	27.6%	0%		-	24.5%	63.8%	11.6%	0.1%		-	20.1%	63.2%	16.7%	0%		-	**-**	-
Totals %	3.7%	20.9%	3.7%	0%		28.3%	4.1%	10.9%	5.7%	0%		20.7%	7.1%	18.3%	3.3%	0%		28.7%	4.5%	14.1%	3.7%	0%		22.2%	**-**	-
Heavy	37	209	39	0		-	46	57	17	0		-	19	235	23	0		-	26	83	27	0		-	**-**	-
Heavy %	5%	5%	5.3%	0%		-	5.6%	2.6%	1.5%	0%		-	1.4%	6.5%	3.5%	0%		-	2.9%	3%	3.7%	0%		-	**-**	-
Bicycles	0	3	0	0		-	0	2	0	0		-	0	0	0	0		-	0	1	0	0		-	**-**	-
Bicycle %	0%	0.1%	0%	0%		-	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: BROCK RD & KINGSTON RD
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach BROCK RD						E Approach KINGSTON RD						S Approach BROCK RD						W Approach KINGSTON RD						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	42	388	53	0	4	483	63	147	86	1	6	297	39	134	24	0	4	197	55	76	22	0	13	153	1130
08:15:00	49	410	52	0	1	511	43	132	101	0	3	276	46	128	30	0	7	204	48	77	19	0	6	144	1135
08:30:00	38	375	52	0	5	465	45	136	93	0	4	274	44	99	34	0	9	177	36	69	18	0	8	123	1039
08:45:00	54	335	54	0	9	443	39	117	82	0	7	238	33	128	41	1	2	203	52	95	21	0	5	168	1052
Grand Total	183	1508	211	0	19	1902	190	532	362	1	20	1085	162	489	129	1	22	781	191	317	80	0	32	588	**4356**
Approach%	9.6%	79.3%	11.1%	0%		-	17.5%	49%	33.4%	0.1%		-	20.7%	62.6%	16.5%	0.1%		-	32.5%	53.9%	13.6%	0%		-	**-**
Totals %	4.2%	34.6%	4.8%	0%		43.7%	4.4%	12.2%	8.3%	0%		24.9%	3.7%	11.2%	3%	0%		17.9%	4.4%	7.3%	1.8%	0%		13.5%	**-**
PHF	0.85	0.92	0.98	0		0.93	0.75	0.9	0.9	0.25		0.91	0.88	0.91	0.79	0.25		0.96	0.87	0.83	0.91	0		0.88	**-**
Heavy	14	71	13	0		98	15	13	9	0		37	9	77	5	0		91	11	23	8	0		42	**-**
Heavy %	7.7%	4.7%	6.2%	0%		5.2%	7.9%	2.4%	2.5%	0%		3.4%	5.6%	15.7%	3.9%	0%		11.7%	5.8%	7.3%	10%	0%		7.1%	**-**
Lights	169	1437	198	0		1804	175	519	353	1		1048	153	412	124	1		690	180	294	72	0		546	**-**
Lights %	92.3%	95.3%	93.8%	0%		94.8%	92.1%	97.6%	97.5%	100%		96.6%	94.4%	84.3%	96.1%	100%		88.3%	94.2%	92.7%	90%	0%		92.9%	**-**
Single-Unit Trucks	5	33	5	0		43	6	2	7	0		15	8	39	3	0		50	9	8	3	0		20	**-**
Single-Unit Trucks %	2.7%	2.2%	2.4%	0%		2.3%	3.2%	0.4%	1.9%	0%		1.4%	4.9%	8%	2.3%	0%		6.4%	4.7%	2.5%	3.8%	0%		3.4%	**-**
Buses	9	19	6	0		34	9	11	0	0		20	0	15	2	0		17	1	15	5	0		21	**-**
Buses %	4.9%	1.3%	2.8%	0%		1.8%	4.7%	2.1%	0%	0%		1.8%	0%	3.1%	1.6%	0%		2.2%	0.5%	4.7%	6.3%	0%		3.6%	**-**
Articulated Trucks	0	19	2	0		21	0	0	2	0		2	1	23	0	0		24	1	0	0	0		1	**-**
Articulated Trucks %	0%	1.3%	0.9%	0%		1.1%	0%	0%	0.6%	0%		0.2%	0.6%	4.7%	0%	0%		3.1%	0.5%	0%	0%	0%		0.2%	**-**
Pedestrians	-	-	-	-	17	-	-	-	-	-	19	-	-	-	-	-	22	-	-	-	-	-	32	-	**-**
Pedestrians%	-	-	-	-	18.3%		-	-	-	-	20.4%		-	-	-	-	23.7%		-	-	-	-	34.4%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	2.2%		-	-	-	-	1.1%		-	-	-	-	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%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & KINGSTON RD
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

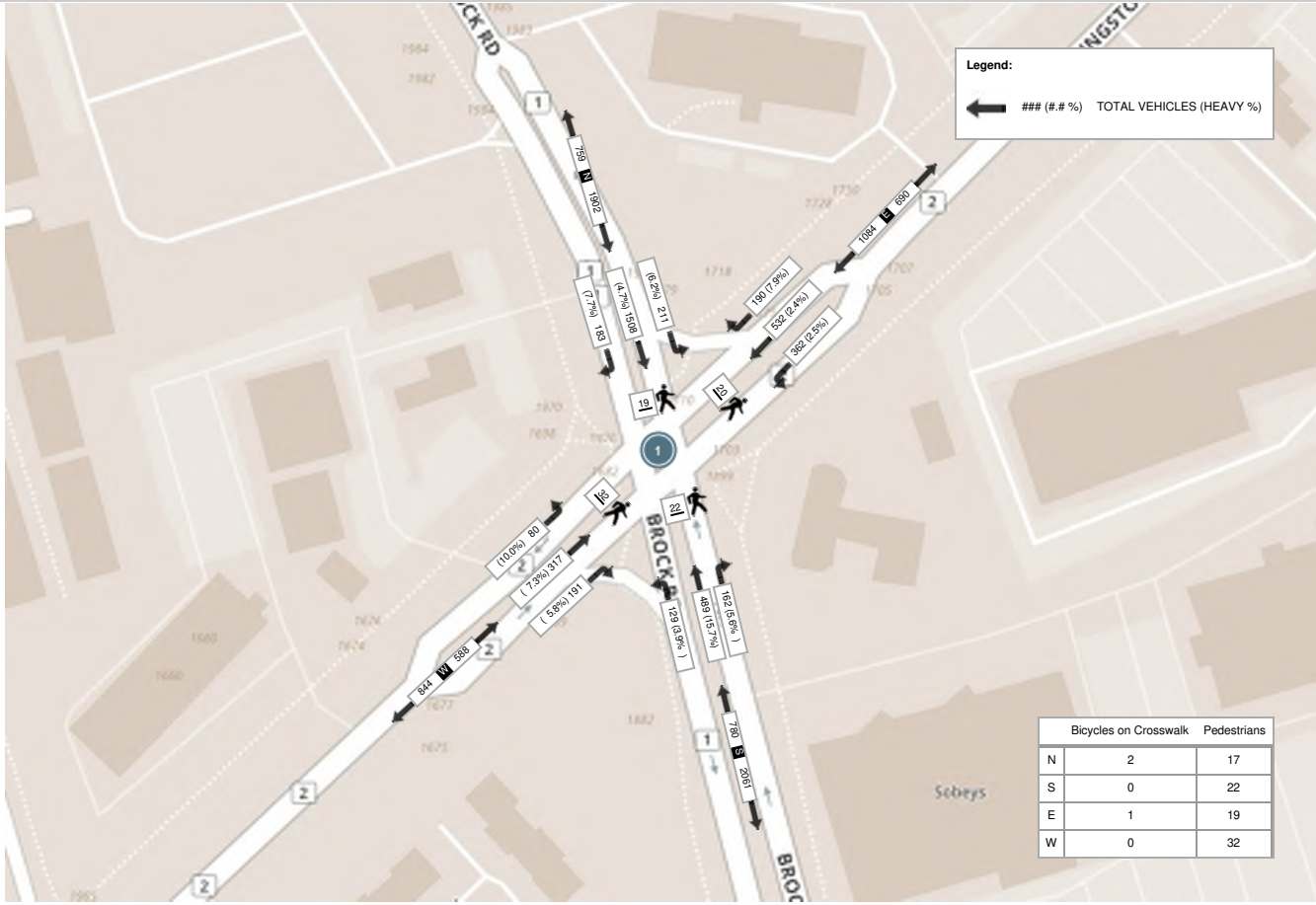
Peak Hour: 04:45 PM - 05:45 PM Weather:

Start Time	N Approach BROCK RD						E Approach KINGSTON RD						S Approach BROCK RD						W Approach KINGSTON RD						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	
16:45:00	37	189	41	0	6	267	52	164	53	0	11	269	132	334	62	0	10	528	71	272	63	0	9	406	1470
17:00:00	28	165	46	0	11	239	64	125	61	0	14	250	155	328	53	1	2	537	67	275	81	0	3	423	1449
17:15:00	38	211	50	0	11	299	62	145	54	0	10	261	143	334	58	0	11	535	67	282	80	0	6	429	1524
17:30:00	43	196	46	0	5	285	58	142	49	0	10	249	127	335	59	0	13	521	66	307	74	0	8	447	1502
Grand Total	146	761	183	0	33	1090	236	576	217	0	45	1029	557	1331	232	1	36	2121	271	1136	298	0	26	1705	**5945**
Approach%	13.4%	69.8%	16.8%	0%		-	22.9%	56%	21.1%	0%		-	26.3%	62.8%	10.9%	0%		-	15.9%	66.6%	17.5%	0%		-	**-**
Totals %	2.5%	12.8%	3.1%	0%		18.3%	4%	9.7%	3.7%	0%		17.3%	9.4%	22.4%	3.9%	0%		35.7%	4.6%	19.1%	5%	0%		28.7%	**-**
PHF	0.85	0.9	0.92	0		0.91	0.92	0.88	0.89	0		0.96	0.9	0.99	0.94	0.25		0.99	0.95	0.93	0.92	0		0.95	**-**
Heavy	5	34	5	0		44	7	10	3	0		20	3	29	1	0		33	5	19	7	0		31	**-**
Heavy %	3.4%	4.5%	2.7%	0%		4%	3%	1.7%	1.4%	0%		1.9%	0.5%	2.2%	0.4%	0%		1.6%	1.8%	1.7%	2.3%	0%		1.8%	**-**
Lights	141	727	178	0		1046	229	566	214	0		1009	554	1302	231	1		2088	266	1117	291	0		1674	**-**
Lights %	96.6%	95.5%	97.3%	0%		96%	97%	98.3%	98.6%	0%		98.1%	99.5%	97.8%	99.6%	100%		98.4%	98.2%	98.3%	97.7%	0%		98.2%	**-**
Single-Unit Trucks	2	20	1	0		23	4	2	3	0		9	2	18	0	0		20	3	5	2	0		10	**-**
Single-Unit Trucks %	1.4%	2.6%	0.5%	0%		2.1%	1.7%	0.3%	1.4%	0%		0.9%	0.4%	1.4%	0%	0%		0.9%	1.1%	0.4%	0.7%	0%		0.6%	**-**
Buses	3	5	3	0		11	3	8	0	0		11	1	6	1	0		8	1	14	4	0		19	**-**
Buses %	2.1%	0.7%	1.6%	0%		1%	1.3%	1.4%	0%	0%		1.1%	0.2%	0.5%	0.4%	0%		0.4%	0.4%	1.2%	1.3%	0%		1.1%	**-**
Articulated Trucks	0	9	1	0		10	0	0	0	0		0	0	5	0	0		5	1	0	1	0		2	**-**
Articulated Trucks %	0%	1.2%	0.5%	0%		0.9%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.2%	0.4%	0%	0.3%	0%		0.1%	**-**
Pedestrians	-	-	-	-	28	-	-	-	-	-	41	-	-	-	-	-	34	-	-	-	-	-	24	-	**-**
Pedestrians%	-	-	-	-	20%		-	-	-	-	29.3%		-	-	-	-	24.3%		-	-	-	-	17.1%		**-**
Bicycles on Crosswalk	-	-	-	-	5	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	3.6%		-	-	-	-	2.9%		-	-	-	-	1.4%		-	-	-	-	1.4%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & KINGSTON RD
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Peak Hour: 08:00 AM - 09:00 AM Weather:

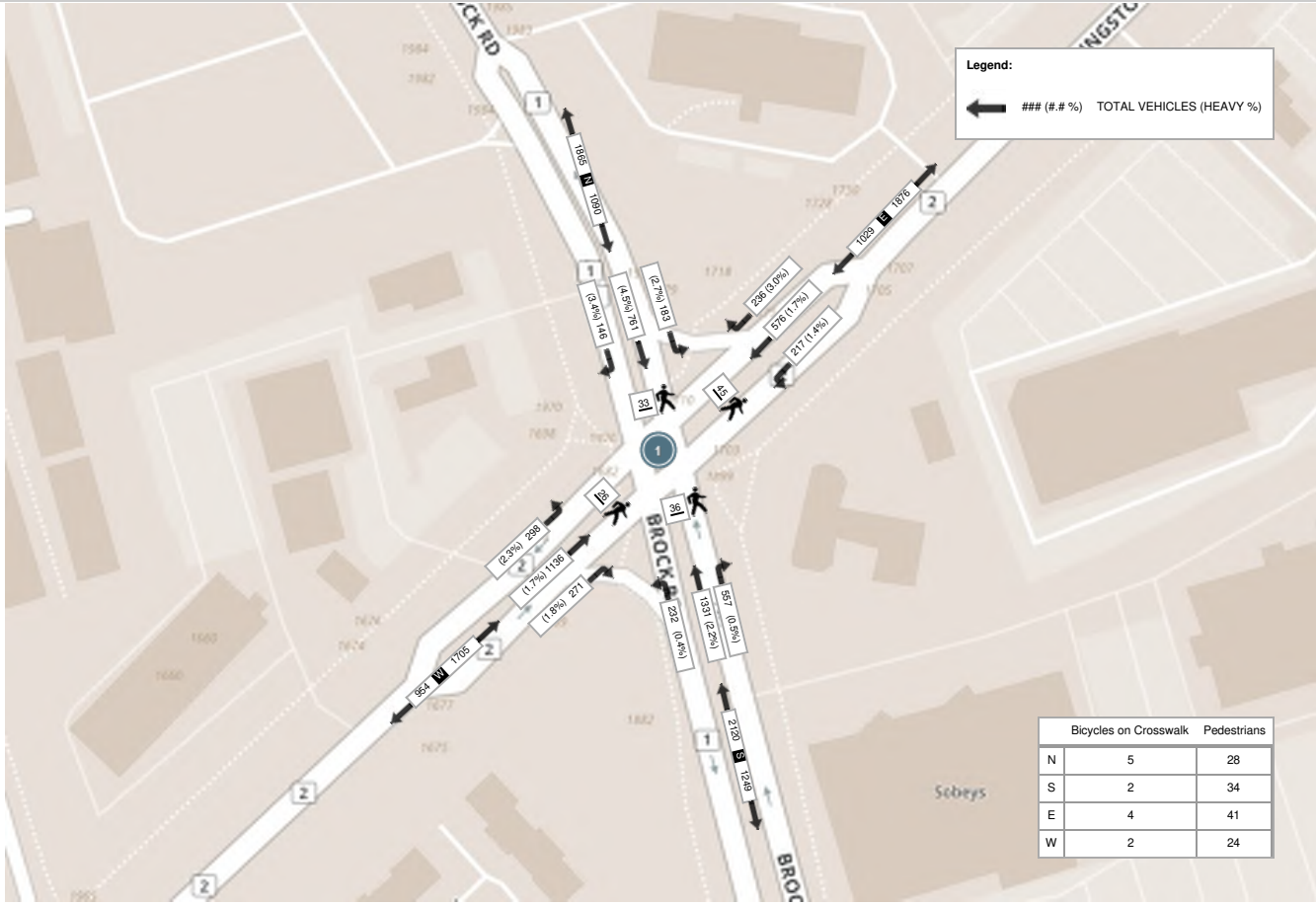


	Bicycles on Crosswalk	Pedestrians
N	2	17
S	0	22
E	1	19
W	0	32

Spectrum

Turning Movement Count
Location Name: BROCK RD & KINGSTON RD
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Peak Hour: 04:45 PM - 05:45 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	5	28
S	2	34
E	4	41
W	2	24

Spectrum

Turning Movement Count
Location Name: BROCK RD & KINGSTON RD
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (1 . BROCK RD & KINGSTON RD)

Start Time	N Approach BROCK RD						E Approach KINGSTON RD						S Approach BROCK RD						W Approach KINGSTON RD						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		
12:00:00	47	221	43	0	0	311	57	170	63	0	4	290	87	175	70	0	10	332	108	197	37	0	4	342	1275	
12:15:00	43	244	55	0	5	342	42	168	72	0	6	282	129	189	65	1	4	384	105	191	34	0	6	330	1338	
12:30:00	53	221	59	0	4	333	56	175	73	0	3	304	134	225	63	0	7	422	129	183	33	0	5	345	1404	
12:45:00	50	244	52	0	1	346	42	170	70	1	4	283	115	223	67	0	2	405	126	200	47	0	2	373	1407	5424
13:00:00	40	239	52	0	5	331	49	196	65	0	7	310	129	220	64	1	6	414	127	188	47	0	1	362	1417	5566
13:15:00	39	246	53	0	9	338	69	219	59	1	10	348	116	240	74	0	3	430	163	201	38	0	0	402	1518	5746
13:30:00	58	220	54	0	4	332	62	196	68	0	10	326	113	284	62	0	10	459	118	177	48	0	8	343	1460	5802
13:45:00	39	243	52	0	5	334	65	193	64	0	8	322	109	261	62	0	13	432	137	183	64	0	8	384	1472	5867
14:00:00	49	238	52	1	2	340	55	181	75	0	4	311	134	245	69	0	5	448	132	195	44	0	6	371	1470	5920
14:15:00	38	203	54	0	3	295	46	186	71	0	11	303	115	240	74	0	3	429	123	203	49	0	2	375	1402	5804
14:30:00	42	247	49	0	1	338	48	171	68	0	4	287	106	226	64	0	3	396	142	208	31	0	7	381	1402	5746
14:45:00	45	256	53	0	2	354	50	205	74	0	6	329	113	237	67	1	5	418	140	205	38	0	8	383	1484	5758
Grand Total	543	2822	628	1	41	3994	641	2230	822	2	77	3695	1400	2765	801	3	71	4969	1550	2331	510	0	57	4391	**17049**	-
Approach%	13.6%	70.7%	15.7%	0%		-	17.3%	60.4%	22.2%	0.1%		-	28.2%	55.6%	16.1%	0.1%		-	35.3%	53.1%	11.6%	0%		-	**-**	-
Totals %	3.2%	16.6%	3.7%	0%		23.4%	3.8%	13.1%	4.8%	0%		21.7%	8.2%	16.2%	4.7%	0%		29.1%	9.1%	13.7%	3%	0%		25.8%	**-**	-
Heavy	6	31	8	0		-	6	26	5	0		-	4	26	4	0		-	10	26	8	0		-	**-**	-
Heavy %	1.1%	1.1%	1.3%	0%		-	0.9%	1.2%	0.6%	0%		-	0.3%	0.9%	0.5%	0%		-	0.6%	1.1%	1.6%	0%		-	**-**	-
Bicycles	0	0	0	0		-	0	3	0	0		-	0	0	0	0		-	0	1	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: BROCK RD & KINGSTON RD
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

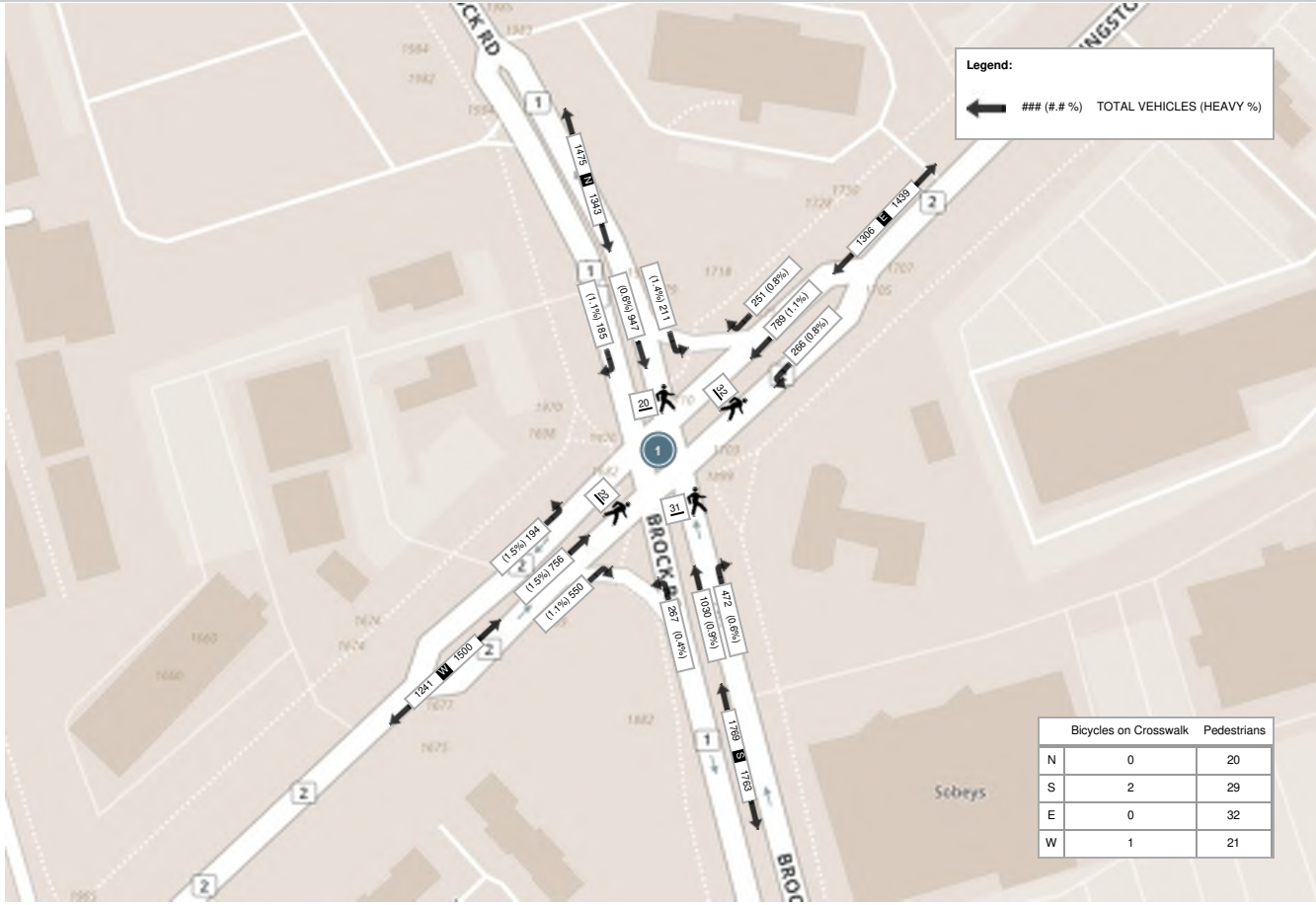
Peak Hour: 01:15 PM - 02:15 PM Weather:

Start Time	N Approach BROCK RD						E Approach KINGSTON RD						S Approach BROCK RD						W Approach KINGSTON RD						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	
13:15:00	39	246	53	0	9	338	69	219	59	1	10	348	116	240	74	0	3	430	163	201	38	0	0	402	1518
13:30:00	58	220	54	0	4	332	62	196	68	0	10	326	113	284	62	0	10	459	118	177	48	0	8	343	1460
13:45:00	39	243	52	0	5	334	65	193	64	0	8	322	109	261	62	0	13	432	137	183	64	0	8	384	1472
14:00:00	49	238	52	1	2	340	55	181	75	0	4	311	134	245	69	0	5	448	132	195	44	0	6	371	1470
Grand Total	185	947	211	1	20	1344	251	789	266	1	32	1307	472	1030	267	0	31	1769	550	756	194	0	22	1500	**5920**
Approach%	13.8%	70.5%	15.7%	0.1%		-	19.2%	60.4%	20.4%	0.1%		-	26.7%	58.2%	15.1%	0%		-	36.7%	50.4%	12.9%	0%		-	**-**
Totals %	3.1%	16%	3.6%	0%		22.7%	4.2%	13.3%	4.5%	0%		22.1%	8%	17.4%	4.5%	0%		29.9%	9.3%	12.8%	3.3%	0%		25.3%	**-**
PHF	0.8	0.96	0.98	0.25		0.99	0.91	0.9	0.89	0.25		0.94	0.88	0.91	0.9	0		0.96	0.84	0.94	0.76	0		0.93	**-**
Heavy	2	6	3	0		11	2	9	2	0		13	3	9	1	0		13	6	11	3	0		20	**-**
Heavy %	1.1%	0.6%	1.4%	0%		0.8%	0.8%	1.1%	0.8%	0%		1%	0.6%	0.9%	0.4%	0%		0.7%	1.1%	1.5%	1.5%	0%		1.3%	**-**
Lights	183	941	208	1		1333	249	780	264	1		1294	469	1021	266	0		1756	544	745	191	0		1480	**-**
Lights %	98.9%	99.4%	98.6%	100%		99.2%	99.2%	98.9%	99.2%	100%		99%	99.4%	99.1%	99.6%	0%		99.3%	98.9%	98.5%	98.5%	0%		98.7%	**-**
Single-Unit Trucks	1	2	2	0		5	1	2	2	0		5	1	6	1	0		8	3	5	1	0		9	**-**
Single-Unit Trucks %	0.5%	0.2%	0.9%	0%		0.4%	0.4%	0.3%	0.8%	0%		0.4%	0.2%	0.6%	0.4%	0%		0.5%	0.5%	0.7%	0.5%	0%		0.6%	**-**
Buses	1	3	1	0		5	1	7	0	0		8	0	2	0	0		2	1	6	2	0		9	**-**
Buses %	0.5%	0.3%	0.5%	0%		0.4%	0.4%	0.9%	0%	0%		0.6%	0%	0.2%	0%	0%		0.1%	0.2%	0.8%	1%	0%		0.6%	**-**
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	2	1	0	0		3	2	0	0	0		2	**-**
Articulated Trucks %	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	0.4%	0.1%	0%	0%		0.2%	0.4%	0%	0%	0%		0.1%	**-**
Pedestrians	-	-	-	-	20	-	-	-	-	-	32	-	-	-	-	-	29	-	-	-	-	-	21	-	**-**
Pedestrians%	-	-	-	-	19%		-	-	-	-	30.5%		-	-	-	-	27.6%		-	-	-	-	20%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	1.9%		-	-	-	-	1%		**-**
Bicycles on Road	0	0	0	0	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & KINGSTON RD
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

Peak Hour: 01:15 PM - 02:15 PM Weather:



Spectrum

Turning Movement Count
Location Name: BROCK ROAD & PICKERING PARKWAY
Date: Tue, Nov 13, 2018 Deployment Lead: Peter Ilias

Turning Movement Count (3 . BROCK ROAD & PICKERING PARKWAY)

Start Time	N Approach BROCK RD						E Approach PICKERING PARKWAY						S Approach BROCK RD						W Approach PICKERING PARKWAY						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		
07:00:00	43	357	8	0	2	408	9	19	51	0	0	79	33	144	22	0	1	199	30	3	4	0	0	37	723	
07:15:00	42	410	9	0	1	461	12	38	80	0	1	130	34	142	20	0	2	196	62	11	12	0	1	85	872	
07:30:00	36	416	11	0	2	463	11	16	74	0	0	101	47	127	33	0	1	207	51	11	10	0	0	72	843	
07:45:00	53	434	9	0	2	496	11	31	75	0	2	117	64	162	36	1	2	263	57	12	10	0	2	79	955	3393
08:00:00	35	433	8	0	1	476	5	22	107	0	1	134	46	129	36	0	1	211	55	9	15	0	1	79	900	3570
08:15:00	55	428	8	1	0	492	7	34	90	0	0	131	50	146	50	1	4	247	76	20	5	0	1	101	971	3669
08:30:00	58	348	15	0	2	421	17	27	70	0	3	114	46	132	50	0	1	228	63	26	11	0	5	100	863	3689
08:45:00	47	351	21	0	4	419	9	30	87	0	0	126	59	164	53	0	4	276	62	25	15	0	1	102	923	3657
BREAK																										
16:00:00	21	157	41	0	3	219	30	40	81	0	2	151	102	391	66	0	4	559	49	53	27	0	1	129	1058	
16:15:00	24	157	26	0	6	207	30	44	81	0	0	155	96	398	70	1	0	565	34	34	18	0	0	86	1013	
16:30:00	15	188	29	0	6	232	33	53	86	0	1	172	120	412	79	1	5	612	57	47	32	0	1	136	1152	
16:45:00	23	153	26	0	5	202	40	45	81	0	7	166	117	458	68	0	1	643	35	61	26	0	0	122	1133	4356
17:00:00	17	161	41	0	5	219	36	47	106	0	2	189	102	373	76	0	4	551	52	56	33	0	1	141	1100	4398
17:15:00	28	178	32	0	1	238	42	44	87	0	5	173	96	370	80	0	5	546	46	64	33	0	1	143	1100	4485
17:30:00	19	190	30	0	3	239	34	62	90	0	2	186	98	400	73	0	1	571	42	62	26	0	0	130	1126	4459
17:45:00	23	186	31	0	6	240	39	52	91	0	0	182	101	404	83	1	2	589	45	63	27	0	1	135	1146	4472
Grand Total	539	4547	345	1	49	5432	365	604	1337	0	26	2306	1211	4352	895	5	38	6463	816	557	304	0	16	1677	**15878**	-
Approach%	9.9%	83.7%	6.4%	0%		-	15.8%	26.2%	58%	0%		-	18.7%	67.3%	13.8%	0.1%		-	48.7%	33.2%	18.1%	0%		-	**-**	-
Totals %	3.4%	28.6%	2.2%	0%		34.2%	2.3%	3.8%	8.4%	0%		14.5%	7.6%	27.4%	5.6%	0%		40.7%	5.1%	3.5%	1.9%	0%		10.6%	**-**	-
Heavy	16	201	15	0		-	15	23	61	0		-	84	192	23	0		-	21	19	8	0		-	**-**	-
Heavy %	3%	4.4%	4.3%	0%		-	4.1%	3.8%	4.6%	0%		-	6.9%	4.4%	2.6%	0%		-	2.6%	3.4%	2.6%	0%		-	**-**	-
Bicycles	0	1	0	0		-	0	2	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%		-	0%	0.3%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: BROCK ROAD & PICKERING PARKWAY
Date: Tue, Nov 13, 2018 Deployment Lead: Peter Ilias

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast (1.5 °C)

Start Time	N Approach BROCK RD						E Approach PICKERING PARKWAY						S Approach BROCK RD						W Approach PICKERING PARKWAY						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	
07:45:00	53	434	9	0	2	496	11	31	75	0	2	117	64	162	36	1	2	263	57	12	10	0	2	79	955
08:00:00	35	433	8	0	1	476	5	22	107	0	1	134	46	129	36	0	1	211	55	9	15	0	1	79	900
08:15:00	55	428	8	1	0	492	7	34	90	0	0	131	50	146	50	1	4	247	76	20	5	0	1	101	971
08:30:00	58	348	15	0	2	421	17	27	70	0	3	114	46	132	50	0	1	228	63	26	11	0	5	100	863
Grand Total	201	1643	40	1	5	1885	40	114	342	0	6	496	206	569	172	2	8	949	251	67	41	0	9	359	**3689**
Approach%	10.7%	87.2%	2.1%	0.1%		-	8.1%	23%	69%	0%		-	21.7%	60%	18.1%	0.2%		-	69.9%	18.7%	11.4%	0%		-	**-**
Totals %	5.4%	44.5%	1.1%	0%		51.1%	1.1%	3.1%	9.3%	0%		13.4%	5.6%	15.4%	4.7%	0.1%		25.7%	6.8%	1.8%	1.1%	0%		9.7%	**-**
PHF	0.87	0.95	0.67	0.25		0.95	0.59	0.84	0.8	0		0.93	0.8	0.88	0.86	0.5		0.9	0.83	0.64	0.68	0		0.89	**-**
Heavy	10	56	0	0		66	5	8	21	0		34	30	52	4	0		86	8	4	4	0		16	**-**
Heavy %	5%	3.4%	0%	0%		3.5%	12.5%	7%	6.1%	0%		6.9%	14.6%	9.1%	2.3%	0%		9.1%	3.2%	6%	9.8%	0%		4.5%	**-**
Lights	191	1587	40	1		1819	35	106	321	0		462	176	517	168	2		863	243	63	37	0		343	**-**
Lights %	95%	96.6%	100%	100%		96.5%	87.5%	93%	93.9%	0%		93.1%	85.4%	90.9%	97.7%	100%		90.9%	96.8%	94%	90.2%	0%		95.5%	**-**
Single-Unit Trucks	4	26	0	0		30	1	2	13	0		16	21	32	3	0		56	5	1	1	0		7	**-**
Single-Unit Trucks %	2%	1.6%	0%	0%		1.6%	2.5%	1.8%	3.8%	0%		3.2%	10.2%	5.6%	1.7%	0%		5.9%	2%	1.5%	2.4%	0%		1.9%	**-**
Buses	6	17	0	0		23	2	6	0	0		8	3	8	1	0		12	1	3	2	0		6	**-**
Buses %	3%	1%	0%	0%		1.2%	5%	5.3%	0%	0%		1.6%	1.5%	1.4%	0.6%	0%		1.3%	0.4%	4.5%	4.9%	0%		1.7%	**-**
Articulated Trucks	0	13	0	0		13	2	0	8	0		10	6	12	0	0		18	2	0	1	0		3	**-**
Articulated Trucks %	0%	0.8%	0%	0%		0.7%	5%	0%	2.3%	0%		2%	2.9%	2.1%	0%	0%		1.9%	0.8%	0%	2.4%	0%		0.8%	**-**
Pedestrians	-	-	-	-	5	-	-	-	-	-	6	-	-	-	-	-	8	-	-	-	-	-	8	-	**-**
Pedestrians%	-	-	-	-	17.9%		-	-	-	-	21.4%		-	-	-	-	28.6%		-	-	-	-	28.6%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	3.6%		**-**
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%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK ROAD & PICKERING PARKWAY
Date: Tue, Nov 13, 2018 Deployment Lead: Peter Ilias

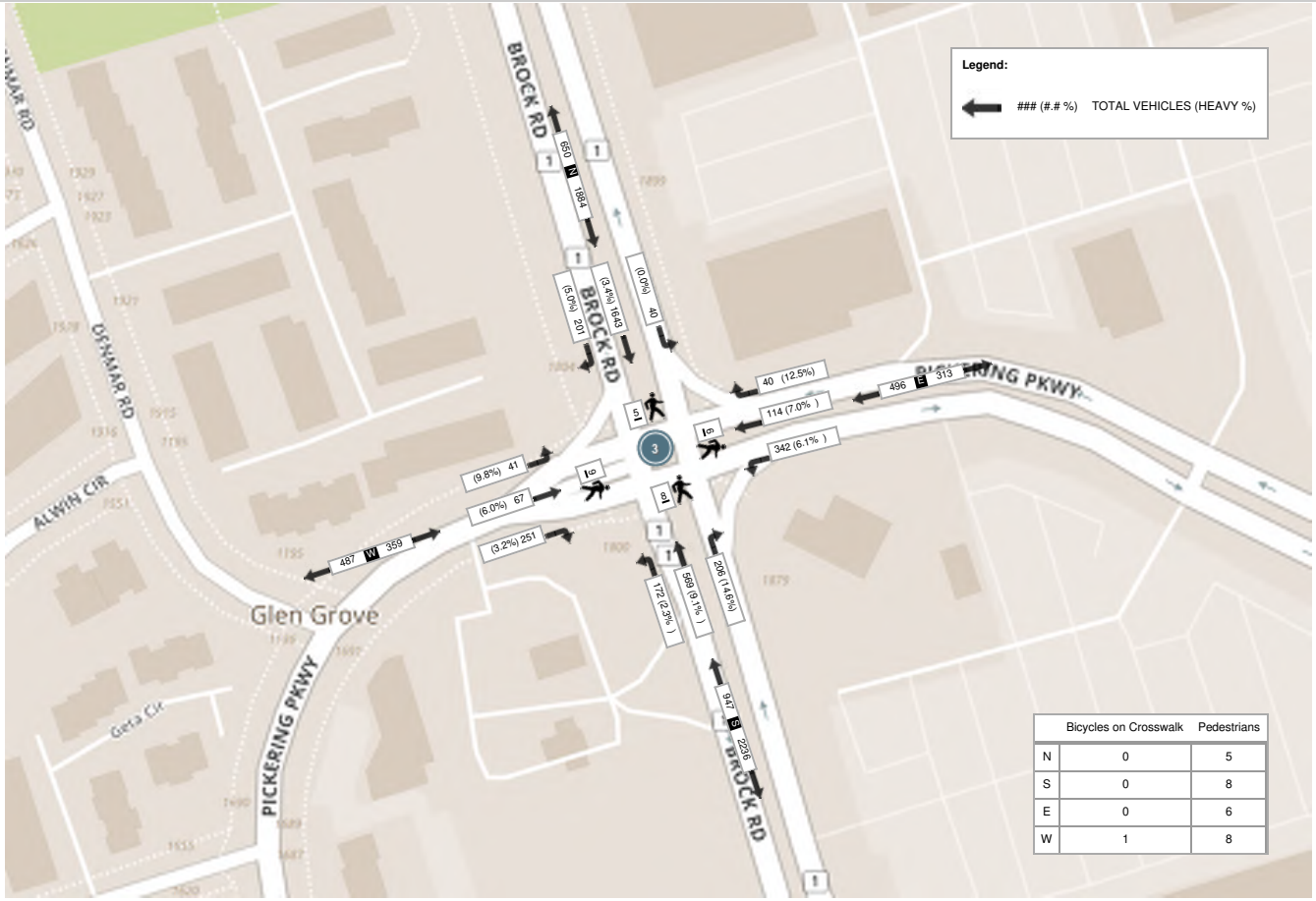
Peak Hour: 04:30 PM - 05:30 PM Weather: Partly Cloudy (0.9 °C)

Start Time	N Approach BROCK RD						E Approach PICKERING PARKWAY						S Approach BROCK RD						W Approach PICKERING PARKWAY						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	15	188	29	0	6	232	33	53	86	0	1	172	120	412	79	1	5	612	57	47	32	0	1	136	1152
16:45:00	23	153	26	0	5	202	40	45	81	0	7	166	117	458	68	0	1	643	35	61	26	0	0	122	1133
17:00:00	17	161	41	0	5	219	36	47	106	0	2	189	102	373	76	0	4	551	52	56	33	0	1	141	1100
17:15:00	28	178	32	0	1	238	42	44	87	0	5	173	96	370	80	0	5	546	46	64	33	0	1	143	1100
Grand Total	83	680	128	0	17	891	151	189	360	0	15	700	435	1613	303	1	15	2352	190	228	124	0	3	542	**4485**
Approach%	9.3%	76.3%	14.4%	0%		-	21.6%	27%	51.4%	0%		-	18.5%	68.6%	12.9%	0%		-	35.1%	42.1%	22.9%	0%		-	**-**
Totals %	1.9%	15.2%	2.9%	0%		19.9%	3.4%	4.2%	8%	0%		15.6%	9.7%	36%	6.8%	0%		52.4%	4.2%	5.1%	2.8%	0%		12.1%	**-**
PHF	0.74	0.9	0.78	0		0.94	0.9	0.89	0.85	0		0.93	0.91	0.88	0.95	0.25		0.91	0.83	0.89	0.94	0		0.95	**-**
Heavy	1	33	4	0		38	2	2	16	0		20	12	35	3	0		50	2	3	0	0		5	**-**
Heavy %	1.2%	4.9%	3.1%	0%		4.3%	1.3%	1.1%	4.4%	0%		2.9%	2.8%	2.2%	1%	0%		2.1%	1.1%	1.3%	0%	0%		0.9%	**-**
Lights	82	647	124	0		853	149	187	344	0		680	423	1578	300	1		2302	188	225	124	0		537	**-**
Lights %	98.8%	95.1%	96.9%	0%		95.7%	98.7%	98.9%	95.6%	0%		97.1%	97.2%	97.8%	99%	100%		97.9%	98.9%	98.7%	100%	0%		99.1%	**-**
Single-Unit Trucks	0	20	4	0		24	2	0	11	0		13	8	21	2	0		31	2	1	0	0		3	**-**
Single-Unit Trucks %	0%	2.9%	3.1%	0%		2.7%	1.3%	0%	3.1%	0%		1.9%	1.8%	1.3%	0.7%	0%		1.3%	1.1%	0.4%	0%	0%		0.6%	**-**
Buses	1	9	0	0		10	0	2	0	0		2	0	5	1	0		6	0	2	0	0		2	**-**
Buses %	1.2%	1.3%	0%	0%		1.1%	0%	1.1%	0%	0%		0.3%	0%	0.3%	0.3%	0%		0.3%	0%	0.9%	0%	0%		0.4%	**-**
Articulated Trucks	0	4	0	0		4	0	0	5	0		5	4	9	0	0		13	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.6%	0%	0%		0.4%	0%	0%	1.4%	0%		0.7%	0.9%	0.6%	0%	0%		0.6%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	15	-	-	-	-	-	14	-	-	-	-	-	12	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	30%		-	-	-	-	28%		-	-	-	-	24%		-	-	-	-	6%		**-**
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	4%		-	-	-	-	2%		-	-	-	-	6%		-	-	-	-	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%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK ROAD & PICKERING PARKWAY
Date: Tue, Nov 13, 2018 Deployment Lead: Peter Ilias

Peak Hour: 07:45 AM - 08:45 AM Weather: Overcast (1.5 °C)

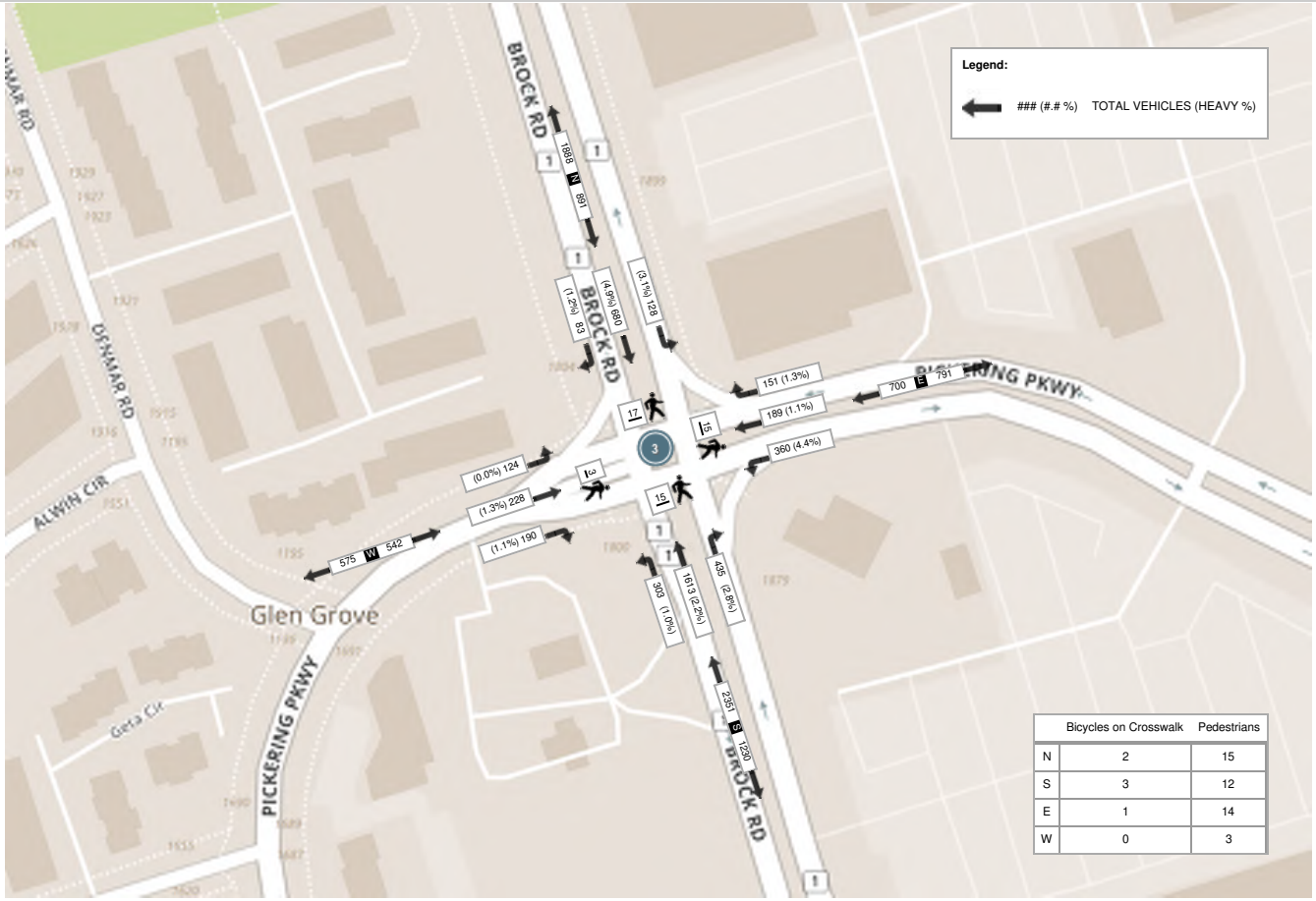


	Bicycles on Crosswalk	Pedestrians
N	0	5
S	0	8
E	0	6
W	1	8

Spectrum

Turning Movement Count
Location Name: BROCK ROAD & PICKERING PARKWAY
Date: Tue, Nov 13, 2018 Deployment Lead: Peter Ilias

Peak Hour: 04:30 PM - 05:30 PM Weather: Partly Cloudy (0.9 °C)



	Bicycles on Crosswalk	Pedestrians
N	2	15
S	3	12
E	1	14
W	0	3

Spectrum

Turning Movement Count
Location Name: BROCK ROAD & PICKERING PARKWAY
Date: Sat, Nov 24, 2018 Deployment Lead: Peter Ilias

Turning Movement Count (3 . BROCK ROAD & PICKERING PARKWAY)

Start Time	N Approach BROCK RD						E Approach PICKERING PARKWAY						S Approach BROCK RD						W Approach PICKERING PARKWAY						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		
12:00:00	27	211	43	0	4	281	43	75	154	0	3	272	112	251	83	4	1	450	75	56	14	0	0	145	1148	
12:15:00	16	216	49	0	4	281	57	91	174	0	4	322	83	276	80	2	0	441	55	55	22	0	1	132	1176	
12:30:00	33	226	55	0	2	314	54	56	149	0	0	259	100	228	63	0	0	391	65	53	29	0	1	147	1111	
12:45:00	26	226	55	0	0	307	50	84	163	0	0	297	91	238	79	2	2	410	68	63	25	0	0	156	1170	4605
13:00:00	23	194	47	0	1	264	53	82	151	0	1	286	91	261	84	1	0	437	64	68	20	0	0	152	1139	4596
13:15:00	24	211	57	0	2	292	58	76	135	0	0	269	95	248	70	1	3	414	67	71	15	0	2	153	1128	4548
13:30:00	22	237	57	0	3	316	52	70	158	0	1	280	107	254	80	4	0	445	62	69	24	0	1	155	1196	4633
13:45:00	25	183	51	0	0	259	52	87	143	0	1	282	100	251	92	0	0	443	52	69	21	0	4	142	1126	4589
14:00:00	26	226	42	0	3	294	55	87	165	0	0	307	76	267	64	3	1	410	76	58	13	0	1	147	1158	4608
14:15:00	17	250	56	0	1	323	57	89	165	0	1	311	111	266	76	3	2	456	77	66	20	0	1	163	1253	4733
14:30:00	21	204	43	0	3	268	53	82	169	0	0	304	98	256	87	3	2	444	65	55	16	0	3	136	1152	4689
14:45:00	35	184	47	0	0	266	53	71	167	0	0	291	84	215	80	3	0	382	63	65	15	0	0	143	1082	4645
Grand Total	295	2568	602	0	23	3465	637	950	1893	0	11	3480	1148	3011	938	26	11	5123	789	748	234	0	14	1771	**13839**	-
Approach%	8.5%	74.1%	17.4%	0%		-	18.3%	27.3%	54.4%	0%		-	22.4%	58.8%	18.3%	0.5%		-	44.6%	42.2%	13.2%	0%		-	**-**	-
Totals %	2.1%	18.6%	4.4%	0%		25%	4.6%	6.9%	13.7%	0%		25.1%	8.3%	21.8%	6.8%	0.2%		37%	5.7%	5.4%	1.7%	0%		12.8%	**-**	-
Heavy	4	48	6	0		-	3	6	17	0		-	15	31	7	1		-	5	7	1	0		-	**-**	-
Heavy %	1.4%	1.9%	1%	0%		-	0.5%	0.6%	0.9%	0%		-	1.3%	1%	0.7%	3.8%		-	0.6%	0.9%	0.4%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: BROCK ROAD & PICKERING PARKWAY
Date: Sat, Nov 24, 2018 Deployment Lead: Peter Ilias

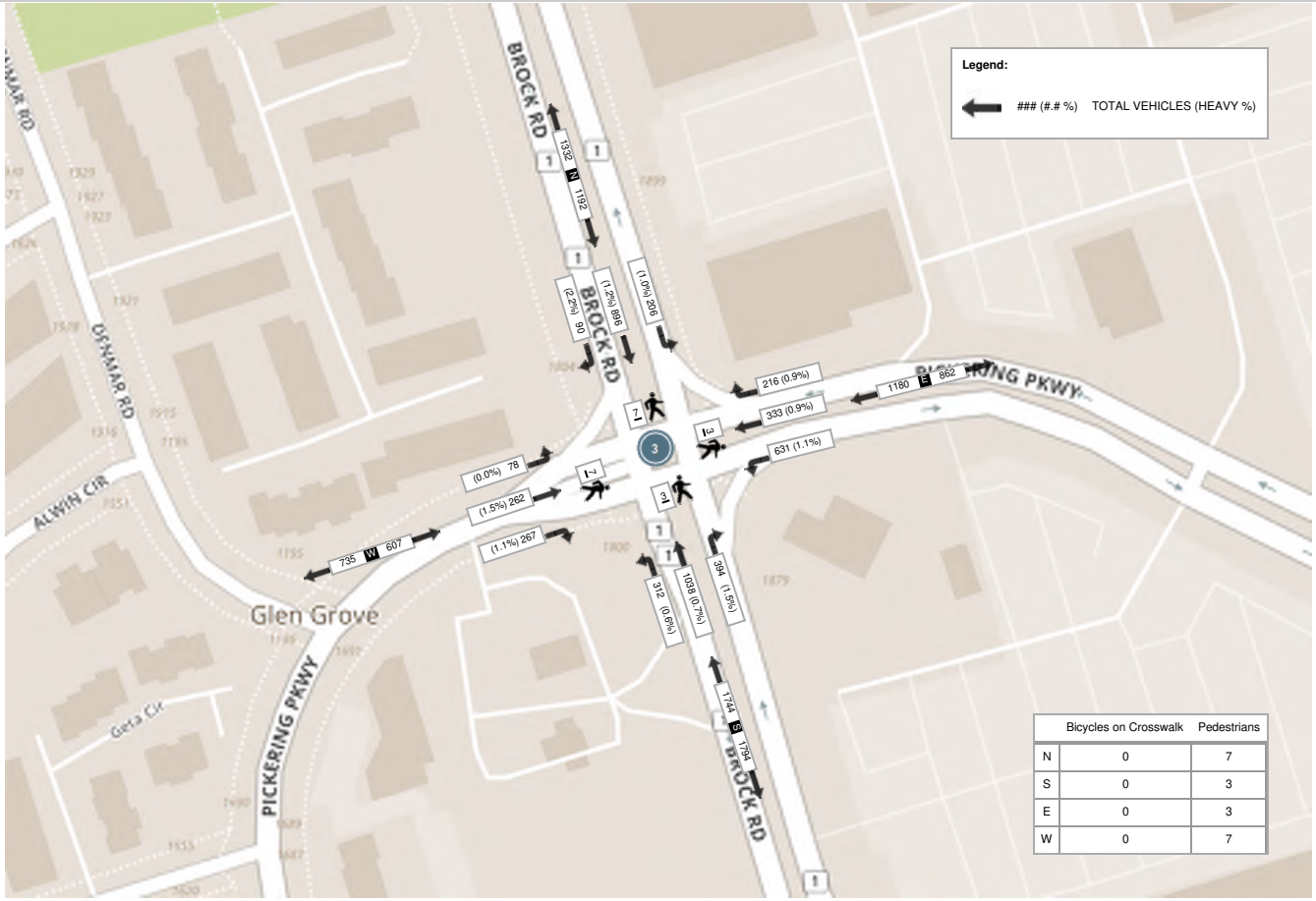
Peak Hour: 01:30 PM - 02:30 PM Weather: Rain (2.6 °C)

Start Time	N Approach BROCK RD						E Approach PICKERING PARKWAY						S Approach BROCK RD						W Approach PICKERING PARKWAY						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	
13:30:00	22	237	57	0	3	316	52	70	158	0	1	280	107	254	80	4	0	445	62	69	24	0	1	155	1196
13:45:00	25	183	51	0	0	259	52	87	143	0	1	282	100	251	92	0	0	443	52	69	21	0	4	142	1126
14:00:00	26	226	42	0	3	294	55	87	165	0	0	307	76	267	64	3	1	410	76	58	13	0	1	147	1158
14:15:00	17	250	56	0	1	323	57	89	165	0	1	311	111	266	76	3	2	456	77	66	20	0	1	163	1253
Grand Total	90	896	206	0	7	1192	216	333	631	0	3	1180	394	1038	312	10	3	1754	267	262	78	0	7	607	**4733**
Approach%	7.6%	75.2%	17.3%	0%		-	18.3%	28.2%	53.5%	0%		-	22.5%	59.2%	17.8%	0.6%		-	44%	43.2%	12.9%	0%		-	**-**
Totals %	1.9%	18.9%	4.4%	0%		25.2%	4.6%	7%	13.3%	0%		24.9%	8.3%	21.9%	6.6%	0.2%		37.1%	5.6%	5.5%	1.6%	0%		12.8%	**-**
PHF	0.87	0.9	0.9	0		0.92	0.95	0.94	0.96	0		0.95	0.89	0.97	0.85	0.63		0.96	0.87	0.95	0.81	0		0.93	**-**
Heavy	2	11	2	0		15	2	3	7	0		12	6	7	2	0		15	3	4	0	0		7	**-**
Heavy %	2.2%	1.2%	1%	0%		1.3%	0.9%	0.9%	1.1%	0%		1%	1.5%	0.7%	0.6%	0%		0.9%	1.1%	1.5%	0%	0%		1.2%	**-**
Lights	88	885	204	0		1177	214	330	624	0		1168	388	1031	310	10		1739	264	258	78	0		600	**-**
Lights %	97.8%	98.8%	99%	0%		98.7%	99.1%	99.1%	98.9%	0%		99%	98.5%	99.3%	99.4%	100%		99.1%	98.9%	98.5%	100%	0%		98.8%	**-**
Single-Unit Trucks	1	8	1	0		10	2	1	6	0		9	6	4	2	0		12	3	1	0	0		4	**-**
Single-Unit Trucks %	1.1%	0.9%	0.5%	0%		0.8%	0.9%	0.3%	1%	0%		0.8%	1.5%	0.4%	0.6%	0%		0.7%	1.1%	0.4%	0%	0%		0.7%	**-**
Buses	0	2	1	0		3	0	2	0	0		2	0	2	0	0		2	0	3	0	0		3	**-**
Buses %	0%	0.2%	0.5%	0%		0.3%	0%	0.6%	0%	0%		0.2%	0%	0.2%	0%	0%		0.1%	0%	1.1%	0%	0%		0.5%	**-**
Articulated Trucks	1	1	0	0		2	0	0	1	0		1	0	1	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	1.1%	0.1%	0%	0%		0.2%	0%	0%	0.2%	0%		0.1%	0%	0.1%	0%	0%		0.1%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	7	-	**-**
Pedestrians%	-	-	-	-	35%		-	-	-	-	15%		-	-	-	-	15%		-	-	-	-	35%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK ROAD & PICKERING PARKWAY
Date: Sat, Nov 24, 2018 Deployment Lead: Peter Ilias

Peak Hour: 01:30 PM - 02:30 PM Weather: Rain (2.6 °C)



	Bicycles on Crosswalk	Pedestrians
N	0	7
S	0	3
E	0	3
W	0	7

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 WB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (2 . BROCK RD & HWY 401 WB RAMPS)

Start Time	N Approach BROCK RD							E Approach HWY 401 WB OFF RAMPS							SE Approach HWY 401 WB ON RAMP (FROM NB BROCK)								S Approach BROCK RD							W Approach HWY 401 WB ON RAMP (FROM SB BROCK)							Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Bear Left N:SE	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	Hard Left E:SE	U-Turn E:E	Peds E:	Approach Total	Hard Right SE:E	Bear Right SE:N	Bear Left SE:W	Hard Left SE:S	U-Turn SE:SE	Peds SE:	Approach Total	Hard Right S:SE	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Bear Right W:SE	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	325	249	0	0	0	0	574	63	0	122	0	0	0	185	0	0	0	0	0	0	0	50	0	160	0	0	0	210	0	0	0	0	0	0	0	969	
07:15:00	292	268	0	0	0	0	560	63	0	152	0	0	0	215	0	0	0	0	0	0	0	48	0	180	0	0	0	228	0	0	0	0	0	0	0	1003	
07:30:00	248	227	0	0	0	0	475	72	0	127	0	0	2	199	0	0	0	0	0	0	0	46	0	178	0	0	0	224	0	0	0	0	0	0	0	898	
07:45:00	236	273	0	0	0	0	509	79	0	144	0	0	0	223	0	0	0	0	0	0	0	38	0	182	0	0	0	220	0	0	0	0	0	0	0	952	3822
08:00:00	298	345	0	0	0	0	643	78	0	117	0	0	0	195	0	0	0	0	0	0	0	47	0	185	0	0	0	232	0	0	0	0	0	0	0	1070	3923
08:15:00	344	329	0	0	0	0	673	97	0	107	0	0	0	204	0	0	0	0	0	0	0	48	0	167	0	0	0	215	0	0	0	0	0	1	0	1092	4012
08:30:00	275	304	0	0	0	0	579	82	0	118	0	0	0	200	0	0	0	0	0	0	0	49	0	185	0	0	0	234	0	0	0	0	0	0	0	1013	4127
08:45:00	246	316	0	0	0	0	562	100	0	125	0	0	1	225	0	0	0	0	0	0	0	64	0	197	0	0	0	261	0	0	0	0	0	1	0	1048	4223
BREAK																																					
16:00:00	155	167	0	0	0	0	322	117	0	53	0	0	0	170	0	0	0	0	0	0	0	110	0	520	0	0	0	630	0	0	0	0	0	0	0	1122	
16:15:00	150	175	0	0	0	0	325	120	0	43	0	0	1	163	0	0	0	0	0	0	0	163	0	507	0	0	0	670	0	0	0	0	0	0	0	1158	
16:30:00	150	143	0	0	1	0	294	121	0	48	0	0	0	169	0	0	0	0	0	0	0	152	0	561	0	0	0	713	0	0	0	0	0	0	0	1176	
16:45:00	175	111	0	0	0	0	286	106	0	52	0	0	1	158	0	0	0	0	0	0	0	168	0	508	0	0	0	676	0	0	0	0	0	0	0	1120	4576
17:00:00	176	167	0	0	0	0	343	102	0	44	0	0	5	146	1	0	0	0	0	0	1	128	0	554	0	0	0	682	0	0	0	0	0	0	0	1172	4626
17:15:00	157	186	0	0	0	0	343	117	0	41	0	0	0	158	0	0	0	0	0	0	0	132	0	526	0	0	0	658	0	0	0	0	0	0	0	1159	4627
17:30:00	152	176	0	0	0	0	328	117	0	64	0	0	0	181	0	0	0	0	0	0	0	130	0	520	0	0	0	650	0	0	0	0	0	0	0	1159	4610
17:45:00	153	187	0	0	0	0	340	110	0	46	0	0	0	156	0	0	0	0	0	0	0	88	0	532	0	0	0	620	0	0	0	0	0	0	0	1116	4606
Grand Total	3532	3623	0	0	1	0	7156	1544	0	1403	0	0	11	2947	1	0	0	0	0	0	1	1461	0	5662	0	0	0	7123	0	0	0	0	0	2	0	**17227**	-
Approach%	49.4%	50.6%	0%	0%	0%		-	52.4%	0%	47.6%	0%	0%		-	100%	0%	0%	0%	0%		-	20.5%	0%	79.5%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**	-
Totals %	20.5%	21%	0%	0%	0%		41.5%	9%	0%	8.1%	0%	0%		17.1%	0%	0%	0%	0%	0%		0%	8.5%	0%	32.9%	0%	0%		41.3%	0%	0%	0%	0%	0%		0%	**-**	-
Heavy	80	215	0	0	0		-	82	0	102	0	0		-	0	0	0	0	0		-	207	0	271	0	0		-	0	0	0	0	0		-	**-**	-
Heavy %	2.3%	5.9%	0%	0%	0%		-	5.3%	0%	7.3%	0%	0%		-	0%	0%	0%	0%	0%		-	14.2%	0%	4.8%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**	-
Bicycles	0	1	0	0	0		-	0	0	0	0	0		-	0	0	0	0	0		-	0	0	2	0	0		-	0	0	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%	0%		-	0%	0%	0%	0%	0%		-	0%	0%	0%	0%	0%		-	0%	0%	0%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 WB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach BROCK RD							E Approach HWY 401 WB OFF RAMPS							SE Approach HWY 401 WB ON RAMP (FROM NB BROCK)							S Approach BROCK RD							W Approach HWY 401 WB ON RAMP (FROM SB BROCK)							Int. Total (15 min)
	Right	Thru	Bear Left	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Bear Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	298	345	0	0	0	0	643	78	0	117	0	0	0	195	0	0	0	0	0	0	0	47	0	185	0	0	0	232	0	0	0	0	0	0	0	1070
08:15:00	344	329	0	0	0	0	673	97	0	107	0	0	0	204	0	0	0	0	0	0	0	48	0	167	0	0	0	215	0	0	0	0	0	1	0	1092
08:30:00	275	304	0	0	0	0	579	82	0	118	0	0	0	200	0	0	0	0	0	0	0	49	0	185	0	0	0	234	0	0	0	0	0	0	0	1013
08:45:00	246	316	0	0	0	0	562	100	0	125	0	0	1	225	0	0	0	0	0	0	0	64	0	197	0	0	0	261	0	0	0	0	0	1	0	1048
Grand Total	1163	1294	0	0	0	0	2457	357	0	467	0	0	1	824	0	0	0	0	0	0	0	208	0	734	0	0	0	942	0	0	0	0	0	2	0	**4223**
Approach%	47.3%	52.7%	0%	0%	0%		-	43.3%	0%	56.7%	0%	0%		-	0%	0%	0%	0%	0%		-	22.1%	0%	77.9%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**
Totals %	27.5%	30.6%	0%	0%	0%		58.2%	8.5%	0%	11.1%	0%	0%		19.5%	0%	0%	0%	0%	0%		0%	4.9%	0%	17.4%	0%	0%		22.3%	0%	0%	0%	0%	0%		0%	**-**
PHF	0.85	0.94	0	0	0		0.91	0.89	0	0.93	0	0		0.92	0	0	0	0	0		0	0.81	0	0.93	0	0		0.9	0	0	0	0	0		0	**-**
Heavy	16	81	0	0	0		97	30	0	34	0	0		64	0	0	0	0	0		0	78	0	82	0	0		160	0	0	0	0	0		0	**-**
Heavy %	1.4%	6.3%	0%	0%	0%		3.9%	8.4%	0%	7.3%	0%	0%		7.8%	0%	0%	0%	0%	0%		0%	37.5%	0%	11.2%	0%	0%		17%	0%	0%	0%	0%	0%		0%	**-**
Lights	1147	1213	0	0	0		2360	327	0	433	0	0		760	0	0	0	0	0		0	130	0	652	0	0		782	0	0	0	0	0		0	**-**
Lights %	98.6%	93.7%	0%	0%	0%		96.1%	91.6%	0%	92.7%	0%	0%		92.2%	0%	0%	0%	0%	0%		0%	62.5%	0%	88.8%	0%	0%		83%	0%	0%	0%	0%	0%		0%	**-**
Single-Unit Trucks	10	47	0	0	0		57	13	0	15	0	0		28	0	0	0	0	0		0	43	0	56	0	0		99	0	0	0	0	0		0	**-**
Single-Unit Trucks %	0.9%	3.6%	0%	0%	0%		2.3%	3.6%	0%	3.2%	0%	0%		3.4%	0%	0%	0%	0%	0%		0%	20.7%	0%	7.6%	0%	0%		10.5%	0%	0%	0%	0%	0%		0%	**-**
Buses	0	18	0	0	0		18	3	0	1	0	0		4	0	0	0	0	0		0	1	0	15	0	0		16	0	0	0	0	0		0	**-**
Buses %	0%	1.4%	0%	0%	0%		0.7%	0.8%	0%	0.2%	0%	0%		0.5%	0%	0%	0%	0%	0%		0%	0.5%	0%	2%	0%	0%		1.7%	0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	6	16	0	0	0		22	14	0	18	0	0		32	0	0	0	0	0		0	34	0	11	0	0		45	0	0	0	0	0		0	**-**
Articulated Trucks %	0.5%	1.2%	0%	0%	0%		0.9%	3.9%	0%	3.9%	0%	0%		3.9%	0%	0%	0%	0%	0%		0%	16.3%	0%	1.5%	0%	0%		4.8%	0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	-	0%		-	-	-	-	-	33.3%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	66.7%		**-**
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		**-**
Bicycles on Road	0	1	0	0	0	0	-	0	0	0	0	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%		-	-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 WB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

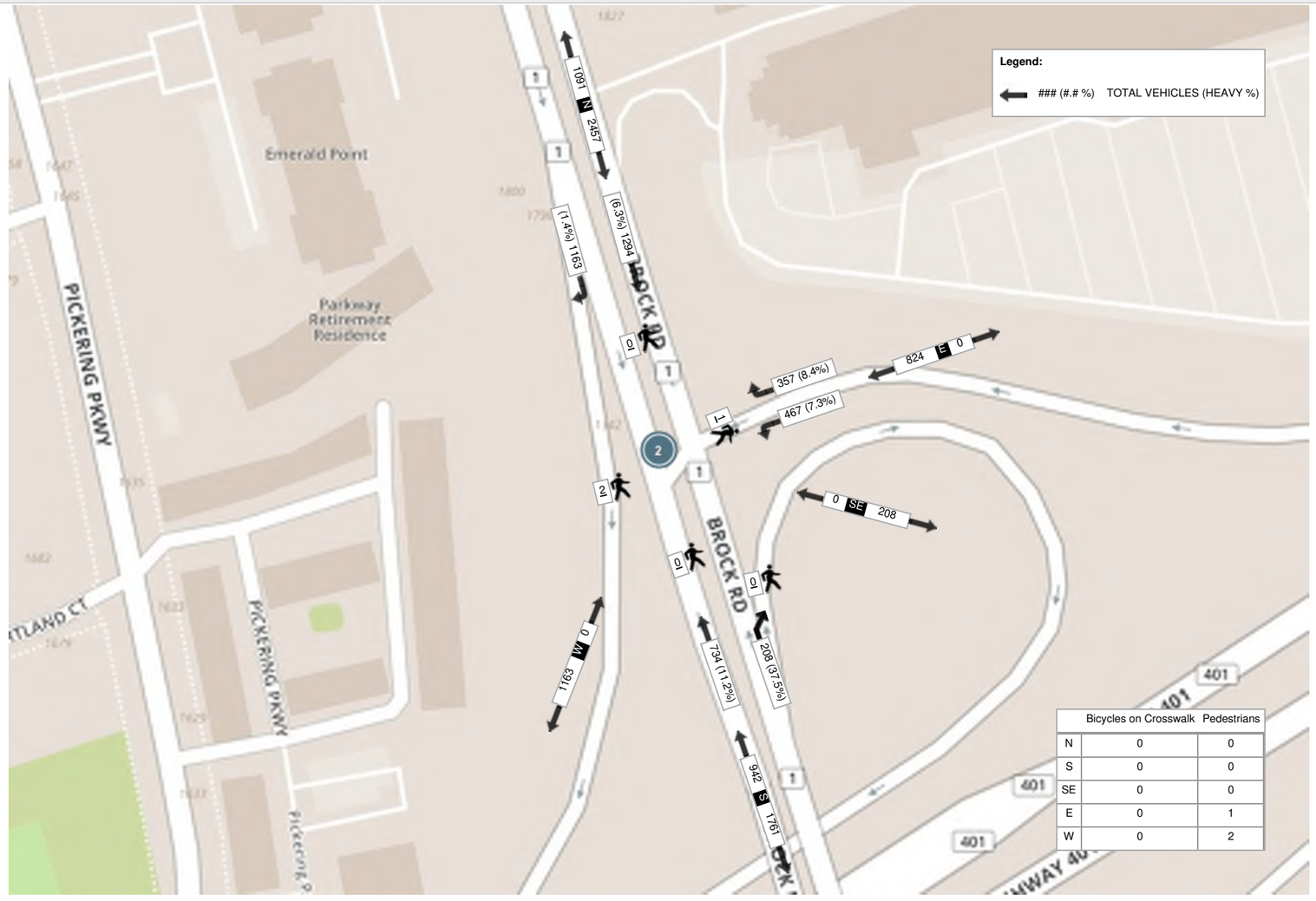
Peak Hour: 04:30 PM - 05:30 PM Weather:

Start Time	N Approach BROCK RD							E Approach HWY 401 WB OFF RAMPS							SE Approach HWY 401 WB ON RAMP (FROM NB BROCK)							S Approach BROCK RD							W Approach HWY 401 WB ON RAMP (FROM SB BROCK)							Int. Total (15 min)
	Right	Thru	Bear Left	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Bear Right	Thru	Left	U-Turn	Peds	Approach Total	
16:30:00	150	143	0	0	1	0	294	121	0	48	0	0	0	169	0	0	0	0	0	0	0	152	0	561	0	0	0	713	0	0	0	0	0	0	0	1176
16:45:00	175	111	0	0	0	0	286	106	0	52	0	0	1	158	0	0	0	0	0	0	0	168	0	508	0	0	0	676	0	0	0	0	0	0	0	1120
17:00:00	176	167	0	0	0	0	343	102	0	44	0	0	5	146	1	0	0	0	0	0	1	128	0	554	0	0	0	682	0	0	0	0	0	0	0	1172
17:15:00	157	186	0	0	0	0	343	117	0	41	0	0	0	158	0	0	0	0	0	0	0	132	0	526	0	0	0	658	0	0	0	0	0	0	0	1159
Grand Total	658	607	0	0	1	0	1266	446	0	185	0	0	6	631	1	0	0	0	0	0	1	580	0	2149	0	0	0	2729	0	0	0	0	0	0	0	**4627**
Approach%	52%	47.9%	0%	0%	0.1%		-	70.7%	0%	29.3%	0%	0%		-	100%	0%	0%	0%	0%		-	21.3%	0%	78.7%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**
Totals %	14.2%	13.1%	0%	0%	0%		27.4%	9.6%	0%	4%	0%	0%		13.6%	0%	0%	0%	0%	0%		0%	12.5%	0%	46.4%	0%	0%		59%	0%	0%	0%	0%	0%		0%	**-**
PHF	0.93	0.82	0	0	0.25		0.92	0.92	0	0.89	0	0		0.93	0.25	0	0	0	0		0.25	0.86	0	0.96	0	0		0.96	0	0	0	0	0		0	**-**
Heavy	13	32	0	0	0		45	12	0	31	0	0		43	0	0	0	0	0		0	46	0	41	0	0		87	0	0	0	0	0		0	**-**
Heavy %	2%	5.3%	0%	0%	0%		3.6%	2.7%	0%	16.8%	0%	0%		6.8%	0%	0%	0%	0%	0%		0%	7.9%	0%	1.9%	0%	0%		3.2%	0%	0%	0%	0%	0%		0%	**-**
Lights	645	575	0	0	1		1221	434	0	154	0	0		588	1	0	0	0	0		1	534	0	2108	0	0		2642	0	0	0	0	0		0	**-**
Lights %	98%	94.7%	0%	0%	100%		96.4%	97.3%	0%	83.2%	0%	0%		93.2%	100%	0%	0%	0%	0%		100%	92.1%	0%	98.1%	0%	0%		96.8%	0%	0%	0%	0%	0%		0%	**-**
Single-Unit Trucks	8	11	0	0	0		19	4	0	18	0	0		22	0	0	0	0	0		0	23	0	24	0	0		47	0	0	0	0	0		0	**-**
Single-Unit Trucks %	1.2%	1.8%	0%	0%	0%		1.5%	0.9%	0%	9.7%	0%	0%		3.5%	0%	0%	0%	0%	0%		0%	4%	0%	1.1%	0%	0%		1.7%	0%	0%	0%	0%	0%		0%	**-**
Buses	0	9	0	0	0		9	2	0	0	0	0		2	0	0	0	0	0		0	0	0	7	0	0		7	0	0	0	0	0		0	**-**
Buses %	0%	1.5%	0%	0%	0%		0.7%	0.4%	0%	0%	0%	0%		0.3%	0%	0%	0%	0%	0%		0%	0%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	5	12	0	0	0		17	6	0	13	0	0		19	0	0	0	0	0		0	23	0	10	0	0		33	0	0	0	0	0		0	**-**
Articulated Trucks %	0.8%	2%	0%	0%	0%		1.3%	1.3%	0%	7%	0%	0%		3%	0%	0%	0%	0%	0%		0%	4%	0%	0.5%	0%	0%		1.2%	0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	3	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	-	0%		-	-	-	-	-	50%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	3	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	-	0%		-	-	-	-	-	50%		-	-	-	-	-	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	1	0	0	0	-	0	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 WB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

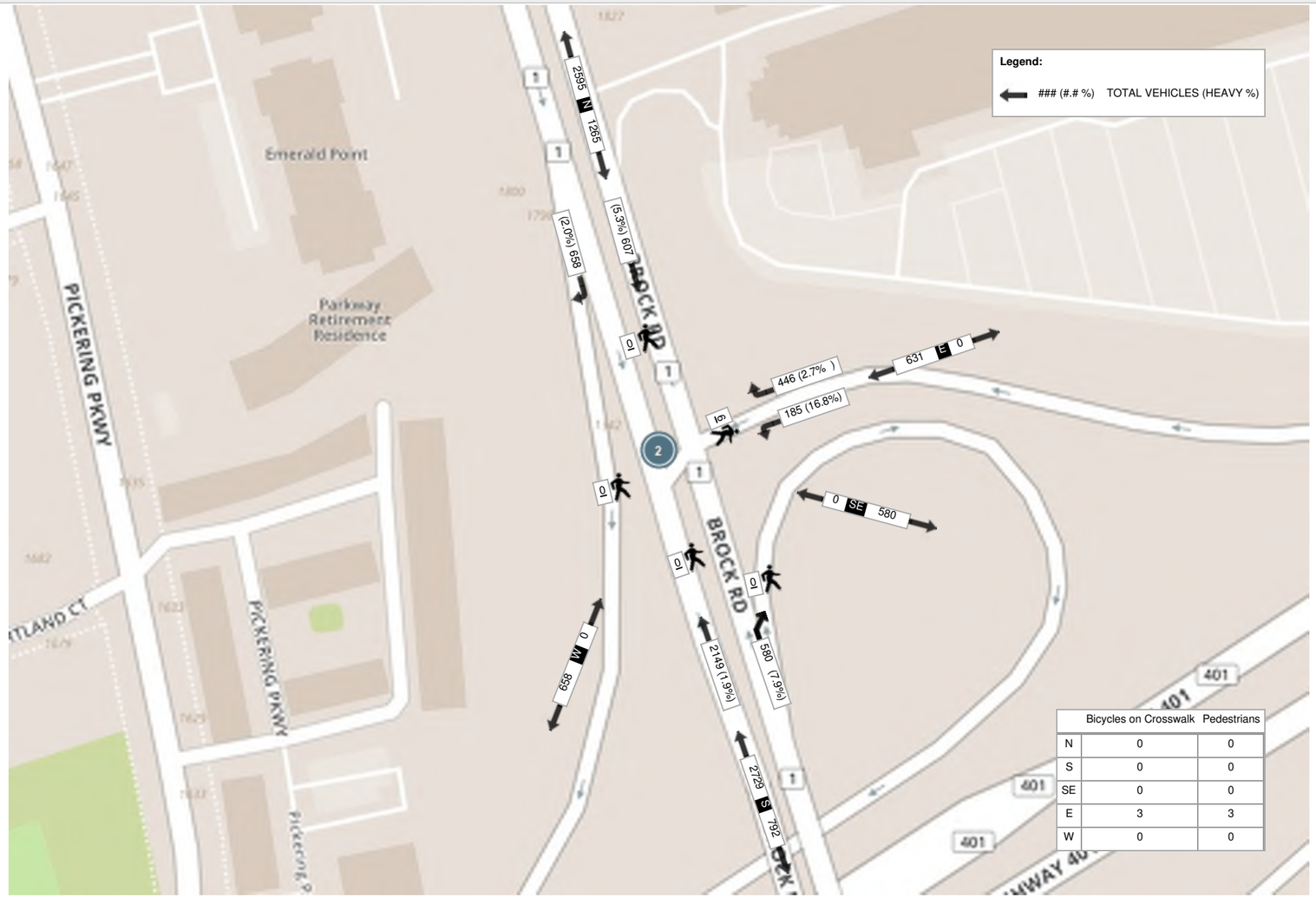
Peak Hour: 08:00 AM - 09:00 AM Weather:



Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 WB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Peak Hour: 04:30 PM - 05:30 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
SE	0	0
E	3	3
W	0	0

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 WB RAMPS
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (2 . BROCK RD & HWY 401 WB RAMPS)

Start Time	N Approach BROCK RD							E Approach HWY 401 WB OFF RAMPS							SE Approach HWY 401 WB ON RAMP (FROM NB BROCK)							S Approach BROCK RD							W Approach HWY 401 WB ON RAMP (FROM SB BROCK)							Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Bear Left N:SE	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	Hard Left E:SE	U-Turn E:E	Peds E:	Approach Total	Hard Right SE:E	Bear Right SE:N	Bear Left SE:W	Hard Left SE:S	U-Turn SE:SE	Peds SE:	Approach Total	Hard Right S:SE	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Bear Right W:SE	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
12:00:00	176	281	0	0	0	0	457	107	0	57	0	0	0	164	0	0	0	0	0	0	0	87	0	359	0	0	0	446	0	0	0	0	0	0	0	1067	
12:15:00	245	260	0	0	0	0	505	116	0	76	0	0	1	192	0	0	0	0	0	1	0	84	0	372	0	1	0	457	0	0	0	0	0	0	0	1154	
12:30:00	200	273	0	0	0	0	473	136	0	51	0	0	0	187	0	0	0	0	0	0	0	66	0	371	0	0	0	437	0	0	0	0	0	0	0	1097	
12:45:00	211	313	0	0	0	0	524	153	0	54	0	0	0	207	0	0	0	0	0	0	0	54	0	353	0	0	0	407	0	0	0	0	0	0	0	1138	4456
13:00:00	204	303	0	0	0	0	507	146	0	53	0	0	0	199	0	0	0	0	0	0	0	57	0	344	0	0	0	401	0	0	0	0	0	0	0	1107	4496
13:15:00	192	288	0	0	0	0	480	125	0	55	0	0	1	180	0	0	0	0	0	2	0	76	0	356	0	0	0	432	0	0	0	0	0	0	0	1092	4434
13:30:00	226	257	0	0	0	0	483	135	0	63	0	0	0	198	0	0	0	0	0	0	0	68	0	434	0	0	0	502	0	0	0	0	0	0	0	1183	4520
13:45:00	207	311	0	0	0	0	518	111	0	54	0	0	1	165	0	0	0	0	0	1	0	81	0	372	0	0	0	453	0	0	0	0	0	0	0	1136	4518
14:00:00	202	271	0	0	0	0	473	127	0	59	0	0	1	186	0	0	0	0	0	1	0	72	0	384	0	0	0	456	0	0	0	0	0	0	0	1115	4526
14:15:00	214	251	0	0	0	0	465	129	0	62	0	1	0	192	0	0	0	0	0	0	0	81	0	358	0	0	0	439	0	0	0	0	0	0	0	1096	4530
14:30:00	234	256	0	0	0	0	490	124	0	47	0	0	0	171	0	0	0	0	0	0	0	83	0	379	0	0	0	462	0	0	0	0	0	0	0	1123	4470
14:45:00	251	215	0	0	0	0	466	125	0	55	0	0	1	180	0	0	0	0	0	1	0	70	0	383	0	0	0	453	0	0	0	0	0	0	0	1099	4433
Grand Total	2562	3279	0	0	0	0	5841	1534	0	686	0	1	5	2221	0	0	0	0	0	6	0	879	0	4465	0	1	0	5345	0	0	0	0	0	0	0	**13407**	-
Approach%	43.9%	56.1%	0%	0%	0%		-	69.1%	0%	30.9%	0%	0%		-	0%	0%	0%	0%	0%		-	16.4%	0%	83.5%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**	-
Totals %	19.1%	24.5%	0%	0%	0%		43.6%	11.4%	0%	5.1%	0%	0%		16.6%	0%	0%	0%	0%	0%		0%	6.6%	0%	33.3%	0%	0%		39.9%	0%	0%	0%	0%	0%		0%	**-**	-
Heavy	25	44	0	0	0		-	10	0	22	0	0		-	0	0	0	0	0		-	28	0	43	0	0		-	0	0	0	0	0		-	**-**	-
Heavy %	1%	1.3%	0%	0%	0%		-	0.7%	0%	3.2%	0%	0%		-	0%	0%	0%	0%	0%		-	3.2%	0%	1%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**	-
Bicycles	1	0	0	0	0		-	0	0	0	0	0		-	0	0	0	0	0		-	0	0	0	0	0		-	0	0	0	0	0		-	**-**	-
Bicycle %	0%	0%	0%	0%	0%		-	0%	0%	0%	0%	0%		-	0%	0%	0%	0%	0%		-	0%	0%	0%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 WB RAMPS
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

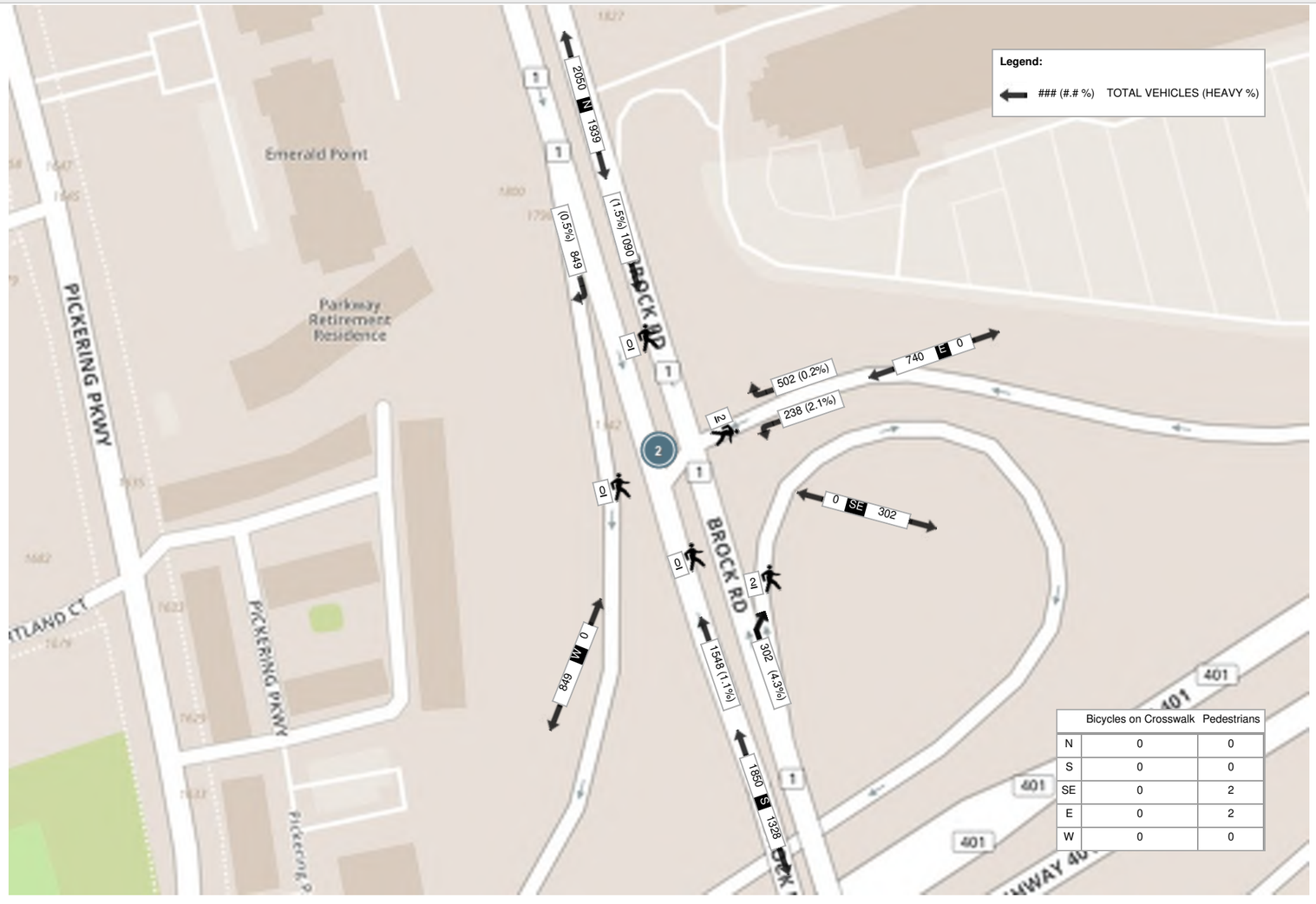
Peak Hour: 01:30 PM - 02:30 PM Weather:

Start Time	N Approach BROCK RD							E Approach HWY 401 WB OFF RAMPS							SE Approach HWY 401 WB ON RAMP (FROM NB BROCK)							S Approach BROCK RD							W Approach HWY 401 WB ON RAMP (FROM SB BROCK)							Int. Total (15 min)
	Right	Thru	Bear Left	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Bear Right	Thru	Left	U-Turn	Peds	Approach Total	
13:30:00	226	257	0	0	0	0	483	135	0	63	0	0	0	198	0	0	0	0	0	0	0	68	0	434	0	0	0	502	0	0	0	0	0	0	0	1183
13:45:00	207	311	0	0	0	0	518	111	0	54	0	0	1	165	0	0	0	0	0	1	0	81	0	372	0	0	0	453	0	0	0	0	0	0	0	1136
14:00:00	202	271	0	0	0	0	473	127	0	59	0	0	1	186	0	0	0	0	0	1	0	72	0	384	0	0	0	456	0	0	0	0	0	0	0	1115
14:15:00	214	251	0	0	0	0	465	129	0	62	0	1	0	192	0	0	0	0	0	0	0	81	0	358	0	0	0	439	0	0	0	0	0	0	0	1096
Grand Total	849	1090	0	0	0	0	1939	502	0	238	0	1	2	741	0	0	0	0	0	2	0	302	0	1548	0	0	0	1850	0	0	0	0	0	0	0	**4530**
Approach%	43.8%	56.2%	0%	0%	0%		-	67.7%	0%	32.1%	0%	0.1%		-	0%	0%	0%	0%	0%		-	16.3%	0%	83.7%	0%	0%		-	0%	0%	0%	0%	0%		-	**-**
Totals %	18.7%	24.1%	0%	0%	0%		42.8%	11.1%	0%	5.3%	0%	0%		16.4%	0%	0%	0%	0%	0%		0%	6.7%	0%	34.2%	0%	0%		40.8%	0%	0%	0%	0%	0%		0%	**-**
PHF	0.94	0.88	0	0	0		0.94	0.93	0	0.94	0	0.25		0.94	0	0	0	0	0		0	0.93	0	0.89	0	0		0.92	0	0	0	0	0		0	**-**
Heavy	4	16	0	0	0		20	1	0	5	0	0		6	0	0	0	0	0		0	13	0	17	0	0		30	0	0	0	0	0		0	**-**
Heavy %	0.5%	1.5%	0%	0%	0%		1%	0.2%	0%	2.1%	0%	0%		0.8%	0%	0%	0%	0%	0%		0%	4.3%	0%	1.1%	0%	0%		1.6%	0%	0%	0%	0%	0%		0%	**-**
Lights	845	1074	0	0	0		1919	501	0	233	0	1		735	0	0	0	0	0		0	289	0	1531	0	0		1820	0	0	0	0	0		0	**-**
Lights %	99.5%	98.5%	0%	0%	0%		99%	99.8%	0%	97.9%	0%	100%		99.2%	0%	0%	0%	0%	0%		0%	95.7%	0%	98.9%	0%	0%		98.4%	0%	0%	0%	0%	0%		0%	**-**
Single-Unit Trucks	3	8	0	0	0		11	1	0	1	0	0		2	0	0	0	0	0		0	6	0	11	0	0		17	0	0	0	0	0		0	**-**
Single-Unit Trucks %	0.4%	0.7%	0%	0%	0%		0.6%	0.2%	0%	0.4%	0%	0%		0.3%	0%	0%	0%	0%	0%		0%	2%	0%	0.7%	0%	0%		0.9%	0%	0%	0%	0%	0%		0%	**-**
Buses	1	2	0	0	0		3	0	0	1	0	0		1	0	0	0	0	0		0	1	0	4	0	0		5	0	0	0	0	0		0	**-**
Buses %	0.1%	0.2%	0%	0%	0%		0.2%	0%	0%	0.4%	0%	0%		0.1%	0%	0%	0%	0%	0%		0%	0.3%	0%	0.3%	0%	0%		0.3%	0%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	6	0	0	0		6	0	0	3	0	0		3	0	0	0	0	0		0	6	0	2	0	0		8	0	0	0	0	0		0	**-**
Articulated Trucks %	0%	0.6%	0%	0%	0%		0.3%	0%	0%	1.3%	0%	0%		0.4%	0%	0%	0%	0%	0%		0%	2%	0%	0.1%	0%	0%		0.4%	0%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	-	-	2	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	-	0%		-	-	-	-	-	50%		-	-	-	-	-	50%		-	-	-	-	-	0%		-	-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	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	0	0	0	0	-	0	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 WB RAMPS
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

Peak Hour: 01:30 PM - 02:30 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
SE	0	2
E	0	2
W	0	0

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 EB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (3 . BROCK RD & HWY 401 EB RAMPS)

Start Time	N Approach BROCK RD						E Approach Hwy 401 EB On Ramp						S Approach BROCK RD						W Approach Hwy 401 EB Off Ramp						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		
07:00:00	0	293	101	0	0	394	0	0	0	0	0	0	65	116	0	0	0	181	119	0	86	0	0	205	780	
07:15:00	0	353	67	0	0	420	0	0	0	0	0	0	80	125	0	0	0	205	174	0	105	0	1	279	904	
07:30:00	0	274	98	0	0	372	0	0	0	0	2	0	82	121	0	0	0	203	141	0	100	0	3	241	816	
07:45:00	0	315	108	0	0	423	0	0	0	0	0	0	65	89	0	0	0	154	206	0	113	0	0	319	896	3396
08:00:00	0	319	134	0	0	453	0	0	0	0	0	0	74	104	0	0	0	178	206	0	132	0	0	338	969	3585
08:15:00	0	346	141	0	0	487	0	0	0	0	0	0	64	99	0	0	0	163	181	0	107	0	2	288	938	3619
08:30:00	0	307	126	0	0	433	0	0	0	0	0	0	58	128	0	0	0	186	160	0	112	0	0	272	891	3694
08:45:00	0	322	139	0	0	461	0	0	0	0	1	0	63	137	0	0	0	200	172	0	105	0	1	277	938	3736
BREAK																										
16:00:00	0	158	71	0	0	229	0	0	0	0	1	0	73	358	0	0	0	431	96	0	263	0	0	359	1019	
16:15:00	0	160	63	0	0	223	0	0	0	0	1	0	72	387	0	0	0	459	80	0	273	0	0	353	1035	
16:30:00	0	141	59	0	0	200	0	0	0	0	0	0	78	421	0	0	0	499	97	0	277	0	2	374	1073	
16:45:00	0	150	37	0	0	187	0	0	0	0	1	0	82	412	0	0	0	494	81	0	265	0	2	346	1027	4154
17:00:00	0	129	72	0	0	201	0	0	0	0	5	0	104	383	0	0	0	487	74	0	296	0	1	370	1058	4193
17:15:00	0	165	61	0	0	226	0	0	0	0	0	0	78	388	0	0	0	466	94	0	272	0	0	366	1058	4216
17:30:00	0	185	71	0	0	256	0	0	0	0	0	0	63	352	0	0	0	415	76	0	284	0	4	360	1031	4174
17:45:00	0	185	50	0	0	235	0	0	0	0	0	0	47	328	0	0	0	375	90	0	297	0	1	387	997	4144
Grand Total	0	3802	1398	0	0	5200	0	0	0	0	11	0	1148	3948	0	0	0	5096	2047	0	3087	0	17	5134	**15430**	-
Approach%	0%	73.1%	26.9%	0%		-	0%	0%	0%	0%		-	22.5%	77.5%	0%	0%		-	39.9%	0%	60.1%	0%		-	-	-
Totals %	0%	24.6%	9.1%	0%		33.7%	0%	0%	0%	0%		0%	7.4%	25.6%	0%	0%		33%	13.3%	0%	20%	0%		33.3%	-	-
Heavy	0	261	65	0		-	0	0	0	0		-	107	374	0	0		-	227	0	96	0		-	-	-
Heavy %	0%	6.9%	4.6%	0%		-	0%	0%	0%	0%		-	9.3%	9.5%	0%	0%		-	11.1%	0%	3.1%	0%		-	-	-
Bicycles	0	2	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	-	-
Bicycle %	0%	0.1%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 EB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Peak Hour: 08:00 AM - 09:00 AM Weather:

Start Time	N Approach BROCK RD						E Approach Hwy 401 EB On Ramp						S Approach BROCK RD						W Approach Hwy 401 EB Off Ramp						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	319	134	0	0	453	0	0	0	0	0	0	74	104	0	0	0	178	206	0	132	0	0	338	969
08:15:00	0	346	141	0	0	487	0	0	0	0	0	0	64	99	0	0	0	163	181	0	107	0	2	288	938
08:30:00	0	307	126	0	0	433	0	0	0	0	0	0	58	128	0	0	0	186	160	0	112	0	0	272	891
08:45:00	0	322	139	0	0	461	0	0	0	0	1	0	63	137	0	0	0	200	172	0	105	0	1	277	938
Grand Total	0	1294	540	0	0	1834	0	0	0	0	1	0	259	468	0	0	0	727	719	0	456	0	3	1175	**3736**
Approach%	0%	70.6%	29.4%	0%		-	0%	0%	0%	0%		-	35.6%	64.4%	0%	0%		-	61.2%	0%	38.8%	0%		-	**-**
Totals %	0%	34.6%	14.5%	0%		49.1%	0%	0%	0%	0%		0%	6.9%	12.5%	0%	0%		19.5%	19.2%	0%	12.2%	0%		31.5%	**-**
PHF	0	0.93	0.96	0		0.94	0	0	0	0		0	0.88	0.85	0	0		0.91	0.87	0	0.86	0		0.87	**-**
Heavy	0	92	27	0		119	0	0	0	0		0	47	123	0	0		170	75	0	31	0		106	**-**
Heavy %	0%	7.1%	5%	0%		6.5%	0%	0%	0%	0%		0%	18.1%	26.3%	0%	0%		23.4%	10.4%	0%	6.8%	0%		9%	**-**
Lights	0	1202	513	0		1715	0	0	0	0		0	212	345	0	0		557	644	0	425	0		1069	**-**
Lights %	0%	92.9%	95%	0%		93.5%	0%	0%	0%	0%		0%	81.9%	73.7%	0%	0%		76.6%	89.6%	0%	93.2%	0%		91%	**-**
Single-Unit Trucks	0	52	20	0		72	0	0	0	0		0	33	76	0	0		109	38	0	22	0		60	**-**
Single-Unit Trucks %	0%	4%	3.7%	0%		3.9%	0%	0%	0%	0%		0%	12.7%	16.2%	0%	0%		15%	5.3%	0%	4.8%	0%		5.1%	**-**
Buses	0	15	2	0		17	0	0	0	0		0	0	12	0	0		12	3	0	5	0		8	**-**
Buses %	0%	1.2%	0.4%	0%		0.9%	0%	0%	0%	0%		0%	0%	2.6%	0%	0%		1.7%	0.4%	0%	1.1%	0%		0.7%	**-**
Articulated Trucks	0	25	5	0		30	0	0	0	0		0	14	35	0	0		49	34	0	4	0		38	**-**
Articulated Trucks %	0%	1.9%	0.9%	0%		1.6%	0%	0%	0%	0%		0%	5.4%	7.5%	0%	0%		6.7%	4.7%	0%	0.9%	0%		3.2%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	25%		-	-	-	-	0%		-	-	-	-	50%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	25%		**-**
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%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 EB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

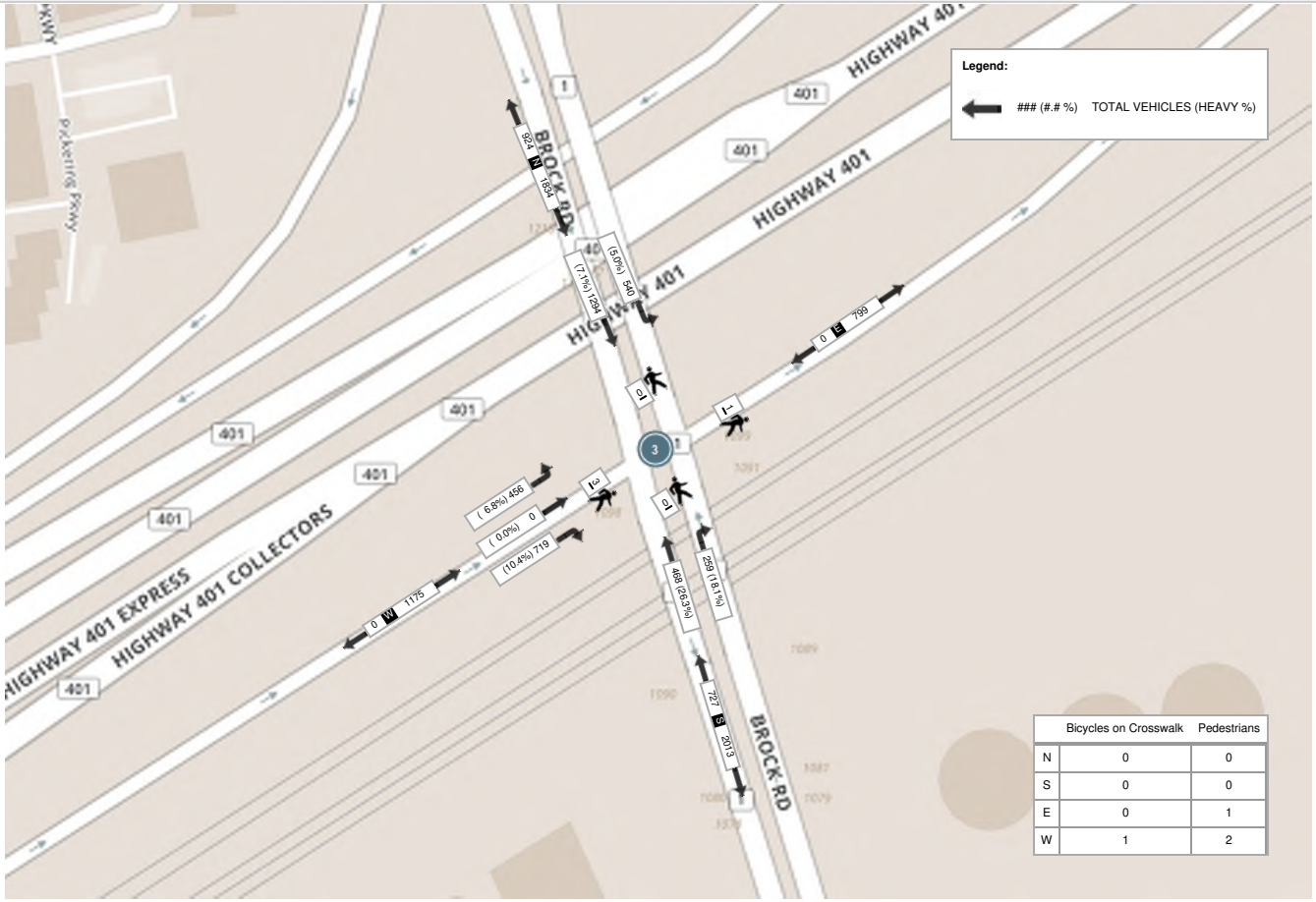
Peak Hour: 04:30 PM - 05:30 PM Weather:

Start Time	N Approach BROCK RD						E Approach Hwy 401 EB On Ramp						S Approach BROCK RD						W Approach Hwy 401 EB Off Ramp						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	0	141	59	0	0	200	0	0	0	0	0	0	78	421	0	0	0	499	97	0	277	0	2	374	1073
16:45:00	0	150	37	0	0	187	0	0	0	0	1	0	82	412	0	0	0	494	81	0	265	0	2	346	1027
17:00:00	0	129	72	0	0	201	0	0	0	0	5	0	104	383	0	0	0	487	74	0	296	0	1	370	1058
17:15:00	0	165	61	0	0	226	0	0	0	0	0	0	78	388	0	0	0	466	94	0	272	0	0	366	1058
Grand Total	0	585	229	0	0	814	0	0	0	0	6	0	342	1604	0	0	0	1946	346	0	1110	0	5	1456	**4216**
Approach%	0%	71.9%	28.1%	0%		-	0%	0%	0%	0%		-	17.6%	82.4%	0%	0%		-	23.8%	0%	76.2%	0%		-	**-**
Totals %	0%	13.9%	5.4%	0%		19.3%	0%	0%	0%	0%		0%	8.1%	38%	0%	0%		46.2%	8.2%	0%	26.3%	0%		34.5%	**-**
PHF	0	0.89	0.8	0		0.9	0	0	0	0		0	0.82	0.95	0	0		0.97	0.89	0	0.94	0		0.97	**-**
Heavy	0	66	4	0		70	0	0	0	0		0	13	70	0	0		83	56	0	19	0		75	**-**
Heavy %	0%	11.3%	1.7%	0%		8.6%	0%	0%	0%	0%		0%	3.8%	4.4%	0%	0%		4.3%	16.2%	0%	1.7%	0%		5.2%	**-**
Lights	0	519	225	0		744	0	0	0	0		0	329	1534	0	0		1863	290	0	1091	0		1381	**-**
Lights %	0%	88.7%	98.3%	0%		91.4%	0%	0%	0%	0%		0%	96.2%	95.6%	0%	0%		95.7%	83.8%	0%	98.3%	0%		94.8%	**-**
Single-Unit Trucks	0	41	1	0		42	0	0	0	0		0	4	35	0	0		39	23	0	12	0		35	**-**
Single-Unit Trucks %	0%	7%	0.4%	0%		5.2%	0%	0%	0%	0%		0%	1.2%	2.2%	0%	0%		2%	6.6%	0%	1.1%	0%		2.4%	**-**
Buses	0	9	0	0		9	0	0	0	0		0	0	5	0	0		5	5	0	1	0		6	**-**
Buses %	0%	1.5%	0%	0%		1.1%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	1.4%	0%	0.1%	0%		0.4%	**-**
Articulated Trucks	0	16	3	0		19	0	0	0	0		0	9	30	0	0		39	28	0	6	0		34	**-**
Articulated Trucks %	0%	2.7%	1.3%	0%		2.3%	0%	0%	0%	0%		0%	2.6%	1.9%	0%	0%		2%	8.1%	0%	0.5%	0%		2.3%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	18.2%		-	-	-	-	0%		-	-	-	-	27.3%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	36.4%		-	-	-	-	0%		-	-	-	-	18.2%		**-**
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%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 EB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Peak Hour: 08:00 AM - 09:00 AM Weather:

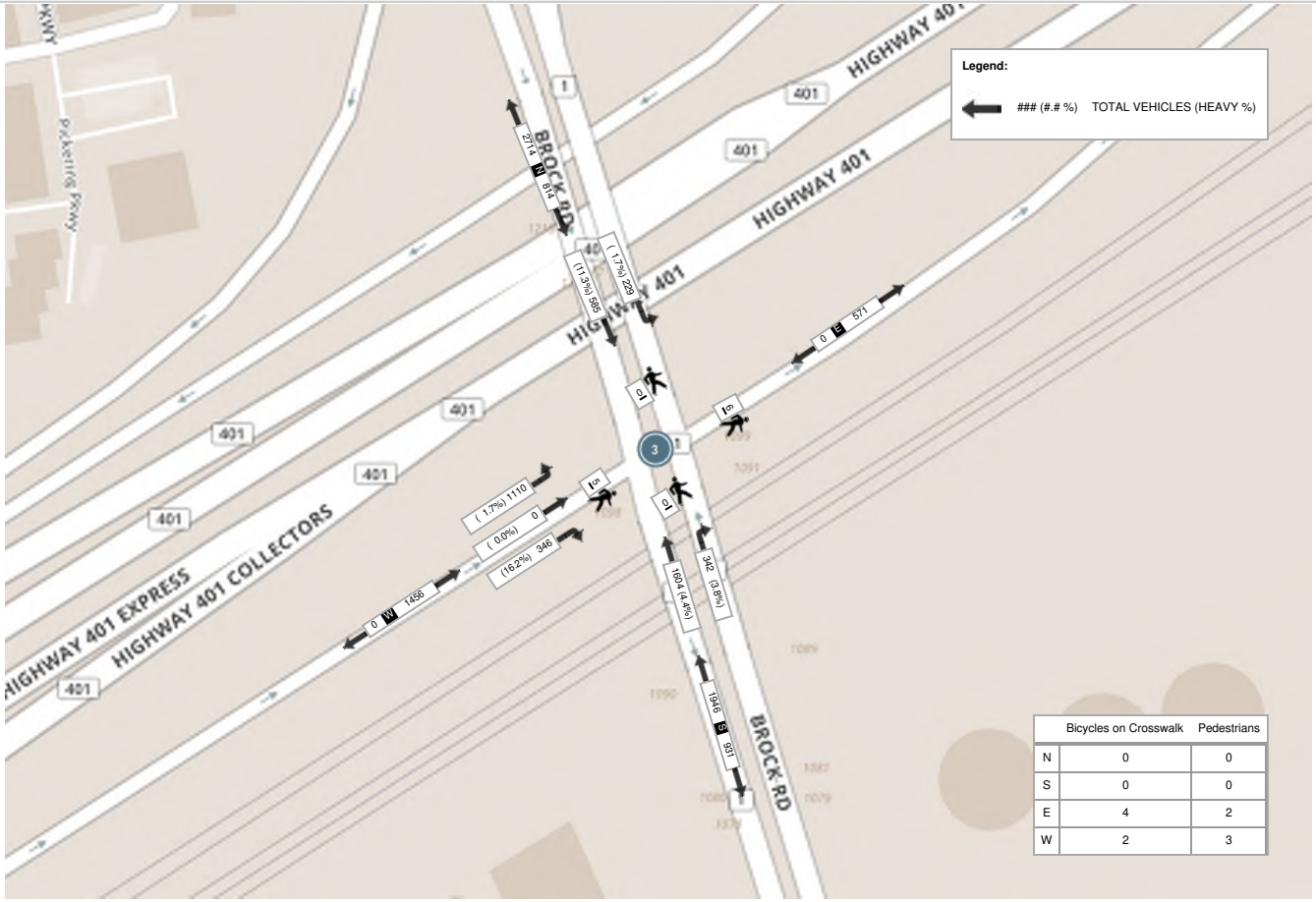


	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	1
W	1	2

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 EB RAMPS
Date: Thu, Jun 21, 2018 Deployment Lead: Theo Daglis

Peak Hour: 04:30 PM - 05:30 PM **Weather:**



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	4	2
W	2	3

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 EB RAMPS
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (3 . BROCK RD & HWY 401 EB RAMPS)

Start Time	N Approach BROCK RD						E Approach Hwy 401 EB On Ramp						S Approach BROCK RD						W Approach Hwy 401 EB Off Ramp						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		
12:00:00	0	185	147	0	0	332	0	0	0	0	1	0	77	260	0	0	0	337	74	0	188	0	1	262	931	
12:15:00	0	205	141	0	0	346	0	0	0	0	1	0	99	260	0	0	0	359	84	1	203	0	1	288	993	
12:30:00	0	186	144	0	0	330	0	0	0	0	0	0	96	216	0	0	0	312	75	0	221	0	0	296	938	
12:45:00	0	204	166	0	0	370	0	0	0	0	0	0	73	179	0	0	0	252	104	0	217	0	2	321	943	3805
13:00:00	0	212	146	0	0	358	0	0	0	0	0	0	76	177	0	0	0	253	84	0	224	0	0	308	919	3793
13:15:00	0	208	149	0	0	357	0	0	0	0	2	0	85	218	0	0	0	303	90	0	201	0	0	291	951	3751
13:30:00	0	183	145	0	0	328	0	0	0	0	0	0	108	259	0	0	0	367	100	0	261	0	0	361	1056	3869
13:45:00	0	208	159	0	0	367	0	0	0	0	1	0	72	223	0	0	0	295	99	0	234	1	1	334	996	3922
14:00:00	0	201	157	0	0	358	0	0	0	0	1	0	68	231	0	0	0	299	73	0	218	0	0	291	948	3951
14:15:00	0	187	144	0	0	331	0	0	0	0	0	0	80	219	0	0	0	299	84	0	214	0	0	298	928	3928
14:30:00	0	170	136	0	0	306	0	0	0	0	0	0	58	242	0	0	0	300	79	0	224	0	0	303	909	3781
14:45:00	0	174	161	0	0	335	0	0	0	0	1	0	106	227	0	0	0	333	63	0	219	0	0	282	950	3735
Grand Total	0	2323	1795	0	0	4118	0	0	0	0	7	0	998	2711	0	0	0	3709	1009	1	2624	1	5	3635	**11462**	-
Approach%	0%	56.4%	43.6%	0%		-	0%	0%	0%	0%		-	26.9%	73.1%	0%	0%		-	27.8%	0%	72.2%	0%		-	**-**	-
Totals %	0%	20.3%	15.7%	0%		35.9%	0%	0%	0%	0%		0%	8.7%	23.7%	0%	0%		32.4%	8.8%	0%	22.9%	0%		31.7%	**-**	-
Heavy	0	50	16	0		-	0	0	0	0		-	32	44	0	0		-	57	0	23	0		-	**-**	-
Heavy %	0%	2.2%	0.9%	0%		-	0%	0%	0%	0%		-	3.2%	1.6%	0%	0%		-	5.6%	0%	0.9%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 EB RAMPS
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

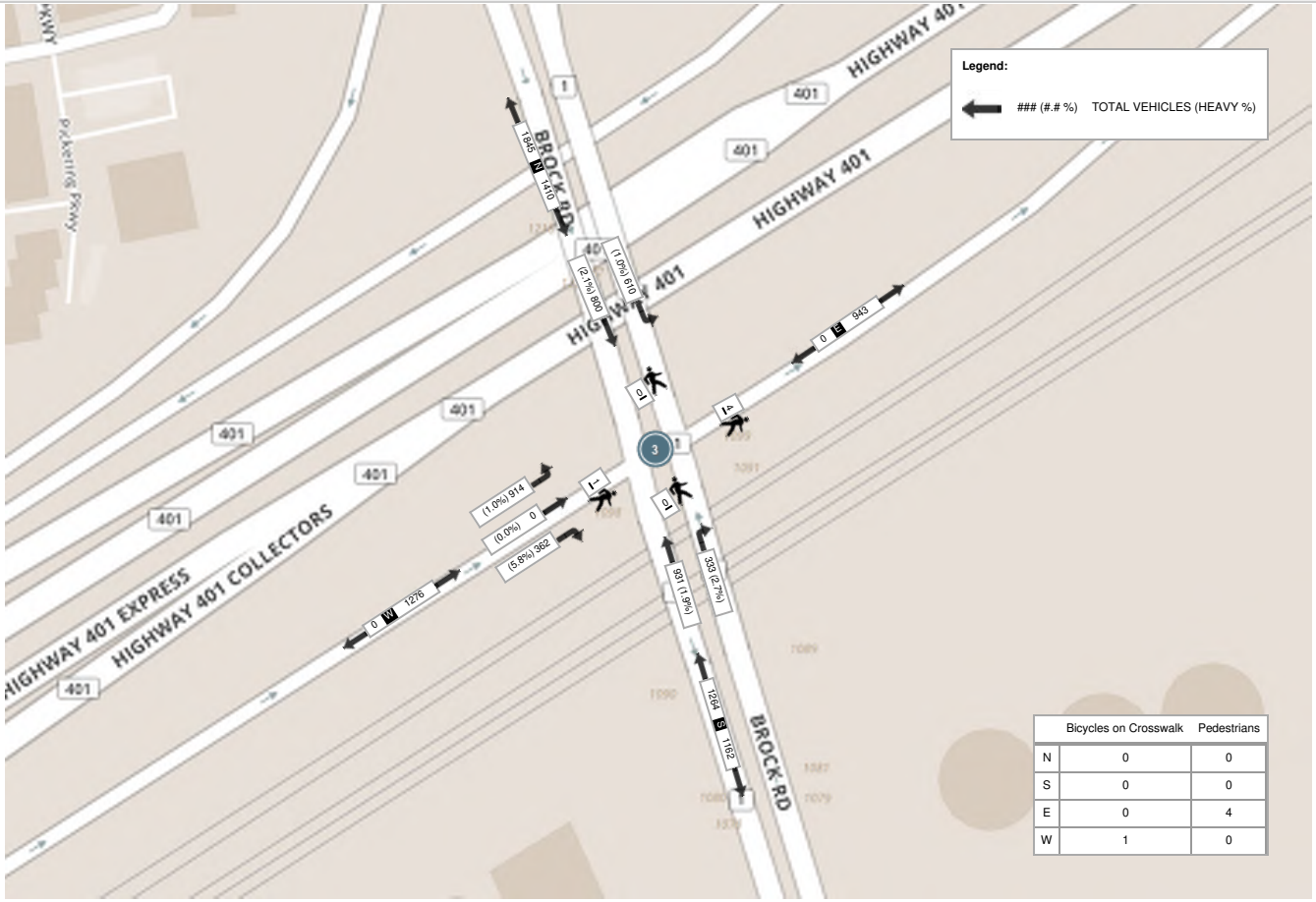
Peak Hour: 01:15 PM - 02:15 PM Weather:

Start Time	N Approach BROCK RD						E Approach Hwy 401 EB On Ramp						S Approach BROCK RD						W Approach Hwy 401 EB Off Ramp						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	
13:15:00	0	208	149	0	0	357	0	0	0	0	2	0	85	218	0	0	0	303	90	0	201	0	0	291	951
13:30:00	0	183	145	0	0	328	0	0	0	0	0	0	108	259	0	0	0	367	100	0	261	0	0	361	1056
13:45:00	0	208	159	0	0	367	0	0	0	0	1	0	72	223	0	0	0	295	99	0	234	1	1	334	996
14:00:00	0	201	157	0	0	358	0	0	0	0	1	0	68	231	0	0	0	299	73	0	218	0	0	291	948
Grand Total	0	800	610	0	0	1410	0	0	0	0	4	0	333	931	0	0	0	1264	362	0	914	1	1	1277	**3951**
Approach%	0%	56.7%	43.3%	0%		-	0%	0%	0%	0%		-	26.3%	73.7%	0%	0%		-	28.3%	0%	71.6%	0.1%		-	**-**
Totals %	0%	20.2%	15.4%	0%		35.7%	0%	0%	0%	0%		0%	8.4%	23.6%	0%	0%		32%	9.2%	0%	23.1%	0%		32.3%	**-**
PHF	0	0.96	0.96	0		0.96	0	0	0	0		0	0.77	0.9	0	0		0.86	0.91	0	0.88	0.25		0.88	**-**
Heavy	0	17	6	0		23	0	0	0	0		0	9	18	0	0		27	21	0	9	0		30	**-**
Heavy %	0%	2.1%	1%	0%		1.6%	0%	0%	0%	0%		0%	2.7%	1.9%	0%	0%		2.1%	5.8%	0%	1%	0%		2.3%	**-**
Lights	0	783	604	0		1387	0	0	0	0		0	324	913	0	0		1237	341	0	905	1		1247	**-**
Lights %	0%	97.9%	99%	0%		98.4%	0%	0%	0%	0%		0%	97.3%	98.1%	0%	0%		97.9%	94.2%	0%	99%	100%		97.7%	**-**
Single-Unit Trucks	0	8	3	0		11	0	0	0	0		0	4	11	0	0		15	9	0	7	0		16	**-**
Single-Unit Trucks %	0%	1%	0.5%	0%		0.8%	0%	0%	0%	0%		0%	1.2%	1.2%	0%	0%		1.2%	2.5%	0%	0.8%	0%		1.3%	**-**
Buses	0	3	1	0		4	0	0	0	0		0	0	2	0	0		2	1	0	1	0		2	**-**
Buses %	0%	0.4%	0.2%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0.3%	0%	0.1%	0%		0.2%	**-**
Articulated Trucks	0	6	2	0		8	0	0	0	0		0	5	5	0	0		10	11	0	1	0		12	**-**
Articulated Trucks %	0%	0.8%	0.3%	0%		0.6%	0%	0%	0%	0%		0%	1.5%	0.5%	0%	0%		0.8%	3%	0%	0.1%	0%		0.9%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	80%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	20%		**-**

Spectrum

Turning Movement Count
Location Name: BROCK RD & HWY 401 EB RAMPS
Date: Sat, Jun 23, 2018 Deployment Lead: Theo Daglis

Peak Hour: 01:15 PM - 02:15 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	0
S	0	0
E	0	4
W	1	0

Spectrum

Turning Movement Count
Location Name: NOTION RD & PICKERING PKWY
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (11 . NOTION RD & PICKERING PKWY)

Start Time	N Approach NOTION RD					S Approach NOTION RD					W Approach PICKERING PKWY					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	U-Turn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Left W:N	U-Turn W:W	Peds W:	Approach Total		
06:00:00	14	0	0	0	14	0	0	0	0	0	0	6	0	0	6	20	
06:15:00	18	0	0	0	18	1	0	0	0	1	0	8	0	0	8	27	
06:30:00	21	0	0	0	21	0	0	0	0	0	0	5	0	0	5	26	
06:45:00	36	0	0	0	36	0	0	0	0	0	0	19	0	0	19	55	128
07:00:00	35	0	0	0	35	0	0	0	0	0	0	15	0	0	15	50	158
07:15:00	48	0	0	0	48	0	0	0	0	0	0	8	0	0	8	56	187
07:30:00	60	0	0	0	60	0	0	0	0	0	0	20	0	0	20	80	241
07:45:00	88	0	0	0	88	0	0	0	0	0	0	25	0	0	25	113	299
08:00:00	97	0	0	0	97	0	0	0	0	0	0	45	0	0	45	142	391
08:15:00	108	0	0	0	108	0	0	0	0	0	0	27	0	0	27	135	470
08:30:00	88	0	0	0	88	0	0	0	0	0	0	30	0	0	30	118	508
08:45:00	64	0	0	0	64	0	0	0	0	0	0	32	0	0	32	96	491
09:00:00	55	0	0	0	55	0	0	0	0	0	0	25	0	0	25	80	429
09:15:00	48	0	0	0	48	0	0	0	0	0	0	34	0	0	34	82	376
BREAK																	
15:30:00	28	0	0	0	28	0	0	0	0	0	0	70	0	0	70	98	
15:45:00	34	1	0	0	35	0	1	0	0	1	0	95	0	0	95	131	
16:00:00	37	0	0	0	37	0	0	0	0	0	0	94	1	0	95	132	
16:15:00	26	0	0	0	26	0	0	0	0	0	0	96	0	0	96	122	483
16:30:00	48	0	0	0	48	0	0	0	0	0	0	100	0	1	100	148	533
16:45:00	35	0	0	0	35	0	0	0	0	0	0	99	0	0	99	134	536
17:00:00	42	0	0	0	42	0	0	0	0	0	0	99	0	0	99	141	545
17:15:00	46	0	0	0	46	0	0	0	0	0	0	89	0	0	89	135	558
17:30:00	42	0	0	0	42	0	0	0	0	0	0	107	0	0	107	149	559
17:45:00	47	0	0	0	47	0	1	0	0	1	0	126	0	0	126	174	599
18:00:00	42	0	0	0	42	0	0	0	0	0	0	100	0	0	100	142	600
18:15:00	37	0	0	0	37	0	0	0	0	0	0	78	0	0	78	115	580
18:30:00	30	0	0	0	30	0	0	0	0	0	0	86	0	0	86	116	547
18:45:00	44	0	0	0	44	0	0	0	0	0	0	88	0	0	88	132	505
Grand Total	1318	1	0	0	1319	1	2	0	0	3	0	1626	1	1	1627	**2949**	-
Approach%	99.9%	0.1%	0%		-	33.3%	66.7%	0%		-	0%	99.9%	0.1%		-	**-**	-
Totals %	44.7%	0%	0%		44.7%	0%	0.1%	0%		0.1%	0%	55.1%	0%		55.2%	**-**	-
Heavy	78	0	0		-	1	0	0		-	0	67	0		-	**-**	-
Heavy %	5.9%	0%	0%		-	100%	0%	0%		-	0%	4.1%	0%		-	**-**	-

Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-

Spectrum

Turning Movement Count
Location Name: NOTION RD & PICKERING PKWY
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

Peak Hour: 07:45 AM - 08:45 AM Weather:

Start Time	N Approach NOTION RD					S Approach NOTION RD					W Approach PICKERING PKWY					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
07:45:00	88	0	0	0	88	0	0	0	0	0	0	25	0	0	25	113
08:00:00	97	0	0	0	97	0	0	0	0	0	0	45	0	0	45	142
08:15:00	108	0	0	0	108	0	0	0	0	0	0	27	0	0	27	135
08:30:00	88	0	0	0	88	0	0	0	0	0	0	30	0	0	30	118
Grand Total	381	0	0	0	381	0	0	0	0	0	0	127	0	0	127	**508**
Approach%	100%	0%	0%		-	0%	0%	0%		-	0%	100%	0%		-	**-**
Totals %	75%	0%	0%		75%	0%	0%	0%		0%	0%	25%	0%		25%	**-**
PHF	0.88	0	0		0.88	0	0	0		0	0	0.71	0		0.71	**-**
Heavy	24	0	0		24	0	0	0		0	0	20	0		20	**-**
Heavy %	6.3%	0%	0%		6.3%	0%	0%	0%		0%	0%	15.7%	0%		15.7%	**-**
Lights	357	0	0		357	0	0	0		0	0	107	0		107	**-**
Lights %	93.7%	0%	0%		93.7%	0%	0%	0%		0%	0%	84.3%	0%		84.3%	**-**
Single-Unit Trucks	16	0	0		16	0	0	0		0	0	16	0		16	**-**
Single-Unit Trucks %	4.2%	0%	0%		4.2%	0%	0%	0%		0%	0%	12.6%	0%		12.6%	**-**
Buses	3	0	0		3	0	0	0		0	0	2	0		2	**-**
Buses %	0.8%	0%	0%		0.8%	0%	0%	0%		0%	0%	1.6%	0%		1.6%	**-**
Articulated Trucks	5	0	0		5	0	0	0		0	0	2	0		2	**-**
Articulated Trucks %	1.3%	0%	0%		1.3%	0%	0%	0%		0%	0%	1.6%	0%		1.6%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: NOTION RD & PICKERING PKWY
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

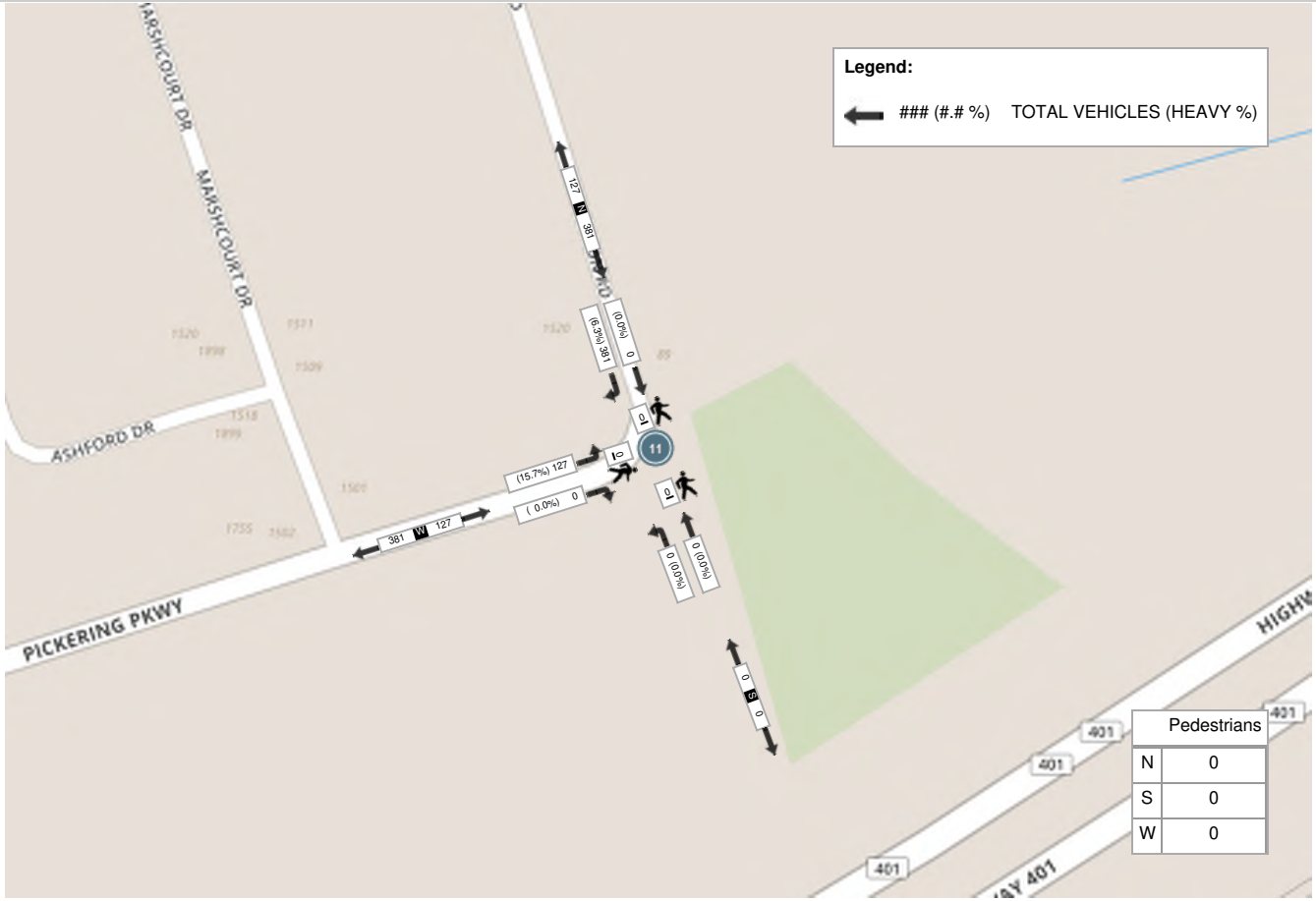
Peak Hour: 05:15 PM - 06:15 PM Weather:

Start Time	N Approach NOTION RD					S Approach NOTION RD					W Approach PICKERING PKWY					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
17:15:00	46	0	0	0	46	0	0	0	0	0	0	89	0	0	89	135
17:30:00	42	0	0	0	42	0	0	0	0	0	0	107	0	0	107	149
17:45:00	47	0	0	0	47	0	1	0	0	1	0	126	0	0	126	174
18:00:00	42	0	0	0	42	0	0	0	0	0	0	100	0	0	100	142
Grand Total	177	0	0	0	177	0	1	0	0	1	0	422	0	0	422	**600**
Approach%	100%	0%	0%		-	0%	100%	0%		-	0%	100%	0%		-	**-**
Totals %	29.5%	0%	0%		29.5%	0%	0.2%	0%		0.2%	0%	70.3%	0%		70.3%	**-**
PHF	0.94	0	0		0.94	0	0.25	0		0.25	0	0.84	0		0.84	**-**
Heavy	0	0	0		0	0	0	0		0	0	5	0		5	**-**
Heavy %	0%	0%	0%		0%	0%	0%	0%		0%	0%	1.2%	0%		1.2%	**-**
Lights	177	0	0		177	0	1	0		1	0	417	0		417	**-**
Lights %	100%	0%	0%		100%	0%	100%	0%		100%	0%	98.8%	0%		98.8%	**-**
Single-Unit Trucks	0	0	0		0	0	0	0		0	0	5	0		5	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	1.2%	0%		1.2%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	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	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: NOTION RD & PICKERING PKWY
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

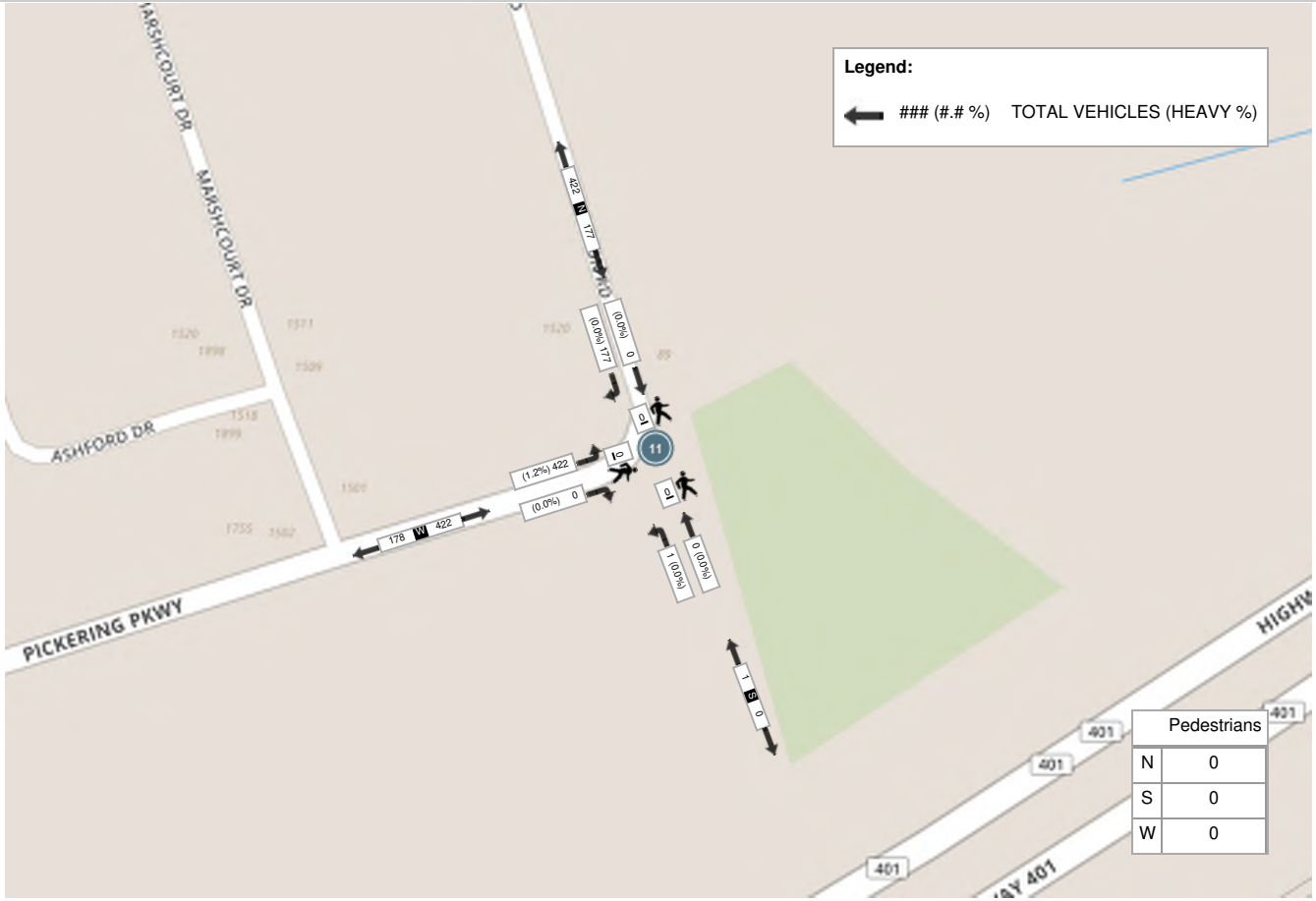
Peak Hour: 07:45 AM - 08:45 AM Weather:



Spectrum

Turning Movement Count
Location Name: NOTION RD & PICKERING PKWY
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

Peak Hour: 05:15 PM - 06:15 PM Weather:



Spectrum

Turning Movement Count
Location Name: NOTION RD & PICKERING PKWY
Date: Sat, Jan 20, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (11 . NOTION RD & PICKERING PKWY)

Start Time	N Approach NOTION RD					S Approach NOTION RD					W Approach PICKERING PKWY					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	U-Turn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Left W:N	U-Turn W:W	Peds W:	Approach Total		
12:00:00	66	0	0	0	66	0	0	0	0	0	0	85	0	2	85	151	
12:15:00	75	0	0	0	75	0	0	0	0	0	0	83	0	0	83	158	
12:30:00	63	0	0	0	63	0	1	0	0	1	1	86	0	0	87	151	
12:45:00	69	0	0	0	69	0	0	0	0	0	0	68	0	0	68	137	597
13:00:00	64	0	0	0	64	0	0	0	0	0	0	70	0	0	70	134	580
13:15:00	53	1	0	0	54	1	0	0	0	1	0	84	0	0	84	139	561
13:30:00	54	0	0	0	54	0	0	0	0	0	0	80	0	0	80	134	544
13:45:00	57	1	0	0	58	1	2	0	0	3	2	66	0	0	68	129	536
14:00:00	49	0	0	0	49	0	0	0	0	0	0	85	0	0	85	134	536
14:15:00	62	0	0	0	62	0	0	0	2	0	0	84	0	0	84	146	543
14:30:00	70	0	0	1	70	0	0	0	0	0	0	77	0	0	77	147	556
14:45:00	56	0	0	0	56	0	0	0	0	0	0	117	0	0	117	173	600
Grand Total	738	2	0	1	740	2	3	0	2	5	3	985	0	2	988	**1733**	-
Approach%	99.7%	0.3%	0%		-	40%	60%	0%		-	0.3%	99.7%	0%		-	**-**	-
Totals %	42.6%	0.1%	0%		42.7%	0.1%	0.2%	0%		0.3%	0.2%	56.8%	0%		57%	**-**	-
Heavy	5	0	0		-	0	0	0		-	0	9	0		-	**-**	-
Heavy %	0.7%	0%	0%		-	0%	0%	0%		-	0%	0.9%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: NOTION RD & PICKERING PKWY
Date: Sat, Jan 20, 2018 Deployment Lead: Theo Daglis

Peak Hour: 02:00 PM - 03:00 PM Weather:

Start Time	N Approach NOTION RD					S Approach NOTION RD					W Approach PICKERING PKWY					Int. Total (15 min)
	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	
14:00:00	49	0	0	0	49	0	0	0	0	0	0	85	0	0	85	134
14:15:00	62	0	0	0	62	0	0	0	2	0	0	84	0	0	84	146
14:30:00	70	0	0	1	70	0	0	0	0	0	0	77	0	0	77	147
14:45:00	56	0	0	0	56	0	0	0	0	0	0	117	0	0	117	173
Grand Total	237	0	0	1	237	0	0	0	2	0	0	363	0	0	363	**600**
Approach%	100%	0%	0%		-	0%	0%	0%		-	0%	100%	0%		-	**-**
Totals %	39.5%	0%	0%		39.5%	0%	0%	0%		0%	0%	60.5%	0%		60.5%	**-**
PHF	0.85	0	0		0.85	0	0	0		0	0	0.78	0		0.78	**-**
Heavy	1	0	0		1	0	0	0		0	0	4	0		4	**-**
Heavy %	0.4%	0%	0%		0.4%	0%	0%	0%		0%	0%	1.1%	0%		1.1%	**-**
Lights	236	0	0		236	0	0	0		0	0	359	0		359	**-**
Lights %	99.6%	0%	0%		99.6%	0%	0%	0%		0%	0%	98.9%	0%		98.9%	**-**
Single-Unit Trucks	1	0	0		1	0	0	0		0	0	4	0		4	**-**
Single-Unit Trucks %	0.4%	0%	0%		0.4%	0%	0%	0%		0%	0%	1.1%	0%		1.1%	**-**
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	33.3%		-	-	-	33.3%		-	-	-	0%		**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	33.3%		-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: NOTION RD & PICKERING PKWY
Date: Sat, Jan 20, 2018 Deployment Lead: Theo Daglis

Peak Hour: 02:00 PM - 03:00 PM Weather:

	Bicycles on Crosswalk	Pedestrians
N	0	1
S	1	1
W	0	0

Spectrum

Turning Movement Count
Location Name: KINGSTON RD & NOTION RD
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (3 . KINGSTON RD & NOTION RD)

Start Time	N Approach NORTH DRIVEWAY						E Approach KINGSTON RD						S Approach NOTION RD						W Approach KINGSTON RD						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	0	0	0	147	12	0	0	159	3	0	1	0	0	4	4	30	1	0	0	35	198	
06:15:00	0	0	1	0	0	1	0	165	12	0	0	177	4	0	2	0	0	6	5	37	0	0	0	42	226	
06:30:00	0	0	0	0	0	0	0	193	24	0	0	217	3	0	1	0	1	4	3	47	0	0	0	50	271	
06:45:00	0	0	0	0	0	0	0	209	32	0	0	241	7	0	2	0	0	9	12	62	0	0	0	74	324	1019
07:00:00	0	0	0	0	0	0	0	201	38	0	0	239	7	0	4	0	1	11	3	73	1	0	0	77	327	1148
07:15:00	2	0	0	0	0	2	1	265	49	0	0	315	6	0	2	0	0	8	5	82	0	0	0	87	412	1334
07:30:00	0	0	0	0	1	0	0	303	60	1	3	364	16	0	2	0	0	18	1	86	0	0	0	87	469	1532
07:45:00	1	0	0	0	4	1	0	399	90	0	1	489	15	0	1	0	1	16	6	154	0	0	0	160	666	1874
08:00:00	0	0	0	0	0	0	0	401	101	0	1	502	35	0	1	0	2	36	7	165	0	0	0	172	710	2257
08:15:00	2	0	0	0	2	2	1	494	102	0	2	597	26	0	1	0	1	27	12	134	0	0	1	146	772	2617
08:30:00	1	0	2	0	0	3	0	396	86	0	0	482	23	0	1	0	0	24	8	163	0	0	0	171	680	2828
08:45:00	0	0	0	0	0	0	0	293	54	0	0	347	16	0	4	0	1	20	6	147	0	0	0	153	520	2682
09:00:00	0	0	0	0	0	0	0	239	59	0	1	298	22	0	5	0	1	27	5	162	0	0	0	167	492	2464
09:15:00	0	0	0	0	2	0	0	193	40	0	1	233	24	0	5	0	4	29	5	142	0	0	1	147	409	2101
BREAK																										
15:30:00	4	0	1	0	5	5	0	178	26	0	0	204	78	0	6	0	3	84	9	302	3	0	3	314	607	
15:45:00	3	0	0	0	0	3	1	217	25	0	1	243	96	1	8	0	1	105	5	350	5	0	0	360	711	
16:00:00	2	0	1	0	1	3	0	178	33	0	1	211	95	0	9	0	1	104	6	345	1	0	1	352	670	
16:15:00	1	0	0	0	0	1	0	185	29	0	2	214	98	1	7	0	3	106	8	365	0	1	0	374	695	2683
16:30:00	0	0	1	0	0	1	0	191	39	0	1	230	100	0	8	0	1	108	3	370	1	0	0	374	713	2789
16:45:00	1	1	1	0	1	3	0	180	31	0	1	211	113	1	5	0	2	119	10	350	4	0	1	364	697	2775
17:00:00	4	2	0	0	2	6	1	205	27	0	0	233	117	1	6	0	1	124	9	325	4	0	1	338	701	2806
17:15:00	2	0	1	0	5	3	0	181	35	0	0	216	98	1	1	0	0	100	5	386	2	0	3	393	712	2823
17:30:00	2	0	4	0	3	6	0	220	45	0	0	265	99	0	6	0	0	105	9	346	1	0	2	356	732	2842
17:45:00	0	0	1	0	0	1	0	194	63	0	0	257	101	0	11	0	3	112	11	368	0	0	0	379	749	2894
18:00:00	0	1	1	0	0	2	1	166	34	0	1	201	134	0	14	0	1	148	15	342	3	0	0	360	711	2904
18:15:00	0	0	1	0	1	1	0	206	34	0	0	240	93	0	4	0	1	97	6	348	0	0	0	354	692	2884
18:30:00	1	0	1	0	0	2	0	170	27	0	0	197	68	0	5	0	2	73	8	278	2	0	0	288	560	2712
18:45:00	2	0	0	0	0	2	1	167	47	0	0	215	88	0	7	0	0	95	7	291	2	0	1	300	612	2575
Grand Total	28	4	16	0	27	48	6	6536	1254	1	16	7797	1585	5	129	0	31	1719	193	6250	30	1	14	6474	**16038**	-
Approach%	58.3%	8.3%	33.3%	0%		-	0.1%	83.8%	16.1%	0%		-	92.2%	0.3%	7.5%	0%		-	3%	96.5%	0.5%	0%		-	-	-
Totals %	0.2%	0%	0.1%	0%		0.3%	0%	40.8%	7.8%	0%		48.6%	9.9%	0%	0.8%	0%		10.7%	1.2%	39%	0.2%	0%		40.4%	-	-
Heavy	1	0	0	0		-	0	145	14	0		-	23	0	13	0		-	15	157	0	0		-	-	-
Heavy %	3.6%	0%	0%	0%		-	0%	2.2%	1.1%	0%		-	1.5%	0%	10.1%	0%		-	7.8%	2.5%	0%	0%		-	-	-
Bicycles	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	2	1	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	3.3%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: KINGSTON RD & NOTION RD
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

Peak Hour: 07:45 AM - 08:45 AM Weather:

Start Time	N Approach NORTH DRIVEWAY						E Approach KINGSTON RD						S Approach NOTION RD						W Approach KINGSTON RD						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	
07:45:00	1	0	0	0	4	1	0	399	90	0	1	489	15	0	1	0	1	16	6	154	0	0	0	160	666
08:00:00	0	0	0	0	0	0	0	401	101	0	1	502	35	0	1	0	2	36	7	165	0	0	0	172	710
08:15:00	2	0	0	0	2	2	1	494	102	0	2	597	26	0	1	0	1	27	12	134	0	0	1	146	772
08:30:00	1	0	2	0	0	3	0	396	86	0	0	482	23	0	1	0	0	24	8	163	0	0	0	171	680
Grand Total	4	0	2	0	6	6	1	1690	379	0	4	2070	99	0	4	0	4	103	33	616	0	0	1	649	**2828**
Approach%	66.7%	0%	33.3%	0%		-	0%	81.6%	18.3%	0%		-	96.1%	0%	3.9%	0%		-	5.1%	94.9%	0%	0%		-	**-**
Totals %	0.1%	0%	0.1%	0%		0.2%	0%	59.8%	13.4%	0%		73.2%	3.5%	0%	0.1%	0%		3.6%	1.2%	21.8%	0%	0%		22.9%	**-**
PHF	0.5	0	0.25	0		0.5	0.25	0.86	0.93	0		0.87	0.71	0	1	0		0.72	0.69	0.93	0	0		0.94	**-**
Heavy	1	0	0	0		1	0	41	6	0		47	6	0	1	0		7	7	30	0	0		37	**-**
Heavy %	25%	0%	0%	0%		16.7%	0%	2.4%	1.6%	0%		2.3%	6.1%	0%	25%	0%		6.8%	21.2%	4.9%	0%	0%		5.7%	**-**
Lights	3	0	2	0		5	1	1649	373	0		2023	93	0	3	0		96	26	586	0	0		612	**-**
Lights %	75%	0%	100%	0%		83.3%	100%	97.6%	98.4%	0%		97.7%	93.9%	0%	75%	0%		93.2%	78.8%	95.1%	0%	0%		94.3%	**-**
Single-Unit Trucks	1	0	0	0		1	0	16	1	0		17	3	0	1	0		4	6	7	0	0		13	**-**
Single-Unit Trucks %	25%	0%	0%	0%		16.7%	0%	0.9%	0.3%	0%		0.8%	3%	0%	25%	0%		3.9%	18.2%	1.1%	0%	0%		2%	**-**
Buses	0	0	0	0		0	0	21	3	0		24	2	0	0	0		2	0	21	0	0		21	**-**
Buses %	0%	0%	0%	0%		0%	0%	1.2%	0.8%	0%		1.2%	2%	0%	0%	0%		1.9%	0%	3.4%	0%	0%		3.2%	**-**
Articulated Trucks	0	0	0	0		0	0	4	2	0		6	1	0	0	0		1	1	2	0	0		3	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0.5%	0%		0.3%	1%	0%	0%	0%		1%	3%	0.3%	0%	0%		0.5%	**-**
Pedestrians	-	-	-	-	6	-	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	40%		-	-	-	-	26.7%		-	-	-	-	26.7%		-	-	-	-	6.7%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	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%		**-**

Spectrum

Turning Movement Count
Location Name: KINGSTON RD & NOTION RD
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

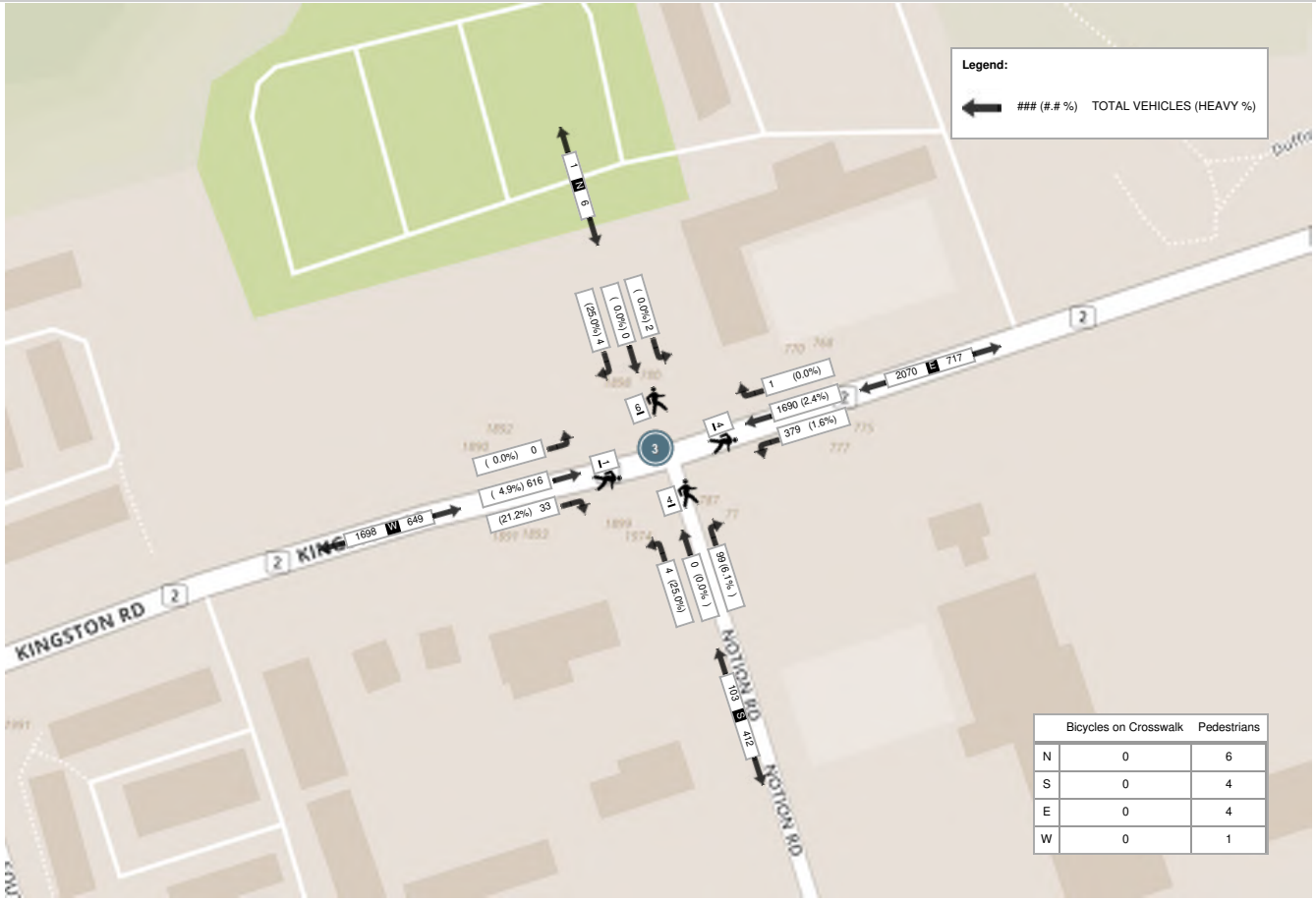
Peak Hour: 05:15 PM - 06:15 PM Weather:

Start Time	N Approach NORTH DRIVEWAY						E Approach KINGSTON RD						S Approach NOTION RD						W Approach KINGSTON RD						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	
17:15:00	2	0	1	0	5	3	0	181	35	0	0	216	98	1	1	0	0	100	5	386	2	0	3	393	712
17:30:00	2	0	4	0	3	6	0	220	45	0	0	265	99	0	6	0	0	105	9	346	1	0	2	356	732
17:45:00	0	0	1	0	0	1	0	194	63	0	0	257	101	0	11	0	3	112	11	368	0	0	0	379	749
18:00:00	0	1	1	0	0	2	1	166	34	0	1	201	134	0	14	0	1	148	15	342	3	0	0	360	711
Grand Total	4	1	7	0	8	12	1	761	177	0	1	939	432	1	32	0	4	465	40	1442	6	0	5	1488	**2904**
Approach%	33.3%	8.3%	58.3%	0%		-	0.1%	81%	18.8%	0%		-	92.9%	0.2%	6.9%	0%		-	2.7%	96.9%	0.4%	0%		-	**-**
Totals %	0.1%	0%	0.2%	0%		0.4%	0%	26.2%	6.1%	0%		32.3%	14.9%	0%	1.1%	0%		16%	1.4%	49.7%	0.2%	0%		51.2%	**-**
PHF	0.5	0.25	0.44	0		0.5	0.25	0.86	0.7	0		0.89	0.81	0.25	0.57	0		0.79	0.67	0.93	0.5	0		0.95	**-**
Heavy	0	0	0	0		0	0	11	0	0		11	3	0	0	0		3	1	16	0	0		17	**-**
Heavy %	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1.2%	0.7%	0%	0%	0%		0.6%	2.5%	1.1%	0%	0%		1.1%	**-**
Lights	4	1	7	0		12	1	750	177	0		928	429	1	32	0		462	39	1426	6	0		1471	**-**
Lights %	100%	100%	100%	0%		100%	100%	98.6%	100%	0%		98.8%	99.3%	100%	100%	0%		99.4%	97.5%	98.9%	100%	0%		98.9%	**-**
Single-Unit Trucks	0	0	0	0		0	0	2	0	0		2	3	0	0	0		3	1	1	0	0		2	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	0.7%	0%	0%	0%		0.6%	2.5%	0.1%	0%	0%		0.1%	**-**
Buses	0	0	0	0		0	0	9	0	0		9	0	0	0	0		0	0	14	0	0		14	**-**
Buses %	0%	0%	0%	0%		0%	0%	1.2%	0%	0%		1%	0%	0%	0%	0%		0%	0%	1%	0%	0%		0.9%	**-**
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%	0.1%	0%	0%		0.1%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	5	-	**-**
Pedestrians%	-	-	-	-	38.9%		-	-	-	-	5.6%		-	-	-	-	22.2%		-	-	-	-	27.8%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	5.6%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: KINGSTON RD & NOTION RD
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

Peak Hour: 07:45 AM - 08:45 AM Weather:

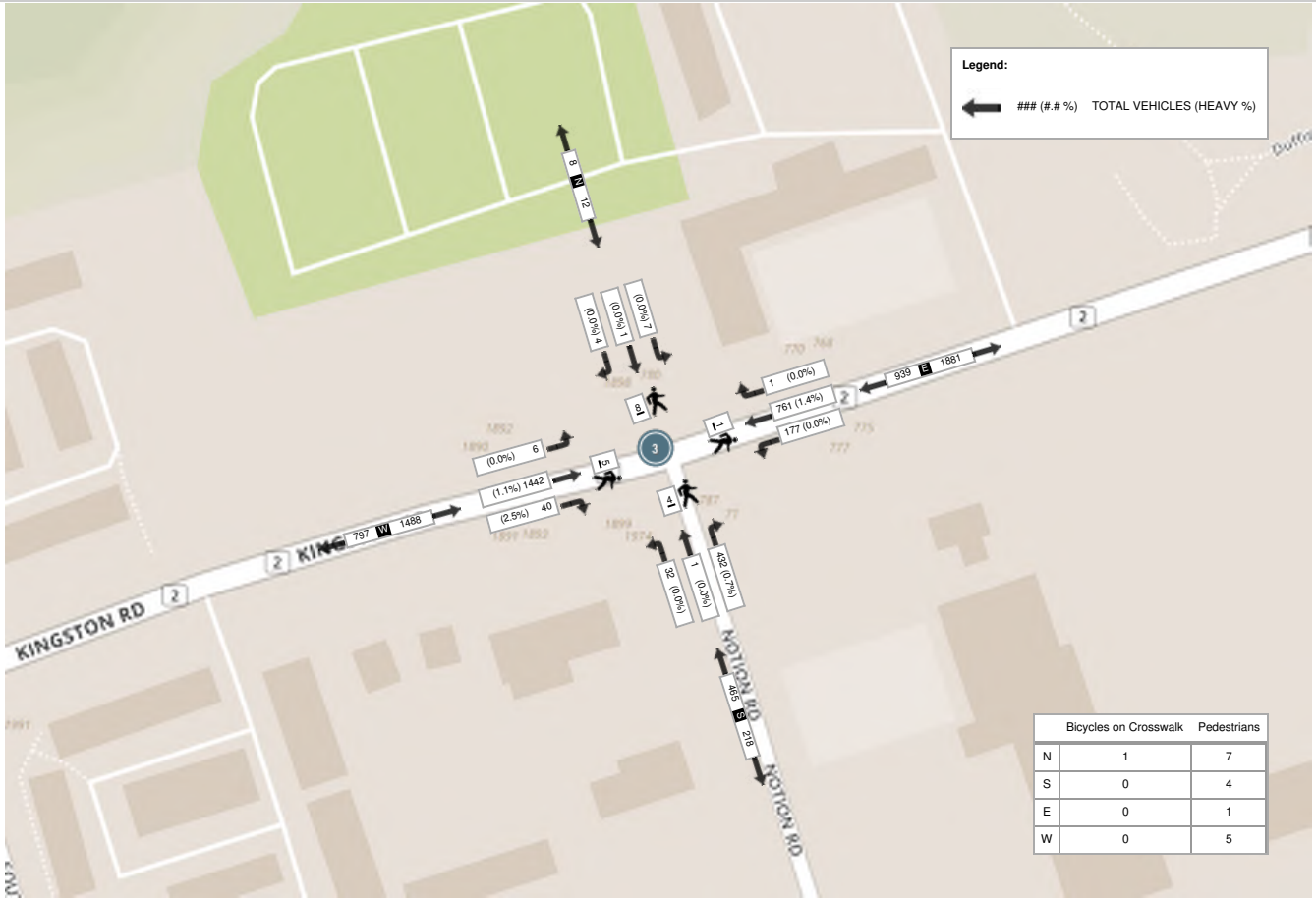


	Bicycles on Crosswalk	Pedestrians
N	0	6
S	0	4
E	0	4
W	0	1

Spectrum

Turning Movement Count
Location Name: KINGSTON RD & NOTION RD
Date: Thu, Jan 18, 2018 Deployment Lead: Theo Daglis

Peak Hour: 05:15 PM - 06:15 PM **Weather:**



	Bicycles on Crosswalk	Pedestrians
N	1	7
S	0	4
E	0	1
W	0	5

Spectrum

Turning Movement Count
Location Name: KINGSTON RD & NOTION RD
Date: Sat, Jan 20, 2018 Deployment Lead: Theo Daglis

Turning Movement Count (3 . KINGSTON RD & NOTION RD)

Start Time	N Approach NORTH DRIVEWAY						E Approach KINGSTON RD						S Approach NOTION RD						W Approach KINGSTON RD						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		
12:00:00	0	0	0	0	3	0	0	256	57	0	0	313	83	0	11	0	0	94	13	289	2	0	0	304	711	
12:15:00	0	0	0	0	0	0	0	238	69	0	0	307	78	0	11	0	2	89	6	278	3	0	0	287	683	
12:30:00	1	0	0	0	0	1	1	228	66	0	0	295	88	0	3	0	1	91	5	286	1	0	0	292	679	
12:45:00	5	0	0	0	5	5	0	240	62	0	1	302	69	2	5	0	2	76	12	328	3	1	0	344	727	2800
13:00:00	2	0	0	0	0	2	2	294	57	0	0	353	72	1	13	0	3	86	10	305	2	1	0	318	759	2848
13:15:00	3	3	0	0	2	6	2	290	55	0	0	347	84	0	9	0	1	93	11	332	7	0	1	350	796	2961
13:30:00	2	0	2	0	1	4	0	262	53	1	0	316	93	0	7	0	1	100	10	332	2	0	0	344	764	3046
13:45:00	2	1	0	0	0	3	0	265	52	0	0	317	70	0	5	0	0	75	18	289	2	0	0	309	704	3023
14:00:00	0	1	0	0	4	1	0	251	47	0	0	298	86	1	4	0	3	91	11	337	4	0	2	352	742	3006
14:15:00	1	0	0	0	2	1	1	272	59	0	1	332	84	0	7	0	0	91	15	323	1	0	0	339	763	2973
14:30:00	1	2	1	0	0	4	0	307	61	0	0	368	83	2	10	0	0	95	8	306	5	0	0	319	786	2995
14:45:00	3	0	0	0	1	3	0	254	45	0	0	299	105	0	8	0	2	113	16	327	0	1	0	344	759	3050
Grand Total	20	7	3	0	18	30	6	3157	683	1	2	3847	995	6	93	0	15	1094	135	3732	32	3	3	3902	**8873**	-
Approach%	66.7%	23.3%	10%	0%		-	0.2%	82.1%	17.8%	0%		-	91%	0.5%	8.5%	0%		-	3.5%	95.6%	0.8%	0.1%		-	**-**	-
Totals %	0.2%	0.1%	0%	0%		0.3%	0.1%	35.6%	7.7%	0%		43.4%	11.2%	0.1%	1%	0%		12.3%	1.5%	42.1%	0.4%	0%		44%	**-**	-
Heavy	0	0	0	0		-	0	31	0	0		-	2	0	1	0		-	2	26	0	1		-	**-**	-
Heavy %	0%	0%	0%	0%		-	0%	1%	0%	0%		-	0.2%	0%	1.1%	0%		-	1.5%	0.7%	0%	33.3%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: KINGSTON RD & NOTION RD
Date: Sat, Jan 20, 2018 Deployment Lead: Theo Daglis

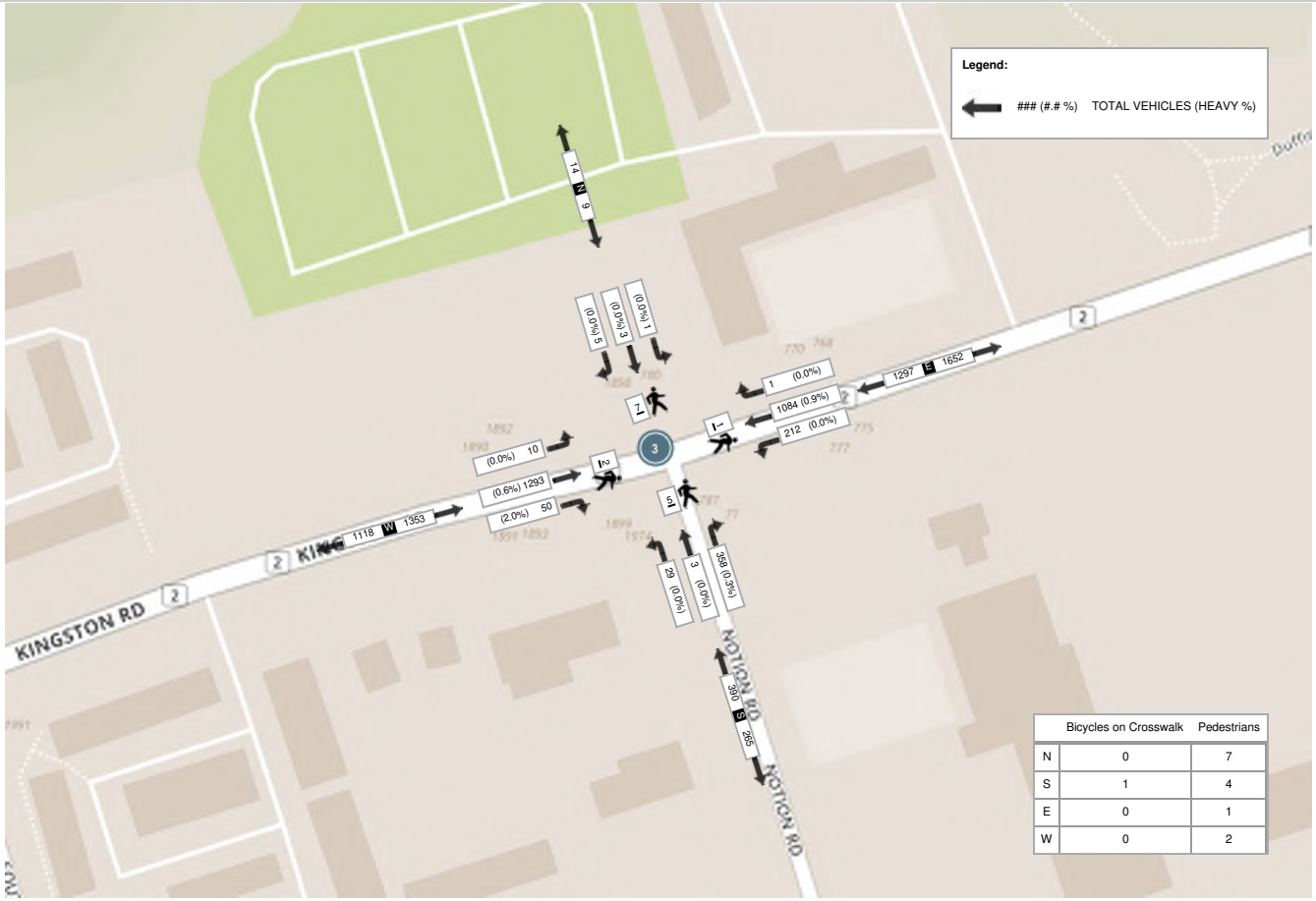
Peak Hour: 02:00 PM - 03:00 PM Weather:

Start Time	N Approach NORTH DRIVEWAY						E Approach KINGSTON RD						S Approach NOTION RD						W Approach KINGSTON RD						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	
14:00:00	0	1	0	0	4	1	0	251	47	0	0	298	86	1	4	0	3	91	11	337	4	0	2	352	742
14:15:00	1	0	0	0	2	1	1	272	59	0	1	332	84	0	7	0	0	91	15	323	1	0	0	339	763
14:30:00	1	2	1	0	0	4	0	307	61	0	0	368	83	2	10	0	0	95	8	306	5	0	0	319	786
14:45:00	3	0	0	0	1	3	0	254	45	0	0	299	105	0	8	0	2	113	16	327	0	1	0	344	759
Grand Total	5	3	1	0	7	9	1	1084	212	0	1	1297	358	3	29	0	5	390	50	1293	10	1	2	1354	**3050**
Approach%	55.6%	33.3%	11.1%	0%		-	0.1%	83.6%	16.3%	0%		-	91.8%	0.8%	7.4%	0%		-	3.7%	95.5%	0.7%	0.1%		-	**-**
Totals %	0.2%	0.1%	0%	0%		0.3%	0%	35.5%	7%	0%		42.5%	11.7%	0.1%	1%	0%		12.8%	1.6%	42.4%	0.3%	0%		44.4%	**-**
PHF	0.42	0.38	0.25	0		0.56	0.25	0.88	0.87	0		0.88	0.85	0.38	0.73	0		0.86	0.78	0.96	0.5	0.25		0.96	**-**
Heavy	0	0	0	0		0	0	10	0	0		10	1	0	0	0		1	1	8	0	0		9	**-**
Heavy %	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.8%	0.3%	0%	0%	0%		0.3%	2%	0.6%	0%	0%		0.7%	**-**
Lights	5	3	1	0		9	1	1074	212	0		1287	357	3	29	0		389	49	1285	10	1		1345	**-**
Lights %	100%	100%	100%	0%		100%	100%	99.1%	100%	0%		99.2%	99.7%	100%	100%	0%		99.7%	98%	99.4%	100%	100%		99.3%	**-**
Single-Unit Trucks	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	1	1	0	0		2	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	2%	0.1%	0%	0%		0.1%	**-**
Buses	0	0	0	0		0	0	8	0	0		8	0	0	0	0		0	0	7	0	0		7	**-**
Buses %	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	**-**
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.3%	0%	0%	0%		0.3%	0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	46.7%		-	-	-	-	6.7%		-	-	-	-	26.7%		-	-	-	-	13.3%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	6.7%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: KINGSTON RD & NOTION RD
Date: Sat, Jan 20, 2018 Deployment Lead: Theo Daglis

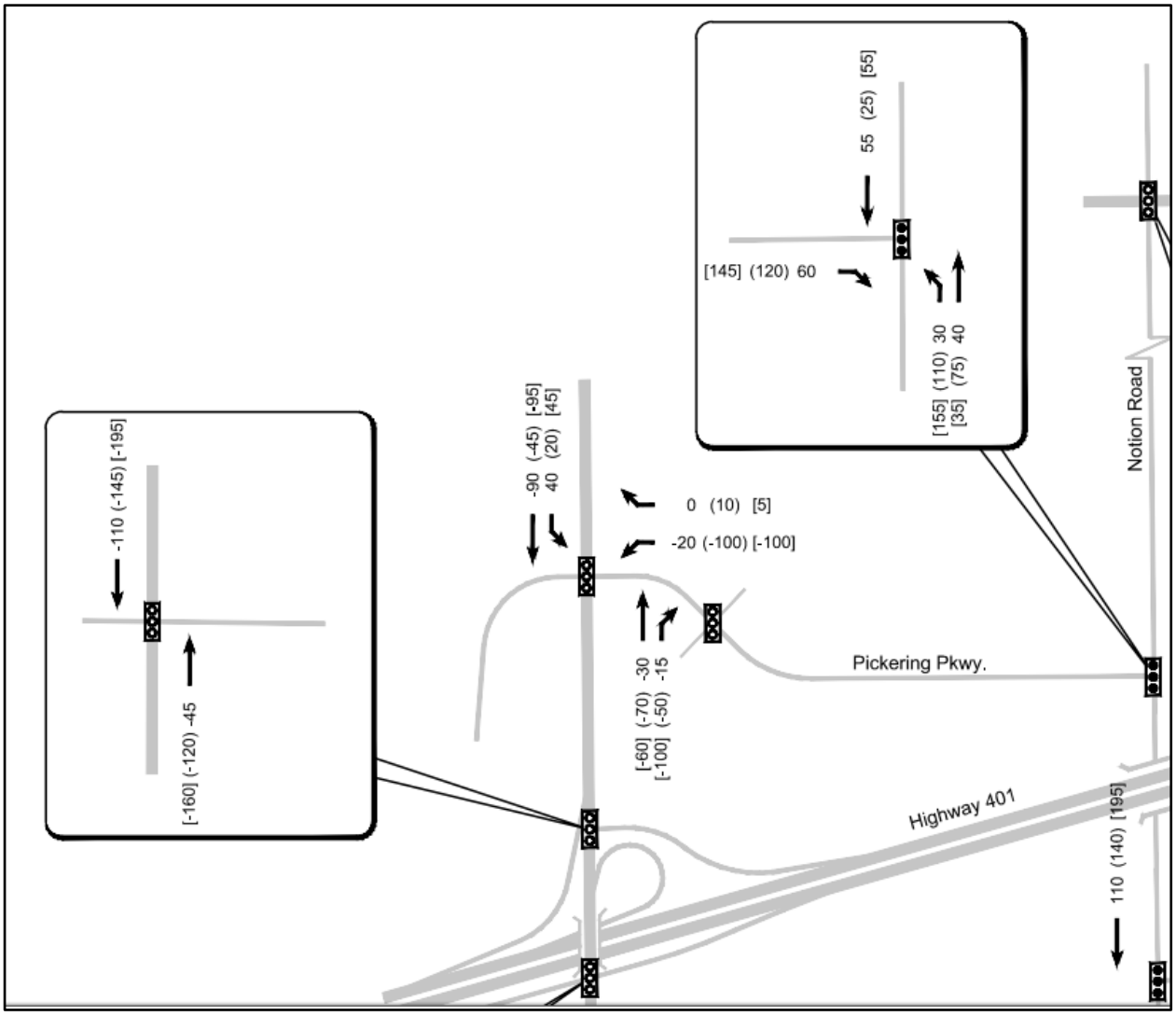
Peak Hour: 02:00 PM - 03:00 PM Weather:



	Bicycles on Crosswalk	Pedestrians
N	0	7
S	1	4
E	0	1
W	0	2

APPENDIX B

Notion Road Bridge Traffic Redistribution



SQUIRES BEACH ROAD-NOTION ROAD CONNECTION

EXISTING TRAFFIC VOLUME REDISTRIBUTION

BA Group

Squires Beach Rd - Notion Rd EA

7608-02 October 2019

APPENDIX C

Background Development and Growth TMDs

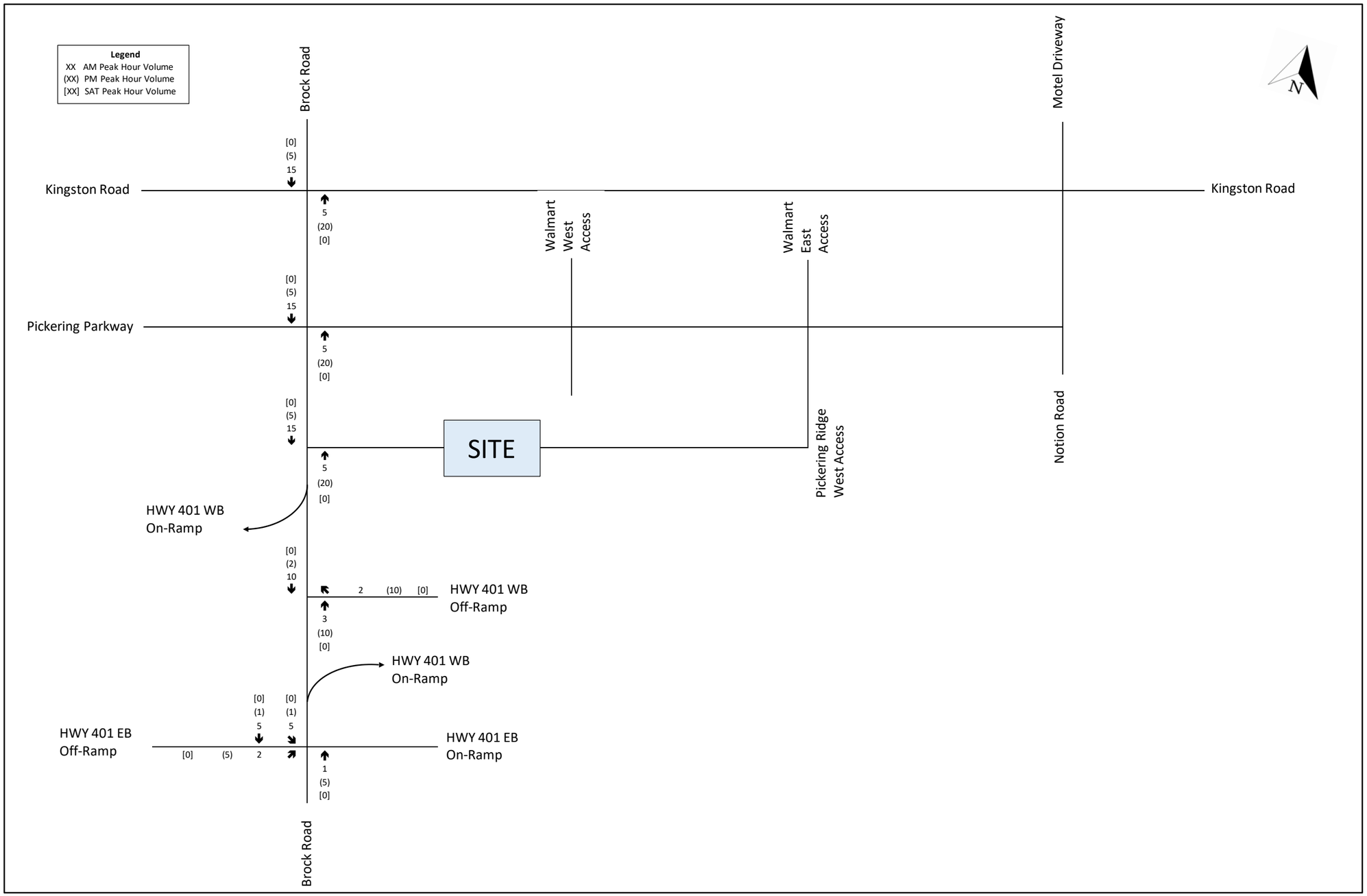


Figure 1: 2165 Brock Road Site Generated Traffic

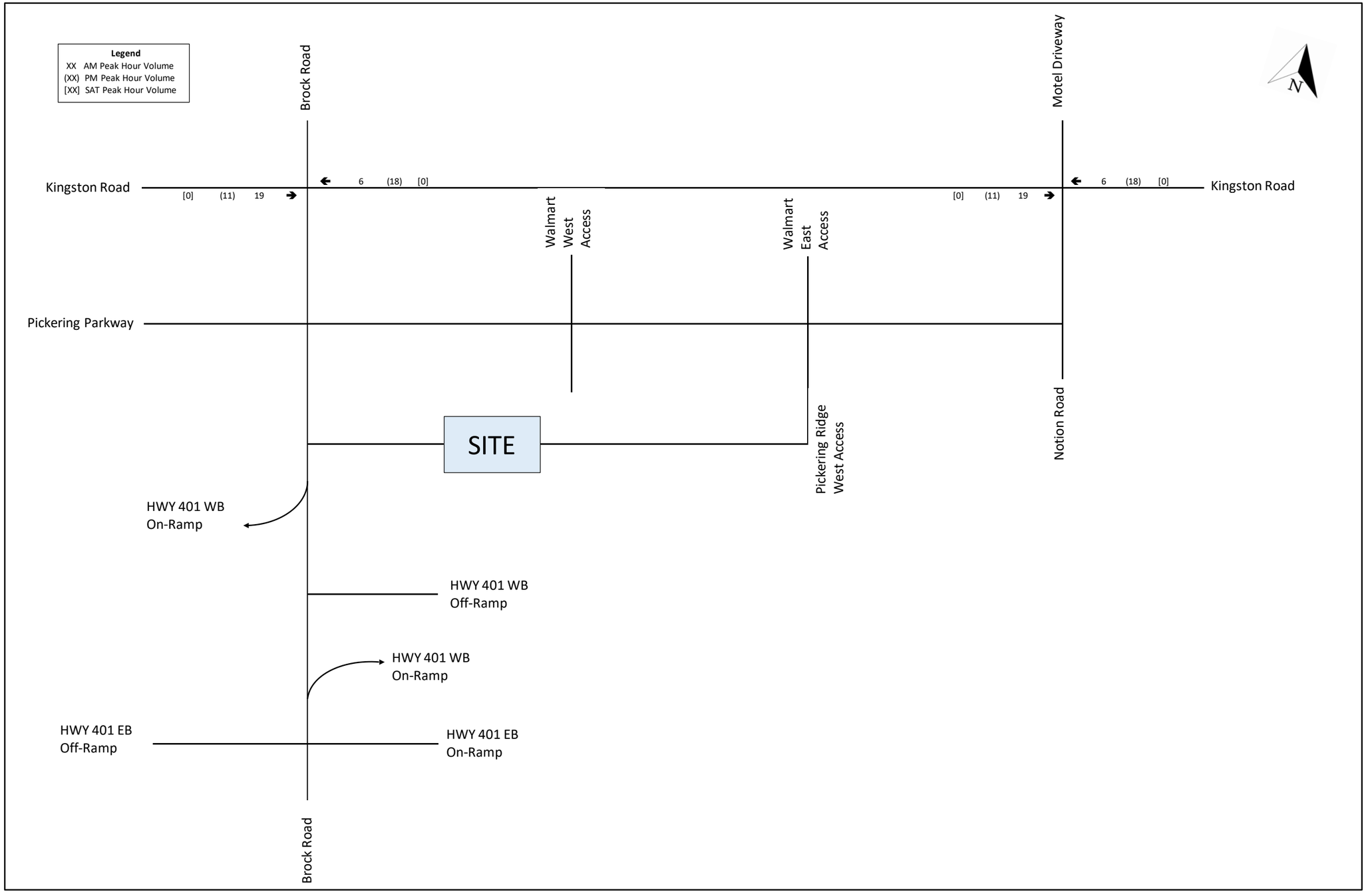


Figure 2: 1640 Kingston Road Site Generated Traffic

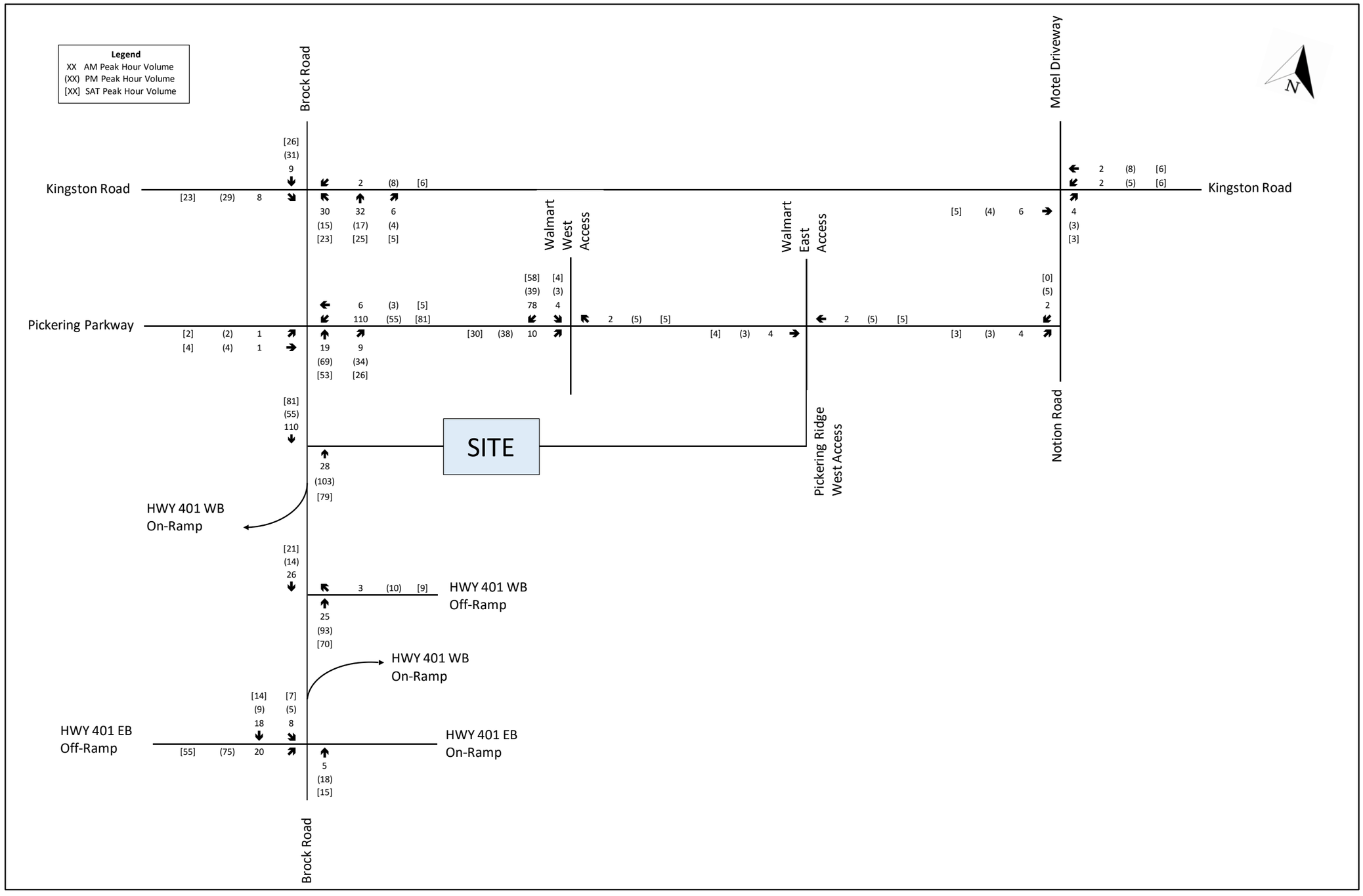


Figure 3: 1899 Brock Road (Phase 1) Site Generated Traffic

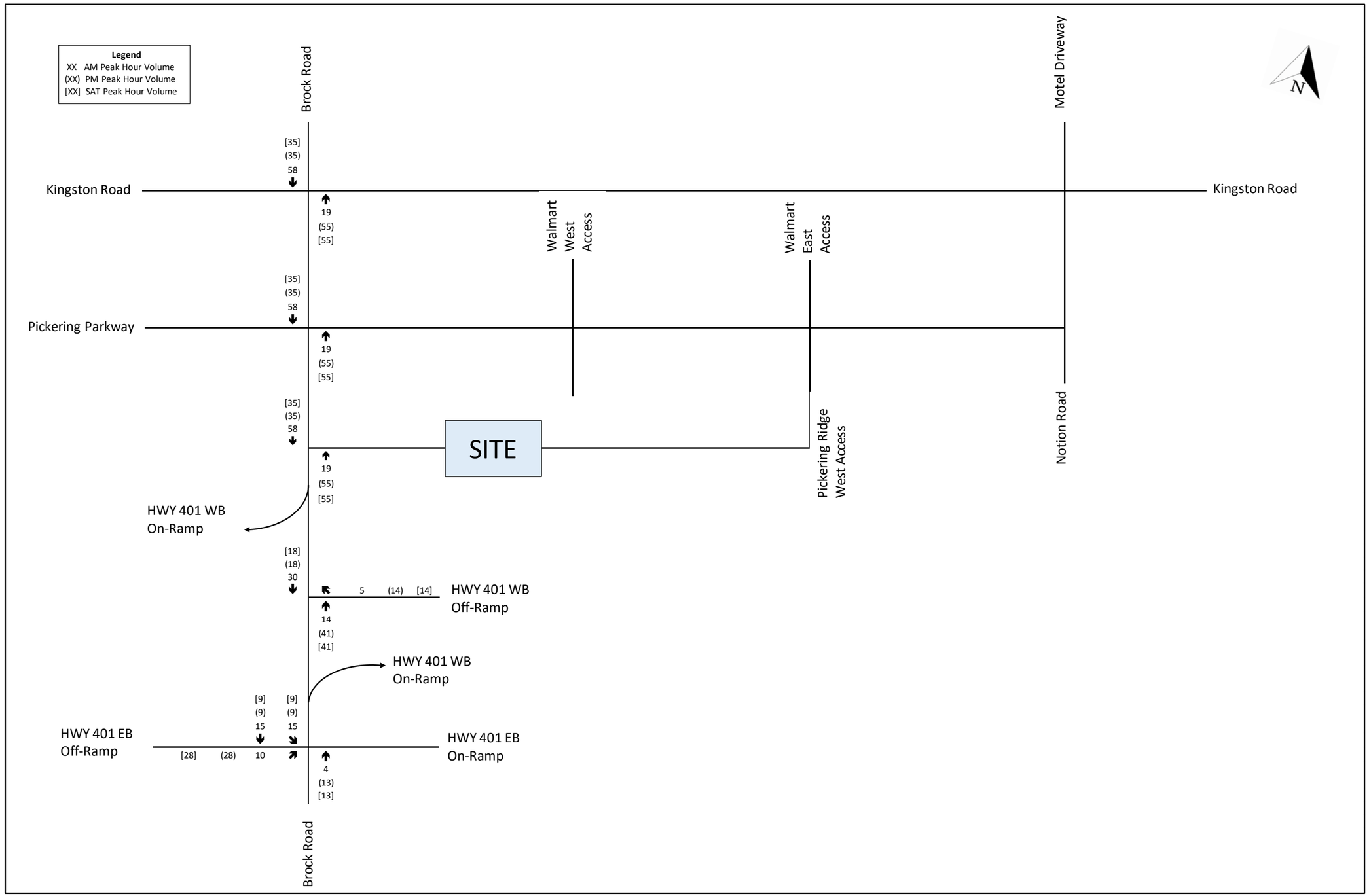


Figure 4: 2055 Brock Road Site Generated Traffic

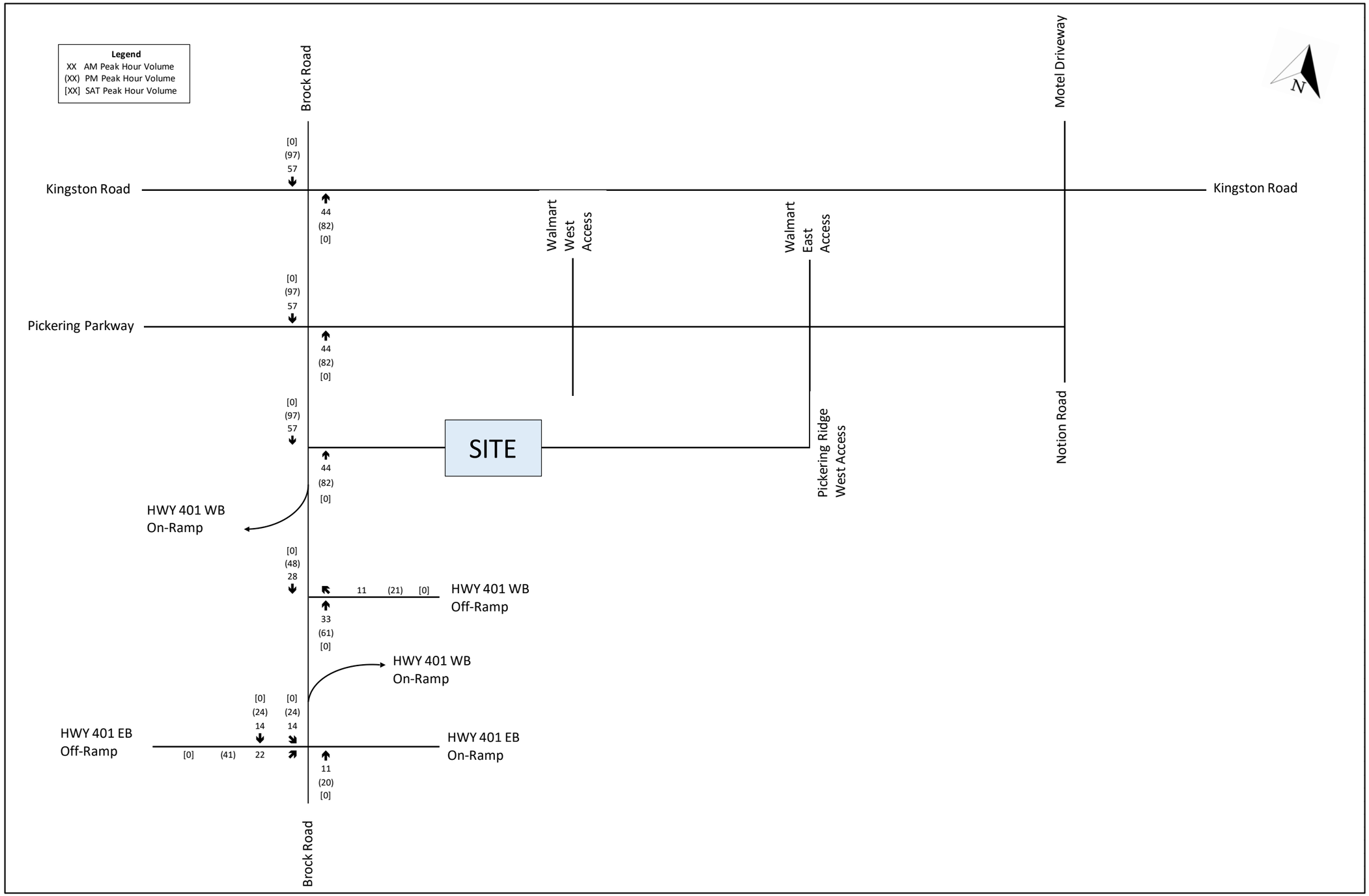


Figure 5: 2065 and 2071 Brock Road Site Generated Traffic

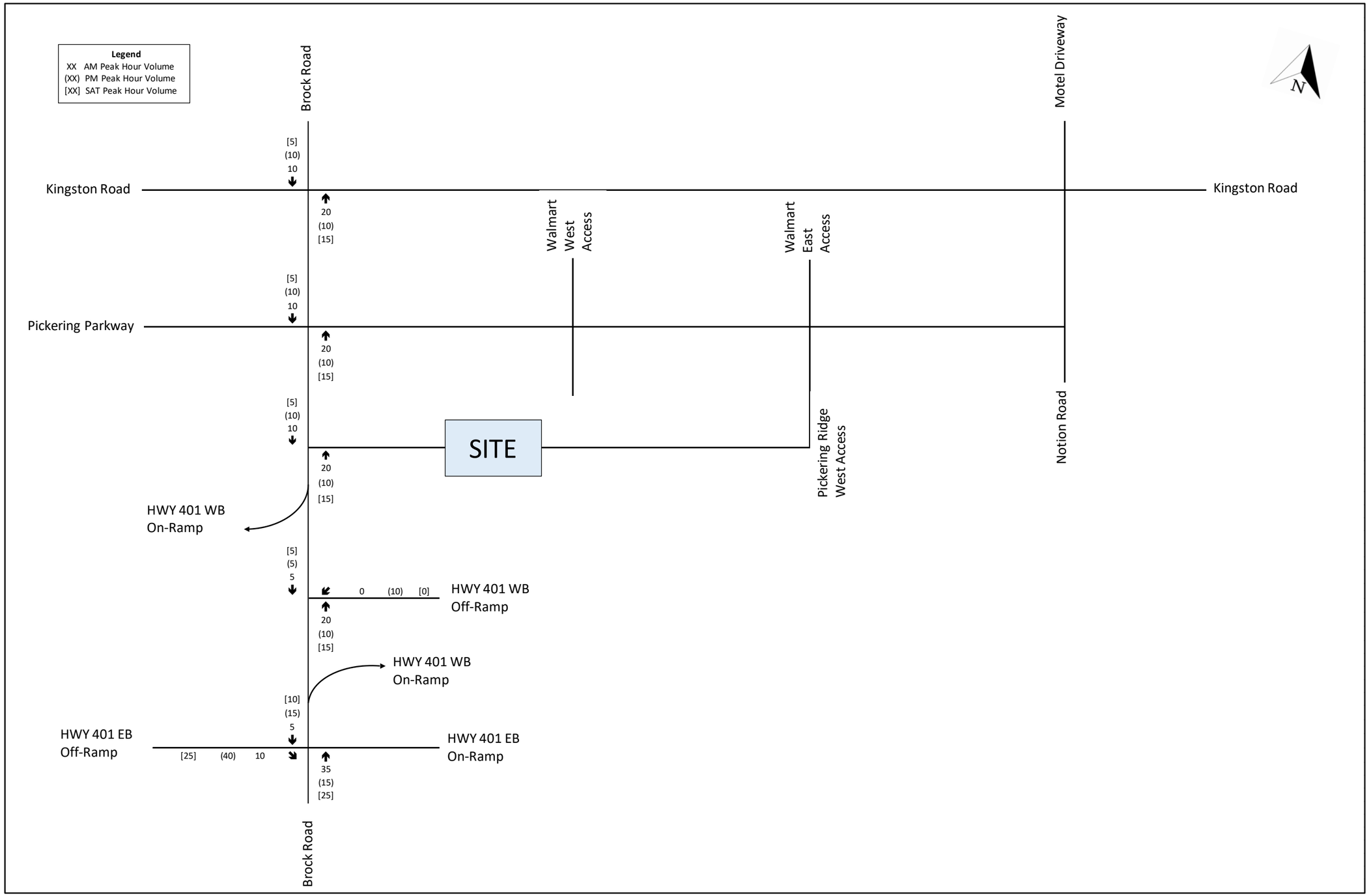


Figure 6: Universal City (2026) Site Generated Traffic

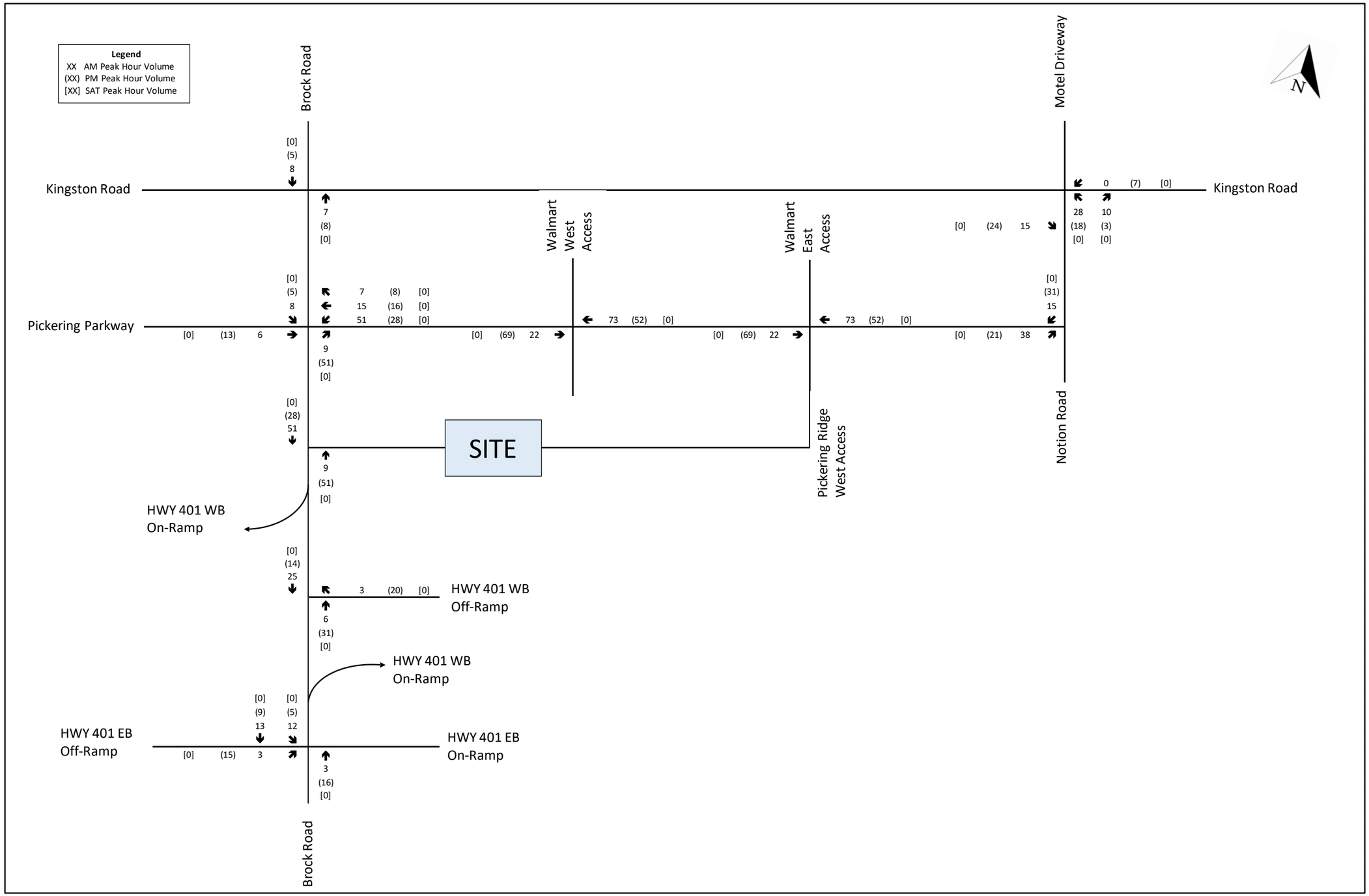


Figure 7: 1856 Notion Road (Phase 1)

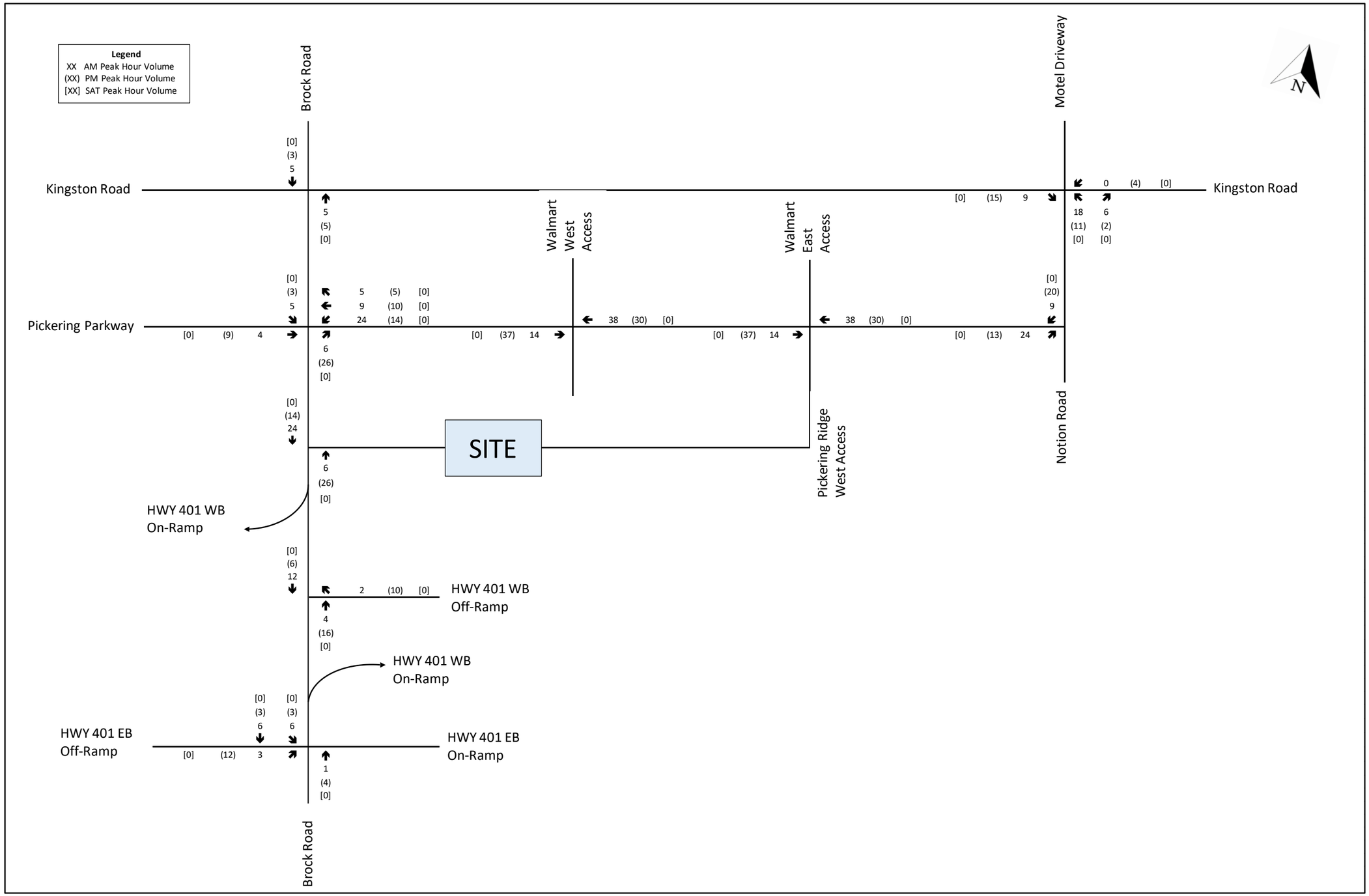


Figure 8: 1856 Notion Road (Phase 2)

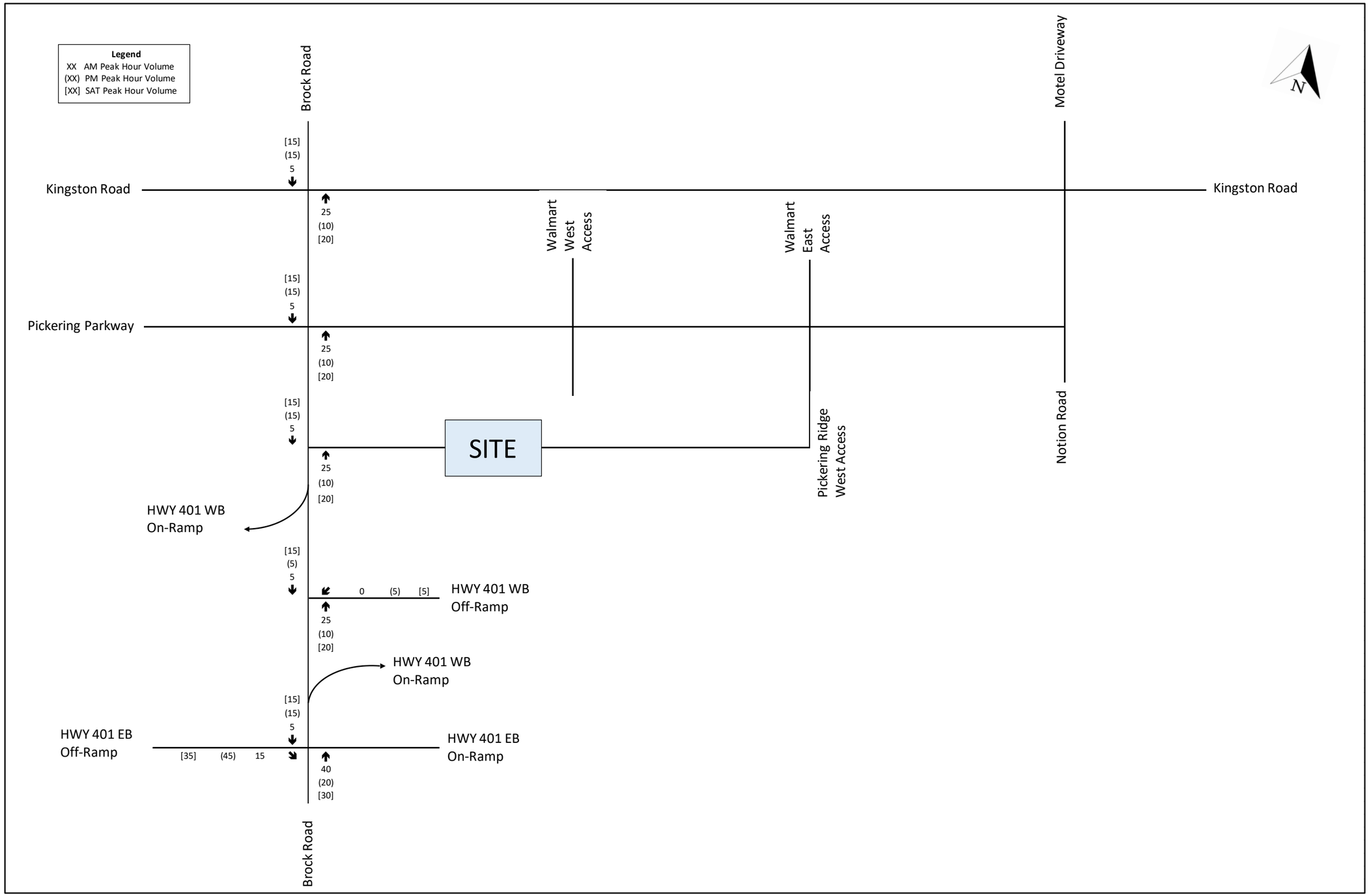


Figure 9: Universal City (2027) Site Generated Traffic

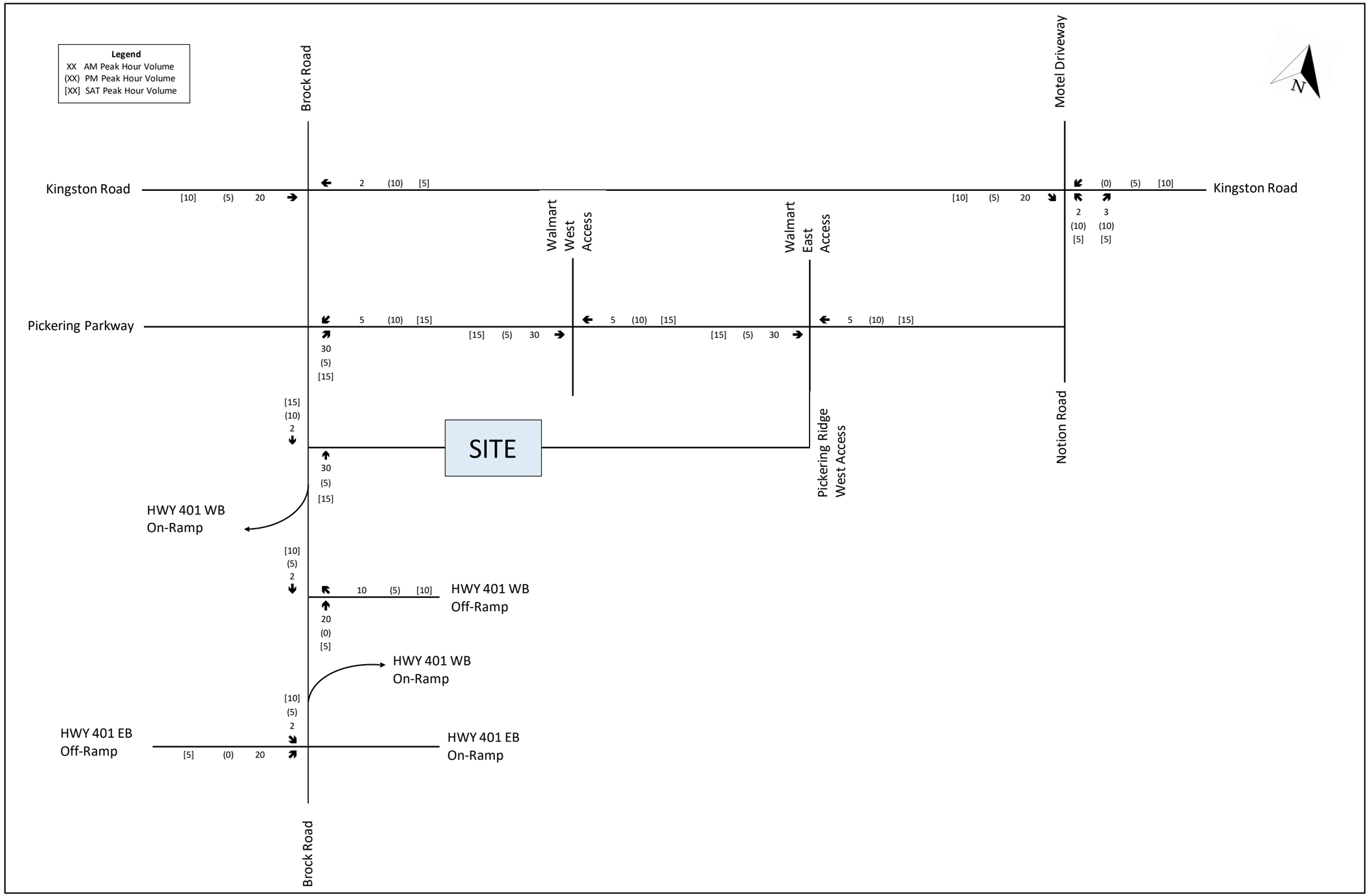


Figure 10: Film Studio Site Generated Traffic

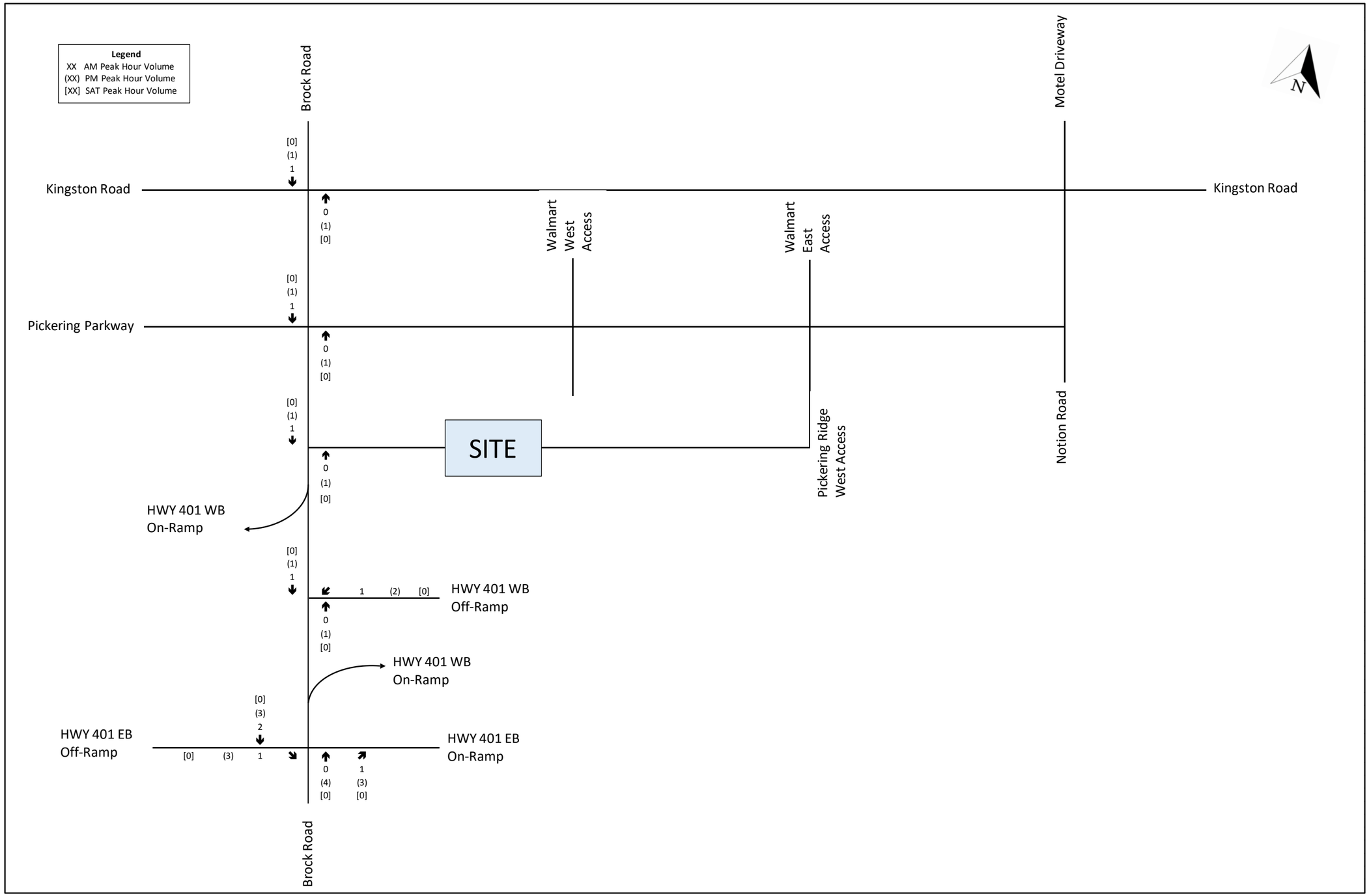


Figure 11: 1695 Bayly Street Site Generated Traffic

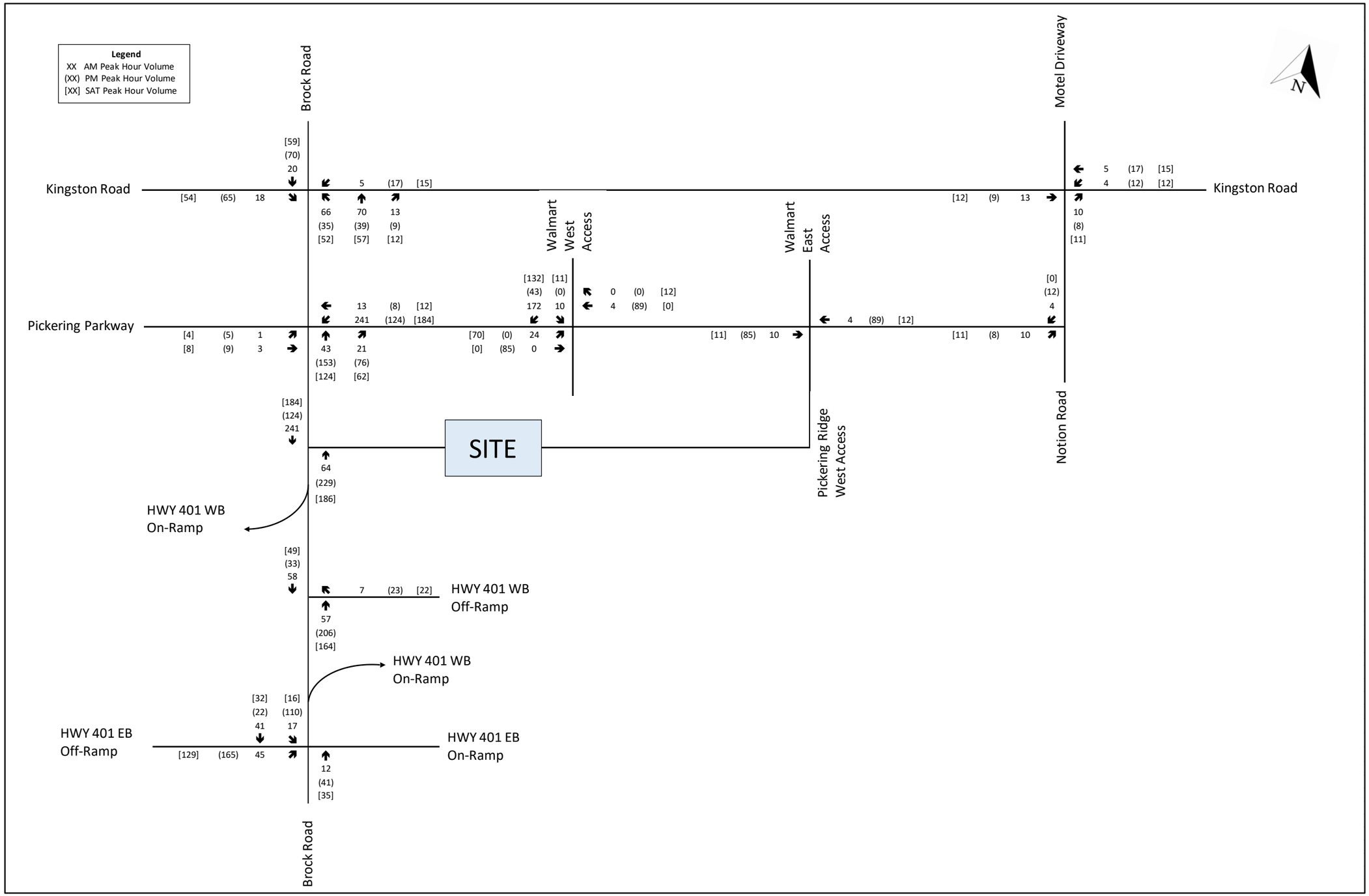


Figure 12: 1899 Brock Road (Phase 2) Site Generated Traffic

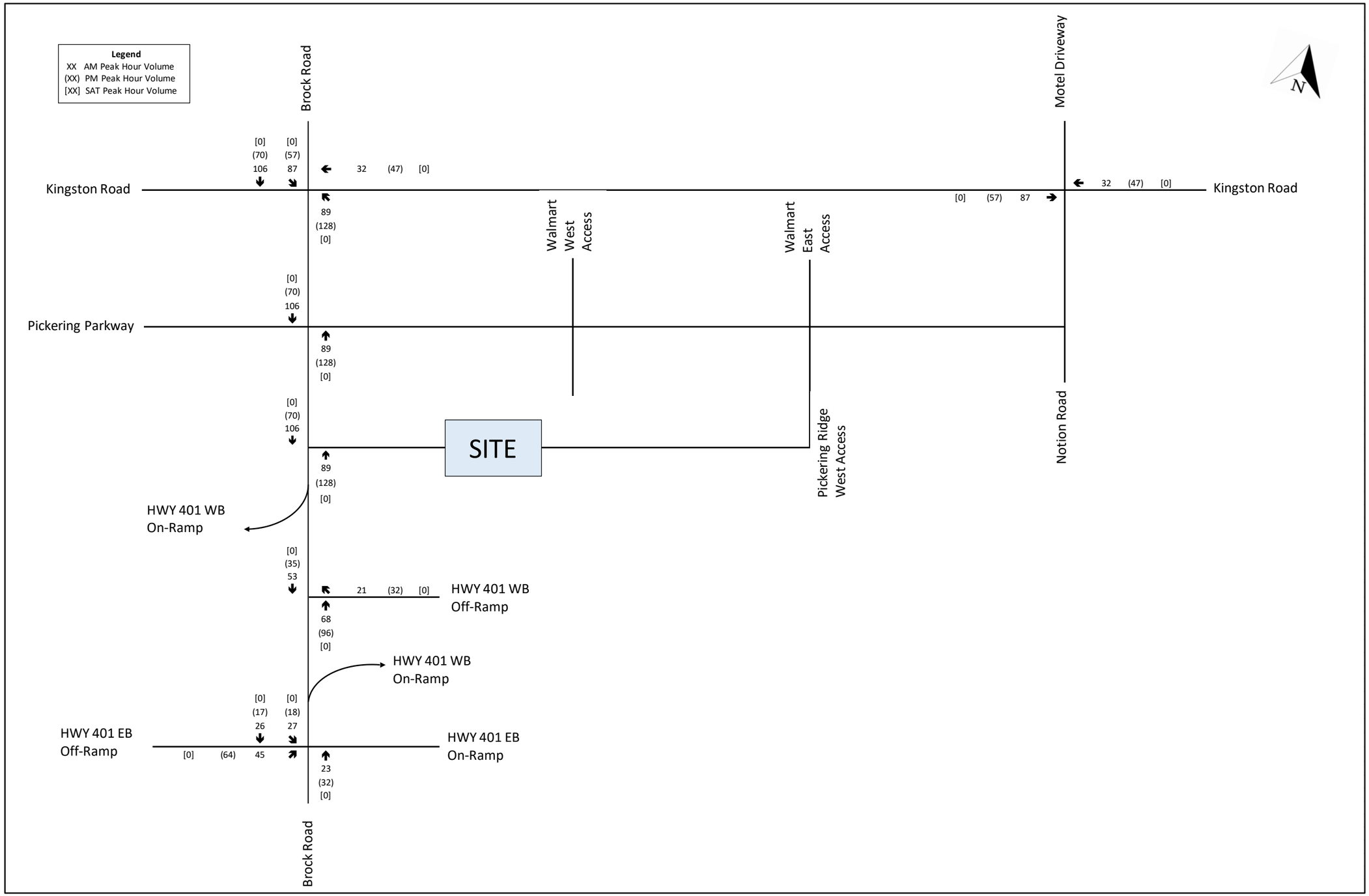


Figure 13: 1970 Brock Road Site Generated Traffic

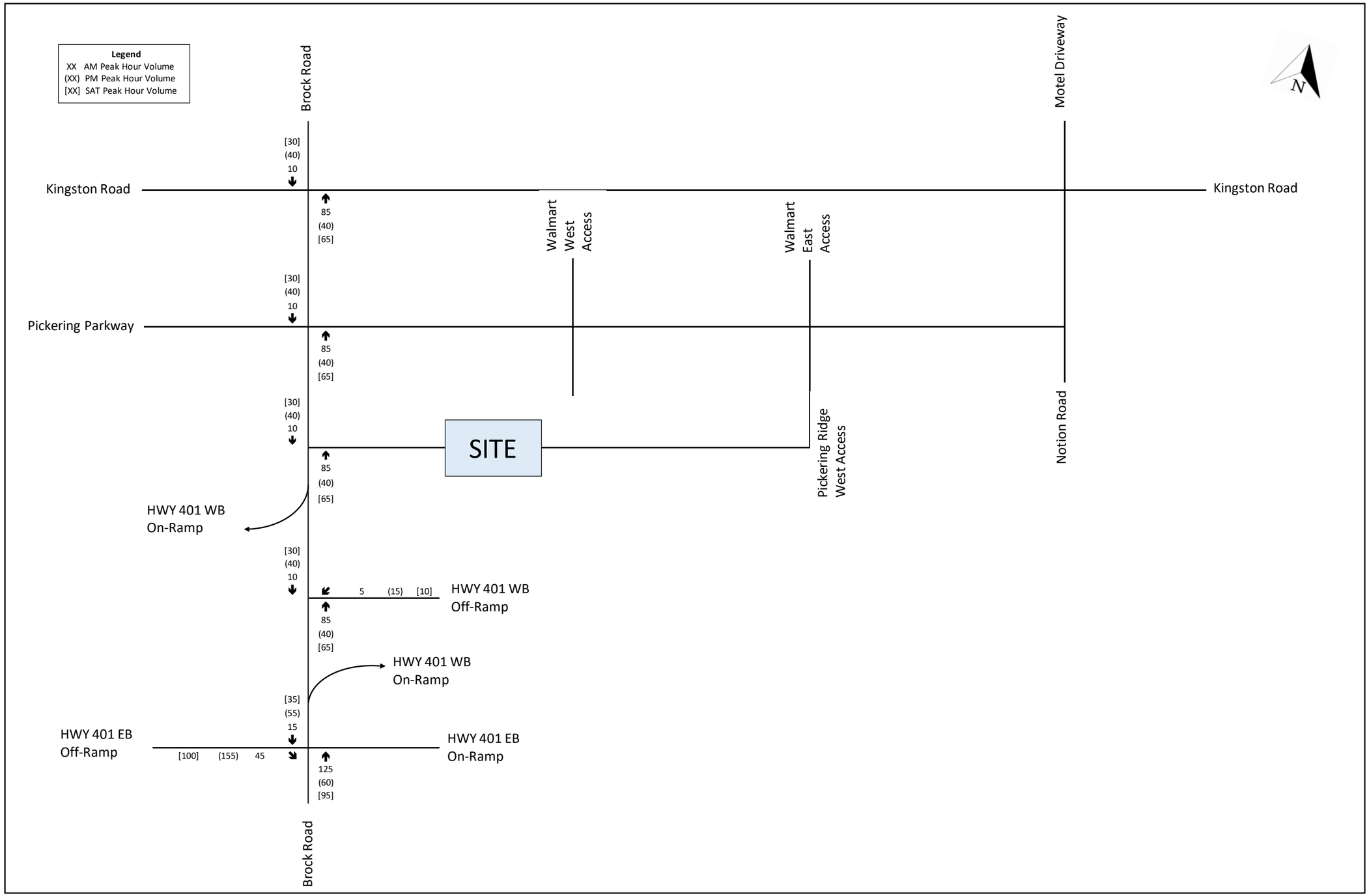


Figure 14: Universal City (2037) Site Generated Traffic

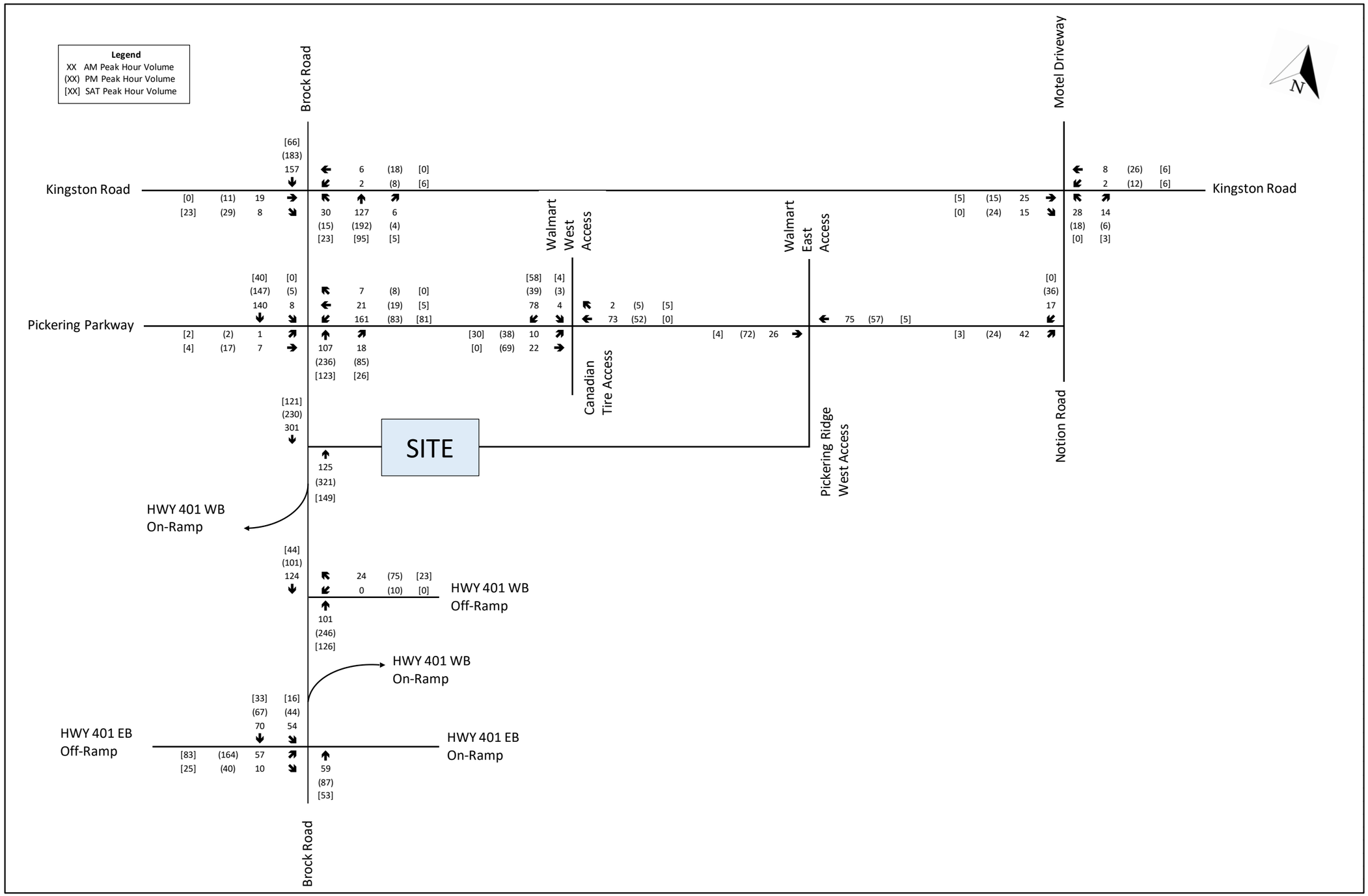


Figure 15: Total 2026 Background Developments

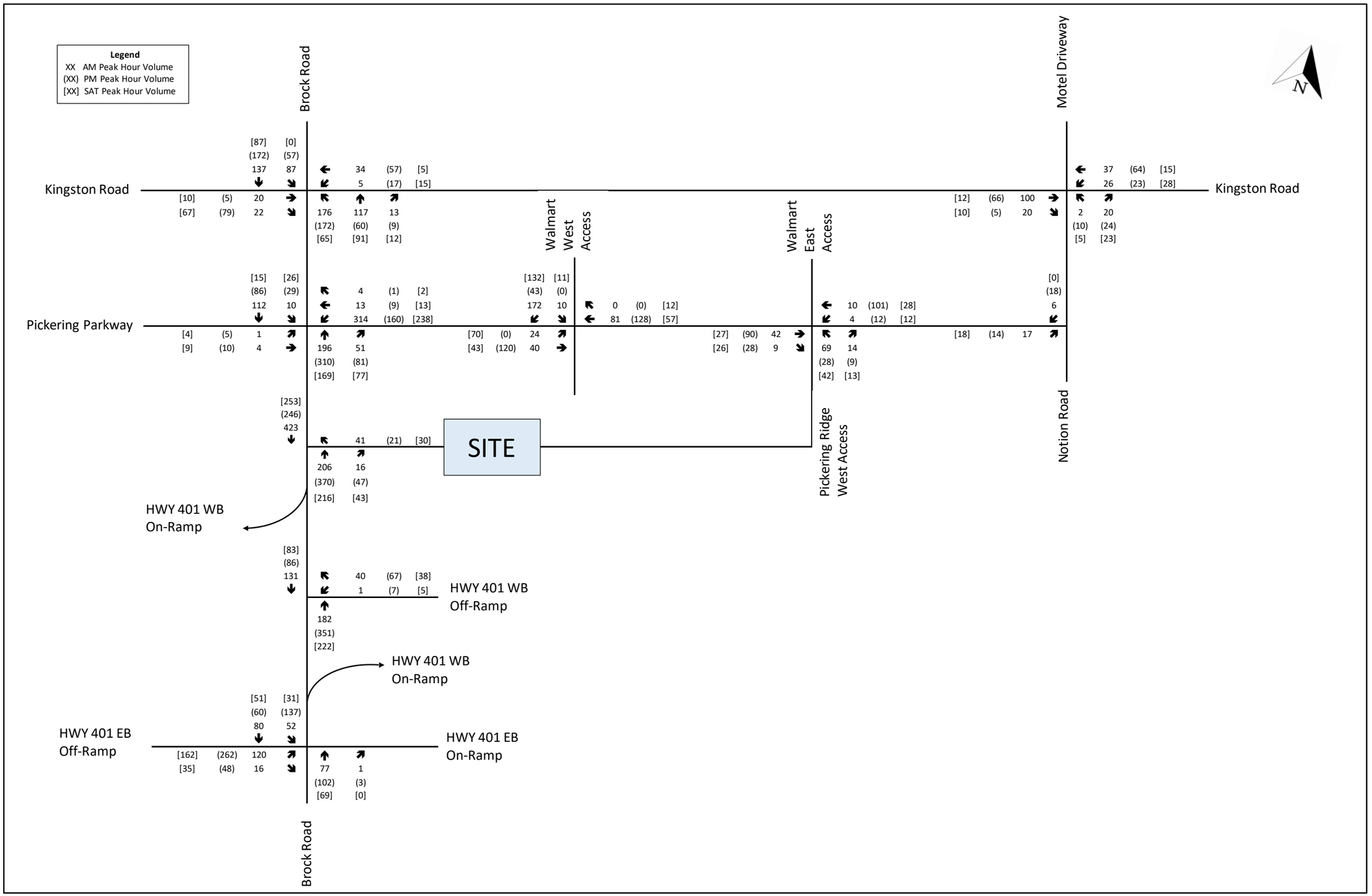


Figure 16: Total 2031 Background Developments

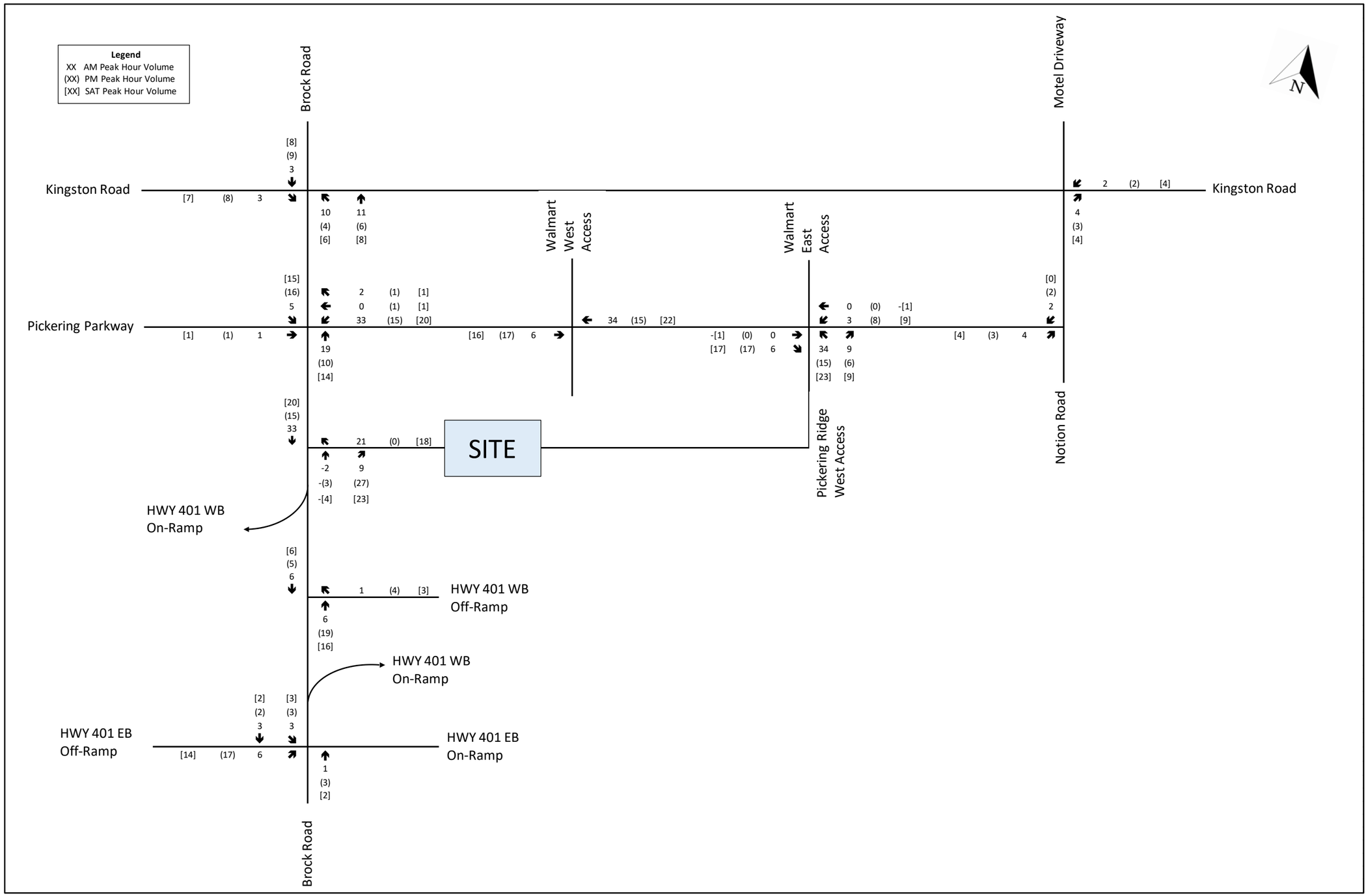


Figure 17: Total 2036 Background Developments

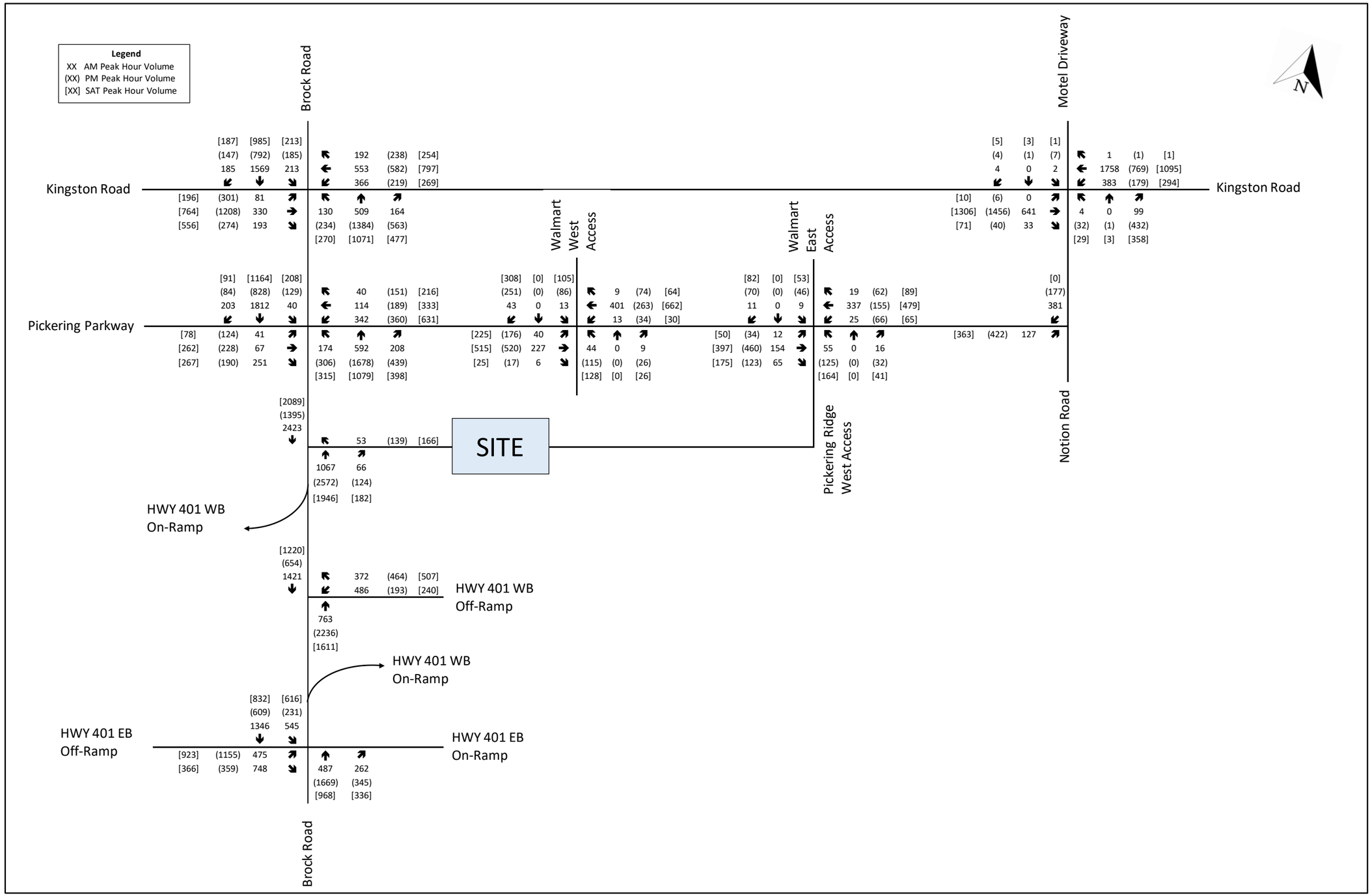


Figure 18: 2026 Background Corridor Growth Volumes

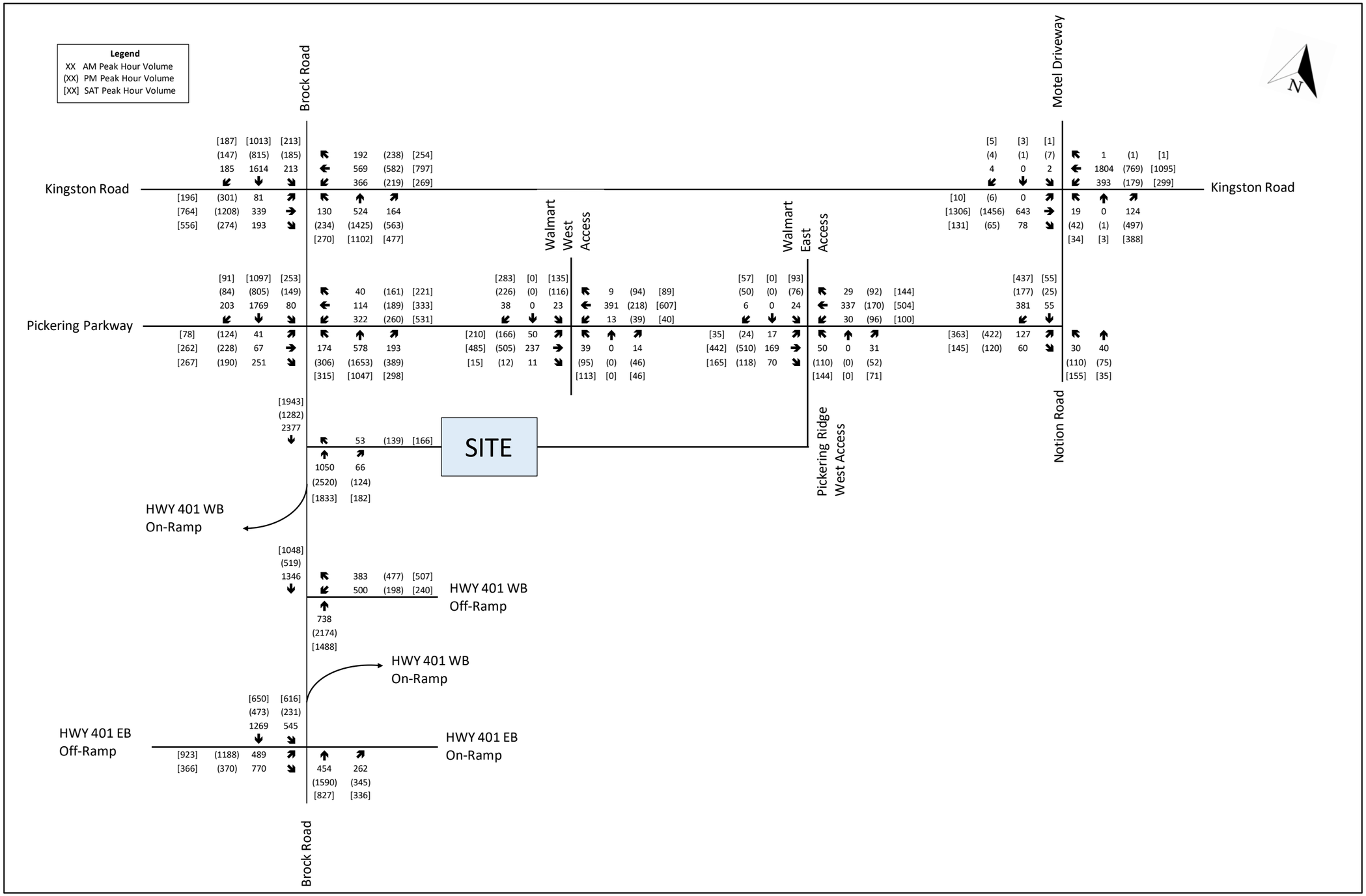


Figure 19: 2031 Background Corridor Growth Volumes

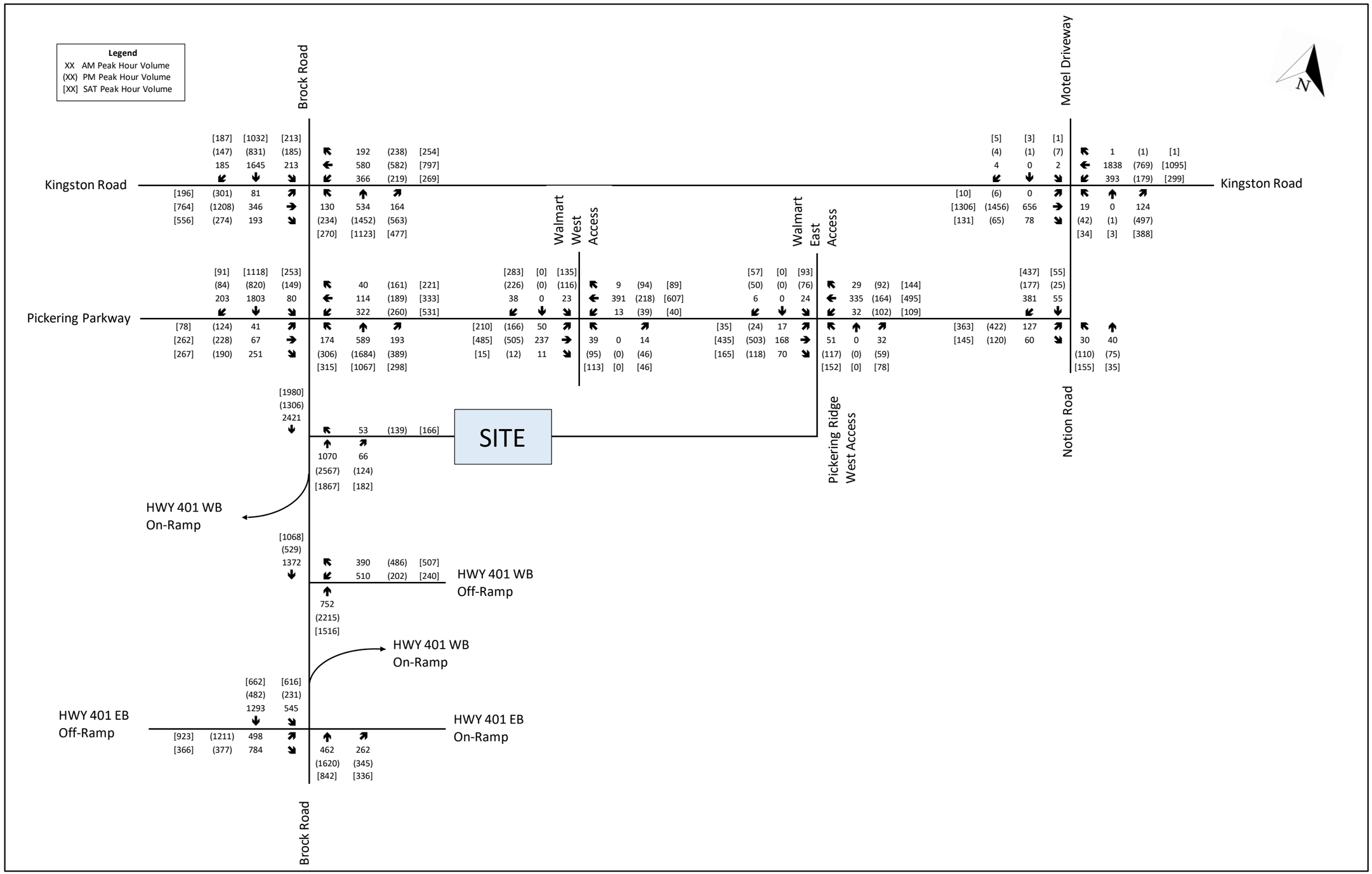


Figure 20: 2036 Background Corridor Growth Volumes

APPENDIX D

Internal Capture Tool and ITE Plots

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	1755 Pickering Parkway TIS	**Organization:**	R.V. Anderson
Project Location:	Pickering Ontario	**Performed By:**	R.V. Anderson
Scenario Description:	Development Phase 1	**Date:**	Februrary 2022
Analysis Year:	2026	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	17,965	sf GFA	43	23	20
Restaurant				0		
Cinema/Entertainment				0		
Residential	222	630	Dwelling Units	117	14	103
Hotel				0		
All Other Land Uses[2]				0		
				160	37	123

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	160	37	123
Internal Capture Percentage	1%	3%	1%
External Vehicle-Trips[5]	158	36	122
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	4%	0%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	0%	1%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	1755 Pickering Parkway TIS	**Organization:**	R.V. Anderson
Project Location:	Pickering Ontario	**Performed By:**	R.V. Anderson
Scenario Description:	Development Phase 1	**Date:**	Februrary 2022
Analysis Year:	2026	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	820	17,965	sf GFA	88	42	46
Restaurant				0		
Cinema/Entertainment				0		
Residential	222	630	Dwelling Units	102	71	31
Hotel				0		
All Other Land Uses[2]				0		
				190	113	77

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	12	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	4	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	190	113	77
Internal Capture Percentage	17%	14%	21%
External Vehicle-Trips[5]	158	97	61
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	10%	26%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	17%	13%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Land Use: 222
Multifamily Housing (High-Rise)

Description

High-rise multifamily housing includes apartments, townhouses, and condominiums that have more than 10 levels (floors). They are likely to have one or more elevators. Multifamily housing (low-rise) (Land Use 220), multifamily housing (mid-rise) (Land Use 221), off-campus student apartment (Land Use 225), and high-rise residential with 1st-floor commercial (Land Use 232) are related land uses.

Additional Data

In prior editions of *Trip Generation Manual*, the high-rise multifamily housing sites were further divided into rental and condominium categories. An investigation of vehicle trip data found no clear differences in trip making patterns between the rental and condominium sites within the ITE database. As more data are compiled for future editions, this land use classification can be reinvestigated.

For the 12 sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 1.57 residents per occupied dwelling unit.

For the 26 sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 98.4 percent of the total dwelling units were occupied.

Time-of-day distribution data for this land use are presented in Appendix A. For the eight dense multi-use sites for which 24-hour time-of-day person trip data were collected, the overall highest vehicle volumes during the AM and PM on a weekday were between 7:30 and 8:30 a.m. and 5:30 and 6:30 p.m., respectively. The Saturday and Sunday peak hours for person trips were between 5:00 and 6:00 p.m. and 4:45 and 5:45 p.m., respectively.

For the six center city core sites for which 24-hour time-of-day person trip data were collected, the overall highest vehicle volumes during the AM and PM on a weekday were between 8:00 and 9:00 a.m. and 6:00 and 7:00 p.m., respectively. The Saturday and Sunday peak hours for person trips were between 11:30 a.m. and 12:30 p.m. and 11:00 a.m. and 12:00 p.m., respectively.

For the 12 sites for which data were provided for both occupied dwelling units and residents, there was an average of 1.57 residents per occupied dwelling unit.

For the 26 sites for which data were provided for both occupied dwelling units and total dwelling units, an average of 98.4 percent of the units were occupied.

The average numbers of person trips per vehicle trip at the three center city core sites at which both person trip and vehicle trip data were collected were as follows:

- 2.52 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 2.70 during Weekday, AM Peak Hour of Generator
- 1.88 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 2.22 during Weekday, PM Peak Hour of Generator

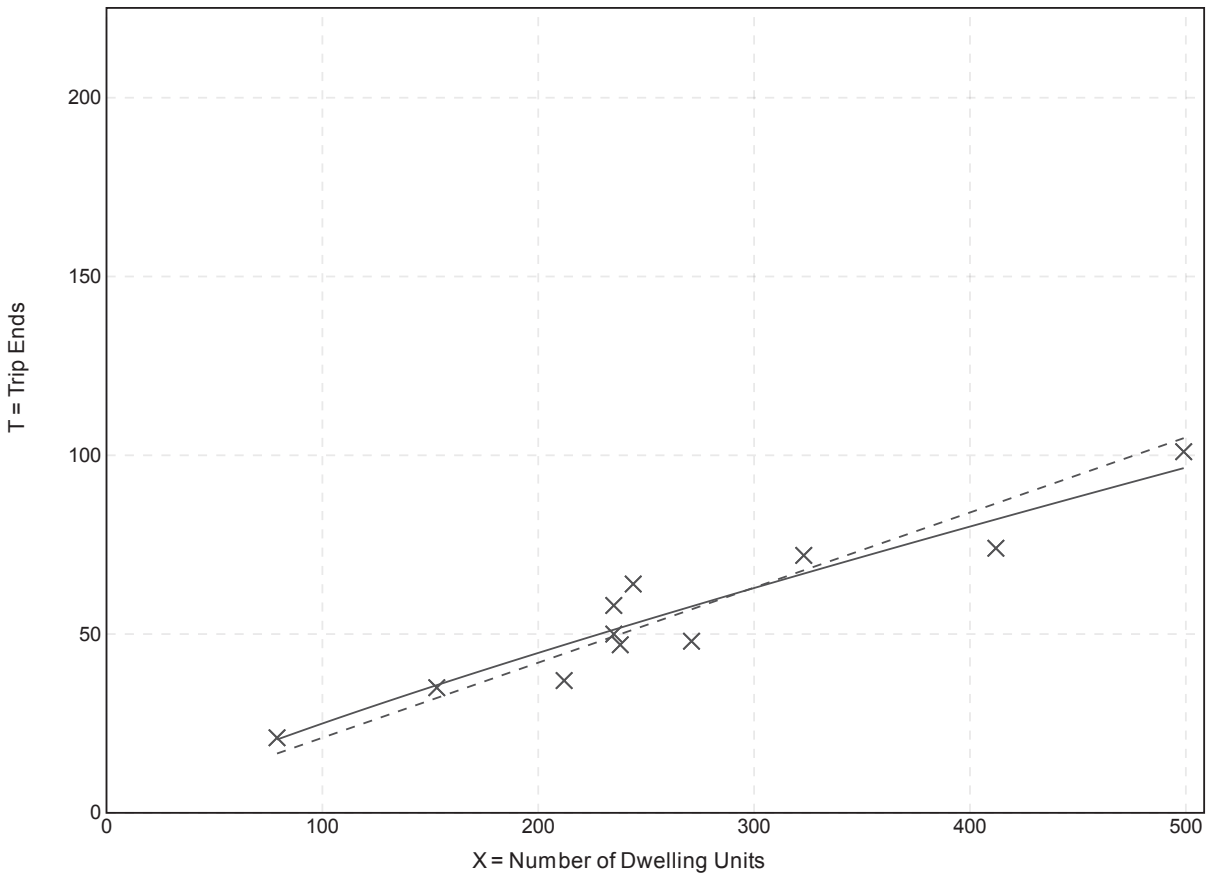
Multifamily Housing (High-Rise)
(222)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**Dense Multi-Use Urban**
Number of Studies:	11
Avg. Num. of Dwelling Units:	264
Directional Distribution:	12% entering, 88% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.21	0.17 - 0.27	0.03

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.84 Ln(X) - 0.65

R^2= 0.91

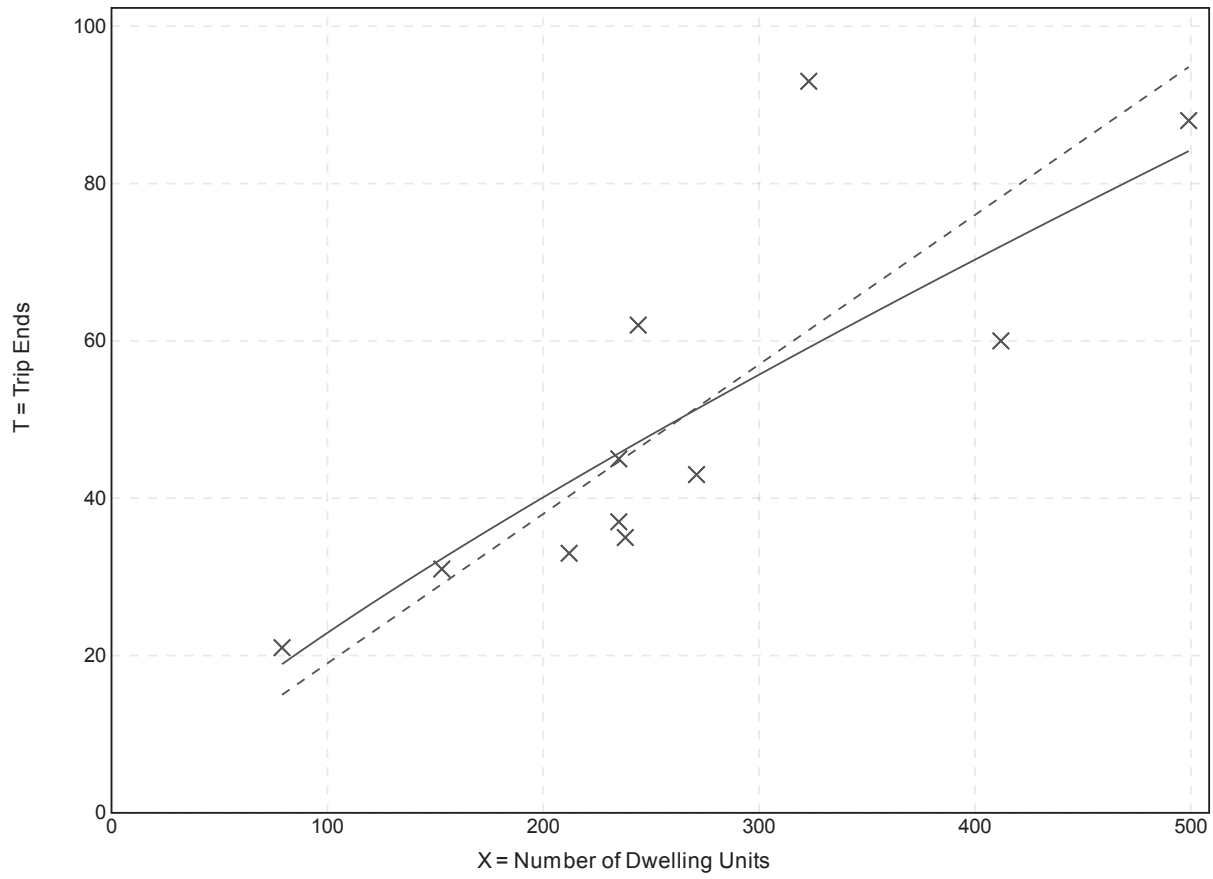
Multifamily Housing (High-Rise)
(222)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**Dense Multi-Use Urban**
Number of Studies:	11
Avg. Num. of Dwelling Units:	264
Directional Distribution:	70% entering, 30% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.19	0.15 - 0.29	0.05

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.81 Ln(X) - 0.60

R^2= 0.74

Multifamily Housing (High-Rise)
(222)

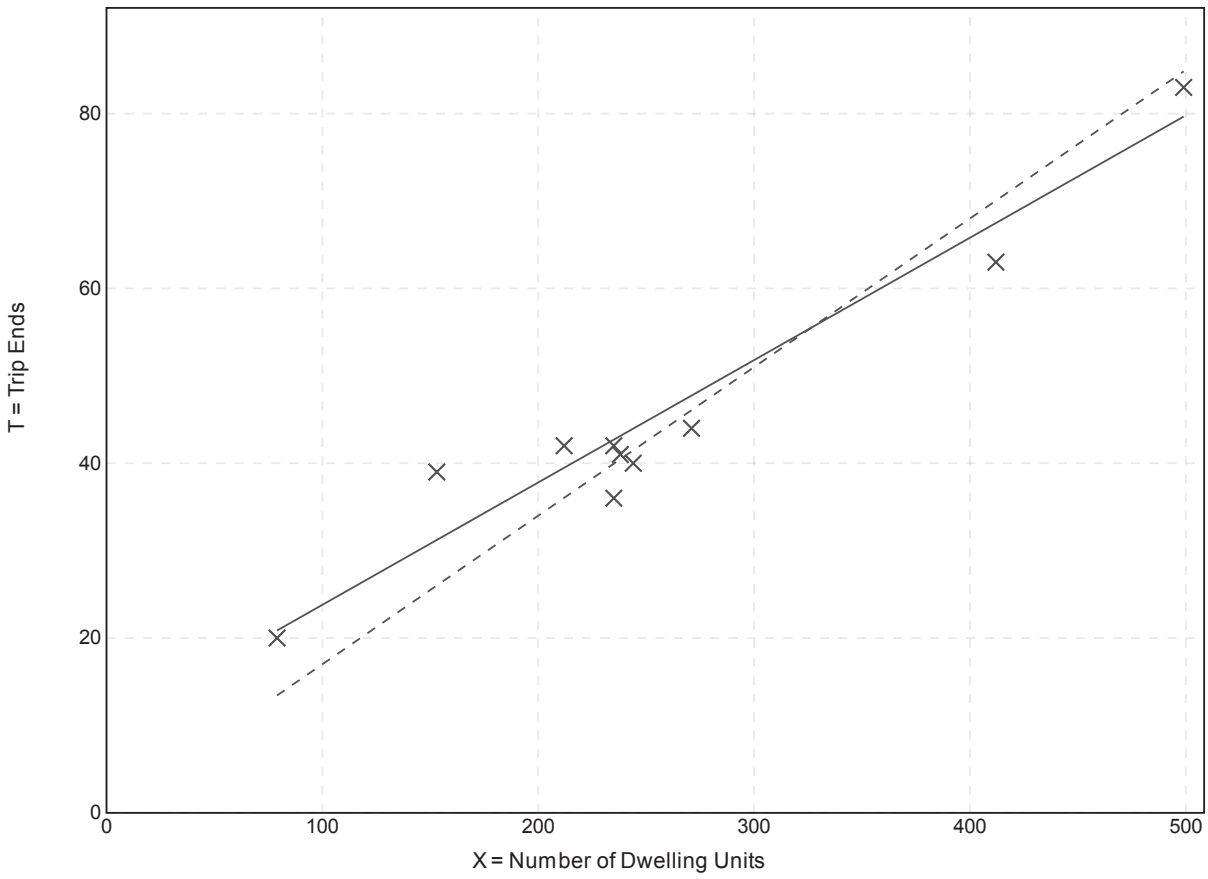
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **Dense Multi-Use Urban**
Number of Studies: 10
Avg. Num. of Dwelling Units: 258
Directional Distribution: 44% entering, 56% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.17	0.15 - 0.25	0.03

Data Plot and Equation



Fitted Curve Equation: T = 0.14(X) + 9.80

R^2= 0.93

Land Use: 820
Shopping Center

Description

A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands. Factory outlet center (Land Use 823) is a related use.

Additional Data

Shopping centers, including neighborhood centers, community centers, regional centers, and super regional centers, were surveyed for this land use. Some of these centers contained non-merchandising facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs, and recreational facilities (for example, ice skating rinks or indoor miniature golf courses).

Many shopping centers, in addition to the integrated unit of shops in one building or enclosed around a mall, include outparcels (peripheral buildings or pads located on the perimeter of the center adjacent to the streets and major access points). These buildings are typically drive-in banks, retail stores, restaurants, or small offices. Although the data herein do not indicate which of the centers studied included peripheral buildings, it can be assumed that some of the data show their effect.

The vehicle trips generated at a shopping center are based upon the total GLA of the center. In cases of smaller centers without an enclosed mall or peripheral buildings, the GLA could be the same as the gross floor area of the building.

Time-of-day distribution data for this land use are presented in Appendix A. For the 10 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:45 a.m. and 12:45 p.m. and 12:15 and 1:15 p.m., respectively.

The average numbers of person trips per vehicle trip at the 27 general urban/suburban sites at which both person trip and vehicle trip data were collected were as follows:

- 1.31 during Weekday, AM Peak Hour of Generator
- 1.43 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.46 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), British Columbia (CAN), California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Nevada, New Jersey, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, Washington, West Virginia, and Wisconsin.

Source Numbers

105, 110, 154, 156, 159, 186, 190, 198, 199, 202, 204, 211, 213, 239, 251, 259, 260, 269, 294, 295, 299, 300, 301, 304, 305, 307, 308, 309, 310, 311, 314, 315, 316, 317, 319, 358, 365, 376, 385, 390, 400, 404, 414, 420, 423, 428, 437, 440, 442, 444, 446, 507, 562, 580, 598, 629, 658, 702, 715, 728, 868, 870, 871, 880, 899, 908, 912, 915, 926, 936, 944, 946, 960, 961, 962, 973, 974, 978

Shopping Center
(820)

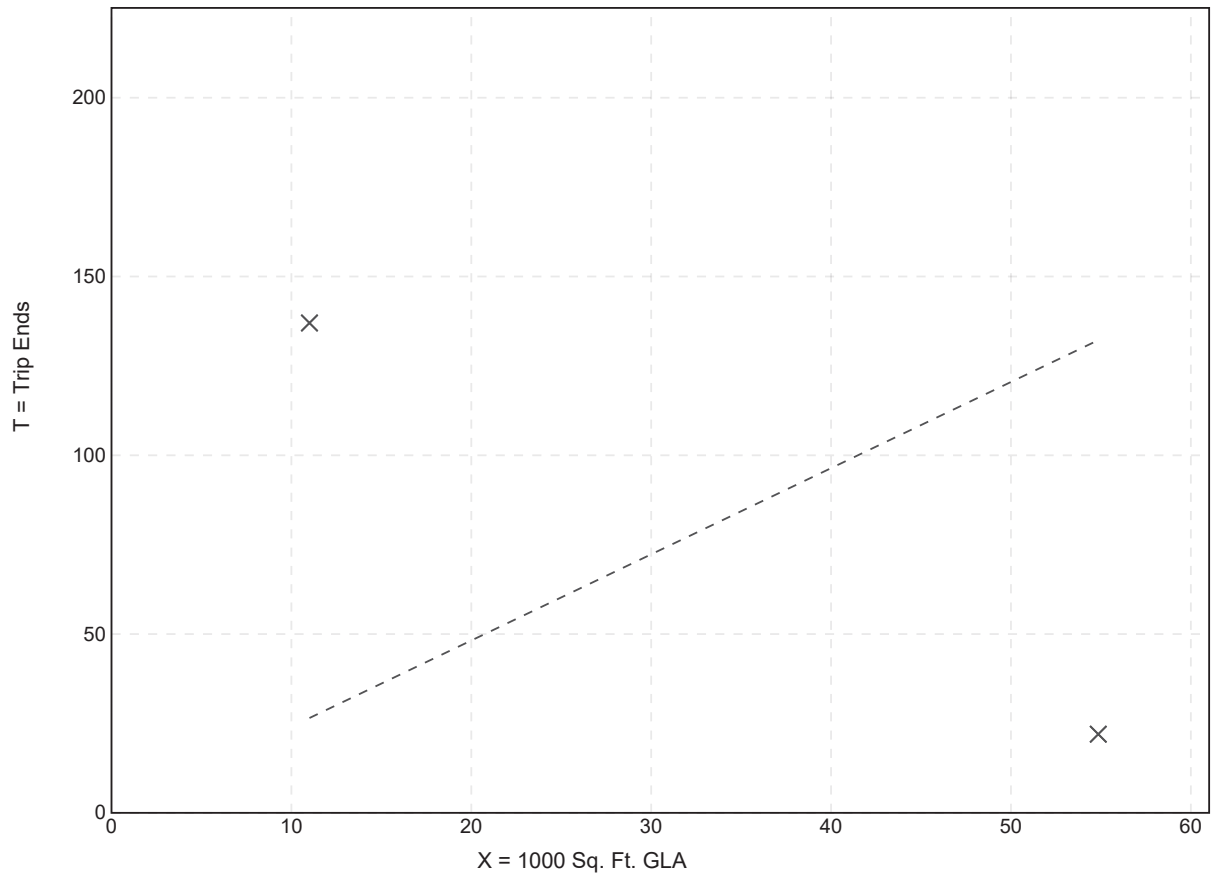
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **Dense Multi-Use Urban**
Number of Studies: 2
1000 Sq. Ft. GLA: 33
Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.41	0.40 - 12.45	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

Shopping Center
(820)

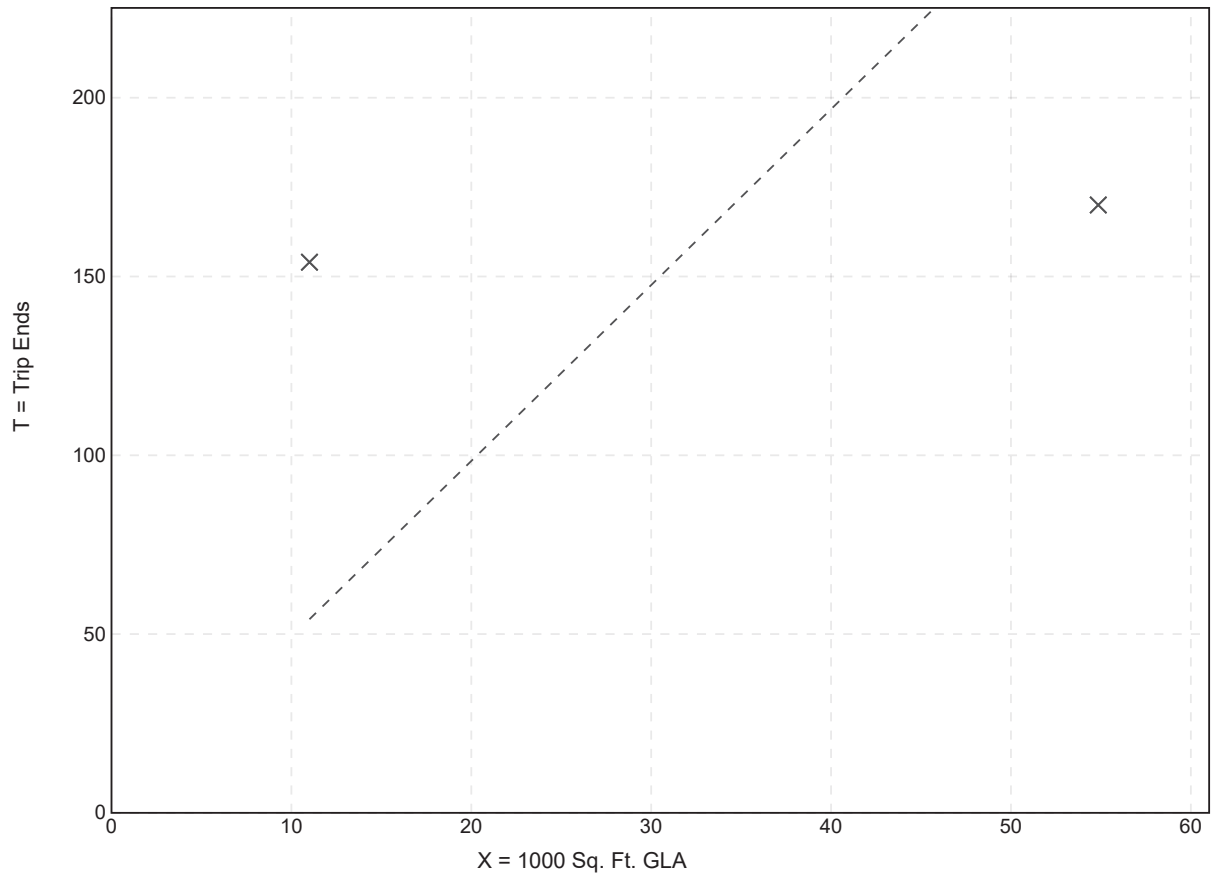
Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**Dense Multi-Use Urban**
Number of Studies:	2
1000 Sq. Ft. GLA:	33
Directional Distribution:	48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.92	3.10 - 13.99	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

Shopping Center
(820)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Saturday, Peak Hour of Generator**

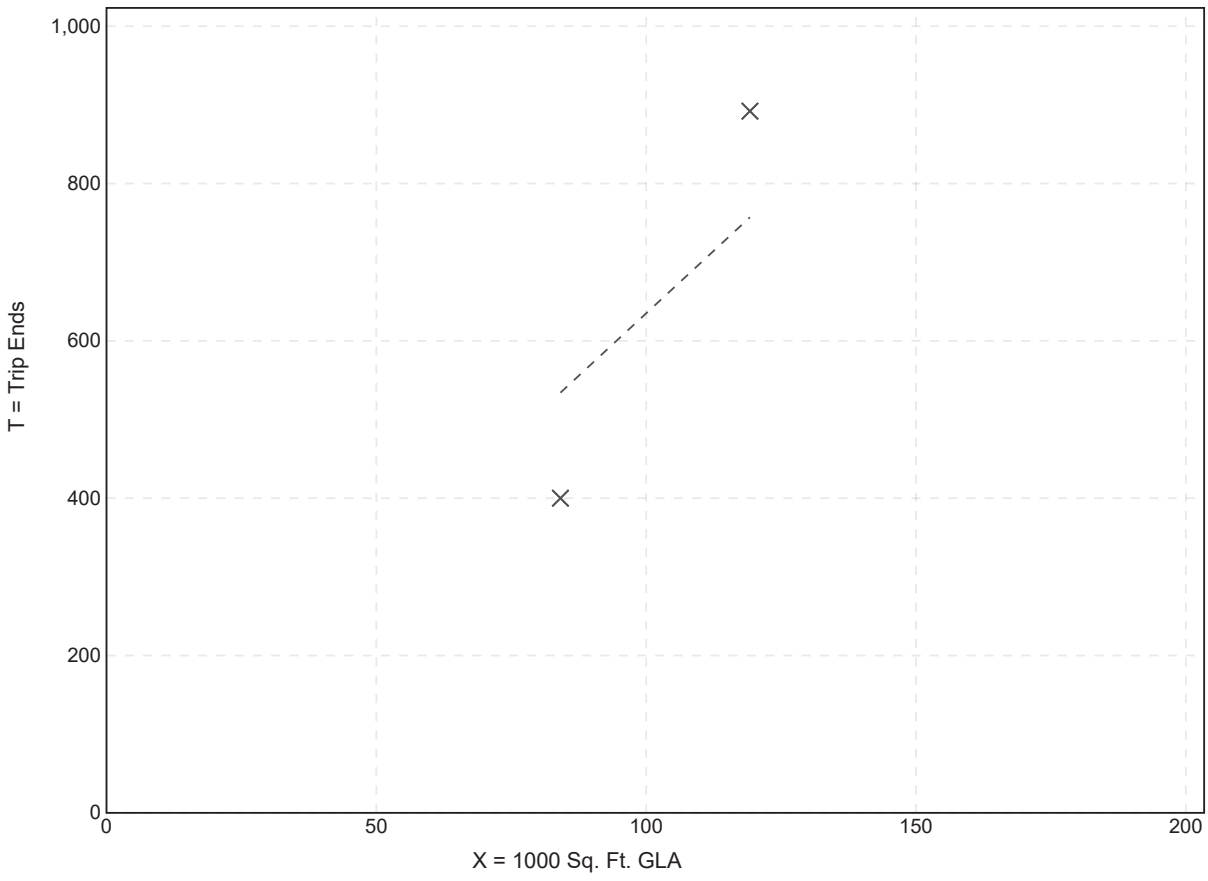
Setting/Location: **Dense Multi-Use Urban**
Number of Studies: 2
1000 Sq. Ft. GLA: 102
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.35	4.76 - 7.48	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

APPENDIX E

1899 Brock Road TIS

3.4 AREA TRAVEL CHARACTERISTICS

The existing home-based trips modal split in the area were derived using the 2016 Transportation Tomorrow Survey (TTS) database to better understand the travel mode characteristics of the proposed redevelopment, as the majority of it will be high-rise residential buildings. To ensure a comprehensive sample size was used, 2006 GTA zones 1032, 1037, 1038, 1039, 1040, 1045, and 1052, which are near the subject site and within the boundary of Pickering, were selected since the zones are predominantly residential. The subject site is located in Zone 1045, which mainly consists of commercial establishments. **Figure 3-5** shows the locations of the selected TTS Zones.

The modal split percentages for the outbound and inbound trips were captured for a 3-hour morning (6:00a.m.-8:59a.m.) and afternoon period (3:00p.m.-5:59p.m.), which is a time frame that is in accordance with the Durham Transportation Master Plan (TMP). The results from the TTS database are summarized in **Table 3-1** and the conversion of TTS data to modal split percentages is detailed in the associated excel worksheets provided in **Appendix B**.

Table 3-1: Area Existing Residential Modal Split

Primary Travel Mode	Modal Split Percentage			
	A.M. Peak Inbound	A.M. Peak Outbound	P.M. Peak Inbound	P.M. Peak Outbound
Auto driver	87.2%	64.1%	66.9%	76.8%
Auto passenger	2.1%	10.8%	8.2%	15.8%
GO train	0%	5.8%	5.7%	2.3%
Walk	10.6%	5.4%	7.0%	1.2%
DRT (bus) & GO (train)	0%	5.0%	3.6%	1.2%
School bus	0%	4.8%	2.7%	0%
DRT (bus)	0%	3.5%	5.4%	1.0%
Cycle	0%	0.4%	0.3%	1.8%
Paid rideshare / Taxi	0%	0.3%	0.2%	0%
Totals	**100%**	**100%**	**100%**	**100%**

As shown in **Table 3-1**, the derived modal split shows that an average of 83.1% of all home-based trips from/to this area of Pickering during the peak periods are auto trips (auto drivers, auto passengers, paid rideshare and taxi). Public transit trips, including GO transit, DRT and a combination of both, accounts for approximately 8.4% of the total trips and school bus trips accounts for an average of 1.9% of the total trips. The modal split percentage for active transportation in the area is relatively low, with an average of 6.1% for walking trips and nearly no (0.7%) cycling trips.

These modal split percentages provide an indication of the potential travel mode characteristics of the proposed Block 1. Some transit improvements are planned for the area, such as the Durham-Scarborough Bus Rapid Transit (discussed in **Section 4.2**), which is expected to increase the transit mode share in the future conditions.

APPENDIX F

Transportation Tomorrow Survey (TTS) Data

Mon Feb 01 2021 13:50:14 GMT-0500 (Eastern Standard Time) - Run Time: 2836ms

AM OUT

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: 2006 GTA zone of origin - gta06_orig

RowG:
ColG:(1031 1032 1037 1038 1039 1040 1044 1045 1052)
TblG:

Filters:
Start time of trip - start_time In 0600-0859
and
Primary travel mode of trip - mode_prime In d m p t u
and
Trip purpose of origin - purp_orig In h
and
Trip purpose of destination - purp_dest In c d f m r s w o

Trip 2016
Table:

PD 1 of Toronto	446
PD 3 of Toronto	212
PD 4 of Toronto	317
PD 5 of Toronto	279
PD 6 of Toronto	138
PD 7 of Toronto	25
PD 8 of Toronto	30
PD 9 of Toronto	47
PD 10 of Toronto	258
PD 11 of Toronto	203
PD 12 of Toronto	247
PD 13 of Toronto	827
PD 14 of Toronto	72
PD 15 of Toronto	281
PD 16 of Toronto	599
Uxbridge	14
Scugog	68
Pickering	3881
Ajax	600
Whitby	231
Oshawa	301
Clarington	42
Newmarket	17
Aurora	147
Richmond Hill	99
Whitchurch-Stouffville	33
Markham	1075
Vaughan	295
Brampton	14
Mississauga	211
Milton	42
Flamborough	30
Barrie	20
External	57
	11,158

AM Peak Hour

Outbound AM OUT

2/17/2021

Traffic Volume Allocation

Destination Zone	Trips	%	EAST Kingston Rd	West Kingston Rd	EAST Hwy 401	WEST Hwy 401	East Pickering P	West Pickering P	NORTH Brock Rd	SOUTH Brock Rd	TOTAL
PD 1 of Toronto	446	4%		15%		85%					100.00%
PD 3 of Toronto	212	2%		10%		90%					100.00%
PD 4 of Toronto	317	3%		5%		95%					100.00%
PD 5 of Toronto	279	3%		5%		85%			10%		100.00%
PD 6 of Toronto	138	1%		5%		95%					100.00%
PD 7 of Toronto	25	0%		5%		95%					100.00%
PD 8 of Toronto	30	0%				100%					100.00%
PD 9 of Toronto	47	0%				95%			5%		100.00%
PD 10 of Toronto	258	2%		5%		80%			15%		100.00%
PD 11 of Toronto	203	2%				90%			10%		100.00%
PD 12 of Toronto	247	2%		5%		90%			5%		100.00%
PD 13 of Toronto	827	7%		10%		90%					100.00%
PD 14 of Toronto	72	1%		10%		90%					100.00%
PD 15 of Toronto	281	3%		10%		90%					100.00%
PD 16 of Toronto	599	5%		25%		75%					100.00%
Uxbridge	14	0%							100%		100.00%
Scugog	68	1%			30%				70%		100.00%
Pickering	3881	35%	5%	35%		5%		10%	22%	23%	100.00%
Ajax	600	5%	35%		25%				20%	20%	100.00%
Whitby	231	2%	25%		40%				25%	10%	100.00%
Oshawa	301	3%	25%		50%				15%	10%	100.00%
Clarington	42	0%	15%		80%				5%		100.00%
Newmarket	17	0%				15%			85%		100.00%
Aurora	147	1%				15%			85%		100.00%
Richmond Hill	99	1%				70%			30%		100.00%
Whitchurch-Stou	33	0%							100%		100.00%
Markham	1075	10%				70%			30%		100.00%
Vaughan	295	3%				60%			40%		100.00%
Brampton	14	0%				100%					100.00%
Mississauga	211	2%		15%		80%			5%		100.00%
Milton	42	0%				100%					100.00%
Flamborough	30	0%				100%					100.00%
Barrie	20	0%		5%		25%			70%		100.00%
TOTAL TRIPS	11101	100%									**AM Outbound**

Route Split Totals

EAST Kingston Rd	West Kingston Rd	EAST Hwy 401	WEST Hwy 401	East Pickering Pkv	West Pickering Pkv	NORTH Brock Rd	SOUTH Brock Rd	TOTAL
0.00%	0.60%	0.00%	3.42%	0.00%	0.00%	0.00%	0.00%	4.0%
0.00%	0.19%	0.00%	1.72%	0.00%	0.00%	0.00%	0.00%	1.9%
0.00%	0.14%	0.00%	2.71%	0.00%	0.00%	0.00%	0.00%	2.9%
0.00%	0.13%	0.00%	2.14%	0.00%	0.00%	0.25%	0.00%	2.5%
0.00%	0.06%	0.00%	1.18%	0.00%	0.00%	0.00%	0.00%	1.2%
0.00%	0.01%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0.2%
0.00%	0.00%	0.00%	0.27%	0.00%	0.00%	0.00%	0.00%	0.3%
0.00%	0.00%	0.00%	0.40%	0.00%	0.00%	0.02%	0.00%	0.4%
0.00%	0.12%	0.00%	1.86%	0.00%	0.00%	0.35%	0.00%	2.3%
0.00%	0.00%	0.00%	1.65%	0.00%	0.00%	0.18%	0.00%	1.8%
0.00%	0.11%	0.00%	2.00%	0.00%	0.00%	0.11%	0.00%	2.2%
0.00%	0.74%	0.00%	6.70%	0.00%	0.00%	0.00%	0.00%	7.4%
0.00%	0.06%	0.00%	0.58%	0.00%	0.00%	0.00%	0.00%	0.6%
0.00%	0.25%	0.00%	2.28%	0.00%	0.00%	0.00%	0.00%	2.5%
0.00%	1.35%	0.00%	4.05%	0.00%	0.00%	0.00%	0.00%	5.4%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.13%	0.00%	0.1%
0.00%	0.00%	0.18%	0.00%	0.00%	0.00%	0.43%	0.00%	0.6%
1.75%	12.24%	0.00%	1.75%	0.00%	3.50%	7.69%	8.04%	35.0%
1.89%	0.00%	1.35%	0.00%	0.00%	0.00%	1.08%	1.08%	5.4%
0.52%	0.00%	0.83%	0.00%	0.00%	0.00%	0.52%	0.21%	2.1%
0.68%	0.00%	1.36%	0.00%	0.00%	0.00%	0.41%	0.27%	2.7%
0.06%	0.00%	0.30%	0.00%	0.00%	0.00%	0.02%	0.00%	0.4%
0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.13%	0.00%	0.2%
0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	1.13%	0.00%	1.3%
0.00%	0.00%	0.00%	0.62%	0.00%	0.00%	0.27%	0.00%	0.9%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.30%	0.00%	0.3%
0.00%	0.00%	0.00%	6.78%	0.00%	0.00%	2.91%	0.00%	9.7%
0.00%	0.00%	0.00%	1.59%	0.00%	0.00%	1.06%	0.00%	2.7%
0.00%	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.00%	0.1%
0.00%	0.29%	0.00%	1.52%	0.00%	0.00%	0.10%	0.00%	1.9%
0.00%	0.00%	0.00%	0.38%	0.00%	0.00%	0.00%	0.00%	0.4%
0.00%	0.00%	0.00%	0.27%	0.00%	0.00%	0.00%	0.00%	0.3%
0.00%	0.01%	0.00%	0.05%	0.00%	0.00%	0.13%	0.00%	0.2%
5%	**16%**	**4%**	**44%**	**0%**	**3%**	**17%**	**10%**	100.0%
5%	**16%**	**4%**	**45%**	**0%**	**3%**	**17%**	**10%**	100.00%

Rounded Split

Mon Feb 01 2021 13:57:09 GMT-0500 (Eastern Standard Time) - Run Time: 2474ms

PM IN

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: 2006 GTA zone of destination - gta06_dest

RowG:
ColG:(1031 1032 1037 1038 1039 1040 1044 1045 1052)
TblG:

Filters:
Start time of trip -
start_time In 1500-1759
and
Primary travel mode of trip
- mode_prime In d m p t u
and

Trip purpose of destination
- purp_dest In h
and
Trip purpose of origin -
purp_orig In c d f m r s w o

Trip 2016
Table:

PD 1 of Toronto	409
PD 2 of Toronto	19
PD 3 of Toronto	137
PD 4 of Toronto	233
PD 5 of Toronto	327
PD 6 of Toronto	113
PD 7 of Toronto	25
PD 8 of Toronto	40
PD 9 of Toronto	47
PD 10 of Toronto	250
PD 11 of Toronto	109
PD 12 of Toronto	229
PD 13 of Toronto	924
PD 14 of Toronto	95
PD 15 of Toronto	295
PD 16 of Toronto	644
Scugog	46
Pickering	3262
Ajax	628
Whitby	139
Oshawa	579
Clarington	42
Georgina	44
Newmarket	17
Aurora	122
Richmond Hill	56
Whitchurch-Stouffville	58
Markham	876
Vaughan	197
Brampton	14
Mississauga	181
Milton	42
Orangeville	27
Barrie	20
Muskoka	19
Orillia	27
External	37
	10,329

PM Peak Hour

Inbound PM IN

2/17/2021

Traffic Volume Allocation

Origin Zone	Trips	%	EAST Kingston Rd	West Kingston Rd	EAST Hwy 401	WEST Hwy 401	East Pickering P	West Pickering P	NORTH Brock Rd	SOUTH Brock Rd	TOTAL
PD 1 of Toronto	409	4%		15%		85%					100.00%
PD 2 of Toronto	19	0%		15%		85%					100.00%
PD 3 of Toronto	137	1%		10%		90%					100.00%
PD 4 of Toronto	233	2%		5%		95%					100.00%
PD 5 of Toronto	327	3%		5%		85%			10%		100.00%
PD 6 of Toronto	113	1%		15%		85%					100.00%
PD 7 of Toronto	25	0%		5%		95%					100.00%
PD 8 of Toronto	40	0%				100%					100.00%
PD 9 of Toronto	47	0%				95%			5%		100.00%
PD 10 of Toronto	250	2%		5%		80%			15%		100.00%
PD 11 of Toronto	109	1%				90%			10%		100.00%
PD 12 of Toronto	229	2%		5%		90%			5%		100.00%
PD 13 of Toronto	924	9%		10%		90%					100.00%
PD 14 of Toronto	95	1%		10%		90%					100.00%
PD 15 of Toronto	295	3%		10%		90%					100.00%
PD 16 of Toronto	644	6%		30%		70%					100.00%
Scugog	46	0%			30%				70%		100.00%
Pickering	3262	32%	5%	35%		5%		10%	22%	23%	100.00%
Ajax	628	6%	35%		20%				20%	25%	100.00%
Whitby	139	1%	15%		45%				20%	20%	100.00%
Oshawa	579	6%	20%		50%				15%	15%	100.00%
Clarington	42	0%	10%		85%				5%		100.00%
Georgina	44	0%							100%		100.00%
Newmarket	17	0%				15%			85%		100.00%
Aurora	122	1%				15%			85%		100.00%
Richmond Hill	56	1%				65%			35%		100.00%
Whitchurch-Stou	58	1%							100%		100.00%
Markham	876	9%				60%			40%		100.00%
Vaughan	197	2%				70%			30%		100.00%
Brampton	14	0%				100%					100.00%
Mississauga	181	2%		15%		80%			5%		100.00%
Milton	42	0%				100%					100.00%
Orangeville	27	0%				90%			10%		100.00%
Barrie	20	0%				10%			90%		100.00%
Muskoka	19	0%				70%			30%		100.00%
Orillia	27	0%	60%			20%			20%		100.00%
TOTAL TRIPS	10292	100%									**PM Inbound**

Route Split Totals

Origin Zone	EAST Kingston Rd	West Kingston Rd	EAST Hwy 401	WEST Hwy 401	East Pickering Pkv	West Pickering Pkv	NORTH Brock Rd	SOUTH Brock Rd	TOTAL
PD 1 of Toronto	0.00%	0.60%	0.00%	3.38%	0.00%	0.00%	0.00%	0.00%	4.0%
PD 2 of Toronto	0.00%	0.03%	0.00%	0.16%	0.00%	0.00%	0.00%	0.00%	0.2%
PD 3 of Toronto	0.00%	0.13%	0.00%	1.20%	0.00%	0.00%	0.00%	0.00%	1.3%
PD 4 of Toronto	0.00%	0.11%	0.00%	2.15%	0.00%	0.00%	0.00%	0.00%	2.3%
PD 5 of Toronto	0.00%	0.16%	0.00%	2.70%	0.00%	0.00%	0.32%	0.00%	3.2%
PD 6 of Toronto	0.00%	0.16%	0.00%	0.93%	0.00%	0.00%	0.00%	0.00%	1.1%
PD 7 of Toronto	0.00%	0.01%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.2%
PD 8 of Toronto	0.00%	0.00%	0.00%	0.39%	0.00%	0.00%	0.00%	0.00%	0.4%
PD 9 of Toronto	0.00%	0.00%	0.00%	0.43%	0.00%	0.00%	0.02%	0.00%	0.5%
PD 10 of Toronto	0.00%	0.12%	0.00%	1.94%	0.00%	0.00%	0.36%	0.00%	2.4%
PD 11 of Toronto	0.00%	0.00%	0.00%	0.95%	0.00%	0.00%	0.11%	0.00%	1.1%
PD 12 of Toronto	0.00%	0.11%	0.00%	2.00%	0.00%	0.00%	0.11%	0.00%	2.2%
PD 13 of Toronto	0.00%	0.90%	0.00%	8.08%	0.00%	0.00%	0.00%	0.00%	9.0%
PD 14 of Toronto	0.00%	0.09%	0.00%	0.83%	0.00%	0.00%	0.00%	0.00%	0.9%
PD 15 of Toronto	0.00%	0.29%	0.00%	2.58%	0.00%	0.00%	0.00%	0.00%	2.9%
PD 16 of Toronto	0.00%	1.88%	0.00%	4.38%	0.00%	0.00%	0.00%	0.00%	6.3%
Scugog	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.31%	0.00%	0.4%
Pickering	1.58%	11.09%	0.00%	1.58%	0.00%	3.17%	6.97%	7.29%	31.7%
Ajax	2.14%	0.00%	1.22%	0.00%	0.00%	0.00%	1.22%	1.53%	6.1%
Whitby	0.20%	0.00%	0.61%	0.00%	0.00%	0.00%	0.27%	0.27%	1.4%
Oshawa	1.13%	0.00%	2.81%	0.00%	0.00%	0.00%	0.84%	0.84%	5.6%
Clarington	0.04%	0.00%	0.35%	0.00%	0.00%	0.00%	0.02%	0.00%	0.4%
Georgina	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.43%	0.00%	0.4%
Newmarket	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.14%	0.00%	0.2%
Aurora	0.00%	0.00%	0.00%	0.18%	0.00%	0.00%	1.01%	0.00%	1.2%
Richmond Hill	0.00%	0.00%	0.00%	0.35%	0.00%	0.00%	0.19%	0.00%	0.5%
Whitchurch-Stou	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.56%	0.00%	0.6%
Markham	0.00%	0.00%	0.00%	5.11%	0.00%	0.00%	3.40%	0.00%	8.5%
Vaughan	0.00%	0.00%	0.00%	1.34%	0.00%	0.00%	0.57%	0.00%	1.9%
Brampton	0.00%	0.00%	0.00%	0.14%	0.00%	0.00%	0.00%	0.00%	0.1%
Mississauga	0.00%	0.26%	0.00%	1.41%	0.00%	0.00%	0.09%	0.00%	1.8%
Milton	0.00%	0.00%	0.00%	0.41%	0.00%	0.00%	0.00%	0.00%	0.4%
Orangeville	0.00%	0.00%	0.00%	0.24%	0.00%	0.00%	0.03%	0.00%	0.3%
Barrie	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.17%	0.00%	0.2%
Muskoka	0.00%	0.00%	0.00%	0.13%	0.00%	0.00%	0.06%	0.00%	0.2%
Orillia	0.16%	0.00%	0.00%	0.05%	0.00%	0.00%	0.05%	0.00%	0.3%
PM Inbound	**5%**	**16%**	**5%**	**43%**	**0%**	**3%**	**17%**	**10%**	100.0%
Rounded Split	**6%**	**16%**	**5%**	**43%**	**0%**	**3%**	**17%**	**10%**	100.00%

APPENDIX G

Site Demolition Reduction & Access Redistribution TMDs

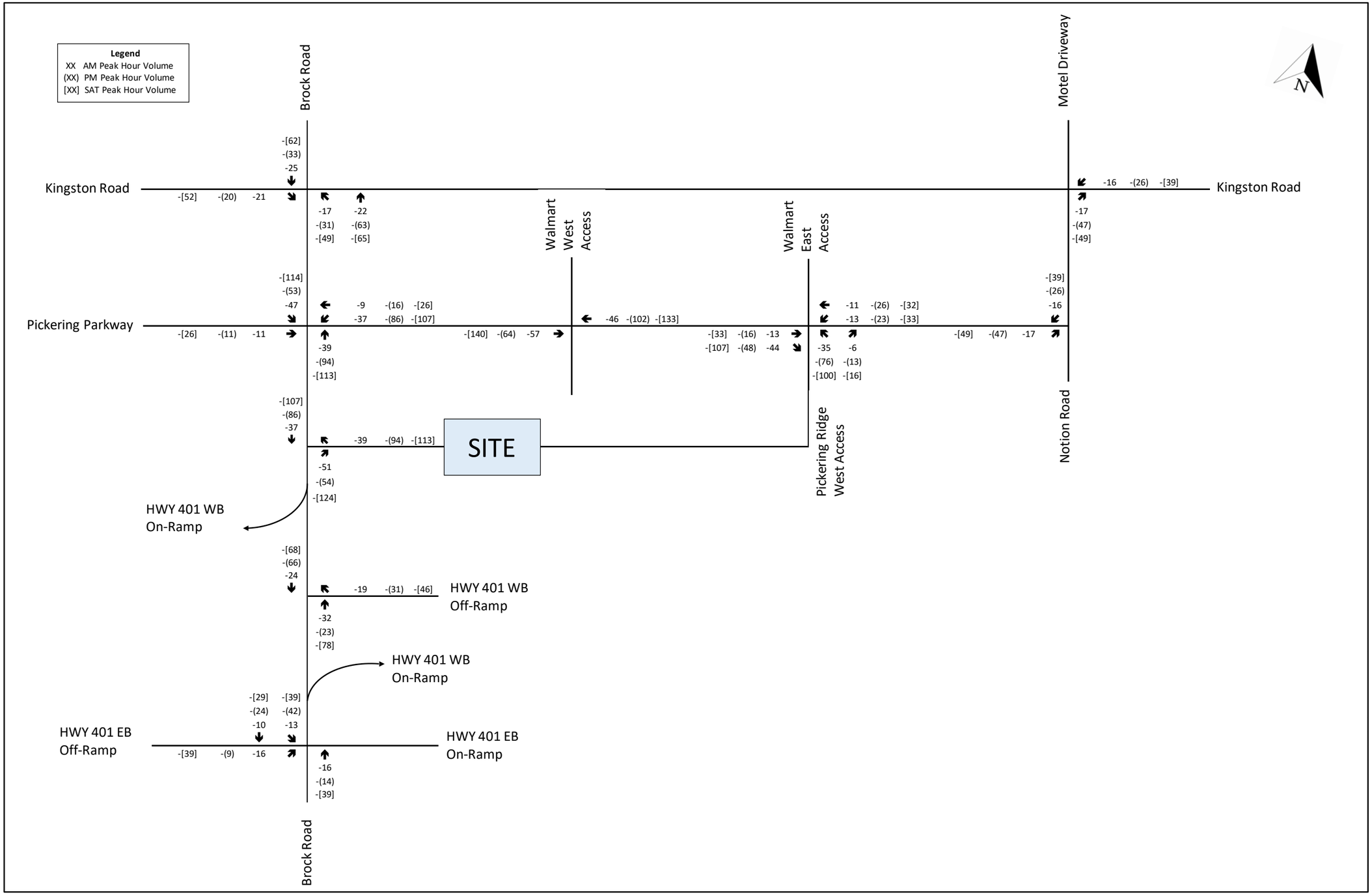


Figure 1: Site Demolition Trip Reduction (2031 and beyond)

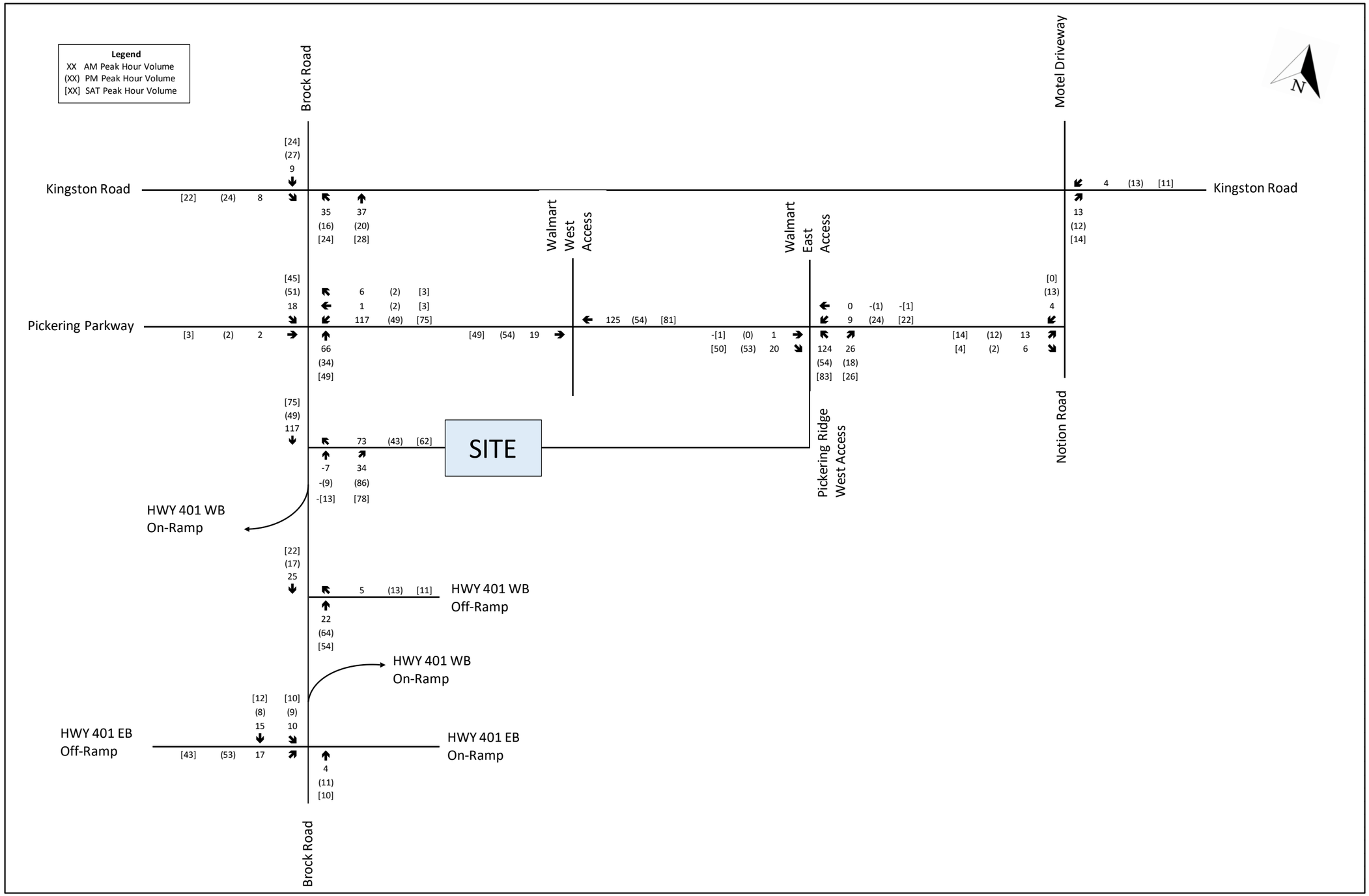


Figure 2: Phase 1 & Phase 2 Trip Redistribution (2036)

APPENDIX H

Signal Timing Plans

INTERSECTION SIGNAL TIMING REPORT

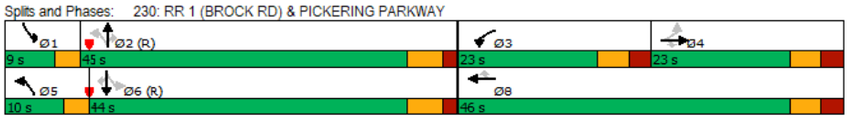
Location	Brock Rd. (RR 1) and Pickering Pkwy.				
Date	March 08/2021	**C&E No.**	34290934	**Prepared by**	C. Maw
Prepared for	R.V. Anderson Associates Limited				

AM Peak 05:30-09:00

Phase Number	1	2	3	4	5	6	8
Movement	SBL	NBTL	WBL	EBTL	NBL	SBTL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	None	None	C-Max	None
Maximum Split (s)	9	45	23	23	10	44	46
Maximum Split (%)	9.0%	45.0%	23.0%	23.0%	10.0%	44.0%	46.0%
Minimum Split (s)	9	28	16	38	9	31	34
Yellow Time (s)	3	4.2	3.7	3.7	3	4.2	3.7
All-Red Time (s)	0	1.9	2.8	2.8	0	1.9	2.8
Minimum Initial (s)	5	20	8	8	5	20	8
Vehicle Extension (s)	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0
Walk Time (s)		16		21		18	19
Flash Dont Walk (s)		5		9		6	7

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	135
Offset: 37 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	

Splits and Phases: 230: RR 1 (BROCK RD) & PICKERING PARKWAY

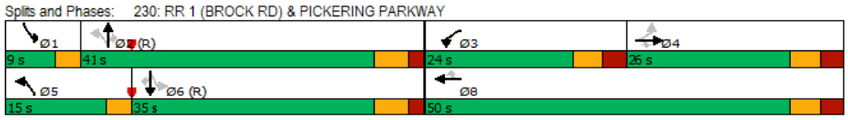


PM Peak 14:30-19:00

Phase Number	1	2	3	4	5	6	8
Movement	SBL	NBTL	WBL	EBTL	NBL	SBTL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	None	None	C-Max	None
Maximum Split (s)	9	41	24	26	15	35	50
Maximum Split (%)	9.0%	41.0%	24.0%	26.0%	15.0%	35.0%	50.0%
Minimum Split (s)	9	28	16	38	9	31	34
Yellow Time (s)	3	4.2	3.7	3.7	3	4.2	3.7
All-Red Time (s)	0	1.9	2.8	2.8	0	1.9	2.8
Minimum Initial (s)	5	20	8	8	5	20	8
Vehicle Extension (s)	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0
Walk Time (s)		16		21		18	19
Flash Dont Walk (s)		5		9		6	7

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	105
Offset: 27 (27%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	

Splits and Phases: 230: RR 1 (BROCK RD) & PICKERING PARKWAY

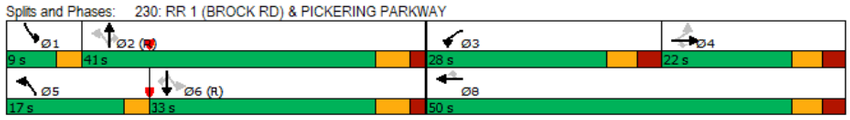


Weekend Peak 08:00 - 21:00

Phase Number	1	2	3	4	5	6	8
Movement	SBL	NBTL	WBL	EBTL	NBL	SBTL	WBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	None	None	None	C-Max	None
Maximum Split (s)	9	41	28	22	17	33	50
Maximum Split (%)	9.0%	41.0%	28.0%	22.0%	17.0%	33.0%	50.0%
Minimum Split (s)	9	28	16	38	9	31	34
Yellow Time (s)	3	4.2	3.7	3.7	3	4.2	3.7
All-Red Time (s)	0	1.9	2.8	2.8	0	1.9	2.8
Minimum Initial (s)	5	20	8	8	5	20	8
Vehicle Extension (s)	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0
Walk Time (s)		16		21		18	19
Flash Dont Walk (s)		5		9		6	7

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	105
Offset: 38 (38%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	

Splits and Phases: 230: RR 1 (BROCK RD) & PICKERING PARKWAY



**Please note a concerted effort has been made to ensure the accuracy and completeness of the data provided, however, inadvertent errors or omissions can still occur. Please bring any errors or omissions to the Region's attention.*

INTERSECTION SIGNAL TIMING REPORT

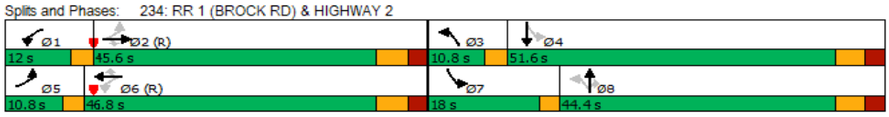
Location	Kingston Road (R. Hwy. 2) @ Brock Road (RR 1)				
Date	March 08/2021	**C&E No.**	34290934	**Prepared by**	C. Maw
Prepared for	R.V. Anderson Associates Limited				

AM Peak 05:30-09:00

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize								
Recall Mode	None	C-Max	None	Max	None	C-Max	None	Max
Maximum Split (s)	12	45.6	10.8	51.6	10.8	46.8	18	44.4
Maximum Split (%)	10.0%	38.0%	9.0%	43.0%	9.0%	39.0%	15.0%	37.0%
Minimum Split (s)	8	43	8	42	8	43	8	42
Yellow Time (s)	3	4.2	3	4.2	3	4.2	3	4.2
All-Red Time (s)	0	2.8	0	2.8	0	2.8	0	2.8
Minimum Initial (s)	5	20	5	8	5	20	5	8
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		29		28		29		28

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	145
Offset: 76.8 (64%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 234: RR 1 (BROCK RD) & HIGHWAY 2

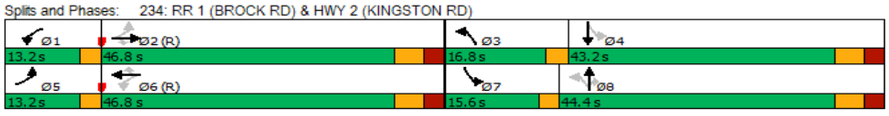


PM Peak 14:30-20:00

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	C-Max	None	Max
Maximum Split (s)	13.2	46.8	16.8	43.2	13.2	46.8	15.6	44.4
Maximum Split (%)	11.0%	39.0%	14.0%	36.0%	11.0%	39.0%	13.0%	37.0%
Minimum Split (s)	8	43	8	42	8	43	8	42
Yellow Time (s)	3	4.2	3	4.2	3	4.2	3	4.2
All-Red Time (s)	0	2.8	0	2.8	0	2.8	0	2.8
Minimum Initial (s)	5	20	5	8	5	20	5	8
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		29		28		29		28

Intersection Summary	
Cycle Length	120
Control Type	Actuated-Coordinated
Natural Cycle	135
Offset: 99.6 (83%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 234: RR 1 (BROCK RD) & HWY 2 (KINGSTON RD)

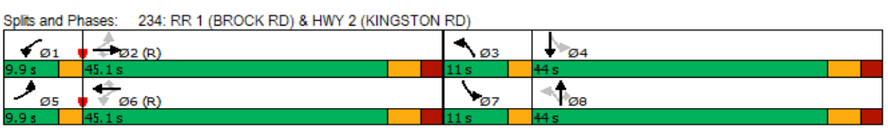


Weekend Peak 08:00 - 21:00

Phase Number	1	2	3	4	5	6	7	8
Movement	WBL	EBTL	NBL	SBTL	EBL	WBTL	SBL	NBTL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	C-Max	None	Max
Maximum Split (s)	9.9	45.1	11	44	9.9	45.1	11	44
Maximum Split (%)	9.0%	41.0%	10.0%	40.0%	9.0%	41.0%	10.0%	40.0%
Minimum Split (s)	8	43	8	42	8	43	8	42
Yellow Time (s)	3	4.2	3	4.2	3	4.2	3	4.2
All-Red Time (s)	0	2.8	0	2.8	0	2.8	0	2.8
Minimum Initial (s)	5	20	5	8	5	20	5	8
Vehicle Extension (s)	3	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0	0
Walk Time (s)		7		7		7		7
Flash Dont Walk (s)		29		28		29		28

Intersection Summary	
Cycle Length	110
Control Type	Actuated-Coordinated
Natural Cycle	125
Offset: 37.4 (34%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 234: RR 1 (BROCK RD) & HWY 2 (KINGSTON RD)



**Please note a concerted effort has been made to ensure the accuracy and completeness of the data provided, however, inadvertent errors or omissions can still occur. Please bring any errors or omissions to the Region's attention.*

INTERSECTION SIGNAL TIMING REPORT

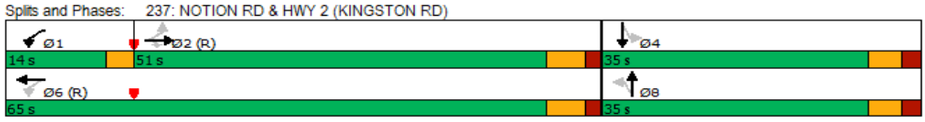
Location	Hwy.2 and Notion Rd.				
Date	March 08/2021	**C&E No.**	34290934	**Prepared by**	C. Maw
Prepared for	R.V. Anderson Associates Limited				

AM Peak 05:30-09:00

Phase Number	1	2	4	6	8
Movement	WBL	EBTL	SBTL	WBTL	NBTL
Lead/Lag	Lead	Lag			
Lead-Lag Optimize	Yes	Yes			
Recall Mode	None	C-Max	None	C-Max	None
Maximum Split (s)	14	51	35	65	35
Maximum Split (%)	14.0%	51.0%	35.0%	65.0%	35.0%
Minimum Split (s)	8	28	34	28	34
Yellow Time (s)	3	4.3	3.7	4.3	3.7
All-Red Time (s)	0	1.7	2.3	1.7	2.3
Minimum Initial (s)	5	20	8	20	8
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)		7	7	7	7
Flash Dont Walk (s)		15	21	15	21

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 30 (30%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 237: NOTION RD & HWY 2 (KINGSTON RD)

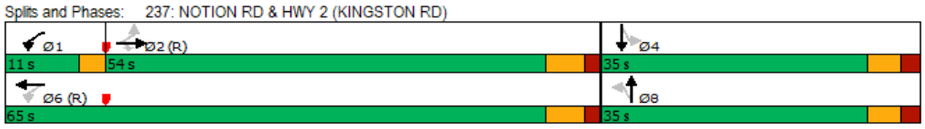


PM Peak 14:30-21:00

Phase Number	1	2	4	6	8
Movement	WBL	EBTL	SBTL	WBTL	NBTL
Lead/Lag	Lead	Lag			
Lead-Lag Optimize	Yes	Yes			
Recall Mode	None	C-Max	None	C-Max	None
Maximum Split (s)	11	54	35	65	35
Maximum Split (%)	11.0%	54.0%	35.0%	65.0%	35.0%
Minimum Split (s)	8	28	34	28	34
Yellow Time (s)	3	4.3	3.7	4.3	3.7
All-Red Time (s)	0	1.7	2.3	1.7	2.3
Minimum Initial (s)	5	20	8	20	8
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)		7	7	7	7
Flash Dont Walk (s)		15	21	15	21

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	110
Offset: 40 (40%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 237: NOTION RD & HWY 2 (KINGSTON RD)

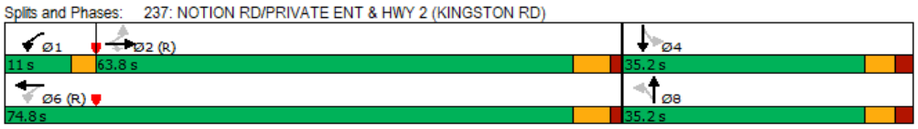


Weekend Peak 08:00 - 21:00

Phase Number	1	2	4	6	8
Movement	WBL	EBTL	SBTL	WBTL	NBTL
Lead/Lag	Lead	Lag			
Lead-Lag Optimize	Yes	Yes			
Recall Mode	None	C-Max	None	C-Max	None
Maximum Split (s)	11	63.8	35.2	74.8	35.2
Maximum Split (%)	10.0%	58.0%	32.0%	68.0%	32.0%
Minimum Split (s)	8	28	34	28	34
Yellow Time (s)	3	4.3	3.7	4.3	3.7
All-Red Time (s)	0	1.7	2.3	1.7	2.3
Minimum Initial (s)	5	20	8	20	8
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)		7	7	7	7
Flash Dont Walk (s)		15	21	15	21

Intersection Summary	
Cycle Length	110
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 30.8 (28%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 237: NOTION RD/PRIVATE ENT & HWY 2 (KINGSTON RD)



**Please note a concerted effort has been made to ensure the accuracy and completeness of the data provided, however, inadvertent errors or omissions can still occur. Please bring any errors or omissions to the Region's attention.*

INTERSECTION SIGNAL TIMING REPORT

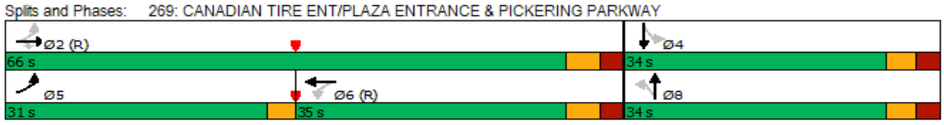
Location	Pickering Pkwy. And Canadian Tire Entrance				
Date	March 08/2021	**C&E No.**	34290934	**Prepared by**	C. Maw
Prepared for	R.V. Anderson Associates Limited				

AM Peak 05:30-09:00

Phase Number	2	4	5	6	8
Movement	EBTL	SBTL	EBL	WBTL	NBTL
Lead/Lag			Lead	Lag	
Lead-Lag Optimize			Yes	Yes	
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	66	34	31	35	34
Maximum Split (%)	66.0%	34.0%	31.0%	35.0%	34.0%
Minimum Split (s)	27	25	9	27	25
Yellow Time (s)	3.7	3.3	3	3.7	3.3
All-Red Time (s)	2.5	2.7	0	2.5	2.7
Minimum Initial (s)	20	8	5	20	8
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	14	13		14	13
Flash Dont Walk (s)	5	5		5	5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	65
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 269: CANADIAN TIRE ENT/PLAZA ENTRANCE & PICKERING PARKWAY

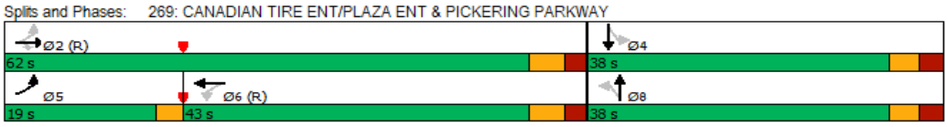


PM Peak 14:30-21:00

Phase Number	2	4	5	6	8
Movement	EBTL	SBTL	EBL	WBTL	NBTL
Lead/Lag			Lead	Lag	
Lead-Lag Optimize			Yes	Yes	
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	62	38	19	43	38
Maximum Split (%)	62.0%	38.0%	19.0%	43.0%	38.0%
Minimum Split (s)	27	25	9	27	25
Yellow Time (s)	3.7	3.3	3	3.7	3.3
All-Red Time (s)	2.5	2.7	0	2.5	2.7
Minimum Initial (s)	20	8	5	20	8
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	14	13		14	13
Flash Dont Walk (s)	5	5		5	5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	65
Offset: 42 (42%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 269: CANADIAN TIRE ENT/PLAZA ENT & PICKERING PARKWAY

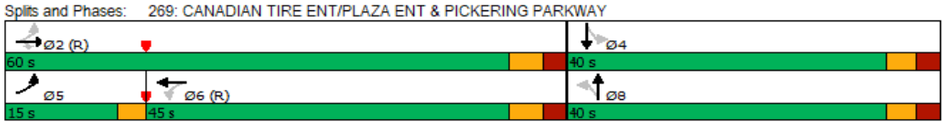


Weekend Peak 08:00 - 21:00

Phase Number	2	4	5	6	8
Movement	EBTL	SBTL	EBL	WBTL	NBTL
Lead/Lag			Lead	Lag	
Lead-Lag Optimize			Yes	Yes	
Recall Mode	C-Max	None	None	C-Max	None
Maximum Split (s)	60	40	15	45	40
Maximum Split (%)	60.0%	40.0%	15.0%	45.0%	40.0%
Minimum Split (s)	27	25	9	27	25
Yellow Time (s)	3.7	3.3	3	3.7	3.3
All-Red Time (s)	2.5	2.7	0	2.5	2.7
Minimum Initial (s)	20	8	5	20	8
Vehicle Extension (s)	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0
Walk Time (s)	14	13		14	13
Flash Dont Walk (s)	5	5		5	5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 33 (33%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green	

Splits and Phases: 269: CANADIAN TIRE ENT/PLAZA ENT & PICKERING PARKWAY



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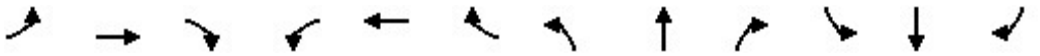
APPENDIX I

HCM Reports



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	333	201	381	559	200	135	515	171	222	1586	193
v/c Ratio	0.25	0.31	0.34	0.82	0.45	0.31	0.75	0.35	0.29	0.49	0.86	0.30
Control Delay	21.0	31.6	8.3	42.4	32.2	5.3	48.0	32.1	5.8	21.6	40.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	31.6	8.3	42.4	32.2	5.3	48.0	32.1	5.8	21.6	40.9	4.8
Queue Length 50th (m)	11.7	32.5	5.0	64.1	57.6	0.0	17.8	36.0	0.0	31.0	132.0	0.0
Queue Length 95th (m)	21.8	45.4	23.1	#105.6	75.0	16.6	#48.6	47.1	16.1	47.8	153.4	15.3
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	337	1085	590	464	1237	637	180	1453	599	471	1836	652
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.31	0.34	0.82	0.45	0.31	0.75	0.35	0.29	0.47	0.86	0.30

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	320	193	366	537	192	130	494	164	213	1523	185
Future Volume (vph)	81	320	193	366	537	192	130	494	164	213	1523	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1636	3374	1472	1759	3539	1450	1735	4472	1489	1697	4940	1429
Flt Permitted	0.38	1.00	1.00	0.49	1.00	1.00	0.10	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	652	3374	1472	907	3539	1450	187	4472	1489	702	4940	1429
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	333	201	381	559	200	135	515	171	222	1586	193
RTOR Reduction (vph)	0	0	117	0	0	131	0	0	115	0	0	121
Lane Group Flow (vph)	84	333	84	381	559	69	135	515	56	222	1586	72
Confl. Peds. (#/hr)	19		22	22		19	32		20	20		32
Heavy Vehicles (%)	10%	7%	6%	2%	2%	8%	4%	16%	5%	6%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	44.8	38.6	38.6	50.4	41.4	41.4	46.8	39.0	39.0	55.4	44.6	44.6
Effective Green, g (s)	44.8	38.6	38.6	50.4	41.4	41.4	46.8	39.0	39.0	55.4	44.6	44.6
Actuated g/C Ratio	0.37	0.32	0.32	0.42	0.34	0.34	0.39	0.32	0.32	0.46	0.37	0.37
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	294	1085	473	444	1220	500	173	1453	483	435	1836	531
v/s Ratio Prot	0.01	0.10		c0.06	0.16		c0.05	0.12		c0.06	c0.32	
v/s Ratio Perm	0.09		0.06	c0.30		0.05	0.25		0.04	0.18		0.05
v/c Ratio	0.29	0.31	0.18	0.86	0.46	0.14	0.78	0.35	0.12	0.51	0.86	0.14
Uniform Delay, d1	25.0	30.6	29.3	30.0	30.6	27.0	27.4	30.9	28.4	20.2	34.9	24.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.7	0.8	15.1	1.2	0.6	20.0	0.7	0.5	1.0	5.7	0.5
Delay (s)	25.5	31.4	30.1	45.1	31.8	27.6	47.4	31.6	28.9	21.2	40.6	25.5
Level of Service	C	C	C	D	C	C	D	C	C	C	D	C
Approach Delay (s)		30.2			35.5			33.6			37.0	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

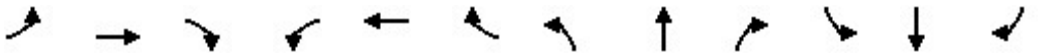
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	45	346	372	124	43	189	625	226	43	1912	221
v/c Ratio	0.31	0.90dr	0.74	0.20	0.08	0.75	0.28	0.29	0.10	0.94	0.30
Control Delay	43.9	34.5	54.9	21.9	4.6	43.2	18.7	5.9	12.2	40.7	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	34.5	54.9	21.9	4.6	43.2	18.7	5.9	12.2	40.7	4.1
Queue Length 50th (m)	8.5	22.8	39.3	16.4	0.0	23.3	32.1	4.4	3.9	~141.3	0.0
Queue Length 95th (m)	18.8	37.1	55.8	27.4	4.5	#67.5	41.1	13.0	9.8	#180.7	14.8
Internal Link Dist (m)		222.3		150.3			233.1			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	192	601	544	701	595	252	2248	769	445	2024	726
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.58	0.68	0.18	0.07	0.75	0.28	0.29	0.10	0.94	0.30

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	67	251	342	114	40	174	575	208	40	1759	203
Future Volume (vph)	41	67	251	342	114	40	174	575	208	40	1759	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1633	3023		3303	1776	1404	1770	4759	1377	1803	5036	1479
Flt Permitted	0.68	1.00		0.95	1.00	1.00	0.09	1.00	1.00	0.40	1.00	1.00
Satd. Flow (perm)	1164	3023		3303	1776	1404	172	4759	1377	766	5036	1479
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	73	273	372	124	43	189	625	226	43	1912	221
RTOR Reduction (vph)	0	107	0	0	0	28	0	0	122	0	0	132
Lane Group Flow (vph)	45	239	0	372	124	15	189	625	104	43	1912	89
Confl. Peds. (#/hr)	5		8	8		5	9		6	6		9
Heavy Vehicles (%)	10%	6%	3%	6%	7%	13%	2%	9%	14%	0%	3%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	12.7	12.7		15.2	34.4	34.4	53.0	46.0	46.0	44.2	40.2	40.2
Effective Green, g (s)	12.7	12.7		15.2	34.4	34.4	53.0	46.0	46.0	44.2	40.2	40.2
Actuated g/C Ratio	0.13	0.13		0.15	0.34	0.34	0.53	0.46	0.46	0.44	0.40	0.40
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	383		502	610	482	247	2189	633	380	2024	594
v/s Ratio Prot		c0.08		c0.11	0.07		c0.07	0.13		0.00	c0.38	
v/s Ratio Perm	0.04					0.01	0.33		0.08	0.05		0.06
v/c Ratio	0.31	0.90dr		0.74	0.20	0.03	0.77	0.29	0.16	0.11	0.94	0.15
Uniform Delay, d1	39.6	41.4		40.5	23.1	21.7	22.1	16.8	15.8	15.9	28.8	19.0
Progression Factor	1.00	1.00		1.12	0.96	1.98	1.31	1.04	1.69	1.00	1.00	1.00
Incremental Delay, d2	1.2	3.1		5.8	0.2	0.0	12.8	0.3	0.5	0.1	10.6	0.5
Delay (s)	40.8	44.5		51.3	22.3	43.2	41.8	17.7	27.2	16.1	39.5	19.6
Level of Service	D	D		D	C	D	D	B	C	B	D	B
Approach Delay (s)		44.1			44.0			24.2			37.0	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	86.6%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	591	268	764	1423
v/c Ratio	0.76	0.59	0.25	0.45
Control Delay	39.9	17.6	10.6	10.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.9	17.6	10.6	10.1
Queue Length 50th (m)	55.2	18.1	23.0	44.1
Queue Length 95th (m)	68.3	43.8	30.5	m53.9
Internal Link Dist (m)	299.5		196.8	95.3
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1118	577	3025	3167
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.53	0.46	0.25	0.45

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	472	361	741	0	0	1380
Future Volume (vph)	472	361	741	0	0	1380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3216	1361	4673			4893
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3216	1361	4673			4893
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	487	372	764	0	0	1423
RTOR Reduction (vph)	21	130	0	0	0	0
Lane Group Flow (vph)	570	138	764	0	0	1423
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	7%	8%	11%	0%	0%	6%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	23.7	23.7	64.7			64.7
Effective Green, g (s)	23.7	23.7	64.7			64.7
Actuated g/C Ratio	0.24	0.24	0.65			0.65
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	762	322	3023			3165
v/s Ratio Prot			0.16			c0.29
v/s Ratio Perm	c0.18	0.10				
v/c Ratio	0.75	0.43	0.25			0.45
Uniform Delay, d1	35.4	32.4	7.4			8.8
Progression Factor	1.00	1.00	1.31			1.05
Incremental Delay, d2	4.0	0.9	0.1			0.2
Delay (s)	39.4	33.3	9.9			9.4
Level of Service	D	C	A			A
Approach Delay (s)	37.5		9.9			9.4
Approach LOS	D		A			A

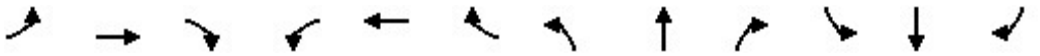
Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	432	403	401	766	568	1361
v/c Ratio	0.86	0.85	0.83	0.68	0.94	0.71
Control Delay	49.2	44.5	41.8	31.3	47.6	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	44.5	41.8	31.3	47.6	15.0
Queue Length 50th (m)	82.5	68.5	64.5	43.9	102.3	91.8
Queue Length 95th (m)	#133.5	#123.8	#115.0	59.0	#158.2	129.6
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	551	510	522	1134	606	1920
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.79	0.77	0.68	0.94	0.71

Intersection Summary

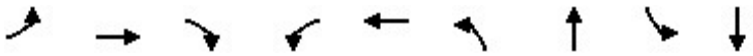
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	461	0	726	0	0	0	0	473	262	545	1307	0
Future Volume (vph)	461	0	726	0	0	0	0	473	262	545	1307	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.87	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1603	1360	1395					3955		1719	3374	
Flt Permitted	0.95	0.99	1.00					1.00		0.22	1.00	
Satd. Flow (perm)	1603	1360	1395					3955		402	3374	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	480	0	756	0	0	0	0	493	273	568	1361	0
RTOR Reduction (vph)	0	45	45	0	0	0	0	97	0	0	0	0
Lane Group Flow (vph)	432	358	356	0	0	0	0	669	0	568	1361	0
Confl. Peds. (#/hr)							3		1	1		3
Heavy Vehicles (%)	7%	0%	10%	0%	0%	0%	0%	26%	18%	5%	7%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	31.5	31.5	31.5					26.2		56.9	56.9	
Effective Green, g (s)	31.5	31.5	31.5					26.2		56.9	56.9	
Actuated g/C Ratio	0.32	0.32	0.32					0.26		0.57	0.57	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	504	428	439					1036		593	1919	
v/s Ratio Prot								0.17		c0.27	0.40	
v/s Ratio Perm	c0.27	0.26	0.26							c0.28		
v/c Ratio	0.86	0.84	0.81					0.65		0.96	0.71	
Uniform Delay, d1	32.1	31.9	31.5					32.8		21.9	15.6	
Progression Factor	1.00	1.00	1.00					1.00		1.22	0.78	
Incremental Delay, d2	13.5	13.3	10.9					3.1		24.8	2.0	
Delay (s)	45.6	45.2	42.4					35.9		51.5	14.2	
Level of Service	D	D	D					D		D	B	
Approach Delay (s)		44.5			0.0			35.9			25.1	
Approach LOS		D			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

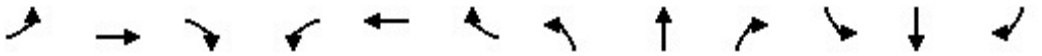
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	247	7	14	446	48	10	14	47
v/c Ratio	0.05	0.16	0.01	0.02	0.16	0.37	0.01	0.10	0.07
Control Delay	2.9	3.5	0.5	5.8	4.8	49.9	0.0	41.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.9	3.5	0.5	5.8	4.8	49.9	0.0	41.8	0.2
Queue Length 50th (m)	1.3	12.1	0.0	0.8	14.2	9.4	0.0	2.7	0.0
Queue Length 95th (m)	m4.5	19.4	m0.3	m1.9	23.1	20.3	0.0	8.6	0.0
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	991	1531	1307	865	2705	378	906	391	884
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	0.04	0.16	0.01	0.02	0.16	0.13	0.01	0.04	0.05

Intersection Summary

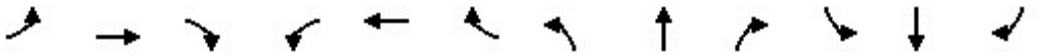
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	227	6	13	401	9	44	0	9	13	0	43
Future Volume (vph)	40	227	6	13	401	9	44	0	9	13	0	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3527		1770	1583		1770	1583	
Flt Permitted	0.47	1.00	1.00	0.61	1.00		0.73	1.00		0.75	1.00	
Satd. Flow (perm)	884	1863	1583	1128	3527		1353	1583		1399	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	247	7	14	436	10	48	0	10	14	0	47
RTOR Reduction (vph)	0	0	1	0	1	0	0	9	0	0	43	0
Lane Group Flow (vph)	43	247	6	14	445	0	48	1	0	14	4	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	79.8	79.8	79.8	73.0	73.0		8.0	8.0		8.0	8.0	
Effective Green, g (s)	79.8	79.8	79.8	73.0	73.0		8.0	8.0		8.0	8.0	
Actuated g/C Ratio	0.80	0.80	0.80	0.73	0.73		0.08	0.08		0.08	0.08	
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	739	1486	1263	823	2574		108	126		111	126	
v/s Ratio Prot	0.00	c0.13			c0.13			0.00			0.00	
v/s Ratio Perm	0.04		0.00	0.01			c0.04			0.01		
v/c Ratio	0.06	0.17	0.00	0.02	0.17		0.44	0.01		0.13	0.03	
Uniform Delay, d1	2.1	2.4	2.0	3.7	4.2		43.9	42.3		42.8	42.4	
Progression Factor	1.32	1.17	1.00	1.03	0.99		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2	0.0	0.0	0.1		2.9	0.0		0.5	0.1	
Delay (s)	2.8	3.0	2.1	3.8	4.3		46.8	42.4		43.3	42.5	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		2.9			4.2			46.0			42.7	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	154	65	25	337	19	55	0	16	9	0	11
Future Volume (Veh/h)	12	154	65	25	337	19	55	0	16	9	0	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	13	167	71	27	366	21	60	0	17	10	0	12
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked												
vC, conflicting volume	387			238			660	670	202	676	694	376
vC1, stage 1 conf vol							228	228		430	430	
vC2, stage 2 conf vol							432	441		246	264	
vCu, unblocked vol	387			238			660	670	202	676	694	376
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			89	100	98	98	100	98
cM capacity (veh/h)	1171			1329			523	510	838	527	509	670

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	251	27	387	60	17	10	12
Volume Left	13	27	0	60	0	10	0
Volume Right	71	0	21	0	17	0	12
cSH	1171	1329	1700	523	838	527	670
Volume to Capacity	0.01	0.02	0.23	0.11	0.02	0.02	0.02
Queue Length 95th (m)	0.3	0.5	0.0	3.1	0.5	0.5	0.4
Control Delay (s)	0.5	7.8	0.0	12.8	9.4	12.0	10.5
Lane LOS	A	A		B	A	B	B
Approach Delay (s)	0.5	0.5		12.0		11.1	
Approach LOS				B		B	

Intersection Summary				
Average Delay	2.0			
Intersection Capacity Utilization	38.6%	ICU Level of Service		A
Analysis Period (min)	15			

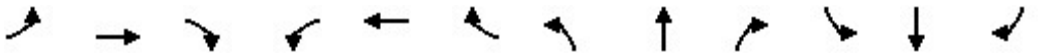
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	127	0	0	0	0	381
Future Volume (Veh/h)	127	0	0	0	0	381
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	143	0	0	0	0	428
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	214	214	428			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	214	214	428			
tC, single (s)	6.6	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	81	100	100			
cM capacity (veh/h)	744	831	1142			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	143	0	428
Volume Left	143	0	0
Volume Right	0	0	428
cSH	744	1700	1700
Volume to Capacity	0.19	0.00	0.25
Queue Length 95th (m)	5.7	0.0	0.0
Control Delay (s)	11.0	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.0	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	676	36	416	1856	112	6
v/c Ratio	0.31	0.04	0.60	0.66	0.49	0.04
Control Delay	9.1	0.9	6.1	6.0	16.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.1	0.9	6.1	6.0	16.8	0.3
Queue Length 50th (m)	29.3	0.0	13.4	64.1	0.8	0.0
Queue Length 95th (m)	46.7	1.7	26.0	99.7	16.8	0.0
Internal Link Dist (m)	440.3			358.4	862.1	50.9
Turn Bay Length (m)		20.0	55.0			
Base Capacity (vph)	2187	848	690	2807	513	418
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.04	0.60	0.66	0.22	0.01

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	622	33	383	1707	1	4	0	99	2	0	4
Future Volume (vph)	0	622	33	383	1707	1	4	0	99	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0			6.0			6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.97	1.00	1.00			0.98			0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00			1.00	
Frt		1.00	0.85	1.00	1.00			0.87			0.91	
Flt Protected		1.00	1.00	0.95	1.00			1.00			0.98	
Satd. Flow (prot)		3438	1296	1768	3539			1522			1443	
Flt Permitted		1.00	1.00	0.36	1.00			0.99			0.87	
Satd. Flow (perm)		3438	1296	669	3539			1507			1284	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	676	36	416	1855	1	4	0	108	2	0	4
RTOR Reduction (vph)	0	0	13	0	0	0	0	99	0	0	5	0
Lane Group Flow (vph)	0	676	23	416	1856	0	0	13	0	0	1	0
Confl. Peds. (#/hr)	6		4	4		6	1		4	4		1
Heavy Vehicles (%)	0%	5%	21%	2%	2%	0%	25%	0%	6%	0%	0%	25%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		63.6	63.6	79.3	79.3			8.7			8.7	
Effective Green, g (s)		63.6	63.6	79.3	79.3			8.7			8.7	
Actuated g/C Ratio		0.64	0.64	0.79	0.79			0.09			0.09	
Clearance Time (s)		6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2186	824	670	2806			131			111	
v/s Ratio Prot		0.20		0.08	c0.52							
v/s Ratio Perm			0.02	0.41				c0.01			0.00	
v/c Ratio		0.31	0.03	0.62	0.66			0.10			0.00	
Uniform Delay, d1		8.2	6.7	3.2	4.5			42.1			41.7	
Progression Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.4	0.1	1.8	1.2			0.3			0.0	
Delay (s)		8.6	6.8	5.0	5.7			42.4			41.7	
Level of Service		A	A	A	A			D			D	
Approach Delay (s)		8.5			5.6			42.4			41.7	
Approach LOS		A			A			D			D	

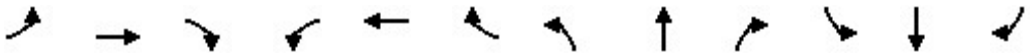
Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	53	1036	66	0	2352
Future Volume (Veh/h)	0	53	1036	66	0	2352
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	58	1126	72	0	2557
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			119			257
pX, platoon unblocked	0.66	0.95			0.95	
vC, conflicting volume	1978	375			1198	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	199	166			1031	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	510	808			637	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	58	375	375	375	72	852	852	852
Volume Left	0	0	0	0	0	0	0	0
Volume Right	58	0	0	0	72	0	0	0
cSH	808	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.22	0.22	0.22	0.04	0.50	0.50	0.50
Queue Length 95th (m)	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.8	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	1233	280	223	594	243	239	1371	574	189	785	150
v/c Ratio	0.84	0.96	0.41	0.89	0.51	0.37	0.66	0.85	0.91	0.78	0.51	0.26
Control Delay	44.3	53.9	5.8	57.3	34.1	5.2	28.7	44.5	44.7	47.8	35.6	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	53.9	5.8	57.3	34.1	5.2	28.7	44.5	44.7	47.8	35.6	6.1
Queue Length 50th (m)	47.1	155.3	1.3	32.3	61.9	0.0	34.9	116.9	92.4	27.8	59.0	0.0
Queue Length 95th (m)	#86.1	#203.1	20.9	#75.6	80.2	18.1	53.1	137.1	#166.6	#63.5	72.6	15.4
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	366	1291	681	250	1173	659	374	1615	629	251	1539	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.96	0.41	0.89	0.51	0.37	0.64	0.85	0.91	0.75	0.51	0.26

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	1208	274	219	582	238	234	1344	563	185	769	147
Future Volume (vph)	301	1208	274	219	582	238	234	1344	563	185	769	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.96	1.00	1.00	0.94	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1763	3539	1508	1786	3539	1498	1802	5085	1507	1752	4988	1508
Flt Permitted	0.32	1.00	1.00	0.14	1.00	1.00	0.25	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	597	3539	1508	273	3539	1498	481	5085	1507	199	4988	1508
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	307	1233	280	223	594	243	239	1371	574	189	785	150
RTOR Reduction (vph)	0	0	182	0	0	162	0	0	151	0	0	104
Lane Group Flow (vph)	307	1233	98	223	594	81	239	1371	423	189	785	46
Confl. Peds. (#/hr)	33		36	36		33	26		45	45		26
Heavy Vehicles (%)	2%	2%	2%	1%	2%	3%	0%	2%	1%	3%	4%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	50.0	39.8	39.8	50.0	39.8	39.8	51.1	38.1	38.1	48.9	37.0	37.0
Effective Green, g (s)	50.0	43.8	39.8	50.0	39.8	39.8	51.1	38.1	38.1	48.9	37.0	37.0
Actuated g/C Ratio	0.42	0.36	0.33	0.42	0.33	0.33	0.43	0.32	0.32	0.41	0.31	0.31
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	347	1291	500	242	1173	496	347	1614	478	235	1537	464
v/s Ratio Prot	0.08	c0.35		c0.08	0.17		c0.07	0.27		c0.08	0.16	
v/s Ratio Perm	0.29		0.07	0.31		0.05	0.22		c0.28	0.25		0.03
v/c Ratio	0.88	0.96	0.20	0.92	0.51	0.16	0.69	0.85	0.89	0.80	0.51	0.10
Uniform Delay, d1	29.1	37.1	28.7	23.3	32.2	28.3	23.4	38.3	38.9	27.1	34.1	29.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.5	16.4	0.9	37.1	1.6	0.7	5.6	5.8	20.7	17.8	1.2	0.4
Delay (s)	51.5	53.5	29.5	60.5	33.8	29.0	29.1	44.1	59.6	44.9	35.3	30.0
Level of Service	D	D	C	E	C	C	C	D	E	D	D	C
Approach Delay (s)		49.5			38.3			46.5			36.2	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	107.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	128	431	371	195	156	315	1679	453	133	829	87
v/c Ratio	0.71	0.65	0.71	0.28	0.23	0.75	0.83	0.56	0.62	0.50	0.14
Control Delay	60.5	26.7	51.7	22.9	5.6	33.5	36.2	13.9	31.1	29.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	26.7	51.7	22.9	5.6	33.5	36.2	13.9	31.1	29.0	0.5
Queue Length 50th (m)	24.9	24.2	38.6	26.3	0.2	42.7	109.9	20.4	13.5	52.6	0.0
Queue Length 95th (m)	43.7	39.2	54.1	43.0	14.2	#76.9	#151.3	58.2	#41.9	66.4	0.0
Internal Link Dist (m)		222.3		150.3			235.2			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	231	791	589	818	761	419	2011	808	213	1665	636
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.54	0.63	0.24	0.20	0.75	0.83	0.56	0.62	0.50	0.14

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	228	190	360	189	151	306	1629	439	129	804	84
Future Volume (vph)	124	228	190	360	189	151	306	1629	439	129	804	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1778	3290		3367	1881	1549	1787	5085	1516	1752	4988	1557
Flt Permitted	0.64	1.00		0.95	1.00	1.00	0.23	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1189	3290		3367	1881	1549	440	5085	1516	221	4988	1557
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	128	235	196	371	195	156	315	1679	453	133	829	87
RTOR Reduction (vph)	0	158	0	0	0	98	0	0	209	0	0	58
Lane Group Flow (vph)	128	273	0	371	195	58	315	1679	244	133	829	29
Confl. Peds. (#/hr)	17		15	15		17	3		15	15		3
Heavy Vehicles (%)	0%	1%	1%	4%	1%	1%	1%	2%	3%	3%	4%	1%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	15.2	15.2		15.5	37.2	37.2	50.2	39.6	39.6	41.0	33.4	33.4
Effective Green, g (s)	15.2	15.2		15.5	37.2	37.2	50.2	39.6	39.6	41.0	33.4	33.4
Actuated g/C Ratio	0.15	0.15		0.16	0.37	0.37	0.50	0.40	0.40	0.41	0.33	0.33
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	180	500		521	699	576	406	2013	600	206	1665	520
v/s Ratio Prot		0.08		c0.11	0.10		c0.11	c0.33		0.05	0.17	
v/s Ratio Perm	c0.11					0.04	0.28		0.16	0.21		0.02
v/c Ratio	0.71	0.55		0.71	0.28	0.10	0.78	0.83	0.41	0.65	0.50	0.06
Uniform Delay, d1	40.3	39.2		40.1	22.0	20.5	16.2	27.2	21.7	21.3	26.6	22.6
Progression Factor	1.00	1.00		1.10	1.05	1.64	1.44	1.13	1.76	1.00	1.00	1.00
Incremental Delay, d2	12.4	1.2		4.5	0.2	0.1	7.7	3.6	1.7	6.8	1.1	0.2
Delay (s)	52.8	40.4		48.6	23.4	33.6	31.0	34.5	39.9	28.1	27.7	22.8
Level of Service	D	D		D	C	C	C	C	D	C	C	C
Approach Delay (s)		43.3			38.5			35.0			27.3	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	417	227	2193	641
v/c Ratio	0.67	0.77	0.63	0.19
Control Delay	41.0	52.8	9.5	8.1
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	41.0	52.8	9.6	8.1
Queue Length 50th (m)	39.8	46.5	64.8	16.7
Queue Length 95th (m)	52.2	71.4	m67.8	22.8
Internal Link Dist (m)	299.5		196.8	93.2
Turn Bay Length (m)		95.0		
Base Capacity (vph)	798	379	3460	3362
Starvation Cap Reductn	0	0	400	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.52	0.60	0.72	0.19

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	187	450	2171	0	0	635
Future Volume (vph)	187	450	2171	0	0	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3026	1427	5085			4940
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3026	1427	5085			4940
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	189	455	2193	0	0	641
RTOR Reduction (vph)	6	6	0	0	0	0
Lane Group Flow (vph)	411	221	2193	0	0	641
Confl. Peds. (#/hr)				6	6	
Heavy Vehicles (%)	17%	3%	2%	0%	0%	5%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	20.3	20.3	68.1			68.1
Effective Green, g (s)	20.3	20.3	68.1			68.1
Actuated g/C Ratio	0.20	0.20	0.68			0.68
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	614	289	3462			3364
v/s Ratio Prot			c0.43			0.13
v/s Ratio Perm	0.14	c0.15				
v/c Ratio	0.67	0.76	0.63			0.19
Uniform Delay, d1	36.7	37.6	8.9			5.8
Progression Factor	1.00	1.00	0.94			1.24
Incremental Delay, d2	2.8	11.3	0.3			0.1
Delay (s)	39.5	48.9	8.7			7.4
Level of Service	D	D	A			A
Approach Delay (s)	42.8		8.7			7.4
Approach LOS	D		A			A

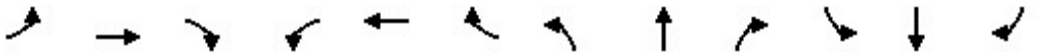
Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	595	585	320	2005	236	603
v/c Ratio	0.97	0.97	0.52	0.97	0.75	0.34
Control Delay	63.0	58.9	9.6	43.0	41.1	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.0	58.9	9.6	43.0	41.1	17.2
Queue Length 50th (m)	124.2	116.1	9.6	136.7	31.5	44.1
Queue Length 95th (m)	#200.0	#197.1	35.6	#203.5	60.4	54.1
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	613	605	611	2067	453	1788
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.97	0.52	0.97	0.52	0.34

Intersection Summary

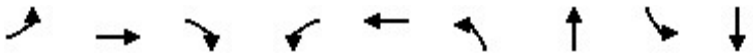
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1121	0	349	0	0	0	0	1620	345	231	591	0
Future Volume (vph)	1121	0	349	0	0	0	0	1620	345	231	591	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.6	3.6	5.6					3.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					*0.92		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.99	0.85					0.97		1.00	1.00	
Flt Protected	0.98	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1734	1591	1323					4880		1770	3252	
Flt Permitted	0.98	0.96	1.00					1.00		0.10	1.00	
Satd. Flow (perm)	1734	1591	1323					4880		178	3252	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1144	0	356	0	0	0	0	1653	352	236	603	0
RTOR Reduction (vph)	0	42	170	0	0	0	0	30	0	0	0	0
Lane Group Flow (vph)	595	543	150	0	0	0	0	1975	0	236	603	0
Confl. Peds. (#/hr)							5		6	6		5
Heavy Vehicles (%)	2%	0%	16%	0%	0%	0%	0%	4%	4%	2%	11%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	33.4	33.4	33.4					38.8		55.0	55.0	
Effective Green, g (s)	35.4	35.4	33.4					41.8		55.0	55.0	
Actuated g/C Ratio	0.35	0.35	0.33					0.42		0.55	0.55	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	613	563	441					2039		308	1788	
v/s Ratio Prot								c0.40		c0.10	0.19	
v/s Ratio Perm	c0.34	0.34	0.11							0.32		
v/c Ratio	0.97	0.96	0.34					0.97		0.77	0.34	
Uniform Delay, d1	31.8	31.7	25.0					28.5		25.2	12.4	
Progression Factor	1.00	1.00	1.00					1.00		1.36	1.33	
Incremental Delay, d2	29.0	28.9	0.5					13.8		10.6	0.5	
Delay (s)	60.7	60.6	25.5					42.3		44.9	17.0	
Level of Service	E	E	C					D		D	B	
Approach Delay (s)		53.2			0.0			42.3			24.9	
Approach LOS		D			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	42.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	9.6
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

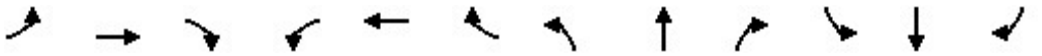
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	191	565	18	37	366	125	28	93	273
v/c Ratio	0.31	0.48	0.02	0.07	0.15	0.99	0.04	0.35	0.36
Control Delay	9.9	10.8	0.4	5.6	5.1	117.6	0.1	36.3	1.3
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.9	11.0	0.4	5.6	5.1	117.6	0.1	36.3	1.3
Queue Length 50th (m)	18.1	58.8	0.0	1.8	9.4	25.6	0.0	16.5	0.0
Queue Length 95th (m)	31.1	97.7	m0.0	m5.2	m17.3	#50.8	0.0	28.0	0.0
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	624	1168	1017	647	2362	207	799	440	890
Starvation Cap Reductn	0	128	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	0.31	0.54	0.02	0.06	0.15	0.60	0.04	0.21	0.31

Intersection Summary

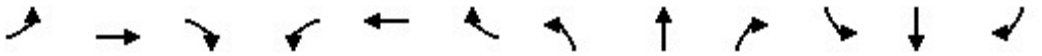
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	176	520	17	34	263	74	115	0	26	86	0	251
Future Volume (vph)	176	520	17	34	263	74	115	0	26	86	0	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		5.4	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3423		1770	1583		1770	1583	
Flt Permitted	0.53	1.00	1.00	0.35	1.00		0.34	1.00		0.74	1.00	
Satd. Flow (perm)	994	1863	1583	654	3423		635	1583		1377	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	191	565	18	37	286	80	125	0	28	93	0	273
RTOR Reduction (vph)	0	0	7	0	18	0	0	23	0	0	220	0
Lane Group Flow (vph)	191	565	11	37	348	0	125	5	0	93	53	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	61.5	61.5	61.5	68.5	68.5		19.3	19.3		19.3	19.3	
Effective Green, g (s)	61.5	61.5	61.5	68.5	68.5		19.9	19.3		19.3	19.3	
Actuated g/C Ratio	0.62	0.62	0.62	0.68	0.68		0.20	0.19		0.19	0.19	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	611	1145	973	492	2344		126	305		265	305	
v/s Ratio Prot		c0.30		0.00	c0.10			0.00			0.03	
v/s Ratio Perm	0.19		0.01	0.05			c0.20			0.07		
v/c Ratio	0.31	0.49	0.01	0.08	0.15		0.99	0.02		0.35	0.17	
Uniform Delay, d1	9.2	10.6	7.5	6.2	5.5		40.0	32.7		34.9	33.7	
Progression Factor	0.73	0.74	1.00	0.93	0.91		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	1.3	0.0	0.1	0.1		77.5	0.0		0.8	0.3	
Delay (s)	7.8	9.1	7.5	5.8	5.1		117.4	32.7		35.7	34.0	
Level of Service	A	A	A	A	A		F	C		D	C	
Approach Delay (s)		8.8			5.2			101.9			34.4	
Approach LOS		A			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	460	123	66	155	62	125	0	32	46	0	70
Future Volume (Veh/h)	34	460	123	66	155	62	125	0	32	46	0	70
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	500	134	72	168	67	136	0	35	50	0	76
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.81			0.81	0.81	0.81	0.81	0.81	
vC, conflicting volume	235			634			1029	1020	567	1022	1054	202
vC1, stage 1 conf vol							641	641		346	346	
vC2, stage 2 conf vol							388	379		676	708	
vCu, unblocked vol	235			427			916	905	344	907	947	202
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			92			63	100	94	84	100	91
cM capacity (veh/h)	1332			914			369	381	564	322	322	839

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	671	72	235	136	35	50	76
Volume Left	37	72	0	136	0	50	0
Volume Right	134	0	67	0	35	0	76
cSH	1332	914	1700	369	564	322	839
Volume to Capacity	0.03	0.08	0.14	0.37	0.06	0.16	0.09
Queue Length 95th (m)	0.7	2.0	0.0	13.2	1.6	4.3	2.4
Control Delay (s)	0.8	9.3	0.0	20.3	11.8	18.2	9.7
Lane LOS	A	A		C	B	C	A
Approach Delay (s)	0.8	2.2		18.6		13.1	
Approach LOS				C		B	

Intersection Summary				
Average Delay	4.7			
Intersection Capacity Utilization	69.1%	ICU Level of Service	C	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	422	0	0	0	0	177
Future Volume (Veh/h)	422	0	0	0	0	177
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	459	0	0	0	0	192
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	96	96	192			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	96	96	192			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	49	100	100			
cM capacity (veh/h)	906	966	1394			

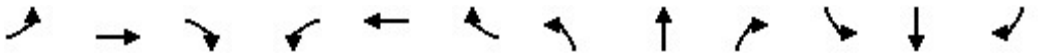
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	459	0	192
Volume Left	459	0	0
Volume Right	0	0	192
cSH	906	1700	1700
Volume to Capacity	0.51	0.00	0.11
Queue Length 95th (m)	23.4	0.0	0.0
Control Delay (s)	13.0	0.0	0.0
Lane LOS	B		
Approach Delay (s)	13.0	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	41.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	6	1501	41	185	794	479	12
v/c Ratio	0.02	0.82	0.05	0.79	0.35	0.91	0.04
Control Delay	14.0	26.1	1.7	42.9	10.0	45.9	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	26.1	1.7	42.9	10.0	45.9	21.6
Queue Length 50th (m)	0.6	139.3	0.0	20.0	40.3	62.2	1.2
Queue Length 95th (m)	2.9	173.5	3.0	#59.1	54.1	#116.8	5.5
Internal Link Dist (m)		440.3			358.4	862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0			
Base Capacity (vph)	340	1835	813	235	2248	581	387
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.82	0.05	0.79	0.35	0.82	0.03

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1456	40	179	769	1	32	1	432	7	1	4
Future Volume (vph)	6	1456	40	179	769	1	32	1	432	7	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.87			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00			0.97	
Satd. Flow (prot)	1794	3574	1523	1805	3573			1620			1753	
Flt Permitted	0.35	1.00	1.00	0.07	1.00			0.98			0.74	
Satd. Flow (perm)	664	3574	1523	140	3573			1592			1327	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1501	41	185	793	1	33	1	445	7	1	4
RTOR Reduction (vph)	0	0	20	0	0	0	0	127	0	0	3	0
Lane Group Flow (vph)	6	1501	21	185	794	0	0	352	0	0	9	0
Confl. Peds. (#/hr)	8		4	4		8	5		1	1		5
Heavy Vehicles (%)	0%	1%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	51.3	51.3	51.3	62.9	62.9			25.1			25.1	
Effective Green, g (s)	51.3	51.3	51.3	62.9	62.9			25.1			25.1	
Actuated g/C Ratio	0.51	0.51	0.51	0.63	0.63			0.25			0.25	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	340	1833	781	231	2247			399			333	
v/s Ratio Prot		0.42		c0.07	0.22							
v/s Ratio Perm	0.01		0.01	c0.43				c0.22			0.01	
v/c Ratio	0.02	0.82	0.03	0.80	0.35			0.88			0.03	
Uniform Delay, d1	12.0	20.4	12.0	24.0	8.8			36.0			28.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.1	4.2	0.1	17.8	0.4			20.0			0.0	
Delay (s)	12.1	24.7	12.1	41.8	9.3			56.0			28.3	
Level of Service	B	C	B	D	A			E			C	
Approach Delay (s)		24.3			15.4			56.0			28.3	
Approach LOS		C			B			E			C	

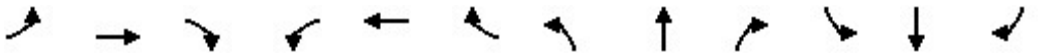
Intersection Summary			
HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	139	2497	124	0	1354
Future Volume (Veh/h)	0	139	2497	124	0	1354
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	151	2714	135	0	1472
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			117			259
pX, platoon unblocked	0.81	0.75			0.75	
vC, conflicting volume	3205	905			2849	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1963	0			2311	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	82			100	
cM capacity (veh/h)	45	818			161	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	151	905	905	905	135	491	491	491
Volume Left	0	0	0	0	0	0	0	0
Volume Right	151	0	0	0	135	0	0	0
cSH	818	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.18	0.53	0.53	0.53	0.08	0.29	0.29	0.29
Queue Length 95th (m)	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.4	0.0				0.0		
Approach LOS	B							

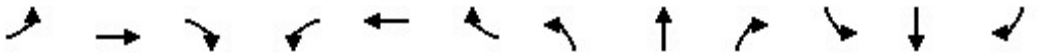
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	788	573	277	822	262	278	1072	492	220	986	193
v/c Ratio	0.80	0.64	0.84	0.86	0.66	0.38	0.93	0.62	0.74	0.90	0.57	0.29
Control Delay	43.6	33.0	33.7	62.4	50.2	25.1	58.8	32.5	26.2	59.4	31.6	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	33.0	33.7	62.4	50.2	25.1	58.8	32.5	26.2	59.4	31.6	5.0
Queue Length 50th (m)	26.4	77.9	81.1	56.9	99.4	26.9	36.9	73.8	59.2	29.0	66.5	0.2
Queue Length 95th (m)	#54.7	99.4	#145.4	m#103.5	123.7	m56.1	#79.8	89.3	101.9	#67.9	81.2	15.9
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	254	1237	684	323	1237	685	299	1727	669	244	1727	665
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.64	0.84	0.86	0.66	0.38	0.93	0.62	0.74	0.90	0.57	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	764	556	269	797	254	270	1040	477	213	956	187
Future Volume (vph)	196	764	556	269	797	254	270	1040	477	213	956	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	1.5	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3574	1599	1881	3574	1599	1805	5136	1599	1787	5136	1599
Flt Permitted	0.20	1.00	1.00	0.28	1.00	1.00	0.20	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	374	3574	1599	536	3574	1599	373	5136	1599	306	5136	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	202	788	573	277	822	262	278	1072	492	220	986	193
RTOR Reduction (vph)	0	0	131	0	0	131	0	0	132	0	0	127
Lane Group Flow (vph)	202	788	442	277	822	131	278	1072	360	220	986	66
Heavy Vehicles (%)	2%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	45.0	38.1	38.1	45.0	38.1	38.1	45.0	37.0	37.0	45.0	37.0	37.0
Effective Green, g (s)	45.0	38.1	38.1	45.0	38.1	38.1	48.0	37.0	37.0	45.0	37.0	37.0
Actuated g/C Ratio	0.41	0.35	0.35	0.41	0.35	0.35	0.44	0.34	0.34	0.41	0.34	0.34
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	240	1237	553	303	1237	553	286	1727	537	232	1727	537
v/s Ratio Prot	0.05	0.22		c0.06	0.23		c0.08	0.21		0.07	0.19	
v/s Ratio Perm	0.29		0.28	c0.32		0.08	0.34		0.23	c0.32		0.04
v/c Ratio	0.84	0.64	0.80	0.91	0.66	0.24	0.97	0.62	0.67	0.95	0.57	0.12
Uniform Delay, d1	25.9	30.2	32.5	25.1	30.5	25.6	24.4	30.6	31.3	25.4	30.0	25.3
Progression Factor	1.00	1.00	1.00	1.82	1.54	3.28	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	22.5	2.5	11.5	28.4	2.6	0.9	45.3	1.7	6.5	44.3	1.4	0.5
Delay (s)	48.5	32.7	44.0	73.9	49.7	84.8	69.7	32.3	37.8	69.7	31.4	25.7
Level of Service	D	C	D	E	D	F	E	C	D	E	C	C
Approach Delay (s)		38.9			61.4			39.4			36.6	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	83	563	671	354	230	335	1115	423	221	1202	97
v/c Ratio	0.55	0.86	0.91	0.45	0.30	0.94	0.62	0.52	0.92	0.87	0.18
Control Delay	53.9	40.5	60.3	25.2	8.7	63.8	28.5	7.8	66.0	43.0	0.7
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0
Total Delay	53.9	40.5	60.3	25.2	8.7	63.8	28.5	7.9	68.3	43.0	0.7
Queue Length 50th (m)	15.8	37.6	72.8	51.8	5.7	~52.0	62.8	7.2	~26.9	85.7	0.0
Queue Length 95th (m)	32.1	#64.1	#105.1	78.4	m25.6	#109.4	92.4	35.1	#69.6	#105.0	0.0
Internal Link Dist (m)		222.3		150.3			235.5			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	160	681	745	818	785	355	1792	819	240	1381	539
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	2	0	0	0	0	0	17	4	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.83	0.90	0.43	0.29	0.94	0.62	0.53	0.94	0.87	0.18

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.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	262	267	631	333	216	315	1048	398	208	1130	91
Future Volume (vph)	78	262	267	631	333	216	315	1048	398	208	1130	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1796	3263		3467	1881	1567	1787	5136	1558	1787	5136	1529
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.13	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	1038	3263		3467	1881	1567	252	5136	1558	373	5136	1529
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	83	279	284	671	354	230	335	1115	423	221	1202	97
RTOR Reduction (vph)	0	178	0	0	0	106	0	0	275	0	0	71
Lane Group Flow (vph)	83	385	0	671	354	124	335	1115	148	221	1202	26
Confl. Peds. (#/hr)	7		3	3		7	7		3	3		7
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	1%	1%	2%	1%	1%	2%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	14.6	14.6		21.2	42.3	42.3	45.1	34.9	34.9	34.1	26.9	26.9
Effective Green, g (s)	14.6	14.6		21.2	42.3	42.3	45.1	34.9	34.9	34.1	26.9	26.9
Actuated g/C Ratio	0.15	0.15		0.21	0.42	0.42	0.45	0.35	0.35	0.34	0.27	0.27
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	151	476		735	795	662	346	1792	543	229	1381	411
v/s Ratio Prot		c0.12		c0.19	0.19		c0.15	0.22		0.07	0.23	
v/s Ratio Perm	0.08					0.08	c0.29		0.09	0.26		0.02
v/c Ratio	0.55	0.81		0.91	0.45	0.19	0.97	0.62	0.27	0.97	0.87	0.06
Uniform Delay, d1	39.6	41.4		38.5	20.5	18.1	27.1	27.1	23.4	27.3	34.9	27.2
Progression Factor	1.00	1.00		1.12	1.14	1.69	1.22	0.99	2.25	1.00	1.00	1.00
Incremental Delay, d2	4.1	9.8		14.8	0.4	0.1	37.5	1.5	1.1	49.2	7.7	0.3
Delay (s)	43.7	51.2		57.9	23.8	30.6	70.4	28.3	53.9	76.5	42.6	27.5
Level of Service	D	D		E	C	C	E	C	D	E	D	C
Approach Delay (s)		50.2			43.3			41.6			46.6	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	44.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	514	264	1629	1233
v/c Ratio	0.69	0.77	0.48	0.36
Control Delay	38.4	47.3	12.9	9.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	38.4	47.3	12.9	9.0
Queue Length 50th (m)	47.6	50.6	60.0	35.2
Queue Length 95th (m)	59.1	75.6	m63.3	m42.3
Internal Link Dist (m)	299.5		196.8	92.9
Turn Bay Length (m)		95.0		
Base Capacity (vph)	978	447	3409	3409
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.53	0.59	0.48	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	240	507	1564	0	0	1184
Future Volume (vph)	240	507	1564	0	0	1184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3289	1470	5136			5136
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3289	1470	5136			5136
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	250	528	1629	0	0	1233
RTOR Reduction (vph)	20	20	0	0	0	0
Lane Group Flow (vph)	494	244	1629	0	0	1233
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	2%	0%	1%	0%	0%	1%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	22.0	22.0	66.4			66.4
Effective Green, g (s)	22.0	22.0	66.4			66.4
Actuated g/C Ratio	0.22	0.22	0.66			0.66
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	723	323	3410			3410
v/s Ratio Prot			c0.32			0.24
v/s Ratio Perm	0.15	c0.17				
v/c Ratio	0.68	0.75	0.48			0.36
Uniform Delay, d1	35.8	36.5	8.3			7.4
Progression Factor	1.00	1.00	1.41			1.10
Incremental Delay, d2	2.7	9.6	0.1			0.1
Delay (s)	38.5	46.1	11.8			8.3
Level of Service	D	D	B			A
Approach Delay (s)	41.1		11.8			8.3
Approach LOS	D		B			A

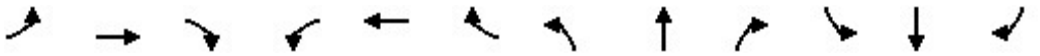
Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	522	521	358	1387	670	878
v/c Ratio	0.98	0.99	0.70	0.94	0.96	0.41
Control Delay	69.9	68.5	25.3	45.5	54.5	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.9	68.5	25.3	45.5	54.5	16.8
Queue Length 50th (m)	110.5	104.0	37.1	97.1	110.5	56.7
Queue Length 95th (m)	#182.4	#181.3	73.7	#131.5	#175.3	68.7
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	534	527	515	1483	717	2158
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.99	0.70	0.94	0.93	0.41

Intersection Summary

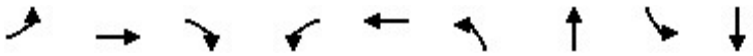
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	923	0	366	0	0	0	0	940	336	616	808	0
Future Volume (vph)	923	0	366	0	0	0	0	940	336	616	808	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.1	3.1	5.6					6.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.99	0.85					0.96		1.00	1.00	
Flt Protected	1.00	0.96	1.00					1.00		1.00	1.00	
Satd. Flow (prot)	1787	1611	1447					4834		1881	3539	
Flt Permitted	1.00	0.96	1.00					1.00		0.24	1.00	
Satd. Flow (perm)	1787	1611	1447					4834		451	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1003	0	398	0	0	0	0	1022	365	670	878	0
RTOR Reduction (vph)	0	46	119	0	0	0	0	63	0	0	0	0
Lane Group Flow (vph)	522	475	239	0	0	0	0	1324	0	670	878	0
Confl. Peds. (#/hr)							1		4	4		1
Heavy Vehicles (%)	1%	0%	6%	0%	0%	0%	0%	2%	3%	1%	2%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	27.4	27.4	27.4					29.4		61.0	61.0	
Effective Green, g (s)	29.9	29.9	27.4					29.4		61.0	61.0	
Actuated g/C Ratio	0.30	0.30	0.27					0.29		0.61	0.61	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	534	481	396					1421		684	2158	
v/s Ratio Prot								0.27		c0.28	0.25	
v/s Ratio Perm	0.29	0.30	0.17							c0.32		
v/c Ratio	0.98	0.99	0.60					0.93		0.98	0.41	
Uniform Delay, d1	34.7	34.9	31.6					34.3		20.2	10.1	
Progression Factor	1.00	1.00	1.00					1.00		1.59	1.58	
Incremental Delay, d2	32.9	37.6	2.6					12.3		28.0	0.5	
Delay (s)	67.6	72.5	34.2					46.7		60.3	16.6	
Level of Service	E	E	C					D		E	B	
Approach Delay (s)		60.9			0.0			46.7			35.5	
Approach LOS		E			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		

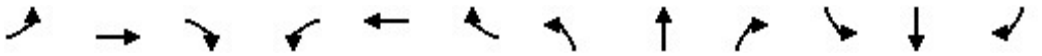
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	245	560	27	33	790	139	28	114	335
v/c Ratio	0.63	0.51	0.03	0.07	0.35	0.99	0.04	0.36	0.66
Control Delay	21.8	12.6	1.0	7.8	9.6	111.0	0.1	33.0	19.7
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	12.8	1.0	7.8	9.6	111.0	0.1	33.0	19.7
Queue Length 50th (m)	29.2	58.0	0.0	2.0	34.4	28.2	0.0	19.6	25.9
Queue Length 95th (m)	m#75.0	m129.4	m0.3	7.0	61.1	#55.1	0.0	30.7	48.3
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	387	1098	959	561	2266	201	791	468	662
Starvation Cap Reductn	0	106	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	0.63	0.56	0.03	0.06	0.35	0.69	0.04	0.24	0.51

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	515	25	30	662	64	128	0	26	105	0	308
Future Volume (vph)	225	515	25	30	662	64	128	0	26	105	0	308
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3492		1770	1583		1770	1583	
Flt Permitted	0.35	1.00	1.00	0.34	1.00		0.30	1.00		0.74	1.00	
Satd. Flow (perm)	657	1863	1583	624	3492		561	1583		1377	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	245	560	27	33	720	70	139	0	28	114	0	335
RTOR Reduction (vph)	0	0	11	0	6	0	0	22	0	0	145	0
Lane Group Flow (vph)	245	560	16	33	784	0	139	6	0	114	190	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		6		5	2			8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	57.7	57.7	57.7	64.7	64.7		23.1	23.1		23.1	23.1	
Effective Green, g (s)	57.7	57.7	57.7	64.7	64.7		25.1	23.1		23.1	23.1	
Actuated g/C Ratio	0.58	0.58	0.58	0.65	0.65		0.25	0.23		0.23	0.23	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	379	1074	913	449	2259		140	365		318	365	
v/s Ratio Prot		0.30		0.00	c0.22			0.00			0.12	
v/s Ratio Perm	c0.37		0.01	0.04			c0.25			0.08		
v/c Ratio	0.65	0.52	0.02	0.07	0.35		0.99	0.02		0.36	0.52	
Uniform Delay, d1	14.3	12.8	9.0	7.7	8.0		37.4	29.7		32.2	33.6	
Progression Factor	0.75	0.73	4.27	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.8	1.3	0.0	0.1	0.4		73.6	0.0		0.7	1.3	
Delay (s)	16.6	10.6	38.6	7.7	8.5		111.0	29.7		32.9	34.9	
Level of Service	B	B	D	A	A		F	C		C	C	
Approach Delay (s)		13.2			8.4			97.3			34.4	
Approach LOS		B			A			F			C	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	81.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	397	175	65	479	89	164	0	41	53	0	82
Future Volume (Veh/h)	50	397	175	65	479	89	164	0	41	53	0	82
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	54	432	190	71	521	97	178	0	45	58	0	89
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	618			622			1387	1395	527	1392	1442	570
vC1, stage 1 conf vol							635	635		712	712	
vC2, stage 2 conf vol							752	760		680	730	
vCu, unblocked vol	618			381			1356	1366	260	1362	1425	570
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			92			21	100	93	78	100	83
cM capacity (veh/h)	962			924			226	275	611	259	261	521

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	676	71	618	178	45	58	89
Volume Left	54	71	0	178	0	58	0
Volume Right	190	0	97	0	45	0	89
cSH	962	924	1700	226	611	259	521
Volume to Capacity	0.06	0.08	0.36	0.79	0.07	0.22	0.17
Queue Length 95th (m)	1.4	2.0	0.0	45.7	1.9	6.7	4.9
Control Delay (s)	1.4	9.2	0.0	62.3	11.4	22.9	13.3
Lane LOS	A	A		F	B	C	B
Approach Delay (s)	1.4	1.0		52.1		17.1	
Approach LOS				F		C	

Intersection Summary				
Average Delay	9.1			
Intersection Capacity Utilization	90.7%	ICU Level of Service	E	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	363	0	0	0	0	437
Future Volume (Veh/h)	363	0	0	0	0	437
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	417	0	0	0	0	502
Pedestrians				2	1	
Lane Width (m)				3.6	3.6	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	252	253	502			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	252	253	502			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	44	100	100			
cM capacity (veh/h)	738	789	1073			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	417	0	502
Volume Left	417	0	0
Volume Right	0	0	502
cSH	738	1700	1700
Volume to Capacity	0.56	0.00	0.30
Queue Length 95th (m)	28.6	0.0	0.0
Control Delay (s)	16.0	0.0	0.0
Lane LOS	C		
Approach Delay (s)	16.0	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	11	1420	77	320	1191	424	9
v/c Ratio	0.05	0.76	0.09	0.96	0.50	0.89	0.02
Control Delay	20.6	31.9	10.5	69.6	10.5	47.8	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	31.9	10.5	69.6	10.5	47.8	22.5
Queue Length 50th (m)	1.4	145.5	2.5	~56.5	66.6	60.1	0.7
Queue Length 95th (m)	m2.1	m176.5	m7.5	#127.3	91.0	#106.4	4.7
Internal Link Dist (m)		440.3			358.4	862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0			
Base Capacity (vph)	235	1877	833	333	2401	541	447
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.76	0.09	0.96	0.50	0.78	0.02

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.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1306	71	294	1095	1	29	3	358	1	3	5
Future Volume (vph)	10	1306	71	294	1095	1	29	3	358	1	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	2.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.88			0.93	
Flt Protected	0.95	1.00	1.00	0.98	1.00			1.00			0.99	
Satd. Flow (prot)	1799	3574	1532	1862	3574			1638			1734	
Flt Permitted	0.24	1.00	1.00	0.09	1.00			0.98			0.96	
Satd. Flow (perm)	448	3574	1532	163	3574			1606			1672	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1420	77	320	1190	1	32	3	389	1	3	5
RTOR Reduction (vph)	0	0	28	0	0	0	0	123	0	0	4	0
Lane Group Flow (vph)	11	1420	49	320	1191	0	0	301	0	0	5	0
Confl. Peds. (#/hr)	7		5	5		7	2		1	1		2
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	57.8	57.8	57.8	73.9	73.9			24.1			24.1	
Effective Green, g (s)	57.8	57.8	57.8	74.9	73.9			24.1			24.1	
Actuated g/C Ratio	0.53	0.53	0.53	0.68	0.67			0.22			0.22	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	235	1877	804	328	2401			351			366	
v/s Ratio Prot		c0.40		c0.12	0.33							
v/s Ratio Perm	0.02		0.03	0.54				c0.19			0.00	
v/c Ratio	0.05	0.76	0.06	0.98	0.50			0.86			0.01	
Uniform Delay, d1	12.7	20.6	12.8	32.0	8.9			41.3			33.6	
Progression Factor	1.54	1.42	2.19	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.3	2.0	0.1	42.7	0.7			18.4			0.0	
Delay (s)	19.9	31.3	28.1	74.7	9.6			59.7			33.7	
Level of Service	B	C	C	E	A			E			C	
Approach Delay (s)		31.1			23.4			59.7			33.7	
Approach LOS		C			C			E			C	

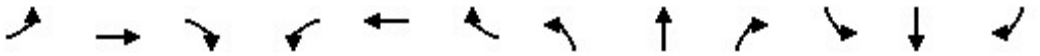
Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	94.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	166	1889	182	0	2028
Future Volume (Veh/h)	0	166	1889	182	0	2028
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	180	2053	198	0	2204
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			117			259
pX, platoon unblocked	0.86	0.85			0.85	
vC, conflicting volume	2788	684			2251	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1320	12			1855	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	80			100	
cM capacity (veh/h)	127	906			274	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	180	684	684	684	198	735	735	735
Volume Left	0	0	0	0	0	0	0	0
Volume Right	180	0	0	0	198	0	0	0
cSH	906	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.40	0.40	0.40	0.12	0.43	0.43	0.43
Queue Length 95th (m)	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	10.0	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	364	209	383	582	200	167	663	177	222	1798	193
v/c Ratio	0.27	0.35	0.37	0.84	0.46	0.31	0.99	0.45	0.29	0.55	0.95	0.29
Control Delay	22.0	33.4	11.6	44.1	31.7	5.1	96.2	33.1	5.6	22.8	48.0	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	33.4	11.6	44.1	31.7	5.1	96.2	33.1	5.6	22.8	48.0	4.6
Queue Length 50th (m)	11.8	36.7	9.8	65.2	59.4	0.0	~24.6	47.8	0.0	30.6	156.5	0.0
Queue Length 95th (m)	22.0	50.6	30.0	#109.9	77.0	16.3	#72.4	60.8	16.2	47.3	#191.7	15.0
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	309	1040	560	455	1262	646	168	1477	610	420	1893	666
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.35	0.37	0.84	0.46	0.31	0.99	0.45	0.29	0.53	0.95	0.29

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	349	201	368	559	192	160	636	170	213	1726	185
Future Volume (vph)	81	349	201	368	559	192	160	636	170	213	1726	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1636	3374	1472	1760	3539	1450	1735	4472	1489	1699	4940	1429
Flt Permitted	0.39	1.00	1.00	0.46	1.00	1.00	0.10	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)	670	3374	1472	845	3539	1450	185	4472	1489	556	4940	1429
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	364	209	383	582	200	167	662	177	222	1798	193
RTOR Reduction (vph)	0	0	107	0	0	130	0	0	119	0	0	119
Lane Group Flow (vph)	84	364	102	383	582	70	167	663	58	222	1798	74
Confl. Peds. (#/hr)	19		22	22		19	32		20	20		32
Heavy Vehicles (%)	10%	7%	6%	2%	2%	8%	4%	16%	5%	6%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	41.8	37.0	37.0	50.0	42.2	42.2	46.6	39.6	39.6	56.0	46.0	46.0
Effective Green, g (s)	41.8	37.0	37.0	50.0	42.2	42.2	46.6	39.6	39.6	56.0	46.0	46.0
Actuated g/C Ratio	0.35	0.31	0.31	0.42	0.35	0.35	0.39	0.33	0.33	0.47	0.38	0.38
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	272	1040	453	428	1244	509	162	1475	491	387	1893	547
v/s Ratio Prot	0.01	0.11		c0.07	0.16		c0.06	0.15		0.06	c0.36	
v/s Ratio Perm	0.10		0.07	c0.30		0.05	c0.34		0.04	0.20		0.05
v/c Ratio	0.31	0.35	0.23	0.89	0.47	0.14	1.03	0.45	0.12	0.57	0.95	0.14
Uniform Delay, d1	26.9	32.2	30.9	30.8	30.2	26.5	31.1	31.6	28.0	20.1	35.9	24.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.9	1.2	20.6	1.3	0.6	79.1	1.0	0.5	2.1	11.8	0.5
Delay (s)	27.6	33.1	32.0	51.3	31.5	27.1	110.2	32.6	28.5	22.1	47.7	24.6
Level of Service	C	C	C	D	C	C	F	C	C	C	D	C
Approach Delay (s)		32.1			37.2			44.8			43.1	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	110.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

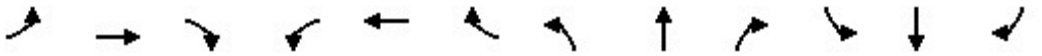
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	353	547	147	51	189	760	246	52	2122	221
v/c Ratio	0.31	0.86dr	1.23	0.25	0.10	0.57	0.34	0.32	0.13	1.13	0.32
Control Delay	43.7	32.6	158.4	26.7	9.5	25.1	17.5	5.2	11.8	97.7	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	32.6	158.4	26.7	9.5	25.1	17.5	5.2	11.8	97.7	4.9
Queue Length 50th (m)	8.6	22.4	~72.2	23.1	0.0	21.4	32.0	5.2	4.3	~183.0	0.0
Queue Length 95th (m)	19.0	35.9	#106.3	39.2	8.8	43.1	50.9	12.7	10.9	#242.5	16.8
Internal Link Dist (m)		222.3		150.3			233.1			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	324	959	445	861	715	331	2206	770	393	1875	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.37	1.23	0.17	0.07	0.57	0.34	0.32	0.13	1.13	0.32

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	74	251	503	135	47	174	699	226	48	1952	203
Future Volume (vph)	42	74	251	503	135	47	174	699	226	48	1952	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1633	3031		3303	1776	1404	1770	4759	1377	1803	5036	1479
Flt Permitted	0.66	1.00		0.95	1.00	1.00	0.10	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	1141	3031		3303	1776	1404	185	4759	1377	667	5036	1479
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	80	273	547	147	51	189	760	246	52	2122	221
RTOR Reduction (vph)	0	117	0	0	0	34	0	0	133	0	0	139
Lane Group Flow (vph)	46	236	0	547	147	17	189	760	113	52	2122	82
Confl. Peds. (#/hr)	5		8	8		5	9		6	6		9
Heavy Vehicles (%)	10%	6%	3%	6%	7%	13%	2%	9%	14%	0%	3%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	12.9	12.9		13.5	32.9	32.9	54.5	45.8	45.8	43.0	37.3	37.3
Effective Green, g (s)	12.9	12.9		13.5	32.9	32.9	54.5	45.8	45.8	43.0	37.3	37.3
Actuated g/C Ratio	0.13	0.13		0.14	0.33	0.33	0.54	0.46	0.46	0.43	0.37	0.37
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	390		445	584	461	325	2179	630	351	1878	551
v/s Ratio Prot		c0.08		c0.17	0.08		c0.08	0.16		0.01	c0.42	
v/s Ratio Perm	0.04					0.01	0.23		0.08	0.06		0.06
v/c Ratio	0.31	0.86dr		1.23	0.25	0.04	0.58	0.35	0.18	0.15	1.13	0.15
Uniform Delay, d1	39.5	41.1		43.2	24.5	22.8	19.4	17.5	16.0	16.7	31.4	20.8
Progression Factor	1.00	1.00		0.96	1.07	2.62	1.15	0.92	1.49	1.00	1.00	1.00
Incremental Delay, d2	1.2	2.7		121.4	0.2	0.0	2.5	0.4	0.6	0.2	65.9	0.6
Delay (s)	40.7	43.8		163.0	26.6	59.8	24.9	16.6	24.4	16.9	97.2	21.4
Level of Service	D	D		F	C	E	C	B	C	B	F	C
Approach Delay (s)		43.5			129.1			19.5			88.5	
Approach LOS		D			F			B			F	

Intersection Summary			
HCM 2000 Control Delay	73.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	623	286	891	1593
v/c Ratio	0.77	0.67	0.30	0.51
Control Delay	39.3	27.1	10.6	8.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.3	27.1	10.6	8.5
Queue Length 50th (m)	57.6	33.5	25.8	42.8
Queue Length 95th (m)	70.7	60.7	m30.0	m41.3
Internal Link Dist (m)	299.5		196.8	95.3
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1151	556	2982	3122
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.30	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	486	396	864	0	0	1545
Future Volume (vph)	486	396	864	0	0	1545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3209	1361	4673			4893
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3209	1361	4673			4893
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	501	408	891	0	0	1593
RTOR Reduction (vph)	26	90	0	0	0	0
Lane Group Flow (vph)	597	196	891	0	0	1593
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	7%	8%	11%	0%	0%	6%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	24.6	24.6	63.8			63.8
Effective Green, g (s)	24.6	24.6	63.8			63.8
Actuated g/C Ratio	0.25	0.25	0.64			0.64
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	789	334	2981			3121
v/s Ratio Prot			0.19			c0.33
v/s Ratio Perm	c0.19	0.14				
v/c Ratio	0.76	0.59	0.30			0.51
Uniform Delay, d1	34.9	33.2	8.1			9.7
Progression Factor	1.00	1.00	1.20			0.81
Incremental Delay, d2	4.2	2.6	0.1			0.1
Delay (s)	39.1	35.9	9.8			7.9
Level of Service	D	D	A			A
Approach Delay (s)	38.1		9.8			7.9
Approach LOS	D		A			A

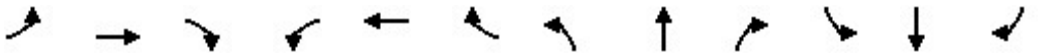
Intersection Summary			
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	465	445	434	842	624	1475
v/c Ratio	0.94	0.95	0.92	0.87	0.98	0.76
Control Delay	63.5	61.1	54.4	43.6	55.7	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.5	61.1	54.4	43.6	55.7	18.3
Queue Length 50th (m)	96.0	84.5	77.1	53.6	121.4	118.8
Queue Length 95th (m)	#161.0	#154.1	#140.8	#76.7	#184.1	152.7
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	503	476	482	968	638	1944
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.93	0.90	0.87	0.98	0.76

Intersection Summary

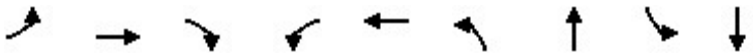
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	532	0	758	0	0	0	0	546	262	599	1416	0
Future Volume (vph)	532	0	758	0	0	0	0	546	262	599	1416	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.88	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1603	1377	1395					3970		1719	3374	
Flt Permitted	0.95	0.99	1.00					1.00		0.16	1.00	
Satd. Flow (perm)	1603	1377	1395					3970		287	3374	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	554	0	790	0	0	0	0	569	273	624	1475	0
RTOR Reduction (vph)	0	45	45	0	0	0	0	87	0	0	0	0
Lane Group Flow (vph)	465	400	389	0	0	0	0	755	0	624	1475	0
Confl. Peds. (#/hr)							3		1	1		3
Heavy Vehicles (%)	7%	0%	10%	0%	0%	0%	0%	26%	18%	5%	7%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	30.8	30.8	30.8					22.2		57.6	57.6	
Effective Green, g (s)	30.8	30.8	30.8					22.2		57.6	57.6	
Actuated g/C Ratio	0.31	0.31	0.31					0.22		0.58	0.58	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	493	424	429					881		629	1943	
v/s Ratio Prot								0.19		c0.32	0.44	
v/s Ratio Perm	0.29	0.29	0.28							c0.25		
v/c Ratio	0.94	0.94	0.91					0.86		0.99	0.76	
Uniform Delay, d1	33.7	33.8	33.2					37.4		26.2	16.0	
Progression Factor	1.00	1.00	1.00					1.00		1.07	0.96	
Incremental Delay, d2	26.8	29.6	22.4					10.5		31.3	2.5	
Delay (s)	60.5	63.3	55.6					47.9		59.2	17.8	
Level of Service	E	E	E					D		E	B	
Approach Delay (s)		59.9			0.0			47.9			30.1	
Approach LOS		E			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

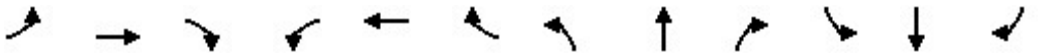
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	271	7	14	527	48	10	18	132
v/c Ratio	0.06	0.19	0.01	0.02	0.21	0.44	0.01	0.13	0.27
Control Delay	1.1	1.6	0.0	3.5	3.5	54.5	0.0	42.0	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.1	1.6	0.0	3.5	3.5	54.5	0.0	42.0	1.3
Queue Length 50th (m)	0.5	4.0	0.0	0.7	17.4	9.5	0.0	3.5	0.0
Queue Length 95th (m)	1.7	9.3	m0.0	m1.2	20.3	20.6	0.0	10.1	0.0
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	737	1451	1240	799	2553	355	904	447	759
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	0.06	0.19	0.01	0.02	0.21	0.14	0.01	0.04	0.17

Intersection Summary

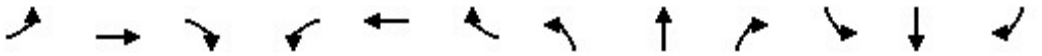
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	249	6	13	474	11	44	0	9	17	0	121
Future Volume (vph)	40	249	6	13	474	11	44	0	9	17	0	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3527		1770	1583		1770	1583	
Flt Permitted	0.44	1.00	1.00	0.59	1.00		0.60	1.00		0.75	1.00	
Satd. Flow (perm)	816	1863	1583	1104	3527		1110	1583		1399	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	271	7	14	515	12	48	0	10	18	0	132
RTOR Reduction (vph)	0	0	2	0	1	0	0	9	0	0	119	0
Lane Group Flow (vph)	43	271	5	14	526	0	48	1	0	18	13	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	77.9	77.9	77.9	71.1	71.1		9.9	9.9		9.9	9.9	
Effective Green, g (s)	77.9	77.9	77.9	71.1	71.1		9.9	9.9		9.9	9.9	
Actuated g/C Ratio	0.78	0.78	0.78	0.71	0.71		0.10	0.10		0.10	0.10	
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	671	1451	1233	784	2507		109	156		138	156	
v/s Ratio Prot	0.00	c0.15			c0.15			0.00			0.01	
v/s Ratio Perm	0.05		0.00	0.01			c0.04			0.01		
v/c Ratio	0.06	0.19	0.00	0.02	0.21		0.44	0.01		0.13	0.08	
Uniform Delay, d1	2.6	2.9	2.5	4.2	4.9		42.4	40.6		41.1	40.9	
Progression Factor	0.44	0.43	1.00	0.60	0.64		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.3	0.0	0.0	0.2		2.8	0.0		0.4	0.2	
Delay (s)	1.2	1.5	2.5	2.6	3.3		45.3	40.6		41.6	41.2	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		1.5			3.3			44.5			41.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	180	65	25	412	19	55	0	16	9	0	11
Future Volume (Veh/h)	12	180	65	25	412	19	55	0	16	9	0	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	13	196	71	27	448	21	60	0	17	10	0	12
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.99			0.99	0.99	0.99	0.99	0.99	
vC, conflicting volume	469			267			772	780	232	787	806	458
vC1, stage 1 conf vol							258	258		512	512	
vC2, stage 2 conf vol							514	523		274	293	
vCu, unblocked vol	469			260			767	776	224	783	801	458
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			87	100	98	98	100	98
cM capacity (veh/h)	1093			1297			470	467	811	477	468	602

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	280	27	469	60	17	10	12
Volume Left	13	27	0	60	0	10	0
Volume Right	71	0	21	0	17	0	12
cSH	1093	1297	1700	470	811	477	602
Volume to Capacity	0.01	0.02	0.28	0.13	0.02	0.02	0.02
Queue Length 95th (m)	0.3	0.5	0.0	3.5	0.5	0.5	0.5
Control Delay (s)	0.5	7.8	0.0	13.8	9.5	12.7	11.1
Lane LOS	A	A		B	A	B	B
Approach Delay (s)	0.5	0.4		12.8		11.8	
Approach LOS				B		B	

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	39.9%	ICU Level of Service		A
Analysis Period (min)	15			

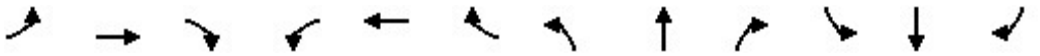
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	169	0	0	0	0	398
Future Volume (Veh/h)	169	0	0	0	0	398
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	190	0	0	0	0	447
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	224	224	447			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	224	224	447			
tC, single (s)	6.6	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	74	100	100			
cM capacity (veh/h)	735	821	1124			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	0	447
Volume Left	190	0	0
Volume Right	0	0	447
cSH	735	1700	1700
Volume to Capacity	0.26	0.00	0.26
Queue Length 95th (m)	8.2	0.0	0.0
Control Delay (s)	11.6	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.6	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	724	52	418	1921	158	6
v/c Ratio	0.36	0.07	0.62	0.70	0.63	0.03
Control Delay	13.0	3.1	6.9	7.5	23.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	3.1	6.9	7.5	23.8	0.3
Queue Length 50th (m)	35.1	0.0	13.5	69.3	6.9	0.0
Queue Length 95th (m)	70.5	5.3	33.4	132.2	26.0	0.0
Internal Link Dist (m)	440.3			358.4	862.1	50.9
Turn Bay Length (m)		20.0	55.0			
Base Capacity (vph)	2022	789	793	2756	481	388
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.07	0.53	0.70	0.33	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	666	48	385	1766	1	32	0	113	2	0	4
Future Volume (vph)	0	666	48	385	1766	1	32	0	113	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0			6.0			6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.97	1.00	1.00			0.99			0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00			1.00	
Frt		1.00	0.85	1.00	1.00			0.89			0.91	
Flt Protected		1.00	1.00	0.95	1.00			0.99			0.98	
Satd. Flow (prot)		3438	1296	1768	3539			1506			1444	
Flt Permitted		1.00	1.00	0.33	1.00			0.92			0.83	
Satd. Flow (perm)		3438	1296	609	3539			1404			1223	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	724	52	418	1920	1	35	0	123	2	0	4
RTOR Reduction (vph)	0	0	21	0	0	0	0	111	0	0	5	0
Lane Group Flow (vph)	0	724	31	418	1921	0	0	47	0	0	1	0
Confl. Peds. (#/hr)	6		4	4		6	1		4	4		1
Heavy Vehicles (%)	0%	5%	21%	2%	2%	0%	25%	0%	6%	0%	0%	25%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		58.8	58.8	77.9	77.9			10.1			10.1	
Effective Green, g (s)		58.8	58.8	77.9	77.9			10.1			10.1	
Actuated g/C Ratio		0.59	0.59	0.78	0.78			0.10			0.10	
Clearance Time (s)		6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2021	762	661	2756			141			123	
v/s Ratio Prot		0.21		0.10	c0.54							
v/s Ratio Perm			0.02	0.39				c0.03			0.00	
v/c Ratio		0.36	0.04	0.63	0.70			0.34			0.00	
Uniform Delay, d1		10.8	8.7	4.0	5.3			41.8			40.4	
Progression Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.5	0.1	2.0	1.5			1.4			0.0	
Delay (s)		11.2	8.8	6.0	6.8			43.2			40.4	
Level of Service		B	A	A	A			D			D	
Approach Delay (s)		11.1			6.7			43.2			40.4	
Approach LOS		B			A			D			D	

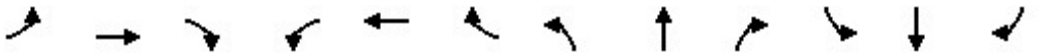
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	53	1192	66	0	2724
Future Volume (Veh/h)	0	53	1192	66	0	2724
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	58	1296	72	0	2961
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			119			257
pX, platoon unblocked	0.68	0.93			0.93	
vC, conflicting volume	2283	432			1368	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	581	140			1143	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	93			100	
cM capacity (veh/h)	303	823			566	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	58	432	432	432	72	987	987	987
Volume Left	0	0	0	0	0	0	0	0
Volume Right	58	0	0	0	72	0	0	0
cSH	823	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.07	0.25	0.25	0.25	0.04	0.58	0.58	0.58
Queue Length 95th (m)	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.7	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	1244	309	232	612	243	254	1608	579	189	995	150
v/c Ratio	0.75	0.92	0.44	1.06	0.52	0.39	0.97	0.97	0.96	1.11	0.68	0.27
Control Delay	30.4	46.9	12.3	101.7	34.0	10.4	73.3	56.9	56.9	128.9	40.5	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	46.9	12.3	101.7	34.0	10.4	73.3	56.9	56.9	128.9	40.5	6.4
Queue Length 50th (m)	43.8	152.6	19.5	~36.7	64.1	10.5	40.1	143.5	107.6	~35.2	79.8	0.0
Queue Length 95th (m)	#65.8	#197.5	44.7	#89.4	82.6	31.7	#91.4	#178.6	#184.5	#84.3	96.1	15.6
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	415	1356	695	219	1187	623	263	1652	603	170	1454	546
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.92	0.44	1.06	0.52	0.39	0.97	0.97	0.96	1.11	0.68	0.27

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	1219	303	227	600	238	249	1576	567	185	975	147
Future Volume (vph)	301	1219	303	227	600	238	249	1576	567	185	975	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.96	1.00	1.00	0.94	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1764	3539	1508	1786	3539	1498	1804	5085	1507	1752	4988	1508
Flt Permitted	0.29	1.00	1.00	0.14	1.00	1.00	0.15	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	539	3539	1508	273	3539	1498	281	5085	1507	211	4988	1508
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	307	1244	309	232	612	243	254	1608	579	189	995	150
RTOR Reduction (vph)	0	0	117	0	0	121	0	0	113	0	0	106
Lane Group Flow (vph)	307	1244	192	232	612	122	254	1608	466	189	995	44
Confl. Peds. (#/hr)	33		36	36		33	26		45	45		26
Heavy Vehicles (%)	2%	2%	2%	1%	2%	3%	0%	2%	1%	3%	4%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	57.0	46.0	46.0	48.3	40.3	40.3	49.0	39.0	39.0	42.0	35.0	35.0
Effective Green, g (s)	57.0	46.0	46.0	48.3	40.3	40.3	49.0	39.0	39.0	42.0	35.0	35.0
Actuated g/C Ratio	0.48	0.38	0.38	0.40	0.34	0.34	0.41	0.32	0.32	0.35	0.29	0.29
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	395	1356	578	210	1188	503	254	1652	489	163	1454	439
v/s Ratio Prot	c0.09	0.35		c0.07	0.17		c0.09	0.32		c0.07	0.20	
v/s Ratio Perm	0.28		0.13	c0.37		0.08	0.32		0.31	c0.34		0.03
v/c Ratio	0.78	0.92	0.33	1.10	0.52	0.24	1.00	0.97	0.95	1.16	0.68	0.10
Uniform Delay, d1	21.2	35.2	26.1	26.1	32.0	28.8	28.1	40.0	39.6	34.6	37.6	31.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	11.3	1.5	93.0	1.6	1.1	56.5	16.7	30.4	119.9	2.6	0.5
Delay (s)	30.5	46.5	27.7	119.1	33.6	30.0	84.6	56.6	70.0	154.5	40.2	31.5
Level of Service	C	D	C	F	C	C	F	E	E	F	D	C
Approach Delay (s)		40.7			51.0			62.7			55.4	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	53.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	108.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

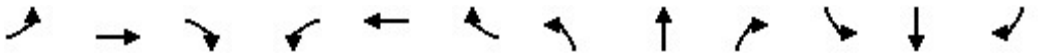
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	130	449	457	214	164	315	1973	540	138	1005	87
v/c Ratio	0.66	0.66	1.29	0.34	0.26	0.66	0.96	0.67	0.54	0.70	0.16
Control Delay	53.4	29.4	189.2	26.1	5.6	28.0	43.5	19.7	21.8	34.7	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	29.4	189.2	26.1	5.6	28.0	43.5	19.7	21.8	34.7	1.6
Queue Length 50th (m)	25.2	30.1	~62.5	31.9	0.3	45.7	136.5	39.6	12.3	66.7	0.0
Queue Length 95th (m)	41.5	42.3	#95.1	m47.6	m14.5	m#91.9	#220.0	#95.1	26.7	82.4	2.8
Internal Link Dist (m)		222.3		150.3			235.2			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	367	1143	353	912	835	477	2062	808	254	1441	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	5	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.39	1.29	0.23	0.20	0.66	0.96	0.67	0.54	0.70	0.16

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	245	190	443	208	159	306	1914	524	134	975	84
Future Volume (vph)	126	245	190	443	208	159	306	1914	524	134	975	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1779	3301		3367	1881	1549	1787	5085	1516	1752	4988	1557
Flt Permitted	0.62	1.00		0.95	1.00	1.00	0.14	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	1169	3301		3367	1881	1549	269	5085	1516	255	4988	1557
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	130	253	196	457	214	164	315	1973	540	138	1005	87
RTOR Reduction (vph)	0	125	0	0	0	108	0	0	194	0	0	62
Lane Group Flow (vph)	130	325	0	457	214	56	315	1973	346	138	1005	25
Confl. Peds. (#/hr)	17		15	15		17	3		15	15		3
Heavy Vehicles (%)	0%	1%	1%	4%	1%	1%	1%	2%	3%	3%	4%	1%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	17.0	17.0		10.5	34.0	34.0	53.4	40.5	40.5	38.8	28.9	28.9
Effective Green, g (s)	17.0	17.0		10.5	34.0	34.0	53.4	40.5	40.5	38.8	28.9	28.9
Actuated g/C Ratio	0.17	0.17		0.10	0.34	0.34	0.53	0.40	0.40	0.39	0.29	0.29
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	198	561		353	639	526	470	2059	613	247	1441	449
v/s Ratio Prot		0.10		c0.14	0.11		c0.14	c0.39		0.06	0.20	
v/s Ratio Perm	c0.11					0.04	0.21		0.23	0.16		0.02
v/c Ratio	0.66	0.58		1.29	0.33	0.11	0.67	0.96	0.56	0.56	0.70	0.06
Uniform Delay, d1	38.8	38.2		44.8	24.6	22.6	18.6	28.9	22.9	23.1	31.7	25.7
Progression Factor	1.00	1.00		1.01	1.05	1.47	1.19	1.12	1.52	1.00	1.00	1.00
Incremental Delay, d2	7.6	1.5		151.3	0.3	0.1	2.8	9.9	2.8	2.7	2.8	0.2
Delay (s)	46.4	39.7		196.7	26.1	33.2	25.1	42.3	37.7	25.9	34.5	25.9
Level of Service	D	D		F	C	C	C	D	D	C	C	C
Approach Delay (s)		41.2			120.9			39.5			32.9	
Approach LOS		D			F			D			C	

Intersection Summary			
HCM 2000 Control Delay	50.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	477	272	2507	763
v/c Ratio	0.68	0.82	0.76	0.24
Control Delay	39.2	54.8	9.7	10.6
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	39.2	54.8	10.0	10.6
Queue Length 50th (m)	45.1	56.8	88.3	22.8
Queue Length 95th (m)	58.9	86.1	m79.6	m25.8
Internal Link Dist (m)	299.5		196.8	93.2
Turn Bay Length (m)		95.0		
Base Capacity (vph)	855	404	3313	3218
Starvation Cap Reductn	0	0	214	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.56	0.67	0.81	0.24

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	203	539	2482	0	0	755
Future Volume (vph)	203	539	2482	0	0	755
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.91	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3027	1427	5085			4940
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3027	1427	5085			4940
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	205	544	2507	0	0	763
RTOR Reduction (vph)	2	2	0	0	0	0
Lane Group Flow (vph)	475	270	2507	0	0	763
Confl. Peds. (#/hr)				6	6	
Heavy Vehicles (%)	17%	3%	2%	0%	0%	5%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	23.2	23.2	65.2			65.2
Effective Green, g (s)	23.2	23.2	65.2			65.2
Actuated g/C Ratio	0.23	0.23	0.65			0.65
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	702	331	3315			3220
v/s Ratio Prot			c0.49			0.15
v/s Ratio Perm	0.16	c0.19				
v/c Ratio	0.68	0.81	0.76			0.24
Uniform Delay, d1	35.0	36.4	11.9			7.2
Progression Factor	1.00	1.00	0.73			1.35
Incremental Delay, d2	2.6	14.2	0.2			0.1
Delay (s)	37.6	50.6	8.9			9.8
Level of Service	D	D	A			A
Approach Delay (s)	42.3		8.9			9.8
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		

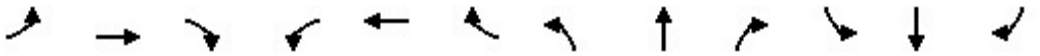
c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	700	687	366	2144	281	690
v/c Ratio	1.08	1.08	0.60	1.14	1.09	0.42
Control Delay	90.7	88.8	17.1	98.2	115.5	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.7	88.8	17.1	98.2	115.5	17.1
Queue Length 50th (m)	~168.8	~163.7	30.5	~184.0	~49.6	39.0
Queue Length 95th (m)	#242.9	#242.1	64.1	#215.1	#102.3	51.6
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	648	635	607	1887	257	1658
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.08	1.08	0.60	1.14	1.09	0.42

Intersection Summary

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

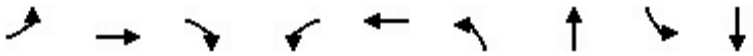
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1319	0	399	0	0	0	0	1756	345	275	676	0
Future Volume (vph)	1319	0	399	0	0	0	0	1756	345	275	676	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					*0.92		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.99	0.85					0.98		1.00	1.00	
Flt Protected	0.98	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1734	1591	1323					4890		1770	3252	
Flt Permitted	0.98	0.96	1.00					1.00		0.10	1.00	
Satd. Flow (perm)	1734	1591	1323					4890		182	3252	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1346	0	407	0	0	0	0	1792	352	281	690	0
RTOR Reduction (vph)	0	41	113	0	0	0	0	30	0	0	0	0
Lane Group Flow (vph)	700	646	253	0	0	0	0	2114	0	281	690	0
Confl. Peds. (#/hr)							5		6	6		5
Heavy Vehicles (%)	2%	0%	16%	0%	0%	0%	0%	4%	4%	2%	11%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	37.4	37.4	37.4					38.0		51.0	51.0	
Effective Green, g (s)	37.4	37.4	37.4					38.0		51.0	51.0	
Actuated g/C Ratio	0.37	0.37	0.37					0.38		0.51	0.51	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	648	595	494					1858		251	1658	
v/s Ratio Prot								0.43		c0.11	0.21	
v/s Ratio Perm	0.40	0.41	0.19							c0.46		
v/c Ratio	1.08	1.09	0.51					1.14		1.12	0.42	
Uniform Delay, d1	31.3	31.3	24.2					31.0		28.4	15.2	
Progression Factor	1.00	1.00	1.00					1.00		1.54	1.06	
Incremental Delay, d2	59.0	62.5	0.9					69.2		91.9	0.7	
Delay (s)	90.3	93.8	25.1					100.2		135.7	16.8	
Level of Service	F	F	C					F		F	B	
Approach Delay (s)		78.1			0.0			100.2			51.2	
Approach LOS		E			A			F			D	

Intersection Summary			
HCM 2000 Control Delay	82.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		

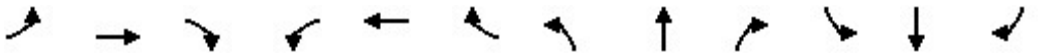
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	233	640	18	37	428	125	28	97	315
v/c Ratio	0.42	0.58	0.02	0.08	0.19	0.70	0.05	0.57	0.52
Control Delay	11.9	12.8	0.0	5.6	5.8	52.5	0.2	53.5	3.2
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	13.3	0.0	5.6	5.8	52.5	0.2	53.5	3.2
Queue Length 50th (m)	24.6	71.5	0.0	1.9	12.2	21.0	0.0	18.9	0.0
Queue Length 95th (m)	39.9	97.7	m0.0	m4.6	m18.7	#36.9	0.0	33.9	0.0
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	559	1111	990	445	2263	178	720	330	733
Starvation Cap Reductn	0	145	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	0.42	0.66	0.02	0.08	0.19	0.70	0.04	0.29	0.43

Intersection Summary

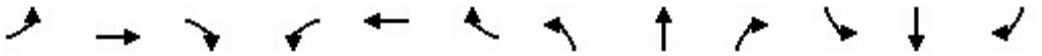
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	589	17	34	315	79	115	0	26	89	0	290
Future Volume (vph)	214	589	17	34	315	79	115	0	26	89	0	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3433		1770	1583		1770	1583	
Flt Permitted	0.50	1.00	1.00	0.29	1.00		0.24	1.00		0.74	1.00	
Satd. Flow (perm)	936	1863	1583	533	3433		441	1583		1377	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	233	640	18	37	342	86	125	0	28	97	0	315
RTOR Reduction (vph)	0	0	7	0	17	0	0	22	0	0	276	0
Lane Group Flow (vph)	233	640	11	37	411	0	125	6	0	97	39	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	58.4	58.4	58.4	65.4	65.4		22.4	22.4		12.4	12.4	
Effective Green, g (s)	58.4	58.4	58.4	65.4	65.4		22.4	22.4		12.4	12.4	
Actuated g/C Ratio	0.58	0.58	0.58	0.65	0.65		0.22	0.22		0.12	0.12	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	546	1087	924	398	2245		171	354		170	196	
v/s Ratio Prot		c0.34		0.00	c0.12		c0.04	0.00			0.02	
v/s Ratio Perm	0.25		0.01	0.06			c0.12			0.07		
v/c Ratio	0.43	0.59	0.01	0.09	0.18		0.73	0.02		0.57	0.20	
Uniform Delay, d1	11.5	13.2	8.7	8.2	6.8		34.0	30.2		41.3	39.3	
Progression Factor	0.73	0.74	1.00	0.87	0.86		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	1.9	0.0	0.1	0.2		14.8	0.0		4.6	0.5	
Delay (s)	10.4	11.7	8.7	7.2	6.0		48.8	30.2		45.9	39.8	
Level of Service	B	B	A	A	A		D	C		D	D	
Approach Delay (s)		11.3			6.1			45.4			41.3	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	532	123	66	212	62	125	0	32	46	0	70
Future Volume (Veh/h)	34	532	123	66	212	62	125	0	32	46	0	70
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	578	134	72	230	67	136	0	35	50	0	76
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.74			0.74	0.74	0.74	0.74	0.74	
vC, conflicting volume	297			712			1169	1160	645	1162	1194	264
vC1, stage 1 conf vol							719	719		408	408	
vC2, stage 2 conf vol							450	441		754	786	
vCu, unblocked vol	297			438			1054	1042	348	1044	1087	264
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			91			58	100	93	82	100	90
cM capacity (veh/h)	1264			832			324	339	516	278	281	775

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	749	72	297	136	35	50	76
Volume Left	37	72	0	136	0	50	0
Volume Right	134	0	67	0	35	0	76
cSH	1264	832	1700	324	516	278	775
Volume to Capacity	0.03	0.09	0.17	0.42	0.07	0.18	0.10
Queue Length 95th (m)	0.7	2.3	0.0	16.0	1.7	5.1	2.6
Control Delay (s)	0.8	9.7	0.0	23.9	12.5	20.8	10.1
Lane LOS	A	A		C	B	C	B
Approach Delay (s)	0.8	1.9		21.6		14.4	
Approach LOS				C		B	

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	75.9%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	446	0	0	0	0	210
Future Volume (Veh/h)	446	0	0	0	0	210
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	485	0	0	0	0	228
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	114	114	228			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	114	114	228			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	45	100	100			
cM capacity (veh/h)	885	944	1352			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	485	0	228
Volume Left	485	0	0
Volume Right	0	0	228
cSH	885	1700	1700
Volume to Capacity	0.55	0.00	0.13
Queue Length 95th (m)	27.3	0.0	0.0
Control Delay (s)	13.9	0.0	0.0
Lane LOS	B		
Approach Delay (s)	13.9	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	9.4		
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	6	1516	66	197	821	505	12
v/c Ratio	0.02	0.84	0.08	0.81	0.37	0.94	0.04
Control Delay	14.0	27.7	4.1	45.6	10.2	49.0	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	27.7	4.1	45.6	10.2	49.0	22.1
Queue Length 50th (m)	0.6	141.7	0.1	22.6	42.4	65.7	1.2
Queue Length 95th (m)	2.9	176.6	7.1	#61.4	54.7	#127.9	5.6
Internal Link Dist (m)		440.3			358.4	862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0			
Base Capacity (vph)	325	1800	799	246	2230	574	373
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.84	0.08	0.80	0.37	0.88	0.03

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1471	64	191	795	1	50	1	438	7	1	4
Future Volume (vph)	6	1471	64	191	795	1	50	1	438	7	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.88			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1795	3574	1523	1805	3573			1627			1753	
Flt Permitted	0.34	1.00	1.00	0.07	1.00			0.97			0.73	
Satd. Flow (perm)	646	3574	1523	142	3573			1578			1322	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1516	66	197	820	1	52	1	452	7	1	4
RTOR Reduction (vph)	0	0	32	0	0	0	0	137	0	0	3	0
Lane Group Flow (vph)	6	1516	34	197	821	0	0	368	0	0	9	0
Confl. Peds. (#/hr)	8		4	4		8	5		1	1		5
Heavy Vehicles (%)	0%	1%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	50.4	50.4	50.4	62.4	62.4			25.6			25.6	
Effective Green, g (s)	50.4	50.4	50.4	62.4	62.4			25.6			25.6	
Actuated g/C Ratio	0.50	0.50	0.50	0.62	0.62			0.26			0.26	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	325	1801	767	238	2229			403			338	
v/s Ratio Prot		0.42		c0.07	0.23							
v/s Ratio Perm	0.01		0.02	c0.44				c0.23			0.01	
v/c Ratio	0.02	0.84	0.04	0.83	0.37			0.91			0.03	
Uniform Delay, d1	12.4	21.4	12.6	25.3	9.2			36.1			27.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.1	5.0	0.1	20.5	0.5			24.7			0.0	
Delay (s)	12.5	26.3	12.7	45.8	9.6			60.8			27.9	
Level of Service	B	C	B	D	A			E			C	
Approach Delay (s)		25.7			16.6			60.8			27.9	
Approach LOS		C			B			E			C	

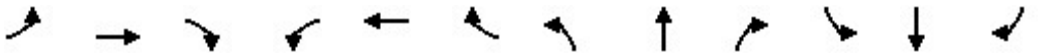
Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	139	2893	124	0	1630
Future Volume (Veh/h)	0	139	2893	124	0	1630
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	151	3145	135	0	1772
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			117			259
pX, platoon unblocked	0.73	0.65			0.65	
vC, conflicting volume	3736	1048			3280	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1934	0			2621	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	79			100	
cM capacity (veh/h)	42	704			104	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	151	1048	1048	1048	135	591	591	591
Volume Left	0	0	0	0	0	0	0	0
Volume Right	151	0	0	0	135	0	0	0
cSH	704	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.21	0.62	0.62	0.62	0.08	0.35	0.35	0.35
Queue Length 95th (m)	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	11.5	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	71.2%	ICU Level of Service	C
Analysis Period (min)	15		

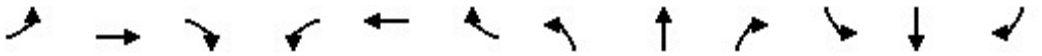


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	788	597	284	822	262	302	1202	497	220	1779	191
v/c Ratio	0.94	0.74	0.91	0.93	0.77	0.40	1.03	0.65	0.70	0.77	1.01	0.29
Control Delay	75.3	42.6	42.0	66.8	43.8	5.6	91.6	34.3	23.8	37.7	64.4	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	42.6	42.0	66.8	43.8	5.6	91.6	34.3	23.8	37.7	64.4	5.2
Queue Length 50th (m)	31.9	92.2	88.9	46.9	97.3	0.0	~62.1	92.0	60.3	28.5	~165.2	0.3
Queue Length 95th (m)	#72.6	115.8	#162.1	#96.4	121.7	19.5	#120.3	108.7	103.1	#60.1	#201.3	16.4
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	215	1072	658	304	1072	663	294	1848	715	305	1754	670
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.74	0.91	0.93	0.77	0.40	1.03	0.65	0.70	0.72	1.01	0.29

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	764	579	275	797	254	293	1166	482	213	1726	185
Future Volume (vph)	196	764	579	275	797	254	293	1166	482	213	1726	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3574	1599	1881	3574	1599	1805	5136	1599	1787	5136	1599
Flt Permitted	0.16	1.00	1.00	0.28	1.00	1.00	0.09	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	290	3574	1599	536	3574	1599	176	5136	1599	258	5136	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	202	788	597	284	822	262	302	1202	497	220	1779	191
RTOR Reduction (vph)	0	0	179	0	0	183	0	0	140	0	0	124
Lane Group Flow (vph)	202	788	418	284	822	79	302	1202	357	220	1779	67
Heavy Vehicles (%)	2%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	44.0	36.0	36.0	44.0	36.0	36.0	58.2	43.2	43.2	53.8	41.0	41.0
Effective Green, g (s)	44.0	36.0	36.0	44.0	36.0	36.0	58.2	43.2	43.2	53.8	41.0	41.0
Actuated g/C Ratio	0.37	0.30	0.30	0.37	0.30	0.30	0.49	0.36	0.36	0.45	0.34	0.34
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	205	1072	479	286	1072	479	288	1848	575	278	1754	546
v/s Ratio Prot	0.07	0.22		c0.07	0.23		c0.13	0.23		0.08	0.35	
v/s Ratio Perm	0.30		0.26	c0.30		0.05	c0.38		0.22	0.27		0.04
v/c Ratio	0.99	0.74	0.87	0.99	0.77	0.16	1.05	0.65	0.62	0.79	1.01	0.12
Uniform Delay, d1	33.1	37.7	39.8	32.1	38.2	30.9	36.8	32.1	31.6	23.0	39.5	27.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	58.2	4.5	19.2	51.1	5.3	0.7	66.3	1.8	5.0	14.2	25.1	0.5
Delay (s)	91.3	42.2	59.0	83.2	43.4	31.7	103.1	33.9	36.6	37.2	64.6	27.6
Level of Service	F	D	E	F	D	C	F	C	D	D	E	C
Approach Delay (s)		54.8			49.4			45.0			58.6	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	52.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	567	757	360	230	335	1279	451	221	1281	97
v/c Ratio	0.43	0.76	1.62	0.49	0.31	0.78	0.88	0.62	0.57	0.96	0.19
Control Delay	41.1	34.9	318.3	24.7	4.6	40.6	41.4	13.1	24.1	54.5	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	34.9	318.3	24.7	4.6	40.6	41.4	13.1	24.1	54.5	2.6
Queue Length 50th (m)	15.5	43.6	~115.1	54.5	3.0	48.1	78.6	11.2	23.8	94.6	0.0
Queue Length 95th (m)	28.4	58.1	#152.2	71.9	16.1	#115.4	#119.3	54.7	#59.2	#126.0	5.1
Internal Link Dist (m)		222.3		150.3			235.5			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	325	1127	468	968	906	427	1451	729	386	1330	501
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.50	1.62	0.37	0.25	0.78	0.88	0.62	0.57	0.96	0.19

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	266	267	712	338	216	315	1202	424	208	1204	91
Future Volume (vph)	80	266	267	712	338	216	315	1202	424	208	1204	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1796	3265		3467	1881	1567	1787	5136	1558	1787	5136	1529
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.14	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	1033	3265		3467	1881	1567	266	5136	1558	291	5136	1529
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	283	284	757	360	230	335	1279	451	221	1281	97
RTOR Reduction (vph)	0	117	0	0	0	125	0	0	289	0	0	72
Lane Group Flow (vph)	85	450	0	757	360	105	335	1279	162	221	1281	25
Confl. Peds. (#/hr)	7		3	3		7	7		3	3		7
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	1%	1%	2%	1%	1%	2%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	19.2	19.2		13.5	39.2	39.2	47.6	28.3	28.3	42.8	25.9	25.9
Effective Green, g (s)	19.2	19.2		13.5	39.2	39.2	47.6	28.3	28.3	42.8	25.9	25.9
Actuated g/C Ratio	0.19	0.19		0.14	0.39	0.39	0.48	0.28	0.28	0.43	0.26	0.26
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	198	626		468	737	614	420	1453	440	377	1330	396
v/s Ratio Prot		c0.14		c0.22	0.19		c0.15	0.25		0.10	c0.25	
v/s Ratio Perm	0.08					0.07	0.23		0.10	0.15		0.02
v/c Ratio	0.43	0.72		1.62	0.49	0.17	0.80	0.88	0.37	0.59	0.96	0.06
Uniform Delay, d1	35.6	37.9		43.2	22.9	19.8	24.0	34.2	28.7	20.6	36.6	27.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.24	0.97	1.87	1.00	1.00	1.00
Incremental Delay, d2	1.5	3.9		287.6	0.5	0.1	9.1	7.2	2.1	2.3	17.3	0.3
Delay (s)	37.1	41.8		330.9	23.4	19.9	38.9	40.5	55.8	22.9	53.9	28.2
Level of Service	D	D		F	C	B	D	D	E	C	D	C
Approach Delay (s)		41.2			195.6			43.6			48.0	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	80.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	526	276	1809	1313
v/c Ratio	0.66	0.76	0.55	0.40
Control Delay	36.8	46.8	14.1	11.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.8	46.8	14.1	11.7
Queue Length 50th (m)	48.8	55.2	73.0	45.7
Queue Length 95th (m)	58.9	78.7	m71.7	m43.1
Internal Link Dist (m)	299.5		196.8	92.9
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1130	509	3300	3300
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.47	0.54	0.55	0.40

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	240	530	1737	0	0	1260
Future Volume (vph)	240	530	1737	0	0	1260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3286	1470	5136			5136
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3286	1470	5136			5136
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	250	552	1809	0	0	1312
RTOR Reduction (vph)	8	8	0	0	0	0
Lane Group Flow (vph)	518	268	1809	0	0	1313
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	2%	0%	1%	0%	0%	1%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	24.1	24.1	64.3			64.3
Effective Green, g (s)	24.1	24.1	64.3			64.3
Actuated g/C Ratio	0.24	0.24	0.64			0.64
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	791	354	3302			3302
v/s Ratio Prot			c0.35			0.26
v/s Ratio Perm	0.16	c0.18				
v/c Ratio	0.65	0.76	0.55			0.40
Uniform Delay, d1	34.2	35.2	9.8			8.6
Progression Factor	1.00	1.00	1.29			1.24
Incremental Delay, d2	2.0	8.9	0.1			0.0
Delay (s)	36.2	44.1	12.8			10.6
Level of Service	D	D	B			B
Approach Delay (s)	38.9		12.8			10.6
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

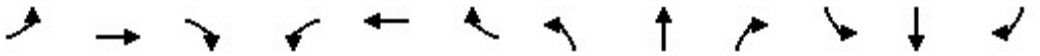
c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	568	568	382	1475	687	940
v/c Ratio	0.94	1.03	0.71	1.08	1.05	0.47
Control Delay	57.6	77.9	28.5	82.3	77.1	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	77.9	28.5	82.3	77.1	18.8
Queue Length 50th (m)	117.0	~126.4	49.2	~119.1	~111.1	67.0
Queue Length 95th (m)	#188.8	#200.6	87.4	#150.1	#198.6	78.5
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	605	551	538	1368	656	2017
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.03	0.71	1.08	1.05	0.47

Intersection Summary

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

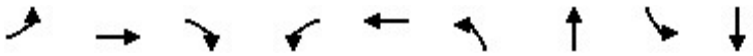
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1006	0	391	0	0	0	0	1021	336	632	865	0
Future Volume (vph)	1006	0	391	0	0	0	0	1021	336	632	865	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.1	5.6	5.6					6.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.99	0.85					0.96		1.00	1.00	
Flt Protected	1.00	0.96	1.00					1.00		1.00	1.00	
Satd. Flow (prot)	1787	1612	1447					4849		1881	3539	
Flt Permitted	1.00	0.96	1.00					1.00		0.24	1.00	
Satd. Flow (perm)	1787	1612	1447					4849		451	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1093	0	425	0	0	0	0	1110	365	687	940	0
RTOR Reduction (vph)	0	45	84	0	0	0	0	59	0	0	0	0
Lane Group Flow (vph)	568	523	298	0	0	0	0	1416	0	687	940	0
Confl. Peds. (#/hr)							1		4	4		1
Heavy Vehicles (%)	1%	0%	6%	0%	0%	0%	0%	2%	3%	1%	2%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	31.4	31.4	31.4					27.0		57.0	57.0	
Effective Green, g (s)	33.9	31.4	31.4					27.0		57.0	57.0	
Actuated g/C Ratio	0.34	0.31	0.31					0.27		0.57	0.57	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	605	506	454					1309		643	2017	
v/s Ratio Prot								0.29		c0.29	0.27	
v/s Ratio Perm	0.32	0.32	0.21							c0.32		
v/c Ratio	0.94	1.03	0.66					1.08		1.07	0.47	
Uniform Delay, d1	32.0	34.3	29.6					36.5		21.4	12.6	
Progression Factor	1.00	1.00	1.00					1.00		1.49	1.41	
Incremental Delay, d2	22.4	49.2	3.4					50.1		54.1	0.7	
Delay (s)	54.4	83.5	33.0					86.6		85.9	18.5	
Level of Service	D	F	C					F		F	B	
Approach Delay (s)		59.9			0.0			86.6			47.0	
Approach LOS		E			A			F			D	

Intersection Summary			
HCM 2000 Control Delay	63.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	277	560	27	33	795	139	28	120	398
v/c Ratio	0.73	0.52	0.03	0.07	0.36	0.72	0.04	0.58	0.92
Control Delay	33.4	17.5	0.0	6.8	10.5	53.1	0.1	54.5	46.2
Queue Delay	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	18.4	0.0	6.8	10.5	53.1	0.1	54.5	46.2
Queue Length 50th (m)	49.4	82.3	0.0	3.3	54.3	24.0	0.0	24.8	38.1
Queue Length 95th (m)	#103.3	116.5	0.0	m4.0	67.4	#47.1	0.0	44.5	#92.8
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	379	1081	963	467	2204	193	696	237	464
Starvation Cap Reductn	0	260	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	0.68	0.03	0.07	0.36	0.72	0.04	0.51	0.86

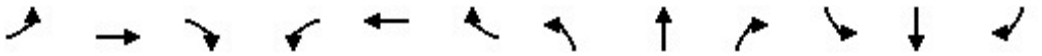
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	515	25	30	662	69	128	0	26	110	0	366
Future Volume (vph)	255	515	25	30	662	69	128	0	26	110	0	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3489		1770	1583		1770	1583	
Flt Permitted	0.35	1.00	1.00	0.33	1.00		0.19	1.00		0.74	1.00	
Satd. Flow (perm)	654	1863	1583	612	3489		355	1583		1377	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	560	27	33	720	75	139	0	28	120	0	398
RTOR Reduction (vph)	0	0	12	0	7	0	0	21	0	0	196	0
Lane Group Flow (vph)	277	560	15	33	788	0	139	7	0	120	202	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	62.7	62.7	62.7	69.3	69.3		28.5	28.5		16.5	16.5	
Effective Green, g (s)	62.7	62.7	62.7	69.3	69.3		28.5	28.5		16.5	16.5	
Actuated g/C Ratio	0.57	0.57	0.57	0.63	0.63		0.26	0.26		0.15	0.15	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	372	1061	902	423	2198		188	410		206	237	
v/s Ratio Prot		0.30		0.00	c0.23		c0.05	0.00			0.13	
v/s Ratio Perm	c0.42		0.01	0.05			c0.14			0.09		
v/c Ratio	0.74	0.53	0.02	0.08	0.36		0.74	0.02		0.58	0.85	
Uniform Delay, d1	17.7	14.5	10.3	9.2	9.7		34.2	30.3		43.5	45.6	
Progression Factor	1.00	1.00	1.00	0.88	1.01		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.7	1.9	0.0	0.1	0.5		14.1	0.0		4.2	24.2	
Delay (s)	30.4	16.4	10.3	8.2	10.2		48.3	30.3		47.7	69.8	
Level of Service	C	B	B	A	B		D	C		D	E	
Approach Delay (s)		20.7			10.2			45.3			64.6	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	401	175	65	484	89	164	0	41	53	0	82
Future Volume (Veh/h)	50	401	175	65	484	89	164	0	41	53	0	82
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	54	436	190	71	526	97	178	0	45	58	0	89
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.77			0.77	0.77	0.77	0.77	0.77	
vC, conflicting volume	623			626			1396	1404	531	1400	1450	574
vC1, stage 1 conf vol							639	639		716	716	
vC2, stage 2 conf vol							757	765		684	734	
vCu, unblocked vol	623			360			1364	1375	236	1370	1435	574
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			92			20	100	93	77	100	83
cM capacity (veh/h)	958			919			224	272	616	257	259	518

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	680	71	623	178	45	58	89
Volume Left	54	71	0	178	0	58	0
Volume Right	190	0	97	0	45	0	89
cSH	958	919	1700	224	616	257	518
Volume to Capacity	0.06	0.08	0.37	0.80	0.07	0.23	0.17
Queue Length 95th (m)	1.4	2.0	0.0	46.4	1.9	6.8	4.9
Control Delay (s)	1.5	9.2	0.0	64.0	11.3	23.0	13.4
Lane LOS	A	A		F	B	C	B
Approach Delay (s)	1.5	0.9		53.3		17.2	
Approach LOS				F		C	

Intersection Summary				
Average Delay	9.2			
Intersection Capacity Utilization	91.2%	ICU Level of Service		F
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	366	0	0	0	0	443
Future Volume (Veh/h)	366	0	0	0	0	443
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	421	0	0	0	0	509
Pedestrians				2	1	
Lane Width (m)				3.6	3.6	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	256	256	509			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	256	256	509			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	43	100	100			
cM capacity (veh/h)	735	786	1066			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	421	0	509
Volume Left	421	0	0
Volume Right	0	0	509
cSH	735	1700	1700
Volume to Capacity	0.57	0.00	0.30
Queue Length 95th (m)	29.4	0.0	0.0
Control Delay (s)	16.3	0.0	0.0
Lane LOS	C		
Approach Delay (s)	16.3	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	7.4		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	11	1424	77	326	1197	427	9
v/c Ratio	0.05	0.73	0.09	0.79	0.45	0.86	0.04
Control Delay	17.1	24.1	6.4	37.5	7.3	29.6	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	24.1	6.4	37.5	7.3	29.6	25.1
Queue Length 50th (m)	1.2	125.8	1.8	43.4	45.8	27.7	0.8
Queue Length 95th (m)	5.1	#188.5	10.9	#97.9	88.4	60.3	4.8
Internal Link Dist (m)		440.3			358.4	862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0			
Base Capacity (vph)	242	1947	862	433	2642	633	405
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.73	0.09	0.75	0.45	0.67	0.02

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1310	71	300	1100	1	29	3	361	1	3	5
Future Volume (vph)	10	1310	71	300	1100	1	29	3	361	1	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.88			0.93	
Flt Protected	0.95	1.00	1.00	0.98	1.00			1.00			0.99	
Satd. Flow (prot)	1799	3574	1532	1862	3574			1638			1734	
Flt Permitted	0.24	1.00	1.00	0.09	1.00			0.97			0.91	
Satd. Flow (perm)	446	3574	1532	171	3574			1601			1579	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1424	77	326	1196	1	32	3	392	1	3	5
RTOR Reduction (vph)	0	0	27	0	0	0	0	257	0	0	4	0
Lane Group Flow (vph)	11	1424	50	326	1197	0	0	170	0	0	5	0
Confl. Peds. (#/hr)	7		5	5		7	2		1	1		2
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	59.9	59.9	59.9	81.3	81.3			16.7			16.7	
Effective Green, g (s)	59.9	59.9	59.9	81.3	81.3			16.7			16.7	
Actuated g/C Ratio	0.54	0.54	0.54	0.74	0.74			0.15			0.15	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	242	1946	834	409	2641			243			239	
v/s Ratio Prot		0.40		c0.13	0.33							
v/s Ratio Perm	0.02		0.03	c0.46				c0.11			0.00	
v/c Ratio	0.05	0.73	0.06	0.80	0.45			0.70			0.02	
Uniform Delay, d1	11.7	19.0	11.8	28.4	5.6			44.3			39.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	2.5	0.1	10.3	0.6			8.5			0.0	
Delay (s)	12.1	21.4	11.9	38.7	6.2			52.8			39.7	
Level of Service	B	C	B	D	A			D			D	
Approach Delay (s)		20.9			13.2			52.8			39.7	
Approach LOS		C			B			D			D	

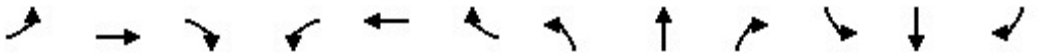
Intersection Summary			
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	166	2095	182	0	2210
Future Volume (Veh/h)	0	166	2095	182	0	2210
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	180	2277	198	0	2402
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			117			259
pX, platoon unblocked	0.86	0.81			0.81	
vC, conflicting volume	3078	759			2475	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1373	0			2002	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	80			100	
cM capacity (veh/h)	118	879			229	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	180	759	759	759	198	801	801	801
Volume Left	0	0	0	0	0	0	0	0
Volume Right	180	0	0	0	198	0	0	0
cSH	879	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.45	0.45	0.45	0.12	0.47	0.47	0.47
Queue Length 95th (m)	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.1	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	364	206	383	582	200	176	671	177	222	1793	193
v/c Ratio	0.27	0.35	0.37	0.84	0.46	0.31	1.05	0.45	0.29	0.55	0.95	0.29
Control Delay	22.0	33.4	11.3	44.1	31.7	5.1	110.6	33.2	5.6	23.0	47.6	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	33.4	11.3	44.1	31.7	5.1	110.6	33.2	5.6	23.0	47.6	4.6
Queue Length 50th (m)	11.8	36.7	9.2	65.2	59.4	0.0	~30.2	48.4	0.0	30.6	155.7	0.0
Queue Length 95th (m)	22.0	50.6	29.3	#109.9	77.0	16.3	#78.2	61.5	16.2	47.3	#191.0	15.0
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	309	1040	560	455	1262	646	168	1477	610	417	1893	666
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.35	0.37	0.84	0.46	0.31	1.05	0.45	0.29	0.53	0.95	0.29

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	349	198	368	559	192	169	644	170	213	1721	185
Future Volume (vph)	81	349	198	368	559	192	169	644	170	213	1721	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1636	3374	1472	1760	3539	1450	1735	4472	1489	1700	4940	1429
Flt Permitted	0.39	1.00	1.00	0.46	1.00	1.00	0.10	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)	670	3374	1472	845	3539	1450	185	4472	1489	548	4940	1429
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	364	206	383	582	200	176	671	177	222	1793	193
RTOR Reduction (vph)	0	0	107	0	0	130	0	0	119	0	0	119
Lane Group Flow (vph)	84	364	99	383	582	70	176	671	58	222	1793	74
Confl. Peds. (#/hr)	19		22	22		19	32		20	20		32
Heavy Vehicles (%)	10%	7%	6%	2%	2%	8%	4%	16%	5%	6%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	41.8	37.0	37.0	50.0	42.2	42.2	46.6	39.6	39.6	56.0	46.0	46.0
Effective Green, g (s)	41.8	37.0	37.0	50.0	42.2	42.2	46.6	39.6	39.6	56.0	46.0	46.0
Actuated g/C Ratio	0.35	0.31	0.31	0.42	0.35	0.35	0.39	0.33	0.33	0.47	0.38	0.38
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	272	1040	453	428	1244	509	162	1475	491	384	1893	547
v/s Ratio Prot	0.01	0.11		c0.07	0.16		c0.06	0.15		0.06	c0.36	
v/s Ratio Perm	0.10		0.07	c0.30		0.05	c0.36		0.04	0.20		0.05
v/c Ratio	0.31	0.35	0.22	0.89	0.47	0.14	1.09	0.45	0.12	0.58	0.95	0.14
Uniform Delay, d1	26.9	32.2	30.8	30.8	30.2	26.5	31.1	31.7	28.0	20.1	35.8	24.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.9	1.1	20.6	1.3	0.6	95.7	1.0	0.5	2.1	11.5	0.5
Delay (s)	27.6	33.1	31.9	51.3	31.5	27.1	126.8	32.7	28.5	22.2	47.3	24.6
Level of Service	C	C	C	D	C	C	F	C	C	C	D	C
Approach Delay (s)		32.0			37.2			48.2			42.8	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	111.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

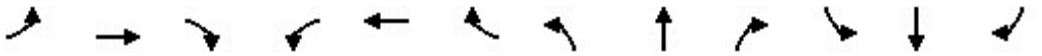
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	350	589	145	53	189	776	246	45	2122	221
v/c Ratio	0.31	0.87dr	1.32	0.25	0.10	0.57	0.34	0.31	0.12	1.13	0.32
Control Delay	43.8	32.6	195.1	26.5	10.1	25.1	16.5	5.1	11.7	96.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	32.6	195.1	26.5	10.1	25.1	16.5	5.1	11.7	96.9	4.9
Queue Length 50th (m)	8.7	22.2	~81.7	23.0	0.0	21.5	32.4	5.1	3.7	~182.6	0.0
Queue Length 95th (m)	19.0	35.8	#117.0	39.3	9.8	42.6	51.9	12.5	9.7	#242.1	16.8
Internal Link Dist (m)		222.3		150.3			233.1			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	325	957	445	861	715	331	2303	793	386	1878	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.37	1.32	0.17	0.07	0.57	0.34	0.31	0.12	1.13	0.32

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.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	71	251	542	133	49	174	714	226	41	1952	203
Future Volume (vph)	42	71	251	542	133	49	174	714	226	41	1952	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1633	3027		3303	1776	1404	1770	4759	1377	1803	5036	1479
Flt Permitted	0.66	1.00		0.95	1.00	1.00	0.10	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	1143	3027		3303	1776	1404	185	4759	1377	657	5036	1479
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	77	273	589	145	53	189	776	246	45	2122	221
RTOR Reduction (vph)	0	116	0	0	0	36	0	0	130	0	0	139
Lane Group Flow (vph)	46	234	0	589	145	17	189	776	116	45	2122	82
Confl. Peds. (#/hr)	5		8	8		5	9		6	6		9
Heavy Vehicles (%)	10%	6%	3%	6%	7%	13%	2%	9%	14%	0%	3%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	12.9	12.9		13.5	32.9	32.9	54.5	47.2	47.2	41.6	37.3	37.3
Effective Green, g (s)	12.9	12.9		13.5	32.9	32.9	54.5	47.2	47.2	41.6	37.3	37.3
Actuated g/C Ratio	0.13	0.13		0.14	0.33	0.33	0.54	0.47	0.47	0.42	0.37	0.37
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	390		445	584	461	325	2246	649	322	1878	551
v/s Ratio Prot		c0.08		c0.18	0.08		c0.08	0.16		0.01	c0.42	
v/s Ratio Perm	0.04					0.01	0.23		0.08	0.05		0.06
v/c Ratio	0.31	0.87dr		1.32	0.25	0.04	0.58	0.35	0.18	0.14	1.13	0.15
Uniform Delay, d1	39.5	41.1		43.2	24.5	22.8	19.4	16.7	15.2	17.5	31.4	20.8
Progression Factor	1.00	1.00		0.95	1.07	2.52	1.15	0.92	1.47	1.00	1.00	1.00
Incremental Delay, d2	1.2	2.6		160.5	0.2	0.0	2.5	0.4	0.6	0.2	65.9	0.6
Delay (s)	40.7	43.7		201.5	26.4	57.5	24.9	15.8	23.0	17.7	97.2	21.4
Level of Service	D	D		F	C	E	C	B	C	B	F	C
Approach Delay (s)		43.4			159.5			18.7			88.7	
Approach LOS		D			F			B			F	

Intersection Summary			
HCM 2000 Control Delay	78.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	623	283	891	1598
v/c Ratio	0.77	0.67	0.30	0.51
Control Delay	39.3	26.7	10.6	8.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	39.3	26.7	10.6	8.8
Queue Length 50th (m)	57.6	32.8	26.0	44.1
Queue Length 95th (m)	70.7	59.5	m30.2	m41.7
Internal Link Dist (m)	299.5		196.8	95.3
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1151	556	2982	3122
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.30	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	486	393	864	0	0	1550
Future Volume (vph)	486	393	864	0	0	1550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3209	1361	4673			4893
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3209	1361	4673			4893
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	501	405	891	0	0	1598
RTOR Reduction (vph)	26	90	0	0	0	0
Lane Group Flow (vph)	597	193	891	0	0	1598
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	7%	8%	11%	0%	0%	6%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	24.6	24.6	63.8			63.8
Effective Green, g (s)	24.6	24.6	63.8			63.8
Actuated g/C Ratio	0.25	0.25	0.64			0.64
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	789	334	2981			3121
v/s Ratio Prot			0.19			c0.33
v/s Ratio Perm	c0.19	0.14				
v/c Ratio	0.76	0.58	0.30			0.51
Uniform Delay, d1	34.9	33.1	8.1			9.7
Progression Factor	1.00	1.00	1.21			0.83
Incremental Delay, d2	4.2	2.4	0.1			0.1
Delay (s)	39.1	35.6	9.9			8.2
Level of Service	D	D	A			A
Approach Delay (s)	38.0		9.9			8.2
Approach LOS	D		A			A

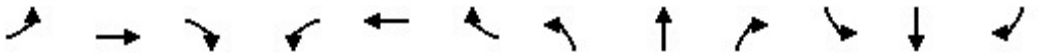
Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	466	445	434	838	623	1480
v/c Ratio	0.95	0.95	0.92	0.86	0.98	0.76
Control Delay	63.8	61.1	54.4	43.1	55.9	18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.8	61.1	54.4	43.1	55.9	18.2
Queue Length 50th (m)	96.3	84.5	77.1	53.2	121.2	117.3
Queue Length 95th (m)	#161.4	#154.1	#140.8	#76.2	#182.6	153.3
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	503	476	482	969	637	1943
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.93	0.90	0.86	0.98	0.76

Intersection Summary

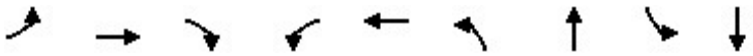
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	533	0	758	0	0	0	0	542	262	598	1421	0
Future Volume (vph)	533	0	758	0	0	0	0	542	262	598	1421	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.88	0.85					0.95		1.00	1.00	
Flt Protected	0.95	0.99	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1603	1377	1395					3969		1719	3374	
Flt Permitted	0.95	0.99	1.00					1.00		0.16	1.00	
Satd. Flow (perm)	1603	1377	1395					3969		287	3374	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	555	0	790	0	0	0	0	565	273	623	1480	0
RTOR Reduction (vph)	0	45	45	0	0	0	0	87	0	0	0	0
Lane Group Flow (vph)	466	400	389	0	0	0	0	751	0	623	1480	0
Confl. Peds. (#/hr)							3		1	1		3
Heavy Vehicles (%)	7%	0%	10%	0%	0%	0%	0%	26%	18%	5%	7%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	30.8	30.8	30.8					22.2		57.6	57.6	
Effective Green, g (s)	30.8	30.8	30.8					22.2		57.6	57.6	
Actuated g/C Ratio	0.31	0.31	0.31					0.22		0.58	0.58	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	493	424	429					881		629	1943	
v/s Ratio Prot								0.19		c0.32	0.44	
v/s Ratio Perm	c0.29	0.29	0.28							c0.25		
v/c Ratio	0.95	0.94	0.91					0.85		0.99	0.76	
Uniform Delay, d1	33.8	33.8	33.2					37.3		26.1	16.0	
Progression Factor	1.00	1.00	1.00					1.00		1.08	0.95	
Incremental Delay, d2	27.1	29.6	22.4					10.2		30.9	2.5	
Delay (s)	60.9	63.3	55.6					47.5		59.1	17.7	
Level of Service	E	E	E					D		E	B	
Approach Delay (s)		60.0			0.0			47.5			30.0	
Approach LOS		E			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

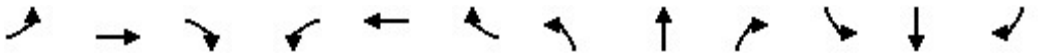
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	260	7	14	571	48	10	18	132
v/c Ratio	0.08	0.18	0.01	0.02	0.23	0.44	0.01	0.13	0.28
Control Delay	1.2	1.6	0.0	3.8	4.3	54.5	0.0	42.0	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	1.2	1.6	0.0	3.8	4.3	54.5	0.0	42.0	1.5
Queue Length 50th (m)	0.7	4.0	0.0	0.7	19.3	9.5	0.0	3.5	0.0
Queue Length 95th (m)	2.1	9.1	m0.0	m1.3	24.8	20.6	0.0	10.1	0.0
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	711	1451	1240	786	2488	355	915	447	741
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	0.08	0.18	0.01	0.02	0.23	0.14	0.01	0.04	0.18

Intersection Summary

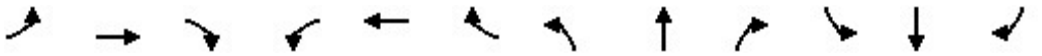
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	239	6	13	514	11	44	0	9	17	0	121
Future Volume (vph)	50	239	6	13	514	11	44	0	9	17	0	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3528		1770	1583		1770	1583	
Flt Permitted	0.42	1.00	1.00	0.60	1.00		0.60	1.00		0.75	1.00	
Satd. Flow (perm)	781	1863	1583	1115	3528		1110	1583		1399	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	260	7	14	559	12	48	0	10	18	0	132
RTOR Reduction (vph)	0	0	2	0	1	0	0	9	0	0	119	0
Lane Group Flow (vph)	54	260	5	14	570	0	48	1	0	18	13	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	77.9	77.9	77.9	69.9	69.9		9.9	9.9		9.9	9.9	
Effective Green, g (s)	77.9	77.9	77.9	69.9	69.9		9.9	9.9		9.9	9.9	
Actuated g/C Ratio	0.78	0.78	0.78	0.70	0.70		0.10	0.10		0.10	0.10	
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	657	1451	1233	779	2466		109	156		138	156	
v/s Ratio Prot	0.00	c0.14			c0.16			0.00			0.01	
v/s Ratio Perm	0.06		0.00	0.01			c0.04			0.01		
v/c Ratio	0.08	0.18	0.00	0.02	0.23		0.44	0.01		0.13	0.08	
Uniform Delay, d1	2.6	2.8	2.5	4.6	5.4		42.4	40.6		41.1	40.9	
Progression Factor	0.45	0.44	1.00	0.64	0.70		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.0	0.0	0.2		2.8	0.0		0.4	0.2	
Delay (s)	1.2	1.5	2.5	3.0	4.0		45.3	40.6		41.6	41.2	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		1.5			4.0			44.5			41.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	176	60	24	407	19	97	0	22	9	0	11
Future Volume (Veh/h)	12	176	60	24	407	19	97	0	22	9	0	11
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	13	191	65	26	442	21	105	0	24	10	0	12
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				1.00			1.00	1.00	1.00	1.00	1.00	
vC, conflicting volume	463			256			756	764	224	778	786	452
vC1, stage 1 conf vol							250	250		504	504	
vC2, stage 2 conf vol							506	515		274	282	
vCu, unblocked vol	463			253			754	763	220	776	785	452
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			78	100	97	98	100	98
cM capacity (veh/h)	1098			1309			476	472	817	479	474	607

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	269	26	463	105	24	10	12
Volume Left	13	26	0	105	0	10	0
Volume Right	65	0	21	0	24	0	12
cSH	1098	1309	1700	476	817	479	607
Volume to Capacity	0.01	0.02	0.27	0.22	0.03	0.02	0.02
Queue Length 95th (m)	0.3	0.5	0.0	6.7	0.7	0.5	0.5
Control Delay (s)	0.5	7.8	0.0	14.7	9.5	12.7	11.0
Lane LOS	A	A		B	A	B	B
Approach Delay (s)	0.5	0.4		13.7		11.8	
Approach LOS				B		B	

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	41.7%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	169	0	0	0	0	394
Future Volume (Veh/h)	169	0	0	0	0	394
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	190	0	0	0	0	443
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	222	222	443			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	222	222	443			
tC, single (s)	6.6	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	74	100	100			
cM capacity (veh/h)	737	823	1128			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	190	0	443
Volume Left	190	0	0
Volume Right	0	0	443
cSH	737	1700	1700
Volume to Capacity	0.26	0.00	0.26
Queue Length 95th (m)	8.2	0.0	0.0
Control Delay (s)	11.6	0.0	0.0
Lane LOS	B		
Approach Delay (s)	11.6	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	724	52	414	1921	158	6
v/c Ratio	0.36	0.07	0.61	0.70	0.63	0.03
Control Delay	12.9	3.1	6.8	7.5	23.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	3.1	6.8	7.5	23.8	0.3
Queue Length 50th (m)	34.7	0.0	13.4	69.3	6.9	0.0
Queue Length 95th (m)	70.2	5.3	33.1	132.2	26.0	0.0
Internal Link Dist (m)	440.3			358.4	862.1	50.9
Turn Bay Length (m)		20.0	55.0			
Base Capacity (vph)	2030	791	794	2756	481	388
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.07	0.52	0.70	0.33	0.02

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	666	48	381	1766	1	32	0	113	2	0	4
Future Volume (vph)	0	666	48	381	1766	1	32	0	113	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0			6.0			6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes		1.00	0.97	1.00	1.00			0.99			0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00			1.00			1.00	
Frt		1.00	0.85	1.00	1.00			0.89			0.91	
Flt Protected		1.00	1.00	0.95	1.00			0.99			0.98	
Satd. Flow (prot)		3438	1296	1768	3539			1506			1444	
Flt Permitted		1.00	1.00	0.33	1.00			0.92			0.83	
Satd. Flow (perm)		3438	1296	611	3539			1404			1223	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	724	52	414	1920	1	35	0	123	2	0	4
RTOR Reduction (vph)	0	0	21	0	0	0	0	111	0	0	5	0
Lane Group Flow (vph)	0	724	31	414	1921	0	0	47	0	0	1	0
Confl. Peds. (#/hr)	6		4	4		6	1		4	4		1
Heavy Vehicles (%)	0%	5%	21%	2%	2%	0%	25%	0%	6%	0%	0%	25%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		59.1	59.1	77.9	77.9			10.1			10.1	
Effective Green, g (s)		59.1	59.1	77.9	77.9			10.1			10.1	
Actuated g/C Ratio		0.59	0.59	0.78	0.78			0.10			0.10	
Clearance Time (s)		6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		2031	765	658	2756			141			123	
v/s Ratio Prot		0.21		0.10	c0.54							
v/s Ratio Perm			0.02	0.39				c0.03			0.00	
v/c Ratio		0.36	0.04	0.63	0.70			0.34			0.00	
Uniform Delay, d1		10.6	8.6	4.0	5.3			41.8			40.4	
Progression Factor		1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.5	0.1	1.9	1.5			1.4			0.0	
Delay (s)		11.1	8.7	5.9	6.8			43.2			40.4	
Level of Service		B	A	A	A			D			D	
Approach Delay (s)		10.9			6.7			43.2			40.4	
Approach LOS		B			A			D			D	

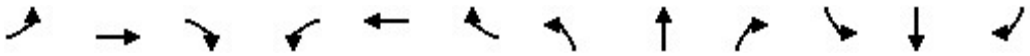
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	92.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	73	1187	67	0	2763
Future Volume (Veh/h)	0	73	1187	67	0	2763
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	79	1290	73	0	3003
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			119			257
pX, platoon unblocked	0.68	0.93			0.93	
vC, conflicting volume	2291	430			1363	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	593	138			1138	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	90			100	
cM capacity (veh/h)	297	826			569	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	79	430	430	430	73	1001	1001	1001
Volume Left	0	0	0	0	0	0	0	0
Volume Right	79	0	0	0	73	0	0	0
cSH	826	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.10	0.25	0.25	0.25	0.04	0.59	0.59	0.59
Queue Length 95th (m)	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.8	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		

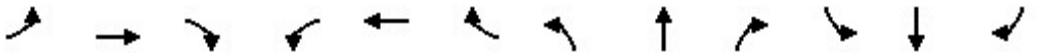


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	1244	308	232	612	243	250	1596	579	189	989	150
v/c Ratio	0.75	0.92	0.44	1.06	0.52	0.39	0.95	0.97	0.96	1.11	0.68	0.27
Control Delay	30.4	46.9	12.2	101.7	34.0	10.4	68.9	55.5	56.9	128.9	40.4	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	46.9	12.2	101.7	34.0	10.4	68.9	55.5	56.9	128.9	40.4	6.4
Queue Length 50th (m)	43.8	152.6	19.4	~36.7	64.1	10.5	39.4	142.0	107.6	~35.2	79.3	0.0
Queue Length 95th (m)	#65.8	#197.5	44.4	#89.4	82.6	31.7	#88.0	#176.4	#184.5	#84.3	95.5	15.6
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	415	1356	695	219	1187	623	264	1652	603	170	1454	546
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.92	0.44	1.06	0.52	0.39	0.95	0.97	0.96	1.11	0.68	0.27

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	1219	302	227	600	238	245	1564	567	185	969	147
Future Volume (vph)	301	1219	302	227	600	238	245	1564	567	185	969	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.96	1.00	1.00	0.94	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1764	3539	1508	1786	3539	1498	1804	5085	1507	1752	4988	1508
Flt Permitted	0.29	1.00	1.00	0.14	1.00	1.00	0.15	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	539	3539	1508	273	3539	1498	285	5085	1507	211	4988	1508
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	307	1244	308	232	612	243	250	1596	579	189	989	150
RTOR Reduction (vph)	0	0	117	0	0	121	0	0	113	0	0	106
Lane Group Flow (vph)	307	1244	191	232	612	122	250	1596	466	189	989	44
Confl. Peds. (#/hr)	33		36	36		33	26		45	45		26
Heavy Vehicles (%)	2%	2%	2%	1%	2%	3%	0%	2%	1%	3%	4%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	57.0	46.0	46.0	48.3	40.3	40.3	49.0	39.0	39.0	42.0	35.0	35.0
Effective Green, g (s)	57.0	46.0	46.0	48.3	40.3	40.3	49.0	39.0	39.0	42.0	35.0	35.0
Actuated g/C Ratio	0.48	0.38	0.38	0.40	0.34	0.34	0.41	0.32	0.32	0.35	0.29	0.29
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	395	1356	578	210	1188	503	255	1652	489	163	1454	439
v/s Ratio Prot	c0.09	0.35		c0.07	0.17		c0.09	0.31		c0.07	0.20	
v/s Ratio Perm	0.28		0.13	c0.37		0.08	0.31		0.31	c0.34		0.03
v/c Ratio	0.78	0.92	0.33	1.10	0.52	0.24	0.98	0.97	0.95	1.16	0.68	0.10
Uniform Delay, d1	21.2	35.2	26.1	26.1	32.0	28.8	27.5	39.8	39.6	34.5	37.6	31.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.3	11.3	1.5	93.0	1.6	1.1	50.7	15.4	30.4	119.9	2.6	0.5
Delay (s)	30.5	46.5	27.7	119.1	33.6	30.0	78.2	55.3	70.0	154.4	40.1	31.5
Level of Service	C	D	C	F	C	C	E	E	E	F	D	C
Approach Delay (s)		40.7			51.0			61.2			55.4	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	52.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	107.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

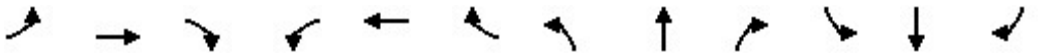
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	130	443	449	210	165	315	1956	540	131	1005	87
v/c Ratio	0.66	0.65	1.27	0.33	0.26	0.66	0.94	0.66	0.52	0.70	0.16
Control Delay	53.4	29.1	180.5	26.1	5.6	28.3	41.0	18.9	21.2	34.7	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	29.1	180.5	26.1	5.6	28.3	41.0	18.9	21.2	34.7	1.6
Queue Length 50th (m)	25.2	29.4	~60.9	31.0	0.3	46.4	130.8	37.1	11.6	66.7	0.0
Queue Length 95th (m)	41.5	41.7	#92.9	m46.9	m14.6	m#89.9	#217.2	#91.4	25.3	82.4	2.8
Internal Link Dist (m)		222.3		150.3			235.2			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	369	1141	353	912	836	479	2078	814	250	1441	550
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	3	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.39	1.27	0.23	0.20	0.66	0.94	0.67	0.52	0.70	0.16

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	240	190	436	204	160	306	1897	524	127	975	84
Future Volume (vph)	126	240	190	436	204	160	306	1897	524	127	975	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1779	3298		3367	1881	1549	1787	5085	1516	1752	4988	1557
Flt Permitted	0.63	1.00		0.95	1.00	1.00	0.14	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	1173	3298		3367	1881	1549	269	5085	1516	255	4988	1557
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	130	247	196	449	210	165	315	1956	540	131	1005	87
RTOR Reduction (vph)	0	125	0	0	0	109	0	0	194	0	0	62
Lane Group Flow (vph)	130	318	0	449	210	56	315	1956	346	131	1005	25
Confl. Peds. (#/hr)	17		15	15		17	3		15	15		3
Heavy Vehicles (%)	0%	1%	1%	4%	1%	1%	1%	2%	3%	3%	4%	1%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	16.9	16.9		10.5	33.9	33.9	53.5	40.9	40.9	38.5	28.9	28.9
Effective Green, g (s)	16.9	16.9		10.5	33.9	33.9	53.5	40.9	40.9	38.5	28.9	28.9
Actuated g/C Ratio	0.17	0.17		0.10	0.34	0.34	0.54	0.41	0.41	0.38	0.29	0.29
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	198	557		353	637	525	471	2079	620	241	1441	449
v/s Ratio Prot		0.10		c0.13	0.11		c0.14	c0.38		0.05	0.20	
v/s Ratio Perm	c0.11					0.04	0.21		0.23	0.16		0.02
v/c Ratio	0.66	0.57		1.27	0.33	0.11	0.67	0.94	0.56	0.54	0.70	0.06
Uniform Delay, d1	38.8	38.2		44.8	24.6	22.7	18.6	28.4	22.6	23.0	31.7	25.7
Progression Factor	1.00	1.00		1.02	1.05	1.46	1.21	1.10	1.48	1.00	1.00	1.00
Incremental Delay, d2	7.6	1.4		142.0	0.3	0.1	2.7	8.0	2.7	2.5	2.8	0.2
Delay (s)	46.5	39.6		187.7	26.1	33.1	25.2	39.3	36.3	25.5	34.5	25.9
Level of Service	D	D		F	C	C	C	D	D	C	C	C
Approach Delay (s)		41.2			115.5			37.1			32.9	
Approach LOS		D			F			D			C	

Intersection Summary			
HCM 2000 Control Delay	48.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	472	266	2521	749
v/c Ratio	0.68	0.81	0.76	0.23
Control Delay	39.4	54.1	9.7	8.7
Queue Delay	0.0	0.0	0.2	0.0
Total Delay	39.4	54.1	10.0	8.7
Queue Length 50th (m)	44.7	55.4	89.4	18.2
Queue Length 95th (m)	58.0	83.7	m80.2	m21.0
Internal Link Dist (m)	299.5		196.8	93.2
Turn Bay Length (m)		95.0		
Base Capacity (vph)	855	404	3325	3230
Starvation Cap Reductn	0	0	218	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.55	0.66	0.81	0.23

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	203	528	2496	0	0	742
Future Volume (vph)	203	528	2496	0	0	742
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3027	1427	5085			4940
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3027	1427	5085			4940
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	205	533	2521	0	0	749
RTOR Reduction (vph)	2	2	0	0	0	0
Lane Group Flow (vph)	470	264	2521	0	0	749
Confl. Peds. (#/hr)				6	6	
Heavy Vehicles (%)	17%	3%	2%	0%	0%	5%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	23.0	23.0	65.4			65.4
Effective Green, g (s)	23.0	23.0	65.4			65.4
Actuated g/C Ratio	0.23	0.23	0.65			0.65
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	696	328	3325			3230
v/s Ratio Prot			c0.50			0.15
v/s Ratio Perm	0.16	c0.18				
v/c Ratio	0.67	0.80	0.76			0.23
Uniform Delay, d1	35.1	36.4	11.9			7.1
Progression Factor	1.00	1.00	0.74			1.12
Incremental Delay, d2	2.6	13.3	0.2			0.1
Delay (s)	37.7	49.7	8.9			8.0
Level of Service	D	D	A			A
Approach Delay (s)	42.0		8.9			8.0
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		

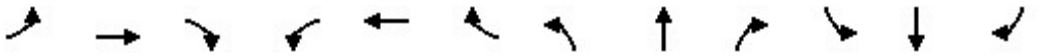
c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	708	695	366	2143	270	687
v/c Ratio	1.09	1.09	0.60	1.14	1.05	0.41
Control Delay	94.8	93.1	16.9	98.0	102.2	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.8	93.1	16.9	98.0	102.2	15.5
Queue Length 50th (m)	~172.4	~167.5	30.2	~183.9	~44.9	37.5
Queue Length 95th (m)	#247.0	#246.5	63.5	#215.0	#96.4	51.3
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	648	635	608	1887	257	1658
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.09	1.09	0.60	1.14	1.05	0.41

Intersection Summary

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

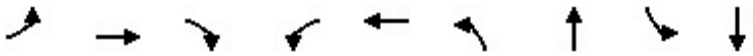
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1335	0	399	0	0	0	0	1755	345	265	673	0
Future Volume (vph)	1335	0	399	0	0	0	0	1755	345	265	673	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					*0.92		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.99	0.85					0.98		1.00	1.00	
Flt Protected	0.98	0.96	1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1734	1592	1323					4890		1770	3252	
Flt Permitted	0.98	0.96	1.00					1.00		0.10	1.00	
Satd. Flow (perm)	1734	1592	1323					4890		182	3252	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1362	0	407	0	0	0	0	1791	352	270	687	0
RTOR Reduction (vph)	0	41	114	0	0	0	0	30	0	0	0	0
Lane Group Flow (vph)	708	654	252	0	0	0	0	2113	0	270	687	0
Confl. Peds. (#/hr)							5		6	6		5
Heavy Vehicles (%)	2%	0%	16%	0%	0%	0%	0%	4%	4%	2%	11%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	37.4	37.4	37.4					38.0		51.0	51.0	
Effective Green, g (s)	37.4	37.4	37.4					38.0		51.0	51.0	
Actuated g/C Ratio	0.37	0.37	0.37					0.38		0.51	0.51	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	648	595	494					1858		251	1658	
v/s Ratio Prot								0.43		c0.11	0.21	
v/s Ratio Perm	0.41	0.41	0.19							c0.44		
v/c Ratio	1.09	1.10	0.51					1.14		1.08	0.41	
Uniform Delay, d1	31.3	31.3	24.2					31.0		28.4	15.2	
Progression Factor	1.00	1.00	1.00					1.00		1.50	0.96	
Incremental Delay, d2	63.3	67.2	0.9					69.0		77.5	0.7	
Delay (s)	94.6	98.5	25.1					100.0		120.2	15.3	
Level of Service	F	F	C					F		F	B	
Approach Delay (s)		81.7			0.0			100.0			44.9	
Approach LOS		F			A			F			D	

Intersection Summary			
HCM 2000 Control Delay	82.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	110.4%	ICU Level of Service	H
Analysis Period (min)	15		

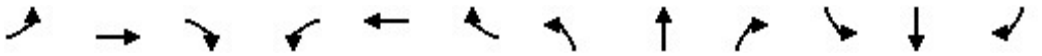
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	233	629	18	37	418	125	28	97	315
v/c Ratio	0.41	0.57	0.02	0.08	0.18	0.70	0.05	0.57	0.51
Control Delay	11.9	12.7	0.0	5.7	5.7	52.5	0.2	53.5	3.1
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	13.1	0.0	5.7	5.7	52.5	0.2	53.5	3.1
Queue Length 50th (m)	24.4	69.7	0.0	1.9	11.8	21.0	0.0	18.9	0.0
Queue Length 95th (m)	39.6	92.8	m0.0	m4.6	m18.3	#36.9	0.0	33.9	0.0
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	563	1111	990	453	2261	178	723	330	741
Starvation Cap Reductn	0	146	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	0.41	0.65	0.02	0.08	0.18	0.70	0.04	0.29	0.43

Intersection Summary

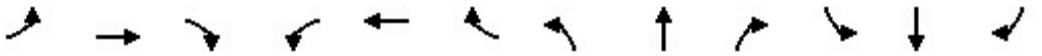
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	579	17	34	305	79	115	0	26	89	0	290
Future Volume (vph)	214	579	17	34	305	79	115	0	26	89	0	290
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3430		1770	1583		1770	1583	
Flt Permitted	0.51	1.00	1.00	0.29	1.00		0.24	1.00		0.74	1.00	
Satd. Flow (perm)	945	1863	1583	546	3430		441	1583		1377	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	233	629	18	37	332	86	125	0	28	97	0	315
RTOR Reduction (vph)	0	0	7	0	17	0	0	22	0	0	276	0
Lane Group Flow (vph)	233	629	11	37	401	0	125	6	0	97	39	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	58.4	58.4	58.4	65.4	65.4		22.4	22.4		12.4	12.4	
Effective Green, g (s)	58.4	58.4	58.4	65.4	65.4		22.4	22.4		12.4	12.4	
Actuated g/C Ratio	0.58	0.58	0.58	0.65	0.65		0.22	0.22		0.12	0.12	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	551	1087	924	406	2243		171	354		170	196	
v/s Ratio Prot		c0.34		0.00	c0.12		c0.04	0.00			0.02	
v/s Ratio Perm	0.25		0.01	0.06			c0.12			0.07		
v/c Ratio	0.42	0.58	0.01	0.09	0.18		0.73	0.02		0.57	0.20	
Uniform Delay, d1	11.5	13.1	8.7	8.0	6.8		34.0	30.2		41.3	39.3	
Progression Factor	0.73	0.74	1.00	0.87	0.86		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	1.9	0.0	0.1	0.2		14.8	0.0		4.6	0.5	
Delay (s)	10.3	11.6	8.7	7.1	6.0		48.8	30.2		45.9	39.8	
Level of Service	B	B	A	A	A		D	C		D	D	
Approach Delay (s)		11.2			6.1			45.4			41.3	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	524	121	63	203	62	125	0	36	46	0	70
Future Volume (Veh/h)	34	524	121	63	203	62	125	0	36	46	0	70
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	37	570	132	68	221	67	136	0	39	50	0	76
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.75			0.75	0.75	0.75	0.75	0.75	
vC, conflicting volume	288			702			1143	1134	636	1140	1166	254
vC1, stage 1 conf vol							710	710		390	390	
vC2, stage 2 conf vol							433	424		749	776	
vCu, unblocked vol	288			434			1023	1011	346	1018	1054	254
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			92			59	100	93	82	100	90
cM capacity (veh/h)	1274			843			333	346	522	283	290	784

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	739	68	288	136	39	50	76
Volume Left	37	68	0	136	0	50	0
Volume Right	132	0	67	0	39	0	76
cSH	1274	843	1700	333	522	283	784
Volume to Capacity	0.03	0.08	0.17	0.41	0.07	0.18	0.10
Queue Length 95th (m)	0.7	2.1	0.0	15.4	1.9	5.0	2.6
Control Delay (s)	0.8	9.6	0.0	23.1	12.5	20.5	10.1
Lane LOS	A	A		C	B	C	B
Approach Delay (s)	0.8	1.8		20.7		14.2	
Approach LOS				C		B	

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	74.9%	ICU Level of Service	D	
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	436	0	0	0	0	206
Future Volume (Veh/h)	436	0	0	0	0	206
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	474	0	0	0	0	224
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	112	112	224			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	112	112	224			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	47	100	100			
cM capacity (veh/h)	887	947	1357			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	474	0	224
Volume Left	474	0	0
Volume Right	0	0	224
cSH	887	1700	1700
Volume to Capacity	0.53	0.00	0.13
Queue Length 95th (m)	25.9	0.0	0.0
Control Delay (s)	13.6	0.0	0.0
Lane LOS	B		
Approach Delay (s)	13.6	0.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	6	1516	66	190	821	508	12
v/c Ratio	0.02	0.84	0.08	0.79	0.37	0.94	0.03
Control Delay	14.0	27.6	4.1	43.4	10.2	49.4	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	27.6	4.1	43.4	10.2	49.4	22.1
Queue Length 50th (m)	0.6	141.7	0.1	21.1	42.4	66.6	1.2
Queue Length 95th (m)	2.9	176.6	7.1	#57.5	54.7	#129.2	5.6
Internal Link Dist (m)		440.3			358.4	862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0			
Base Capacity (vph)	326	1803	800	243	2226	574	373
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.84	0.08	0.78	0.37	0.89	0.03

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1471	64	184	795	1	50	1	441	7	1	4
Future Volume (vph)	6	1471	64	184	795	1	50	1	441	7	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.88			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1795	3574	1523	1805	3573			1627			1753	
Flt Permitted	0.34	1.00	1.00	0.07	1.00			0.97			0.73	
Satd. Flow (perm)	646	3574	1523	142	3573			1579			1322	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1516	66	190	820	1	52	1	455	7	1	4
RTOR Reduction (vph)	0	0	32	0	0	0	0	137	0	0	3	0
Lane Group Flow (vph)	6	1516	34	190	821	0	0	371	0	0	9	0
Confl. Peds. (#/hr)	8		4	4		8	5		1	1		5
Heavy Vehicles (%)	0%	1%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	50.5	50.5	50.5	62.3	62.3			25.7			25.7	
Effective Green, g (s)	50.5	50.5	50.5	62.3	62.3			25.7			25.7	
Actuated g/C Ratio	0.50	0.50	0.50	0.62	0.62			0.26			0.26	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	326	1804	769	234	2225			405			339	
v/s Ratio Prot		0.42		c0.07	0.23							
v/s Ratio Perm	0.01		0.02	c0.43				c0.24			0.01	
v/c Ratio	0.02	0.84	0.04	0.81	0.37			0.92			0.03	
Uniform Delay, d1	12.4	21.3	12.5	24.6	9.2			36.1			27.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.1	4.9	0.1	18.9	0.5			25.1			0.0	
Delay (s)	12.5	26.2	12.6	43.5	9.7			61.2			27.8	
Level of Service	B	C	B	D	A			E			C	
Approach Delay (s)		25.6			16.1			61.2			27.8	
Approach LOS		C			B			E			C	

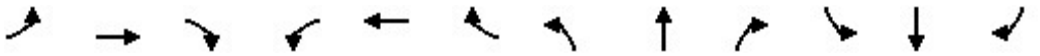
Intersection Summary			
HCM 2000 Control Delay	28.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	128	2887	135	0	1618
Future Volume (Veh/h)	0	128	2887	135	0	1618
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	139	3138	147	0	1759
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			117			259
pX, platoon unblocked	0.73	0.65			0.65	
vC, conflicting volume	3724	1046			3285	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1896	0			2629	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	80			100	
cM capacity (veh/h)	45	704			103	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	139	1046	1046	1046	147	586	586	586
Volume Left	0	0	0	0	0	0	0	0
Volume Right	139	0	0	0	147	0	0	0
cSH	704	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.62	0.62	0.62	0.09	0.34	0.34	0.34
Queue Length 95th (m)	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	11.4	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	788	588	284	822	262	297	1194	497	220	1073	193
v/c Ratio	0.94	0.74	0.88	0.93	0.77	0.40	0.88	0.65	0.69	0.76	0.61	0.29
Control Delay	75.3	42.6	38.1	66.8	43.8	5.6	49.0	34.2	23.8	37.2	34.5	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.3	42.6	38.1	66.8	43.8	5.6	49.0	34.2	23.8	37.2	34.5	5.0
Queue Length 50th (m)	31.9	92.2	82.8	46.9	97.3	0.0	42.3	91.2	60.3	28.5	80.5	0.0
Queue Length 95th (m)	#72.6	115.8	#153.1	#96.4	121.7	19.5	#93.2	107.9	103.1	#59.5	96.2	16.0
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	215	1072	665	304	1072	663	340	1848	716	307	1765	676
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.74	0.88	0.93	0.77	0.40	0.87	0.65	0.69	0.72	0.61	0.29

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	764	570	275	797	254	288	1158	482	213	1041	187
Future Volume (vph)	196	764	570	275	797	254	288	1158	482	213	1041	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3574	1599	1881	3574	1599	1805	5136	1599	1787	5136	1599
Flt Permitted	0.16	1.00	1.00	0.28	1.00	1.00	0.15	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	290	3574	1599	536	3574	1599	294	5136	1599	261	5136	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	202	788	588	284	822	262	297	1194	497	220	1073	193
RTOR Reduction (vph)	0	0	186	0	0	183	0	0	140	0	0	127
Lane Group Flow (vph)	202	788	402	284	822	79	297	1194	357	220	1073	66
Heavy Vehicles (%)	2%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	44.0	36.0	36.0	44.0	36.0	36.0	57.9	43.2	43.2	54.1	41.3	41.3
Effective Green, g (s)	44.0	36.0	36.0	44.0	36.0	36.0	57.9	43.2	43.2	54.1	41.3	41.3
Actuated g/C Ratio	0.37	0.30	0.30	0.37	0.30	0.30	0.48	0.36	0.36	0.45	0.34	0.34
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	205	1072	479	286	1072	479	326	1848	575	280	1767	550
v/s Ratio Prot	0.07	0.22		c0.07	0.23		c0.11	0.23		0.08	0.21	
v/s Ratio Perm	0.30		0.25	c0.30		0.05	c0.33		0.22	0.27		0.04
v/c Ratio	0.99	0.74	0.84	0.99	0.77	0.16	0.91	0.65	0.62	0.79	0.61	0.12
Uniform Delay, d1	33.1	37.7	39.3	32.1	38.2	30.9	22.6	32.0	31.6	22.8	32.6	26.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	58.2	4.5	16.0	51.1	5.3	0.7	28.3	1.8	5.0	13.5	1.6	0.4
Delay (s)	91.3	42.2	55.3	83.2	43.4	31.7	50.9	33.8	36.6	36.3	34.2	27.4
Level of Service	F	D	E	F	D	C	D	C	D	D	C	C
Approach Delay (s)		53.4			49.4			37.1			33.6	
Approach LOS		D			D			D			C	

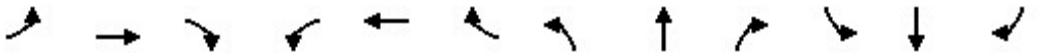
Intersection Summary			
HCM 2000 Control Delay	42.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	85	560	759	352	231	335	1263	451	199	1281	97
v/c Ratio	0.43	0.76	1.62	0.48	0.31	0.78	0.80	0.59	0.57	0.96	0.19
Control Delay	41.4	34.8	320.1	24.7	4.7	40.3	36.0	12.1	23.5	54.5	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.4	34.8	320.1	24.7	4.7	40.3	36.0	12.1	23.5	54.5	2.6
Queue Length 50th (m)	15.5	42.8	~115.5	53.2	3.1	47.8	74.6	10.9	21.0	94.6	0.0
Queue Length 95th (m)	28.5	57.4	#152.7	70.6	16.3	#115.1	#115.9	52.3	#44.1	#126.0	5.1
Internal Link Dist (m)		222.3		150.3			235.5			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	327	1126	468	968	906	429	1573	760	348	1330	501
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.50	1.62	0.36	0.25	0.78	0.80	0.59	0.57	0.96	0.19

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	259	267	713	331	217	315	1187	424	187	1204	91
Future Volume (vph)	80	259	267	713	331	217	315	1187	424	187	1204	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1796	3261		3467	1881	1567	1787	5136	1558	1787	5136	1529
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.14	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	1040	3261		3467	1881	1567	260	5136	1558	291	5136	1529
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	85	276	284	759	352	231	335	1263	451	199	1281	97
RTOR Reduction (vph)	0	117	0	0	0	126	0	0	283	0	0	72
Lane Group Flow (vph)	85	443	0	759	352	105	335	1263	168	199	1281	25
Confl. Peds. (#/hr)	7		3	3		7	7		3	3		7
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	1%	1%	2%	1%	1%	2%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	19.0	19.0		13.5	39.0	39.0	48.4	30.6	30.6	40.7	25.9	25.9
Effective Green, g (s)	19.0	19.0		13.5	39.0	39.0	48.4	30.6	30.6	40.7	25.9	25.9
Actuated g/C Ratio	0.19	0.19		0.14	0.39	0.39	0.48	0.31	0.31	0.41	0.26	0.26
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	197	619		468	733	611	423	1571	476	339	1330	396
v/s Ratio Prot		c0.14		c0.22	0.19		c0.15	0.25		0.09	c0.25	
v/s Ratio Perm	0.08					0.07	0.23		0.11	0.15		0.02
v/c Ratio	0.43	0.71		1.62	0.48	0.17	0.79	0.80	0.35	0.59	0.96	0.06
Uniform Delay, d1	35.7	38.0		43.2	22.9	19.9	24.0	31.9	27.0	21.1	36.6	27.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.23	0.97	1.85	1.00	1.00	1.00
Incremental Delay, d2	1.5	3.9		289.5	0.5	0.1	8.8	4.0	1.8	2.6	17.3	0.3
Delay (s)	37.3	41.9		332.8	23.4	20.1	38.4	34.9	51.8	23.7	53.9	28.2
Level of Service	D	D		F	C	C	D	C	D	C	D	C
Approach Delay (s)		41.3			197.8			39.2			48.5	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	80.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	97.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	521	270	1804	1305
v/c Ratio	0.66	0.76	0.54	0.39
Control Delay	37.4	47.5	13.9	11.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.4	47.5	13.9	11.5
Queue Length 50th (m)	49.0	54.7	73.0	45.2
Queue Length 95th (m)	58.7	77.5	m72.0	m42.8
Internal Link Dist (m)	299.5		196.8	92.9
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1132	509	3329	3329
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.46	0.53	0.54	0.39

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	240	519	1732	0	0	1253
Future Volume (vph)	240	519	1732	0	0	1253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3287	1470	5136			5136
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3287	1470	5136			5136
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	250	541	1804	0	0	1305
RTOR Reduction (vph)	8	8	0	0	0	0
Lane Group Flow (vph)	513	262	1804	0	0	1305
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	2%	0%	1%	0%	0%	1%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	23.6	23.6	64.8			64.8
Effective Green, g (s)	23.6	23.6	64.8			64.8
Actuated g/C Ratio	0.24	0.24	0.65			0.65
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	775	346	3328			3328
v/s Ratio Prot			c0.35			0.25
v/s Ratio Perm	0.16	c0.18				
v/c Ratio	0.66	0.76	0.54			0.39
Uniform Delay, d1	34.6	35.5	9.5			8.3
Progression Factor	1.00	1.00	1.32			1.26
Incremental Delay, d2	2.1	9.1	0.1			0.0
Delay (s)	36.7	44.6	12.6			10.5
Level of Service	D	D	B			B
Approach Delay (s)	39.4		12.6			10.5
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

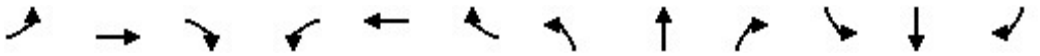
c Critical Lane Group

Lane Group	EBL	EBT	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	569	569	382	1466	678	938
v/c Ratio	0.94	1.03	0.71	1.07	1.03	0.47
Control Delay	57.9	78.4	28.5	79.7	72.6	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	78.4	28.5	79.7	72.6	18.8
Queue Length 50th (m)	117.3	~126.9	49.2	~117.6	~101.4	67.0
Queue Length 95th (m)	#189.2	#201.2	87.4	#148.6	#194.3	78.4
Internal Link Dist (m)		378.7		390.2		196.8
Turn Bay Length (m)			245.0			
Base Capacity (vph)	605	551	538	1369	656	2017
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.94	1.03	0.71	1.07	1.03	0.47

Intersection Summary

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

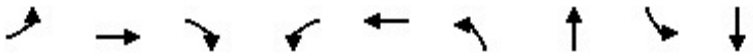
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1007	0	391	0	0	0	0	1013	336	624	863	0
Future Volume (vph)	1007	0	391	0	0	0	0	1013	336	624	863	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.1	5.6	5.6					6.0		3.0	6.0	
Lane Util. Factor	0.95	0.91	0.95					0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00		1.00	1.00	
Frt	1.00	0.99	0.85					0.96		1.00	1.00	
Flt Protected	1.00	0.96	1.00					1.00		1.00	1.00	
Satd. Flow (prot)	1787	1612	1447					4847		1881	3539	
Flt Permitted	1.00	0.96	1.00					1.00		0.24	1.00	
Satd. Flow (perm)	1787	1612	1447					4847		451	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1095	0	425	0	0	0	0	1101	365	678	938	0
RTOR Reduction (vph)	0	45	84	0	0	0	0	60	0	0	0	0
Lane Group Flow (vph)	569	524	298	0	0	0	0	1406	0	678	938	0
Confl. Peds. (#/hr)							1		4	4		1
Heavy Vehicles (%)	1%	0%	6%	0%	0%	0%	0%	2%	3%	1%	2%	0%
Turn Type	Perm	NA	Perm					NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	31.4	31.4	31.4					27.0		57.0	57.0	
Effective Green, g (s)	33.9	31.4	31.4					27.0		57.0	57.0	
Actuated g/C Ratio	0.34	0.31	0.31					0.27		0.57	0.57	
Clearance Time (s)	5.6	5.6	5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	605	506	454					1308		643	2017	
v/s Ratio Prot								0.29		c0.28	0.27	
v/s Ratio Perm	0.32	0.33	0.21							c0.32		
v/c Ratio	0.94	1.04	0.66					1.08		1.05	0.47	
Uniform Delay, d1	32.1	34.3	29.6					36.5		21.4	12.6	
Progression Factor	1.00	1.00	1.00					1.00		1.46	1.41	
Incremental Delay, d2	22.9	49.7	3.4					47.7		49.6	0.7	
Delay (s)	55.0	84.0	33.0					84.2		80.8	18.5	
Level of Service	D	F	C					F		F	B	
Approach Delay (s)		60.3			0.0			84.2			44.7	
Approach LOS		E			A			F			D	

Intersection Summary			
HCM 2000 Control Delay	62.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

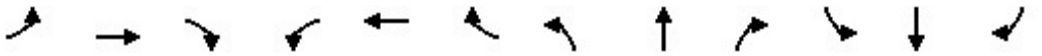
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	277	529	27	33	789	139	28	118	398
v/c Ratio	0.73	0.49	0.03	0.07	0.36	0.72	0.04	0.58	0.92
Control Delay	32.8	16.9	0.0	6.9	10.4	53.3	0.1	54.5	45.5
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	17.6	0.0	6.9	10.4	53.3	0.1	54.5	45.5
Queue Length 50th (m)	49.2	75.8	0.0	3.3	52.5	24.0	0.0	24.4	37.2
Queue Length 95th (m)	#102.8	107.7	0.0	m4.4	66.4	#47.0	0.0	43.7	#91.5
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	382	1084	965	493	2209	193	711	237	467
Starvation Cap Reductn	0	267	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	0.65	0.03	0.07	0.36	0.72	0.04	0.50	0.85

Intersection Summary

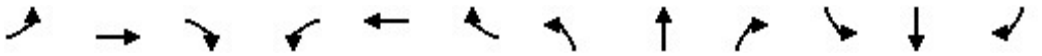
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	487	25	30	657	69	128	0	26	109	0	366
Future Volume (vph)	255	487	25	30	657	69	128	0	26	109	0	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3489		1770	1583		1770	1583	
Flt Permitted	0.35	1.00	1.00	0.35	1.00		0.19	1.00		0.74	1.00	
Satd. Flow (perm)	658	1863	1583	653	3489		357	1583		1377	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	277	529	27	33	714	75	139	0	28	118	0	398
RTOR Reduction (vph)	0	0	12	0	7	0	0	21	0	0	199	0
Lane Group Flow (vph)	277	529	15	33	782	0	139	7	0	118	199	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	62.8	62.8	62.8	69.4	69.4		28.4	28.4		16.4	16.4	
Effective Green, g (s)	62.8	62.8	62.8	69.4	69.4		28.4	28.4		16.4	16.4	
Actuated g/C Ratio	0.57	0.57	0.57	0.63	0.63		0.26	0.26		0.15	0.15	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	375	1063	903	448	2201		188	408		205	236	
v/s Ratio Prot		0.28		0.00	c0.22		c0.05	0.00			0.13	
v/s Ratio Perm	c0.42		0.01	0.04			c0.14			0.09		
v/c Ratio	0.74	0.50	0.02	0.07	0.36		0.74	0.02		0.58	0.84	
Uniform Delay, d1	17.5	14.1	10.2	8.9	9.7		34.2	30.4		43.6	45.5	
Progression Factor	1.00	1.00	1.00	0.90	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.3	1.7	0.0	0.1	0.4		14.1	0.0		3.9	23.0	
Delay (s)	29.8	15.8	10.3	8.1	10.1		48.4	30.4		47.4	68.5	
Level of Service	C	B	B	A	B		D	C		D	E	
Approach Delay (s)		20.3			10.1			45.4			63.7	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	390	161	63	473	89	171	0	47	53	0	82
Future Volume (Veh/h)	50	390	161	63	473	89	171	0	47	53	0	82
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	54	424	175	68	514	97	186	0	51	58	0	89
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	611			599			1358	1366	512	1369	1406	562
vC1, stage 1 conf vol							620	620		698	698	
vC2, stage 2 conf vol							739	747		670	707	
vCu, unblocked vol	611			349			1319	1329	237	1333	1379	562
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	94			93			20	100	92	78	100	83
cM capacity (veh/h)	968			947			233	282	628	264	272	526

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	653	68	611	186	51	58	89
Volume Left	54	68	0	186	0	58	0
Volume Right	175	0	97	0	51	0	89
cSH	968	947	1700	233	628	264	526
Volume to Capacity	0.06	0.07	0.36	0.80	0.08	0.22	0.17
Queue Length 95th (m)	1.4	1.9	0.0	47.4	2.1	6.5	4.8
Control Delay (s)	1.4	9.1	0.0	62.4	11.2	22.4	13.2
Lane LOS	A	A		F	B	C	B
Approach Delay (s)	1.4	0.9		51.4		16.9	
Approach LOS				F		C	

Intersection Summary				
Average Delay	9.5			
Intersection Capacity Utilization	89.5%	ICU Level of Service		E
Analysis Period (min)	15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	356	0	0	0	0	434
Future Volume (Veh/h)	356	0	0	0	0	434
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	409	0	0	0	0	499
Pedestrians				2	1	
Lane Width (m)				3.6	3.6	
Walking Speed (m/s)				1.2	1.2	
Percent Blockage				0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	250	252	499			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	250	252	499			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	45	100	100			
cM capacity (veh/h)	740	791	1075			

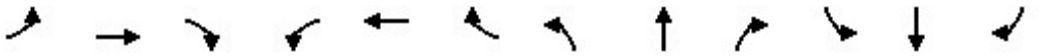
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	409	0	499
Volume Left	409	0	0
Volume Right	0	0	499
cSH	740	1700	1700
Volume to Capacity	0.55	0.00	0.29
Queue Length 95th (m)	27.4	0.0	0.0
Control Delay (s)	15.7	0.0	0.0
Lane LOS	C		
Approach Delay (s)	15.7	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	7.1		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	11	1425	77	316	1198	417	9
v/c Ratio	0.04	0.72	0.09	0.77	0.45	0.85	0.04
Control Delay	16.6	22.9	6.2	34.6	6.9	28.8	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	22.9	6.2	34.6	6.9	28.8	25.6
Queue Length 50th (m)	1.1	120.1	1.7	39.6	44.0	25.1	0.8
Queue Length 95th (m)	5.1	#189.0	10.9	#87.3	86.5	57.5	4.9
Internal Link Dist (m)		440.3			358.4	862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0			
Base Capacity (vph)	247	1989	879	435	2664	633	404
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.72	0.09	0.73	0.45	0.66	0.02

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1311	71	291	1101	1	29	3	351	1	3	5
Future Volume (vph)	10	1311	71	291	1101	1	29	3	351	1	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00			0.88			0.93	
Flt Protected	0.95	1.00	1.00	0.98	1.00			1.00			0.99	
Satd. Flow (prot)	1799	3574	1532	1862	3574			1638			1734	
Flt Permitted	0.24	1.00	1.00	0.09	1.00			0.97			0.90	
Satd. Flow (perm)	445	3574	1532	179	3574			1600			1575	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1425	77	316	1197	1	32	3	382	1	3	5
RTOR Reduction (vph)	0	0	27	0	0	0	0	259	0	0	4	0
Lane Group Flow (vph)	11	1425	50	316	1198	0	0	158	0	0	5	0
Confl. Peds. (#/hr)	7		5	5		7	2		1	1		2
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	61.2	61.2	61.2	82.0	82.0			16.0			16.0	
Effective Green, g (s)	61.2	61.2	61.2	82.0	82.0			16.0			16.0	
Actuated g/C Ratio	0.56	0.56	0.56	0.75	0.75			0.15			0.15	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	247	1988	852	405	2664			232			229	
v/s Ratio Prot		0.40		c0.13	0.34							
v/s Ratio Perm	0.02		0.03	c0.45				c0.10			0.00	
v/c Ratio	0.04	0.72	0.06	0.78	0.45			0.68			0.02	
Uniform Delay, d1	11.1	18.0	11.2	26.9	5.4			44.6			40.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.3	2.3	0.1	9.4	0.6			8.0			0.0	
Delay (s)	11.4	20.3	11.3	36.3	5.9			52.6			40.3	
Level of Service	B	C	B	D	A			D			D	
Approach Delay (s)		19.7			12.3			52.6			40.3	
Approach LOS		B			B			D			D	

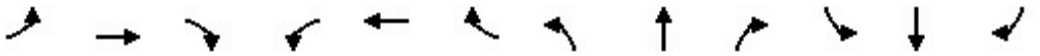
Intersection Summary					
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.78				
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0		
Intersection Capacity Utilization	94.2%	ICU Level of Service	F		
Analysis Period (min)	15				

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	159	2087	174	0	2211
Future Volume (Veh/h)	0	159	2087	174	0	2211
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	173	2268	189	0	2403
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			117			259
pX, platoon unblocked	0.86	0.81			0.81	
vC, conflicting volume	3069	756			2457	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1382	0			1990	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	80			100	
cM capacity (veh/h)	116	883			232	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	173	756	756	756	189	801	801	801
Volume Left	0	0	0	0	0	0	0	0
Volume Right	173	0	0	0	189	0	0	0
cSH	883	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.20	0.44	0.44	0.44	0.11	0.47	0.47	0.47
Queue Length 95th (m)	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.1	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	394	220	389	634	200	351	799	191	313	1973	193
v/c Ratio	0.37	0.44	0.40	1.02	0.60	0.35	1.16	0.49	0.29	0.73	1.10	0.31
Control Delay	32.0	44.8	7.1	88.5	44.6	6.4	124.6	39.4	16.5	27.9	94.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	44.8	7.1	88.5	44.6	6.4	124.6	39.4	16.5	27.9	94.6	7.6
Queue Length 50th (m)	15.4	50.6	0.0	~89.4	83.1	0.0	~105.4	82.7	29.0	47.8	~237.7	4.5
Queue Length 95th (m)	27.4	67.2	20.9	#168.0	104.2	18.7	#170.0	101.5	47.1	68.3	#268.0	22.2
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	231	891	549	381	1063	574	303	1642	665	496	1799	625
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.44	0.40	1.02	0.60	0.35	1.16	0.49	0.29	0.63	1.10	0.31

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	378	211	373	609	192	337	767	183	300	1894	185
Future Volume (vph)	81	378	211	373	609	192	337	767	183	300	1894	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1638	3374	1467	1761	3539	1445	1736	4472	1483	1700	4940	1421
Flt Permitted	0.30	1.00	1.00	0.40	1.00	1.00	0.08	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	514	3374	1467	736	3539	1445	142	4472	1483	488	4940	1421
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	394	220	389	634	200	351	799	191	312	1973	193
RTOR Reduction (vph)	0	0	162	0	0	140	0	0	121	0	0	107
Lane Group Flow (vph)	84	394	58	389	634	60	351	799	70	313	1973	86
Confl. Peds. (#/hr)	19		22	22		19	32		20	20		32
Heavy Vehicles (%)	10%	7%	6%	2%	2%	8%	4%	16%	5%	6%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	43.9	37.0	37.0	52.0	42.1	42.1	71.4	51.4	51.4	70.6	51.0	51.0
Effective Green, g (s)	43.9	37.0	37.0	52.0	42.1	42.1	71.4	51.4	51.4	70.6	51.0	51.0
Actuated g/C Ratio	0.31	0.26	0.26	0.37	0.30	0.30	0.51	0.37	0.37	0.50	0.36	0.36
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	216	891	387	361	1064	434	300	1641	544	415	1799	517
v/s Ratio Prot	0.02	0.12		c0.09	0.18		c0.17	0.18		0.11	0.40	
v/s Ratio Perm	0.10		0.04	c0.31		0.04	c0.43		0.05	0.27		0.06
v/c Ratio	0.39	0.44	0.15	1.08	0.60	0.14	1.17	0.49	0.13	0.75	1.10	0.17
Uniform Delay, d1	35.2	42.9	39.5	41.8	41.7	35.7	46.0	34.1	29.4	21.8	44.5	30.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.49	1.10	3.47	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.6	0.8	69.6	2.5	0.7	105.3	1.0	0.5	7.6	52.9	0.7
Delay (s)	36.3	44.5	40.3	111.5	44.2	36.4	127.9	38.4	102.7	29.4	97.4	30.8
Level of Service	D	D	D	F	D	D	F	D	F	C	F	C
Approach Delay (s)		42.2			64.3			71.0			83.6	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	71.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	124.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	350	889	154	58	189	955	285	77	2197	221
v/c Ratio	0.32	1.02dr	1.32	0.23	0.10	0.63	0.45	0.37	0.25	1.18	0.32
Control Delay	59.5	56.2	198.5	29.6	6.3	40.6	37.8	10.9	8.3	114.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	56.2	198.5	29.6	6.3	40.6	37.8	10.9	8.3	114.7	8.7
Queue Length 50th (m)	12.6	41.1	~172.3	30.3	0.0	39.8	83.0	13.3	6.1	~285.6	23.6
Queue Length 95th (m)	25.1	56.5	#214.3	44.5	9.0	#80.5	96.9	35.7	m8.2	m#253.2	m20.7
Internal Link Dist (m)		222.3		150.3			232.4			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	254	739	672	843	695	299	2133	771	314	1866	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.47	1.32	0.18	0.08	0.63	0.45	0.37	0.25	1.18	0.32

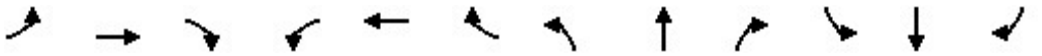
Intersection Summary

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	71	251	818	142	53	174	879	262	71	2021	203
Future Volume (vph)	43	71	251	818	142	53	174	879	262	71	2021	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3020		3303	1776	1401	1770	4759	1372	1804	5036	1468
Flt Permitted	0.66	1.00		0.95	1.00	1.00	0.07	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	1131	3020		3303	1776	1401	136	4759	1372	527	5036	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	77	273	889	154	58	189	955	285	77	2197	221
RTOR Reduction (vph)	0	67	0	0	0	36	0	0	156	0	0	139
Lane Group Flow (vph)	47	283	0	889	154	22	189	955	129	77	2197	82
Confl. Peds. (#/hr)	5		8	8		5	9		6	6		9
Heavy Vehicles (%)	10%	6%	3%	6%	7%	13%	2%	9%	14%	0%	3%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	18.3	18.3		28.5	53.3	53.3	74.1	62.7	62.7	60.3	51.9	51.9
Effective Green, g (s)	18.3	18.3		28.5	53.3	53.3	74.1	62.7	62.7	60.3	51.9	51.9
Actuated g/C Ratio	0.13	0.13		0.20	0.38	0.38	0.53	0.45	0.45	0.43	0.37	0.37
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	394		672	676	533	296	2131	614	303	1866	544
v/s Ratio Prot		c0.09		c0.27	0.09		c0.09	0.20		0.02	c0.44	
v/s Ratio Perm	0.04					0.02	0.25		0.09	0.09		0.06
v/c Ratio	0.32	1.02dr		1.32	0.23	0.04	0.64	0.45	0.21	0.25	1.18	0.15
Uniform Delay, d1	55.2	58.4		55.8	29.4	27.3	35.8	26.7	23.6	23.7	44.1	29.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.04	1.34	3.07	0.49	0.84	2.32
Incremental Delay, d2	1.3	6.2		155.6	0.2	0.0	4.3	0.7	0.7	0.0	80.4	0.1
Delay (s)	56.5	64.5		211.3	29.6	27.3	41.4	36.5	73.1	11.8	117.3	68.3
Level of Service	E	E		F	C	C	D	D	E	B	F	E
Approach Delay (s)		63.6			176.2			44.5			109.7	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	102.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	105.3%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	659	304	1031	1634
v/c Ratio	0.81	0.76	0.33	0.50
Control Delay	55.1	46.1	4.6	11.1
Queue Delay	0.2	0.0	0.0	0.0
Total Delay	55.4	46.1	4.6	11.1
Queue Length 50th (m)	90.0	66.2	15.9	68.4
Queue Length 95th (m)	103.6	97.8	m16.6	m58.3
Internal Link Dist (m)	299.5		196.8	96.1
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1211	562	3127	3274
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	130	0	0	67
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.61	0.54	0.33	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	501	434	1000	0	0	1585
Future Volume (vph)	501	434	1000	0	0	1585
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3201	1361	4673			4893
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3201	1361	4673			4893
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	516	447	1031	0	0	1634
RTOR Reduction (vph)	23	65	0	0	0	0
Lane Group Flow (vph)	636	239	1031	0	0	1634
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	7%	8%	11%	0%	0%	6%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	34.7	34.7	93.7			93.7
Effective Green, g (s)	34.7	34.7	93.7			93.7
Actuated g/C Ratio	0.25	0.25	0.67			0.67
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	793	337	3127			3274
v/s Ratio Prot			0.22			c0.33
v/s Ratio Perm	c0.20	0.18				
v/c Ratio	0.80	0.71	0.33			0.50
Uniform Delay, d1	49.4	48.0	9.8			11.5
Progression Factor	1.00	1.00	0.42			0.90
Incremental Delay, d2	5.9	6.7	0.2			0.0
Delay (s)	55.3	54.7	4.3			10.4
Level of Service	E	D	A			B
Approach Delay (s)	55.1		4.3			10.4
Approach LOS	E		A			B

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

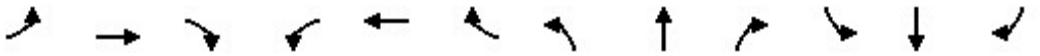
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	683	829	878	670	1472
v/c Ratio	0.48	1.26	1.10	1.25	0.90
Control Delay	30.0	160.5	111.4	162.5	36.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.0	160.5	111.4	162.5	36.2
Queue Length 50th (m)	72.7	~294.9	~99.8	~232.5	172.5
Queue Length 95th (m)	90.9	#376.5	#130.1	#309.7	194.5
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1412	660	796	536	1638
Starvation Cap Reductn	0	0	0	0	1
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	1.26	1.10	1.25	0.90

Intersection Summary

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

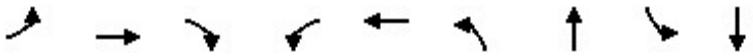
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	656	0	796	0	0	0	0	580	263	643	1413	0
Future Volume (vph)	656	0	796	0	0	0	0	580	263	643	1413	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					0.91		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.95		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3273		1468					3974		1719	3374	
Flt Permitted	0.95		1.00					1.00		0.14	1.00	
Satd. Flow (perm)	3273		1468					3974		250	3374	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	683	0	829	0	0	0	0	604	274	670	1472	0
RTOR Reduction (vph)	0	0	27	0	0	0	0	59	0	0	0	0
Lane Group Flow (vph)	683	0	802	0	0	0	0	819	0	670	1472	0
Confl. Peds. (#/hr)							3		1	1		3
Heavy Vehicles (%)	7%	0%	10%	0%	0%	0%	0%	26%	18%	5%	7%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	60.4		60.4					26.0		68.0	68.0	
Effective Green, g (s)	60.4		60.4					26.0		68.0	68.0	
Actuated g/C Ratio	0.43		0.43					0.19		0.49	0.49	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1412		633					738		530	1638	
v/s Ratio Prot								0.21		c0.35	0.44	
v/s Ratio Perm	0.21		c0.55							c0.26		
v/c Ratio	0.48		1.27					1.11		1.26	0.90	
Uniform Delay, d1	28.6		39.8					57.0		41.2	32.9	
Progression Factor	1.00		1.00					1.00		1.09	0.86	
Incremental Delay, d2	0.3		132.6					67.6		131.7	7.3	
Delay (s)	28.9		172.4					124.6		176.5	35.7	
Level of Service	C		F					F		F	D	
Approach Delay (s)		107.5			0.0			124.6			79.7	
Approach LOS		F			A			F			E	

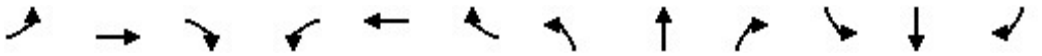
Intersection Summary			
HCM 2000 Control Delay	97.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	289	12	14	624	42	15	40	313
v/c Ratio	0.14	0.20	0.01	0.02	0.26	0.57	0.02	0.26	0.68
Control Delay	3.0	4.0	0.4	7.1	7.1	69.6	0.1	43.4	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	4.0	0.4	7.1	7.1	69.6	0.1	43.4	12.5
Queue Length 50th (m)	2.9	12.6	0.0	0.8	23.0	8.3	0.0	7.7	0.0
Queue Length 95th (m)	8.0	26.4	0.4	3.6	39.4	19.1	0.0	17.0	22.7
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	678	1428	1221	746	2427	241	911	501	774
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	0.13	0.20	0.01	0.02	0.26	0.17	0.02	0.08	0.40

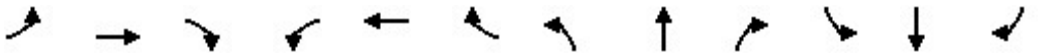
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	266	11	13	563	11	39	0	14	37	0	288
Future Volume (vph)	84	266	11	13	563	11	39	0	14	37	0	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3529		1770	1583		1770	1583	
Flt Permitted	0.39	1.00	1.00	0.58	1.00		0.36	1.00		0.75	1.00	
Satd. Flow (perm)	731	1863	1583	1086	3529		671	1583		1393	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	289	12	14	612	12	42	0	15	40	0	313
RTOR Reduction (vph)	0	0	3	0	1	0	0	13	0	0	278	0
Lane Group Flow (vph)	91	289	9	14	623	0	42	2	0	40	35	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	76.7	76.7	76.7	68.2	68.2		11.1	11.1		11.1	11.1	
Effective Green, g (s)	76.7	76.7	76.7	68.2	68.2		11.1	11.1		11.1	11.1	
Actuated g/C Ratio	0.77	0.77	0.77	0.68	0.68		0.11	0.11		0.11	0.11	
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	617	1428	1214	740	2406		74	175		154	175	
v/s Ratio Prot	0.01	c0.16			c0.18			0.00			0.02	
v/s Ratio Perm	0.10		0.01	0.01			c0.06			0.03		
v/c Ratio	0.15	0.20	0.01	0.02	0.26		0.57	0.01		0.26	0.20	
Uniform Delay, d1	2.9	3.2	2.7	5.1	6.1		42.2	39.6		40.7	40.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.0	0.0	0.3		9.6	0.0		0.9	0.6	
Delay (s)	3.1	3.5	2.7	5.2	6.4		51.8	39.6		41.6	41.0	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		3.4			6.4			48.6			41.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	230	55	28	414	29	143	0	47	24	0	6
Future Volume (Veh/h)	17	230	55	28	414	29	143	0	47	24	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	18	250	60	30	450	32	155	0	51	26	0	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	482			310			833	858	280	893	872	466
vC1, stage 1 conf vol							316	316		526	526	
vC2, stage 2 conf vol							517	542		367	346	
vCu, unblocked vol	482			289			821	847	259	882	861	466
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			66	100	93	94	100	99
cM capacity (veh/h)	1081			1251			456	443	767	432	447	597

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	328	30	482	155	51	26	7
Volume Left	18	30	0	155	0	26	0
Volume Right	60	0	32	0	51	0	7
cSH	1081	1251	1700	456	767	432	597
Volume to Capacity	0.02	0.02	0.28	0.34	0.07	0.06	0.01
Queue Length 95th (m)	0.4	0.6	0.0	11.9	1.7	1.5	0.3
Control Delay (s)	0.6	7.9	0.0	16.9	10.0	13.9	11.1
Lane LOS	A	A		C	B	B	B
Approach Delay (s)	0.6	0.5		15.2		13.3	
Approach LOS				C		B	

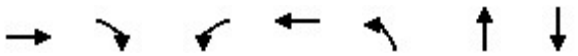
Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	51.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	201	108	40	51	551
v/c Ratio	0.27	0.13	0.19	0.11	0.50
Control Delay	7.6	2.2	15.4	13.2	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	2.2	15.4	13.2	5.1
Queue Length 50th (m)	7.0	0.0	2.4	3.0	3.3
Queue Length 95th (m)	17.9	5.1	8.0	8.7	12.3
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1274	1342	678	1533	2529
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.08	0.06	0.03	0.22

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	179	96	36	45	95	395
Future Volume (vph)	179	96	36	45	95	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.85	1.00	1.00	0.88	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1556	1615	1805	1900	3027	
Flt Permitted	0.95	1.00	0.44	1.00	1.00	
Satd. Flow (perm)	1556	1615	840	1900	3027	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	201	108	40	51	107	444
RTOR Reduction (vph)	0	57	0	0	332	0
Lane Group Flow (vph)	201	51	40	51	219	0
Heavy Vehicles (%)	16%	0%	0%	0%	0%	6%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	20.2	20.2	10.7	10.7	10.7	
Effective Green, g (s)	20.2	20.2	10.7	10.7	10.7	
Actuated g/C Ratio	0.48	0.48	0.25	0.25	0.25	
Clearance Time (s)	5.5	5.5	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	741	769	211	479	763	
v/s Ratio Prot	c0.13			0.03	c0.07	
v/s Ratio Perm		0.03	0.05			
v/c Ratio	0.27	0.07	0.19	0.11	0.29	
Uniform Delay, d1	6.7	6.0	12.4	12.2	12.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.4	0.1	0.2	
Delay (s)	6.9	6.0	12.9	12.3	13.0	
Level of Service	A	A	B	B	B	
Approach Delay (s)	6.6			12.5	13.0	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	42.4	Sum of lost time (s)	11.5
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	835	123	448	2011	53	164	6
v/c Ratio	0.45	0.17	0.68	0.73	0.44	0.29	0.03
Control Delay	16.6	8.5	10.2	8.4	52.6	1.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	8.5	10.2	8.4	52.6	1.3	0.3
Queue Length 50th (m)	50.2	5.2	17.4	87.3	10.4	0.0	0.0
Queue Length 95th (m)	88.7	19.3	49.4	143.5	22.1	0.0	0.0
Internal Link Dist (m)	440.3			358.4		862.1	50.9
Turn Bay Length (m)		20.0	55.0				
Base Capacity (vph)	1865	741	705	2740	320	741	407
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.17	0.64	0.73	0.17	0.22	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	768	113	412	1849	1	49	0	151	2	0	4
Future Volume (vph)	0	768	113	412	1849	1	49	0	151	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00		1.00	0.98			0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt		1.00	0.85	1.00	1.00		1.00	0.85			0.91	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		3438	1312	1769	3539		1442	1499			1443	
Flt Permitted		1.00	1.00	0.27	1.00		0.75	1.00			0.88	
Satd. Flow (perm)		3438	1312	499	3539		1145	1499			1289	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	835	123	448	2010	1	53	0	164	2	0	4
RTOR Reduction (vph)	0	0	30	0	0	0	0	147	0	0	5	0
Lane Group Flow (vph)	0	835	93	448	2011	0	53	17	0	0	1	0
Confl. Peds. (#/hr)	6		4	4		6	1		4	4		1
Heavy Vehicles (%)	0%	5%	21%	2%	2%	0%	25%	0%	6%	0%	0%	25%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		54.2	54.2	77.4	77.4		10.6	10.6			10.6	
Effective Green, g (s)		54.2	54.2	77.4	77.4		10.6	10.6			10.6	
Actuated g/C Ratio		0.54	0.54	0.77	0.77		0.11	0.11			0.11	
Clearance Time (s)		6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1863	711	642	2739		121	158			136	
v/s Ratio Prot		0.24		0.14	c0.57			0.01				
v/s Ratio Perm			0.07	0.40			c0.05				0.00	
v/c Ratio		0.45	0.13	0.70	0.73		0.44	0.11			0.00	
Uniform Delay, d1		13.9	11.3	5.8	5.9		41.9	40.4			40.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.8	0.4	3.3	1.8		2.5	0.3			0.0	
Delay (s)		14.6	11.7	9.2	7.7		44.4	40.7			40.0	
Level of Service		B	B	A	A		D	D			D	
Approach Delay (s)		14.3			8.0			41.6			40.0	
Approach LOS		B			A			D			D	

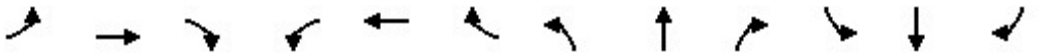
Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	69	1381	48	0	3077
Future Volume (Veh/h)	0	69	1381	48	0	3077
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	75	1501	52	0	3345
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			120			256
pX, platoon unblocked	0.69	0.92			0.92	
vC, conflicting volume	2616	500			1553	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	932	137			1285	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	91			100	
cM capacity (veh/h)	182	812			491	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	75	500	500	500	52	1115	1115	1115
Volume Left	0	0	0	0	0	0	0	0
Volume Right	75	0	0	0	52	0	0	0
cSH	812	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.29	0.29	0.29	0.03	0.66	0.66	0.66
Queue Length 95th (m)	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.9	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	1249	381	249	670	243	409	1669	588	247	1184	150
v/c Ratio	0.81	1.01	0.52	1.11	0.66	0.41	1.07	1.00	0.95	1.06	0.95	0.31
Control Delay	40.7	72.7	8.9	119.9	48.1	6.7	77.1	60.9	49.2	112.4	67.5	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.7	72.7	8.9	119.9	48.1	6.7	77.1	60.9	49.2	112.4	67.5	7.9
Queue Length 50th (m)	55.4	~194.5	11.2	~57.1	92.2	0.0	~109.7	186.7	144.9	~60.6	125.1	0.0
Queue Length 95th (m)	#83.9	#245.2	40.2	#116.2	115.5	21.5	m#126.6	m#200.9	m#156.1	#117.7	#155.1	17.9
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	402	1238	735	225	1015	600	382	1670	619	233	1247	487
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	1.01	0.52	1.11	0.66	0.41	1.07	1.00	0.95	1.06	0.95	0.31

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.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	1224	373	244	657	238	401	1636	576	242	1160	147
Future Volume (vph)	301	1224	373	244	657	238	401	1636	576	242	1160	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.94	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1766	3539	1499	1786	3539	1490	1805	5085	1495	1752	4988	1501
Flt Permitted	0.21	1.00	1.00	0.14	1.00	1.00	0.11	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	391	3539	1499	273	3539	1490	200	5085	1495	211	4988	1501
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	307	1249	381	249	670	243	409	1669	588	247	1184	150
RTOR Reduction (vph)	0	0	211	0	0	173	0	0	128	0	0	113
Lane Group Flow (vph)	307	1249	170	249	670	70	409	1669	460	247	1184	38
Confl. Peds. (#/hr)	33		36	36		33	26		45	45		26
Heavy Vehicles (%)	2%	2%	2%	1%	2%	3%	0%	2%	1%	3%	4%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	63.0	49.0	49.0	51.2	40.2	40.2	63.0	46.0	46.0	49.0	35.0	35.0
Effective Green, g (s)	63.0	49.0	49.0	51.2	40.2	40.2	63.0	46.0	46.0	49.0	35.0	35.0
Actuated g/C Ratio	0.45	0.35	0.35	0.37	0.29	0.29	0.45	0.33	0.33	0.35	0.25	0.25
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	370	1238	524	218	1016	427	376	1670	491	227	1247	375
v/s Ratio Prot	c0.12	0.35		c0.09	0.19		c0.19	0.33		0.11	0.24	
v/s Ratio Perm	0.26		0.11	c0.33		0.05	c0.29		0.31	0.27		0.02
v/c Ratio	0.83	1.01	0.33	1.14	0.66	0.16	1.09	1.00	0.94	1.09	0.95	0.10
Uniform Delay, d1	28.2	45.5	33.4	33.4	43.9	37.3	43.9	47.0	45.6	39.7	51.6	40.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.53	0.97	1.08	1.00	1.00	1.00
Incremental Delay, d2	14.2	27.8	1.6	104.6	3.4	0.8	59.2	15.4	16.9	85.2	15.9	0.5
Delay (s)	42.4	73.3	35.0	137.9	47.2	38.1	82.5	61.1	66.0	124.9	67.6	40.9
Level of Service	D	E	D	F	D	D	F	E	E	F	E	D
Approach Delay (s)		60.9			64.8			65.5			74.0	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	66.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

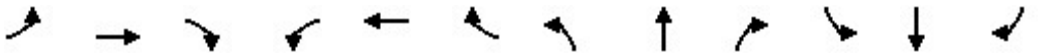
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	135	454	461	212	175	315	2204	572	164	1070	87
v/c Ratio	0.74	0.73	1.04	0.34	0.29	0.79	0.98	0.70	0.67	0.53	0.12
Control Delay	78.7	46.2	110.9	35.3	12.0	36.7	53.0	24.4	41.3	25.4	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.7	46.2	110.9	35.3	12.0	36.7	53.0	24.4	41.3	25.4	7.1
Queue Length 50th (m)	38.2	48.6	~74.3	46.5	11.5	59.5	208.2	68.5	14.4	104.0	6.4
Queue Length 95th (m)	58.3	63.1	#110.2	61.8	27.0	m89.9	#270.8	121.1	m#54.0	m117.3	m11.1
Internal Link Dist (m)		222.3		150.3			227.9			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	261	840	444	759	690	447	2256	819	245	2017	702
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.54	1.04	0.28	0.25	0.70	0.98	0.70	0.67	0.53	0.12

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	250	190	447	206	170	306	2138	555	159	1038	84
Future Volume (vph)	131	250	190	447	206	170	306	2138	555	159	1038	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	0.98	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1768	3296		3367	1881	1537	1787	5085	1503	1752	4988	1553
Flt Permitted	0.63	1.00		0.95	1.00	1.00	0.17	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1164	3296		3367	1881	1537	318	5085	1503	130	4988	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	135	258	196	461	212	175	315	2204	572	164	1070	87
RTOR Reduction (vph)	0	108	0	0	0	78	0	0	152	0	0	52
Lane Group Flow (vph)	135	346	0	461	212	97	315	2204	420	164	1070	35
Confl. Peds. (#/hr)	17		15	15		17	3		15	15		3
Heavy Vehicles (%)	0%	1%	1%	4%	1%	1%	1%	2%	3%	3%	4%	1%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	22.0	22.0		18.5	47.0	47.0	80.4	62.1	62.1	71.9	56.6	56.6
Effective Green, g (s)	22.0	22.0		18.5	47.0	47.0	80.4	62.1	62.1	71.9	56.6	56.6
Actuated g/C Ratio	0.16	0.16		0.13	0.34	0.34	0.57	0.44	0.44	0.51	0.40	0.40
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	182	517		444	631	515	400	2255	666	244	2016	627
v/s Ratio Prot		0.11		c0.14	0.11		c0.12	c0.43		0.07	0.21	
v/s Ratio Perm	c0.12					0.06	0.33		0.28	0.27		0.02
v/c Ratio	0.74	0.67		1.04	0.34	0.19	0.79	0.98	0.63	0.67	0.53	0.06
Uniform Delay, d1	56.3	55.6		60.8	34.8	33.0	19.6	38.3	30.1	35.2	31.6	25.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.38	1.10	1.32	1.09	0.74	3.93
Incremental Delay, d2	15.0	3.3		53.0	0.3	0.2	7.0	11.2	3.1	3.3	0.5	0.1
Delay (s)	71.3	58.9		113.7	35.1	33.1	33.9	53.2	42.7	41.8	23.9	100.0
Level of Service	E	E		F	D	C	C	D	D	D	C	F
Approach Delay (s)		61.7			77.5			49.3			31.1	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	50.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	523	305	2789	670
v/c Ratio	0.71	0.87	0.82	0.20
Control Delay	53.0	74.4	16.1	6.3
Queue Delay	0.0	0.0	18.6	0.0
Total Delay	53.0	74.4	34.7	6.3
Queue Length 50th (m)	70.7	92.3	129.4	14.2
Queue Length 95th (m)	87.4	129.3	m97.6	m16.8
Internal Link Dist (m)	299.5		196.8	100.5
Turn Bay Length (m)		95.0		
Base Capacity (vph)	870	411	3420	3323
Starvation Cap Reductn	0	0	718	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.60	0.74	1.03	0.20

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	215	605	2761	0	0	663
Future Volume (vph)	215	605	2761	0	0	663
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.91	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3027	1427	5085			4940
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3027	1427	5085			4940
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	217	611	2789	0	0	670
RTOR Reduction (vph)	2	2	0	0	0	0
Lane Group Flow (vph)	521	303	2789	0	0	670
Confl. Peds. (#/hr)				6	6	
Heavy Vehicles (%)	17%	3%	2%	0%	0%	5%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	34.2	34.2	94.2			94.2
Effective Green, g (s)	34.2	34.2	94.2			94.2
Actuated g/C Ratio	0.24	0.24	0.67			0.67
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	739	348	3421			3323
v/s Ratio Prot			c0.55			0.14
v/s Ratio Perm	0.17	c0.21				
v/c Ratio	0.71	0.87	0.82			0.20
Uniform Delay, d1	48.3	50.8	16.6			8.7
Progression Factor	1.00	1.00	0.88			0.66
Incremental Delay, d2	3.1	20.6	0.2			0.1
Delay (s)	51.4	71.4	14.9			5.9
Level of Service	D	E	B			A
Approach Delay (s)	58.7		14.9			5.9
Approach LOS	E		B			A

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	122.4%	ICU Level of Service	H
Analysis Period (min)	15		

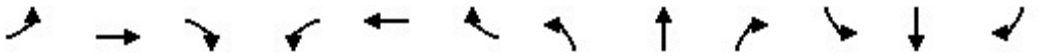
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	1643	467	2164	393	596
v/c Ratio	1.26	0.68	1.18	1.27	0.34
Control Delay	158.4	21.7	125.5	183.4	16.5
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	158.4	21.7	125.7	183.4	16.5
Queue Length 50th (m)	~308.0	53.6	~271.6	~129.8	36.5
Queue Length 95th (m)	#351.6	96.4	#301.2	#195.5	70.8
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1309	685	1835	309	1742
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	133	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.26	0.68	1.27	1.27	0.34

Intersection Summary

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

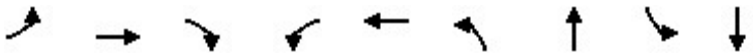
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1610	0	458	0	0	0	0	1773	348	385	584	0
Future Volume (vph)	1610	0	458	0	0	0	0	1773	348	385	584	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					*0.92		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.98		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3433		1392					4885		1770	3252	
Flt Permitted	0.95		1.00					1.00		0.07	1.00	
Satd. Flow (perm)	3433		1392					4885		135	3252	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1643	0	467	0	0	0	0	1809	355	393	596	0
RTOR Reduction (vph)	0	0	155	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	1643	0	312	0	0	0	0	2143	0	393	596	0
Confl. Peds. (#/hr)							5		6	6		5
Heavy Vehicles (%)	2%	0%	16%	0%	0%	0%	0%	4%	4%	2%	11%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	53.4		53.4					52.0		75.0	75.0	
Effective Green, g (s)	53.4		53.4					52.0		75.0	75.0	
Actuated g/C Ratio	0.38		0.38					0.37		0.54	0.54	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1309		530					1814		305	1742	
v/s Ratio Prot								0.44		c0.18	0.18	
v/s Ratio Perm	c0.48		0.22							c0.50		
v/c Ratio	1.26		0.59					1.18		1.29	0.34	
Uniform Delay, d1	43.3		34.6					44.0		46.5	18.5	
Progression Factor	1.00		1.00					1.00		1.12	0.86	
Incremental Delay, d2	121.2		1.7					87.5		151.9	0.5	
Delay (s)	164.5		36.2					131.5		204.0	16.4	
Level of Service	F		D					F		F	B	
Approach Delay (s)		136.1			0.0			131.5			90.9	
Approach LOS		F			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	125.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	122.4%	ICU Level of Service	H
Analysis Period (min)	15		

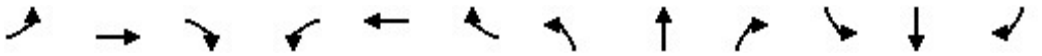
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	222	722	13	42	468	103	50	130	335
v/c Ratio	0.42	0.66	0.01	0.11	0.21	0.63	0.09	0.64	0.54
Control Delay	18.0	21.0	0.0	7.8	7.4	45.9	0.3	53.5	3.7
Queue Delay	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	22.1	0.0	7.8	7.4	45.9	0.3	53.5	3.7
Queue Length 50th (m)	26.2	104.9	0.0	2.6	16.5	16.5	0.0	25.3	0.0
Queue Length 95th (m)	56.7	#198.2	0.0	7.7	29.2	27.6	0.0	41.9	1.8
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	532	1101	982	373	2244	163	694	323	724
Starvation Cap Reductn	0	179	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	0.42	0.78	0.01	0.11	0.21	0.63	0.07	0.40	0.46

Intersection Summary

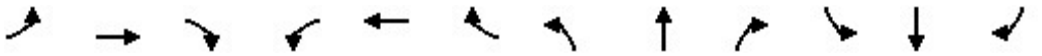
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	664	12	39	331	99	95	0	46	120	0	308
Future Volume (vph)	204	664	12	39	331	99	95	0	46	120	0	308
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3417		1770	1583		1770	1583	
Flt Permitted	0.48	1.00	1.00	0.22	1.00		0.21	1.00		0.72	1.00	
Satd. Flow (perm)	901	1863	1583	417	3417		382	1583		1349	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	222	722	13	42	360	108	103	0	50	130	0	335
RTOR Reduction (vph)	0	0	6	0	22	0	0	38	0	0	285	0
Lane Group Flow (vph)	222	722	7	42	446	0	103	12	0	130	50	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	57.0	57.0	57.0	64.2	64.2		23.6	23.6		15.0	15.0	
Effective Green, g (s)	57.0	57.0	57.0	64.2	64.2		23.6	23.6		15.0	15.0	
Actuated g/C Ratio	0.57	0.57	0.57	0.64	0.64		0.24	0.24		0.15	0.15	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	513	1061	902	324	2193		147	373		202	237	
v/s Ratio Prot		c0.39		0.01	c0.13		c0.03	0.01			0.03	
v/s Ratio Perm	0.25		0.00	0.08			c0.14			0.10		
v/c Ratio	0.43	0.68	0.01	0.13	0.20		0.70	0.03		0.64	0.21	
Uniform Delay, d1	12.3	15.1	9.3	10.0	7.4		33.9	29.4		40.0	37.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	3.5	0.0	0.2	0.2		14.0	0.0		6.9	0.4	
Delay (s)	14.9	18.6	9.3	10.2	7.6		47.9	29.4		46.8	37.8	
Level of Service	B	B	A	B	A		D	C		D	D	
Approach Delay (s)		17.6			7.8			41.9			40.3	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	664	124	98	311	92	88	0	53	76	0	50
Future Volume (Veh/h)	24	664	124	98	311	92	88	0	53	76	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	26	722	135	107	338	100	96	0	58	83	0	54
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.66			0.66	0.66	0.66	0.66	0.66	
vC, conflicting volume	438			857			1448	1494	790	1502	1511	388
vC1, stage 1 conf vol							842	842		602	602	
vC2, stage 2 conf vol							606	652		900	909	
vCu, unblocked vol	438			523			1420	1490	420	1502	1517	388
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			84			61	100	86	46	100	92
cM capacity (veh/h)	1122			687			249	254	417	155	188	660

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	883	107	438	96	58	83	54
Volume Left	26	107	0	96	0	83	0
Volume Right	135	0	100	0	58	0	54
cSH	1122	687	1700	249	417	155	660
Volume to Capacity	0.02	0.16	0.26	0.39	0.14	0.54	0.08
Queue Length 95th (m)	0.6	4.4	0.0	13.8	3.8	21.4	2.1
Control Delay (s)	0.6	11.2	0.0	28.3	15.0	52.5	10.9
Lane LOS	A	B		D	C	F	B
Approach Delay (s)	0.6	2.2		23.3		36.1	
Approach LOS				C		E	

Intersection Summary				
Average Delay	6.0			
Intersection Capacity Utilization	80.5%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	466	138	130	103	531
v/c Ratio	0.64	0.19	0.46	0.17	0.40
Control Delay	14.0	2.8	17.5	10.8	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	2.8	17.5	10.8	3.7
Queue Length 50th (m)	20.0	0.0	5.9	4.2	2.1
Queue Length 95th (m)	61.7	7.6	23.6	16.0	12.5
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1382	1280	596	1311	2322
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.11	0.22	0.08	0.23

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	429	127	120	95	95	394
Future Volume (vph)	429	127	120	95	95	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.85	1.00	1.00	0.88	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1615	1805	1900	3174	
Flt Permitted	0.95	1.00	0.45	1.00	1.00	
Satd. Flow (perm)	1787	1615	864	1900	3174	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	466	138	130	103	103	428
RTOR Reduction (vph)	0	80	0	0	286	0
Lane Group Flow (vph)	466	58	130	103	245	0
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	15.5	15.5	12.2	12.2	12.2	
Effective Green, g (s)	15.5	15.5	12.2	12.2	12.2	
Actuated g/C Ratio	0.42	0.42	0.33	0.33	0.33	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	754	682	287	631	1055	
v/s Ratio Prot	c0.26			0.05	0.08	
v/s Ratio Perm		0.04	c0.15			
v/c Ratio	0.62	0.09	0.45	0.16	0.23	
Uniform Delay, d1	8.3	6.4	9.6	8.6	8.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.1	1.1	0.1	0.1	
Delay (s)	9.8	6.4	10.8	8.8	9.0	
Level of Service	A	A	B	A	A	
Approach Delay (s)	9.0			9.9	9.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	36.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	6	1585	97	318	1156	72	512	12
v/c Ratio	0.03	0.96	0.13	0.87	0.50	0.22	0.92	0.06
Control Delay	16.5	42.6	7.3	50.1	10.8	30.8	40.9	22.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	42.6	7.3	50.1	10.8	30.8	40.9	22.8
Queue Length 50th (m)	0.7	~169.0	3.6	46.7	63.3	11.5	53.0	1.2
Queue Length 95th (m)	3.2	#223.2	13.2	#107.5	85.5	22.8	#109.0	5.7
Internal Link Dist (m)		440.3			358.4		862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0				
Base Capacity (vph)	213	1646	745	367	2322	396	624	242
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.96	0.13	0.87	0.50	0.18	0.82	0.05

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1537	94	308	1120	1	70	1	496	7	1	4
Future Volume (vph)	6	1537	94	308	1120	1	70	1	496	7	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1798	3574	1541	1805	3574		1795	1579			1753	
Flt Permitted	0.25	1.00	1.00	0.08	1.00		0.75	1.00			0.47	
Satd. Flow (perm)	464	3574	1541	155	3574		1417	1579			856	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1585	97	318	1155	1	72	1	511	7	1	4
RTOR Reduction (vph)	0	0	35	0	0	0	0	196	0	0	3	0
Lane Group Flow (vph)	6	1585	62	318	1156	0	72	316	0	0	9	0
Confl. Peds. (#/hr)	8		4	4		8	5		1	1		5
Heavy Vehicles (%)	0%	1%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	46.1	46.1	46.1	65.0	65.0		23.0	23.0			23.0	
Effective Green, g (s)	46.1	46.1	46.1	65.0	65.0		23.0	23.0			23.0	
Actuated g/C Ratio	0.46	0.46	0.46	0.65	0.65		0.23	0.23			0.23	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	213	1647	710	363	2323		325	363			196	
v/s Ratio Prot		c0.44		c0.14	0.32			c0.20				
v/s Ratio Perm	0.01		0.04	0.43			0.05				0.01	
v/c Ratio	0.03	0.96	0.09	0.88	0.50		0.22	0.87			0.05	
Uniform Delay, d1	14.7	26.1	15.1	30.2	9.1		31.2	37.1			30.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.2	14.9	0.2	20.3	0.8		0.3	19.9			0.1	
Delay (s)	15.0	41.0	15.4	50.5	9.8		31.6	56.9			30.1	
Level of Service	B	D	B	D	A		C	E			C	
Approach Delay (s)		39.4			18.6			53.8			30.1	
Approach LOS		D			B			D			C	

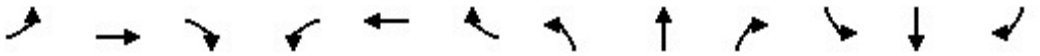
Intersection Summary			
HCM 2000 Control Delay	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	99	3211	146	0	1700
Future Volume (Veh/h)	0	99	3211	146	0	1700
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	108	3490	159	0	1848
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			124			252
pX, platoon unblocked	0.66	0.58			0.58	
vC, conflicting volume	4106	1163			3649	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2329	0			3043	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	83			100	
cM capacity (veh/h)	21	633			63	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	108	1163	1163	1163	159	616	616	616
Volume Left	0	0	0	0	0	0	0	0
Volume Right	108	0	0	0	159	0	0	0
cSH	633	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.17	0.68	0.68	0.68	0.09	0.36	0.36	0.36
Queue Length 95th (m)	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	11.9	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	798	631	299	827	262	336	1284	509	220	1160	193
v/c Ratio	0.73	0.71	0.82	0.76	0.70	0.37	0.92	0.76	0.74	0.87	0.85	0.34
Control Delay	39.6	46.4	26.7	38.1	44.6	5.3	53.5	49.1	33.3	67.4	56.0	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	46.4	26.7	38.1	44.6	5.3	53.5	49.1	33.3	67.4	56.0	7.1
Queue Length 50th (m)	34.5	108.1	72.8	53.7	110.7	0.0	89.9	136.6	101.9	46.0	120.8	0.0
Queue Length 95th (m)	#53.8	132.5	131.8	#78.8	135.1	19.8	m#117.5	154.8	m132.0	#91.8	#142.6	19.7
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	281	1128	768	393	1186	705	391	1681	690	263	1367	567
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.71	0.82	0.76	0.70	0.37	0.86	0.76	0.74	0.84	0.85	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	774	612	290	802	254	326	1245	494	213	1125	187
Future Volume (vph)	196	774	612	290	802	254	326	1245	494	213	1125	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3574	1599	1881	3574	1599	1805	5136	1599	1787	5136	1599
Flt Permitted	0.18	1.00	1.00	0.28	1.00	1.00	0.10	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	339	3574	1599	536	3574	1599	189	5136	1599	202	5136	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	202	798	631	299	827	262	336	1284	509	220	1160	193
RTOR Reduction (vph)	0	0	263	0	0	175	0	0	167	0	0	142
Lane Group Flow (vph)	202	798	368	299	827	87	336	1284	342	220	1160	51
Heavy Vehicles (%)	2%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	56.7	44.2	44.2	61.3	46.5	46.5	64.0	45.8	45.8	52.5	37.3	37.3
Effective Green, g (s)	56.7	44.2	44.2	61.3	46.5	46.5	64.0	45.8	45.8	52.5	37.3	37.3
Actuated g/C Ratio	0.41	0.32	0.32	0.44	0.33	0.33	0.46	0.33	0.33	0.38	0.27	0.27
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	265	1128	504	376	1187	531	359	1680	523	247	1368	426
v/s Ratio Prot	0.07	0.22		c0.08	0.23		c0.16	0.25		0.10	0.23	
v/s Ratio Perm	0.24		0.23	c0.26		0.05	c0.27		0.21	0.24		0.03
v/c Ratio	0.76	0.71	0.73	0.80	0.70	0.16	0.94	0.76	0.65	0.89	0.85	0.12
Uniform Delay, d1	30.2	42.2	42.6	26.3	40.6	33.0	42.2	42.3	40.3	36.0	48.7	38.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.68	1.08	1.29	1.00	1.00	1.00
Incremental Delay, d2	12.2	3.8	9.0	11.1	3.4	0.7	27.5	2.8	5.2	30.3	6.7	0.6
Delay (s)	42.4	46.0	51.5	37.4	44.0	33.7	56.1	48.6	57.4	66.3	55.3	39.5
Level of Service	D	D	D	D	D	C	E	D	E	E	E	D
Approach Delay (s)		47.7			40.6			51.9			54.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

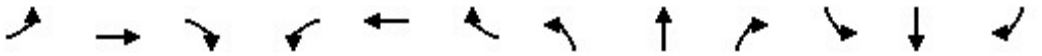
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	558	830	355	237	335	1346	427	218	1226	97
v/c Ratio	0.53	0.82	1.03	0.43	0.29	0.81	0.83	0.63	0.74	0.97	0.21
Control Delay	63.7	48.6	92.2	28.0	3.7	53.8	52.5	22.0	40.2	55.4	6.0
Queue Delay	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	48.6	92.2	28.7	3.7	53.8	52.5	22.0	40.2	55.4	6.0
Queue Length 50th (m)	24.1	58.7	~133.2	70.4	1.3	79.9	149.9	42.9	24.1	134.3	7.9
Queue Length 95th (m)	40.8	75.8	#174.7	88.0	15.4	#150.8	137.6	71.4	m#70.1	#165.8	m9.5
Internal Link Dist (m)		222.3		150.3			234.4			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	233	869	804	947	900	415	1612	673	294	1264	468
Starvation Cap Reductn	0	0	0	314	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.64	1.03	0.56	0.26	0.81	0.83	0.63	0.74	0.97	0.21

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	258	267	780	334	223	315	1265	401	205	1152	91
Future Volume (vph)	84	258	267	780	334	223	315	1265	401	205	1152	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1793	3258		3467	1881	1562	1787	5136	1555	1787	5136	1520
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1035	3258		3467	1881	1562	201	5136	1555	218	5136	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	89	274	284	830	355	237	335	1346	427	218	1226	97
RTOR Reduction (vph)	0	146	0	0	0	128	0	0	185	0	0	73
Lane Group Flow (vph)	89	412	0	830	355	109	335	1346	242	218	1226	24
Confl. Peds. (#/hr)	7		3	3		7	7		3	3		7
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	1%	1%	2%	1%	1%	2%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	22.9	22.9		32.5	61.9	61.9	65.5	44.0	44.0	53.0	34.5	34.5
Effective Green, g (s)	22.9	22.9		32.5	61.9	61.9	65.5	44.0	44.0	53.0	34.5	34.5
Actuated g/C Ratio	0.16	0.16		0.23	0.44	0.44	0.47	0.31	0.31	0.38	0.25	0.25
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	532		804	831	690	411	1614	488	289	1265	374
v/s Ratio Prot		c0.13		c0.24	0.19		c0.16	0.26		0.10	c0.24	
v/s Ratio Perm	0.09					0.07	0.22		0.16	0.19		0.02
v/c Ratio	0.53	0.77		1.03	0.43	0.16	0.82	0.83	0.50	0.75	0.97	0.06
Uniform Delay, d1	53.6	56.1		53.8	26.9	23.4	39.0	44.6	39.0	33.3	52.2	40.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.12	1.05	1.19	0.93	0.81	1.77
Incremental Delay, d2	2.9	6.9		40.3	0.4	0.1	10.7	4.7	3.2	5.9	12.5	0.2
Delay (s)	56.5	63.0		94.1	27.2	23.5	54.4	51.8	49.8	36.9	54.8	71.6
Level of Service	E	E		F	C	C	D	D	D	D	D	E
Approach Delay (s)		62.1			65.6			51.8			53.3	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	56.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	535	280	1859	1177
v/c Ratio	0.70	0.81	0.53	0.33
Control Delay	52.9	66.2	11.9	9.9
Queue Delay	0.1	0.0	0.2	0.0
Total Delay	53.1	66.2	12.2	9.9
Queue Length 50th (m)	72.6	81.9	65.6	40.9
Queue Length 95th (m)	84.0	109.8	m64.4	m43.3
Internal Link Dist (m)	299.5		196.8	94.0
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1162	524	3535	3535
Starvation Cap Reductn	0	0	797	0
Spillback Cap Reductn	109	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.53	0.68	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	245	538	1785	0	0	1130
Future Volume (vph)	245	538	1785	0	0	1130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3286	1470	5136			5136
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3286	1470	5136			5136
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	255	560	1859	0	0	1177
RTOR Reduction (vph)	9	9	0	0	0	0
Lane Group Flow (vph)	526	271	1859	0	0	1177
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	2%	0%	1%	0%	0%	1%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	32.0	32.0	96.4			96.4
Effective Green, g (s)	32.0	32.0	96.4			96.4
Actuated g/C Ratio	0.23	0.23	0.69			0.69
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	751	336	3536			3536
v/s Ratio Prot			c0.36			0.23
v/s Ratio Perm	0.16	c0.18				
v/c Ratio	0.70	0.81	0.53			0.33
Uniform Delay, d1	49.6	51.1	10.6			8.8
Progression Factor	1.00	1.00	1.02			1.01
Incremental Delay, d2	3.0	13.1	0.1			0.1
Delay (s)	52.5	64.2	10.9			9.0
Level of Service	D	E	B			A
Approach Delay (s)	56.6		10.9			9.0
Approach LOS	E		B			A

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		

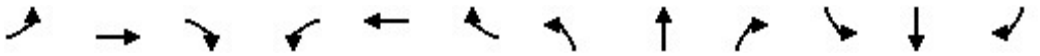
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	1242	463	1369	692	777
v/c Ratio	1.04	0.72	1.01	1.04	0.38
Control Delay	80.4	30.6	74.7	83.7	26.7
Queue Delay	0.0	0.0	0.0	1.1	0.0
Total Delay	80.4	30.6	74.7	84.7	26.7
Queue Length 50th (m)	~200.3	73.3	~144.0	~175.3	84.5
Queue Length 95th (m)	#243.9	117.6	#179.4	#257.9	97.7
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1198	645	1356	665	2022
Starvation Cap Reductn	0	0	0	2	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.04	0.72	1.01	1.04	0.38

Intersection Summary

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

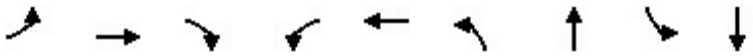
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1143	0	426	0	0	0	0	924	336	637	715	0
Future Volume (vph)	1143	0	426	0	0	0	0	924	336	637	715	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					0.91		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.96		1.00	1.00	
Flt Protected	0.95		1.00					1.00		1.00	1.00	
Satd. Flow (prot)	3467		1524					4825		1880	3539	
Flt Permitted	0.95		1.00					1.00		0.24	1.00	
Satd. Flow (perm)	3467		1524					4825		451	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1242	0	463	0	0	0	0	1004	365	692	777	0
RTOR Reduction (vph)	0	0	119	0	0	0	0	47	0	0	0	0
Lane Group Flow (vph)	1242	0	344	0	0	0	0	1322	0	692	777	0
Confl. Peds. (#/hr)							1		4	4		1
Heavy Vehicles (%)	1%	0%	6%	0%	0%	0%	0%	2%	3%	1%	2%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	48.4		48.4					38.0		80.0	80.0	
Effective Green, g (s)	48.4		48.4					38.0		80.0	80.0	
Actuated g/C Ratio	0.35		0.35					0.27		0.57	0.57	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1198		526					1309		655	2022	
v/s Ratio Prot								0.27		c0.29	0.22	
v/s Ratio Perm	c0.36		0.23							c0.31		
v/c Ratio	1.04		0.65					1.01		1.06	0.38	
Uniform Delay, d1	45.8		38.7					51.0		30.3	16.5	
Progression Factor	1.00		1.00					1.00		1.39	1.58	
Incremental Delay, d2	36.0		2.9					27.4		50.2	0.5	
Delay (s)	81.8		41.6					78.4		92.3	26.5	
Level of Service	F		D					E		F	C	
Approach Delay (s)		70.9			0.0			78.4			57.5	
Approach LOS		E			A			E			E	

Intersection Summary			
HCM 2000 Control Delay	68.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		

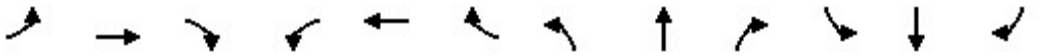
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	337	475	16	43	742	123	50	163	514
v/c Ratio	0.91	0.47	0.02	0.09	0.36	0.74	0.07	0.64	0.99
Control Delay	53.6	17.1	0.1	7.7	10.5	54.7	0.2	49.9	58.4
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	17.6	0.1	7.7	10.5	54.7	0.2	49.9	58.4
Queue Length 50th (m)	64.1	62.0	0.0	3.1	36.1	18.8	0.0	30.9	55.3
Queue Length 95th (m)	#125.0	90.6	0.0	7.2	47.7	#43.3	0.0	#54.7	#125.6
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	371	1004	906	495	2065	167	739	256	518
Starvation Cap Reductn	0	206	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	0.91	0.60	0.02	0.09	0.36	0.74	0.07	0.64	0.99

Intersection Summary

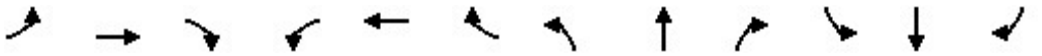
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	437	15	40	577	106	113	0	46	150	0	473
Future Volume (vph)	310	437	15	40	577	106	113	0	46	150	0	473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3457		1770	1583		1770	1583	
Flt Permitted	0.37	1.00	1.00	0.37	1.00		0.17	1.00		0.72	1.00	
Satd. Flow (perm)	689	1863	1583	689	3457		317	1583		1349	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	475	16	43	627	115	123	0	50	163	0	514
RTOR Reduction (vph)	0	0	8	0	15	0	0	36	0	0	218	0
Lane Group Flow (vph)	337	475	8	43	727	0	123	14	0	163	296	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	52.7	52.7	52.7	59.3	59.3		28.5	28.5		19.0	19.0	
Effective Green, g (s)	52.7	52.7	52.7	59.3	59.3		28.5	28.5		19.0	19.0	
Actuated g/C Ratio	0.53	0.53	0.53	0.59	0.59		0.28	0.28		0.19	0.19	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	363	981	834	447	2050		162	451		256	300	
v/s Ratio Prot		0.26		0.00	c0.21		c0.04	0.01			c0.19	
v/s Ratio Perm	c0.49		0.01	0.05			0.18			0.12		
v/c Ratio	0.93	0.48	0.01	0.10	0.35		0.76	0.03		0.64	0.99	
Uniform Delay, d1	21.9	15.0	11.2	9.5	10.5		30.5	25.8		37.3	40.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.2	1.7	0.0	0.1	0.5		18.3	0.0		5.1	48.0	
Delay (s)	54.1	16.7	11.3	9.6	11.0		48.7	25.8		42.4	88.3	
Level of Service	D	B	B	A	B		D	C		D	F	
Approach Delay (s)		31.8			10.9			42.1			77.3	
Approach LOS		C			B			D			E	

Intersection Summary			
HCM 2000 Control Delay	38.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	451	121	90	516	144	121	0	74	93	0	57
Future Volume (Veh/h)	35	451	121	90	516	144	121	0	74	93	0	57
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	38	490	132	98	561	157	132	0	80	101	0	62
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.77			0.77	0.77	0.77	0.77	0.77	
vC, conflicting volume	718			622			1451	1546	556	1548	1534	640
vC1, stage 1 conf vol							632	632		836	836	
vC2, stage 2 conf vol							819	914		712	698	
vCu, unblocked vol	718			363			1437	1560	277	1562	1543	640
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			89			40	100	86	51	100	87
cM capacity (veh/h)	883			923			222	239	588	206	240	476

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	660	98	718	132	80	101	62
Volume Left	38	98	0	132	0	101	0
Volume Right	132	0	157	0	80	0	62
cSH	883	923	1700	222	588	206	476
Volume to Capacity	0.04	0.11	0.42	0.60	0.14	0.49	0.13
Queue Length 95th (m)	1.1	2.8	0.0	27.1	3.8	19.5	3.6
Control Delay (s)	1.1	9.4	0.0	42.6	12.1	38.3	13.7
Lane LOS	A	A		E	B	E	B
Approach Delay (s)	1.1	1.1		31.1		29.0	
Approach LOS				D		D	

Intersection Summary				
Average Delay	7.0			
Intersection Capacity Utilization	80.6%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	405	189	195	52	587
v/c Ratio	0.64	0.28	0.61	0.07	0.38
Control Delay	17.7	3.7	19.2	8.0	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	3.7	19.2	8.0	2.5
Queue Length 50th (m)	21.4	0.0	9.6	2.0	1.7
Queue Length 95th (m)	61.3	10.1	29.8	7.3	8.7
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1056	1018	615	1458	2532
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.19	0.32	0.04	0.23

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	352	164	170	45	75	436
Future Volume (vph)	352	164	170	45	75	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.87	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1594	1805	1900	3148	
Flt Permitted	0.95	1.00	0.42	1.00	1.00	
Satd. Flow (perm)	1787	1594	802	1900	3148	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	405	189	195	52	86	501
RTOR Reduction (vph)	0	121	0	0	297	0
Lane Group Flow (vph)	405	68	195	52	290	0
Confl. Peds. (#/hr)	1	2				
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	14.2	14.2	16.0	16.0	16.0	
Effective Green, g (s)	14.2	14.2	16.0	16.0	16.0	
Actuated g/C Ratio	0.36	0.36	0.41	0.41	0.41	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	647	577	327	775	1284	
v/s Ratio Prot	c0.23			0.03	0.09	
v/s Ratio Perm		0.04	c0.24			
v/c Ratio	0.63	0.12	0.60	0.07	0.23	
Uniform Delay, d1	10.3	8.3	9.1	7.1	7.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.9	0.1	2.9	0.0	0.1	
Delay (s)	12.2	8.4	12.0	7.1	7.7	
Level of Service	B	A	B	A	A	
Approach Delay (s)	11.0			11.0	7.7	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	39.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	11	1438	153	335	1218	42	418	9
v/c Ratio	0.05	0.74	0.18	0.80	0.46	0.20	0.85	0.06
Control Delay	17.2	24.5	10.3	39.1	7.1	39.8	28.9	26.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	24.5	10.3	39.1	7.1	39.8	28.9	26.2
Queue Length 50th (m)	1.2	128.7	10.1	46.5	45.7	8.6	25.6	0.8
Queue Length 95th (m)	5.1	#195.1	25.4	#102.5	89.2	16.9	57.9	4.9
Internal Link Dist (m)		440.3			358.4		862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0				
Base Capacity (vph)	236	1938	869	435	2657	362	631	242
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.74	0.18	0.77	0.46	0.12	0.66	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1323	141	308	1120	1	39	3	382	1	3	5
Future Volume (vph)	10	1323	141	308	1120	1	39	3	382	1	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.93	
Flt Protected	0.95	1.00	1.00	0.98	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1799	3574	1553	1862	3574		1801	1596			1734	
Flt Permitted	0.23	1.00	1.00	0.09	1.00		0.75	1.00			0.54	
Satd. Flow (perm)	437	3574	1553	163	3574		1425	1596			938	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1438	153	335	1217	1	42	3	415	1	3	5
RTOR Reduction (vph)	0	0	27	0	0	0	0	258	0	0	4	0
Lane Group Flow (vph)	11	1438	126	335	1218	0	42	160	0	0	5	0
Confl. Peds. (#/hr)	7		5	5		7	2		1	1		2
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	59.6	59.6	59.6	81.8	81.8		16.2	16.2			16.2	
Effective Green, g (s)	59.6	59.6	59.6	81.8	81.8		16.2	16.2			16.2	
Actuated g/C Ratio	0.54	0.54	0.54	0.74	0.74		0.15	0.15			0.15	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	236	1936	841	417	2657		209	235			138	
v/s Ratio Prot		0.40		c0.14	0.34			c0.10				
v/s Ratio Perm	0.03		0.08	c0.46			0.03				0.01	
v/c Ratio	0.05	0.74	0.15	0.80	0.46		0.20	0.68			0.03	
Uniform Delay, d1	11.8	19.3	12.6	29.3	5.5		41.2	44.5			40.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.4	2.6	0.4	10.7	0.6		0.5	7.9			0.1	
Delay (s)	12.2	21.9	12.9	40.0	6.1		41.7	52.4			40.3	
Level of Service	B	C	B	D	A		D	D			D	
Approach Delay (s)		21.0			13.4			51.4			40.3	
Approach LOS		C			B			D			D	

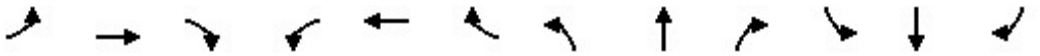
Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	122	2198	144	0	2247
Future Volume (Veh/h)	0	122	2198	144	0	2247
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	133	2389	157	0	2442
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			118			258
pX, platoon unblocked	0.86	0.82			0.82	
vC, conflicting volume	3203	796			2546	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1622	10			2131	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	85			100	
cM capacity (veh/h)	81	882			207	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	133	796	796	796	157	814	814	814
Volume Left	0	0	0	0	0	0	0	0
Volume Right	133	0	0	0	157	0	0	0
cSH	882	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.15	0.47	0.47	0.47	0.09	0.48	0.48	0.48
Queue Length 95th (m)	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.8	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	394	215	389	634	200	347	793	191	313	1966	193
v/c Ratio	0.37	0.44	0.39	1.02	0.60	0.35	1.15	0.48	0.29	0.73	1.09	0.31
Control Delay	32.0	44.8	7.2	88.5	44.6	6.4	120.6	40.5	16.7	27.7	93.2	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	44.8	7.2	88.5	44.6	6.4	120.6	40.5	16.7	27.7	93.2	7.5
Queue Length 50th (m)	15.4	50.6	0.0	~89.4	83.1	0.0	~102.5	82.0	28.8	47.8	~236.1	4.3
Queue Length 95th (m)	27.4	67.2	20.3	#168.0	104.2	18.7	#169.8	100.5	46.9	68.3	#266.3	22.0
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	231	891	545	381	1063	574	303	1642	665	499	1799	625
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.44	0.39	1.02	0.60	0.35	1.15	0.48	0.29	0.63	1.09	0.31

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	378	206	373	609	192	333	761	183	300	1887	185
Future Volume (vph)	81	378	206	373	609	192	333	761	183	300	1887	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1638	3374	1467	1761	3539	1445	1736	4472	1483	1700	4940	1421
Flt Permitted	0.30	1.00	1.00	0.40	1.00	1.00	0.08	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	514	3374	1467	736	3539	1445	142	4472	1483	493	4940	1421
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	394	215	389	634	200	347	793	191	312	1966	193
RTOR Reduction (vph)	0	0	158	0	0	140	0	0	121	0	0	108
Lane Group Flow (vph)	84	394	57	389	634	60	347	793	70	313	1966	85
Confl. Peds. (#/hr)	19		22	22		19	32		20	20		32
Heavy Vehicles (%)	10%	7%	6%	2%	2%	8%	4%	16%	5%	6%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	43.9	37.0	37.0	52.0	42.1	42.1	71.4	51.4	51.4	70.6	51.0	51.0
Effective Green, g (s)	43.9	37.0	37.0	52.0	42.1	42.1	71.4	51.4	51.4	70.6	51.0	51.0
Actuated g/C Ratio	0.31	0.26	0.26	0.37	0.30	0.30	0.51	0.37	0.37	0.50	0.36	0.36
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	216	891	387	361	1064	434	300	1641	544	417	1799	517
v/s Ratio Prot	0.02	0.12		c0.09	0.18		c0.17	0.18		0.10	0.40	
v/s Ratio Perm	0.10		0.04	c0.31		0.04	c0.42		0.05	0.27		0.06
v/c Ratio	0.39	0.44	0.15	1.08	0.60	0.14	1.16	0.48	0.13	0.75	1.09	0.16
Uniform Delay, d1	35.2	42.9	39.4	41.8	41.7	35.7	46.0	34.1	29.4	21.8	44.5	30.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.52	1.13	3.52	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.6	0.8	69.6	2.5	0.7	100.5	1.0	0.5	7.4	51.4	0.7
Delay (s)	36.3	44.5	40.2	111.5	44.2	36.4	124.2	39.4	104.1	29.2	95.9	30.8
Level of Service	D	D	D	F	D	D	F	D	F	C	F	C
Approach Delay (s)		42.2			64.3			70.8			82.3	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	70.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	347	879	152	58	189	945	285	64	2197	221
v/c Ratio	0.32	1.03dr	1.31	0.23	0.10	0.63	0.43	0.36	0.20	1.18	0.32
Control Delay	59.7	56.1	192.5	29.6	6.3	40.1	35.9	10.3	8.2	114.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	56.1	192.5	29.6	6.3	40.1	35.9	10.3	8.2	114.7	8.7
Queue Length 50th (m)	12.6	40.7	~169.1	29.9	0.0	39.6	82.2	12.8	4.9	~285.6	23.6
Queue Length 95th (m)	25.1	56.1	#210.9	44.1	9.0	#79.9	95.3	34.4	m6.7	m#254.6	m21.0
Internal Link Dist (m)		222.3		150.3			232.4			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	254	738	672	843	695	300	2214	790	318	1866	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.47	1.31	0.18	0.08	0.63	0.43	0.36	0.20	1.18	0.32

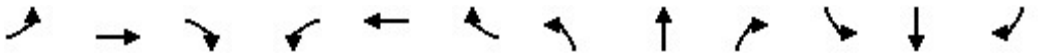
Intersection Summary

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	68	251	809	140	53	174	869	262	59	2021	203
Future Volume (vph)	43	68	251	809	140	53	174	869	262	59	2021	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3017		3303	1776	1401	1770	4759	1372	1804	5036	1468
Flt Permitted	0.66	1.00		0.95	1.00	1.00	0.07	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	1133	3017		3303	1776	1401	136	4759	1372	551	5036	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	74	273	879	152	58	189	945	285	64	2197	221
RTOR Reduction (vph)	0	67	0	0	0	36	0	0	154	0	0	139
Lane Group Flow (vph)	47	280	0	879	152	22	189	945	131	64	2197	82
Confl. Peds. (#/hr)	5		8	8		5	9		6	6		9
Heavy Vehicles (%)	10%	6%	3%	6%	7%	13%	2%	9%	14%	0%	3%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	18.2	18.2		28.5	53.2	53.2	74.2	64.5	64.5	58.6	51.9	51.9
Effective Green, g (s)	18.2	18.2		28.5	53.2	53.2	74.2	64.5	64.5	58.6	51.9	51.9
Actuated g/C Ratio	0.13	0.13		0.20	0.38	0.38	0.53	0.46	0.46	0.42	0.37	0.37
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	392		672	674	532	297	2192	632	290	1866	544
v/s Ratio Prot		c0.09		c0.27	0.09		c0.09	0.20		0.01	c0.44	
v/s Ratio Perm	0.04					0.02	0.25		0.10	0.08		0.06
v/c Ratio	0.32	1.03dr		1.31	0.23	0.04	0.64	0.43	0.21	0.22	1.18	0.15
Uniform Delay, d1	55.3	58.4		55.8	29.4	27.3	35.8	25.4	22.5	24.5	44.1	29.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.03	1.34	3.08	0.49	0.84	2.33
Incremental Delay, d2	1.3	6.1		149.2	0.2	0.0	4.2	0.6	0.7	0.0	80.4	0.1
Delay (s)	56.5	64.5		204.9	29.6	27.4	40.9	34.6	70.2	12.1	117.3	68.5
Level of Service	E	E		F	C	C	D	C	E	B	F	E
Approach Delay (s)		63.5			171.0			42.6			110.3	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	101.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	658	302	1030	1639
v/c Ratio	0.81	0.75	0.33	0.50
Control Delay	55.1	45.5	4.8	11.0
Queue Delay	0.2	0.0	0.0	0.0
Total Delay	55.3	45.5	4.8	11.0
Queue Length 50th (m)	89.7	65.0	15.9	68.4
Queue Length 95th (m)	103.7	96.9	m18.4	m58.9
Internal Link Dist (m)	299.5		196.8	96.1
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1212	562	3129	3276
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	89	0	0	72
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.54	0.33	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	501	431	999	0	0	1590
Future Volume (vph)	501	431	999	0	0	1590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3201	1361	4673			4893
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3201	1361	4673			4893
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	516	444	1030	0	0	1639
RTOR Reduction (vph)	23	66	0	0	0	0
Lane Group Flow (vph)	635	236	1030	0	0	1639
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	7%	8%	11%	0%	0%	6%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	34.6	34.6	93.8			93.8
Effective Green, g (s)	34.6	34.6	93.8			93.8
Actuated g/C Ratio	0.25	0.25	0.67			0.67
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	791	336	3130			3278
v/s Ratio Prot			0.22			c0.33
v/s Ratio Perm	c0.20	0.17				
v/c Ratio	0.80	0.70	0.33			0.50
Uniform Delay, d1	49.5	48.0	9.8			11.5
Progression Factor	1.00	1.00	0.44			0.90
Incremental Delay, d2	5.9	6.5	0.2			0.0
Delay (s)	55.4	54.5	4.5			10.3
Level of Service	E	D	A			B
Approach Delay (s)	55.1		4.5			10.3
Approach LOS	E		A			B

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

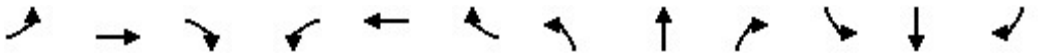
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	684	829	874	669	1477
v/c Ratio	0.49	1.28	1.06	1.25	0.89
Control Delay	30.9	169.6	97.0	162.7	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	169.6	97.0	162.7	35.2
Queue Length 50th (m)	73.8	~297.9	~95.6	~231.9	173.1
Queue Length 95th (m)	92.2	#379.5	#125.9	#310.1	190.1
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1388	649	825	535	1662
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	1.28	1.06	1.25	0.89

Intersection Summary

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

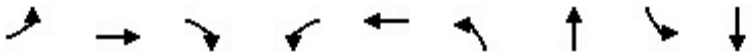
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	657	0	796	0	0	0	0	576	263	642	1418	0
Future Volume (vph)	657	0	796	0	0	0	0	576	263	642	1418	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					0.91		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.95		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3273		1468					3973		1719	3374	
Flt Permitted	0.95		1.00					1.00		0.13	1.00	
Satd. Flow (perm)	3273		1468					3973		241	3374	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	684	0	829	0	0	0	0	600	274	669	1477	0
RTOR Reduction (vph)	0	0	27	0	0	0	0	59	0	0	0	0
Lane Group Flow (vph)	684	0	802	0	0	0	0	815	0	669	1477	0
Confl. Peds. (#/hr)							3		1	1		3
Heavy Vehicles (%)	7%	0%	10%	0%	0%	0%	0%	26%	18%	5%	7%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	59.4		59.4					27.0		69.0	69.0	
Effective Green, g (s)	59.4		59.4					27.0		69.0	69.0	
Actuated g/C Ratio	0.42		0.42					0.19		0.49	0.49	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1388		622					766		530	1662	
v/s Ratio Prot								0.21		c0.35	0.44	
v/s Ratio Perm	0.21		c0.55							c0.27		
v/c Ratio	0.49		1.29					1.06		1.26	0.89	
Uniform Delay, d1	29.3		40.3					56.5		41.2	32.0	
Progression Factor	1.00		1.00					1.00		1.09	0.88	
Incremental Delay, d2	0.3		142.0					50.9		130.9	6.7	
Delay (s)	29.6		182.3					107.4		175.7	34.7	
Level of Service	C		F					F		F	C	
Approach Delay (s)		113.3			0.0			107.4			78.6	
Approach LOS		F			A			F			E	

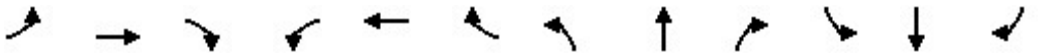
Intersection Summary			
HCM 2000 Control Delay	95.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.30		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	289	12	14	624	42	15	40	313
v/c Ratio	0.15	0.22	0.01	0.02	0.28	0.25	0.02	0.31	0.66
Control Delay	5.0	6.1	0.0	10.5	10.1	35.2	0.1	48.2	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.0	6.1	0.0	10.5	10.1	35.2	0.1	48.2	9.9
Queue Length 50th (m)	4.8	19.3	0.0	1.1	31.2	7.0	0.0	7.9	0.0
Queue Length 95th (m)	10.9	34.9	0.0	4.4	48.8	15.4	0.0	17.8	15.5
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	618	1339	1161	690	2245	173	939	417	725
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	0.15	0.22	0.01	0.02	0.28	0.24	0.02	0.10	0.43

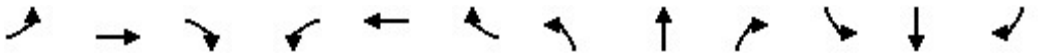
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	266	11	13	563	11	39	0	14	37	0	288
Future Volume (vph)	84	266	11	13	563	11	39	0	14	37	0	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3529		1770	1583		1770	1583	
Flt Permitted	0.38	1.00	1.00	0.58	1.00		0.29	1.00		0.75	1.00	
Satd. Flow (perm)	708	1863	1583	1086	3529		540	1583		1393	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	289	12	14	612	12	42	0	15	40	0	313
RTOR Reduction (vph)	0	0	4	0	1	0	0	12	0	0	284	0
Lane Group Flow (vph)	91	289	8	14	623	0	42	3	0	40	29	0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2			6		3	8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	70.1	70.1	70.1	61.2	61.2		17.7	17.7		9.3	9.3	
Effective Green, g (s)	70.1	70.1	70.1	61.2	61.2		17.7	17.7		9.3	9.3	
Actuated g/C Ratio	0.70	0.70	0.70	0.61	0.61		0.18	0.18		0.09	0.09	
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	558	1305	1109	664	2159		143	280		129	147	
v/s Ratio Prot	0.01	c0.16			c0.18		c0.01	0.00			0.02	
v/s Ratio Perm	0.10		0.01	0.01			c0.04			0.03		
v/c Ratio	0.16	0.22	0.01	0.02	0.29		0.29	0.01		0.31	0.20	
Uniform Delay, d1	4.9	5.3	4.5	7.6	9.1		35.2	33.9		42.4	41.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4	0.0	0.1	0.3		1.1	0.0		1.4	0.7	
Delay (s)	5.0	5.7	4.5	7.7	9.5		36.3	33.9		43.7	42.6	
Level of Service	A	A	A	A	A		D	C		D	D	
Approach Delay (s)		5.5			9.4			35.7			42.7	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	225	45	25	410	29	135	0	47	24	0	6
Future Volume (Veh/h)	17	225	45	25	410	29	135	0	47	24	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	18	245	49	27	446	32	147	0	51	26	0	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.97			0.97	0.97	0.97	0.97	0.97	
vC, conflicting volume	478			294			812	838	270	872	846	462
vC1, stage 1 conf vol							306	306		516	516	
vC2, stage 2 conf vol							507	532		356	330	
vCu, unblocked vol	478			256			791	817	231	853	825	462
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			98			68	100	93	94	100	99
cM capacity (veh/h)	1084			1269			465	451	784	442	457	600

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	312	27	478	147	51	26	7
Volume Left	18	27	0	147	0	26	0
Volume Right	49	0	32	0	51	0	7
cSH	1084	1269	1700	465	784	442	600
Volume to Capacity	0.02	0.02	0.28	0.32	0.07	0.06	0.01
Queue Length 95th (m)	0.4	0.5	0.0	10.7	1.7	1.5	0.3
Control Delay (s)	0.6	7.9	0.0	16.3	9.9	13.7	11.1
Lane LOS	A	A		C	A	B	B
Approach Delay (s)	0.6	0.4		14.6		13.1	
Approach LOS				B		B	

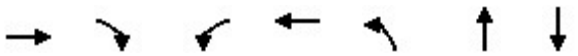
Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	49.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	197	108	40	51	545
v/c Ratio	0.27	0.13	0.19	0.11	0.50
Control Delay	7.5	2.2	15.3	13.2	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	2.2	15.3	13.2	5.1
Queue Length 50th (m)	6.8	0.0	2.4	3.0	3.3
Queue Length 95th (m)	17.4	5.1	8.0	8.7	12.2
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1272	1339	685	1530	2523
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.08	0.06	0.03	0.22

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	175	96	36	45	95	390
Future Volume (vph)	175	96	36	45	95	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.85	1.00	1.00	0.88	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1556	1615	1805	1900	3029	
Flt Permitted	0.95	1.00	0.45	1.00	1.00	
Satd. Flow (perm)	1556	1615	852	1900	3029	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	197	108	40	51	107	438
RTOR Reduction (vph)	0	57	0	0	327	0
Lane Group Flow (vph)	197	51	40	51	218	0
Heavy Vehicles (%)	16%	0%	0%	0%	0%	6%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	20.2	20.2	10.8	10.8	10.8	
Effective Green, g (s)	20.2	20.2	10.8	10.8	10.8	
Actuated g/C Ratio	0.48	0.48	0.25	0.25	0.25	
Clearance Time (s)	5.5	5.5	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	739	767	216	482	769	
v/s Ratio Prot	c0.13			0.03	c0.07	
v/s Ratio Perm		0.03	0.05			
v/c Ratio	0.27	0.07	0.19	0.11	0.28	
Uniform Delay, d1	6.7	6.0	12.4	12.1	12.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.4	0.1	0.2	
Delay (s)	6.9	6.1	12.8	12.2	12.9	
Level of Service	A	A	B	B	B	
Approach Delay (s)	6.6			12.5	12.9	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	42.5	Sum of lost time (s)	11.5
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	835	123	442	2011	53	160	6
v/c Ratio	0.47	0.17	0.65	0.73	0.44	0.39	0.03
Control Delay	16.8	7.7	9.8	8.4	52.6	2.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.8	7.7	9.8	8.4	52.6	2.7	0.3
Queue Length 50th (m)	49.1	5.1	17.0	87.3	10.4	0.0	0.0
Queue Length 95th (m)	81.7	17.6	51.7	143.5	22.1	0.0	0.0
Internal Link Dist (m)	440.3			358.4		862.1	50.9
Turn Bay Length (m)		20.0	55.0				
Base Capacity (vph)	1784	712	679	2740	332	638	420
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.17	0.65	0.73	0.16	0.25	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	768	113	407	1849	1	49	0	147	2	0	4
Future Volume (vph)	0	768	113	407	1849	1	49	0	147	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00		1.00	0.98			0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt		1.00	0.85	1.00	1.00		1.00	0.85			0.91	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		3438	1312	1769	3539		1442	1499			1443	
Flt Permitted		1.00	1.00	0.26	1.00		0.75	1.00			0.88	
Satd. Flow (perm)		3438	1312	485	3539		1145	1499			1290	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	835	123	442	2010	1	53	0	160	2	0	4
RTOR Reduction (vph)	0	0	31	0	0	0	0	143	0	0	5	0
Lane Group Flow (vph)	0	835	92	442	2011	0	53	17	0	0	1	0
Confl. Peds. (#/hr)	6		4	4		6	1		4	4		1
Heavy Vehicles (%)	0%	5%	21%	2%	2%	0%	25%	0%	6%	0%	0%	25%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		51.9	51.9	77.4	77.4		10.6	10.6			10.6	
Effective Green, g (s)		51.9	51.9	77.4	77.4		10.6	10.6			10.6	
Actuated g/C Ratio		0.52	0.52	0.77	0.77		0.11	0.11			0.11	
Clearance Time (s)		6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1784	680	664	2739		121	158			136	
v/s Ratio Prot		0.24		0.15	c0.57			0.01				
v/s Ratio Perm			0.07	0.37			c0.05				0.00	
v/c Ratio		0.47	0.13	0.67	0.73		0.44	0.11			0.00	
Uniform Delay, d1		15.3	12.4	6.1	5.9		41.9	40.4			40.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.9	0.4	2.5	1.8		2.5	0.3			0.0	
Delay (s)		16.2	12.9	8.6	7.7		44.4	40.7			40.0	
Level of Service		B	B	A	A		D	D			D	
Approach Delay (s)		15.7			7.9			41.6			40.0	
Approach LOS		B			A			D			D	

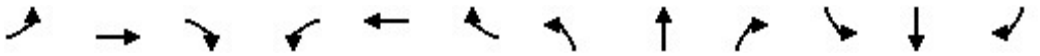
Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	87	1376	49	0	3113
Future Volume (Veh/h)	0	87	1376	49	0	3113
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	95	1496	53	0	3384
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			120			256
pX, platoon unblocked	0.69	0.92			0.92	
vC, conflicting volume	2624	499			1549	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946	137			1282	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			100	
cM capacity (veh/h)	178	813			492	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	95	499	499	499	53	1128	1128	1128
Volume Left	0	0	0	0	0	0	0	0
Volume Right	95	0	0	0	53	0	0	0
cSH	813	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.29	0.29	0.29	0.03	0.66	0.66	0.66
Queue Length 95th (m)	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.0	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	1249	380	249	670	243	405	1657	588	247	1172	150
v/c Ratio	0.82	1.01	0.52	1.10	0.64	0.40	1.06	0.97	0.94	1.12	0.94	0.31
Control Delay	41.8	72.7	8.9	116.1	46.7	7.6	78.9	59.0	53.5	130.9	66.1	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	72.7	8.9	116.1	46.7	7.6	78.9	59.0	53.5	130.9	66.1	7.9
Queue Length 50th (m)	55.4	~194.5	11.2	~55.5	90.8	2.3	~118.9	187.0	150.3	~64.5	123.5	0.0
Queue Length 95th (m)	#88.1	#245.2	40.2	#113.7	113.1	24.1	m#137.9	m#204.5	m#171.0	#121.6	#152.4	17.9
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	387	1238	734	227	1041	602	382	1707	628	221	1247	487
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	1.01	0.52	1.10	0.64	0.40	1.06	0.97	0.94	1.12	0.94	0.31

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.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	1224	372	244	657	238	397	1624	576	242	1149	147
Future Volume (vph)	301	1224	372	244	657	238	397	1624	576	242	1149	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.94	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1766	3539	1499	1786	3539	1490	1805	5085	1495	1752	4988	1501
Flt Permitted	0.22	1.00	1.00	0.14	1.00	1.00	0.11	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	403	3539	1499	273	3539	1490	200	5085	1495	211	4988	1501
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	307	1249	380	249	670	243	405	1657	588	247	1172	150
RTOR Reduction (vph)	0	0	210	0	0	164	0	0	126	0	0	113
Lane Group Flow (vph)	307	1249	170	249	670	79	405	1657	462	247	1172	38
Confl. Peds. (#/hr)	33		36	36		33	26		45	45		26
Heavy Vehicles (%)	2%	2%	2%	1%	2%	3%	0%	2%	1%	3%	4%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	63.0	49.0	49.0	52.2	41.2	41.2	63.0	47.0	47.0	48.0	35.0	35.0
Effective Green, g (s)	63.0	49.0	49.0	52.2	41.2	41.2	63.0	47.0	47.0	48.0	35.0	35.0
Actuated g/C Ratio	0.45	0.35	0.35	0.37	0.29	0.29	0.45	0.34	0.34	0.34	0.25	0.25
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	364	1238	524	220	1041	438	376	1707	501	215	1247	375
v/s Ratio Prot	c0.11	0.35		c0.09	0.19		c0.19	0.33		c0.11	0.23	
v/s Ratio Perm	0.27		0.11	c0.33		0.05	c0.29		0.31	0.29		0.02
v/c Ratio	0.84	1.01	0.32	1.13	0.64	0.18	1.08	0.97	0.92	1.15	0.94	0.10
Uniform Delay, d1	28.1	45.5	33.4	32.7	43.0	36.8	43.9	45.8	44.7	38.5	51.5	40.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.65	1.06	1.29	1.00	1.00	1.00
Incremental Delay, d2	16.1	27.8	1.6	100.7	3.1	0.9	56.7	10.5	15.7	107.3	14.6	0.5
Delay (s)	44.2	73.3	35.0	133.4	46.1	37.7	85.4	59.2	73.5	145.8	66.1	40.9
Level of Service	D	E	D	F	D	D	F	E	E	F	E	D
Approach Delay (s)		61.2			63.0			66.4			76.3	
Approach LOS		E			E			E			E	

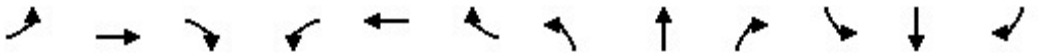
Intersection Summary			
HCM 2000 Control Delay	66.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	135	449	454	208	176	315	2187	572	157	1070	87
v/c Ratio	0.46	0.79	0.97	0.48	0.36	0.73	0.95	0.69	0.64	0.54	0.12
Control Delay	39.7	51.3	94.3	50.1	7.6	31.4	49.4	25.9	52.2	22.0	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	51.3	94.3	50.1	7.6	31.4	49.4	25.9	52.2	22.0	4.3
Queue Length 50th (m)	28.1	48.4	68.8	53.0	0.0	58.9	198.2	68.3	21.7	101.2	3.0
Queue Length 95th (m)	42.3	65.2	#104.2	74.7	18.5	m87.0	#275.2	133.5	m29.6	m118.6	m8.3
Internal Link Dist (m)		222.3		150.3			227.9			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	293	841	468	592	604	495	2310	829	247	1995	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.53	0.97	0.35	0.29	0.64	0.95	0.69	0.64	0.54	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	245	190	440	202	171	306	2121	555	152	1038	84
Future Volume (vph)	131	245	190	440	202	171	306	2121	555	152	1038	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1782	3293		3367	1881	1537	1787	5085	1503	1752	4988	1553
Flt Permitted	0.63	1.00		0.95	1.00	1.00	0.17	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1178	3293		3367	1881	1537	315	5085	1503	132	4988	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	135	253	196	454	208	176	315	2187	572	157	1070	87
RTOR Reduction (vph)	0	112	0	0	0	136	0	0	147	0	0	52
Lane Group Flow (vph)	135	337	0	454	208	40	315	2187	425	157	1070	35
Confl. Peds. (#/hr)	17		15	15		17	3		15	15		3
Heavy Vehicles (%)	0%	1%	1%	4%	1%	1%	1%	2%	3%	3%	4%	1%
Turn Type	pm+pt	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	28.3	19.4		19.5	32.0	32.0	82.0	63.6	63.6	71.4	56.0	56.0
Effective Green, g (s)	28.3	19.4		19.5	32.0	32.0	82.0	63.6	63.6	71.4	56.0	56.0
Actuated g/C Ratio	0.20	0.14		0.14	0.23	0.23	0.59	0.45	0.45	0.51	0.40	0.40
Clearance Time (s)	4.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	276	456		468	429	351	426	2310	682	245	1995	621
v/s Ratio Prot	0.03	c0.10		c0.13	0.11		c0.12	c0.43		0.07	0.21	
v/s Ratio Perm	0.07					0.03	0.31		0.28	0.26		0.02
v/c Ratio	0.49	0.74		0.97	0.48	0.11	0.74	0.95	0.62	0.64	0.54	0.06
Uniform Delay, d1	48.2	57.9		60.0	46.8	42.8	18.9	36.6	29.1	33.1	32.1	25.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.35	1.15	1.40	1.51	0.63	1.00
Incremental Delay, d2	1.4	6.2		33.8	0.9	0.1	4.6	7.3	2.9	2.6	0.5	0.1
Delay (s)	49.6	64.1		93.8	47.7	42.9	30.1	49.3	43.6	52.5	20.6	25.9
Level of Service	D	E		F	D	D	C	D	D	D	C	C
Approach Delay (s)		60.7			71.7			46.3			24.8	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	46.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	99.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	517	300	2803	657
v/c Ratio	0.71	0.87	0.82	0.20
Control Delay	53.4	74.4	16.9	4.1
Queue Delay	0.0	0.0	17.7	0.0
Total Delay	53.4	74.4	34.6	4.1
Queue Length 50th (m)	70.2	90.8	156.0	9.0
Queue Length 95th (m)	86.2	126.5	m133.4	m11.9
Internal Link Dist (m)	299.5		196.8	100.5
Turn Bay Length (m)		95.0		
Base Capacity (vph)	870	411	3437	3339
Starvation Cap Reductn	0	0	715	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.59	0.73	1.03	0.20

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	215	594	2775	0	0	650
Future Volume (vph)	215	594	2775	0	0	650
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.91	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3027	1427	5085			4940
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3027	1427	5085			4940
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	217	600	2803	0	0	657
RTOR Reduction (vph)	2	2	0	0	0	0
Lane Group Flow (vph)	515	298	2803	0	0	657
Confl. Peds. (#/hr)				6	6	
Heavy Vehicles (%)	17%	3%	2%	0%	0%	5%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	33.8	33.8	94.6			94.6
Effective Green, g (s)	33.8	33.8	94.6			94.6
Actuated g/C Ratio	0.24	0.24	0.68			0.68
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	730	344	3436			3338
v/s Ratio Prot			c0.55			0.13
v/s Ratio Perm	0.17	c0.21				
v/c Ratio	0.71	0.87	0.82			0.20
Uniform Delay, d1	48.6	51.0	16.4			8.5
Progression Factor	1.00	1.00	0.94			0.44
Incremental Delay, d2	3.1	19.9	0.2			0.1
Delay (s)	51.7	70.9	15.6			3.8
Level of Service	D	E	B			A
Approach Delay (s)	58.7		15.6			3.8
Approach LOS	E		B			A

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	122.3%	ICU Level of Service	H
Analysis Period (min)	15		

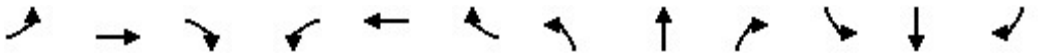
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	1659	467	2163	383	593
v/c Ratio	1.18	0.66	1.14	1.65	0.36
Control Delay	125.7	21.1	107.0	341.2	18.2
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	125.7	21.1	107.3	341.2	18.2
Queue Length 50th (m)	~297.7	55.8	~263.5	~147.4	45.2
Queue Length 95th (m)	#341.3	97.4	#293.1	#212.4	76.5
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1407	707	1905	232	1649
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	189	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.18	0.66	1.26	1.65	0.36

Intersection Summary

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

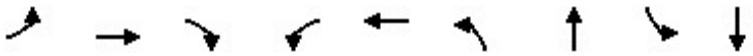
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1626	0	458	0	0	0	0	1772	348	375	581	0
Future Volume (vph)	1626	0	458	0	0	0	0	1772	348	375	581	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					*0.92		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.98		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3433		1392					4885		1770	3252	
Flt Permitted	0.95		1.00					1.00		0.07	1.00	
Satd. Flow (perm)	3433		1392					4885		131	3252	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1659	0	467	0	0	0	0	1808	355	383	593	0
RTOR Reduction (vph)	0	0	136	0	0	0	0	22	0	0	0	0
Lane Group Flow (vph)	1659	0	331	0	0	0	0	2142	0	383	593	0
Confl. Peds. (#/hr)							5		6	6		5
Heavy Vehicles (%)	2%	0%	16%	0%	0%	0%	0%	4%	4%	2%	11%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	57.4		57.4					54.0		71.0	71.0	
Effective Green, g (s)	57.4		57.4					54.0		71.0	71.0	
Actuated g/C Ratio	0.41		0.41					0.39		0.51	0.51	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1407		570					1884		230	1649	
v/s Ratio Prot								0.44		c0.17	0.18	
v/s Ratio Perm	c0.48		0.24							c0.68		
v/c Ratio	1.18		0.58					1.14		1.67	0.36	
Uniform Delay, d1	41.3		32.0					43.0		44.9	20.8	
Progression Factor	1.00		1.00					1.00		1.13	0.84	
Incremental Delay, d2	88.3		1.5					68.6		317.4	0.6	
Delay (s)	129.6		33.5					111.6		368.2	18.1	
Level of Service	F		C					F		F	B	
Approach Delay (s)		108.5			0.0			111.6			155.5	
Approach LOS		F			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	118.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	122.3%	ICU Level of Service	H
Analysis Period (min)	15		

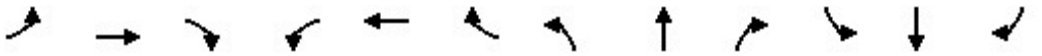
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	222	711	13	42	457	103	50	129	335
v/c Ratio	0.41	0.64	0.01	0.11	0.20	0.64	0.09	0.64	0.53
Control Delay	17.6	20.5	0.0	7.7	7.2	46.9	0.3	53.6	3.4
Queue Delay	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	21.6	0.0	7.7	7.2	46.9	0.3	53.6	3.4
Queue Length 50th (m)	26.0	101.9	0.0	2.6	15.8	16.6	0.0	25.1	0.0
Queue Length 95th (m)	56.1	#192.7	0.0	7.7	28.1	27.7	0.0	41.5	0.0
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	540	1104	985	383	2250	161	695	323	733
Starvation Cap Reductn	0	184	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	0.41	0.77	0.01	0.11	0.20	0.64	0.07	0.40	0.46

Intersection Summary

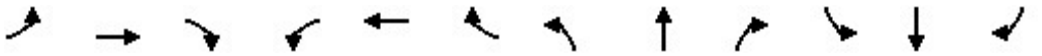
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	654	12	39	321	99	95	0	46	119	0	308
Future Volume (vph)	204	654	12	39	321	99	95	0	46	119	0	308
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3414		1770	1583		1770	1583	
Flt Permitted	0.49	1.00	1.00	0.23	1.00		0.21	1.00		0.72	1.00	
Satd. Flow (perm)	910	1863	1583	432	3414		382	1583		1349	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	222	711	13	42	349	108	103	0	50	129	0	335
RTOR Reduction (vph)	0	0	6	0	23	0	0	38	0	0	285	0
Lane Group Flow (vph)	222	711	7	42	434	0	103	12	0	129	50	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	57.1	57.1	57.1	64.3	64.3		23.5	23.5		15.0	15.0	
Effective Green, g (s)	57.1	57.1	57.1	64.3	64.3		23.5	23.5		15.0	15.0	
Actuated g/C Ratio	0.57	0.57	0.57	0.64	0.64		0.24	0.24		0.15	0.15	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	519	1063	903	333	2195		145	372		202	237	
v/s Ratio Prot		c0.38		0.01	c0.13		c0.03	0.01			0.03	
v/s Ratio Perm	0.24		0.00	0.08			c0.14			0.10		
v/c Ratio	0.43	0.67	0.01	0.13	0.20		0.71	0.03		0.64	0.21	
Uniform Delay, d1	12.2	14.9	9.2	9.8	7.3		34.3	29.5		40.0	37.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	3.3	0.0	0.2	0.2		15.1	0.0		6.5	0.4	
Delay (s)	14.7	18.2	9.3	10.0	7.5		49.4	29.5		46.4	37.8	
Level of Service	B	B	A	A	A		D	C		D	D	
Approach Delay (s)		17.3			7.7			42.9			40.2	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	656	122	95	302	92	88	0	57	76	0	50
Future Volume (Veh/h)	24	656	122	95	302	92	88	0	57	76	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	26	713	133	103	328	100	96	0	62	83	0	54
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.67			0.67	0.67	0.67	0.67	0.67	
vC, conflicting volume	428			846			1420	1466	780	1478	1482	378
vC1, stage 1 conf vol							832	832		584	584	
vC2, stage 2 conf vol							588	634		894	898	
vCu, unblocked vol	428			519			1379	1448	420	1466	1473	378
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			85			63	100	85	48	100	92
cM capacity (veh/h)	1131			698			257	261	423	159	196	669

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	872	103	428	96	62	83	54
Volume Left	26	103	0	96	0	83	0
Volume Right	133	0	100	0	62	0	54
cSH	1131	698	1700	257	423	159	669
Volume to Capacity	0.02	0.15	0.25	0.37	0.15	0.52	0.08
Queue Length 95th (m)	0.6	4.1	0.0	13.3	4.1	20.6	2.1
Control Delay (s)	0.6	11.0	0.0	27.2	15.0	50.1	10.9
Lane LOS	A	B		D	B	F	B
Approach Delay (s)	0.6	2.1		22.4		34.6	
Approach LOS				C		D	

Intersection Summary				
Average Delay	5.9			
Intersection Capacity Utilization	79.9%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	455	138	135	103	257
v/c Ratio	0.61	0.18	0.41	0.18	0.24
Control Delay	11.9	2.4	14.9	10.8	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	2.4	14.9	10.8	3.3
Queue Length 50th (m)	16.7	0.0	5.5	3.9	0.5
Queue Length 95th (m)	47.0	6.3	20.8	14.8	6.8
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1554	1422	774	1305	2219
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.10	0.17	0.08	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	419	127	124	95	25	212
Future Volume (vph)	419	127	124	95	25	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.85	1.00	1.00	0.87	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1615	1805	1900	3125	
Flt Permitted	0.95	1.00	0.59	1.00	1.00	
Satd. Flow (perm)	1787	1615	1126	1900	3125	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	455	138	135	103	27	230
RTOR Reduction (vph)	0	79	0	0	161	0
Lane Group Flow (vph)	455	59	135	103	96	0
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	14.0	14.0	9.8	9.8	9.8	
Effective Green, g (s)	14.0	14.0	9.8	9.8	9.8	
Actuated g/C Ratio	0.43	0.43	0.30	0.30	0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	762	689	336	567	933	
v/s Ratio Prot	c0.25			0.05	0.03	
v/s Ratio Perm		0.04	c0.12			
v/c Ratio	0.60	0.09	0.40	0.18	0.10	
Uniform Delay, d1	7.2	5.6	9.2	8.5	8.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	0.1	0.8	0.2	0.0	
Delay (s)	8.5	5.6	10.0	8.7	8.4	
Level of Service	A	A	A	A	A	
Approach Delay (s)	7.8			9.4	8.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	32.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	6	1585	97	201	887	72	515	12
v/c Ratio	0.02	0.89	0.12	0.82	0.40	0.19	0.94	0.05
Control Delay	14.0	31.2	6.3	47.0	10.7	29.3	50.7	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	31.2	6.3	47.0	10.7	29.3	50.7	22.3
Queue Length 50th (m)	0.6	153.2	3.4	23.3	46.9	11.1	68.9	1.2
Queue Length 95th (m)	2.9	#207.2	12.1	#63.1	60.2	22.8	#133.3	5.7
Internal Link Dist (m)		440.3			358.4		862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0				
Base Capacity (vph)	302	1779	799	246	2211	396	572	285
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.89	0.12	0.82	0.40	0.18	0.90	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1537	94	195	859	1	70	1	499	7	1	4
Future Volume (vph)	6	1537	94	195	859	1	70	1	499	7	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00		0.99	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1795	3574	1541	1805	3574		1795	1579			1753	
Flt Permitted	0.32	1.00	1.00	0.08	1.00		0.75	1.00			0.56	
Satd. Flow (perm)	606	3574	1541	144	3574		1417	1579			1009	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1585	97	201	886	1	72	1	514	7	1	4
RTOR Reduction (vph)	0	0	33	0	0	0	0	134	0	0	3	0
Lane Group Flow (vph)	6	1585	64	201	887	0	72	381	0	0	9	0
Confl. Peds. (#/hr)	8		4	4		8	5		1	1		5
Heavy Vehicles (%)	0%	1%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	49.8	49.8	49.8	61.9	61.9		26.1	26.1			26.1	
Effective Green, g (s)	49.8	49.8	49.8	61.9	61.9		26.1	26.1			26.1	
Actuated g/C Ratio	0.50	0.50	0.50	0.62	0.62		0.26	0.26			0.26	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	301	1779	767	240	2212		369	412			263	
v/s Ratio Prot		c0.44		c0.08	0.25			c0.24				
v/s Ratio Perm	0.01		0.04	0.44			0.05				0.01	
v/c Ratio	0.02	0.89	0.08	0.84	0.40		0.20	0.92			0.03	
Uniform Delay, d1	12.7	22.6	13.1	26.3	9.7		28.8	36.0			27.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	7.2	0.2	21.7	0.5		0.3	26.1			0.1	
Delay (s)	12.8	29.9	13.4	48.0	10.2		29.0	62.1			27.6	
Level of Service	B	C	B	D	B		C	E			C	
Approach Delay (s)		28.8			17.2			58.1			27.6	
Approach LOS		C			B			E			C	

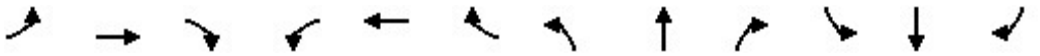
Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	97.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	88	3205	157	0	1695
Future Volume (Veh/h)	0	88	3205	157	0	1695
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	96	3484	171	0	1842
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			124			252
pX, platoon unblocked	0.66	0.58			0.58	
vC, conflicting volume	4098	1161			3655	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2304	0			3051	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	85			100	
cM capacity (veh/h)	21	632			63	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	96	1161	1161	1161	171	614	614	614
Volume Left	0	0	0	0	0	0	0	0
Volume Right	96	0	0	0	171	0	0	0
cSH	632	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.15	0.68	0.68	0.68	0.10	0.36	0.36	0.36
Queue Length 95th (m)	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	11.7	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	74.0%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	798	622	299	827	262	331	1275	509	220	1149	193
v/c Ratio	0.71	0.72	0.82	0.73	0.69	0.37	0.92	0.78	0.74	0.87	0.85	0.34
Control Delay	36.5	47.1	27.2	34.0	44.1	5.3	56.0	51.3	33.2	66.5	56.5	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.5	47.1	27.2	34.0	44.1	5.3	56.0	51.3	33.2	66.5	56.5	7.1
Queue Length 50th (m)	34.0	109.3	73.3	52.9	110.7	0.0	89.3	137.3	100.4	45.6	119.3	0.0
Queue Length 95th (m)	51.5	134.0	131.4	75.4	135.1	19.8	m#127.9	155.3	133.7	#91.1	#139.5	19.7
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	296	1116	758	419	1197	710	379	1643	689	264	1349	562
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.72	0.82	0.71	0.69	0.37	0.87	0.78	0.74	0.83	0.85	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	774	603	290	802	254	321	1237	494	213	1115	187
Future Volume (vph)	196	774	603	290	802	254	321	1237	494	213	1115	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3574	1599	1881	3574	1599	1805	5136	1599	1787	5136	1599
Flt Permitted	0.19	1.00	1.00	0.28	1.00	1.00	0.10	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	351	3574	1599	536	3574	1599	191	5136	1599	204	5136	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	202	798	622	299	827	262	331	1275	509	220	1149	193
RTOR Reduction (vph)	0	0	259	0	0	174	0	0	177	0	0	142
Lane Group Flow (vph)	202	798	363	299	827	88	331	1275	332	220	1149	51
Heavy Vehicles (%)	2%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	56.8	43.7	43.7	63.0	46.9	46.9	63.0	44.8	44.8	52.0	36.8	36.8
Effective Green, g (s)	56.8	43.7	43.7	63.0	46.9	46.9	63.0	44.8	44.8	52.0	36.8	36.8
Actuated g/C Ratio	0.41	0.31	0.31	0.45	0.33	0.33	0.45	0.32	0.32	0.37	0.26	0.26
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	275	1115	499	397	1197	535	353	1643	511	247	1350	420
v/s Ratio Prot	0.07	0.22		c0.09	0.23		c0.16	0.25		0.10	0.22	
v/s Ratio Perm	0.23		0.23	c0.25		0.05	c0.27		0.21	0.23		0.03
v/c Ratio	0.73	0.72	0.73	0.75	0.69	0.16	0.94	0.78	0.65	0.89	0.85	0.12
Uniform Delay, d1	29.9	42.6	42.9	25.2	40.3	32.8	42.1	43.1	40.8	36.0	49.0	39.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.71	1.11	1.33	1.00	1.00	1.00
Incremental Delay, d2	9.7	3.9	9.0	7.9	3.3	0.7	28.7	3.1	5.4	30.3	6.9	0.6
Delay (s)	39.6	46.6	51.9	33.1	43.6	33.4	58.7	50.8	59.6	66.3	55.9	39.9
Level of Service	D	D	D	C	D	C	E	D	E	E	E	D
Approach Delay (s)		47.7			39.4			54.1			55.4	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	49.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	95.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

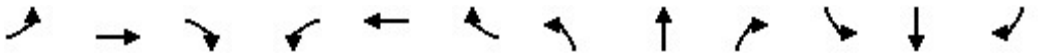
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	551	831	348	238	335	1330	427	196	1226	97
v/c Ratio	0.53	0.82	1.00	0.41	0.29	0.81	0.78	0.62	0.77	0.99	0.21
Control Delay	64.5	48.2	84.6	27.3	3.2	52.9	49.8	23.0	39.9	59.6	6.6
Queue Delay	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.5	48.2	84.6	28.0	3.2	52.9	49.8	23.0	39.9	59.6	6.6
Queue Length 50th (m)	24.2	57.2	~126.1	68.1	0.0	80.3	142.0	49.1	22.8	134.3	7.9
Queue Length 95th (m)	40.9	74.3	#171.1	85.4	14.0	#152.5	#167.5	75.4	m42.6	#165.8	m10.5
Internal Link Dist (m)		222.3		150.3			234.4			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	234	870	829	960	914	415	1702	692	264	1243	462
Starvation Cap Reductn	0	0	0	321	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.63	1.00	0.54	0.26	0.81	0.78	0.62	0.74	0.99	0.21

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	251	267	781	327	224	315	1250	401	184	1152	91
Future Volume (vph)	84	251	267	781	327	224	315	1250	401	184	1152	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1792	3255		3467	1881	1562	1787	5136	1555	1787	5136	1520
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1042	3255		3467	1881	1562	204	5136	1555	222	5136	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	89	267	284	831	348	238	335	1330	427	196	1226	97
RTOR Reduction (vph)	0	149	0	0	0	132	0	0	177	0	0	74
Lane Group Flow (vph)	89	402	0	831	348	106	335	1330	250	196	1226	23
Confl. Peds. (#/hr)	7		3	3		7	7		3	3		7
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	1%	1%	2%	1%	1%	2%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	22.5	22.5		33.5	62.5	62.5	64.9	46.4	46.4	49.4	33.9	33.9
Effective Green, g (s)	22.5	22.5		33.5	62.5	62.5	64.9	46.4	46.4	49.4	33.9	33.9
Actuated g/C Ratio	0.16	0.16		0.24	0.45	0.45	0.46	0.33	0.33	0.35	0.24	0.24
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	167	523		829	839	697	411	1702	515	251	1243	368
v/s Ratio Prot		c0.12		c0.24	0.18		c0.16	0.26		0.09	c0.24	
v/s Ratio Perm	0.09					0.07	0.21		0.16	0.19		0.02
v/c Ratio	0.53	0.77		1.00	0.41	0.15	0.82	0.78	0.49	0.78	0.99	0.06
Uniform Delay, d1	53.9	56.2		53.2	26.3	23.0	39.0	42.2	37.3	34.7	52.8	40.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.09	1.07	1.23	0.89	0.82	1.97
Incremental Delay, d2	3.2	6.7		31.8	0.3	0.1	10.7	3.3	2.9	8.3	15.8	0.2
Delay (s)	57.2	62.9		85.1	26.7	23.1	53.0	48.5	48.8	39.2	59.3	80.5
Level of Service	E	E		F	C	C	D	D	D	D	E	F
Approach Delay (s)		62.1			60.3			49.3			58.1	
Approach LOS		E			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	55.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	97.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	530	274	1854	1167
v/c Ratio	0.71	0.81	0.52	0.33
Control Delay	53.5	66.2	10.6	9.7
Queue Delay	0.1	0.0	0.2	0.0
Total Delay	53.6	66.2	10.9	9.7
Queue Length 50th (m)	72.2	80.2	56.9	40.9
Queue Length 95th (m)	83.8	107.8	m54.0	m43.5
Internal Link Dist (m)	299.5		196.8	94.0
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1163	524	3553	3553
Starvation Cap Reductn	0	0	807	0
Spillback Cap Reductn	94	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.50	0.52	0.68	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	245	527	1780	0	0	1120
Future Volume (vph)	245	527	1780	0	0	1120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3288	1470	5136			5136
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3288	1470	5136			5136
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	255	549	1854	0	0	1167
RTOR Reduction (vph)	9	9	0	0	0	0
Lane Group Flow (vph)	521	265	1854	0	0	1167
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	2%	0%	1%	0%	0%	1%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	31.5	31.5	96.9			96.9
Effective Green, g (s)	31.5	31.5	96.9			96.9
Actuated g/C Ratio	0.22	0.22	0.69			0.69
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	739	330	3554			3554
v/s Ratio Prot			c0.36			0.23
v/s Ratio Perm	0.16	c0.18				
v/c Ratio	0.70	0.80	0.52			0.33
Uniform Delay, d1	50.0	51.3	10.4			8.6
Progression Factor	1.00	1.00	0.93			1.02
Incremental Delay, d2	3.1	13.1	0.0			0.1
Delay (s)	53.0	64.4	9.7			8.9
Level of Service	D	E	A			A
Approach Delay (s)	56.9		9.7			8.9
Approach LOS	E		A			A

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

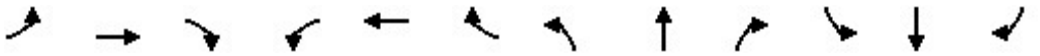
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	1243	463	1361	684	775
v/c Ratio	1.11	0.74	1.00	0.97	0.37
Control Delay	104.5	31.7	73.4	64.5	23.3
Queue Delay	0.0	0.0	0.0	0.9	0.0
Total Delay	104.5	31.7	73.4	65.4	23.3
Queue Length 50th (m)	~212.2	71.8	~153.7	164.5	77.4
Queue Length 95th (m)	#255.8	117.0	#185.4	#236.2	91.2
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1124	626	1356	726	2098
Starvation Cap Reductn	0	0	0	6	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.11	0.74	1.00	0.95	0.37

Intersection Summary

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

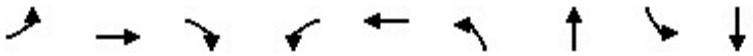
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1144	0	426	0	0	0	0	916	336	629	713	0
Future Volume (vph)	1144	0	426	0	0	0	0	916	336	629	713	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					0.91		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.96		1.00	1.00	
Flt Protected	0.95		1.00					1.00		1.00	1.00	
Satd. Flow (prot)	3467		1524					4824		1880	3539	
Flt Permitted	0.95		1.00					1.00		0.24	1.00	
Satd. Flow (perm)	3467		1524					4824		451	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1243	0	463	0	0	0	0	996	365	684	775	0
RTOR Reduction (vph)	0	0	132	0	0	0	0	46	0	0	0	0
Lane Group Flow (vph)	1243	0	331	0	0	0	0	1315	0	684	775	0
Confl. Peds. (#/hr)							1		4	4		1
Heavy Vehicles (%)	1%	0%	6%	0%	0%	0%	0%	2%	3%	1%	2%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	45.4		45.4					38.0		83.0	83.0	
Effective Green, g (s)	45.4		45.4					38.0		83.0	83.0	
Actuated g/C Ratio	0.32		0.32					0.27		0.59	0.59	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1124		494					1309		696	2098	
v/s Ratio Prot								0.27		c0.29	0.22	
v/s Ratio Perm	c0.36		0.22							c0.29		
v/c Ratio	1.11		0.67					1.00		0.98	0.37	
Uniform Delay, d1	47.3		40.8					51.0		29.6	14.9	
Progression Factor	1.00		1.00					1.00		1.39	1.52	
Incremental Delay, d2	60.8		3.4					26.0		28.9	0.5	
Delay (s)	108.1		44.2					77.0		70.1	23.1	
Level of Service	F		D					E		E	C	
Approach Delay (s)		90.7			0.0			77.0			45.1	
Approach LOS		F			A			E			D	

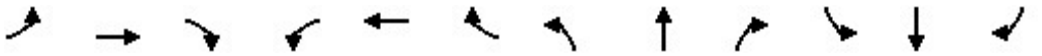
Intersection Summary			
HCM 2000 Control Delay	71.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	337	445	16	43	737	123	50	163	514
v/c Ratio	0.66	0.37	0.02	0.10	0.46	0.59	0.09	0.52	0.84
Control Delay	15.7	11.4	0.0	23.0	23.1	43.7	0.3	38.7	18.8
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	12.1	0.0	23.0	23.1	43.7	0.3	38.7	18.8
Queue Length 50th (m)	26.3	39.2	0.0	4.9	52.2	23.1	0.0	31.4	8.7
Queue Length 95th (m)	58.5	82.7	0.0	16.7	97.8	33.1	0.0	42.7	43.4
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	592	1202	1048	436	1616	210	658	314	725
Starvation Cap Reductn	0	431	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	0.57	0.58	0.02	0.10	0.46	0.59	0.08	0.52	0.71

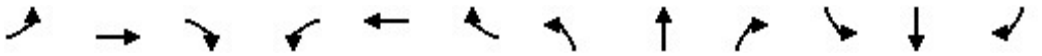
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	409	15	40	572	106	113	0	46	150	0	473
Future Volume (vph)	310	409	15	40	572	106	113	0	46	150	0	473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	6.2	6.2	6.2	6.2		4.5	6.0		4.5	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3456		1770	1583		1770	1583	
Flt Permitted	0.27	1.00	1.00	0.51	1.00		0.33	1.00		0.59	1.00	
Satd. Flow (perm)	504	1863	1583	941	3456		606	1583		1099	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	445	16	43	622	115	123	0	50	163	0	514
RTOR Reduction (vph)	0	0	6	0	11	0	0	44	0	0	408	0
Lane Group Flow (vph)	337	445	10	43	726	0	123	6	0	163	106	0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	1	6			2		3	8		7	4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	69.8	69.8	69.8	49.9	49.9		20.7	12.3		26.3	15.1	
Effective Green, g (s)	69.8	69.8	69.8	49.9	49.9		20.7	12.3		26.3	15.1	
Actuated g/C Ratio	0.63	0.63	0.63	0.45	0.45		0.19	0.11		0.24	0.14	
Clearance Time (s)	4.5	6.2	6.2	6.2	6.2		4.5	6.0		4.5	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	497	1182	1004	426	1567		202	177		331	217	
v/s Ratio Prot	c0.09	0.24			0.21		0.05	0.00		c0.05	0.07	
v/s Ratio Perm	c0.34		0.01	0.05			c0.07			0.07		
v/c Ratio	0.68	0.38	0.01	0.10	0.46		0.61	0.03		0.49	0.49	
Uniform Delay, d1	11.0	9.7	7.4	17.2	20.8		39.3	43.5		35.1	43.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	0.9	0.0	0.5	1.0		5.1	0.1		1.2	1.7	
Delay (s)	14.7	10.6	7.4	17.7	21.8		44.4	43.6		36.3	45.6	
Level of Service	B	B	A	B	C		D	D		D	D	
Approach Delay (s)		12.2			21.5			44.2			43.4	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	440	107	88	505	144	128	0	80	93	0	57
Future Volume (Veh/h)	35	440	107	88	505	144	128	0	80	93	0	57
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	38	478	116	96	549	157	139	0	87	101	0	62
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.81			0.81	0.81	0.81	0.81	0.81	
vC, conflicting volume	706			594			1415	1510	536	1518	1490	628
vC1, stage 1 conf vol							612	612		820	820	
vC2, stage 2 conf vol							803	898		699	670	
vCu, unblocked vol	706			385			1395	1512	314	1523	1487	628
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			90			40	100	85	52	100	87
cM capacity (veh/h)	892			954			230	247	590	209	251	483

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	632	96	706	139	87	101	62
Volume Left	38	96	0	139	0	101	0
Volume Right	116	0	157	0	87	0	62
cSH	892	954	1700	230	590	209	483
Volume to Capacity	0.04	0.10	0.42	0.60	0.15	0.48	0.13
Queue Length 95th (m)	1.1	2.7	0.0	28.1	4.1	19.0	3.5
Control Delay (s)	1.1	9.2	0.0	42.1	12.1	37.2	13.5
Lane LOS	A	A		E	B	E	B
Approach Delay (s)	1.1	1.1		30.5		28.2	
Approach LOS				D		D	

Intersection Summary				
Average Delay	7.2			
Intersection Capacity Utilization	79.5%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	393	189	200	52	577
v/c Ratio	0.61	0.27	0.61	0.07	0.36
Control Delay	18.1	3.8	19.9	8.8	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	3.8	19.9	8.8	2.6
Queue Length 50th (m)	22.3	0.0	10.4	2.1	1.7
Queue Length 95th (m)	68.1	10.6	36.6	8.8	10.0
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1319	1224	695	1651	2800
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.15	0.29	0.03	0.21

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	342	164	174	45	75	427
Future Volume (vph)	342	164	174	45	75	427
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.87	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1593	1805	1900	3149	
Flt Permitted	0.95	1.00	0.42	1.00	1.00	
Satd. Flow (perm)	1787	1593	800	1900	3149	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	393	189	200	52	86	491
RTOR Reduction (vph)	0	119	0	0	283	0
Lane Group Flow (vph)	393	70	200	52	294	0
Confl. Peds. (#/hr)	1	2				
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	16.1	16.1	18.5	18.5	18.5	
Effective Green, g (s)	16.1	16.1	18.5	18.5	18.5	
Actuated g/C Ratio	0.37	0.37	0.42	0.42	0.42	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	659	588	339	806	1336	
v/s Ratio Prot	c0.22			0.03	0.09	
v/s Ratio Perm		0.04	c0.25			
v/c Ratio	0.60	0.12	0.59	0.06	0.22	
Uniform Delay, d1	11.1	9.1	9.6	7.4	8.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.1	2.6	0.0	0.1	
Delay (s)	12.6	9.2	12.3	7.5	8.1	
Level of Service	B	A	B	A	A	
Approach Delay (s)	11.5			11.3	8.1	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	43.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	11	1438	153	325	1214	42	407	9
v/c Ratio	0.05	0.73	0.17	0.78	0.45	0.21	0.84	0.07
Control Delay	16.7	23.3	9.9	35.7	6.7	40.8	27.9	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	23.3	9.9	35.7	6.7	40.8	27.9	27.0
Queue Length 50th (m)	1.1	122.5	9.6	42.2	43.5	8.7	22.8	0.8
Queue Length 95th (m)	5.1	#195.1	25.4	#91.2	86.4	17.1	55.0	5.0
Internal Link Dist (m)		440.3			358.4		862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0				
Base Capacity (vph)	242	1981	887	439	2682	362	631	234
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.73	0.17	0.74	0.45	0.12	0.65	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1323	141	299	1116	1	39	3	372	1	3	5
Future Volume (vph)	10	1323	141	299	1116	1	39	3	372	1	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.93	
Flt Protected	0.95	1.00	1.00	0.98	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1799	3574	1553	1862	3574		1801	1596			1734	
Flt Permitted	0.23	1.00	1.00	0.09	1.00		0.75	1.00			0.52	
Satd. Flow (perm)	438	3574	1553	172	3574		1425	1596			905	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1438	153	325	1213	1	42	3	404	1	3	5
RTOR Reduction (vph)	0	0	27	0	0	0	0	260	0	0	4	0
Lane Group Flow (vph)	11	1438	126	325	1214	0	42	147	0	0	5	0
Confl. Peds. (#/hr)	7		5	5		7	2		1	1		2
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	61.0	61.0	61.0	82.6	82.6		15.4	15.4			15.4	
Effective Green, g (s)	61.0	61.0	61.0	82.6	82.6		15.4	15.4			15.4	
Actuated g/C Ratio	0.55	0.55	0.55	0.75	0.75		0.14	0.14			0.14	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	242	1981	861	414	2683		199	223			126	
v/s Ratio Prot		0.40		c0.13	0.34			c0.09				
v/s Ratio Perm	0.03		0.08	c0.45			0.03				0.01	
v/c Ratio	0.05	0.73	0.15	0.79	0.45		0.21	0.66			0.04	
Uniform Delay, d1	11.2	18.3	11.9	27.8	5.2		41.9	44.8			40.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.4	2.4	0.4	9.4	0.6		0.5	7.1			0.1	
Delay (s)	11.5	20.6	12.2	37.3	5.7		42.4	52.0			41.0	
Level of Service	B	C	B	D	A		D	D			D	
Approach Delay (s)		19.8			12.4			51.1			41.0	
Approach LOS		B			B			D			D	

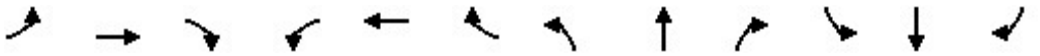
Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	115	2190	136	0	2248
Future Volume (Veh/h)	0	115	2190	136	0	2248
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	125	2380	148	0	2443
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			118			258
pX, platoon unblocked	0.86	0.83			0.83	
vC, conflicting volume	3194	793			2528	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1629	20			2117	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	86			100	
cM capacity (veh/h)	80	871			211	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	125	793	793	793	148	814	814	814
Volume Left	0	0	0	0	0	0	0	0
Volume Right	125	0	0	0	148	0	0	0
cSH	871	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.14	0.47	0.47	0.47	0.09	0.48	0.48	0.48
Queue Length 95th (m)	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.8	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	401	221	389	646	200	349	807	191	313	2006	193
v/c Ratio	0.37	0.45	0.40	1.03	0.61	0.35	1.15	0.49	0.29	0.74	1.12	0.31
Control Delay	32.2	44.9	7.2	91.5	44.8	6.4	122.1	39.7	16.7	28.1	101.4	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	44.9	7.2	91.5	44.8	6.4	122.1	39.7	16.7	28.1	101.4	7.7
Queue Length 50th (m)	15.4	51.6	0.0	~90.6	85.0	0.0	~103.6	84.1	29.3	47.8	~245.0	4.7
Queue Length 95th (m)	27.4	68.2	20.9	#169.3	106.2	18.7	#167.5	103.1	47.4	68.3	#275.1	22.5
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	227	891	550	377	1063	574	303	1635	663	502	1799	624
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.45	0.40	1.03	0.61	0.35	1.15	0.49	0.29	0.62	1.12	0.31

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	385	212	373	620	192	335	775	183	300	1926	185
Future Volume (vph)	81	385	212	373	620	192	335	775	183	300	1926	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1638	3374	1467	1762	3539	1445	1736	4472	1483	1700	4940	1421
Flt Permitted	0.29	1.00	1.00	0.39	1.00	1.00	0.08	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	498	3374	1467	725	3539	1445	143	4472	1483	479	4940	1421
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	401	221	389	646	200	349	807	191	312	2006	193
RTOR Reduction (vph)	0	0	163	0	0	140	0	0	121	0	0	107
Lane Group Flow (vph)	84	401	58	389	646	60	349	807	70	313	2006	86
Confl. Peds. (#/hr)	19		22	22		19	32		20	20		32
Heavy Vehicles (%)	10%	7%	6%	2%	2%	8%	4%	16%	5%	6%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	43.9	37.0	37.0	52.0	42.1	42.1	71.2	51.2	51.2	70.8	51.0	51.0
Effective Green, g (s)	43.9	37.0	37.0	52.0	42.1	42.1	71.2	51.2	51.2	70.8	51.0	51.0
Actuated g/C Ratio	0.31	0.26	0.26	0.37	0.30	0.30	0.51	0.37	0.37	0.51	0.36	0.36
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	212	891	387	358	1064	434	300	1635	542	414	1799	517
v/s Ratio Prot	0.02	0.12		c0.09	0.18		c0.17	0.18		0.11	0.41	
v/s Ratio Perm	0.10		0.04	c0.31		0.04	c0.43		0.05	0.27		0.06
v/c Ratio	0.40	0.45	0.15	1.09	0.61	0.14	1.16	0.49	0.13	0.76	1.12	0.17
Uniform Delay, d1	35.2	43.0	39.5	41.8	41.9	35.7	45.9	34.4	29.6	21.7	44.5	30.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.48	1.09	3.46	1.00	1.00	1.00
Incremental Delay, d2	1.2	1.6	0.8	72.8	2.6	0.7	102.8	1.0	0.5	7.7	60.1	0.7
Delay (s)	36.5	44.6	40.3	114.6	44.5	36.4	124.9	38.6	102.7	29.4	104.6	30.8
Level of Service	D	D	D	F	D	D	F	D	F	C	F	C
Approach Delay (s)		42.3			65.2			70.1			89.6	
Approach LOS		D			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	74.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	124.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	351	876	154	58	189	963	285	78	2234	221
v/c Ratio	0.32	1.02dr	1.30	0.23	0.10	0.63	0.45	0.37	0.25	1.20	0.32
Control Delay	59.4	56.1	190.8	29.5	6.3	40.6	37.4	10.6	8.3	123.3	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	56.1	190.8	29.5	6.3	40.6	37.4	10.6	8.3	123.3	8.7
Queue Length 50th (m)	12.6	41.3	~168.2	30.2	0.0	39.6	83.8	13.2	6.2	~294.1	23.8
Queue Length 95th (m)	25.1	56.7	#210.3	44.4	9.0	#81.1	95.5	33.3	m8.3	m#254.5	m20.0
Internal Link Dist (m)		222.3		150.3			232.4			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	254	739	672	843	695	298	2128	768	312	1866	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.47	1.30	0.18	0.08	0.63	0.45	0.37	0.25	1.20	0.32

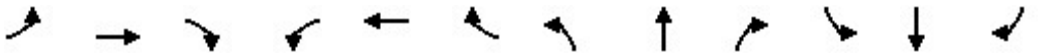
Intersection Summary

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	72	251	806	142	53	174	886	262	72	2055	203
Future Volume (vph)	43	72	251	806	142	53	174	886	262	72	2055	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3021		3303	1776	1401	1770	4759	1372	1804	5036	1468
Flt Permitted	0.66	1.00		0.95	1.00	1.00	0.07	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	1131	3021		3303	1776	1401	136	4759	1372	520	5036	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	78	273	876	154	58	189	963	285	78	2234	221
RTOR Reduction (vph)	0	67	0	0	0	36	0	0	155	0	0	139
Lane Group Flow (vph)	47	284	0	876	154	22	189	963	130	78	2234	82
Confl. Peds. (#/hr)	5		8	8		5	9		6	6		9
Heavy Vehicles (%)	10%	6%	3%	6%	7%	13%	2%	9%	14%	0%	3%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	18.4	18.4		28.5	53.4	53.4	74.0	62.6	62.6	60.3	51.9	51.9
Effective Green, g (s)	18.4	18.4		28.5	53.4	53.4	74.0	62.6	62.6	60.3	51.9	51.9
Actuated g/C Ratio	0.13	0.13		0.20	0.38	0.38	0.53	0.45	0.45	0.43	0.37	0.37
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	148	397		672	677	534	294	2127	613	301	1866	544
v/s Ratio Prot		c0.09		c0.27	0.09		c0.09	0.20		0.02	c0.44	
v/s Ratio Perm	0.04					0.02	0.25		0.09	0.10		0.06
v/c Ratio	0.32	1.02dr		1.30	0.23	0.04	0.64	0.45	0.21	0.26	1.20	0.15
Uniform Delay, d1	55.1	58.3		55.8	29.3	27.2	35.9	26.8	23.6	23.7	44.1	29.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.03	1.32	2.83	0.49	0.84	2.34
Incremental Delay, d2	1.2	6.0		147.3	0.2	0.0	4.5	0.7	0.8	0.0	89.3	0.1
Delay (s)	56.3	64.3		203.0	29.5	27.2	41.5	36.1	67.6	11.7	126.2	68.6
Level of Service	E	E		F	C	C	D	D	E	B	F	E
Approach Delay (s)		63.4			169.1			43.1			117.6	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	104.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	673	310	1052	1667
v/c Ratio	0.81	0.77	0.34	0.51
Control Delay	54.4	47.7	5.3	11.7
Queue Delay	0.3	0.0	0.0	0.0
Total Delay	54.7	47.7	5.3	11.8
Queue Length 50th (m)	91.8	70.3	17.1	71.3
Queue Length 95th (m)	104.4	101.4	m21.5	m60.7
Internal Link Dist (m)	299.5		196.8	96.1
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1233	566	3099	3245
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	160	0	0	98
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.63	0.55	0.34	0.53

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	511	442	1020	0	0	1617
Future Volume (vph)	511	442	1020	0	0	1617
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3201	1361	4673			4893
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3201	1361	4673			4893
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	527	456	1052	0	0	1667
RTOR Reduction (vph)	22	60	0	0	0	0
Lane Group Flow (vph)	651	250	1052	0	0	1667
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	7%	8%	11%	0%	0%	6%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	35.5	35.5	92.9			92.9
Effective Green, g (s)	35.5	35.5	92.9			92.9
Actuated g/C Ratio	0.25	0.25	0.66			0.66
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	811	345	3100			3246
v/s Ratio Prot			0.23			c0.34
v/s Ratio Perm	c0.20	0.18				
v/c Ratio	0.80	0.73	0.34			0.51
Uniform Delay, d1	49.0	47.8	10.2			12.0
Progression Factor	1.00	1.00	0.46			0.91
Incremental Delay, d2	5.8	7.4	0.2			0.1
Delay (s)	54.7	55.2	4.9			11.0
Level of Service	D	E	A			B
Approach Delay (s)	54.9		4.9			11.0
Approach LOS	D		A			B

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		

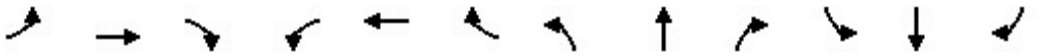
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	699	844	888	673	1500
v/c Ratio	0.50	1.28	1.08	1.29	0.92
Control Delay	30.3	169.7	102.2	177.8	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.3	169.7	102.2	177.8	38.7
Queue Length 50th (m)	75.0	~304.1	~98.9	~238.4	174.2
Queue Length 95th (m)	93.4	#385.7	#129.2	#315.9	#197.5
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1412	660	825	523	1638
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	1.28	1.08	1.29	0.92

Intersection Summary

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

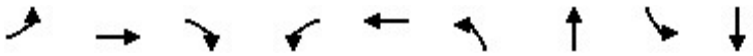
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	671	0	810	0	0	0	0	589	263	646	1440	0
Future Volume (vph)	671	0	810	0	0	0	0	589	263	646	1440	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					0.91		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.95		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3273		1468					3976		1719	3374	
Flt Permitted	0.95		1.00					1.00		0.13	1.00	
Satd. Flow (perm)	3273		1468					3976		241	3374	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	699	0	844	0	0	0	0	614	274	673	1500	0
RTOR Reduction (vph)	0	0	27	0	0	0	0	58	0	0	0	0
Lane Group Flow (vph)	699	0	817	0	0	0	0	830	0	673	1500	0
Confl. Peds. (#/hr)							3		1	1		3
Heavy Vehicles (%)	7%	0%	10%	0%	0%	0%	0%	26%	18%	5%	7%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	60.4		60.4					27.0		68.0	68.0	
Effective Green, g (s)	60.4		60.4					27.0		68.0	68.0	
Actuated g/C Ratio	0.43		0.43					0.19		0.49	0.49	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1412		633					766		518	1638	
v/s Ratio Prot								0.21		c0.35	0.44	
v/s Ratio Perm	0.21		c0.56							c0.28		
v/c Ratio	0.50		1.29					1.08		1.30	0.92	
Uniform Delay, d1	28.8		39.8					56.5		41.5	33.3	
Progression Factor	1.00		1.00					1.00		1.10	0.90	
Incremental Delay, d2	0.3		142.6					57.5		146.6	8.4	
Delay (s)	29.0		182.4					114.0		192.1	38.3	
Level of Service	C		F					F		F	D	
Approach Delay (s)		112.9			0.0			114.0			85.9	
Approach LOS		F			A			F			F	

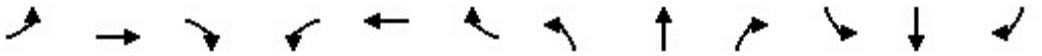
Intersection Summary			
HCM 2000 Control Delay	100.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	99.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	291	12	14	609	42	15	40	313
v/c Ratio	0.14	0.20	0.01	0.02	0.25	0.57	0.02	0.26	0.67
Control Delay	3.0	4.0	0.4	7.1	7.0	69.6	0.1	43.4	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.0	4.0	0.4	7.1	7.0	69.6	0.1	43.4	11.8
Queue Length 50th (m)	2.9	12.7	0.0	0.8	22.4	8.3	0.0	7.7	0.0
Queue Length 95th (m)	8.0	26.7	0.4	3.6	38.4	19.1	0.0	17.0	21.2
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	687	1428	1221	745	2427	241	909	501	777
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	0.13	0.20	0.01	0.02	0.25	0.17	0.02	0.08	0.40

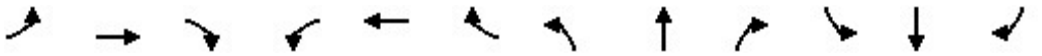
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	268	11	13	549	11	39	0	14	37	0	288
Future Volume (vph)	84	268	11	13	549	11	39	0	14	37	0	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3529		1770	1583		1770	1583	
Flt Permitted	0.40	1.00	1.00	0.58	1.00		0.36	1.00		0.75	1.00	
Satd. Flow (perm)	744	1863	1583	1084	3529		671	1583		1393	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	291	12	14	597	12	42	0	15	40	0	313
RTOR Reduction (vph)	0	0	3	0	1	0	0	13	0	0	278	0
Lane Group Flow (vph)	91	291	9	14	608	0	42	2	0	40	35	0
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	76.7	76.7	76.7	68.2	68.2		11.1	11.1		11.1	11.1	
Effective Green, g (s)	76.7	76.7	76.7	68.2	68.2		11.1	11.1		11.1	11.1	
Actuated g/C Ratio	0.77	0.77	0.77	0.68	0.68		0.11	0.11		0.11	0.11	
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	627	1428	1214	739	2406		74	175		154	175	
v/s Ratio Prot	0.01	c0.16			c0.17			0.00			0.02	
v/s Ratio Perm	0.10		0.01	0.01			c0.06			0.03		
v/c Ratio	0.15	0.20	0.01	0.02	0.25		0.57	0.01		0.26	0.20	
Uniform Delay, d1	2.9	3.2	2.7	5.1	6.1		42.2	39.6		40.7	40.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.0	0.0	0.3		9.6	0.0		0.9	0.6	
Delay (s)	3.0	3.5	2.7	5.2	6.4		51.8	39.6		41.6	41.0	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		3.4			6.3			48.6			41.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	226	57	32	413	29	133	0	53	24	0	6
Future Volume (Veh/h)	17	226	57	32	413	29	133	0	53	24	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	18	246	62	35	449	32	145	0	58	26	0	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.98			0.98	0.98	0.98	0.98	0.98	
vC, conflicting volume	481			308			839	864	277	906	879	465
vC1, stage 1 conf vol							313	313		535	535	
vC2, stage 2 conf vol							526	551		371	344	
vCu, unblocked vol	481			288			828	853	256	896	869	465
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			97			68	100	92	94	100	99
cM capacity (veh/h)	1082			1253			450	439	769	423	442	597

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	326	35	481	145	58	26	7
Volume Left	18	35	0	145	0	26	0
Volume Right	62	0	32	0	58	0	7
cSH	1082	1253	1700	450	769	423	597
Volume to Capacity	0.02	0.03	0.28	0.32	0.08	0.06	0.01
Queue Length 95th (m)	0.4	0.7	0.0	11.0	2.0	1.6	0.3
Control Delay (s)	0.6	8.0	0.0	16.7	10.1	14.1	11.1
Lane LOS	A	A		C	B	B	B
Approach Delay (s)	0.6	0.5		14.8		13.4	
Approach LOS				B		B	

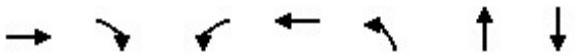
Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	50.4%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	201	111	42	51	552
v/c Ratio	0.27	0.13	0.20	0.11	0.50
Control Delay	7.6	2.2	15.6	13.2	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	2.2	15.6	13.2	5.1
Queue Length 50th (m)	7.0	0.0	2.5	3.0	3.3
Queue Length 95th (m)	17.9	5.2	8.4	8.7	12.3
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1274	1342	676	1533	2528
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.08	0.06	0.03	0.22

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	179	99	37	45	95	396
Future Volume (vph)	179	99	37	45	95	396
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.85	1.00	1.00	0.88	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1556	1615	1805	1900	3027	
Flt Permitted	0.95	1.00	0.44	1.00	1.00	
Satd. Flow (perm)	1556	1615	838	1900	3027	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	201	111	42	51	107	445
RTOR Reduction (vph)	0	58	0	0	333	0
Lane Group Flow (vph)	201	53	42	51	219	0
Heavy Vehicles (%)	16%	0%	0%	0%	0%	6%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	20.2	20.2	10.7	10.7	10.7	
Effective Green, g (s)	20.2	20.2	10.7	10.7	10.7	
Actuated g/C Ratio	0.48	0.48	0.25	0.25	0.25	
Clearance Time (s)	5.5	5.5	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	741	769	211	479	763	
v/s Ratio Prot	c0.13			0.03	c0.07	
v/s Ratio Perm		0.03	0.05			
v/c Ratio	0.27	0.07	0.20	0.11	0.29	
Uniform Delay, d1	6.7	6.0	12.5	12.2	12.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.5	0.1	0.2	
Delay (s)	6.9	6.0	12.9	12.3	13.0	
Level of Service	A	A	B	B	B	
Approach Delay (s)	6.6			12.6	13.0	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	42.4	Sum of lost time (s)	11.5
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	849	123	449	2048	53	164	6
v/c Ratio	0.46	0.17	0.68	0.75	0.44	0.29	0.03
Control Delay	17.2	8.7	10.7	8.7	52.6	1.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	8.7	10.7	8.7	52.6	1.3	0.3
Queue Length 50th (m)	52.2	5.3	17.4	91.3	10.4	0.0	0.0
Queue Length 95th (m)	91.4	19.4	52.0	149.8	22.1	0.0	0.0
Internal Link Dist (m)	440.3			358.4		862.1	50.9
Turn Bay Length (m)		20.0	55.0				
Base Capacity (vph)	1842	733	699	2740	320	740	407
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.17	0.64	0.75	0.17	0.22	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	781	113	413	1883	1	49	0	151	2	0	4
Future Volume (vph)	0	781	113	413	1883	1	49	0	151	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00		1.00	0.98			0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt		1.00	0.85	1.00	1.00		1.00	0.85			0.91	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		3438	1312	1769	3539		1442	1499			1443	
Flt Permitted		1.00	1.00	0.26	1.00		0.75	1.00			0.88	
Satd. Flow (perm)		3438	1312	484	3539		1145	1499			1289	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	849	123	449	2047	1	53	0	164	2	0	4
RTOR Reduction (vph)	0	0	30	0	0	0	0	147	0	0	5	0
Lane Group Flow (vph)	0	849	93	449	2048	0	53	17	0	0	1	0
Confl. Peds. (#/hr)	6		4	4		6	1		4	4		1
Heavy Vehicles (%)	0%	5%	21%	2%	2%	0%	25%	0%	6%	0%	0%	25%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		53.5	53.5	77.4	77.4		10.6	10.6			10.6	
Effective Green, g (s)		53.5	53.5	77.4	77.4		10.6	10.6			10.6	
Actuated g/C Ratio		0.54	0.54	0.77	0.77		0.11	0.11			0.11	
Clearance Time (s)		6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1839	701	643	2739		121	158			136	
v/s Ratio Prot		0.25		0.15	c0.58			0.01				
v/s Ratio Perm			0.07	0.39			c0.05				0.00	
v/c Ratio		0.46	0.13	0.70	0.75		0.44	0.11			0.00	
Uniform Delay, d1		14.4	11.6	6.2	6.1		41.9	40.4			40.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.8	0.4	3.3	1.9		2.5	0.3			0.0	
Delay (s)		15.2	12.0	9.5	8.0		44.4	40.7			40.0	
Level of Service		B	B	A	A		D	D			D	
Approach Delay (s)		14.8			8.3			41.6			40.0	
Approach LOS		B			A			D			D	

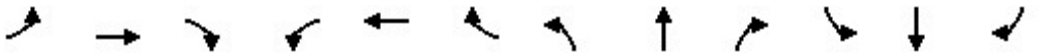
Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	90	1399	57	0	3154
Future Volume (Veh/h)	0	90	1399	57	0	3154
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	98	1521	62	0	3428
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			120			256
pX, platoon unblocked	0.69	0.91			0.91	
vC, conflicting volume	2664	507			1583	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	974	126			1305	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	88			100	
cM capacity (veh/h)	171	822			481	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	98	507	507	507	62	1143	1143	1143
Volume Left	0	0	0	0	0	0	0	0
Volume Right	98	0	0	0	62	0	0	0
cSH	822	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.12	0.30	0.30	0.30	0.04	0.67	0.67	0.67
Queue Length 95th (m)	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	10.0	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		



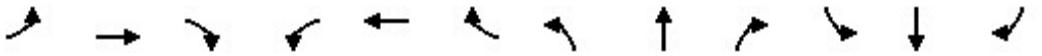
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	1245	389	249	670	243	413	1703	588	247	1204	150
v/c Ratio	0.82	1.01	0.53	1.10	0.64	0.40	1.08	1.00	0.94	1.12	0.97	0.31
Control Delay	41.8	72.0	8.8	116.1	46.7	7.6	78.8	59.1	46.4	130.9	70.2	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	72.0	8.8	116.1	46.7	7.6	78.8	59.1	46.4	130.9	70.2	7.9
Queue Length 50th (m)	55.4	~192.5	11.2	~55.5	90.8	2.3	~114.1	188.7	144.7	~64.5	127.9	0.0
Queue Length 95th (m)	#88.1	#243.6	40.6	#113.7	113.1	24.1	m#118.6	m187.2	m145.8	#121.6	#159.5	17.9
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	387	1238	740	227	1041	602	382	1707	628	221	1247	487
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	1.01	0.53	1.10	0.64	0.40	1.08	1.00	0.94	1.12	0.97	0.31

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	1220	381	244	657	238	405	1669	576	242	1180	147
Future Volume (vph)	301	1220	381	244	657	238	405	1669	576	242	1180	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.94	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1766	3539	1499	1786	3539	1490	1805	5085	1495	1752	4988	1501
Flt Permitted	0.22	1.00	1.00	0.14	1.00	1.00	0.11	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	403	3539	1499	273	3539	1490	200	5085	1495	211	4988	1501
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	307	1245	389	249	670	243	413	1703	588	247	1204	150
RTOR Reduction (vph)	0	0	216	0	0	164	0	0	126	0	0	113
Lane Group Flow (vph)	307	1245	173	249	670	79	413	1703	462	247	1204	38
Confl. Peds. (#/hr)	33		36	36		33	26		45	45		26
Heavy Vehicles (%)	2%	2%	2%	1%	2%	3%	0%	2%	1%	3%	4%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	63.0	49.0	49.0	52.2	41.2	41.2	63.0	47.0	47.0	48.0	35.0	35.0
Effective Green, g (s)	63.0	49.0	49.0	52.2	41.2	41.2	63.0	47.0	47.0	48.0	35.0	35.0
Actuated g/C Ratio	0.45	0.35	0.35	0.37	0.29	0.29	0.45	0.34	0.34	0.34	0.25	0.25
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	364	1238	524	220	1041	438	376	1707	501	215	1247	375
v/s Ratio Prot	c0.11	0.35		c0.09	0.19		c0.20	0.33		c0.11	0.24	
v/s Ratio Perm	0.27		0.12	c0.33		0.05	c0.30		0.31	0.29		0.02
v/c Ratio	0.84	1.01	0.33	1.13	0.64	0.18	1.10	1.00	0.92	1.15	0.97	0.10
Uniform Delay, d1	28.1	45.5	33.4	32.7	43.0	36.8	44.0	46.4	44.7	38.8	51.9	40.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.56	0.99	1.13	1.00	1.00	1.00
Incremental Delay, d2	16.1	27.0	1.7	100.7	3.1	0.9	60.4	13.4	12.7	107.3	18.5	0.5
Delay (s)	44.2	72.5	35.1	133.4	46.1	37.7	84.8	59.3	63.4	146.1	70.4	40.9
Level of Service	D	E	D	F	D	D	F	E	E	F	E	D
Approach Delay (s)		60.5			63.0			64.1			79.3	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	66.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	117.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

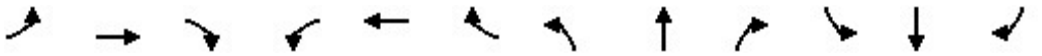
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	135	455	476	213	176	315	2246	572	180	1086	87
v/c Ratio	0.74	0.73	1.02	0.33	0.29	0.79	1.04	0.72	0.68	0.56	0.13
Control Delay	78.6	46.3	104.6	34.5	9.0	35.4	68.7	23.4	45.5	25.0	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.6	46.3	104.6	34.5	9.0	35.4	68.7	23.4	45.5	25.0	6.5
Queue Length 50th (m)	38.2	48.8	~74.0	46.2	7.7	45.9	~260.5	77.9	20.2	105.1	5.6
Queue Length 95th (m)	58.3	63.2	#111.4	61.5	22.7	89.7	#289.5	128.0	m#60.0	m117.8	m10.9
Internal Link Dist (m)		222.3		150.3			227.9			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	261	840	468	772	712	447	2167	791	263	1941	680
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.54	1.02	0.28	0.25	0.70	1.04	0.72	0.68	0.56	0.13

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	251	190	462	207	171	306	2179	555	175	1053	84
Future Volume (vph)	131	251	190	462	207	171	306	2179	555	175	1053	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	0.98	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1768	3296		3367	1881	1537	1787	5085	1503	1752	4988	1553
Flt Permitted	0.62	1.00		0.95	1.00	1.00	0.16	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1163	3296		3367	1881	1537	298	5085	1503	135	4988	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	135	259	196	476	213	176	315	2246	572	180	1086	87
RTOR Reduction (vph)	0	108	0	0	0	90	0	0	150	0	0	53
Lane Group Flow (vph)	135	347	0	476	213	86	315	2246	422	180	1086	34
Confl. Peds. (#/hr)	17		15	15		17	3		15	15		3
Heavy Vehicles (%)	0%	1%	1%	4%	1%	1%	1%	2%	3%	3%	4%	1%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	22.0	22.0		19.5	48.0	48.0	79.4	59.7	59.7	71.2	54.5	54.5
Effective Green, g (s)	22.0	22.0		19.5	48.0	48.0	79.4	59.7	59.7	71.2	54.5	54.5
Actuated g/C Ratio	0.16	0.16		0.14	0.34	0.34	0.57	0.43	0.43	0.51	0.39	0.39
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	182	517		468	644	526	401	2168	640	261	1941	604
v/s Ratio Prot		0.11		c0.14	0.11		c0.12	c0.44		0.08	0.22	
v/s Ratio Perm	c0.12					0.06	0.32		0.28	0.27		0.02
v/c Ratio	0.74	0.67		1.02	0.33	0.16	0.79	1.04	0.66	0.69	0.56	0.06
Uniform Delay, d1	56.3	55.6		60.2	34.1	32.0	22.3	40.1	32.0	36.3	33.4	26.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.20	0.69	3.41
Incremental Delay, d2	15.0	3.4		46.0	0.3	0.1	9.7	29.4	5.3	3.3	0.5	0.1
Delay (s)	71.3	59.0		106.2	34.4	32.2	32.0	69.5	37.3	47.0	23.6	91.2
Level of Service	E	E		F	C	C	C	E	D	D	C	F
Approach Delay (s)		61.8			73.5			59.9			31.0	
Approach LOS		E			E			E			C	

Intersection Summary			
HCM 2000 Control Delay	55.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	533	312	2849	685
v/c Ratio	0.71	0.89	0.88	0.22
Control Delay	39.9	62.8	19.7	8.1
Queue Delay	0.0	0.0	1.5	0.0
Total Delay	39.9	62.8	21.3	8.1
Queue Length 50th (m)	49.5	65.0	171.2	20.9
Queue Length 95th (m)	67.9	#115.1	199.1	27.0
Internal Link Dist (m)	299.5		196.8	100.5
Turn Bay Length (m)		95.0		
Base Capacity (vph)	812	383	3243	3151
Starvation Cap Reductn	0	0	223	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.66	0.81	0.94	0.22

Intersection Summary

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	219	618	2821	0	0	678
Future Volume (vph)	219	618	2821	0	0	678
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.91	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3027	1427	5085			4940
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3027	1427	5085			4940
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	221	624	2849	0	0	685
RTOR Reduction (vph)	2	2	0	0	0	0
Lane Group Flow (vph)	531	310	2849	0	0	685
Confl. Peds. (#/hr)				6	6	
Heavy Vehicles (%)	17%	3%	2%	0%	0%	5%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	24.6	24.6	63.8			63.8
Effective Green, g (s)	24.6	24.6	63.8			63.8
Actuated g/C Ratio	0.25	0.25	0.64			0.64
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	744	351	3244			3151
v/s Ratio Prot			c0.56			0.14
v/s Ratio Perm	0.18	c0.22				
v/c Ratio	0.71	0.88	0.88			0.22
Uniform Delay, d1	34.5	36.3	14.9			7.6
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	3.3	22.2	3.7			0.2
Delay (s)	37.8	58.6	18.6			7.8
Level of Service	D	E	B			A
Approach Delay (s)	45.4		18.6			7.8
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	124.3%	ICU Level of Service	H
Analysis Period (min)	15		

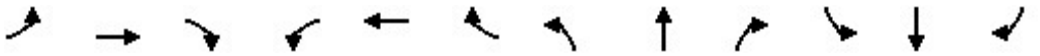
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	1684	474	2198	396	607
v/c Ratio	1.26	0.69	1.17	1.40	0.35
Control Delay	161.3	22.9	123.2	232.9	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	161.3	22.9	123.2	232.9	19.9
Queue Length 50th (m)	~317.0	58.6	~275.2	~137.5	52.3
Queue Length 95th (m)	#360.3	102.7	#304.6	#205.0	66.3
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1333	686	1871	283	1718
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.26	0.69	1.17	1.40	0.35

Intersection Summary

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

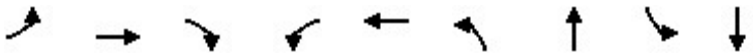
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1650	0	465	0	0	0	0	1806	348	388	595	0
Future Volume (vph)	1650	0	465	0	0	0	0	1806	348	388	595	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					*0.92		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.98		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3433		1392					4888		1770	3252	
Flt Permitted	0.95		1.00					1.00		0.07	1.00	
Satd. Flow (perm)	3433		1392					4888		133	3252	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1684	0	474	0	0	0	0	1843	355	396	607	0
RTOR Reduction (vph)	0	0	146	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	1684	0	328	0	0	0	0	2177	0	396	607	0
Confl. Peds. (#/hr)							5		6	6		5
Heavy Vehicles (%)	2%	0%	16%	0%	0%	0%	0%	4%	4%	2%	11%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	54.4		54.4					53.0		74.0	74.0	
Effective Green, g (s)	54.4		54.4					53.0		74.0	74.0	
Actuated g/C Ratio	0.39		0.39					0.38		0.53	0.53	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1333		540					1850		280	1718	
v/s Ratio Prot								0.45		c0.18	0.19	
v/s Ratio Perm	c0.49		0.24							c0.56		
v/c Ratio	1.26		0.61					1.18		1.41	0.35	
Uniform Delay, d1	42.8		34.3					43.5		46.3	19.1	
Progression Factor	1.00		1.00					1.00		1.00	1.00	
Incremental Delay, d2	124.7		1.9					85.7		206.3	0.6	
Delay (s)	167.5		36.2					129.2		252.6	19.7	
Level of Service	F		D					F		F	B	
Approach Delay (s)		138.6			0.0			129.2			111.7	
Approach LOS		F			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	129.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	124.3%	ICU Level of Service	H
Analysis Period (min)	15		

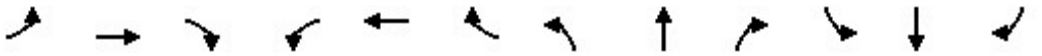
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	222	740	13	42	484	103	50	129	335
v/c Ratio	0.42	0.67	0.01	0.12	0.21	0.64	0.09	0.64	0.55
Control Delay	18.0	21.3	0.0	7.8	7.4	46.9	0.3	53.6	4.3
Queue Delay	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.0	22.6	0.0	7.8	7.4	46.9	0.3	53.6	4.3
Queue Length 50th (m)	26.2	108.6	0.0	2.6	17.3	16.6	0.0	25.1	0.0
Queue Length 95th (m)	57.0	#205.5	0.0	7.7	30.4	27.7	0.0	41.5	4.4
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	525	1104	985	361	2252	161	689	323	712
Starvation Cap Reductn	0	178	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	0.42	0.80	0.01	0.12	0.21	0.64	0.07	0.40	0.47

Intersection Summary

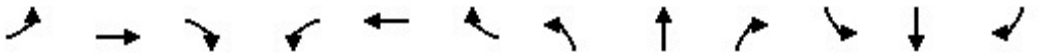
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	681	12	39	346	99	95	0	46	119	0	308
Future Volume (vph)	204	681	12	39	346	99	95	0	46	119	0	308
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3421		1770	1583		1770	1583	
Flt Permitted	0.48	1.00	1.00	0.21	1.00		0.21	1.00		0.72	1.00	
Satd. Flow (perm)	887	1863	1583	397	3421		382	1583		1349	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	222	740	13	42	376	108	103	0	50	129	0	335
RTOR Reduction (vph)	0	0	6	0	21	0	0	38	0	0	285	0
Lane Group Flow (vph)	222	740	7	42	463	0	103	12	0	129	50	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	57.1	57.1	57.1	64.3	64.3		23.5	23.5		15.0	15.0	
Effective Green, g (s)	57.1	57.1	57.1	64.3	64.3		23.5	23.5		15.0	15.0	
Actuated g/C Ratio	0.57	0.57	0.57	0.64	0.64		0.24	0.24		0.15	0.15	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	506	1063	903	312	2199		145	372		202	237	
v/s Ratio Prot		c0.40		0.01	c0.14		c0.03	0.01			0.03	
v/s Ratio Perm	0.25		0.00	0.08			c0.14			0.10		
v/c Ratio	0.44	0.70	0.01	0.13	0.21		0.71	0.03		0.64	0.21	
Uniform Delay, d1	12.3	15.3	9.2	10.3	7.4		34.3	29.5		40.0	37.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	3.8	0.0	0.2	0.2		15.1	0.0		6.5	0.4	
Delay (s)	15.0	19.0	9.3	10.5	7.6		49.4	29.5		46.4	37.8	
Level of Service	B	B	A	B	A		D	C		D	D	
Approach Delay (s)		18.0			7.8			42.9			40.2	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	657	143	114	303	92	110	0	66	76	0	50
Future Volume (Veh/h)	24	657	143	114	303	92	110	0	66	76	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	26	714	155	124	329	100	120	0	72	83	0	54
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.65			0.65	0.65	0.65	0.65	0.65	
vC, conflicting volume	429			869			1474	1520	792	1542	1548	379
vC1, stage 1 conf vol							844	844		627	627	
vC2, stage 2 conf vol							631	677		916	921	
vCu, unblocked vol	429			526			1461	1532	406	1566	1574	379
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			82			50	100	83	33	100	92
cM capacity (veh/h)	1130			674			239	245	418	124	168	668

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	895	124	429	120	72	83	54
Volume Left	26	124	0	120	0	83	0
Volume Right	155	0	100	0	72	0	54
cSH	1130	674	1700	239	418	124	668
Volume to Capacity	0.02	0.18	0.25	0.50	0.17	0.67	0.08
Queue Length 95th (m)	0.6	5.4	0.0	20.7	4.9	28.5	2.1
Control Delay (s)	0.6	11.5	0.0	34.4	15.4	78.7	10.9
Lane LOS	A	B		D	C	F	B
Approach Delay (s)	0.6	2.6		27.3		52.0	
Approach LOS				D		F	

Intersection Summary				
Average Delay	8.1			
Intersection Capacity Utilization	85.4%	ICU Level of Service		E
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	470	139	141	103	219
v/c Ratio	0.62	0.18	0.41	0.18	0.21
Control Delay	12.1	2.4	15.1	11.1	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	2.4	15.1	11.1	3.6
Queue Length 50th (m)	17.6	0.0	5.9	4.0	0.5
Queue Length 95th (m)	49.3	6.4	21.9	15.1	6.4
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1539	1410	789	1284	2180
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.31	0.10	0.18	0.08	0.10

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	432	128	130	95	25	177
Future Volume (vph)	432	128	130	95	25	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.85	1.00	1.00	0.87	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1615	1805	1900	3135	
Flt Permitted	0.95	1.00	0.61	1.00	1.00	
Satd. Flow (perm)	1787	1615	1168	1900	3135	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	470	139	141	103	27	192
RTOR Reduction (vph)	0	79	0	0	135	0
Lane Group Flow (vph)	470	60	141	103	84	0
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	14.4	14.4	10.0	10.0	10.0	
Effective Green, g (s)	14.4	14.4	10.0	10.0	10.0	
Actuated g/C Ratio	0.43	0.43	0.30	0.30	0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	770	696	349	568	938	
v/s Ratio Prot	c0.26			0.05	0.03	
v/s Ratio Perm		0.04	c0.12			
v/c Ratio	0.61	0.09	0.40	0.18	0.09	
Uniform Delay, d1	7.3	5.6	9.3	8.7	8.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.1	0.8	0.2	0.0	
Delay (s)	8.8	5.7	10.1	8.8	8.5	
Level of Service	A	A	B	A	A	
Approach Delay (s)	8.1			9.6	8.5	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	33.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	6	1588	97	210	887	72	515	12
v/c Ratio	0.02	0.89	0.12	0.89	0.40	0.19	0.95	0.04
Control Delay	13.7	31.1	6.2	57.7	10.8	29.2	52.4	22.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	31.1	6.2	57.7	10.8	29.2	52.4	22.2
Queue Length 50th (m)	0.6	151.6	3.3	25.5	46.9	11.1	71.6	1.2
Queue Length 95th (m)	2.9	#205.4	12.0	#69.9	60.2	22.8	#136.8	5.6
Internal Link Dist (m)		440.3			358.4		862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0				
Base Capacity (vph)	302	1778	799	237	2197	396	564	292
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.89	0.12	0.89	0.40	0.18	0.91	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1540	94	204	859	1	70	1	499	7	1	4
Future Volume (vph)	6	1540	94	204	859	1	70	1	499	7	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00		0.99	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1795	3574	1541	1805	3574		1795	1579			1753	
Flt Permitted	0.32	1.00	1.00	0.08	1.00		0.75	1.00			0.57	
Satd. Flow (perm)	606	3574	1541	144	3574		1417	1579			1035	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1588	97	210	886	1	72	1	514	7	1	4
RTOR Reduction (vph)	0	0	33	0	0	0	0	126	0	0	3	0
Lane Group Flow (vph)	6	1588	64	210	887	0	72	389	0	0	9	0
Confl. Peds. (#/hr)	8		4	4		8	5		1	1		5
Heavy Vehicles (%)	0%	1%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	49.8	49.8	49.8	61.5	61.5		26.5	26.5			26.5	
Effective Green, g (s)	49.8	49.8	49.8	61.5	61.5		26.5	26.5			26.5	
Actuated g/C Ratio	0.50	0.50	0.50	0.62	0.62		0.26	0.26			0.26	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	301	1779	767	233	2198		375	418			274	
v/s Ratio Prot		0.44		c0.08	0.25			c0.25				
v/s Ratio Perm	0.01		0.04	c0.48			0.05				0.01	
v/c Ratio	0.02	0.89	0.08	0.90	0.40		0.19	0.93			0.03	
Uniform Delay, d1	12.7	22.7	13.1	27.5	9.9		28.5	35.9			27.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	7.3	0.2	33.7	0.6		0.3	27.5			0.0	
Delay (s)	12.8	30.0	13.4	61.2	10.4		28.7	63.3			27.3	
Level of Service	B	C	B	E	B		C	E			C	
Approach Delay (s)		29.0			20.1			59.1			27.3	
Approach LOS		C			C			E			C	

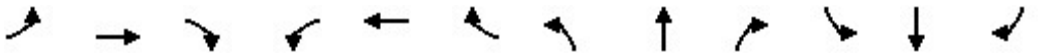
Intersection Summary			
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	53	1070	66	0	2421
Future Volume (Veh/h)	0	53	1070	66	0	2421
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	58	1163	72	0	2632
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			124			252
pX, platoon unblocked	0.84					
vC, conflicting volume	2040	388			1235	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1565	388			1235	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	91			100	
cM capacity (veh/h)	86	611			560	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	58	388	388	388	72	877	877	877
Volume Left	0	0	0	0	0	0	0	0
Volume Right	58	0	0	0	72	0	0	0
cSH	611	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.23	0.23	0.23	0.04	0.52	0.52	0.52
Queue Length 95th (m)	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	11.5	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	798	638	299	827	262	342	1313	509	220	1188	193
v/c Ratio	0.70	0.68	0.83	0.79	0.70	0.37	0.93	0.80	0.74	0.87	0.89	0.35
Control Delay	35.4	44.2	27.8	40.2	44.8	5.4	55.1	50.2	32.6	66.6	60.0	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	44.2	27.8	40.2	44.8	5.4	55.1	50.2	32.6	66.6	60.0	7.2
Queue Length 50th (m)	34.0	105.7	79.5	52.9	111.8	0.0	92.2	140.4	101.1	45.4	124.5	0.0
Queue Length 95th (m)	51.4	129.6	138.6	#83.9	136.5	20.0	m#113.2	m158.8	m123.1	#90.8	#151.9	19.7
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	305	1174	773	380	1183	704	380	1642	688	263	1328	556
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.68	0.83	0.79	0.70	0.37	0.90	0.80	0.74	0.84	0.89	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	774	619	290	802	254	332	1274	494	213	1152	187
Future Volume (vph)	196	774	619	290	802	254	332	1274	494	213	1152	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3574	1599	1881	3574	1599	1805	5136	1599	1787	5136	1599
Flt Permitted	0.17	1.00	1.00	0.28	1.00	1.00	0.10	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	324	3574	1599	536	3574	1599	194	5136	1599	208	5136	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	202	798	638	299	827	262	342	1313	509	220	1188	193
RTOR Reduction (vph)	0	0	248	0	0	175	0	0	177	0	0	143
Lane Group Flow (vph)	202	798	390	299	827	87	342	1313	332	220	1188	50
Heavy Vehicles (%)	2%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	59.6	46.0	46.0	60.4	46.4	46.4	63.0	44.8	44.8	51.4	36.2	36.2
Effective Green, g (s)	59.6	46.0	46.0	60.4	46.4	46.4	63.0	44.8	44.8	51.4	36.2	36.2
Actuated g/C Ratio	0.43	0.33	0.33	0.43	0.33	0.33	0.45	0.32	0.32	0.37	0.26	0.26
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	278	1174	525	365	1184	529	361	1643	511	247	1328	413
v/s Ratio Prot	0.07	0.22		c0.08	0.23		c0.16	0.26		0.10	0.23	
v/s Ratio Perm	0.24		0.24	c0.27		0.05	c0.27		0.21	0.23		0.03
v/c Ratio	0.73	0.68	0.74	0.82	0.70	0.16	0.95	0.80	0.65	0.89	0.89	0.12
Uniform Delay, d1	28.7	40.6	41.8	27.0	40.7	33.1	42.6	43.5	40.8	36.0	50.1	39.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.68	1.07	1.32	1.00	1.00	1.00
Incremental Delay, d2	9.1	3.2	9.2	13.4	3.4	0.7	28.7	3.3	4.9	30.3	9.6	0.6
Delay (s)	37.8	43.8	51.0	40.4	44.1	33.8	57.6	49.6	58.8	66.3	59.6	40.3
Level of Service	D	D	D	D	D	C	E	D	E	E	E	D
Approach Delay (s)		45.9			41.4			53.1			58.2	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	50.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	96.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

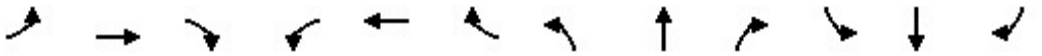
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	560	851	356	238	335	1382	427	234	1248	97
v/c Ratio	0.52	0.82	1.03	0.42	0.29	0.81	0.91	0.66	0.76	1.02	0.21
Control Delay	63.2	48.9	89.9	27.1	3.4	54.3	58.7	25.2	40.4	65.9	5.8
Queue Delay	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.2	48.9	89.9	27.8	3.4	54.3	58.7	25.2	40.4	65.9	5.8
Queue Length 50th (m)	24.0	59.5	~135.9	69.4	0.8	79.8	156.3	45.9	26.6	~143.1	7.7
Queue Length 95th (m)	40.7	76.5	#177.7	86.6	14.6	#150.7	#171.6	77.1	m#72.2	#175.4	m8.9
Internal Link Dist (m)		222.3		150.3			234.4			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	232	866	829	960	911	413	1527	643	308	1224	457
Starvation Cap Reductn	0	0	0	326	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.65	1.03	0.56	0.26	0.81	0.91	0.66	0.76	1.02	0.21

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	259	267	800	335	224	315	1299	401	220	1173	91
Future Volume (vph)	84	259	267	800	335	224	315	1299	401	220	1173	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1793	3259		3467	1881	1562	1787	5136	1555	1787	5136	1520
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.11	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	1034	3259		3467	1881	1562	207	5136	1555	225	5136	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	89	276	284	851	356	238	335	1382	427	234	1248	97
RTOR Reduction (vph)	0	143	0	0	0	128	0	0	181	0	0	74
Lane Group Flow (vph)	89	417	0	851	356	110	335	1382	246	234	1248	23
Confl. Peds. (#/hr)	7		3	3		7	7		3	3		7
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	1%	1%	2%	1%	1%	2%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	23.2	23.2		33.5	63.2	63.2	64.2	41.6	41.6	53.0	33.4	33.4
Effective Green, g (s)	23.2	23.2		33.5	63.2	63.2	64.2	41.6	41.6	53.0	33.4	33.4
Actuated g/C Ratio	0.17	0.17		0.24	0.45	0.45	0.46	0.30	0.30	0.38	0.24	0.24
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	171	540		829	849	705	408	1526	462	303	1225	362
v/s Ratio Prot		c0.13		c0.25	0.19		c0.16	0.27		0.11	c0.24	
v/s Ratio Perm	0.09					0.07	0.21		0.16	0.18		0.02
v/c Ratio	0.52	0.77		1.03	0.42	0.16	0.82	0.91	0.53	0.77	1.02	0.06
Uniform Delay, d1	53.3	55.9		53.2	26.0	22.7	39.1	47.3	41.1	34.9	53.3	41.2
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.13	1.06	1.20	0.93	0.81	1.69
Incremental Delay, d2	2.8	6.8		38.2	0.3	0.1	11.3	8.5	3.9	5.9	22.8	0.2
Delay (s)	56.2	62.7		91.4	26.3	22.8	55.4	58.5	53.3	38.3	65.8	69.7
Level of Service	E	E		F	C	C	E	E	D	D	E	E
Approach Delay (s)		61.8			64.1			57.0			61.9	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	60.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	537	282	1905	1205
v/c Ratio	0.70	0.81	0.54	0.34
Control Delay	52.8	66.4	11.7	9.7
Queue Delay	0.1	0.0	0.3	0.0
Total Delay	52.9	66.4	12.0	9.7
Queue Length 50th (m)	72.9	82.8	65.7	41.2
Queue Length 95th (m)	84.2	110.6	m63.6	m42.7
Internal Link Dist (m)	299.5		196.8	94.0
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1161	523	3527	3527
Starvation Cap Reductn	0	0	785	0
Spillback Cap Reductn	114	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.54	0.69	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	245	541	1829	0	0	1157
Future Volume (vph)	245	541	1829	0	0	1157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3286	1470	5136			5136
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3286	1470	5136			5136
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	255	564	1905	0	0	1205
RTOR Reduction (vph)	8	8	0	0	0	0
Lane Group Flow (vph)	529	274	1905	0	0	1205
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	2%	0%	1%	0%	0%	1%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	32.3	32.3	96.1			96.1
Effective Green, g (s)	32.3	32.3	96.1			96.1
Actuated g/C Ratio	0.23	0.23	0.69			0.69
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	758	339	3525			3525
v/s Ratio Prot			c0.37			0.23
v/s Ratio Perm	0.16	c0.19				
v/c Ratio	0.70	0.81	0.54			0.34
Uniform Delay, d1	49.4	50.9	10.9			9.0
Progression Factor	1.00	1.00	0.98			0.98
Incremental Delay, d2	2.8	13.1	0.1			0.1
Delay (s)	52.2	64.0	10.7			8.9
Level of Service	D	E	B			A
Approach Delay (s)	56.3		10.7			8.9
Approach LOS	E		B			A

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	100.8%	ICU Level of Service	G
Analysis Period (min)	15		

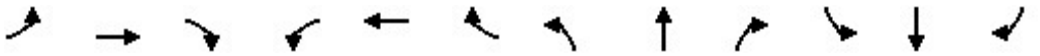
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	1258	463	1388	696	792
v/c Ratio	1.03	0.71	1.05	1.05	0.40
Control Delay	77.5	30.9	85.7	87.4	27.6
Queue Delay	0.0	0.0	0.0	1.7	0.0
Total Delay	77.5	30.9	85.7	89.2	27.6
Queue Length 50th (m)	~201.4	75.3	~155.8	~181.3	87.5
Queue Length 95th (m)	#245.4	119.3	#187.5	#261.3	100.7
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1223	649	1323	662	1997
Starvation Cap Reductn	0	0	0	3	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.03	0.71	1.05	1.06	0.40

Intersection Summary

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

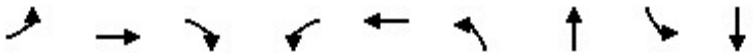
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1157	0	426	0	0	0	0	941	336	640	729	0
Future Volume (vph)	1157	0	426	0	0	0	0	941	336	640	729	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					0.91		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.96		1.00	1.00	
Flt Protected	0.95		1.00					1.00		1.00	1.00	
Satd. Flow (prot)	3467		1524					4829		1880	3539	
Flt Permitted	0.95		1.00					1.00		0.24	1.00	
Satd. Flow (perm)	3467		1524					4829		451	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1258	0	463	0	0	0	0	1023	365	696	792	0
RTOR Reduction (vph)	0	0	111	0	0	0	0	46	0	0	0	0
Lane Group Flow (vph)	1258	0	352	0	0	0	0	1342	0	696	792	0
Confl. Peds. (#/hr)							1		4	4		1
Heavy Vehicles (%)	1%	0%	6%	0%	0%	0%	0%	2%	3%	1%	2%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	49.4		49.4					37.0		79.0	79.0	
Effective Green, g (s)	49.4		49.4					37.0		79.0	79.0	
Actuated g/C Ratio	0.35		0.35					0.26		0.56	0.56	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1223		537					1276		652	1997	
v/s Ratio Prot								0.28		c0.30	0.22	
v/s Ratio Perm	c0.36		0.23							c0.30		
v/c Ratio	1.03		0.65					1.05		1.07	0.40	
Uniform Delay, d1	45.3		38.1					51.5		30.6	17.1	
Progression Factor	1.00		1.00					1.00		1.40	1.57	
Incremental Delay, d2	33.3		2.9					39.9		53.8	0.6	
Delay (s)	78.6		41.0					91.4		96.6	27.4	
Level of Service	E		D					F		F	C	
Approach Delay (s)		68.5			0.0			91.4			59.8	
Approach LOS		E			A			F			E	

Intersection Summary			
HCM 2000 Control Delay	72.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	100.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

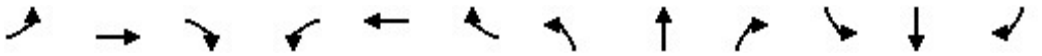


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	337	492	16	43	766	120	50	163	514
v/c Ratio	0.93	0.49	0.02	0.09	0.37	0.72	0.07	0.64	1.01
Control Delay	58.3	17.4	0.1	7.7	10.7	52.9	0.2	49.9	64.5
Queue Delay	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	18.0	0.1	7.7	10.7	52.9	0.2	49.9	64.5
Queue Length 50th (m)	65.7	65.0	0.0	3.1	37.7	18.3	0.0	30.9	~60.1
Queue Length 95th (m)	#126.8	94.8	0.0	7.2	49.7	#41.5	0.0	#54.7	#129.9
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	362	1004	906	481	2064	167	730	256	508
Starvation Cap Reductn	0	203	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	0.93	0.61	0.02	0.09	0.37	0.72	0.07	0.64	1.01

Intersection Summary

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

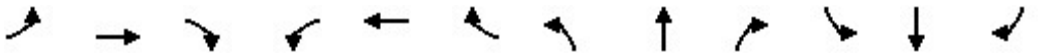
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	453	15	40	599	106	110	0	46	150	0	473
Future Volume (vph)	310	453	15	40	599	106	110	0	46	150	0	473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3460		1770	1583		1770	1583	
Flt Permitted	0.36	1.00	1.00	0.36	1.00		0.17	1.00		0.72	1.00	
Satd. Flow (perm)	673	1863	1583	665	3460		317	1583		1349	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	492	16	43	651	115	120	0	50	163	0	514
RTOR Reduction (vph)	0	0	8	0	14	0	0	36	0	0	208	0
Lane Group Flow (vph)	337	492	8	43	752	0	120	14	0	163	306	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	52.7	52.7	52.7	59.3	59.3		28.5	28.5		19.0	19.0	
Effective Green, g (s)	52.7	52.7	52.7	59.3	59.3		28.5	28.5		19.0	19.0	
Actuated g/C Ratio	0.53	0.53	0.53	0.59	0.59		0.28	0.28		0.19	0.19	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	354	981	834	434	2051		162	451		256	300	
v/s Ratio Prot		0.26		0.00	c0.22		c0.04	0.01			c0.19	
v/s Ratio Perm	c0.50		0.01	0.06			0.17			0.12		
v/c Ratio	0.95	0.50	0.01	0.10	0.37		0.74	0.03		0.64	1.02	
Uniform Delay, d1	22.4	15.2	11.2	9.6	10.6		30.0	25.8		37.3	40.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	37.1	1.8	0.0	0.1	0.5		16.6	0.0		5.1	57.0	
Delay (s)	59.5	17.0	11.3	9.7	11.1		46.6	25.8		42.4	97.5	
Level of Service	E	B	B	A	B		D	C		D	F	
Approach Delay (s)		33.9			11.0			40.5			84.3	
Approach LOS		C			B			D			F	

Intersection Summary			
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	91.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	441	141	110	504	144	150	0	92	93	0	57
Future Volume (Veh/h)	35	441	141	110	504	144	150	0	92	93	0	57
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	38	479	153	120	548	157	163	0	100	101	0	62
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.77			0.77	0.77	0.77	0.77	0.77	
vC, conflicting volume	705			632			1482	1576	556	1598	1574	626
vC1, stage 1 conf vol							632	632		866	866	
vC2, stage 2 conf vol							850	945		732	708	
vCu, unblocked vol	705			366			1476	1600	266	1628	1597	626
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			87			22	100	83	43	100	87
cM capacity (veh/h)	893			913			208	226	591	177	221	484

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	670	120	705	163	100	101	62
Volume Left	38	120	0	163	0	101	0
Volume Right	153	0	157	0	100	0	62
cSH	893	913	1700	208	591	177	484
Volume to Capacity	0.04	0.13	0.41	0.78	0.17	0.57	0.13
Queue Length 95th (m)	1.1	3.6	0.0	44.0	4.8	24.2	3.5
Control Delay (s)	1.1	9.5	0.0	65.7	12.3	49.3	13.5
Lane LOS	A	A		F	B	E	B
Approach Delay (s)	1.1	1.4		45.4		35.7	
Approach LOS				E		E	

Intersection Summary				
Average Delay	10.2			
Intersection Capacity Utilization	83.0%	ICU Level of Service	E	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	409	190	207	52	592
v/c Ratio	0.65	0.28	0.64	0.07	0.37
Control Delay	18.3	3.8	20.6	8.0	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.3	3.8	20.6	8.0	2.4
Queue Length 50th (m)	22.8	0.0	10.7	2.0	1.7
Queue Length 95th (m)	62.1	10.1	32.3	7.3	8.7
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1030	998	596	1427	2490
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.19	0.35	0.04	0.24

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	356	165	180	45	75	440
Future Volume (vph)	356	165	180	45	75	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.87	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1593	1805	1900	3147	
Flt Permitted	0.95	1.00	0.42	1.00	1.00	
Satd. Flow (perm)	1787	1593	794	1900	3147	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	409	190	207	52	86	506
RTOR Reduction (vph)	0	122	0	0	295	0
Lane Group Flow (vph)	409	68	207	52	297	0
Confl. Peds. (#/hr)	1	2				
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	14.5	14.5	16.8	16.8	16.8	
Effective Green, g (s)	14.5	14.5	16.8	16.8	16.8	
Actuated g/C Ratio	0.36	0.36	0.42	0.42	0.42	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	642	573	330	792	1311	
v/s Ratio Prot	c0.23			0.03	0.09	
v/s Ratio Perm		0.04	c0.26			
v/c Ratio	0.64	0.12	0.63	0.07	0.23	
Uniform Delay, d1	10.7	8.6	9.3	7.0	7.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.1	3.7	0.0	0.1	
Delay (s)	12.8	8.7	13.0	7.1	7.7	
Level of Service	B	A	B	A	A	
Approach Delay (s)	11.5			11.8	7.7	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	40.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	11	1435	153	339	1218	42	423	9
v/c Ratio	0.05	0.72	0.17	0.78	0.45	0.21	0.87	0.07
Control Delay	17.3	24.2	10.8	38.4	6.8	44.5	31.6	29.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	24.2	10.8	38.4	6.8	44.5	31.6	29.4
Queue Length 50th (m)	1.2	134.8	11.2	49.5	47.3	9.4	28.3	0.9
Queue Length 95th (m)	5.2	196.1	27.0	#103.6	89.4	18.4	62.9	5.3
Internal Link Dist (m)		440.3			358.4		862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0				
Base Capacity (vph)	244	2003	894	454	2717	332	609	226
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.72	0.17	0.75	0.45	0.13	0.69	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1320	141	312	1120	1	39	3	386	1	3	5
Future Volume (vph)	10	1320	141	312	1120	1	39	3	386	1	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.93	
Flt Protected	0.95	1.00	1.00	0.98	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1799	3574	1552	1862	3574		1800	1596			1734	
Flt Permitted	0.23	1.00	1.00	0.09	1.00		0.75	1.00			0.55	
Satd. Flow (perm)	436	3574	1552	176	3574		1425	1596			953	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1435	153	339	1217	1	42	3	420	1	3	5
RTOR Reduction (vph)	0	0	24	0	0	0	0	266	0	0	4	0
Lane Group Flow (vph)	11	1435	129	339	1218	0	42	157	0	0	5	0
Confl. Peds. (#/hr)	7		5	5		7	2		1	1		2
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	67.2	67.2	67.2	91.2	91.2		16.8	16.8			16.8	
Effective Green, g (s)	67.2	67.2	67.2	91.2	91.2		16.8	16.8			16.8	
Actuated g/C Ratio	0.56	0.56	0.56	0.76	0.76		0.14	0.14			0.14	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	244	2001	869	428	2716		199	223			133	
v/s Ratio Prot		0.40		c0.14	0.34			c0.10				
v/s Ratio Perm	0.03		0.08	c0.46			0.03				0.00	
v/c Ratio	0.05	0.72	0.15	0.79	0.45		0.21	0.71			0.04	
Uniform Delay, d1	11.9	19.4	12.7	30.4	5.2		45.7	49.2			44.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.3	2.2	0.4	9.7	0.5		0.5	9.7			0.1	
Delay (s)	12.3	21.7	13.0	40.1	5.8		46.3	59.0			44.7	
Level of Service	B	C	B	D	A		D	E			D	
Approach Delay (s)		20.8			13.3			57.8			44.7	
Approach LOS		C			B			E			D	

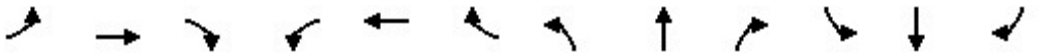
Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	140	2228	167	0	2304
Future Volume (Veh/h)	0	140	2228	167	0	2304
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	152	2422	182	0	2504
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			118			258
pX, platoon unblocked	0.87	0.82			0.82	
vC, conflicting volume	3257	807			2604	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1637	0			2179	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	83			100	
cM capacity (veh/h)	79	886			197	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	152	807	807	807	182	835	835	835
Volume Left	0	0	0	0	0	0	0	0
Volume Right	152	0	0	0	182	0	0	0
cSH	886	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.17	0.47	0.47	0.47	0.11	0.49	0.49	0.49
Queue Length 95th (m)	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.9	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	401	218	389	646	200	358	816	191	313	2001	193
v/c Ratio	0.51	0.72	0.52	1.19	0.86	0.43	0.96	0.42	0.25	0.67	1.04	0.29
Control Delay	45.6	63.9	10.9	146.5	65.9	9.0	56.9	27.6	10.5	20.8	74.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	63.9	10.9	146.5	65.9	9.0	56.9	27.6	10.5	20.8	74.2	4.9
Queue Length 50th (m)	17.4	59.0	0.0	~101.0	97.0	0.0	86.5	77.5	29.2	40.1	~236.0	0.0
Queue Length 95th (m)	31.0	78.1	24.1	#167.0	#128.6	21.7	#139.9	95.8	47.5	57.3	#266.2	16.3
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	171	554	423	328	750	463	388	1957	756	646	1919	669
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.72	0.52	1.19	0.86	0.43	0.92	0.42	0.25	0.48	1.04	0.29

Intersection Summary

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	385	209	373	620	192	344	783	183	300	1921	185
Future Volume (vph)	81	385	209	373	620	192	344	783	183	300	1921	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1639	3374	1467	1764	3539	1445	1736	4472	1483	1699	4940	1421
Flt Permitted	0.19	1.00	1.00	0.29	1.00	1.00	0.07	1.00	1.00	0.32	1.00	1.00
Satd. Flow (perm)	336	3374	1467	533	3539	1445	127	4472	1483	574	4940	1421
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	84	401	218	389	646	200	358	816	191	312	2001	193
RTOR Reduction (vph)	0	0	182	0	0	158	0	0	107	0	0	118
Lane Group Flow (vph)	84	401	36	389	646	42	358	816	84	313	2001	75
Confl. Peds. (#/hr)	19		22	22		19	32		20	20		32
Heavy Vehicles (%)	10%	7%	6%	2%	2%	8%	4%	16%	5%	6%	5%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	31.8	23.0	23.0	43.0	29.7	29.7	83.0	61.3	61.3	73.1	54.4	54.4
Effective Green, g (s)	31.8	23.0	23.0	43.0	29.7	29.7	83.0	61.3	61.3	73.1	54.4	54.4
Actuated g/C Ratio	0.23	0.16	0.16	0.31	0.21	0.21	0.59	0.44	0.44	0.52	0.39	0.39
Clearance Time (s)	4.5	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	158	554	241	313	750	306	369	1958	649	449	1919	552
v/s Ratio Prot	0.03	0.12		c0.15	0.18		c0.18	0.18		0.09	c0.41	
v/s Ratio Perm	0.09		0.02	c0.23		0.03	0.40		0.06	0.27		0.05
v/c Ratio	0.53	0.72	0.15	1.24	0.86	0.14	0.97	0.42	0.13	0.70	1.04	0.14
Uniform Delay, d1	44.7	55.5	50.1	44.1	53.2	44.8	46.3	27.1	23.4	19.6	42.8	27.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.43	0.96	2.64	1.00	1.00	1.00
Incremental Delay, d2	3.4	8.0	1.3	133.4	12.4	0.9	37.9	0.6	0.4	4.7	32.7	0.5
Delay (s)	48.1	63.5	51.4	177.5	65.6	45.7	57.8	26.7	62.3	24.3	75.5	28.1
Level of Service	D	E	D	F	E	D	E	C	E	C	E	C
Approach Delay (s)		57.9			97.6			39.8			65.5	
Approach LOS		E			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	65.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	125.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	348	918	152	60	189	979	285	71	2234	221
v/c Ratio	0.32	1.02dr	1.37	0.23	0.11	0.63	0.44	0.36	0.23	1.20	0.32
Control Delay	59.6	56.1	215.8	29.6	6.2	40.5	35.8	10.5	9.0	125.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.6	56.1	215.8	29.6	6.2	40.5	35.8	10.5	9.0	125.7	11.0
Queue Length 50th (m)	12.6	40.8	~181.3	29.9	0.0	39.3	83.9	13.5	7.0	~294.6	27.2
Queue Length 95th (m)	25.1	56.4	#223.7	44.1	9.2	#79.7	95.6	34.2	m8.9	m#269.7	m25.2
Internal Link Dist (m)		222.3		150.3			232.4			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	254	738	672	843	696	300	2204	783	312	1866	683
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.47	1.37	0.18	0.09	0.63	0.44	0.36	0.23	1.20	0.32

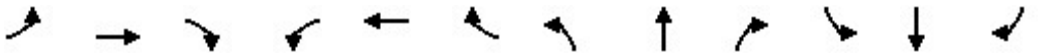
Intersection Summary

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	69	251	845	140	55	174	901	262	65	2055	203
Future Volume (vph)	43	69	251	845	140	55	174	901	262	65	2055	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.98		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.95
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.88		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1630	3018		3303	1776	1401	1770	4759	1372	1804	5036	1468
Flt Permitted	0.66	1.00		0.95	1.00	1.00	0.07	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	1133	3018		3303	1776	1401	136	4759	1372	529	5036	1468
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	75	273	918	152	60	189	979	285	71	2234	221
RTOR Reduction (vph)	0	67	0	0	0	37	0	0	149	0	0	139
Lane Group Flow (vph)	47	281	0	918	152	23	189	979	136	71	2234	82
Confl. Peds. (#/hr)	5		8	8		5	9		6	6		9
Heavy Vehicles (%)	10%	6%	3%	6%	7%	13%	2%	9%	14%	0%	3%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	2	0	0	0
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	18.2	18.2		28.5	53.2	53.2	74.2	64.3	64.3	58.8	51.9	51.9
Effective Green, g (s)	18.2	18.2		28.5	53.2	53.2	74.2	64.3	64.3	58.8	51.9	51.9
Actuated g/C Ratio	0.13	0.13		0.20	0.38	0.38	0.53	0.46	0.46	0.42	0.37	0.37
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	147	392		672	674	532	297	2185	630	285	1866	544
v/s Ratio Prot		c0.09		c0.28	0.09		c0.09	0.21		0.01	c0.44	
v/s Ratio Perm	0.04					0.02	0.25		0.10	0.09		0.06
v/c Ratio	0.32	1.02dr		1.37	0.23	0.04	0.64	0.45	0.22	0.25	1.20	0.15
Uniform Delay, d1	55.3	58.4		55.8	29.4	27.4	35.8	25.8	22.7	24.5	44.1	29.4
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.04	1.31	2.67	0.54	0.92	2.96
Incremental Delay, d2	1.3	6.1		174.2	0.2	0.0	4.2	0.6	0.7	0.0	89.3	0.1
Delay (s)	56.5	64.6		229.9	29.6	27.4	41.3	34.4	61.3	13.2	129.7	86.9
Level of Service	E	E		F	C	C	D	C	E	B	F	F
Approach Delay (s)		63.6			192.2			40.6			122.7	
Approach LOS		E			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	111.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	672	308	1052	1672
v/c Ratio	0.80	0.76	0.34	0.52
Control Delay	54.2	48.1	5.6	12.6
Queue Delay	0.3	0.0	0.0	0.0
Total Delay	54.5	48.1	5.6	12.6
Queue Length 50th (m)	91.5	70.5	19.0	75.5
Queue Length 95th (m)	104.0	101.4	m23.5	m63.4
Internal Link Dist (m)	299.5		196.8	96.1
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1257	574	3099	3244
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	155	0	0	177
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.61	0.54	0.34	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	511	439	1020	0	0	1622
Future Volume (vph)	511	439	1020	0	0	1622
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3201	1361	4673			4893
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3201	1361	4673			4893
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	527	453	1052	0	0	1672
RTOR Reduction (vph)	22	57	0	0	0	0
Lane Group Flow (vph)	650	251	1052	0	0	1672
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	7%	8%	11%	0%	0%	6%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	35.6	35.6	92.8			92.8
Effective Green, g (s)	35.6	35.6	92.8			92.8
Actuated g/C Ratio	0.25	0.25	0.66			0.66
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	813	346	3097			3243
v/s Ratio Prot			0.23			c0.34
v/s Ratio Perm	c0.20	0.18				
v/c Ratio	0.80	0.72	0.34			0.52
Uniform Delay, d1	48.9	47.7	10.3			12.1
Progression Factor	1.00	1.00	0.49			0.97
Incremental Delay, d2	5.5	7.3	0.2			0.1
Delay (s)	54.4	55.0	5.2			11.8
Level of Service	D	E	A			B
Approach Delay (s)	54.6		5.2			11.8
Approach LOS	D		A			B

Intersection Summary			
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

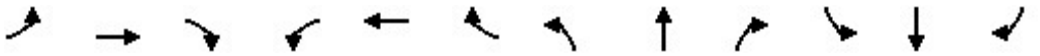
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	700	844	883	672	1505
v/c Ratio	0.47	1.22	1.07	1.38	0.96
Control Delay	28.0	145.9	100.7	218.2	46.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	145.9	100.7	218.2	46.5
Queue Length 50th (m)	72.0	~294.9	~97.8	~249.3	246.0
Queue Length 95th (m)	89.7	#376.5	#128.1	#326.9	#268.1
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1482	690	824	486	1566
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	1.22	1.07	1.38	0.96

Intersection Summary

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

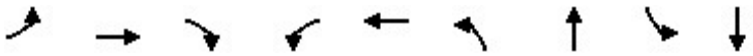
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	672	0	810	0	0	0	0	585	263	645	1445	0
Future Volume (vph)	672	0	810	0	0	0	0	585	263	645	1445	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					0.91		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.95		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3273		1468					3975		1719	3374	
Flt Permitted	0.95		1.00					1.00		0.13	1.00	
Satd. Flow (perm)	3273		1468					3975		241	3374	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	700	0	844	0	0	0	0	609	274	672	1505	0
RTOR Reduction (vph)	0	0	26	0	0	0	0	58	0	0	0	0
Lane Group Flow (vph)	700	0	818	0	0	0	0	825	0	672	1505	0
Confl. Peds. (#/hr)							3		1	1		3
Heavy Vehicles (%)	7%	0%	10%	0%	0%	0%	0%	26%	18%	5%	7%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	63.4		63.4					27.0		65.0	65.0	
Effective Green, g (s)	63.4		63.4					27.0		65.0	65.0	
Actuated g/C Ratio	0.45		0.45					0.19		0.46	0.46	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1482		664					766		481	1566	
v/s Ratio Prot								0.21		c0.35	0.45	
v/s Ratio Perm	0.21		c0.56							c0.30		
v/c Ratio	0.47		1.23					1.08		1.40	0.96	
Uniform Delay, d1	26.7		38.3					56.5		42.1	36.3	
Progression Factor	1.00		1.00					1.00		1.10	0.89	
Incremental Delay, d2	0.2		117.4					55.2		189.4	13.8	
Delay (s)	26.9		155.7					111.7		235.8	46.1	
Level of Service	C		F					F		F	D	
Approach Delay (s)		97.3			0.0			111.7			104.7	
Approach LOS		F			A			F			F	

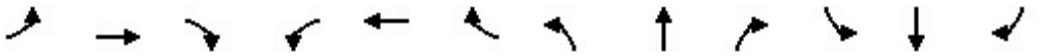
Intersection Summary			
HCM 2000 Control Delay	103.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	91	280	12	14	652	42	15	40	313
v/c Ratio	0.15	0.20	0.01	0.02	0.28	0.38	0.02	0.29	0.72
Control Delay	4.4	5.4	0.0	9.6	9.2	43.3	0.1	45.6	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.4	5.4	0.0	9.6	9.2	43.3	0.1	45.6	15.1
Queue Length 50th (m)	3.9	15.7	0.0	1.0	29.1	7.4	0.0	7.9	1.0
Queue Length 95th (m)	10.8	33.5	0.0	4.4	50.6	15.5	0.0	17.0	25.6
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	616	1369	1185	715	2306	111	946	473	741
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	0.15	0.20	0.01	0.02	0.28	0.38	0.02	0.08	0.42

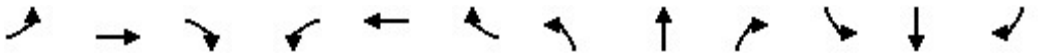
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	258	11	13	589	11	39	0	14	37	0	288
Future Volume (vph)	84	258	11	13	589	11	39	0	14	37	0	288
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3529		1770	1583		1770	1583	
Flt Permitted	0.37	1.00	1.00	0.59	1.00		0.27	1.00		0.75	1.00	
Satd. Flow (perm)	689	1863	1583	1095	3529		510	1583		1393	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	280	12	14	640	12	42	0	15	40	0	313
RTOR Reduction (vph)	0	0	3	0	1	0	0	13	0	0	277	0
Lane Group Flow (vph)	91	280	9	14	651	0	42	2	0	40	36	0
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases	5	2			6		3	8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	71.7	71.7	71.7	62.9	62.9		16.1	16.1		10.1	10.1	
Effective Green, g (s)	71.7	71.7	71.7	62.9	62.9		16.1	16.1		10.1	10.1	
Actuated g/C Ratio	0.72	0.72	0.72	0.63	0.63		0.16	0.16		0.10	0.10	
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	556	1335	1135	688	2219		101	254		140	159	
v/s Ratio Prot	0.01	c0.15			c0.18		c0.01	0.00			0.02	
v/s Ratio Perm	0.11		0.01	0.01			c0.06			0.03		
v/c Ratio	0.16	0.21	0.01	0.02	0.29		0.42	0.01		0.29	0.23	
Uniform Delay, d1	4.4	4.7	4.0	7.0	8.4		39.0	35.3		41.6	41.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4	0.0	0.1	0.3		2.8	0.0		1.1	0.7	
Delay (s)	4.5	5.1	4.0	7.0	8.8		41.8	35.3		42.7	42.1	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		4.9			8.7			40.1			42.2	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	74.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	222	52	31	408	29	177	0	61	24	0	6
Future Volume (Veh/h)	17	222	52	31	408	29	177	0	61	24	0	6
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	18	241	57	34	443	32	192	0	66	26	0	7
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.97			0.97	0.97	0.97	0.97	0.97	
vC, conflicting volume	475			298			824	848	270	898	861	459
vC1, stage 1 conf vol							306	306		527	527	
vC2, stage 2 conf vol							518	543		372	334	
vCu, unblocked vol	475			264			804	830	234	881	843	459
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			97			58	100	92	94	100	99
cM capacity (veh/h)	1087			1264			457	444	782	424	448	602

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	316	34	475	192	66	26	7
Volume Left	18	34	0	192	0	26	0
Volume Right	57	0	32	0	66	0	7
cSH	1087	1264	1700	457	782	424	602
Volume to Capacity	0.02	0.03	0.28	0.42	0.08	0.06	0.01
Queue Length 95th (m)	0.4	0.7	0.0	16.4	2.2	1.6	0.3
Control Delay (s)	0.6	7.9	0.0	18.5	10.0	14.0	11.0
Lane LOS	A	A		C	B	B	B
Approach Delay (s)	0.6	0.5		16.3		13.4	
Approach LOS				C		B	

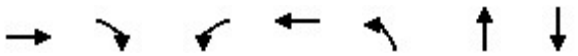
Intersection Summary				
Average Delay	4.6			
Intersection Capacity Utilization	52.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	201	111	42	51	547
v/c Ratio	0.27	0.13	0.20	0.11	0.50
Control Delay	7.5	2.2	15.5	13.2	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	2.2	15.5	13.2	5.2
Queue Length 50th (m)	7.0	0.0	2.5	3.0	3.3
Queue Length 95th (m)	17.8	5.2	8.3	8.7	12.3
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1318	1385	709	1592	2607
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.08	0.06	0.03	0.21

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	179	99	37	45	95	392
Future Volume (vph)	179	99	37	45	95	392
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.85	1.00	1.00	0.88	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1556	1615	1805	1900	3028	
Flt Permitted	0.95	1.00	0.45	1.00	1.00	
Satd. Flow (perm)	1556	1615	848	1900	3028	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	201	111	42	51	107	440
RTOR Reduction (vph)	0	58	0	0	329	0
Lane Group Flow (vph)	201	53	42	51	218	0
Heavy Vehicles (%)	16%	0%	0%	0%	0%	6%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	20.2	20.2	10.7	10.7	10.7	
Effective Green, g (s)	20.2	20.2	10.7	10.7	10.7	
Actuated g/C Ratio	0.48	0.48	0.25	0.25	0.25	
Clearance Time (s)	5.5	5.5	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	741	769	214	479	764	
v/s Ratio Prot	c0.13			0.03	c0.07	
v/s Ratio Perm		0.03	0.05			
v/c Ratio	0.27	0.07	0.20	0.11	0.29	
Uniform Delay, d1	6.7	6.0	12.5	12.2	12.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	0.0	0.5	0.1	0.2	
Delay (s)	6.9	6.0	12.9	12.3	13.0	
Level of Service	A	A	B	B	B	
Approach Delay (s)	6.6			12.6	13.0	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	42.4	Sum of lost time (s)	11.5
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	849	123	445	2048	53	164	6
v/c Ratio	0.46	0.17	0.68	0.75	0.44	0.29	0.03
Control Delay	16.9	8.6	10.5	8.7	52.6	1.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	8.6	10.5	8.7	52.6	1.3	0.3
Queue Length 50th (m)	51.7	5.3	17.2	91.3	10.4	0.0	0.0
Queue Length 95th (m)	91.0	19.3	50.6	149.8	22.1	0.0	0.0
Internal Link Dist (m)	440.3			358.4		862.1	50.9
Turn Bay Length (m)		20.0	55.0				
Base Capacity (vph)	1855	737	699	2740	320	740	407
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.17	0.64	0.75	0.17	0.22	0.01

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	781	113	409	1883	1	49	0	151	2	0	4
Future Volume (vph)	0	781	113	409	1883	1	49	0	151	2	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor		0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00		1.00	0.98			0.99	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt		1.00	0.85	1.00	1.00		1.00	0.85			0.91	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)		3438	1312	1769	3539		1442	1499			1443	
Flt Permitted		1.00	1.00	0.26	1.00		0.75	1.00			0.88	
Satd. Flow (perm)		3438	1312	487	3539		1145	1499			1289	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	849	123	445	2047	1	53	0	164	2	0	4
RTOR Reduction (vph)	0	0	30	0	0	0	0	147	0	0	5	0
Lane Group Flow (vph)	0	849	93	445	2048	0	53	17	0	0	1	0
Confl. Peds. (#/hr)	6		4	4		6	1		4	4		1
Heavy Vehicles (%)	0%	5%	21%	2%	2%	0%	25%	0%	6%	0%	0%	25%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)		53.9	53.9	77.4	77.4		10.6	10.6			10.6	
Effective Green, g (s)		53.9	53.9	77.4	77.4		10.6	10.6			10.6	
Actuated g/C Ratio		0.54	0.54	0.77	0.77		0.11	0.11			0.11	
Clearance Time (s)		6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		1853	707	639	2739		121	158			136	
v/s Ratio Prot		0.25		0.14	c0.58			0.01				
v/s Ratio Perm			0.07	0.40			c0.05				0.00	
v/c Ratio		0.46	0.13	0.70	0.75		0.44	0.11			0.00	
Uniform Delay, d1		14.1	11.4	6.1	6.1		41.9	40.4			40.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.8	0.4	3.3	1.9		2.5	0.3			0.0	
Delay (s)		14.9	11.8	9.4	8.0		44.4	40.7			40.0	
Level of Service		B	B	A	A		D	D			D	
Approach Delay (s)		14.5			8.2			41.6			40.0	
Approach LOS		B			A			D			D	

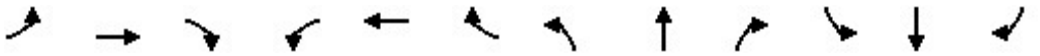
Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	110	1394	58	0	3193
Future Volume (Veh/h)	0	110	1394	58	0	3193
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	120	1515	63	0	3471
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			120			256
pX, platoon unblocked	0.69	0.91			0.91	
vC, conflicting volume	2672	505			1578	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	985	123			1299	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	85			100	
cM capacity (veh/h)	169	826			483	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	120	505	505	505	63	1157	1157	1157
Volume Left	0	0	0	0	0	0	0	0
Volume Right	120	0	0	0	63	0	0	0
cSH	826	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.15	0.30	0.30	0.30	0.04	0.68	0.68	0.68
Queue Length 95th (m)	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	10.1	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		



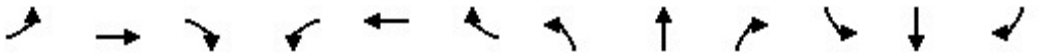
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	1249	388	249	670	243	409	1691	588	247	1198	150
v/c Ratio	0.90	1.12	0.57	1.35	0.83	0.46	0.93	0.96	0.91	0.86	0.89	0.29
Control Delay	63.3	111.3	11.7	219.2	61.9	8.3	35.7	47.5	41.2	64.0	59.1	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	111.3	11.7	219.2	61.9	8.3	35.7	47.5	41.2	64.0	59.1	7.7
Queue Length 50th (m)	65.7	~220.5	15.8	~73.6	99.5	0.0	74.7	~193.1	151.3	52.7	127.0	0.0
Queue Length 95th (m)	#119.5	#265.3	48.9	#132.5	#128.9	23.3	m91.4	m#211.4	m#163.5	#93.0	#158.2	17.9
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	349	1112	685	184	804	526	468	1767	646	320	1341	513
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	1.12	0.57	1.35	0.83	0.46	0.87	0.96	0.91	0.77	0.89	0.29

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.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	301	1224	380	244	657	238	401	1657	576	242	1174	147
Future Volume (vph)	301	1224	380	244	657	238	401	1657	576	242	1174	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.94	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1768	3539	1499	1786	3539	1490	1805	5085	1495	1752	4988	1501
Flt Permitted	0.14	1.00	1.00	0.14	1.00	1.00	0.10	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	264	3539	1499	273	3539	1490	187	5085	1495	196	4988	1501
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	307	1249	388	249	670	243	409	1691	588	247	1198	150
RTOR Reduction (vph)	0	0	215	0	0	188	0	0	127	0	0	110
Lane Group Flow (vph)	307	1249	173	249	670	55	409	1691	461	247	1198	40
Confl. Peds. (#/hr)	33		36	36		33	26		45	45		26
Heavy Vehicles (%)	2%	2%	2%	1%	2%	3%	0%	2%	1%	3%	4%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	56.0	44.0	44.0	40.8	31.8	31.8	70.0	48.7	48.7	55.9	37.6	37.6
Effective Green, g (s)	56.0	44.0	44.0	40.8	31.8	31.8	70.0	48.7	48.7	55.9	37.6	37.6
Actuated g/C Ratio	0.40	0.31	0.31	0.29	0.23	0.23	0.50	0.35	0.35	0.40	0.27	0.27
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	333	1112	471	176	803	338	433	1768	520	281	1339	403
v/s Ratio Prot	0.14	c0.35		c0.09	0.19		c0.20	c0.33		0.11	0.24	
v/s Ratio Perm	0.23		0.12	c0.32		0.04	0.27		0.31	0.24		0.03
v/c Ratio	0.92	1.12	0.37	1.41	0.83	0.16	0.94	0.96	0.89	0.88	0.89	0.10
Uniform Delay, d1	37.0	48.0	37.2	40.7	51.6	43.4	42.5	44.6	43.1	39.1	49.3	38.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.41	0.87	1.01	1.00	1.00	1.00
Incremental Delay, d2	30.0	67.6	2.2	216.7	10.0	1.0	18.6	8.0	11.3	25.2	9.5	0.5
Delay (s)	67.1	115.6	39.4	257.4	61.5	44.5	36.1	46.8	54.7	64.3	58.8	39.0
Level of Service	E	F	D	F	E	D	D	D	D	E	E	D
Approach Delay (s)		92.7			99.9			46.9			57.8	
Approach LOS		F			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	69.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	135	450	469	209	177	315	2229	572	173	1086	87
v/c Ratio	0.52	0.80	0.85	0.45	0.37	0.83	0.96	0.68	0.93	0.55	0.12
Control Delay	42.9	53.2	71.7	46.5	14.3	41.6	47.7	21.5	65.2	29.0	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	53.2	71.7	46.5	14.3	41.6	47.7	21.5	65.2	29.0	5.4
Queue Length 50th (m)	27.0	49.7	68.2	50.9	10.7	60.2	196.5	61.2	~37.8	113.0	4.4
Queue Length 95th (m)	41.2	67.2	88.8	72.5	30.1	m#88.3	#252.0	m106.4	m#72.6	m119.2	m7.0
Internal Link Dist (m)		222.3		150.3			227.9			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	258	677	589	557	546	406	2320	839	186	1988	729
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.66	0.80	0.38	0.32	0.78	0.96	0.68	0.93	0.55	0.12

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.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	246	190	455	203	172	306	2162	555	168	1053	84
Future Volume (vph)	131	246	190	455	203	172	306	2162	555	168	1053	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	4.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1782	3293		3367	1881	1537	1787	5085	1503	1752	4988	1553
Flt Permitted	0.63	1.00		0.95	1.00	1.00	0.16	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	1176	3293		3367	1881	1537	305	5085	1503	132	4988	1553
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	135	254	196	469	209	177	315	2229	572	173	1086	87
RTOR Reduction (vph)	0	105	0	0	0	97	0	0	153	0	0	52
Lane Group Flow (vph)	135	345	0	469	209	80	315	2229	419	173	1086	35
Confl. Peds. (#/hr)	17		15	15		17	3		15	15		3
Heavy Vehicles (%)	0%	1%	1%	4%	1%	1%	1%	2%	3%	3%	4%	1%
Turn Type	pm+pt	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	27.0	19.5		23.0	35.0	35.0	78.4	63.9	63.9	66.3	55.8	55.8
Effective Green, g (s)	27.0	19.5		23.0	35.0	35.0	78.4	63.9	63.9	66.3	55.8	55.8
Actuated g/C Ratio	0.19	0.14		0.16	0.25	0.25	0.56	0.46	0.46	0.47	0.40	0.40
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	4.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	259	458		553	470	384	378	2320	686	184	1988	618
v/s Ratio Prot	0.03	c0.10		c0.14	0.11		c0.12	c0.44		0.07	0.22	
v/s Ratio Perm	0.07					0.05	0.35		0.28	0.37		0.02
v/c Ratio	0.52	0.75		0.85	0.44	0.21	0.83	0.96	0.61	0.94	0.55	0.06
Uniform Delay, d1	49.4	57.9		56.8	44.3	41.5	22.1	36.8	28.7	39.4	32.4	25.9
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.38	1.06	1.28	0.98	0.84	1.00
Incremental Delay, d2	1.9	6.9		11.6	0.7	0.3	10.1	8.5	2.7	29.2	0.5	0.1
Delay (s)	51.3	64.8		68.4	45.0	41.8	40.6	47.7	39.2	67.6	27.6	26.0
Level of Service	D	E		E	D	D	D	D	D	E	C	C
Approach Delay (s)		61.7			57.2			45.4			32.6	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	45.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	23.1
Intersection Capacity Utilization	101.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	528	306	2864	672
v/c Ratio	0.72	0.88	0.84	0.20
Control Delay	53.7	75.7	16.3	6.7
Queue Delay	0.0	0.0	28.7	0.0
Total Delay	53.7	75.7	45.1	6.7
Queue Length 50th (m)	71.3	92.4	158.0	14.9
Queue Length 95th (m)	89.2	#134.0	m98.4	21.5
Internal Link Dist (m)	299.5		196.8	100.5
Turn Bay Length (m)		95.0		
Base Capacity (vph)	849	401	3427	3329
Starvation Cap Reductn	0	0	721	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.62	0.76	1.06	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	219	607	2835	0	0	665
Future Volume (vph)	219	607	2835	0	0	665
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.91	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3027	1427	5085			4940
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3027	1427	5085			4940
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	221	613	2864	0	0	672
RTOR Reduction (vph)	2	2	0	0	0	0
Lane Group Flow (vph)	526	304	2864	0	0	672
Confl. Peds. (#/hr)				6	6	
Heavy Vehicles (%)	17%	3%	2%	0%	0%	5%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	34.0	34.0	94.4			94.4
Effective Green, g (s)	34.0	34.0	94.4			94.4
Actuated g/C Ratio	0.24	0.24	0.67			0.67
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	735	346	3428			3330
v/s Ratio Prot			c0.56			0.14
v/s Ratio Perm	0.17	c0.21				
v/c Ratio	0.72	0.88	0.84			0.20
Uniform Delay, d1	48.6	51.0	17.0			8.6
Progression Factor	1.00	1.00	0.88			0.72
Incremental Delay, d2	3.3	21.9	0.2			0.1
Delay (s)	51.9	73.0	15.2			6.3
Level of Service	D	E	B			A
Approach Delay (s)	59.6		15.2			6.3
Approach LOS	E		B			A

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	124.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	1700	474	2197	386	604
v/c Ratio	1.28	0.69	1.20	1.30	0.35
Control Delay	166.3	22.7	132.5	196.4	16.8
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	166.3	22.7	132.8	196.4	16.8
Queue Length 50th (m)	~321.9	58.0	~278.9	~129.4	46.7
Queue Length 95th (m)	#365.6	102.1	#308.2	#193.7	62.6
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1333	687	1836	296	1718
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	200	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.28	0.69	1.34	1.30	0.35

Intersection Summary

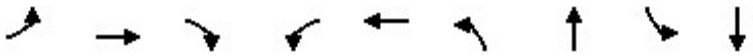
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1666	0	465	0	0	0	0	1805	348	378	592	0
Future Volume (vph)	1666	0	465	0	0	0	0	1805	348	378	592	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					*0.92		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.98		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	3433		1392					4888		1770	3252	
Flt Permitted	0.95		1.00					1.00		0.07	1.00	
Satd. Flow (perm)	3433		1392					4888		135	3252	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1700	0	474	0	0	0	0	1842	355	386	604	0
RTOR Reduction (vph)	0	0	147	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	1700	0	327	0	0	0	0	2176	0	386	604	0
Confl. Peds. (#/hr)							5		6	6		5
Heavy Vehicles (%)	2%	0%	16%	0%	0%	0%	0%	4%	4%	2%	11%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	54.4		54.4					52.0		74.0	74.0	
Effective Green, g (s)	54.4		54.4					52.0		74.0	74.0	
Actuated g/C Ratio	0.39		0.39					0.37		0.53	0.53	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1333		540					1815		293	1718	
v/s Ratio Prot								0.45		c0.18	0.19	
v/s Ratio Perm	c0.50		0.24							c0.52		
v/c Ratio	1.28		0.61					1.20		1.32	0.35	
Uniform Delay, d1	42.8		34.2					44.0		46.4	19.1	
Progression Factor	1.00		1.00					1.00		1.12	0.85	
Incremental Delay, d2	129.9		1.9					95.2		164.4	0.6	
Delay (s)	172.7		36.2					139.2		216.6	16.7	
Level of Service	F		D					F		F	B	
Approach Delay (s)		142.9			0.0			139.2			94.7	
Approach LOS		F			A			F			F	

Intersection Summary			
HCM 2000 Control Delay	132.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	124.2%	ICU Level of Service	H
Analysis Period (min)	15		

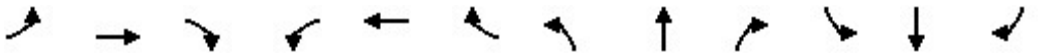
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	222	729	13	42	473	103	50	129	335
v/c Ratio	0.43	0.68	0.01	0.12	0.22	0.51	0.09	0.65	0.54
Control Delay	19.1	22.6	0.0	8.8	8.2	35.5	0.3	53.8	3.8
Queue Delay	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	23.8	0.0	8.8	8.2	35.5	0.3	53.8	3.8
Queue Length 50th (m)	27.8	112.7	0.0	2.9	18.1	16.0	0.0	25.1	0.0
Queue Length 95th (m)	57.2	#202.8	0.0	8.2	31.3	26.7	0.0	41.7	2.0
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	516	1074	961	344	2186	203	693	291	696
Starvation Cap Reductn	0	159	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	0.43	0.80	0.01	0.12	0.22	0.51	0.07	0.44	0.48

Intersection Summary

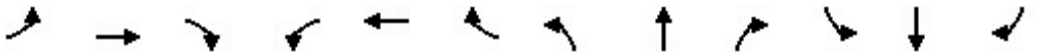
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	671	12	39	336	99	95	0	46	119	0	308
Future Volume (vph)	204	671	12	39	336	99	95	0	46	119	0	308
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3418		1770	1583		1770	1583	
Flt Permitted	0.48	1.00	1.00	0.21	1.00		0.21	1.00		0.72	1.00	
Satd. Flow (perm)	896	1863	1583	390	3418		384	1583		1349	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	222	729	13	42	365	108	103	0	50	129	0	335
RTOR Reduction (vph)	0	0	6	0	23	0	0	37	0	0	285	0
Lane Group Flow (vph)	222	729	7	42	450	0	103	13	0	129	50	0
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	55.6	55.6	55.6	62.4	62.4		25.4	25.4		14.9	14.9	
Effective Green, g (s)	55.6	55.6	55.6	62.4	62.4		25.4	25.4		14.9	14.9	
Actuated g/C Ratio	0.56	0.56	0.56	0.62	0.62		0.25	0.25		0.15	0.15	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	498	1035	880	295	2132		180	402		201	235	
v/s Ratio Prot		c0.39		0.01	c0.13		c0.03	0.01			0.03	
v/s Ratio Perm	0.25		0.00	0.08			c0.11			0.10		
v/c Ratio	0.45	0.70	0.01	0.14	0.21		0.57	0.03		0.64	0.21	
Uniform Delay, d1	13.1	16.2	9.9	11.1	8.1		30.8	28.1		40.0	37.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.9	4.0	0.0	0.2	0.2		4.3	0.0		6.8	0.5	
Delay (s)	16.0	20.2	9.9	11.3	8.4		35.1	28.1		46.9	37.8	
Level of Service	B	C	A	B	A		D	C		D	D	
Approach Delay (s)		19.1			8.6			32.8			40.4	
Approach LOS		B			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	19.7
Intersection Capacity Utilization	80.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	649	141	111	293	92	110	0	70	76	0	50
Future Volume (Veh/h)	24	649	141	111	293	92	110	0	70	76	0	50
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	26	705	153	121	318	100	120	0	76	83	0	54
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.65			0.65	0.65	0.65	0.65	0.65	
vC, conflicting volume	418			858			1448	1494	782	1520	1520	368
vC1, stage 1 conf vol							834	834		610	610	
vC2, stage 2 conf vol							614	660		910	910	
vCu, unblocked vol	418			506			1419	1490	388	1530	1531	368
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			82			51	100	82	35	100	92
cM capacity (veh/h)	1141			684			246	251	427	129	175	677

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	884	121	418	120	76	83	54
Volume Left	26	121	0	120	0	83	0
Volume Right	153	0	100	0	76	0	54
cSH	1141	684	1700	246	427	129	677
Volume to Capacity	0.02	0.18	0.25	0.49	0.18	0.65	0.08
Queue Length 95th (m)	0.6	5.1	0.0	19.7	5.1	27.3	2.1
Control Delay (s)	0.6	11.4	0.0	32.8	15.3	73.7	10.8
Lane LOS	A	B		D	C	F	B
Approach Delay (s)	0.6	2.6		26.0		48.9	
Approach LOS				D		E	

Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	83.4%	ICU Level of Service		E
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	459	139	137	103	260
v/c Ratio	0.61	0.18	0.41	0.18	0.24
Control Delay	12.0	2.4	15.1	10.9	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	2.4	15.1	10.9	3.3
Queue Length 50th (m)	17.1	0.0	5.7	4.0	0.5
Queue Length 95th (m)	47.8	6.4	21.5	15.0	6.9
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1545	1415	763	1292	2201
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.10	0.18	0.08	0.12

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	422	128	126	95	25	214
Future Volume (vph)	422	128	126	95	25	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frt	1.00	0.85	1.00	1.00	0.87	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1615	1805	1900	3125	
Flt Permitted	0.95	1.00	0.59	1.00	1.00	
Satd. Flow (perm)	1787	1615	1123	1900	3125	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	459	139	137	103	27	233
RTOR Reduction (vph)	0	80	0	0	163	0
Lane Group Flow (vph)	459	59	137	103	97	0
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	14.2	14.2	10.0	10.0	10.0	
Effective Green, g (s)	14.2	14.2	10.0	10.0	10.0	
Actuated g/C Ratio	0.43	0.43	0.30	0.30	0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	764	690	338	572	941	
v/s Ratio Prot	c0.26			0.05	0.03	
v/s Ratio Perm		0.04	c0.12			
v/c Ratio	0.60	0.09	0.41	0.18	0.10	
Uniform Delay, d1	7.3	5.6	9.2	8.6	8.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	0.1	0.8	0.2	0.0	
Delay (s)	8.7	5.7	10.0	8.7	8.4	
Level of Service	A	A	B	A	A	
Approach Delay (s)	8.0			9.5	8.4	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	33.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	6	1585	97	203	887	72	519	12
v/c Ratio	0.02	0.85	0.12	0.81	0.38	0.21	0.92	0.05
Control Delay	18.8	31.9	9.4	51.7	11.3	34.3	44.8	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	31.9	9.4	51.7	11.3	34.3	44.8	24.2
Queue Length 50th (m)	0.7	180.4	5.2	31.8	51.3	14.0	73.5	1.5
Queue Length 95th (m)	3.5	#260.8	16.4	#69.8	75.5	24.8	115.1	6.2
Internal Link Dist (m)		440.3			358.4		862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0				
Base Capacity (vph)	317	1875	833	277	2329	448	659	292
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.85	0.12	0.73	0.38	0.16	0.79	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1537	94	197	859	1	70	1	502	7	1	4
Future Volume (vph)	6	1537	94	197	859	1	70	1	502	7	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00		0.99	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	
Satd. Flow (prot)	1794	3574	1539	1805	3574		1794	1578			1752	
Flt Permitted	0.32	1.00	1.00	0.06	1.00		0.75	1.00			0.51	
Satd. Flow (perm)	605	3574	1539	115	3574		1415	1578			915	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	6	1585	97	203	886	1	72	1	518	7	1	4
RTOR Reduction (vph)	0	0	26	0	0	0	0	176	0	0	3	0
Lane Group Flow (vph)	6	1585	71	203	887	0	72	343	0	0	9	0
Confl. Peds. (#/hr)	8		4	4		8	5		1	1		5
Heavy Vehicles (%)	0%	1%	3%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	63.0	63.0	63.0	78.2	78.2		29.8	29.8			29.8	
Effective Green, g (s)	63.0	63.0	63.0	78.2	78.2		29.8	29.8			29.8	
Actuated g/C Ratio	0.52	0.52	0.52	0.65	0.65		0.25	0.25			0.25	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	317	1876	807	246	2329		351	391			227	
v/s Ratio Prot		0.44		c0.08	0.25			c0.22				
v/s Ratio Perm	0.01		0.05	c0.45			0.05				0.01	
v/c Ratio	0.02	0.84	0.09	0.83	0.38		0.21	0.88			0.04	
Uniform Delay, d1	13.7	24.3	14.2	34.9	9.7		35.7	43.3			34.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	4.9	0.2	19.7	0.5		0.3	19.3			0.1	
Delay (s)	13.8	29.2	14.4	54.6	10.2		36.0	62.7			34.3	
Level of Service	B	C	B	D	B		D	E			C	
Approach Delay (s)		28.3			18.4			59.4			34.3	
Approach LOS		C			B			E			C	

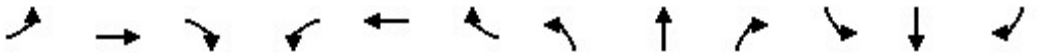
Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	88	3249	184	0	1734
Future Volume (Veh/h)	0	88	3249	184	0	1734
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	96	3532	200	0	1885
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			124			252
pX, platoon unblocked	0.64	0.56			0.56	
vC, conflicting volume	4160	1177			3732	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2285	0			3135	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	84			100	
cM capacity (veh/h)	21	610			56	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	96	1177	1177	1177	200	628	628	628
Volume Left	0	0	0	0	0	0	0	0
Volume Right	96	0	0	0	200	0	0	0
cSH	610	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.16	0.69	0.69	0.69	0.12	0.37	0.37	0.37
Queue Length 95th (m)	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	B							
Approach Delay (s)	12.0	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	202	798	629	299	827	262	337	1305	509	220	1177	193
v/c Ratio	0.68	0.70	0.83	0.73	0.69	0.37	0.94	0.81	0.73	0.87	0.89	0.35
Control Delay	33.5	45.8	29.2	33.6	44.1	5.4	59.6	53.3	31.5	65.9	60.0	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	45.8	29.2	33.6	44.1	5.4	59.6	53.3	31.5	65.9	60.0	7.2
Queue Length 50th (m)	33.4	108.1	80.9	52.2	110.4	0.0	92.0	143.8	99.3	45.2	123.0	0.0
Queue Length 95th (m)	50.7	132.5	#142.9	74.4	136.5	20.0	m#129.9	160.8	131.8	#90.4	#149.5	19.7
Internal Link Dist (m)		290.2			361.6			458.4			236.0	
Turn Bay Length (m)	115.0		105.0	180.0		115.0	110.0		70.0	145.0		135.0
Base Capacity (vph)	322	1143	756	420	1201	711	368	1605	693	263	1318	553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.70	0.83	0.71	0.69	0.37	0.92	0.81	0.73	0.84	0.89	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

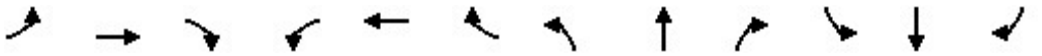
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	196	774	610	290	802	254	327	1266	494	213	1142	187
Future Volume (vph)	196	774	610	290	802	254	327	1266	494	213	1142	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3574	1599	1881	3574	1599	1805	5136	1599	1787	5136	1599
Flt Permitted	0.19	1.00	1.00	0.28	1.00	1.00	0.10	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	346	3574	1599	536	3574	1599	195	5136	1599	210	5136	1599
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	202	798	629	299	827	262	337	1305	509	220	1177	193
RTOR Reduction (vph)	0	0	245	0	0	174	0	0	194	0	0	144
Lane Group Flow (vph)	202	798	384	299	827	88	337	1305	315	220	1177	49
Heavy Vehicles (%)	2%	1%	1%	1%	1%	1%	0%	1%	1%	1%	1%	1%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	58.7	44.8	44.8	63.3	47.1	47.1	62.0	43.8	43.8	51.1	35.9	35.9
Effective Green, g (s)	58.7	44.8	44.8	63.3	47.1	47.1	62.0	43.8	43.8	51.1	35.9	35.9
Actuated g/C Ratio	0.42	0.32	0.32	0.45	0.34	0.34	0.44	0.31	0.31	0.37	0.26	0.26
Clearance Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0	3.0	7.0	7.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	286	1143	511	397	1202	537	352	1606	500	247	1317	410
v/s Ratio Prot	0.07	0.22		c0.09	0.23		c0.16	0.25		0.10	0.23	
v/s Ratio Perm	0.23		0.24	c0.25		0.06	c0.27		0.20	0.23		0.03
v/c Ratio	0.71	0.70	0.75	0.75	0.69	0.16	0.96	0.81	0.63	0.89	0.89	0.12
Uniform Delay, d1	28.8	41.7	42.6	25.0	40.1	32.6	42.7	44.3	41.2	36.1	50.2	39.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.71	1.10	1.36	1.00	1.00	1.00
Incremental Delay, d2	7.7	3.5	9.8	7.9	3.2	0.7	32.6	3.9	5.0	30.3	9.6	0.6
Delay (s)	36.5	45.2	52.4	32.9	43.3	33.3	62.8	52.8	61.1	66.3	59.8	40.5
Level of Service	D	D	D	C	D	C	E	D	E	E	E	D
Approach Delay (s)		46.9			39.2			56.3			58.4	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	552	852	349	239	335	1366	427	212	1248	97
v/c Ratio	0.57	0.88	0.96	0.41	0.29	0.96	0.81	0.62	0.86	0.89	0.19
Control Delay	70.4	57.4	72.2	27.1	4.5	78.0	53.0	23.0	47.8	45.6	6.3
Queue Delay	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.4	57.4	72.2	28.4	4.5	78.0	53.0	23.0	47.8	45.6	6.3
Queue Length 50th (m)	24.1	59.5	126.2	65.2	3.1	87.5	153.9	45.9	31.5	135.0	7.9
Queue Length 95th (m)	43.8	#86.5	#166.4	91.4	18.4	#144.6	154.7	72.6	m47.8	#163.0	m10.0
Internal Link Dist (m)		222.3		150.3			234.4			458.4	
Turn Bay Length (m)	40.0		60.0		45.0	135.0		60.0	110.0		160.0
Base Capacity (vph)	167	660	903	880	847	356	1693	693	262	1396	504
Starvation Cap Reductn	0	0	0	331	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.84	0.94	0.64	0.28	0.94	0.81	0.62	0.81	0.89	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	252	267	801	328	225	315	1284	401	199	1173	91
Future Volume (vph)	84	252	267	801	328	225	315	1284	401	199	1173	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Lane Util. Factor	1.00	0.95		0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1792	3255		3467	1881	1562	1787	5136	1555	1787	5136	1520
Flt Permitted	0.55	1.00		0.95	1.00	1.00	0.10	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	1041	3255		3467	1881	1562	184	5136	1555	198	5136	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	89	268	284	852	349	239	335	1366	427	212	1248	97
RTOR Reduction (vph)	0	140	0	0	0	120	0	0	180	0	0	71
Lane Group Flow (vph)	89	412	0	852	349	119	335	1366	247	212	1248	26
Confl. Peds. (#/hr)	7		3	3		7	7		3	3		7
Heavy Vehicles (%)	0%	2%	1%	1%	1%	1%	1%	1%	2%	1%	1%	2%
Turn Type	Perm	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4					8	2		2	6		6
Actuated Green, G (s)	20.9	20.9		36.0	63.4	63.4	64.0	46.2	46.2	52.8	38.0	38.0
Effective Green, g (s)	20.9	20.9		36.0	63.4	63.4	64.0	46.2	46.2	52.8	38.0	38.0
Actuated g/C Ratio	0.15	0.15		0.26	0.45	0.45	0.46	0.33	0.33	0.38	0.27	0.27
Clearance Time (s)	6.5	6.5		6.5	6.5	6.5	3.0	6.1	6.1	3.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	155	485		891	851	707	347	1694	513	242	1394	412
v/s Ratio Prot		c0.13		c0.25	0.19		c0.16	0.27		0.09	0.24	
v/s Ratio Perm	0.09					0.08	c0.28		0.16	0.24		0.02
v/c Ratio	0.57	0.85		0.96	0.41	0.17	0.97	0.81	0.48	0.88	0.90	0.06
Uniform Delay, d1	55.4	58.0		51.2	25.7	22.7	43.3	42.8	37.4	35.7	49.1	37.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.09	1.12	1.31	0.85	0.82	1.99
Incremental Delay, d2	5.1	13.4		20.1	0.3	0.1	36.4	3.8	2.9	16.1	5.0	0.1
Delay (s)	60.5	71.4		71.3	26.1	22.8	83.6	51.9	51.9	46.6	45.0	75.5
Level of Service	E	E		E	C	C	F	D	D	D	D	E
Approach Delay (s)		69.9			52.3			56.9			47.1	
Approach LOS		E			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	54.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	531	276	1900	1194
v/c Ratio	0.70	0.81	0.54	0.34
Control Delay	53.2	66.3	11.2	9.8
Queue Delay	0.1	0.0	0.3	0.0
Total Delay	53.3	66.3	11.5	9.8
Queue Length 50th (m)	72.3	81.3	60.8	42.3
Queue Length 95th (m)	83.8	109.1	m57.0	m49.5
Internal Link Dist (m)	299.5		196.8	94.0
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1185	533	3540	3540
Starvation Cap Reductn	0	0	792	0
Spillback Cap Reductn	98	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.49	0.52	0.69	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	245	530	1824	0	0	1146
Future Volume (vph)	245	530	1824	0	0	1146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8	5.8			5.8
Lane Util. Factor	0.97	0.91	0.91			0.91
Frpb, ped/bikes	1.00	1.00	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3287	1470	5136			5136
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3287	1470	5136			5136
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	255	552	1900	0	0	1194
RTOR Reduction (vph)	8	8	0	0	0	0
Lane Group Flow (vph)	523	268	1900	0	0	1194
Confl. Peds. (#/hr)				2	2	
Heavy Vehicles (%)	2%	0%	1%	0%	0%	1%
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	31.9	31.9	96.5			96.5
Effective Green, g (s)	31.9	31.9	96.5			96.5
Actuated g/C Ratio	0.23	0.23	0.69			0.69
Clearance Time (s)	5.8	5.8	5.8			5.8
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	748	334	3540			3540
v/s Ratio Prot			c0.37			0.23
v/s Ratio Perm	0.16	c0.18				
v/c Ratio	0.70	0.80	0.54			0.34
Uniform Delay, d1	49.6	51.1	10.7			8.8
Progression Factor	1.00	1.00	0.95			1.01
Incremental Delay, d2	2.9	13.0	0.1			0.1
Delay (s)	52.5	64.1	10.3			9.0
Level of Service	D	E	B			A
Approach Delay (s)	56.5		10.3			9.0
Approach LOS	E		B			A

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	11.6
Intersection Capacity Utilization	100.0%	ICU Level of Service	G
Analysis Period (min)	15		

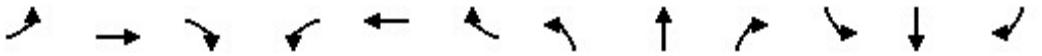
c Critical Lane Group

Lane Group	EBL	EBR	NBT	SBL	SBT
Lane Group Flow (vph)	1259	463	1379	687	790
v/c Ratio	1.12	0.75	1.02	0.97	0.38
Control Delay	109.6	32.7	77.8	65.3	23.1
Queue Delay	0.0	0.0	0.0	1.0	0.0
Total Delay	109.6	32.7	77.8	66.3	23.1
Queue Length 50th (m)	~217.2	73.9	~157.8	163.0	79.8
Queue Length 95th (m)	#261.1	119.4	#189.4	#237.5	92.4
Internal Link Dist (m)			390.2		196.8
Turn Bay Length (m)		245.0			
Base Capacity (vph)	1124	621	1350	726	2098
Starvation Cap Reductn	0	0	0	6	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.12	0.75	1.02	0.95	0.38

Intersection Summary

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

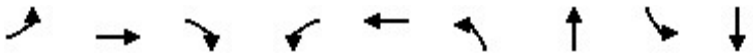
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1158	0	426	0	0	0	0	933	336	632	727	0
Future Volume (vph)	1158	0	426	0	0	0	0	933	336	632	727	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6		5.6					6.0		3.0	6.0	
Lane Util. Factor	0.97		1.00					0.91		1.00	0.95	
Frpb, ped/bikes	1.00		1.00					0.99		1.00	1.00	
Flpb, ped/bikes	1.00		1.00					1.00		1.00	1.00	
Frt	1.00		0.85					0.96		1.00	1.00	
Flt Protected	0.95		1.00					1.00		1.00	1.00	
Satd. Flow (prot)	3467		1524					4827		1880	3539	
Flt Permitted	0.95		1.00					1.00		0.24	1.00	
Satd. Flow (perm)	3467		1524					4827		451	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1259	0	463	0	0	0	0	1014	365	687	790	0
RTOR Reduction (vph)	0	0	128	0	0	0	0	46	0	0	0	0
Lane Group Flow (vph)	1259	0	335	0	0	0	0	1333	0	687	790	0
Confl. Peds. (#/hr)							1		4	4		1
Heavy Vehicles (%)	1%	0%	6%	0%	0%	0%	0%	2%	3%	1%	2%	0%
Turn Type	Perm		Perm					NA		pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4							6		
Actuated Green, G (s)	45.4		45.4					37.8		83.0	83.0	
Effective Green, g (s)	45.4		45.4					37.8		83.0	83.0	
Actuated g/C Ratio	0.32		0.32					0.27		0.59	0.59	
Clearance Time (s)	5.6		5.6					6.0		3.0	6.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	1124		494					1303		698	2098	
v/s Ratio Prot								0.28		c0.30	0.22	
v/s Ratio Perm	c0.36		0.22							c0.29		
v/c Ratio	1.12		0.68					1.02		0.98	0.38	
Uniform Delay, d1	47.3		41.0					51.1		29.7	14.9	
Progression Factor	1.00		1.00					1.00		1.41	1.50	
Incremental Delay, d2	66.2		3.7					30.9		29.1	0.5	
Delay (s)	113.5		44.7					82.0		71.0	22.9	
Level of Service	F		D					F		E	C	
Approach Delay (s)		95.0			0.0			82.0			45.3	
Approach LOS		F			A			F			D	

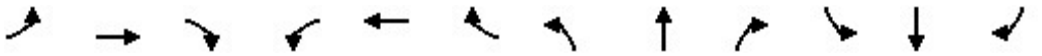
Intersection Summary			
HCM 2000 Control Delay	75.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	100.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	337	462	16	43	761	123	50	163	514
v/c Ratio	0.71	0.46	0.02	0.09	0.56	0.63	0.07	0.70	0.83
Control Delay	19.8	18.3	0.1	10.5	26.8	40.6	0.2	53.8	21.0
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.8	18.7	0.1	10.5	26.8	40.6	0.2	53.8	21.0
Queue Length 50th (m)	31.1	61.0	0.0	3.2	61.7	18.6	0.0	31.3	18.0
Queue Length 95th (m)	57.6	98.4	0.0	8.5	93.5	30.8	0.0	50.8	58.5
Internal Link Dist (m)		150.3			149.3		53.5		52.7
Turn Bay Length (m)			30.0	30.0		15.0			
Base Capacity (vph)	530	1001	904	503	1368	194	795	310	682
Starvation Cap Reductn	0	177	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	0.56	0.02	0.09	0.56	0.63	0.06	0.53	0.75

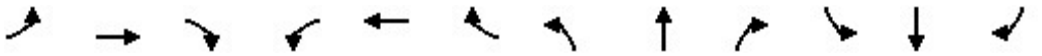
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	310	425	15	40	594	106	113	0	46	150	0	473
Future Volume (vph)	310	425	15	40	594	106	113	0	46	150	0	473
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.85		1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3459		1770	1583		1770	1583	
Flt Permitted	0.23	1.00	1.00	0.50	1.00		0.18	1.00		0.72	1.00	
Satd. Flow (perm)	433	1863	1583	926	3459		340	1583		1349	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	337	462	16	43	646	115	123	0	50	163	0	514
RTOR Reduction (vph)	0	0	8	0	13	0	0	36	0	0	342	0
Lane Group Flow (vph)	337	462	8	43	748	0	123	14	0	163	172	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases	1	6		5	2		3	8			4	
Permitted Phases	6		6	2			8			4		
Actuated Green, G (s)	59.4	52.5	52.5	43.1	39.2		28.4	28.4		17.4	17.4	
Effective Green, g (s)	59.4	52.5	52.5	43.1	39.2		28.4	28.4		17.4	17.4	
Actuated g/C Ratio	0.59	0.52	0.52	0.43	0.39		0.28	0.28		0.17	0.17	
Clearance Time (s)	4.5	6.2	6.2	3.0	6.2		4.5	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	467	978	831	432	1355		189	449		234	275	
v/s Ratio Prot	c0.11	0.25		0.00	0.22		c0.04	0.01			0.11	
v/s Ratio Perm	c0.32		0.01	0.04			c0.14			0.12		
v/c Ratio	0.72	0.47	0.01	0.10	0.55		0.65	0.03		0.70	0.63	
Uniform Delay, d1	12.6	15.0	11.3	16.6	23.6		29.3	25.9		38.8	38.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	1.6	0.0	0.1	1.6		7.8	0.0		8.7	4.4	
Delay (s)	18.1	16.6	11.4	16.7	25.2		37.0	25.9		47.5	42.7	
Level of Service	B	B	B	B	C		D	C		D	D	
Approach Delay (s)		17.1			24.8			33.8			43.8	
Approach LOS		B			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	21.2
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	430	125	107	493	144	160	0	97	93	0	57
Future Volume (Veh/h)	35	430	125	107	493	144	160	0	97	93	0	57
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			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
Hourly flow rate (vph)	38	467	136	116	536	157	174	0	105	101	0	62
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			None							
Median storage veh)		2										
Upstream signal (m)		173										
pX, platoon unblocked				0.78			0.78	0.78	0.78	0.78	0.78	
vC, conflicting volume	693			603			1441	1536	535	1562	1526	614
vC1, stage 1 conf vol							611	611		846	846	
vC2, stage 2 conf vol							830	925		716	679	
vCu, unblocked vol	693			347			1424	1546	260	1580	1533	614
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			88			20	100	83	45	100	87
cM capacity (veh/h)	902			943			217	235	606	185	234	491

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	641	116	693	174	105	101	62
Volume Left	38	116	0	174	0	101	0
Volume Right	136	0	157	0	105	0	62
cSH	902	943	1700	217	606	185	491
Volume to Capacity	0.04	0.12	0.41	0.80	0.17	0.55	0.13
Queue Length 95th (m)	1.1	3.4	0.0	46.4	5.0	22.7	3.4
Control Delay (s)	1.1	9.4	0.0	65.9	12.2	45.6	13.4
Lane LOS	A	A		F	B	E	B
Approach Delay (s)	1.1	1.3		45.7		33.3	
Approach LOS				E		D	

Intersection Summary				
Average Delay	10.6			
Intersection Capacity Utilization	82.0%	ICU Level of Service	D	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	398	190	202	52	581
v/c Ratio	0.62	0.27	0.62	0.07	0.36
Control Delay	18.4	3.8	20.5	8.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	3.8	20.5	8.9	2.6
Queue Length 50th (m)	23.0	0.0	10.7	2.1	1.8
Queue Length 95th (m)	70.1	10.7	37.9	9.0	10.2
Internal Link Dist (m)	503.8			103.4	862.1
Turn Bay Length (m)	20.0		20.0		
Base Capacity (vph)	1306	1214	683	1639	2783
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.30	0.16	0.30	0.03	0.21

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	346	165	176	45	75	431
Future Volume (vph)	346	165	176	45	75	431
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.87	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1787	1593	1805	1900	3149	
Flt Permitted	0.95	1.00	0.42	1.00	1.00	
Satd. Flow (perm)	1787	1593	792	1900	3149	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	398	190	202	52	86	495
RTOR Reduction (vph)	0	120	0	0	284	0
Lane Group Flow (vph)	398	70	202	52	297	0
Confl. Peds. (#/hr)	1	2				
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	16.4	16.4	18.9	18.9	18.9	
Effective Green, g (s)	16.4	16.4	18.9	18.9	18.9	
Actuated g/C Ratio	0.37	0.37	0.43	0.43	0.43	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	661	589	337	810	1343	
v/s Ratio Prot	c0.22			0.03	0.09	
v/s Ratio Perm		0.04	c0.25			
v/c Ratio	0.60	0.12	0.60	0.06	0.22	
Uniform Delay, d1	11.3	9.2	9.8	7.5	8.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.1	2.9	0.0	0.1	
Delay (s)	12.9	9.3	12.6	7.5	8.1	
Level of Service	B	A	B	A	A	
Approach Delay (s)	11.7			11.6	8.1	
Approach LOS	B			B	A	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	11	1438	153	329	1214	42	412	9
v/c Ratio	0.05	0.73	0.17	0.78	0.45	0.21	0.85	0.07
Control Delay	16.9	23.8	10.1	37.1	6.9	40.4	28.4	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	23.8	10.1	37.1	6.9	40.4	28.4	26.6
Queue Length 50th (m)	1.1	125.2	9.8	44.0	44.6	8.6	24.0	0.8
Queue Length 95th (m)	5.1	#195.1	25.4	#95.7	87.4	17.1	56.5	5.0
Internal Link Dist (m)		440.3			358.4		862.1	50.9
Turn Bay Length (m)	20.0		20.0	55.0				
Base Capacity (vph)	239	1962	879	437	2671	362	631	238
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.73	0.17	0.75	0.45	0.12	0.65	0.04

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1323	141	303	1116	1	39	3	376	1	3	5
Future Volume (vph)	10	1323	141	303	1116	1	39	3	376	1	3	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			0.93	
Flt Protected	0.95	1.00	1.00	0.98	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1799	3574	1553	1862	3574		1801	1596			1734	
Flt Permitted	0.23	1.00	1.00	0.09	1.00		0.75	1.00			0.53	
Satd. Flow (perm)	438	3574	1553	168	3574		1425	1596			922	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	1438	153	329	1213	1	42	3	409	1	3	5
RTOR Reduction (vph)	0	0	27	0	0	0	0	259	0	0	4	0
Lane Group Flow (vph)	11	1438	126	329	1214	0	42	153	0	0	5	0
Confl. Peds. (#/hr)	7		5	5		7	2		1	1		2
Heavy Vehicles (%)	0%	1%	2%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	60.4	60.4	60.4	82.2	82.2		15.8	15.8			15.8	
Effective Green, g (s)	60.4	60.4	60.4	82.2	82.2		15.8	15.8			15.8	
Actuated g/C Ratio	0.55	0.55	0.55	0.75	0.75		0.14	0.14			0.14	
Clearance Time (s)	6.0	6.0	6.0	3.0	6.0		6.0	6.0			6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	240	1962	852	415	2670		204	229			132	
v/s Ratio Prot		0.40		c0.14	0.34			c0.10				
v/s Ratio Perm	0.03		0.08	c0.46			0.03				0.01	
v/c Ratio	0.05	0.73	0.15	0.79	0.45		0.21	0.67			0.04	
Uniform Delay, d1	11.5	18.7	12.2	28.5	5.3		41.6	44.6			40.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.4	2.5	0.4	10.0	0.6		0.5	7.2			0.1	
Delay (s)	11.8	21.2	12.5	38.5	5.9		42.1	51.9			40.7	
Level of Service	B	C	B	D	A		D	D			D	
Approach Delay (s)		20.3			12.8			51.0			40.7	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	133	2220	159	0	2305
Future Volume (Veh/h)	0	133	2220	159	0	2305
Sign Control	Yield		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	145	2413	173	0	2505
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			118			258
pX, platoon unblocked	0.86	0.82			0.82	
vC, conflicting volume	3248	804			2586	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1621	0			2163	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	84			100	
cM capacity (veh/h)	81	888			200	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	145	804	804	804	173	835	835	835
Volume Left	0	0	0	0	0	0	0	0
Volume Right	145	0	0	0	173	0	0	0
cSH	888	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.16	0.47	0.47	0.47	0.10	0.49	0.49	0.49
Queue Length 95th (m)	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A							
Approach Delay (s)	9.8	0.0				0.0		
Approach LOS	A							

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		