



6582-6585 Highway 6

Traffic Impact Study

1052367 Ontario Ltd

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Executive Summary

GHD Limited has prepared this Traffic Impact Study (TIS) in support of County Official Plan Amendment (Urban Boundary Expansion) and Local Official Plan Amendment applications for the subject lands located at 6582-6585 Highway 6 in the Township of Centre Wellington.

The proposed development is that of a residential and mixed-use community, accommodating a mix of dwelling unit types and densities, including single detached dwellings, various forms of townhouses, and apartments. The development will also feature a new public park, continuation of the public trail network, extension of the public road network, and a mixed-use/commercial block contemplated in the southeast corner of the subject lands.

The development will accommodate approximately 701 residential dwelling units and a mixed-use/commercial block and new school on a 4.96 hectare block.

Access to the development is proposed via extensions of Vincent Street and Steele Street from the subdivision to the south, together with a proposed connection from Street A to Highway 6.

This study evaluates the traffic impacts of the proposed development during the weekday a.m. and p.m. peak hours. Future traffic conditions were assessed for the 2029, 2034, and 2039 horizon years in accordance with the Terms of Reference and Ministry of Transportation practices.

Based on ITE Trip Generation rates, the proposed development including school block is forecast to generate approximately 976 two-way vehicle trips during the weekday a.m. peak hour and 686 two-way vehicle trips during the weekday p.m. peak hour.

Existing traffic operations were reviewed at eight study area intersections, with an additional future intersection included at Highway 6 and Street A. Under existing conditions, all study intersections are operating at acceptable levels of service during both peak hours.

Future background traffic forecasts were developed to account for anticipated corridor growth and approved or planned development within the study area. The analysis identified that future capacity constraints along the Highway 6 corridor are primarily attributable to background growth and are not unique to the proposed development.

A review of supporting Traffic Impact Studies prepared for background developments confirmed that a series of improvements have already been identified to address these future transportation demands, including:

- Widening Highway 6 to a four-lane cross-section;
- Construction of the future Street B connection at Highway 6 and Side Road 18;
- Signalization of the Highway 6 and Side Road 18 intersection; and
- Provision of dedicated turning lanes at the intersection.

The analysis completed as part of this study confirms that these improvements are required to accommodate future background growth irrespective of whether the proposed development proceeds.

With the planned Highway 6 corridor improvements in place, the study area transportation network is forecast to operate acceptably under future total traffic conditions, including the traffic generated by the proposed development. While some individual turning movements are forecast to experience elevated delays during certain peak periods, all study intersections are expected to operate within acceptable capacity thresholds. The analysis demonstrates that the proposed development does not require any additional site-specific off-site road improvements beyond those already identified through previous transportation studies and planning exercises.

A sensitivity analysis was also completed to evaluate a conservative contingency scenario in which the proposed Street A connection to Highway 6 is not constructed and all site traffic is accommodated through the local road network. This assessment was undertaken to test a conservative worst-case condition and determine whether acceptable operations could be maintained without the direct Highway 6 connection.

This analysis identified potential operational constraints at the intersection of Side Road 18 and Steele Street. These constraints can be addressed through the provision of a westbound right-turn lane on Side Road 18 and separate southbound left-turn and right-turn lanes on Steele Street. With these improvements in place, the intersection is forecast to operate acceptably through the ultimate horizon year.

The proposed internal road network has been designed in accordance with the Township of Centre Wellington Development Manual. Street A is proposed as a minor collector road with a 20.0 m right-of-way, while the remaining roads are proposed as local roads with 18.0 m rights-of-way.

Conclusions and Recommendations

The analysis confirms that the proposed development can be accommodated within the future transportation network and is supportable from a transportation perspective. The development does not trigger any additional site-specific transportation improvements beyond those already required to accommodate forecast background growth.

The analysis confirms that the transportation improvements required along the Highway 6 corridor are driven by forecast background growth and have already been identified through previous transportation studies. The proposed development does not trigger the need for any additional site-specific off-site transportation improvements.

The Street A connection to Highway 6 is expected to be implemented as part of the future road network and, as such, the scenario in which it is not constructed is considered unlikely. Nevertheless, should the connection not proceed, a westbound right-turn lane on Side Road 18 and separate southbound left-turn and right-turn lanes on Steele Street should be provided at the Side Road 18 and Steele Street intersection to accommodate redistributed site traffic and maintain acceptable operations.

We trust that this satisfies your requirements. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,

GHD



Rafael Andrenacci, B.Eng

Transportation Planner



William Maria, P. Eng.

Transportation Planning Lead

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1. Introduction

1.1 Retainer and Objective

GHD Limited was retained to prepare a Traffic Impact Study for a residential development located on lands municipally known as 6582-6585 Highway 6 in the Township of Centre Wellington, immediately north of the Fergus Settlement Boundary.

The subject lands are currently under consideration for an urban boundary expansion and are proposed to be developed through applications for an Official Plan Amendment, Zoning By-law Amendment, and Draft Plan of Subdivision.

The site location is illustrated in **Figure 1**.

The purpose of this study is to:

- Establish baseline traffic conditions for the study area in 2026 and determine future background operating conditions for a future planning horizon consistent with phases of development in 2029, 2034, and 2039.
- Estimate the site trips generated by the proposed development and distribute the traffic to the adjacent road network.
- Determine future operating traffic conditions during the weekday peak periods for each future planning horizon through intersection capacity analysis.



Figure 1 *Site Location*

1.2 Study Team

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

- William Maria, P. Eng., Transportation Planning Lead
- Rafael Andrenacci, B.Eng., Transportation Planner

2. Site Characteristics

2.1 Study Area

As per the Terms of Reference agreed to with Wellington County attached in **Appendix A**, the following intersections were included in the study area:

Existing

- Highway 6 and Nichol Road 15
- Highway 6 and Side Road 18
- Highway 6 and Side Road 19
- Highway 6 and Gordon Street
- Beatty Line and Farley Road/Side Road 18
- Side Road 18 and Vincent Street
- Side Road 18 and Steele Street
- Courtney Street and Sadler Street

Future

- Highway 6 and Street A

2.2 Proposed Development Content

A concept plan prepared by Zelinka Priamo Ltd. for the subject site is shown in **Figure 2** and provided in **Appendix B**. The proposed development is comprised of a total 701 dwelling units, a mixed-use/commercial block, and a school block. The 701 dwelling units consists of 151 single-family dwelling units, 191 street townhouses dwelling units, 101 stacked townhouses/low-rise apartments dwelling units, 204 dwelling units located within the apartment building block, and 54 units within the mixed-use/commercial block.

Access to the proposed development is proposed via four access points. Three access points are proposed through the existing subdivision to the south, including extensions of Vincent Street, Sadler Street, and Steele Street, and one access point to/from Highway 6 through the proposed Street A.

The MTO has advised that it does not support the proposed access to Highway 6 via Street A, as the connection does not satisfy the Ministry's access management requirement of maintaining a minimum 1,600 m separation distance between new commercial access connections and existing commercial accesses, public roads, or interchanges along a provincial highway.

The MTO has further noted that connecting links are municipal roadways that form part of a provincial highway route through an urban area. At present, St. David Street functions as the Highway 6 connecting link through the urban area of Fergus, with Highway 6 reverting to provincial jurisdiction north of Side Road 18, including the portion of roadway adjacent to the subject lands. However, as part of the ongoing urban boundary expansion process, it is recommended that the Highway 6 connecting link be extended northward to incorporate the section of Highway 6 fronting the subject site. Should this occur, jurisdiction of the roadway would be transferred from the Province to the Township of Centre Wellington, thereby allowing the Township to determine future access requirements and permitting opportunities.

Recognizing the uncertainty associated with the timing and implementation of the proposed downloading, this Transportation Study has evaluated two access scenarios. The primary analysis assumes that the connecting link extension is implemented and that access to Highway 6 via Street A is permitted under Township jurisdiction. Under this scenario, the Highway 6 connection provides an additional access point to the development, improving network connectivity, traffic distribution, and route choice for future residents and visitors.

To assess the implications should the development proceed prior to the downloading of the road, a sensitivity analysis was also completed assuming no access connection to Highway 6 is provided. Under this scenario, all site traffic would access the development through the existing and planned local road network connecting to Side Road 18 via the subdivision to the south. The sensitivity analysis therefore provides an assessment of the transportation network under a more conservative condition and demonstrates the operational implications of accommodating all development traffic without the benefit of a direct Highway 6 connection. This approach ensures that the transportation

impacts of the proposed development are understood and evaluated under both potential future roadway jurisdiction and access arrangements.

The proposed concept plan is provided in the figure below.

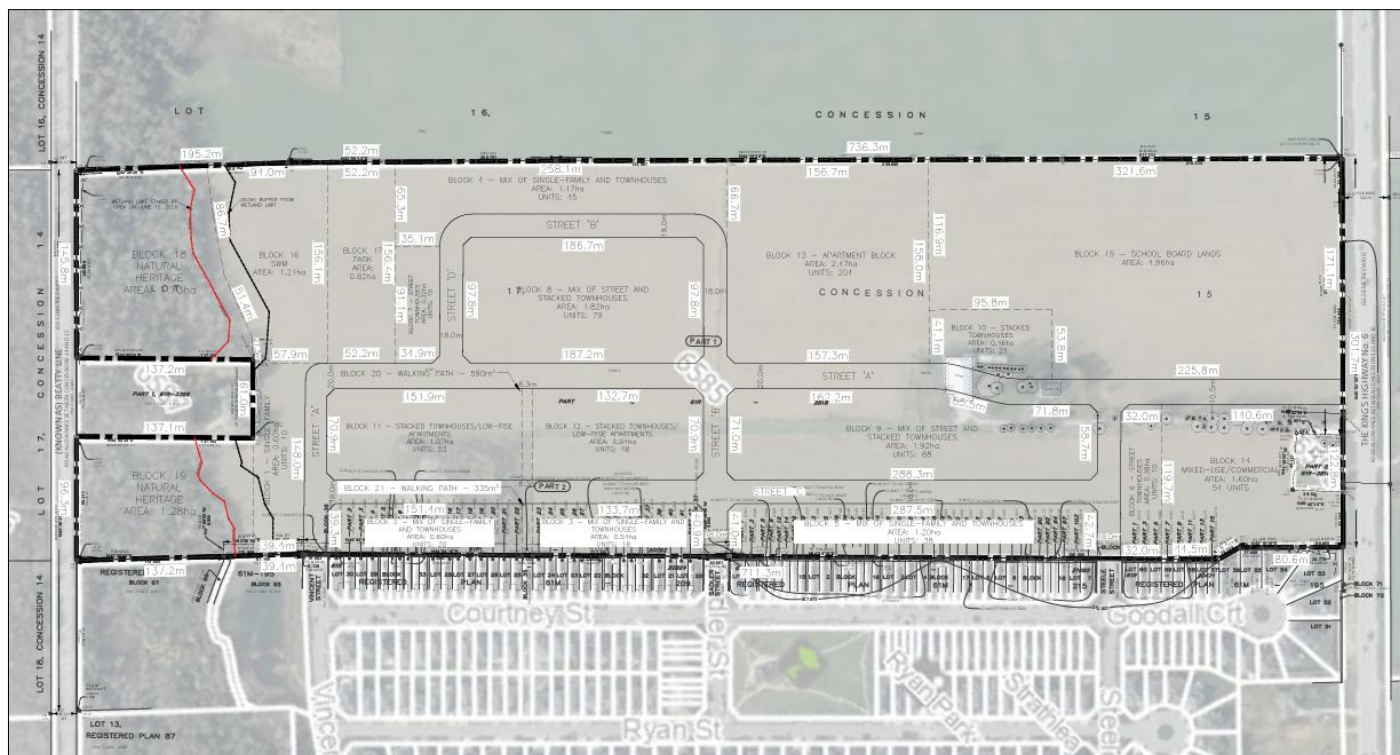


Figure 2 Proposed Concept Plan

3. Existing Conditions

3.1 Existing Road Network

Highway 6 is a north-south Class 2B Arterial Road under the jurisdiction of the Ministry of Transportation (MTO). South of Side Road 18, the roadway is known as **St. David Street** (arterial road under the jurisdiction of the Township of Centre Wellington) and serves as the connecting link through Fergus' urban boundary. Within the study area, it has a two-lane cross-section north of Side Road 18 and is widened to a three-lane cross-section south of Side Road 18 that includes a two-way left-turn lane within the centre lane. Its intersections with Nichol Road 15, Side Road 18, and Side Road 19 are unsignalized T-intersections with the stop-control provided only along the minor approaches (on Nichol Road 15, Side Road 18, and Side Road 19) while its intersection with Gordon Street is signalized. Dedicated northbound left-turn lanes are provided at all four of the study intersections along Highway 6 in addition to a dedicated southbound left-turn lane at Gordon Street. To the north, the speed limit along Highway 6 is 80 km/h and is reduced to 60 km/h south of Side Road 18.

Nichol Road 15 is an east-west collector road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Highway 6 is an unsignalized T-intersection with the stop-control only provided along the minor approach on Nichol Road 15. The assumed speed limit along Nichol Road 15 is 50 km/h.

Side Road 18 is an east-west local road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersections with Highway 6, Beatty Line, Vincent Street, and Steele Street are all unsignalized intersections with the stop-control only provided along the minor approaches (Side Road 18

at Highway 6 and Beatty Line, Vincent Street and Steele Street at Side Road 18). The posted speed limit along Side Road 18 is 40 km/h. West of Beatty Line, Side Road 18 continues as Farley Road

Side Road 19 is an east-west local road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Highway 6 is an unsignalized T-intersection with the stop-control only provided along the minor approach on Side Road 19. The posted speed limit along Side Road 19 is 40 km/h.

Gordon Street is an east-west collector road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Highway 6 is a signalized intersection with an auxiliary left-turn lane provided in the westbound direction. The access to the commercial development on the west side of Highway 6 forms the fourth leg of the signalized intersection. unsignalized T-intersection with the stop-control only provided along the minor approach on Side Road 19. The posted speed limit along Gordon Street is 50 km/h.

Beatty Line is a north-south collector road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Side Road 18/Farley Road is unsignalized with the stop-control only provided along the minor approach on Side Road 18/Farley Road. The posted speed limit along Beatty Line is 50 km/h.

Farley Road is an east-west local road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Beatty Line is unsignalized with the stop-control only provided along the minor approach on Side Road 18/Farley Road. The assumed speed limit along Farley Road is 50 km/h. East of Beatty Line, Farley Road continues as Side Road 18.

Vincent Street is a north-south local road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Side Road 18 is unsignalized with the stop-control only provided along the minor approach on Vincent Street. The assumed speed limit along Vincent Street is 50 km/h.

Steele Street is a north-south local road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Side Road 18 is unsignalized with the stop-control only provided along the minor approach on Steele Street. The assumed speed limit along Steele Street is 50 km/h.

Courtney Street is an east-west local road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Sadler Street is unsignalized all-way stop-controlled intersection. The assumed speed limit along Courtney Street is 50 km/h.

Sadler Street is a north-south local road under the jurisdiction of Township of Centre Wellington. Within the study area, it has a two-lane cross-section. Its intersection with Courtney Street is unsignalized all-way stop-controlled intersection. The assumed speed limit along Sadler Street is 50 km/h.

The existing lane configurations and intersection control are shown in the figure below.

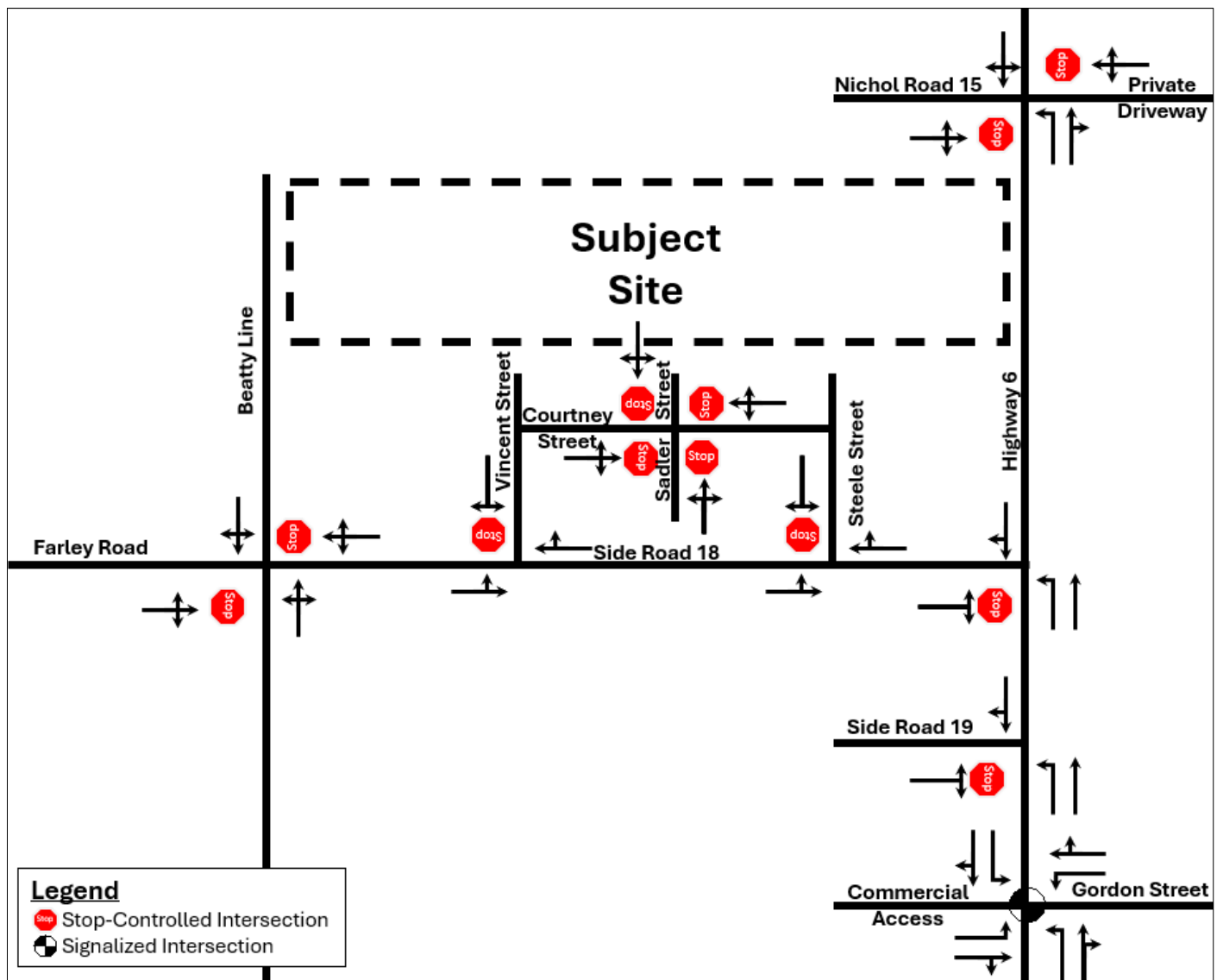


Figure 3 Existing Lane Configuration and Traffic Controls

3.2 Pedestrian and Bicycle Facilities

The following summarizes the provision of active transportation facilities within the study area:

- Sidewalks:
 - Along both sides of St. David Street south of Gordon Street and only on the west side of the road between Gordon Street and Side Road 19.
 - On both sides of Side Road 18 from Steele Street to Highway 6 and from Vincent Street to approximately 65 metres west of Vincent Street, and only on the south side of the road from 65 metres west of Vincent Street to Beatty Line.
 - On the south side of Side Road 19
 - Along both sides of Gordon Street
 - On the south side of Farley Road from Beatty Line to approximately 160 metres west of Beatty Line, and along both sides of the road beyond that

- On the east side of Vincent Street
- On the west side of Steele Street
- On the south side of Courtney Street
- On the east side of Sadler Street

There are currently no cycling facilities provided within the study area.



Figure 4 Existing Active Transportation Facilities

3.3 Transit Services

At present, Wellington County does not operate a conventional fixed-route public transit system serving Fergus, Elora, or the surrounding rural communities. Instead, public transportation within the County is primarily provided through Ride Well, an on-demand public transit service operated by Wellington County. Ride Well offers advance-booked, shared-ride, door-to-door transportation throughout Wellington County, including Fergus, Elora, Guelph/Eramosa, Erin, Minto, Mapleton, Puslinch, and Wellington North, as well as connections to the City of Guelph.

For residents of Fergus, Ride Well provides access to local destinations within the community as well as regional connections to employment, educational, medical, commercial, and recreational destinations throughout Wellington County and Guelph. Trips are booked in advance through an online portal or by telephone, with passengers picked up and dropped off at requested locations rather than at designated transit stops. The service is intended to improve

mobility options for residents who may not have access to a private vehicle, including seniors, students, and individuals with accessibility needs.

3.4 Existing Traffic Data

GHD contracted Ontario Traffic Inc. to conduct updated turning movement counts at all existing study intersections in June 2026. The baseline 2026 traffic volumes for the a.m. and p.m. peak hours are summarized in **Figure 5** below with the full turning movement counts provided in **Appendix C**.

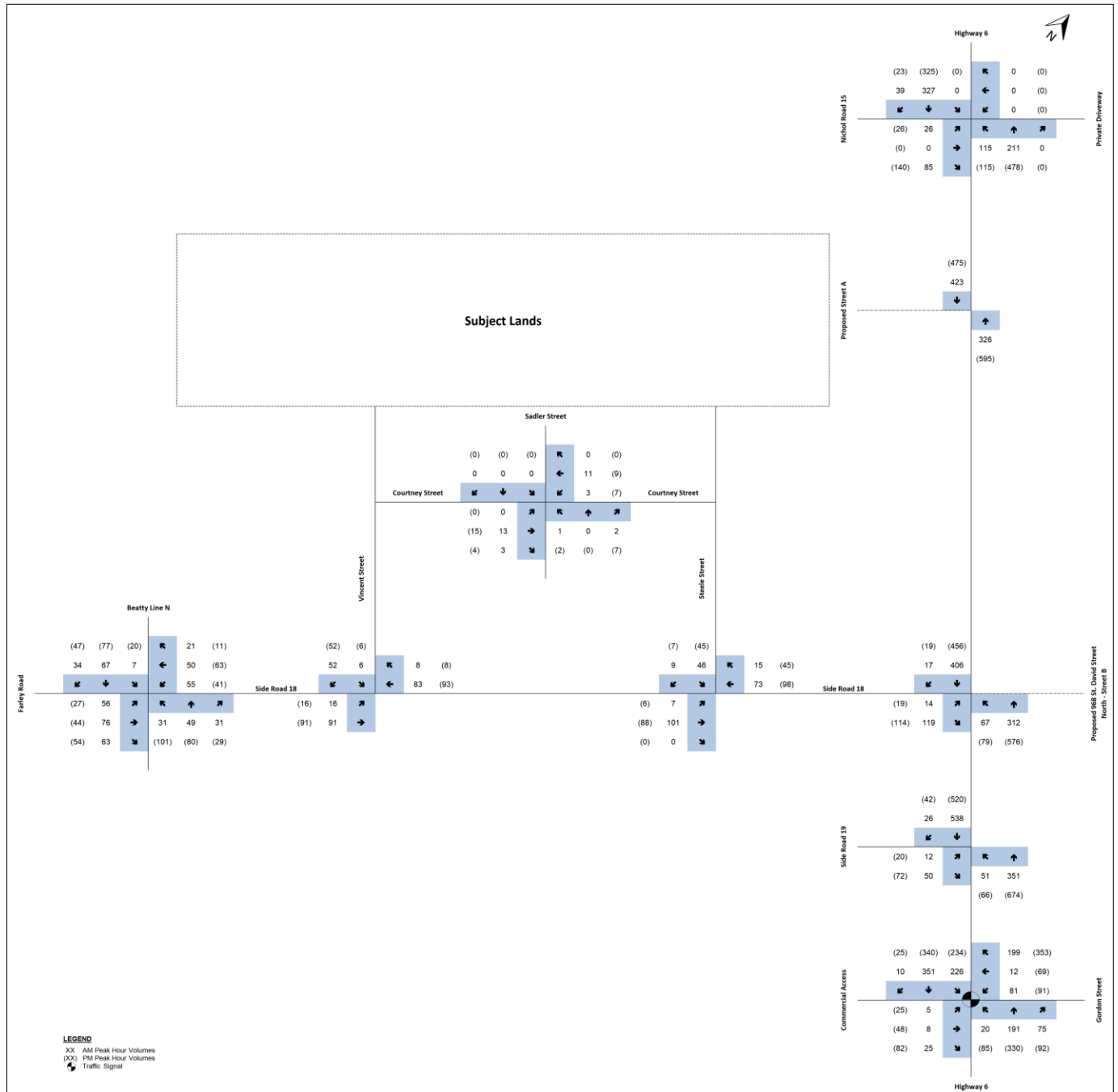


Figure 5 Baseline 2026 Traffic Volumes

4. Future Conditions

4.1 Study Horizon Year

Future horizon years of 2029, 2034, and 2039 were selected to assess the long-term transportation impacts of the proposed development. These horizon years represent the anticipated full build-out of the development, as well as conditions five and ten years beyond build-out, allowing for the evaluation of both near-term and longer-term operational performance of the transportation network.

The selected horizon years are consistent with the MTO's Traffic Impact Study Guidelines, which recommend assessing traffic conditions at the anticipated year of full site build-out and at future planning horizons beyond build-out.

4.2 Corridor Growth

A linear annual background growth rate of 2.0% was applied to existing traffic volumes on the study area road network to account for anticipated growth in travel demand. This growth rate is consistent with assumptions used in other transportation studies completed within the broader Fergus and Centre Wellington area. An exception however was Beatty Line, where a lower annual growth rate of 1.0% was applied based on the assumptions identified in a recent transportation study completed for a development along Beatty Line.

4.3 Background Development Traffic

Consistent with standard Traffic Impact Study practice, all reasonably foreseeable approved, draft approved, and active development applications within the study area were assumed to proceed for the purposes of assessing a conservative future background condition.

A review of the Township of Centre Wellington's development application portal was completed to identify developments located in proximity to the subject site that would generate additional traffic along the study area roadways. The following developments have been identified:

- 6581 Highway 6
- 968 St David St N
- 6586 Beatty Line N
- 961 St David St N
- 6704 Beatty Line N

With the exception of 6704 Beatty Line N, all developments noted above were included as background developments. 6704 Beatty Line N was not included as there is no Traffic Impact Study or Concept Plan available for these lands on the portal.

The locations of the included background developments are shown in **Figure 6** below.



Figure 6 Location of Background Developments

The estimated site trips generated by the proposed background developments were extracted from their respective Traffic Impact Studies and are summarized in **Table 1** below with detailed excerpts from the background studies attached in **Appendix D**.

It has been assumed that all background developments are built-out and fully occupied prior to the 2029 horizon year, unless otherwise noted in the table below. The intent is not to predict the exact timing of individual developments, but rather to ensure sufficient transportation capacity exists under a reasonable future growth scenario.

Table 1 Background Development Traffic

Background Development	Parameter	Peak Hour Trips					
		Weekday AM			Weekday PM		
		In	Out	Total	In	Out	Total
6581 Highway 6	661 dwelling units (mix of single detached, street townhouse and stacked townhouse units) and 23,680 ft ² of commercial GFA.	62	187	249	189	121	310
968 St David St N	308 dwelling units (mix of single detached, street townhouse and stacked townhouse units) and 23,680 ft ² of commercial GFA.	74	145	219	175	126	301

6586 Beatty Line N	569 residential units (368 detached dwellings and 201 townhouses)	95	255	350	280	180	460
961 St David St N	50 residential units (13 single family and 37 townhouse units)	7	20	27	21	13	34

The total background development volumes are illustrated in **Figure 7**.

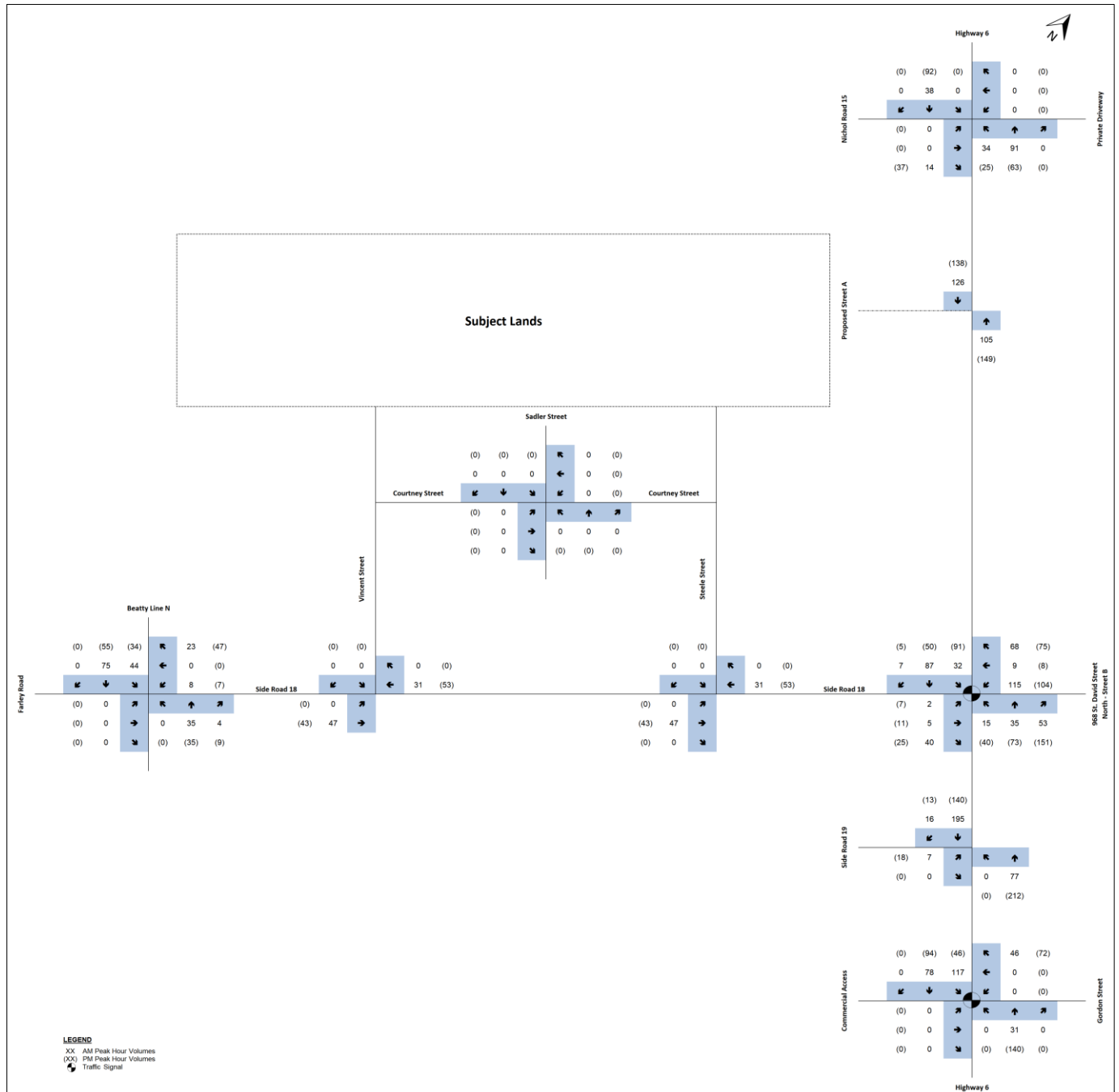


Figure 7 Total Background Development Traffic

4.4 Background Development-Related Proposed Road Improvements

A review of the Traffic Impact Studies prepared in support of nearby developments was undertaken to identify roadway improvements incorporated into the future transportation network and reflected in the background traffic forecasts. These improvements were identified in previous studies as necessary to address projected capacity and operational deficiencies resulting from anticipated background growth and planned development within the study area.

Based on this review, the following roadway and intersection improvements have been assumed under future background conditions:

- Widening of Highway 6 to a four-lane cross-section within the study area.
- Construction of a new east leg at the Highway 6 and Side Road 18 intersection (identified as Street B), creating a four-legged intersection.
- Installation of traffic control signals at the Highway 6 and Side Road 18/Street B intersection.
- Provision of additional turning lanes at the Highway 6 and Side Road 18/Street B intersection, including:
 - A southbound left-turn lane on Highway 6;
 - An eastbound left-turn lane on Street B; and
 - A westbound left-turn lane on Side Road 18.

The future lane configurations and traffic control assumptions derived from the background studies are illustrated in **Figure 8** and have been incorporated into the future background traffic analysis completed as part of this study. It should be noted that these improvements have been identified through previous transportation studies and represent planning assumptions used to develop future traffic forecasts, however, these improvements have not been formally approved, endorsed, or committed to by the MTO, Wellington County, or the Township of Centre Wellington.

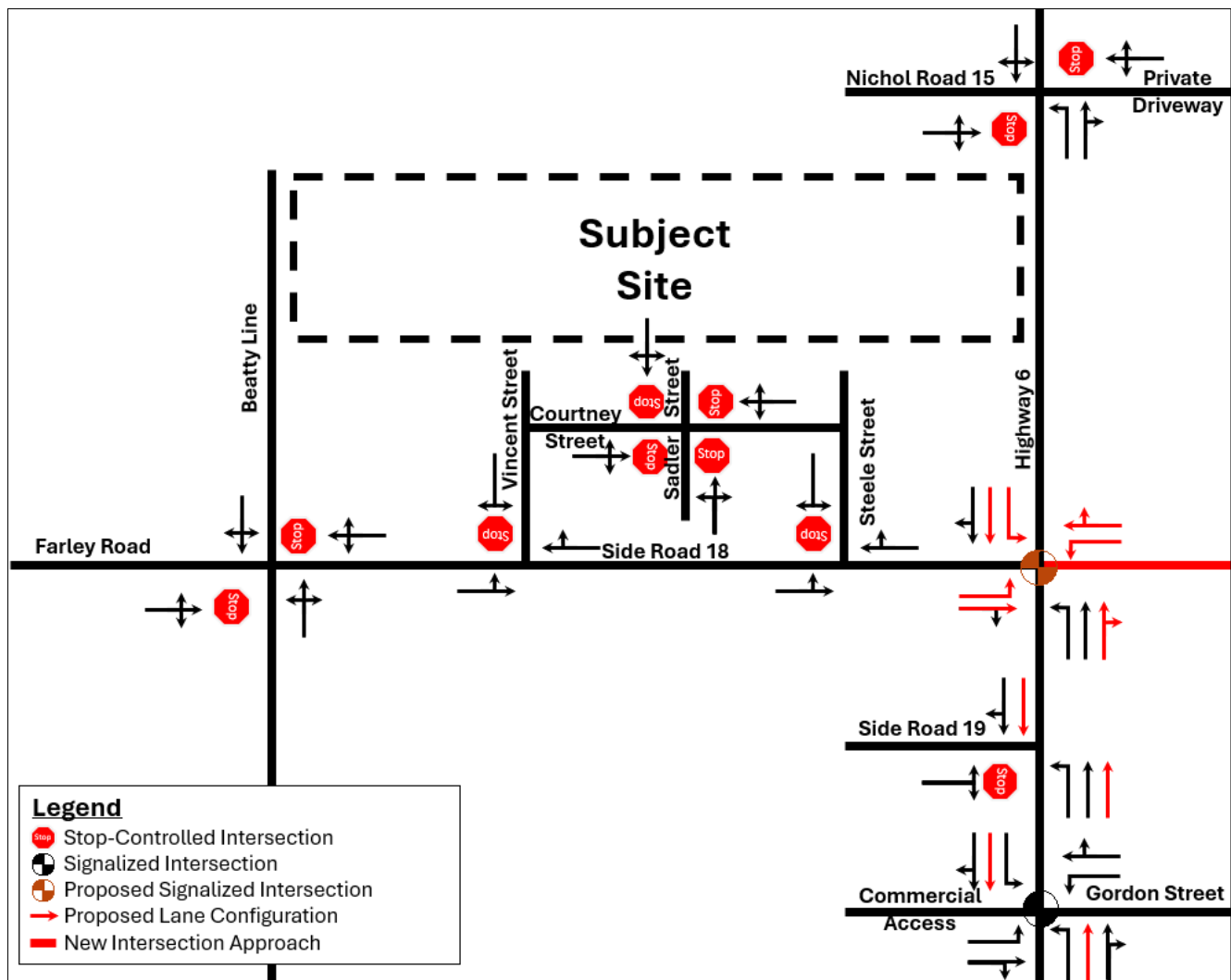


Figure 8 Background Development-Related Proposed Lane Configuration and Traffic Controls

4.5 Future Background Traffic Volumes

The background traffic volumes for the 2029, 2034, and 2039 horizon year were derived by applying the 2% per annum growth rates to the study area roads and the corresponding total background development traffic. The resulting 2029, 2034, and 2039 future background traffic volumes are summarized in **Figure 9**, **Figure 10**, and **Figure 11**, respectively.

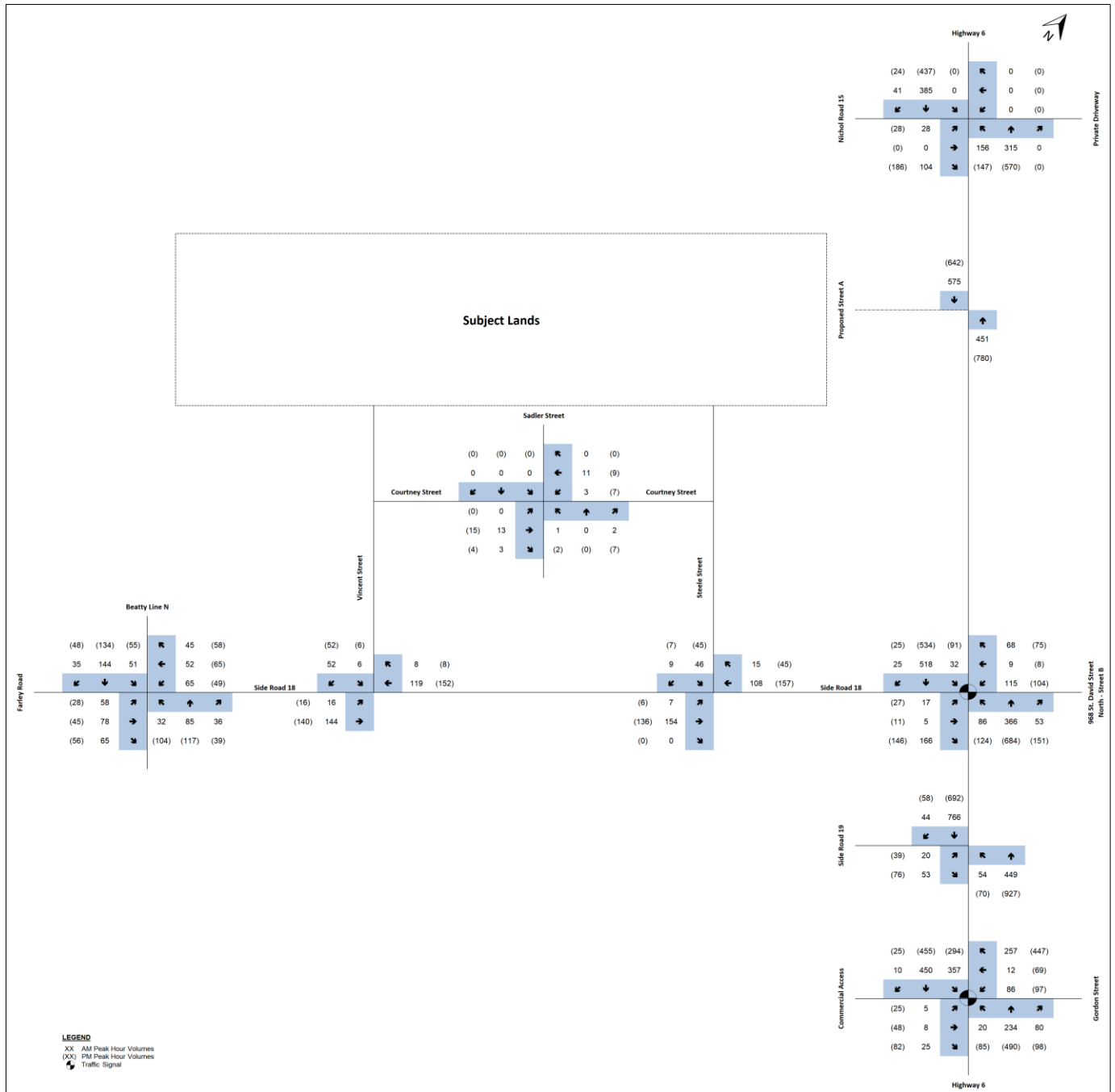


Figure 9 2029 Future Background Traffic Volumes

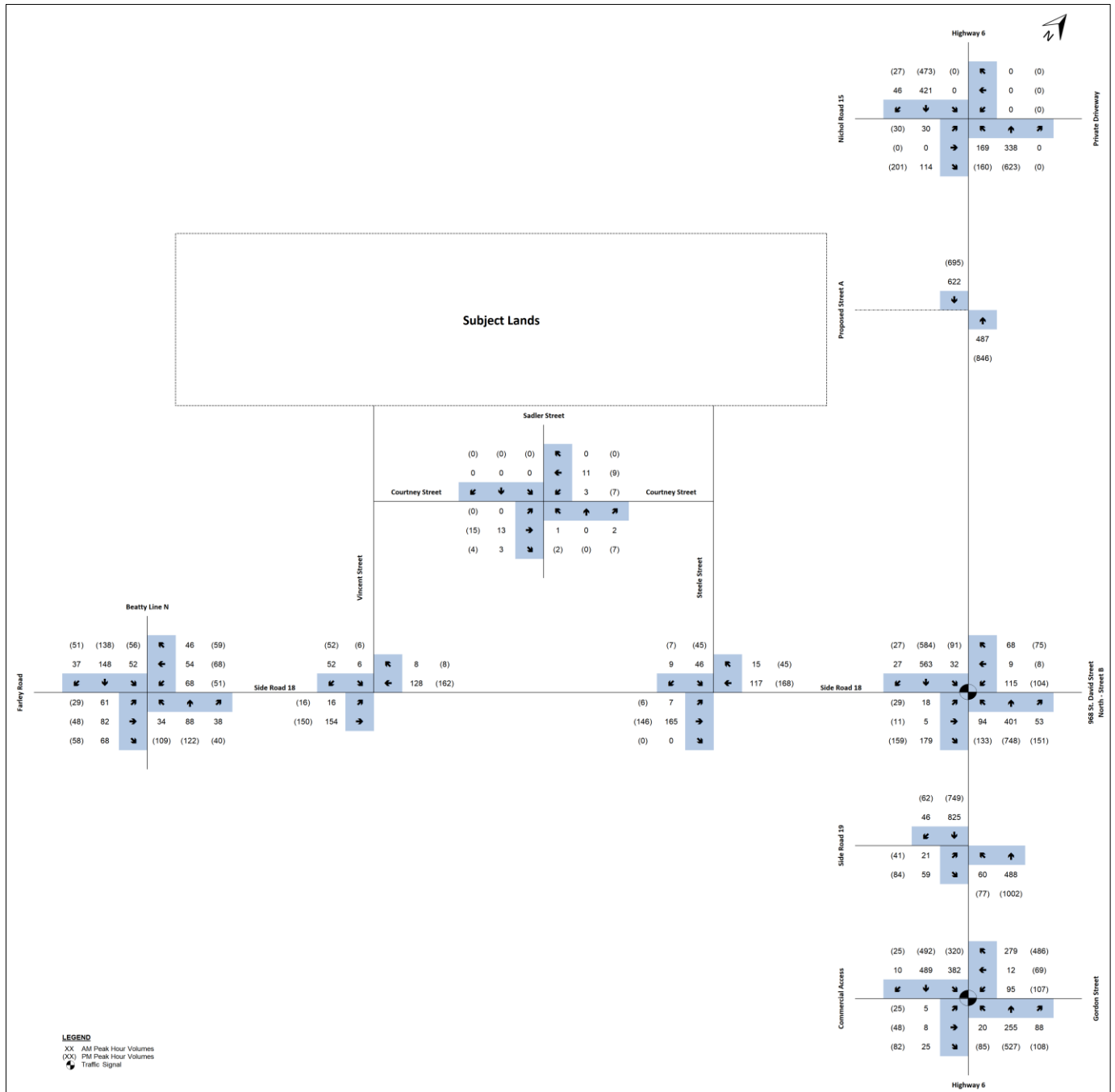


Figure 10 2034 Future Background Traffic Volumes

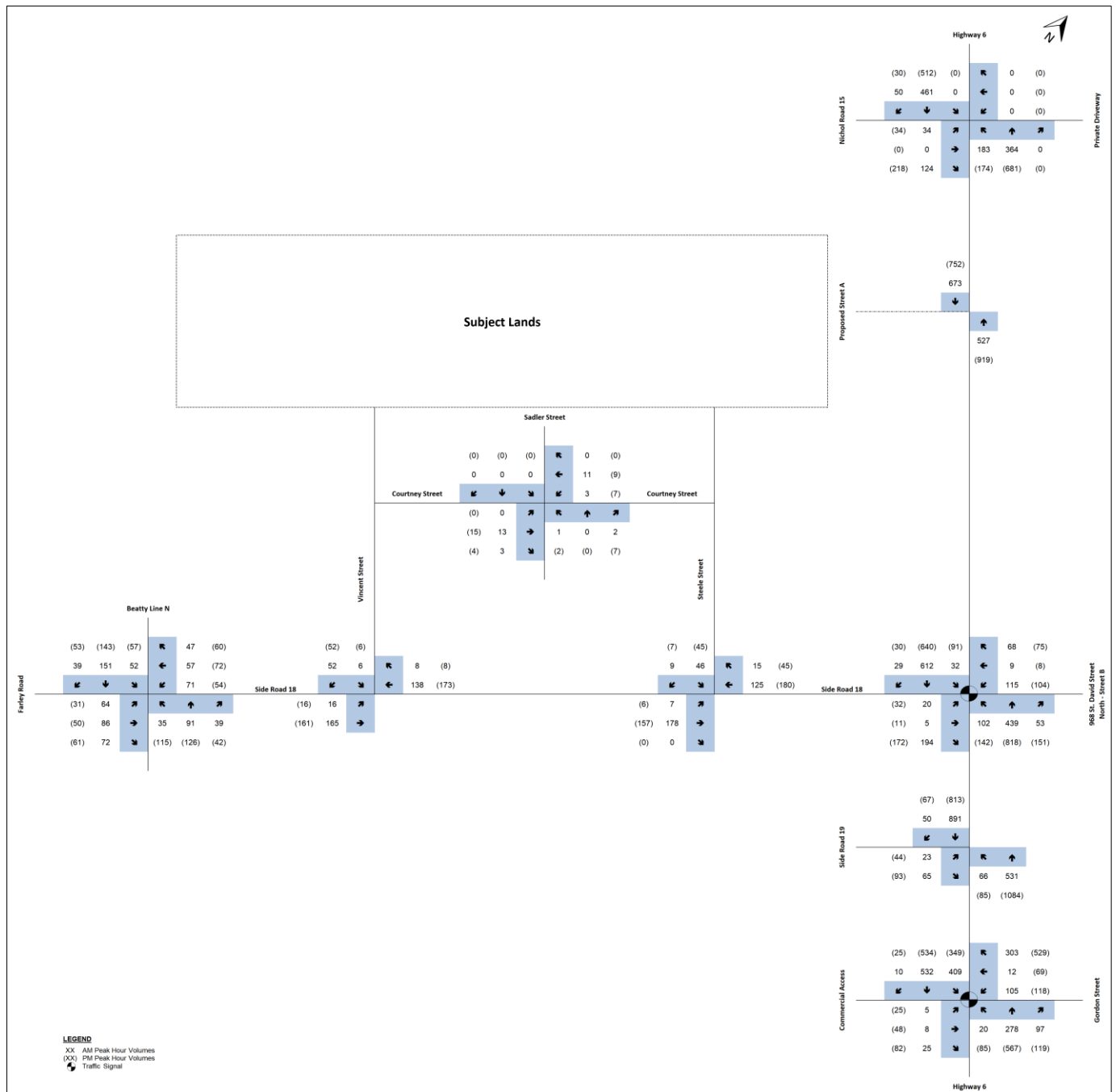


Figure 11 2039 Future Background Traffic Volumes

5. Site Generated Traffic

5.1 Site Trip Generation

The proposed development is comprised of a total 701 dwelling units, a mixed-use/commercial block, and a school block. The 701 dwelling units consist of:

- 151 single-family dwelling units

- 191 street townhouses dwelling units
- 101 stacked townhouses/low-rise apartments dwelling units
- 204 dwelling units located within the apartment building block
- 54 dwelling units in the mixed-use/commercial block

The retail GFA will be based on 20% lot coverage which is consistent with the assumptions in the Functional Servicing Report, as the block mixed-use block may consist of the commercial at grade on one part of the block and standalone residential on another part of the block. As a result, the 1.6-hectare block is estimated to contain 34,444.51 ft² of commercial GFA.

School board staff have noted that the proposed school within the school block will have a capacity of 750 students.

Trip generation estimates for the weekday a.m. and p.m. peak hours were developed using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition, and associated Trip Generation Handbook, 3rd Edition. The definitions provided by ITE were reviewed to determine the best applicable Land Use Code (LUC).

The following summarizes the selection of each LUC:

- LUC 210 – Single-Family Detached Housing was selected for all single-family dwelling units as LUC 210 is defined by ITE as being any single-family detached home on an individual lot.
- LUC 215 – Single-Family Attached Housing was selected for the street townhouses and stacked townhouses as LUC 210 is defined by ITE as being any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space and includes townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).
- LUC 221 – Multifamily Housing (Mid-Rise) - Not Close to Rail Transit was selected for the apartment building block and the mixed-use/commercial as LUC 221 is defined by ITE as being a residential building with between four and 10 floors of residence. Access to individual dwelling units is through an outside building entrance, a lobby, elevator, and a set of hallways. Although the height of the building has not been established, the Township's Zoning By-law states that the maximum building height is 4 storeys. As a result, LUC 221 was selected to align with the maximum heights permitted.
- LUC 822 – Strip Retail Plaza was selected for the commercial use block as the total GFA falls below the 40,000 ft² threshold identified by ITE for retail uses.
- LUC 525 – High School was selected for the school block as the school board has identified that the school will serve grades 7-12.

It should be noted that the school block will be subject to its own Traffic Impact Study that will be completed at a later date. However, for the purpose of this Traffic Study that covers the overall development lands it has been accounted for based on the latest information provided by the school board.

A review of the trip generation methodology was completed to determine the appropriate application of fitted curve equations and average trip rates in accordance with Section 4.4 of the ITE Trip Generation Handbook (3rd Edition)

- LUC 210, LUC 215, LUC 221: as the unit count for each residential land use falls within the data extremes and the data set contains 20 or more valid data points for both the a.m. and p.m. peak hours the trip generation was calculated using the fitted curve equation associated with the respective LUCs.
- LUC 822: as a fitted curve equation is not provided during the a.m. p.m. peak hour, the average rate was used. During the p.m. peak hour, as the GFA falls within the data extremes and the data set contains 20 or more valid data points, the fitted curve equation was used.
- LUC 525: during the a.m. peak hour, the student count falls within the data extremes and the data set contains 20 or more valid data points, resulting in the trip generation being calculated using the fitted curve equation associated with LUC 525. During the p.m. peak hour, a fitted curve equation is not provided during the p.m. peak hour, and as a result the average rate was used.

No transit mode share adjustments were applied to the ITE Trip Generation rates, as transit service within the surrounding area is limited.

Table 2 summarizes the estimated trip generation for the subject site.

Table 2 Total Site Trip Generation

Land Use (LUC)	Units/GFA/ Students	Parameters	Peak Hour Trip Generation					
			Weekday AM			Weekday PM		
			In	Out	Total	In	Out	Total
Single Family (210)	151 dwelling units	Trip Rates	0.192	0.517	0.709	0.576	0.358	0.934
		Gross Trips	29	78	107	87	54	141
Townhouse (215)	292 dwelling units	Trip Rates	0.130	0.408	0.538	0.312	0.233	0.545
		Gross Trips	38	119	157	91	68	159
Apartment (221)	258 dwelling units	Trip Rates	0.085	0.306	0.391	0.236	0.136	0.372
		Gross Trips	22	79	101	61	35	96
Commercial (822)	34,444.51 ft² commercial GFA	Trip Rates	2.148	1.771	3.919	2.584	2.555	5.139
		Gross Trips	74	61	135	89	88	177
Total Subject Site Primary Trips			163	337	500	328	245	573
High School (525)	750 students	Trip Rates	0.432	0.203	0.635	0.072	0.079	0.151
		Gross Trips	324	152	476	54	59	113
Total Primary Trips			487	489	976	382	304	686

Based on the assumed ITE trip generation rates, full build-out of the proposed development is expected to generate a total of 976 two-way vehicle trips during the a.m. peak hour consisting of 487 inbound and 489 outbound trips. During the p.m. peak hour, it is expected to generate 686 new two-way vehicle trips consisting of 382 inbound and 304 outbound trips.

5.2 Site Traffic Distribution and Assignment

The site-generated traffic was distributed based on a review of existing travel patterns, the 2022 Transportation Tomorrow Survey (TTS) data, the trip distribution established through the background developments, and first principles.

The residential trip distribution is provided in **Table 3**, for the retail use in **Table 4**, and for the school use in **Table 5**. It should be noted that the retail and school uses included an internal distribution that accounts for some vehicle trips that may occur between the residential use and the retail and school uses.

Table 3 Site Traffic Distribution – Residential

Peak Period	Direction	North Hwy 6	North Beatty Line	South Hwy 6	South Beatty Line	East Gordon Street	West Farley Road
AM	Inbound	25%	5%	35%	5%	25%	5%
	Outbound	10%	5%	45%	5%	30%	5%
PM	Inbound	15%	5%	40%	10%	25%	5%
	Outbound	10%	5%	45%	5%	30%	5%

Table 4 Site Traffic Distribution – Retail

Peak Period	Direction	North Hwy 6	North Beatty Line	South Hwy 6	South Beatty Line	East Gordon Street	West Farley Road	Internal
AM	Inbound	5%	5%	40%	10%	20%	10%	10%
	Outbound	10%	5%	35%	5%	25%	10%	10%
PM	Inbound	10%	5%	35%	10%	20%	10%	10%
	Outbound	5%	5%	40%	5%	25%	10%	10%

Table 5 Site Traffic Distribution – School

Peak Period	Direction	North Hwy 6	North Beatty Line	South Hwy 6	South Beatty Line	East Gordon Street	East Adjacent Street B	East Adjacent Street G	West Farley Road	Internal
AM	Inbound	0%	0%	20%	10%	10%	20%	20%	10%	10%
	Outbound	5%	5%	25%	5%	20%	10%	10%	10%	10%
PM	Inbound	5%	5%	20%	10%	20%	10%	10%	10%	10%
	Outbound	0%	0%	25%	5%	10%	20%	20%	10%	10%

The site generated traffic assignment to the study area road network is provided in **Figure 12** for the residential use, **Figure 13** for the retail use, **Figure 14** for the school use, and the total site trips provided in **Figure 15**.

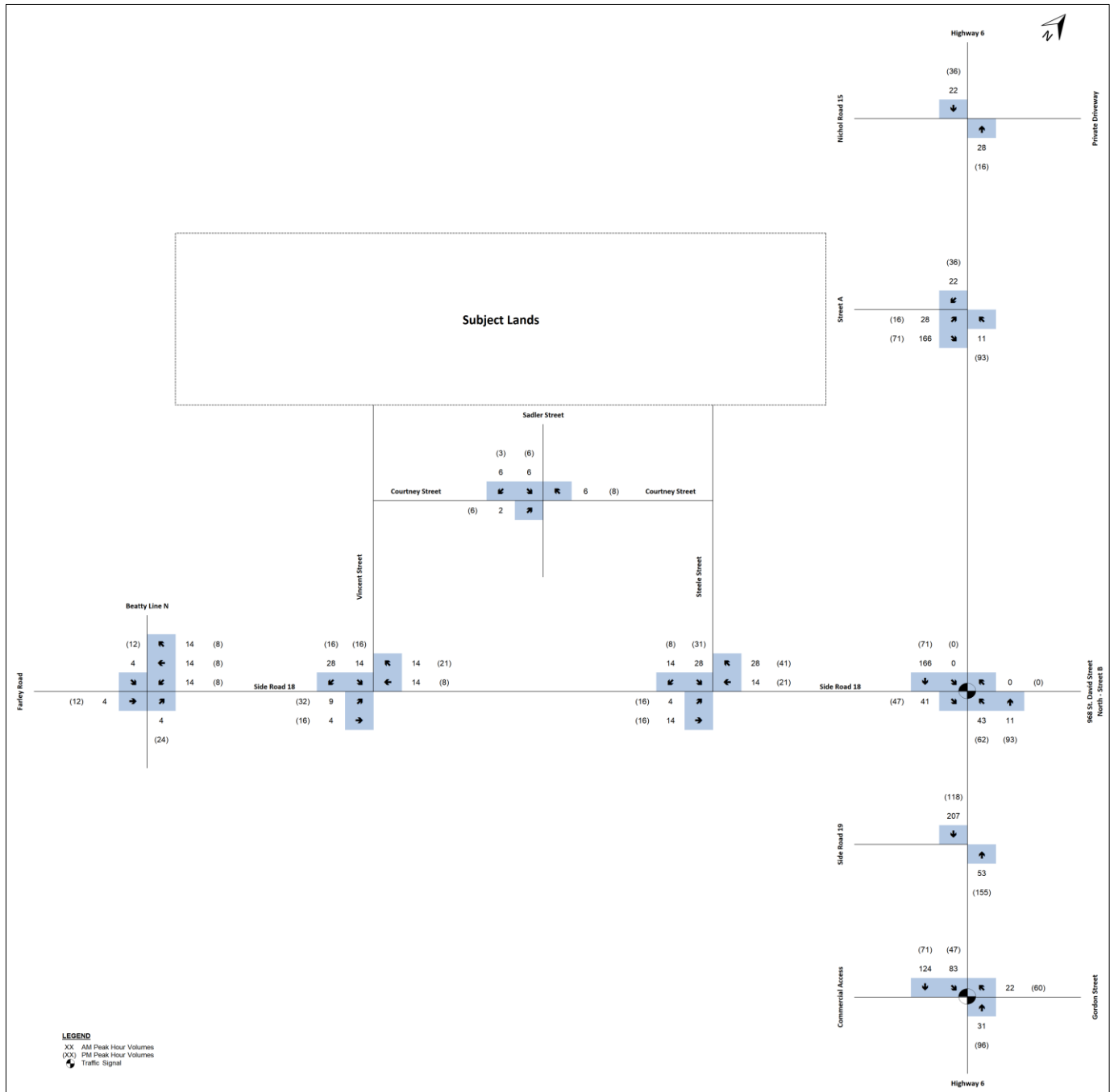


Figure 12 Site Trips – Residential

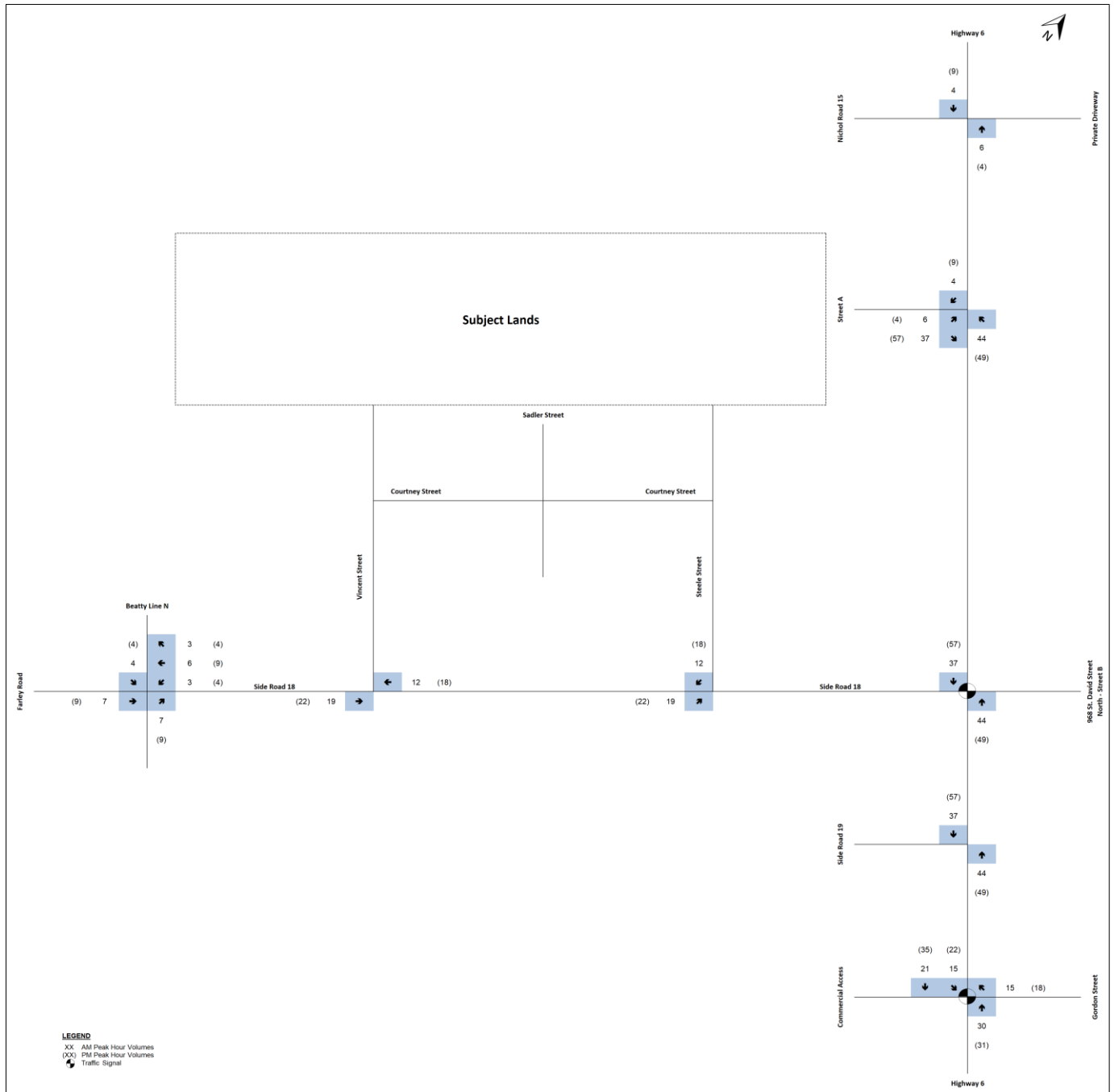


Figure 13 Site Trips – Retail



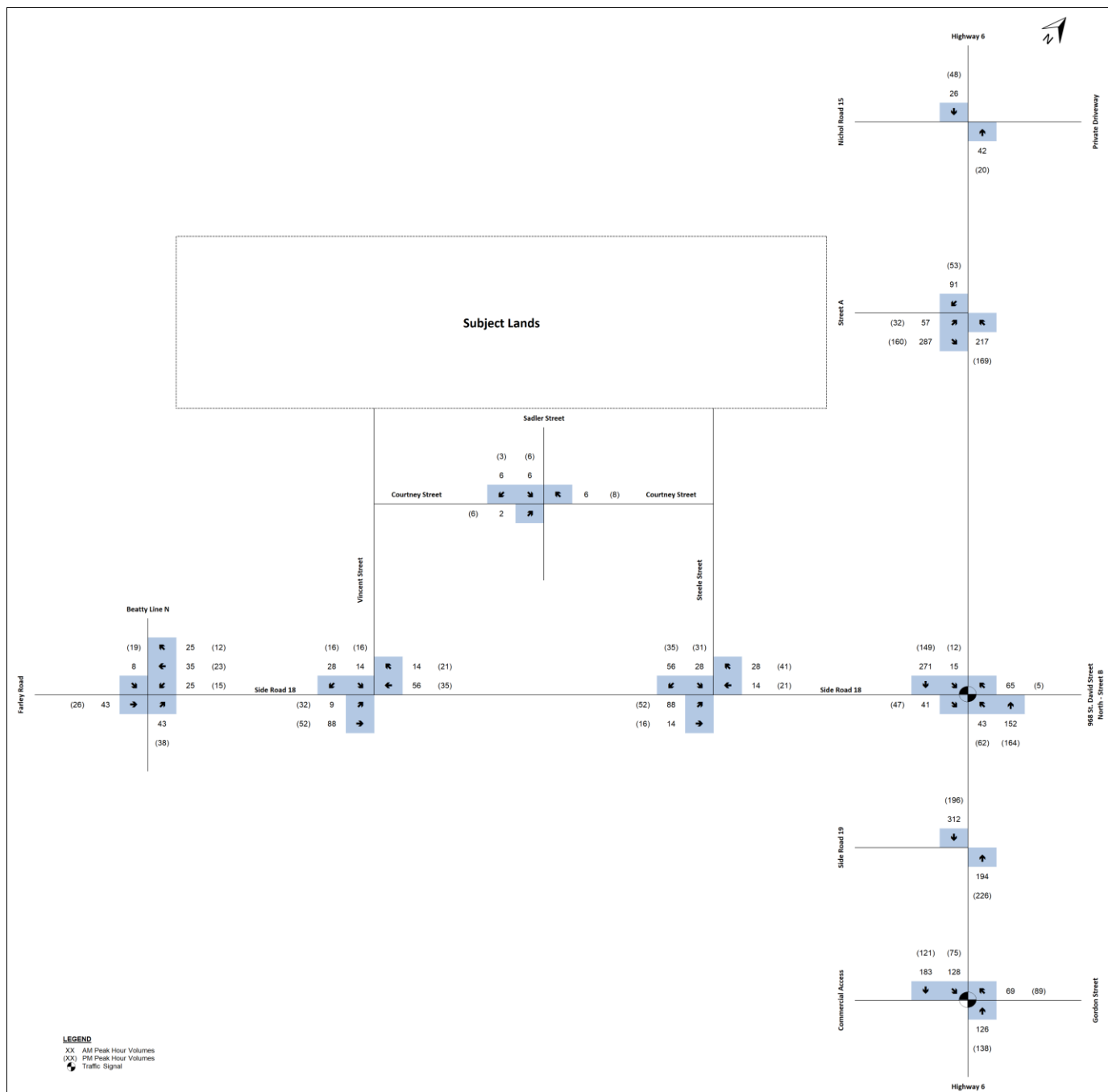


Figure 15 Total Site Trips

6. Future Total Traffic

The future total traffic conditions in the weekday a.m. and p.m. peak hours for the 2029, 2034, and 2039 planning horizon was derived by combining the projected future background traffic with the corresponding estimated site generated traffic. The resulting traffic volumes are presented in **Figure 16**, **Figure 17**, and **Figure 18**, for the for the 2029, 2034, and 2039 horizon years, respectively.

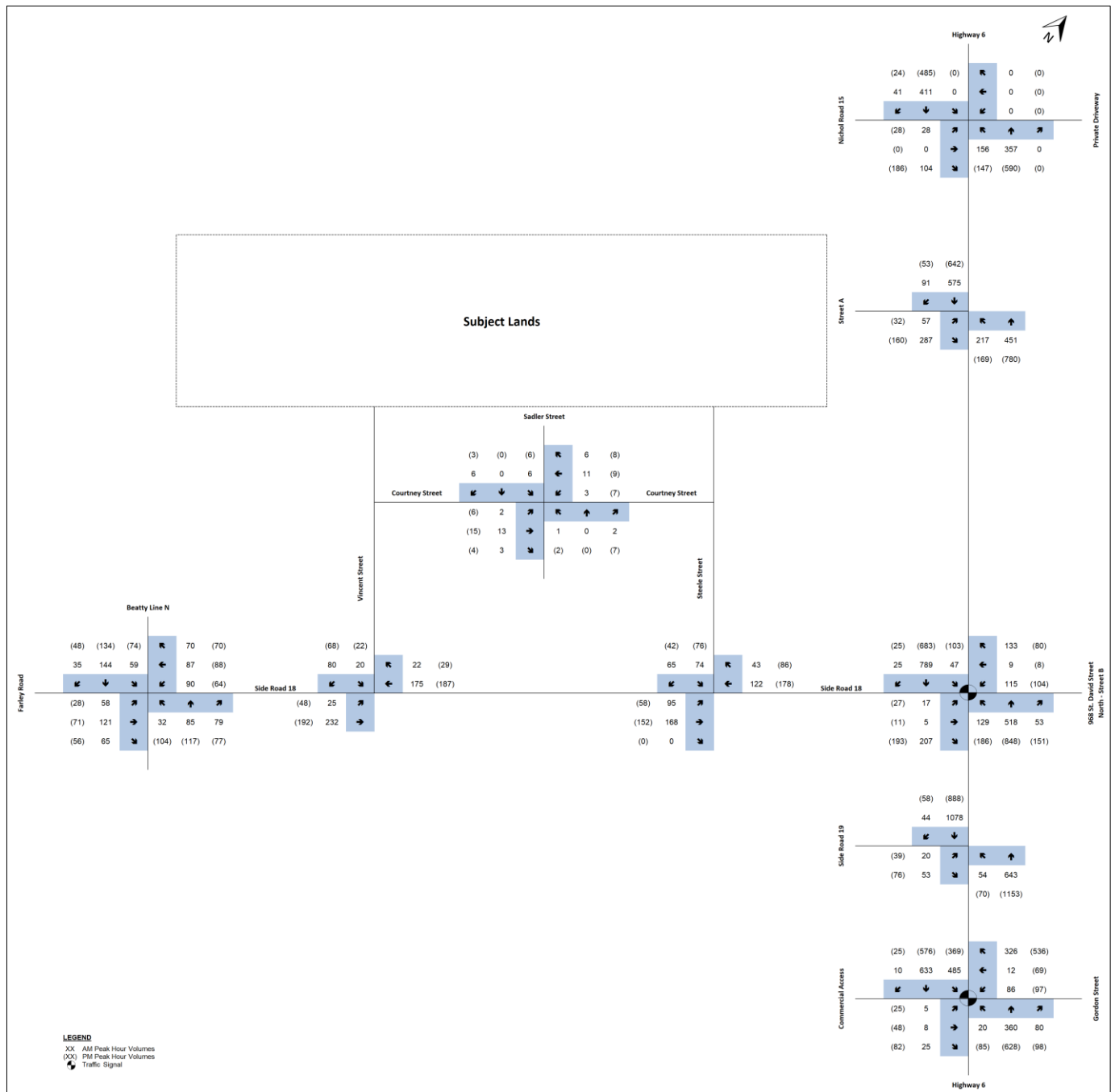


Figure 16 2029 Future Total Traffic Volumes

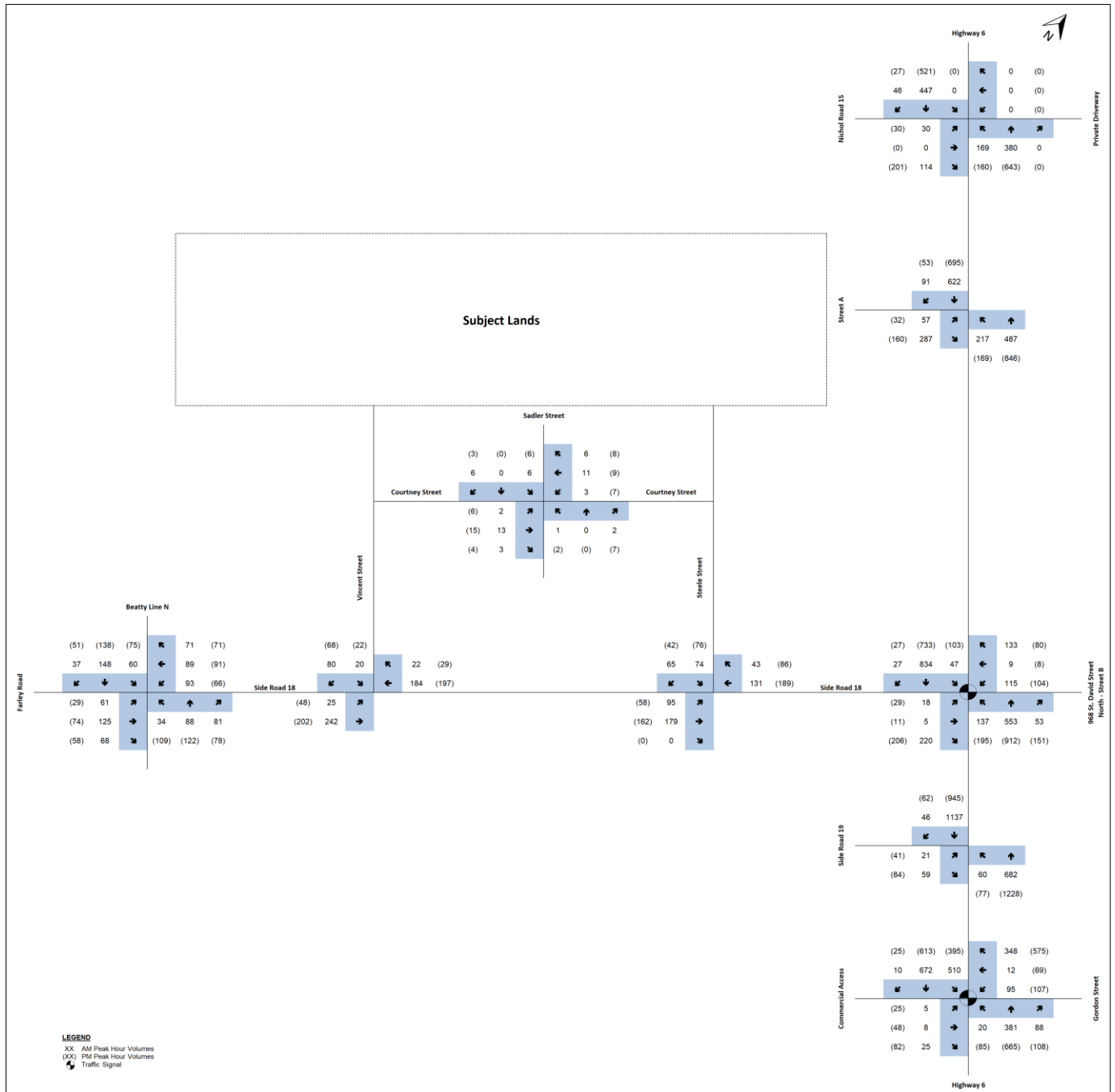


Figure 17 2034 Future Total Traffic Volumes

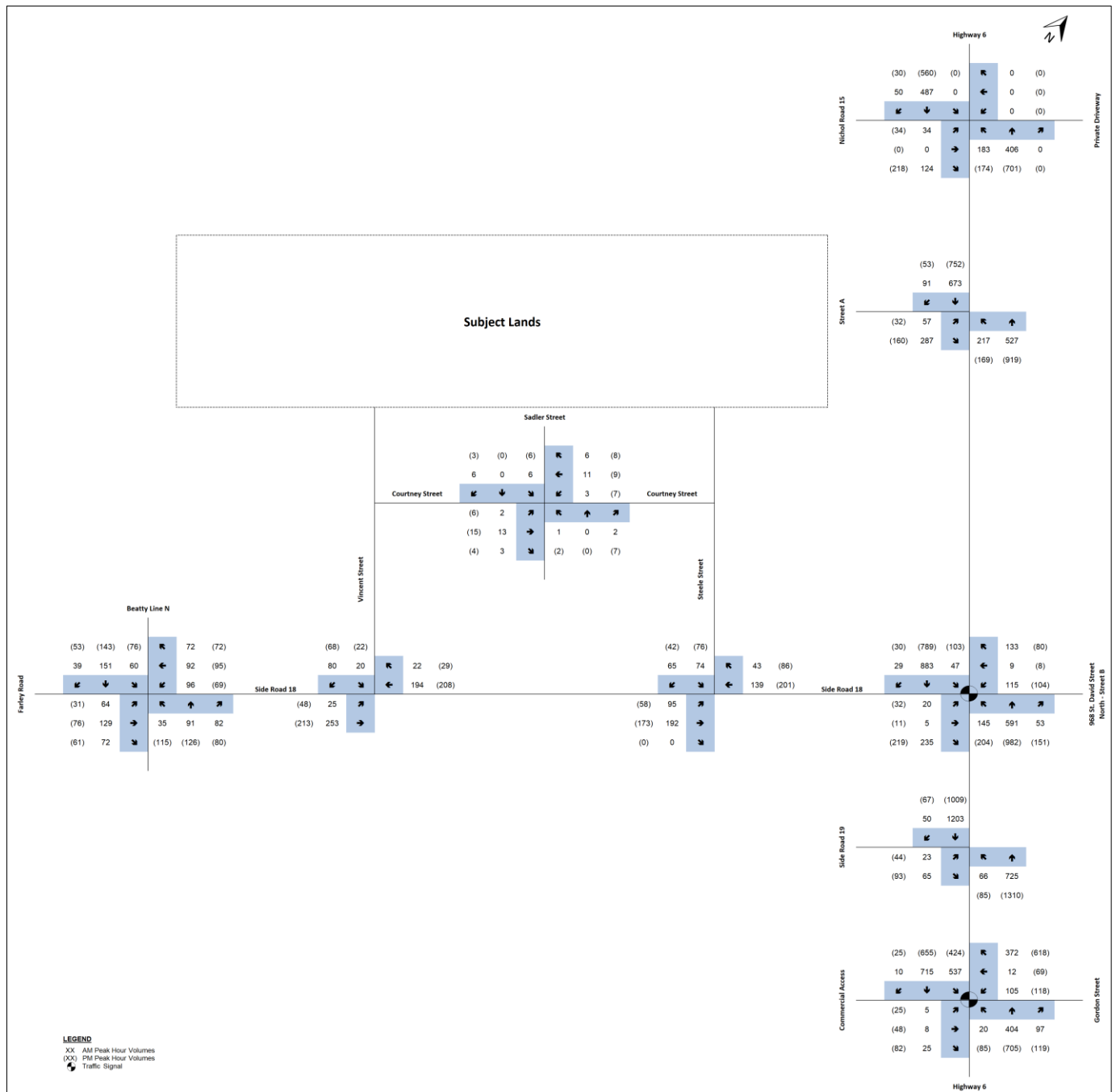


Figure 18 2039 Future Total Traffic Volumes

7. Capacity Analysis

The capacity analysis identifies how well the intersections and driveways are operating. The analysis contained within this report utilized the Highway Capacity Manual (HCM) 2000 procedure within the Synchro Version 12 Software package. The reported intersection volume-to-capacity ratios (v/c) are a measure of the saturation volume for each turning movement, while the levels-of-service (LOS) are a measure of the average delay for each turning movement. Queuing characteristics are reported as the predicted 95th percentile queue for each turning movement. Both pedestrian crossing volumes and heavy vehicle proportions are included in the analyses. The peak hour factors from the counts were used to analyze existing and future traffic conditions.

The analysis includes identification and required modifications and improvements (if any) at intersections where the addition of background growth or background growth plus site-generated traffic volumes causes the following:

'Critical' intersections and movements for intersections and ramp terminals under the MTO's jurisdiction include:

- For signalized intersections, movements with a volume/capacity (v/c) ratio greater than 0.85

The Township of Centre Wellington does not provide guidance relating to identifying critical movements, however the following criteria was used based on the County of Wellington Traffic Impact Study Guidelines:

- For signalized intersections
 - Volume to Capacity (v/c) ratio for the overall intersection operation, through movements, or shared through/turn movements is greater than 0.85;
 - v/c ratio for a dedicated left or right turn movement is greater than 0.90; and/or
 - 95th percentile queues exceed available storage.
- For unsignalized intersections
 - Overall intersection Level of Service is LOS E or F; and/or
 - 95th percentile queues exceed available storage.

The following tables summarize the HCM capacity results for the study intersections during the weekday a.m. and p.m. peak hours under existing (2026), future background (2029, 2034, and 2039) and future total (2029, 2034, and 2039) traffic conditions. The detailed calculation sheets are provided in **Appendix E**.

7.1 Highway 6 and Nichol Road 15

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 6 Capacity Analysis of Highway 6 and Nichol Road 15

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBTL = 0.14 (B) 14 EBR = 0.14 (B) 14 WBTLR = 0 (A) 0 NBL = 0.11 (A) 9 NBTR = 0.13 (A) 0 SBTLR = 0 (A) 0	EBTL = 5 m EBR = 5 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTLR = 0 m	EBTL = 0.21 (B) 15 EBR = 0.21 (B) 15 WBTLR = 0 (A) 0 NBL = 0.1 (A) 8 NBTR = 0.3 (A) 0 SBTLR = 0 (A) 0	EBTL = 10 m EBR = 10 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTLR = 0 m
Future Background 2029	EBTL = 0.2 (C) 17 EBR = 0.2 (C) 17 WBTLR = 0 (A) 0 NBL = 0.16 (A) 9 NBTR = 0.2 (A) 0 SBTLR = 0 (A) 0	EBTL = 5 m EBR = 5 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTLR = 0 m	EBTL = 0.33 (C) 20 EBR = 0.33 (C) 20 WBTLR = 0 (A) 0 NBL = 0.14 (A) 9 NBTR = 0.35 (A) 0 SBTLR = 0 (A) 0	EBTL = 15 m EBR = 15 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTLR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2029	EBTL = 0.22 (C) 18 EBR = 0.22 (C) 18 WBTLR = 0 (A) 0 NBL = 0.16 (A) 9 NBTR = 0.23 (A) 0 SBTLR = 0 (A) 0	EBTL = 10 m EBR = 10 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTLR = 0 m	EBTL = 0.47 (C) 19 EBR = 0.47 (C) 19 WBTLR = 0 (A) 0 NBL = 0.15 (A) 9 NBTR = 0.37 (A) 0 SBTR = 0.32 (A) 0	EBTL = 20 m EBR = 20 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTR = 0 m
Future Background 2034	EBTL = 0.26 (C) 19 EBR = 0.26 (C) 19 WBTLR = 0 (A) 0 NBL = 0.18 (A) 9 NBTR = 0.22 (A) 0 SBTLR = 0 (A) 0	EBTL = 10 m EBR = 10 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTLR = 0 m	EBTL = 0.53 (C) 22 EBR = 0.53 (C) 22 WBTLR = 0 (A) 0 NBL = 0.16 (A) 9 NBTR = 0.39 (A) 0 SBTLR = 0 (A) 0	EBTL = 25 m EBR = 25 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTLR = 0 m
Future Total 2034	EBTL = 0.29 (C) 21 EBR = 0.29 (C) 21 WBTLR = 0 (A) 0 NBL = 0.19 (A) 9 NBTR = 0.24 (A) 0 SBTLR = 0 (A) 0	EBTL = 10 m EBR = 10 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTLR = 0 m	EBTL = 0.6 (D) 26 EBR = 0.6 (D) 26 WBTLR = 0 (A) 0 NBL = 0.17 (A) 9 NBTR = 0.4 (A) 0 SBTR = 0.34 (A) 0	EBTL = 30 m EBR = 30 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTR = 0 m
Future Background 2039	EBTL = 0.44 (C) 21 EBR = 0.44 (C) 21 WBTLR = 0 (A) 0 NBL = 0.2 (A) 10 NBTR = 0.23 (A) 0 SBTLR = 0 (A) 0	EBTL = 20 m EBR = 20 m WBTLR = 0 m NBL = 10 m NBTR = 0 m SBTLR = 0 m	EBTL = 0.74 (E) 38 EBR = 0.74 (E) 38 WBTLR = 0 (A) 0 NBL = 0.18 (A) 9 NBTR = 0.42 (A) 0 SBTR = 0.34 (A) 0	EBTL = 45 m EBR = 45 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTR = 0 m
Future Total 2039	EBTL = 0.49 (C) 25 EBR = 0.49 (C) 25 WBTLR = 0 (A) 0 NBL = 0.21 (A) 10 NBTR = 0.26 (A) 0 SBTLR = 0 (A) 0	EBTL = 20 m EBR = 20 m WBTLR = 0 m NBL = 10 m NBTR = 0 m SBTLR = 0 m	EBTL = 0.91 (F) 70 EBR = 0.91 (F) 70 WBTLR = 0 (A) 0 NBL = 0.19 (A) 10 NBTR = 0.43 (A) 0 SBTR = 0.37 (A) 0	EBTL = 70 m EBR = 70 m WBTLR = 0 m NBL = 5 m NBTR = 0 m SBTR = 0 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The lane configuration of the west leg of the intersection was inputted to reflect the existing operation in which a right-turning vehicle is able to pass between a stopped vehicle waiting to turn left and the edge of the roadway, resulting in the west leg of the intersection being modeled with separate left-turn and right-turn lanes. With the intersection calibrated to

reflect the existing operation, the greatest delays occur in the eastbound minor approach with average delays of up to 14 seconds during the a.m. peak hour and 15 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2029 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 17 seconds during the a.m. peak hour and 20 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of site generated traffic for the 2029 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increases to 18 seconds during the a.m. peak hour and to 19 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2034 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 19 seconds during the a.m. peak hour and 22 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of site generated traffic for the 2034 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 21 seconds during the a.m. peak hour and 26 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2039 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 21 seconds during the a.m. peak hour and 38 seconds during the p.m. peak hour. The intersection operates without any critical movements during the a.m. peak hour while the eastbound approach operates critically during the p.m. peak hour with a level of service E.

With the addition of site generated traffic for the 2039 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 25 seconds during the a.m. peak hour and 70 seconds during the p.m. peak hour. The intersection operates without any critical movements during the a.m. peak hour while the eastbound approach continues to operate critically during the p.m. peak hour with a level of service F while remaining below the theoretical capacity levels.

As a result, no geometric improvements are recommended for the intersection as a result of the proposed development.

7.2 Highway 6 and Side Road 18

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 7 Capacity Analysis of Highway 6 and Side Road 18

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que.
Existing 2026	EBLR = 0.23 (B) 13	EBLR = 10 m	EBLR = 0.27 (B) 14	EBLR = 10 m
	NBL = 0.06 (A) 9	NBL = 5 m	NBL = 0.08 (A) 9	NBL = 5 m
	SBTR = 0.26 (A) 0	SBTR = 0 m	SBTR = 0.29 (A) 0	SBTR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2029	EBTLR = 0.41 (C) 18 WBTLR = 0.97 (F) 101 NBL = 0.09 (A) 9 SBL = 0.03 (A) 8 SBTR = 0.33 (A) 0	EBTLR = 15 m WBTLR = 70 m NBL = 5 m SBL = 5 m SBTR = 0 m	EBTLR = 0.76 (F) 53 WBTLR = 2.21 (F) 654 NBL = 0.13 (A) 9 SBL = 0.13 (A) 10 SBTR = 0.35 (A) 0	EBTLR = 45 m WBTLR = 145 m NBL = 5 m SBL = 5 m SBTR = 0 m
Future Background 2029 (With Improvements)	<u>Overall: 0.33 (A) 10</u> EBL = 0.07 (C) 23 EBTR = 0.13 (C) 23 WBL = 0.64 (C) 32 WBTR = 0.08 (C) 23 NBL = 0.17 (A) 5 NBTR = 0.19 (A) 4 SBL = 0.06 (A) 4 SBTR = 0.25 (A) 4	EBL = 10 m EBTR = 15 m WBL = 30 m WBTR = 10 m NBL = 15 m NBTR = 20 m SBL = 5 m SBTR = 25 m	<u>Overall: 0.41 (A) 8</u> EBL = 0.12 (C) 23 EBTR = 0.14 (C) 23 WBL = 0.59 (C) 30 WBTR = 0.08 (C) 23 NBL = 0.24 (A) 5 NBTR = 0.36 (A) 5 SBL = 0.26 (A) 6 SBTR = 0.25 (A) 4	EBL = 10 m EBTR = 15 m WBL = 30 m WBTR = 15 m NBL = 15 m NBTR = 40 m SBL = 15 m SBTR = 25 m
Future Total 2029	<u>Overall: 0.45 (B) 10</u> EBL = 0.08 (C) 22 EBTR = 0.23 (C) 22 WBL = 0.7 (D) 36 WBTR = 0.12 (C) 22 NBL = 0.37 (A) 8 NBTR = 0.27 (A) 5 SBL = 0.1 (A) 4 SBTR = 0.37 (A) 5	EBL = 10 m EBTR = 20 m WBL = 35 m WBTR = 15 m NBL = 25 m NBTR = 25 m SBL = 10 m SBTR = 40 m	<u>Overall: 0.49 (A) 9</u> EBL = 0.11 (C) 23 EBTR = 0.17 (C) 23 WBL = 0.68 (D) 36 WBTR = 0.08 (C) 23 NBL = 0.44 (A) 8 NBTR = 0.44 (A) 6 SBL = 0.37 (A) 8 SBTR = 0.32 (A) 5	EBL = 10 m EBTR = 20 m WBL = 30 m WBTR = 15 m NBL = 30 m NBTR = 50 m SBL = 20 m SBTR = 35 m
Future Background 2034	<u>Overall: 0.35 (A) 10</u> EBL = 0.08 (C) 22 EBTR = 0.14 (C) 23 WBL = 0.66 (C) 33 WBTR = 0.08 (C) 22 NBL = 0.2 (A) 5 NBTR = 0.21 (A) 4 SBL = 0.06 (A) 4 SBTR = 0.27 (A) 5	EBL = 10 m EBTR = 15 m WBL = 30 m WBTR = 10 m NBL = 15 m NBTR = 20 m SBL = 5 m SBTR = 30 m	<u>Overall: 0.47 (B) 11</u> EBL = 0.14 (C) 27 EBTR = 0.15 (C) 27 WBL = 0.68 (D) 40 WBTR = 0.08 (C) 27 NBL = 0.26 (A) 4 NBTR = 0.38 (A) 5 SBL = 0.31 (B) 11 SBTR = 0.33 (A) 9	EBL = 10 m EBTR = 20 m WBL = 35 m WBTR = 15 m NBL = 15 m NBTR = 45 m SBL = 25 m SBTR = 45 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2034	Overall: 0.49 (B) 10		Overall: 0.57 (B) 12	
	EBL = 0.08 (C) 21	EBL = 10 m	EBL = 0.13 (C) 26	EBL = 10 m
	EBTR = 0.32 (C) 23	EBTR = 25 m	EBTR = 0.18 (C) 26	EBTR = 20 m
	WBL = 0.73 (D) 39	WBL = 35 m	WBL = 0.77 (D) 51	WBL = 40 m
	WBTR = 0.12 (C) 22	WBTR = 15 m	WBTR = 0.08 (C) 25	WBTR = 15 m
	NBL = 0.42 (A) 9	NBL = 25 m	NBL = 0.45 (A) 6	NBL = 20 m
	NBTR = 0.28 (A) 5	NBTR = 30 m	NBTR = 0.46 (A) 6	NBTR = 55 m
	SBL = 0.1 (A) 4	SBL = 10 m	SBL = 0.44 (B) 16	SBL = 30 m
	SBTR = 0.4 (A) 6	SBTR = 45 m	SBTR = 0.44 (B) 11	SBTR = 60 m
Future Background 2039	Overall: 0.38 (B) 10		Overall: 0.51 (B) 11	
	EBL = 0.08 (C) 22	EBL = 10 m	EBL = 0.14 (C) 26	EBL = 15 m
	EBTR = 0.15 (C) 23	EBTR = 15 m	EBTR = 0.16 (C) 26	EBTR = 20 m
	WBL = 0.69 (D) 36	WBL = 35 m	WBL = 0.68 (D) 40	WBL = 35 m
	WBTR = 0.08 (C) 22	WBTR = 10 m	WBTR = 0.08 (C) 26	WBTR = 15 m
	NBL = 0.23 (A) 5	NBL = 15 m	NBL = 0.3 (A) 5	NBL = 15 m
	NBTR = 0.23 (A) 4	NBTR = 25 m	NBTR = 0.42 (A) 5	NBTR = 50 m
	SBL = 0.06 (A) 4	SBL = 5 m	SBL = 0.35 (B) 13	SBL = 25 m
	SBTR = 0.29 (A) 5	SBTR = 30 m	SBTR = 0.38 (B) 10	SBTR = 50 m
Future Total 2039	Overall: 0.55 (B) 11		Overall: 0.61 (B) 13	
	EBL = 0.08 (C) 21	EBL = 10 m	EBL = 0.14 (C) 26	EBL = 15 m
	EBTR = 0.41 (C) 24	EBTR = 30 m	EBTR = 0.19 (C) 26	EBTR = 20 m
	WBL = 0.77 (D) 44	WBL = 40 m	WBL = 0.81 (E) 57	WBL = 40 m
	WBTR = 0.12 (C) 21	WBTR = 15 m	WBTR = 0.08 (C) 25	WBTR = 15 m
	NBL = 0.48 (B) 11	NBL = 30 m	NBL = 0.5 (A) 6	NBL = 25 m
	NBTR = 0.3 (A) 5	NBTR = 30 m	NBTR = 0.5 (A) 6	NBTR = 65 m
	SBL = 0.11 (A) 5	SBL = 10 m	SBL = 0.48 (B) 18	SBL = 30 m
	SBTR = 0.42 (A) 6	SBTR = 45 m	SBTR = 0.48 (B) 12	SBTR = 65 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The greatest delays occur in the eastbound minor approach with average delays of up to 13 seconds during the a.m. peak hour and 14 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic, including the east leg of the intersection from the background development, for the 2029 future background traffic scenario, the intersection is reported to operate critically with the westbound approach reported to operate with a v/c ratio of 0.97 LOS F and a 101 second delay during the a.m. peak hour and with a v/c ratio of 2.21 LOS F and a 654 second delay during the p.m. peak hour.

As the capacity constraints are driven by the additional traffic generated by the background development, the analysis of the intersection was completed with the improvements recommended through the background developments, including a widening of Highway 6 to a four-lane cross-section, installation of traffic control signals, and provision of left-turn lanes in all approaches.

With the proposed improvements recommended by the background traffic studies for the 2029 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.33 LOS A during the a.m. peak hour and 0.41 LOS A during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of site generated traffic for the 2029 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.45 LOS B during the a.m. peak hour and to 0.49 LOS A during the p.m. peak hour. The intersection is reported to continue to operate without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2034 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.35 LOS A during the a.m. peak hour and 0.47 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of site generated traffic for the 2034 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.49 LOS B during the a.m. peak hour and to 0.57 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic as well as signal optimization for the 2039 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.38 LOS B during the a.m. peak hour and increases to 0.51 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of site generated traffic for the 2039 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.55 LOS B during the a.m. peak hour and to 0.61 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

No further geometric improvements are recommended for the intersection as a result of the proposed development.

7.3 Highway 6 and Side Road 19

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 8 Capacity Analysis of Highway 6 and Side Road 19

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBL = 0.12 (C) 16 EBR = 0.12 (C) 16 NBL = 0.06 () 9 SBTR = 0.36 () 0	EBL = 5 m EBR = 5 m NBL = 5 m SBTR = 0 m	EBL = 0.16 (C) 18 EBR = 0.16 (C) 18 NBL = 0.07 () 9 SBTR = 0.34 () 0	EBL = 5 m EBR = 5 m NBL = 5 m SBTR = 0 m
Future Background 2029	EBL = 0.19 (D) 26 EBR = 0.19 (D) 26 NBL = 0.08 () 10 SBTR = 0.52 () 0	EBL = 5 m EBR = 5 m NBL = 5 m SBTR = 0 m	EBL = 1.03 (F) 164 EBR = 1.03 (F) 164 NBL = 0.09 () 10 SBTR = 0.45 () 0	EBL = 55 m EBR = 55 m NBL = 5 m SBTR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2029 (With Improvements)	EBL = 0.15 (C) 19 EBR = 0.15 (C) 19 NBL = 0.08 (A) 10 SBTR = 0.19 (A) 0	EBL = 5 m EBR = 5 m NBL = 5 m SBTR = 0 m	EBL = 0.27 (C) 21 EBR = 0.27 (C) 21 NBL = 0.09 (A) 10 SBTR = 0.18 (A) 0	EBL = 10 m EBR = 10 m NBL = 5 m SBTR = 0 m
Future Total 2029	EBL = 0.31 (D) 32 EBR = 0.31 (D) 32 NBL = 0.11 (A) 13 SBTR = 0.26 (A) 0	EBL = 10 m EBR = 10 m NBL = 5 m SBTR = 0 m	EBL = 0.49 (D) 33 EBR = 0.49 (D) 33 NBL = 0.11 (A) 11 SBTR = 0.21 (A) 0	EBL = 20 m EBR = 20 m NBL = 5 m SBTR = 0 m
Future Background 2034	EBL = 0.19 (C) 21 EBR = 0.19 (C) 21 NBL = 0.1 (A) 11 SBTR = 0.21 (A) 0	EBL = 5 m EBR = 5 m NBL = 5 m SBTR = 0 m	EBL = 0.4 (C) 23 EBR = 0.4 (C) 23 NBL = 0.1 (A) 10 SBTR = 0.19 (A) 0	EBL = 15 m EBR = 15 m NBL = 5 m SBTR = 0 m
Future Total 2034	EBL = 0.46 (E) 38 EBR = 0.46 (E) 38 NBL = 0.13 (A) 13 SBTR = 0.27 (A) 0	EBL = 20 m EBR = 20 m NBL = 5 m SBTR = 0 m	EBL = 0.61 (E) 46 EBR = 0.61 (E) 46 NBL = 0.12 (A) 12 SBTR = 0.23 (A) 0	EBL = 30 m EBR = 30 m NBL = 5 m SBTR = 0 m
Future Background 2039	EBL = 0.24 (C) 24 EBR = 0.24 (C) 24 NBL = 0.12 (A) 12 SBTR = 0.22 (A) 0	EBL = 10 m EBR = 10 m NBL = 5 m SBTR = 0 m	EBL = 0.51 (D) 31 EBR = 0.51 (D) 31 NBL = 0.12 (A) 11 SBTR = 0.2 (A) 0	EBL = 25 m EBR = 25 m NBL = 5 m SBTR = 0 m
Future Total 2039	EBL = 0.56 (F) 50 EBR = 0.56 (F) 50 NBL = 0.16 (A) 14 SBTR = 0.29 (A) 0	EBL = 25 m EBR = 25 m NBL = 5 m SBTR = 0 m	EBL = 0.85 (F) 91 EBR = 0.85 (F) 91 NBL = 0.15 (A) 12 SBTR = 0.24 (A) 0	EBL = 50 m EBR = 50 m NBL = 5 m SBTR = 0 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The lane configuration of the west leg of the intersection was inputted to reflect the existing operation in which a right-turning vehicle is able to pass between a stopped vehicle waiting to turn left and the edge of the roadway, resulting in the west leg of the intersection being modeled with separate left-turn and right-turn lanes. With the intersection calibrated to reflect the existing operation, the greatest delays occur in the eastbound minor approach with average delays of up to 16 seconds during the a.m. peak hour and 18 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic, for the 2029 future background traffic scenario, the intersection is reported to operate satisfactorily during the a.m. peak hour with the eastbound approach reported to operate with a v/c ratio of 0.19 LOS D and a 26 second delay during the a.m. peak hour and critically during the p.m. peak hour with a v/c ratio of 1.03 LOS F and a 164 second delay.

As the capacity constraints are driven by the additional traffic generated by the background development, the analysis of the intersection was completed with the improvements recommended through the background developments, including a widening of Highway 6 to a four-lane cross-section.

With the proposed improvements recommended by the background traffic studies for the 2029 future background traffic scenario, the intersection is reported to operate at satisfactory levels with the average delay for the eastbound left-turn and right-turn movements reported at 19 seconds during the a.m. peak hour and 21 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of site generated traffic for the 2029 future total traffic scenario, the intersection is reported to operate at satisfactory levels with the average delay for the eastbound left-turn and right-turn movements reported to increase to 32 seconds during the a.m. peak hour and 33 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2034 future background traffic scenario, the intersection is reported to operate at satisfactory levels with the average delay for the eastbound left-turn and right-turn movements reported at 21 seconds during the a.m. peak hour and 23 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of site generated traffic for the 2034 future total traffic scenario, the intersection is reported to operate at satisfactory levels with the average delay for the eastbound left-turn and right-turn movements reported to increase to 38 seconds during the a.m. peak hour and 46 seconds during the p.m. peak hour. The eastbound approach is reported to operate critically with a level of service E during both peak hours.

With the addition of corridor growth and background development traffic for the 2039 future background traffic scenario, the intersection is reported to operate at satisfactory levels with the average delay for the eastbound left-turn and right-turn movements reported at 24 seconds during the a.m. peak hour and 31 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of site generated traffic for the 2039 future total traffic scenario, the intersection is reported to operate at satisfactory levels with the average delay for the eastbound left-turn and right-turn movements reported to increase to 50 seconds during the a.m. peak hour and 91 seconds during the p.m. peak hour. The eastbound approach is reported to operate critically with a level of service F during both peak hours however, both movements remain below the theoretical capacity levels.

No geometric improvements are recommended for the intersection as a result of the proposed development.

7.4 Highway 6 and Gordon Street

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 9 Capacity Analysis of Highway 6 and Gordon Street

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	<u>Overall: 0.4 (B) 10</u> EBL = 0.04 (C) 21 EBTR = 0.05 (C) 21 WBL = 0.47 (C) 25 WBTR = 0.23 (C) 23 NBL = 0.04 (A) 3 NBTR = 0.25 (A) 4 SBL = 0.39 (A) 6 SBTR = 0.34 (A) 5	EBL = 5 m EBTR = 10 m WBL = 25 m WBTR = 20 m NBL = 5 m NBTR = 25 m SBL = 30 m SBTR = 35 m	<u>Overall: 0.47 (B) 12</u> EBL = 0.22 (C) 21 EBTR = 0.21 (C) 20 WBL = 0.42 (C) 23 WBTR = 0.51 (C) 24 NBL = 0.14 (A) 5 NBTR = 0.38 (A) 6 SBL = 0.46 (A) 8 SBTR = 0.32 (A) 6	EBL = 10 m EBTR = 20 m WBL = 25 m WBTR = 35 m NBL = 15 m NBTR = 55 m SBL = 45 m SBTR = 45 m
Future Background 2029	<u>Overall: 0.75 (B) 14</u> EBL = 0.04 (C) 24 EBTR = 0.1 (C) 24 WBL = 0.38 (B) 19 WBTR = 0.26 (B) 18 NBL = 0.09 (B) 14 NBTR = 0.61 (C) 20 SBL = 0.74 (B) 12 SBTR = 0.49 (A) 8	EBL = 5 m EBTR = 10 m WBL = 20 m WBTR = 20 m NBL = 10 m NBTR = 60 m SBL = 50 m SBTR = 55 m	<u>Overall: 1.06 (C) 32</u> EBL = 0.22 (C) 23 EBTR = 0.24 (C) 22 WBL = 0.36 (B) 17 WBTR = 0.72 (C) 26 NBL = 0.28 (B) 16 NBTR = 0.93 (D) 40 SBL = 1.04 (E) 75 SBTR = 0.5 (B) 10	EBL = 10 m EBTR = 20 m WBL = 20 m WBTR = 60 m NBL = 25 m NBTR = 160 m SBL = 85 m SBTR = 80 m
Future Background 2029 (With Improvements)	<u>Overall: 0.58 (B) 14</u> EBL = 0.07 (D) 36 EBTR = 0.06 (D) 35 WBL = 0.6 (D) 44 WBTR = 0.29 (D) 38 NBL = 0.04 (A) 3 NBTR = 0.14 (A) 3 SBL = 0.58 (A) 8 SBTR = 0.2 (A) 3	EBL = 5 m EBTR = 10 m WBL = 35 m WBTR = 25 m NBL = 5 m NBTR = 15 m SBL = 65 m SBTR = 20 m	<u>Overall: 0.67 (C) 22</u> EBL = 0.32 (C) 30 EBTR = 0.18 (C) 27 WBL = 0.4 (C) 30 WBTR = 0.83 (D) 47 NBL = 0.23 (B) 16 NBTR = 0.39 (B) 16 SBL = 0.57 (A) 9 SBTR = 0.22 (A) 6	EBL = 15 m EBTR = 25 m WBL = 30 m WBTR = 85 m NBL = 30 m NBTR = 75 m SBL = 50 m SBTR = 35 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2029	<u>Overall: 0.85 (B) 17</u> EBL = 0.07 (D) 36 EBTR = 0.06 (D) 35 WBL = 0.6 (D) 44 WBTR = 0.35 (D) 38 NBL = 0.05 (A) 3 NBTR = 0.19 (A) 3 SBL = 0.9 (C) 27 SBTR = 0.28 (A) 4	EBL = 5 m EBTR = 10 m WBL = 35 m WBTR = 30 m NBL = 5 m NBTR = 20 m SBL = 170 m SBTR = 30 m	<u>Overall: 0.83 (C) 26</u> EBL = 0.33 (C) 30 EBTR = 0.17 (C) 26 WBL = 0.35 (C) 29 WBTR = 0.87 (D) 52 NBL = 0.31 (C) 23 NBTR = 0.58 (C) 24 SBL = 0.77 (B) 19 SBTR = 0.29 (A) 8	EBL = 15 m EBTR = 25 m WBL = 30 m WBTR = 120 m NBL = 35 m NBTR = 100 m SBL = 80 m SBTR = 45 m
Future Background 2034	<u>Overall: 0.64 (B) 14</u> EBL = 0.08 (D) 35 EBTR = 0.06 (C) 35 WBL = 0.63 (D) 46 WBTR = 0.3 (D) 38 NBL = 0.04 (A) 3 NBTR = 0.15 (A) 3 SBL = 0.65 (B) 10 SBTR = 0.22 (A) 4	EBL = 5 m EBTR = 10 m WBL = 40 m WBTR = 25 m NBL = 5 m NBTR = 15 m SBL = 75 m SBTR = 25 m	<u>Overall: 0.73 (C) 23</u> EBL = 0.32 (C) 30 EBTR = 0.17 (C) 27 WBL = 0.41 (C) 30 WBTR = 0.84 (D) 48 NBL = 0.25 (B) 18 NBTR = 0.45 (B) 19 SBL = 0.65 (B) 12 SBTR = 0.24 (A) 7	EBL = 15 m EBTR = 25 m WBL = 35 m WBTR = 95 m NBL = 30 m NBTR = 85 m SBL = 55 m SBTR = 40 m
Future Total 2034	<u>Overall: 0.93 (C) 21</u> EBL = 0.08 (D) 35 EBTR = 0.06 (C) 35 WBL = 0.63 (D) 46 WBTR = 0.36 (D) 38 NBL = 0.05 (A) 3 NBTR = 0.21 (A) 4 SBL = 0.98 (D) 44 SBTR = 0.3 (A) 4	EBL = 5 m EBTR = 10 m WBL = 40 m WBTR = 30 m NBL = 5 m NBTR = 20 m SBL = 185 m SBTR = 35 m	<u>Overall: 0.89 (C) 30</u> EBL = 0.33 (C) 29 EBTR = 0.16 (C) 26 WBL = 0.37 (C) 28 WBTR = 0.89 (D) 54 NBL = 0.35 (C) 26 NBTR = 0.67 (C) 29 SBL = 0.84 (C) 31 SBTR = 0.31 (A) 9	EBL = 15 m EBTR = 25 m WBL = 35 m WBTR = 130 m NBL = 35 m NBTR = 105 m SBL = 110 m SBTR = 50 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2039	<u>Overall: 0.68 (B) 14</u>		<u>Overall: 0.8 (C) 26</u>	
	EBL = 0.07 (C) 29	EBL = 5 m	EBL = 0.33 (C) 30	EBL = 15 m
	EBTR = 0.05 (C) 29	EBTR = 10 m	EBTR = 0.17 (C) 27	EBTR = 25 m
	WBL = 0.6 (D) 38	WBL = 35 m	WBL = 0.43 (C) 30	WBL = 40 m
	WBTR = 0.31 (C) 32	WBTR = 25 m	WBTR = 0.88 (D) 54	WBTR = 125 m
	NBL = 0.07 (B) 12	NBL = 10 m	NBL = 0.28 (C) 20	NBL = 30 m
	NBTR = 0.26 (B) 13	NBTR = 40 m	NBTR = 0.51 (C) 22	NBTR = 90 m
	SBL = 0.66 (A) 7	SBL = 50 m	SBL = 0.73 (B) 16	SBL = 65 m
	SBTR = 0.25 (A) 4	SBTR = 30 m	SBTR = 0.26 (A) 8	SBTR = 40 m
Future Total 2039	<u>Overall: 0.83 (B) 18</u>		<u>Overall: 0.96 (D) 36</u>	
	EBL = 0.07 (C) 29	EBL = 5 m	EBL = 0.35 (C) 30	EBL = 15 m
	EBTR = 0.05 (C) 29	EBTR = 10 m	EBTR = 0.16 (C) 26	EBTR = 25 m
	WBL = 0.6 (D) 38	WBL = 35 m	WBL = 0.39 (C) 29	WBL = 40 m
	WBTR = 0.37 (C) 32	WBTR = 30 m	WBTR = 0.93 (E) 61	WBTR = 145 m
	NBL = 0.11 (B) 19	NBL = 10 m	NBL = 0.39 (C) 30	NBL = 35 m
	NBTR = 0.46 (C) 22	NBTR = 65 m	NBTR = 0.76 (C) 34	NBTR = 115 m
	SBL = 0.84 (B) 18	SBL = 100 m	SBL = 0.92 (D) 48	SBL = 135 m
	SBTR = 0.34 (A) 5	SBTR = 40 m	SBTR = 0.33 (A) 9	SBTR = 50 m

Under existing traffic conditions, the signalized intersection is operating at satisfactory levels with an overall v/c of 0.40 LOS A during the a.m. peak hour and an overall v/c of 0.47 LOS B during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2029 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.75 LOS B during the a.m. peak hour and increases to 1.06 LOS C during the p.m. peak hour. The intersection is reported to continue to operate without any critical movements during the a.m. peak hour while the southbound left-turn movement operates critically during the p.m. peak hour.

As the capacity constraints are driven by the additional traffic generated by the background development, the analysis of the intersection was completed with the improvements recommended through the background developments, including a widening of Highway 6 to a four-lane cross-section.

With the proposed improvements recommended by the background traffic studies for the 2029 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.58 LOS B during the a.m. peak hour and 0.67 LOS C during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of site generated traffic for the 2029 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.85 LOS C during the a.m. peak hour and to 0.83 LOS C during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic as well as signal optimization for the 2034 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.64 LOS B during

the a.m. peak hour and 0.73 LOS C during the p.m. peak hour. The intersection is reported to continue to operate without any critical movements during both peak hours.

With the addition of site generated traffic for the 2034 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.93 LOS C during the a.m. peak hour and to 0.89 LOS C during the p.m. peak hour. The southbound left-turn movement is reported to operate critically during the a.m. peak hour and the westbound shared through/right-turn movement operates critically during the p.m. peak hour.

With the addition of corridor growth and background development traffic as well as signal optimization for the 2039 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.68 LOS B during the a.m. peak hour and increases to 0.80 LOS C during the p.m. peak hour. The intersection is reported to continue to operate without any critical movements during both peak hours.

With the addition of site generated traffic for the 2039 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.83 LOS B during the a.m. peak hour and to 0.96 LOS D during the p.m. peak hour. The westbound shared through/right-turn movement is reported to operate critically during the p.m. peak hour.

No further geometric improvements are recommended for the intersection as a result of the proposed development.

7.5 Beatty Line and Farley Road/Side Road 18

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 10 Capacity Analysis of Beatty Line and Farley Road/Side Road 18

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBTLR = 0.34 (B) 13 WBTLR = 0.27 (B) 14 NBTLR = 0.03 (A) 2 SBTLR = 0.01 (A) 0	EBTLR = 15 m WBTLR = 10 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.23 (B) 14 WBTLR = 0.28 (C) 17 NBTLR = 0.07 (A) 4 SBTLR = 0.01 (A) 1	EBTLR = 10 m WBTLR = 10 m NBTLR = 5 m SBTLR = 5 m
Future Background 2029	EBTLR = 0.51 (C) 20 WBTLR = 0.48 (C) 22 NBTLR = 0.03 (A) 2 SBTLR = 0.04 (A) 2	EBTLR = 25 m WBTLR = 20 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.33 (C) 18 WBTLR = 0.47 (C) 22 NBTLR = 0.08 (A) 4 SBTLR = 0.04 (A) 2	EBTLR = 15 m WBTLR = 20 m NBTLR = 5 m SBTLR = 5 m
Future Total 2029	EBTLR = 0.73 (D) 35 WBTLR = 0.85 (F) 55 NBTLR = 0.03 (A) 2 SBTLR = 0.05 (A) 2	EBTLR = 45 m WBTLR = 65 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.47 (C) 25 WBTLR = 0.71 (E) 39 NBTLR = 0.08 (A) 3 SBTLR = 0.06 (A) 3	EBTLR = 20 m WBTLR = 40 m NBTLR = 5 m SBTLR = 5 m
Future Background 2034	EBTLR = 0.55 (C) 22 WBTLR = 0.52 (C) 25 NBTLR = 0.03 (A) 2 SBTLR = 0.04 (A) 2	EBTLR = 25 m WBTLR = 25 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.36 (C) 19 WBTLR = 0.51 (C) 25 NBTLR = 0.08 (A) 4 SBTLR = 0.04 (A) 2	EBTLR = 15 m WBTLR = 25 m NBTLR = 5 m SBTLR = 5 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que.
Future Total 2034	EBTLR = 0.78 (E) 42 WBTLR = 0.92 (F) 70 NBTLR = 0.03 (A) 2 SBTLR = 0.05 (A) 2	EBTLR = 55 m WBTLR = 75 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.51 (D) 27 WBTLR = 0.77 (E) 47 NBTLR = 0.08 (A) 3 SBTLR = 0.06 (A) 3	EBTLR = 25 m WBTLR = 50 m NBTLR = 5 m SBTLR = 5 m
Future Background 2039	EBTLR = 0.59 (C) 24 WBTLR = 0.57 (D) 28 NBTLR = 0.03 (A) 2 SBTLR = 0.04 (A) 2	EBTLR = 30 m WBTLR = 30 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.4 (C) 21 WBTLR = 0.56 (D) 28 NBTLR = 0.09 (A) 4 SBTLR = 0.04 (A) 2	EBTLR = 15 m WBTLR = 25 m NBTLR = 5 m SBTLR = 5 m
Future Total 2039	EBTLR = 0.84 (E) 49 WBTLR = 1.00 (F) 90 NBTLR = 0.03 (A) 2 SBTLR = 0.05 (A) 2	EBTLR = 65 m WBTLR = 85 m NBTLR = 5 m SBTLR = 5 m	EBTLR = 0.56 (D) 31 WBTLR = 0.84 (F) 59 NBTLR = 0.09 (A) 3 SBTLR = 0.06 (A) 3	EBTLR = 30 m WBTLR = 60 m NBTLR = 5 m SBTLR = 5 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The greatest delays occur in the westbound minor approach with average delays of up to 14 seconds during the a.m. peak hour and 17 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2029 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 22 seconds during the a.m. and p.m. peak hours.

With the addition of site generated traffic for the 2029 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increases to 55 seconds during the a.m. peak hour and to 39 seconds during the p.m. peak hour. The westbound approach is reported to operate at critical levels during both peak hours.

With the addition of corridor growth and background development traffic for the 2034 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 25 seconds during the a.m. and p.m. peak hours.

With the addition of site generated traffic for the 2034 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 70 seconds during the a.m. peak hour and 47 seconds during the p.m. peak hour. The westbound approach is reported to operate at critical levels during both peak hours.

With the addition of corridor growth and background development traffic for the 2039 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 28 seconds during the a.m. and p.m. peak hours. The intersection operates without any critical movements during both peak hours.

With the addition of site generated traffic for the 2039 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approaches increasing to 90 seconds during the a.m. peak hour and 59 seconds during the p.m. peak hour. The westbound approach is reported to operate at critical levels during both peak hours while remaining at or below theoretical capacity levels.

No geometric improvements are recommended for the intersection as a result of the proposed development.

7.6 Side Road 18 and Vincent Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 11 Capacity Analysis of Side Road 18 and Vincent Street

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBTL = 0.01 (A) 1 WBTR = 0.07 (A) 0 SBLR = 0.08 (A) 9	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 1 WBTR = 0.07 (A) 0 SBLR = 0.08 (A) 9	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Background 2029	EBTL = 0.02 (A) 1 WBTR = 0.09 (A) 0 SBLR = 0.08 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 1 WBTR = 0.11 (A) 0 SBLR = 0.08 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2029	EBTL = 0.02 (A) 1 WBTR = 0.14 (A) 0 SBLR = 0.18 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.05 (A) 2 WBTR = 0.15 (A) 0 SBLR = 0.17 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Background 2034	EBTL = 0.02 (A) 1 WBTR = 0.1 (A) 0 SBLR = 0.08 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 1 WBTR = 0.12 (A) 0 SBLR = 0.09 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2034	EBTL = 0.02 (A) 1 WBTR = 0.15 (A) 0 SBLR = 0.18 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.05 (A) 2 WBTR = 0.16 (A) 0 SBLR = 0.17 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Background 2039	EBTL = 0.02 (A) 1 WBTR = 0.1 (A) 0 SBLR = 0.09 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.02 (A) 1 WBTR = 0.13 (A) 0 SBLR = 0.09 (B) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2039	EBTL = 0.02 (A) 1 WBTR = 0.16 (A) 0 SBLR = 0.19 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.05 (A) 2 WBTR = 0.16 (A) 0 SBLR = 0.17 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 5 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The greatest delays occur in the southbound minor approach with average delays of up to 9 seconds during the a.m. and p.m. peak hours. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2029, 2034, and 2039 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approach increasing to 10 seconds during the a.m. and p.m. peak hours.

With the addition of site generated traffic for the 2029, 2034, and 2039 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approach increases to 12 seconds during the a.m. and p.m. peak hours.

No geometric improvements are recommended for the intersection as a result of the proposed development.

7.7 Side Road 18 and Steele Street

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 12 Capacity Analysis of Side Road 18 and Steele Street

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBTL = 0.01 (A) 1 WBTR = 0.06 (A) 0 SBLR = 0.08 (B) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0 (A) 0 WBTR = 0.1 (A) 0 SBLR = 0.08 (B) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Background 2029	EBTL = 0.01 (A) 0 WBTR = 0.08 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 0 WBTR = 0.13 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2029	EBTL = 0.08 (A) 3 WBTR = 0.1 (A) 0 SBLR = 0.26 (B) 13	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.05 (A) 2 WBTR = 0.18 (A) 0 SBLR = 0.24 (B) 14	EBTL = 5 m WBTR = 0 m SBLR = 10 m
Future Background 2034	EBTL = 0.01 (A) 0 WBTR = 0.08 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 0 WBTR = 0.14 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2034	EBTL = 0.08 (A) 3 WBTR = 0.11 (A) 0 SBLR = 0.27 (B) 14	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.05 (A) 2 WBTR = 0.18 (A) 0 SBLR = 0.25 (B) 14	EBTL = 5 m WBTR = 0 m SBLR = 10 m
Future Background 2039	EBTL = 0.01 (A) 0 WBTR = 0.09 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 0 WBTR = 0.15 (A) 0 SBLR = 0.1 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2039	EBTL = 0.08 (A) 3 WBTR = 0.11 (A) 0 SBLR = 0.27 (B) 14	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.05 (A) 2 WBTR = 0.19 (A) 0 SBLR = 0.26 (B) 14	EBTL = 5 m WBTR = 0 m SBLR = 10 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The greatest delays occur in the southbound minor approach with average delays of up to 10 seconds during the a.m. and p.m. peak hours. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2029, 2034, and 2039 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approach increasing to 11 seconds during the a.m. and p.m. peak hours.

With the addition of site generated traffic for the 2029, 2034, and 2039 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approach increases to 13 seconds during the a.m. peak hour (increasing to 14 seconds under the ultimate horizon year) and to 14 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

No geometric improvements are recommended for the intersection as a result of the proposed development.

7.8 Courtney Street and Sadler Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 13 Capacity Analysis of Courtney Street and Sadler Street

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBTLR = 0.02 (A) 7 WBTLR = 0.02 (A) 7 NBTLR = 0 (A) 7 SBTLR = 0 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.03 (A) 7 WBTLR = 0.02 (A) 7 NBTLR = 0.01 (A) 7 SBTLR = 0 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2029	EBTLR = 0.02 (A) 7 WBTLR = 0.02 (A) 7 NBTLR = 0 (A) 7 SBTLR = 0 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.03 (A) 7 WBTLR = 0.02 (A) 7 NBTLR = 0.01 (A) 7 SBTLR = 0 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2029	EBTLR = 0.03 (A) 7 WBTLR = 0.03 (A) 7 NBTLR = 0 (A) 7 SBTLR = 0.02 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.03 (A) 7 WBTLR = 0.03 (A) 7 NBTLR = 0.01 (A) 7 SBTLR = 0.01 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2034	EBTLR = 0.02 (A) 7 WBTLR = 0.02 (A) 7 NBTLR = 0 (A) 7 SBTLR = 0 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.03 (A) 7 WBTLR = 0.02 (A) 7 NBTLR = 0.01 (A) 7 SBTLR = 0 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2034	EBTLR = 0.03 (A) 7 WBTLR = 0.03 (A) 7 NBTLR = 0 (A) 7 SBTLR = 0.02 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.03 (A) 7 WBTLR = 0.03 (A) 7 NBTLR = 0.01 (A) 7 SBTLR = 0.01 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2039	EBTLR = 0.02 (A) 7 WBTLR = 0.02 (A) 7 NBTLR = 0 (A) 7 SBTLR = 0 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.03 (A) 7 WBTLR = 0.02 (A) 7 NBTLR = 0.01 (A) 7 SBTLR = 0 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2039	EBTLR = 0.03 (A) 7 WBTLR = 0.03 (A) 7 NBTLR = 0 (A) 7 SBTLR = 0.02 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.03 (A) 7 WBTLR = 0.03 (A) 7 NBTLR = 0.01 (A) 7 SBTLR = 0.01 (A) 7	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. All approaches operate with an average delay of 7 seconds during both peak hours. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2029, 2034, and 2039 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay for all approaches remaining at 7 seconds during the a.m. and p.m. peak hours.

With the addition of site generated traffic for the 2029, 2034, and 2039 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay for all approaches remaining at 7 seconds during the a.m. and p.m. peak hours.

No geometric improvements are recommended for the intersection as a result of the proposed development.

7.9 Highway 6 and Street A

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 14 Capacity Analysis of Highway 6 and Street A

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2029	EBL = 0.58 (F) 77 EBR = 0.45 (A) 14 NBL = 0.27 (A) 10 SBR = 0.06 (A) 0	EBL = 25 m EBR = 20 m NBL = 10 m SBR = 0 m	EBL = 0.38 (F) 66 EBR = 0.27 (A) 12 NBL = 0.21 (A) 10 SBR = 0.03 (A) 0	EBL = 15 m EBR = 10 m NBL = 10 m SBR = 0 m
Future Total 2034	EBL = 0.65 (F) 96 EBR = 0.47 (A) 15 NBL = 0.28 (A) 11 SBR = 0.06 (A) 0	EBL = 25 m EBR = 20 m NBL = 10 m SBR = 0 m	EBL = 0.44 (F) 83 EBR = 0.28 (A) 13 NBL = 0.22 (A) 11 SBR = 0.03 (A) 0	EBL = 15 m EBR = 10 m NBL = 10 m SBR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2039	EBL = 0.75 (F) 126 EBR = 0.49 (A) 16 NBL = 0.29 (A) 11 SBR = 0.06 (A) 0	EBL = 30 m EBR = 25 m NBL = 10 m SBR = 0 m	EBL = 0.53 (F) 108 EBR = 0.29 (A) 14 NBL = 0.24 (A) 11 SBR = 0.03 (A) 0	EBL = 20 m EBR = 10 m NBL = 10 m SBR = 0 m

Under the future total traffic conditions, the full-move site access along Highway 6 is reported to operate at satisfactory levels under all three horizon years. Despite the eastbound left-turn movement operating with a level of service F during both peak hours under all three horizon years, it is reported to operate under the theoretical capacity levels.

7.9.1 Right-Turn Lane Warrant

The right-turn lane warrant was reviewed for the proposed site access based on Chapter E of the MTO Geometric Design Standards. Based on Section E.2.7.1, a minimum of 60 right-turns during any design hour would trigger the need for a right-turn lane.

With the development of the subject lands, it is anticipated that the southbound right-turn movement would have a total of 91 vehicles during the a.m. peak hour and 53 vehicles during the p.m. peak hour. As a result, a southbound right-turn lane is warranted due to the projected turning volumes during the a.m. peak hour.

7.9.2 Left-Turn Lane Warrant

A left-turn lane warrant analysis was completed for this proposed site access using the weekday a.m. and p.m. peak hour volumes for the ultimate total traffic condition. The analysis confirms that a northbound left-turn lane is warranted.

The left-turn lane warrant is provided in **Appendix F**.

7.10 Recommended Lane Configuration

The recommended lane configuration is illustrated in the figure below and includes the four-lane cross-section along Highway 6 and the intersection improvements for the intersection of Highway 6 and Side Road 18, as well as the warranted turning lanes for the proposed intersection of Highway 6 and Street A (northbound left-turn and southbound right-turn lane).

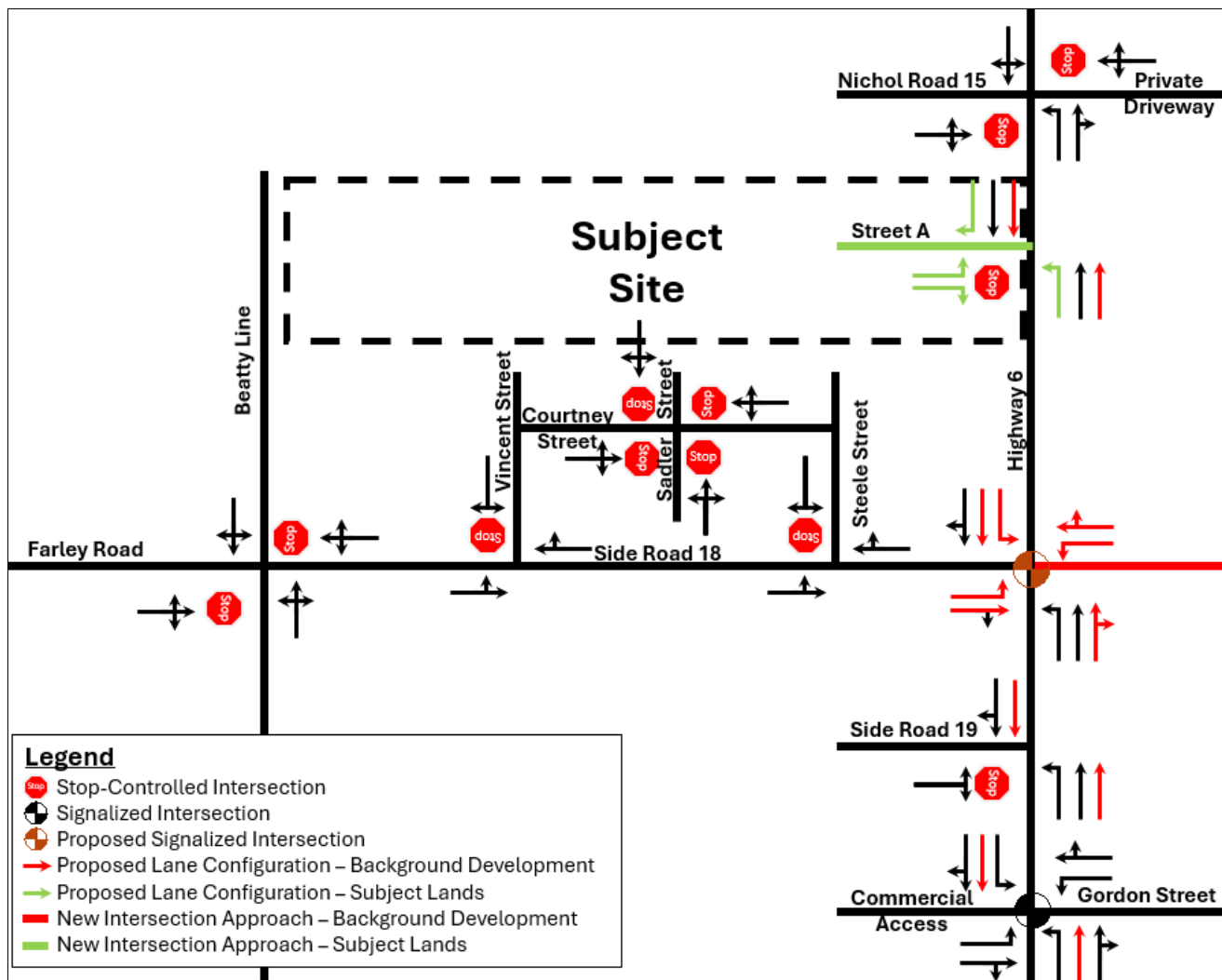


Figure 19 Recommended Lane Configuration

8. Sensitivity Analysis - Interim Condition Without Street A Connection to Highway 6

As previously noted, the MTO has indicated that it does not currently support the proposed intersection of Street A with Highway 6 due to insufficient spacing from the existing Highway 6 and Side Road 18 intersection. While the Street A connection remains part of the ultimate development concept and is expected to be implemented in the future, a conservative sensitivity analysis was undertaken assuming the connection is not available under an interim scenario. Under this scenario, all site traffic was redistributed through the local road network via the subdivision to the south and the resulting transportation impacts were assessed.

8.1 Site Traffic Distribution and Assignment - Interim Condition Without Street A Connection to Highway 6

The revised site traffic assignment is provided in **Figure 20** and results in all traffic that was previously travelling through the intersection of Highway 6 and Street A now being assigned to the intersection of Highway 6 and Side Road 18 via the intersection of Side Road 18 and Steele Street with some traffic redistributed through the intersection of Side Road 18 and Vincent Street

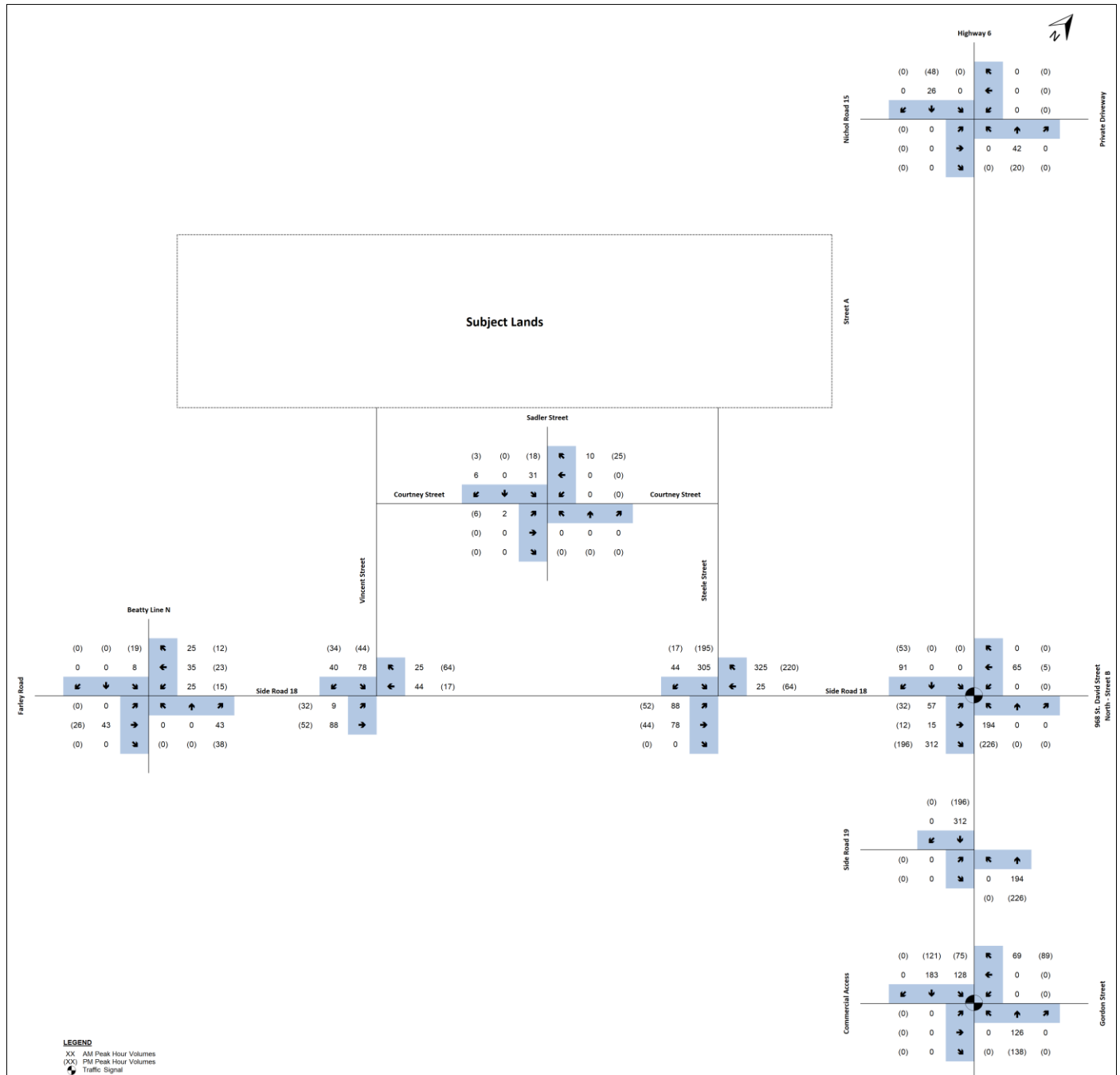


Figure 20 Total Site Trips – Without Street A Intersection

8.2 Future Total Traffic - Interim Condition Without Street A Connection to Highway 6

The future total traffic conditions in the weekday a.m. and p.m. peak hours for the 2029, 2034, and 2039 planning horizon was derived by combining the projected future background traffic with the corresponding estimated site generated traffic without the intersection of Highway 6 and Street A. The resulting traffic volumes are presented in **Figure 21**, **Figure 22**, and **Figure 23**, for the for the 2029, 2034, and 2039 horizon years, respectively.

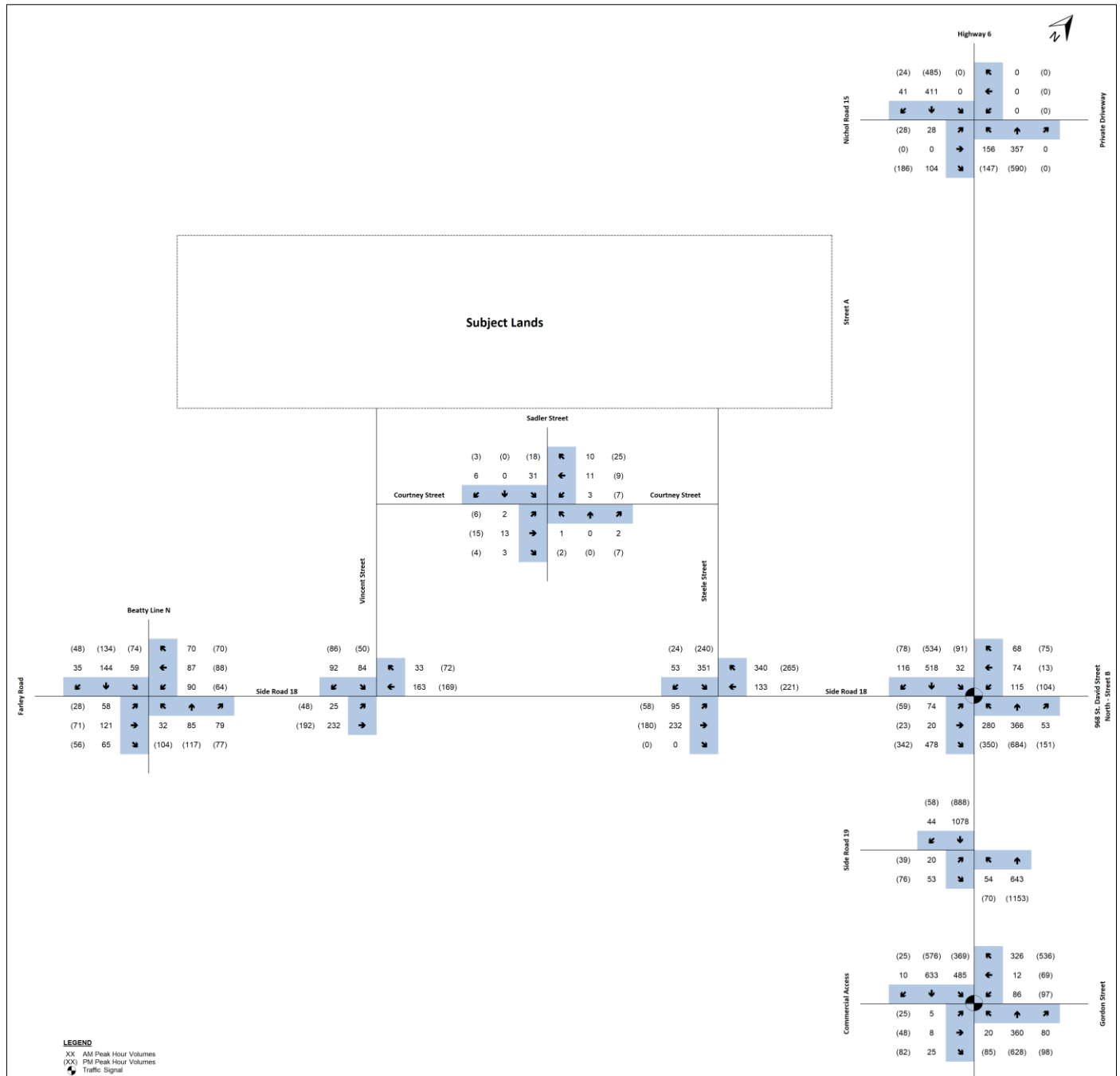


Figure 21 2029 Future Total Traffic Volumes – Without Street A Intersection

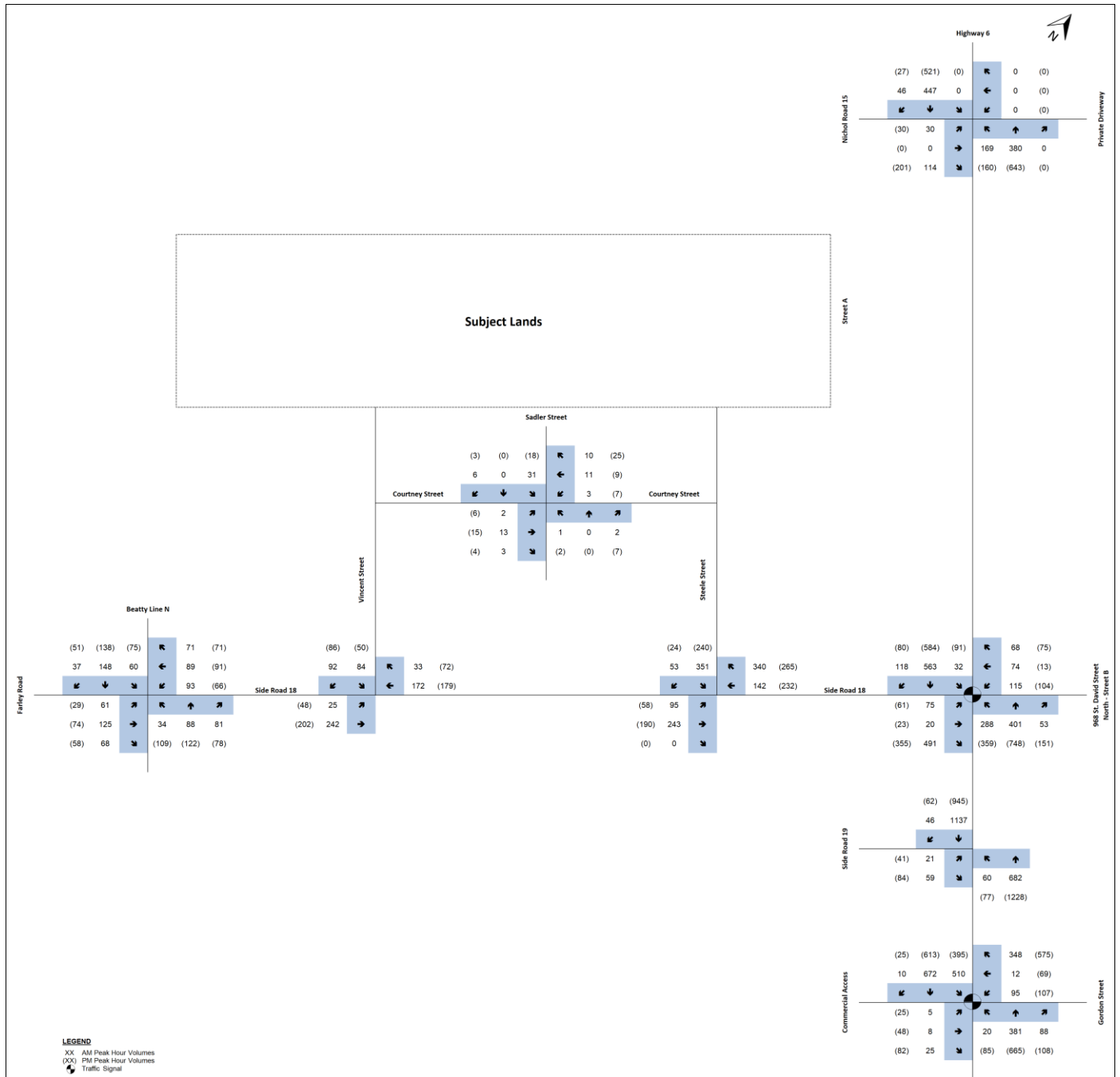


Figure 22 2034 Future Total Traffic Volumes – Without Street A Intersection

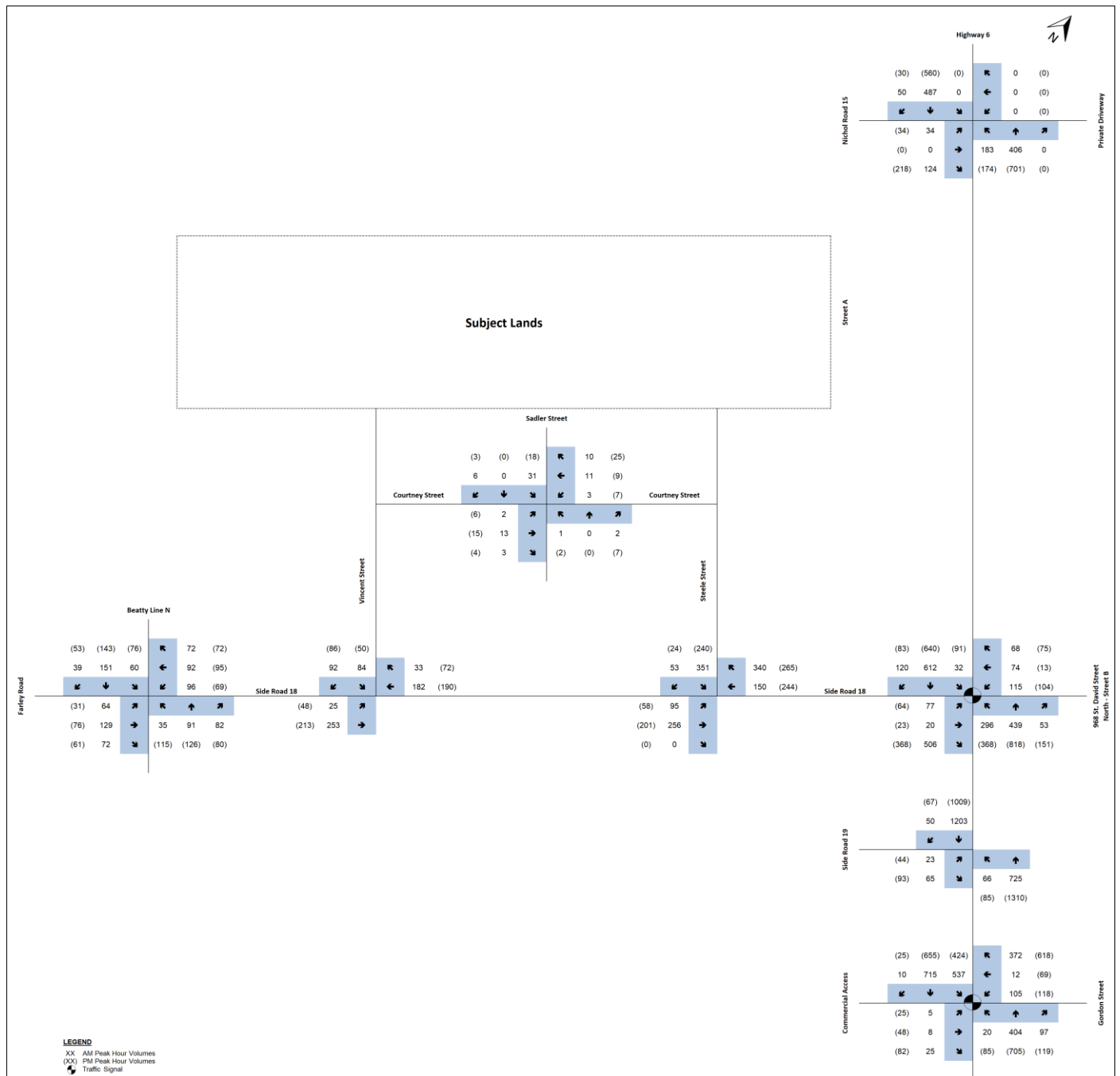


Figure 23 2039 Future Total Traffic Volumes – Without Street A Intersection

8.3 Capacity Analysis – Interim Condition Without Street A Connection to Highway 6

The following tables summarize the HCM capacity results for the study intersections during the weekday a.m. and p.m. peak hours under existing (2026), future background (2029, 2034, and 2039) and future total (2029, 2034, and 2039) traffic conditions. The detailed calculation sheets are provided in **Appendix E**. As noted above, the revised site trip assignment results in traffic only being reassigned through the intersections of Highway 6 & Side Road 18, Side Road 18 & Steele Street, and Side Road 18 & Vincent Street, resulting in a revised capacity analysis for only the three intersections.

8.3.1 Highway 6 and Side Road 18

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 15 Capacity Analysis of Highway 6 and Side Road 18 – Without Street A

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBLR = 0.23 (B) 13 NBL = 0.06 (A) 9 NBT = 0.19 (A) 0 SBTR = 0.26 (A) 0	EBLR = 10 m NBL = 5 m NBT = 0 m SBTR = 0 m	EBLR = 0.27 (B) 14 NBL = 0.08 (A) 9 NBT = 0.36 (A) 0 SBTR = 0.29 (A) 0	EBLR = 10 m NBL = 5 m NBT = 0 m SBTR = 0 m
Future Background 2029	<u>Overall: 0.36 (B) 11</u> EBL = 0.13 (C) 29 EBTR = 0.14 (C) 29 WBL = 0.61 (C) 28 WBTR = 0.07 (C) 22 NBL = 0.18 (A) 6 NBTR = 0.2 (A) 5 SBL = 0.06 (A) 5 SBTR = 0.26 (A) 6	EBL = 10 m EBTR = 20 m WBL = 30 m WBTR = 10 m NBL = 15 m NBTR = 20 m SBL = 5 m SBTR = 30 m	<u>Overall: 0.49 (B) 12</u> EBL = 0.2 (C) 30 EBTR = 0.17 (C) 30 WBL = 0.56 (C) 27 WBTR = 0.08 (C) 22 NBL = 0.25 (A) 6 NBTR = 0.39 (A) 6 SBL = 0.33 (B) 14 SBTR = 0.35 (B) 12	EBL = 10 m EBTR = 20 m WBL = 25 m WBTR = 10 m NBL = 15 m NBTR = 45 m SBL = 25 m SBTR = 45 m
Future Total 2029	<u>Overall: 0.68 (B) 19</u> EBL = 0.39 (C) 28 EBTR = 0.51 (C) 29 WBL = 0.56 (C) 24 WBTR = 0.21 (B) 19 NBL = 0.64 (B) 12 NBTR = 0.22 (A) 7 SBL = 0.11 (B) 16 SBTR = 0.54 (B) 20	EBL = 25 m EBTR = 40 m WBL = 25 m WBTR = 25 m NBL = 45 m NBTR = 30 m SBL = 15 m SBTR = 70 m	<u>Overall: 0.72 (B) 16</u> EBL = 0.34 (C) 29 EBTR = 0.35 (C) 29 WBL = 0.57 (C) 26 WBTR = 0.08 (C) 20 NBL = 0.68 (B) 12 NBTR = 0.41 (A) 8 SBL = 0.45 (C) 24 SBTR = 0.52 (B) 19	EBL = 20 m EBTR = 30 m WBL = 25 m WBTR = 15 m NBL = 55 m NBTR = 55 m SBL = 40 m SBTR = 70 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2034	<u>Overall: 0.38 (B) 11</u> EBL = 0.13 (C) 29 EBTR = 0.15 (C) 29 WBL = 0.6 (C) 28 WBTR = 0.07 (C) 21 NBL = 0.21 (A) 6 NBTR = 0.22 (A) 5 SBL = 0.06 (A) 5 SBTR = 0.28 (A) 6	EBL = 10 m EBTR = 20 m WBL = 30 m WBTR = 10 m NBL = 15 m NBTR = 25 m SBL = 5 m SBTR = 30 m	<u>Overall: 0.52 (B) 12</u> EBL = 0.22 (C) 30 EBTR = 0.18 (C) 29 WBL = 0.56 (C) 27 WBTR = 0.08 (C) 22 NBL = 0.29 (A) 6 NBTR = 0.42 (A) 7 SBL = 0.36 (B) 15 SBTR = 0.39 (B) 12	EBL = 15 m EBTR = 20 m WBL = 25 m WBTR = 10 m NBL = 15 m NBTR = 50 m SBL = 25 m SBTR = 55 m
Future Total 2034	<u>Overall: 0.71 (B) 20</u> EBL = 0.39 (C) 28 EBTR = 0.55 (C) 30 WBL = 0.57 (C) 24 WBTR = 0.21 (B) 19 NBL = 0.68 (B) 14 NBTR = 0.24 (A) 8 SBL = 0.11 (B) 16 SBTR = 0.6 (C) 21	EBL = 25 m EBTR = 45 m WBL = 25 m WBTR = 25 m NBL = 50 m NBTR = 30 m SBL = 15 m SBTR = 75 m	<u>Overall: 0.76 (B) 17</u> EBL = 0.35 (C) 29 EBTR = 0.35 (C) 29 WBL = 0.57 (C) 26 WBTR = 0.08 (C) 20 NBL = 0.72 (B) 14 NBTR = 0.44 (A) 8 SBL = 0.49 (C) 26 SBTR = 0.58 (C) 21	EBL = 20 m EBTR = 30 m WBL = 25 m WBTR = 15 m NBL = 70 m NBTR = 60 m SBL = 40 m SBTR = 75 m
Future Background 2039	<u>Overall: 0.4 (B) 11</u> EBL = 0.14 (C) 28 EBTR = 0.16 (C) 28 WBL = 0.59 (C) 27 WBTR = 0.07 (C) 21 NBL = 0.25 (A) 7 NBTR = 0.24 (A) 6 SBL = 0.06 (A) 5 SBTR = 0.31 (A) 6	EBL = 10 m EBTR = 20 m WBL = 30 m WBTR = 10 m NBL = 20 m NBTR = 25 m SBL = 5 m SBTR = 35 m	<u>Overall: 0.55 (B) 12</u> EBL = 0.23 (C) 30 EBTR = 0.19 (C) 29 WBL = 0.56 (C) 26 WBTR = 0.08 (C) 22 NBL = 0.33 (A) 6 NBTR = 0.45 (A) 7 SBL = 0.39 (B) 16 SBTR = 0.43 (B) 13	EBL = 15 m EBTR = 20 m WBL = 25 m WBTR = 10 m NBL = 20 m NBTR = 55 m SBL = 30 m SBTR = 60 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2039	Overall: 0.77 (C) 22		Overall: 0.79 (B) 18	
	EBL = 0.35 (C) 27	EBL = 25 m	EBL = 0.37 (C) 29	EBL = 20 m
	EBTR = 0.71 (D) 36	EBTR = 70 m	EBTR = 0.36 (C) 29	EBTR = 30 m
	WBL = 0.62 (C) 26	WBL = 25 m	WBL = 0.57 (C) 26	WBL = 25 m
	WBTR = 0.21 (B) 19	WBTR = 25 m	WBTR = 0.08 (C) 20	WBTR = 15 m
	NBL = 0.74 (B) 18	NBL = 65 m	NBL = 0.77 (B) 18	NBL = 85 m
	NBTR = 0.27 (A) 8	NBTR = 35 m	NBTR = 0.47 (A) 8	NBTR = 70 m
	SBL = 0.12 (B) 17	SBL = 15 m	SBL = 0.54 (C) 29	SBL = 40 m
	SBTR = 0.65 (C) 23	SBTR = 80 m	SBTR = 0.63 (C) 22	SBTR = 80 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The greatest delays occur in the eastbound minor approach with average delays of up to 13 seconds during the a.m. peak hour and 14 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

With the proposed signalization and associated lane improvements previously identified through the background reports for the 2029 future total traffic scenario, the intersection is reported to operate with a v/c ratio of 0.36 LOS B during the a.m. peak hour and to 0.49 LOS B during the p.m. peak hour. The intersection is reported to continue to operate without any critical movements during both peak hours.

With the addition of site generated traffic and the implementation of a northbound left-turn permitted/protected phase during the a.m. peak hour for the 2029 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.68 LOS B during the a.m. peak hour and to 0.72 LOS B during the p.m. peak hour. The intersection is reported to continue to operate without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic as well as signal optimization for the 2034 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.38 LOS B during the a.m. peak hour and 0.52 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of site generated traffic and the northbound left-turn permitted/protected phase during the a.m. peak hour for the 2034 future total traffic scenario, the intersection reports an increase in the v/c ratio to 0.71 LOS B during the a.m. peak hour and to 0.76 LOS B during the p.m. peak hour. The intersection is reported to continue to operate without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic as well as signal optimization for the 2039 future background traffic scenario, the intersection is reported to operate with an overall v/c ratio of 0.40 LOS B during the a.m. peak hour and 0.55 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of site generated traffic and the northbound left-turn permitted/protected phase during the a.m. peak hour for the 2039 future total traffic scenario, the overall intersection reports an increase in the v/c ratio to 0.77 LOS C during the a.m. peak hour and to 0.79 LOS B during the p.m. peak hour. The intersection is reported to continue to operate without any critical movements during both peak hours.

The intersection is anticipated to be able to accommodate the redistribution of the traffic from Street A through the intersection of Highway 6 and Side Road 18.

8.3.2 Side Road 18 and Vincent Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 16 Capacity Analysis of Side Road 18 and Vincent Street – Without Street A

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBTL = 0.01 (A) 1 WBTR = 0.07 (A) 0 SBLR = 0.08 (A) 9	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 1 WBTR = 0.07 (A) 0 SBLR = 0.08 (A) 9	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Background 2029	EBTL = 0.02 (A) 1 WBTR = 0.09 (A) 0 SBLR = 0.08 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 1 WBTR = 0.11 (A) 0 SBLR = 0.08 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2029	EBTL = 0.02 (A) 1 WBTR = 0.14 (A) 0 SBLR = 0.38 (C) 15	EBTL = 5 m WBTR = 0 m SBLR = 15 m	EBTL = 0.05 (A) 2 WBTR = 0.17 (A) 0 SBLR = 0.28 (B) 14	EBTL = 5 m WBTR = 0 m SBLR = 10 m
Future Background 2034	EBTL = 0.02 (A) 1 WBTR = 0.1 (A) 0 SBLR = 0.08 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 1 WBTR = 0.12 (A) 0 SBLR = 0.09 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2034	EBTL = 0.02 (A) 1 WBTR = 0.15 (A) 0 SBLR = 0.39 (C) 16	EBTL = 5 m WBTR = 0 m SBLR = 15 m	EBTL = 0.05 (A) 2 WBTR = 0.17 (A) 0 SBLR = 0.28 (B) 14	EBTL = 5 m WBTR = 0 m SBLR = 10 m
Future Background 2039	EBTL = 0.02 (A) 1 WBTR = 0.1 (A) 0 SBLR = 0.09 (A) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.02 (A) 1 WBTR = 0.13 (A) 0 SBLR = 0.09 (B) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2039	EBTL = 0.02 (A) 1 WBTR = 0.15 (A) 0 SBLR = 0.4 (C) 16	EBTL = 5 m WBTR = 0 m SBLR = 15 m	EBTL = 0.05 (A) 2 WBTR = 0.18 (A) 0 SBLR = 0.29 (B) 14	EBTL = 5 m WBTR = 0 m SBLR = 10 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The greatest delays occur in the southbound minor approach with average delays of up to 9 seconds during the a.m. and p.m. peak hours. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2029, 2034, and 2039 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approach increasing to 10 seconds during the a.m. and p.m. peak hours.

With the addition of site generated traffic for the 2029, 2034, and 2039 future total traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approach increases to up

to 16 seconds during the a.m. peak hour and to 14 seconds during the p.m. peak hour. The intersection operates without any critical movements during both peak hours.

No geometric improvements are recommended for the intersection in order to accommodate the redistribution of some of the site traffic that would have been assigned to Highway 6 via Street A.

8.3.3 Side Road 18 and Steele Street

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

Table 17 Capacity Analysis of Side Road 18 and Steele Street – Without Street A

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2026	EBTL = 0.01 (A) 1 WBTR = 0.06 (A) 0 SBLR = 0.08 (B) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0 (A) 0 WBTR = 0.1 (A) 0 SBLR = 0.08 (B) 10	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Background 2029	EBTL = 0.01 (A) 0 WBTR = 0.08 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 0 WBTR = 0.13 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2029	EBTL = 0.1 (A) 3 WBTR = 0.3 (A) 0 SBLR = 1.28 (F) 179	EBTL = 5 m WBTR = 0 m SBLR = 160 m	EBTL = 0.07 (A) 3 WBTR = 0.32 (A) 0 SBLR = 0.79 (E) 42	EBTL = 5 m WBTR = 0 m SBLR = 55 m
Future Background 2034	EBTL = 0.01 (A) 0 WBTR = 0.08 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 0 WBTR = 0.14 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2034	EBTL = 0.1 (A) 3 WBTR = 0.31 (A) 0 SBLR = 1.32 (F) 196	EBTL = 5 m WBTR = 0 m SBLR = 170 m	EBTL = 0.07 (A) 3 WBTR = 0.33 (A) 0 SBLR = 0.82 (E) 47	EBTL = 5 m WBTR = 0 m SBLR = 60 m
Future Background 2039	EBTL = 0.01 (A) 0 WBTR = 0.09 (A) 0 SBLR = 0.09 (B) 11	EBTL = 5 m WBTR = 0 m SBLR = 5 m	EBTL = 0.01 (A) 0 WBTR = 0.15 (A) 0 SBLR = 0.1 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2039	EBTL = 0.1 (A) 3 WBTR = 0.31 (A) 0 SBLR = 1.36 (F) 214	EBTL = 5 m WBTR = 0 m SBLR = 175 m	EBTL = 0.07 (A) 2 WBTR = 0.34 (A) 0 SBLR = 0.85 (F) 52	EBTL = 5 m WBTR = 0 m SBLR = 65 m

Under existing traffic conditions, the intersection is operating at satisfactory levels during both peak hours. The greatest delays occur in the southbound minor approach with average delays of up to 10 seconds during the a.m. and p.m. peak hours. The intersection operates without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic for the 2029, 2034, and 2039 future background traffic scenario, the intersection is reported to continue to operate at satisfactory levels with the average delay along the minor approach increasing to 11 seconds during the a.m. and p.m. peak hours.

With the addition of site generated traffic for the 2029, 2034, and 2039 future total traffic scenario, the intersection is reported to exceed the theoretical capacity thresholds during both peak hours. During the a.m. peak hour, the southbound approach is reported to operate with a v/c ratio of 1.28 LOS F and a 179 second delay under the 2029 horizon year, increasing to 1.36 LOS F and a 214 second delay under the ultimate horizon year.

Based on these results, the existing lane configuration at the intersection is not sufficient to accommodate the future total traffic volumes associated with the redistribution of site traffic through Steele Street in the absence of a direct Street A connection to Highway 6. The analysis indicates that relying on Steele Street as the primary access route for the redistributed site traffic would result in unacceptable operations on the southbound approach, particularly during the weekday a.m. peak hour.

Given the projected traffic volumes on Steele Street and the identified southbound operational constraint, a supplemental analysis was completed to assess the lane configuration required to accommodate the future total traffic volumes. The intersection was therefore modelled with separate southbound left-turn and southbound right-turn lanes on Steele Street, together with a dedicated westbound right-turn lane on Side Road 18. This modified configuration was assessed to determine whether additional approach capacity and turn-lane storage would be sufficient to address the forecast delays, v/c ratios, and queueing impacts identified under the future total traffic condition.

The results of the capacity analysis for the intersection with the modified lane configuration during the weekday a.m. and p.m. peak hours for the future total traffic conditions are summarized in the following table.

Table 18 Capacity Analysis of Side Road 18 and Steele Street – Without Street A, With Improvements

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que.
Future Total 2029	EBTL = 0.1 (A) 3 WBT = 0.08 (A) 0 WBR = 0.22 (A) 0 SBL = 0.93 (F) 62 SBR = 0.07 (A) 9	EBTL = 5 m WBT = 0 m WBR = 0 m SBL = 85 m SBR = 5 m	EBTL = 0.06 (A) 3 WBT = 0.15 (A) 0 WBR = 0.18 (A) 0 SBL = 0.62 (C) 25 SBR = 0.03 (A) 10	EBTL = 5 m WBT = 0 m WBR = 0 m SBL = 35 m SBR = 5 m
Future Total 2034	EBTL = 0.1 (A) 3 WBT = 0.09 (A) 0 WBR = 0.22 (A) 0 SBL = 0.96 (F) 69 SBR = 0.07 (A) 10	EBTL = 5 m WBT = 0 m WBR = 0 m SBL = 90 m SBR = 5 m	EBTL = 0.07 (A) 3 WBT = 0.16 (A) 0 WBR = 0.18 (A) 0 SBL = 0.64 (D) 27 SBR = 0.03 (A) 10	EBTL = 5 m WBT = 0 m WBR = 0 m SBL = 35 m SBR = 5 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2039	EBTL = 0.1 (A) 3 WBT = 0.09 (A) 0 WBR = 0.22 (A) 0 SBL = 0.99 (F) 78 SBR = 0.07 (A) 10	EBTL = 5 m WBT = 0 m WBR = 0 m SBL = 95 m SBR = 5 m	EBTL = 0.07 (A) 2 WBT = 0.16 (A) 0 WBR = 0.18 (A) 0 SBL = 0.66 (D) 29 SBR = 0.04 (A) 10	EBTL = 5 m WBT = 0 m WBR = 0 m SBL = 40 m SBR = 5 m

The additional southbound left-turn and right-turn lanes on Steele Street, together with the westbound right-turn lane on Side Road 18, substantially improve intersection operations under all future total traffic scenarios. The analysis demonstrates that the operational deficiencies identified under the existing lane configuration are largely attributable to the shared southbound left/right-turn lane, and that the provision of separate turning lanes significantly increases available approach capacity.

Under the 2029 future total traffic condition, the southbound left-turn movement is forecast to operate with a v/c ratio of 0.93 during the weekday a.m. peak hour, compared to 1.28 under the existing configuration. Average delay is reduced from 179 seconds to 62 seconds, while the 95th percentile queue decreases from approximately 160 m to 85 m. Similar improvements are observed during the p.m. peak hour, where the southbound left-turn movement operates with a v/c ratio of 0.62, LOS C, an average delay of 25 seconds, and a queue length of approximately 35 m.

Under the ultimate 2039 future total traffic scenario, the southbound left-turn movement continues to represent the critical movement at the intersection. During the weekday a.m. peak hour, the movement is forecast to operate with a v/c ratio of 0.99 and an average delay of 78 seconds. Although this movement remains close to its practical capacity, operations are significantly improved relative to the existing lane configuration and remain within acceptable planning-level thresholds for a stop-controlled intersection. During the weekday p.m. peak hour, the southbound left-turn movement is forecast to operate with a v/c ratio of 0.66, LOS D, an average delay of 29 seconds, and a 95th percentile queue of approximately 40 m.

All other intersection movements are forecast to operate with substantial reserve capacity throughout the study period. The eastbound left-turn, westbound through, westbound right-turn, and southbound right-turn movements are all projected to operate at LOS A under both peak hours with minimal delays and negligible queueing.

The need for separate southbound left-turn and right-turn lanes on Steele Street and a dedicated westbound right-turn lane on Side Road 18 at the Side Road 18/Steele Street intersection was identified only under the conservative sensitivity scenario in which the proposed Street A connection to Highway 6 is not constructed. As the Street A connection is expected to form part of the ultimate site access arrangement, these improvements are not anticipated to be required.

9. Concept Plan Review

The proposed road network was reviewed against the County of Wellington Development Manual (June 2024), which establishes the geometric design standards and right-of-way requirements for new municipal roadways. Section B.2, Table 2 of the Development Manual identifies the minimum right-of-way widths and roadway classifications applicable to local and collector roads within new developments.

Based on the conceptual roadway hierarchy, Street A is intended to function as the primary internal roadway serving the proposed development and providing connectivity between Highway 6 and the local road network. Accordingly, Street A is classified as a Minor Collector Road. The County's Development Manual requires Minor Collector Roads to

be provided within a minimum 20-metre right-of-way to accommodate travel lanes, boulevards, sidewalks, utilities, drainage infrastructure, and potential future active transportation facilities. The concept plan identifies Street A with a 20-metre right-of-way, which meets the County's minimum design requirements for this roadway classification.

The remaining internal roadways are intended to provide direct access to residential blocks and are therefore classified as Minor Local Roads. In accordance with the County's Development Manual, Minor Local Roads require a minimum right-of-way width of 18 metres to accommodate local traffic operations, municipal servicing, snow storage, and pedestrian facilities. The concept plan proposes these roadways with 18-metre rights-of-way, consistent with the applicable County standards.

Based on a review of the conceptual road network, the proposed roadway classifications and associated right-of-way widths are consistent with the requirements of the County of Wellington Development Manual. The proposed rights-of-way are expected to accommodate the traffic, servicing, active transportation, and operational needs associated with the planned development while maintaining consistency with the County's roadway design standards.

10. Conclusion

The proposed development consists of 701 dwelling units, a mixed-use/commercial block, and a school block.

Access is proposed via extensions of Vincent Street and Steele Street from the subdivision to the south, together with a new connection from Street A to Highway 6.

Based on ITE Trip Generation rates, the development is forecast to generate approximately 976 two-way trips during the weekday a.m. peak hour and 686 two-way trips during the weekday p.m. peak hour.

The existing road network is currently operating at acceptable levels of service during both peak hours. Under future background conditions, capacity constraints are forecast at several intersections along the Highway 6 corridor, including Highway 6 & Side Road 18, Highway 6 & Side Road 19, and Highway 6 & Gordon Street.

A review of supporting Traffic Impact Studies for background developments confirmed that improvements have already been identified to address these future background traffic demands. These improvements include:

- the widening of Highway 6 to a four-lane cross-section.
- the addition of the future Street B connection at Highway 6 & Side Road 18, signalization of the intersection, and the provision of dedicated turning lanes.

The analysis confirms that these improvements are required to accommodate forecast background growth regardless of whether the proposed development proceeds.

With the planned Highway 6 corridor improvements in place, the transportation network is forecast to operate acceptably under future total traffic conditions. The proposed development does not require any additional unique off-site roadway improvements beyond those already identified through previous background studies. The development can therefore be accommodated within the planned transportation network once the identified background improvements are implemented.

A sensitivity analysis was undertaken to assess a conservative scenario in which the proposed Street A connection to Highway 6 is not available and all site traffic is redistributed through the local road network. While the Street A connection forms part of the proposed ultimate site access arrangement, this analysis was completed to evaluate a conservative contingency condition. Under this scenario, capacity constraints were identified at the intersection of Side Road 18 & Steele Street. The analysis demonstrated that acceptable operations can be maintained through the provision of a westbound right-turn lane on Side Road 18 and separate southbound left-turn and right-turn lanes on Steele Street.

Based on the findings of this Traffic Impact Study, the proposed development is supportable from a transportation perspective. The analysis confirms that the future transportation network, including improvements already identified to

address background growth, can accommodate the proposed development without the need for any additional site-specific off-site road improvements.

Recommendations

- Under the proposed ultimate road network configuration, including the Street A connection to Highway 6, no additional off-site transportation improvements are required beyond the roadway and intersection improvements previously identified through background transportation studies to accommodate forecast background growth.
- The need for a westbound right-turn lane on Side Road 18 and separate southbound left-turn and right-turn lanes on Steele Street at the Side Road 18 & Steele Street intersection was identified only under the conservative sensitivity scenario in which the Street A connection to Highway 6 is not available. As the Street A connection is expected to be a part of the ultimate site access arrangement, these improvements are not anticipated to be required but would provide acceptable operations should the connection not proceed.

Appendix A

Terms of Reference

Raf Andrenacci

From: Meagan Ferris <meaganf@wellington.ca>
Sent: April 29, 2026 11:01 AM
To: Connor Wright - Zelinka Priamo Ltd.
Cc: Robert MacFarlane - Zelinka Priamo Ltd.; Will Maria; Raf Andrenacci
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Connor:

I've connected with County Roads and they do not have any comments on the TOR.

Regards,

Meagan Ferris, RPP MCIP

Manager of Planning and Environment
County of Wellington Planning & Development
74 Woolwich Street
Guelph ON N1H 3T9
T 519.837.2600 x 2120
E meaganf@wellington.ca

From: Meagan Ferris
Sent: Tuesday, April 28, 2026 4:08 PM
To: 'Connor Wright - Zelinka Priamo Ltd.' <connor.w@zpplan.com>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; william.maria <william.maria@ghd.com>; Raf Andrenacci <raf.andrenacci@ghd.com>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Connor:

My sincere apologies for the delay and I appreciate your patience – in addition to the studies flagged below I would also note:

- The application forms – there are also a number of submission requirements in each document
 - [OPA Application Form](#)
 - [Subdivision Condominium Application Form](#)
- Public Consultation Form - [Public Consultation Strategy Requirement](#)
- Source Water Protection Form - [Public Consultation Strategy Requirement](#)
- I understand that the Township is satisfied with a FSR and it addressing SWM as oppose to a more detailed Storm Water Management Report.

I will see if I can connect with County Roads on the Terms of Reference. I am not anticipating comments, but will confirm tomorrow.

Regards,

Meagan Ferris, RPP MCIP

Manager of Planning and Environment
County of Wellington Planning & Development

74 Woolwich Street
Guelph ON N1H 3T9
T 519.837.2600 x 2120
E meaganf@wellington.ca

From: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>

Sent: Friday, April 24, 2026 2:59 PM

To: Meagan Ferris <meaganf@wellington.ca>

Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; william.maria <william.maria@ghd.com>; Raf Andrenacci <raf.andrenacci@ghd.com>

Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Meagan, I hope you had a great week.

A friendly follow up on the below item. We are well into our preparations on the below submission materials and are hoping for your input on the TIS ToR and/or any County submission requirements beyond the below list established by the Township.

Please let me know if you have any comments.

Thank you and have a great weekend.

Best regards,

Connor Wright
Zelinka Priamo Ltd. – Land Use Planners
(C) 226-979-0336

From: Connor Wright - Zelinka Priamo Ltd.

Sent: Monday, April 20, 2026 4:07 PM

To: 'Meagan Ferris' <meaganf@wellington.ca>

Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; william.maria <william.maria@ghd.com>; 'Raf Andrenacci' <raf.andrenacci@ghd.com>; 'Joanna Henderson' <joannah@wellington.ca>

Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Meagan, I hope all is well.

I'm just writing to follow up on the below and see if you had any further feedback regarding the TIS TOR and/or any other required submission materials for the forthcoming applications.

Please let me know. I'm happy to discuss if you would like.

Thank you,

Connor Wright
Zelinka Priamo Ltd. – Land Use Planners
(C) 226-979-0336

From: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>

Sent: Friday, April 10, 2026 2:54 PM

To: Meagan Ferris <meaganf@wellington.ca>

Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; william.maria <william.maria@ghd.com>; Raf Andrenacci <raf.andrenacci@ghd.com>; Joanna Henderson <joannah@wellington.ca>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Meagan, the current thinking is indeed for OPA/ZBA/DPS applications all together at the same time.

Thanks,

Connor Wright
Zelinka Priamo Ltd. – Land Use Planners
(C) 226-979-0336

From: Meagan Ferris <meaganf@wellington.ca>
Sent: Friday, April 10, 2026 2:22 PM
To: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; william.maria <william.maria@ghd.com>; Raf Andrenacci <raf.andrenacci@ghd.com>; Joanna Henderson <joannah@wellington.ca>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Thank you, Connor.

Just clarify – are you submitting the OPA and Draft Plan application at the same time or dealing with the policy items first? I see your email chain suggests potentially just OPA first, so it would be helpful to understand if your approach has been solidified.

Regards,

Meagan Ferris, RPP MCIP
Manager of Planning and Environment
County of Wellington Planning & Development
74 Woolwich Street
Guelph ON N1H 3T9
T 519.837.2600 x 2120
E meaganf@wellington.ca

From: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>
Sent: Friday, April 10, 2026 2:14 PM
To: Meagan Ferris <meaganf@wellington.ca>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; william.maria <william.maria@ghd.com>; Raf Andrenacci <raf.andrenacci@ghd.com>; Joanna Henderson <joannah@wellington.ca>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Meagan, thanks for your reply.

We've been getting started at the materials from the list provided below, though we generally haven't completed them in final forms yet (bringing those back up into this email for convenient reference):

- Planning Report/PJR
- Environmental Impact Study
- Traffic Impact Assessment
- Agricultural Impact Assessment

- Fiscal Impact Assessment
- Archaeological Assessment
- Functional servicing report for water, wastewater, and storm water
- Geotechnical Assessment
- Overall Grading and Drainage Plan
- Hydrogeological Impact Assessment
- Noise Study (proximity to Hwy 6)
- Vegetation Overview (tree inventory)

Thanks,

Connor Wright
Zelinka Priamo Ltd. – Land Use Planners
 (C) 226-979-0336

From: Meagan Ferris <meaganf@wellington.ca>
Sent: Friday, April 10, 2026 1:58 PM
To: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; william.maria <william.maria@ghd.com>; Raf Andrenacci <raf.andrenacci@ghd.com>; Joanna Henderson <joannah@wellington.ca>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Connor:

We appreciate your patience – we'll have a list of studies to provide shortly.

In the meantime – if you have prepared certain studies thus far, it would be helpful to know.

We can share the TOR with County Roads to see if there is a County intersection they wish to include in the review.

Regards,

Meagan Ferris, RPP MCIP
 Manager of Planning and Environment
 County of Wellington Planning & Development
 74 Woolwich Street
 Guelph ON N1H 3T9
 T 519.837.2600 x 2120
 E meaganf@wellington.ca

From: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>
Sent: Friday, April 10, 2026 12:11 PM
To: Joanna Henderson <joannah@wellington.ca>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; Meagan Ferris <meaganf@wellington.ca>; william.maria <william.maria@ghd.com>; Raf Andrenacci <raf.andrenacci@ghd.com>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Joanna,

Hoping to kindly follow up on the below with respect to submission requirements for this application.

I also want to provide you with the Terms of Reference for the Traffic Impact Study prepared by GHD. Can you kindly confirm if this is an acceptable terms of reference and/or if the Region has any submission requirements beyond those noted by the Township?

Thanks,

Connor Wright
Zelinka Priamo Ltd. – Land Use Planners
(C) 226-979-0336

From: Connor Wright - Zelinka Priamo Ltd.
Sent: Wednesday, March 25, 2026 10:28 AM
To: 'Joanna Henderson' <joannah@wellington.ca>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; Meagan Ferris <meaganf@wellington.ca>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Joanna, I hope all is well.

I'm wanting to confirm if the Region has anything to add to the list of submission requirements noted below for this application. Would you be able to confirm if this list is satisfactory or if the Region has any additional requirements?

Thank you,

Connor Wright
Zelinka Priamo Ltd. – Land Use Planners
(C) 226-979-0336

From: Joanna Henderson <joannah@wellington.ca>
Sent: Wednesday, March 11, 2026 4:40 PM
To: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>; Meagan Ferris <meaganf@wellington.ca>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Conner,

I can confirm I have received your email below and will check in with my team and follow up.

Thank you,

Joanna

Joanna Henderson, RPP MCIP
Senior Planner
County of Wellington Planning & Development
74 Woolwich Street
Guelph ON N1H 3T9
T 519.837.2600 x 2380
E joannah@wellington.ca

From: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>
Sent: Monday, March 9, 2026 10:37 AM
To: Joanna Henderson <joannah@wellington.ca>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Good morning Joanna,

We received pre-consultation checklist from the municipality a couple weeks back (checklist pasted below).

Hoping to check in with you as to if the County has any further requirements beyond the below? If so, could you possibly differentiate the requirements per application type (i.e. required for County OPA, vs. required for Subdivision). Reason being that it is possible we may proceed with just the OPA(s) first, as opposed to our initial plan of filing all required applications concurrently.

Feb 25 Centre Wellington list of requirements:

- Planning Report/PJR
- Environmental Impact Study
- Traffic Impact Assessment
- Agricultural Impact Assessment
- Fiscal Impact Assessment
- Archaeological Assessment
- Functional servicing report for water, wastewater, and storm water
- Geotechnical Assessment
- Overall Grading and Drainage Plan
- Hydrogeological Impact Assessment
- Noise Study (proximity to Hwy 6)
- Vegetation Overview (tree inventory)

Thanks,

Connor Wright
Zelinka Priamo Ltd. – Land Use Planners
(C) 226-979-0336

From: Joanna Henderson <joannah@wellington.ca>
Sent: Thursday, February 19, 2026 9:10 AM
To: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>
Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>
Subject: RE: 6582-6585 Highway 6 Pre-Consultation Request

Hi Conner,

I hope you are well.

I wanted to reach out to let you know that we received your email last week and are reviewing. We will be following up shortly.

Thank you,

Joanna

Joanna Henderson, RPP MCIP

Senior Planner

County of Wellington Planning & Development

74 Woolwich Street

Guelph ON N1H 3T9

T 519.837.2600 x 2380

E joannah@wellington.ca

From: Connor Wright - Zelinka Priamo Ltd. <connor.w@zpplan.com>

Sent: Wednesday, February 11, 2026 9:41 AM

To: Joanna Henderson <joannah@wellington.ca>

Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>

Subject: FW: 6582-6585 Highway 6 Pre-Consultation Request

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you know the contents to be safe.

Hi Joanna,

Thanks so much for the chat this morning! Attached here are our pre-consultation materials. Based on our conversation I understand you'll review and determine appropriate next steps in terms of coordinating with the Township on a pre-con as needed. Please feel free to let me know if you need any further information from our end.

As a current update further to the below, we're paid up with the Township and are waiting to hear back on the scheduling of the meeting.

Best regards,

Connor Wright
Zelinka Priamo Ltd. – Land Use Planners
(C) 226-979-0336

From: Connor Wright - Zelinka Priamo Ltd.

Sent: Thursday, February 5, 2026 9:07 AM

To: 'Chantalle Pellizzari' <CPellizzari@centrewellington.ca>

Cc: Robert MacFarlane - Zelinka Priamo Ltd. <robert.m@zpplan.com>

Subject: 6582-6585 Highway 6 Pre-Consultation Request

Good morning Chantalle,

On behalf of 1052367 ONTARIO LTD., Ted Buczek, and Marlene Buczek, we are pleased to submit the enclosed request for pre-consultation for the lands and 6582-6585 Highway 6.

Would you kindly be able to confirm the correct 2026 fee amount for pre-consultation? Upon your confirmation, we will arrange for payment by cheque made to the Township of Centre Wellington.

I trust that the enclosed information is complete and satisfactory, and we look forward to arranging a Pre-Consultation meeting. Please don't hesitate to reach out with any questions in the meantime or if you require further information.

Thank you,

Connor Wright MCIP, RPP
Intermediate Planner

Zelinka Priamo Ltd. – Land Use Planners

Toronto Office
20 Maud Street, Suite 305
Toronto, ON M5V 2M5
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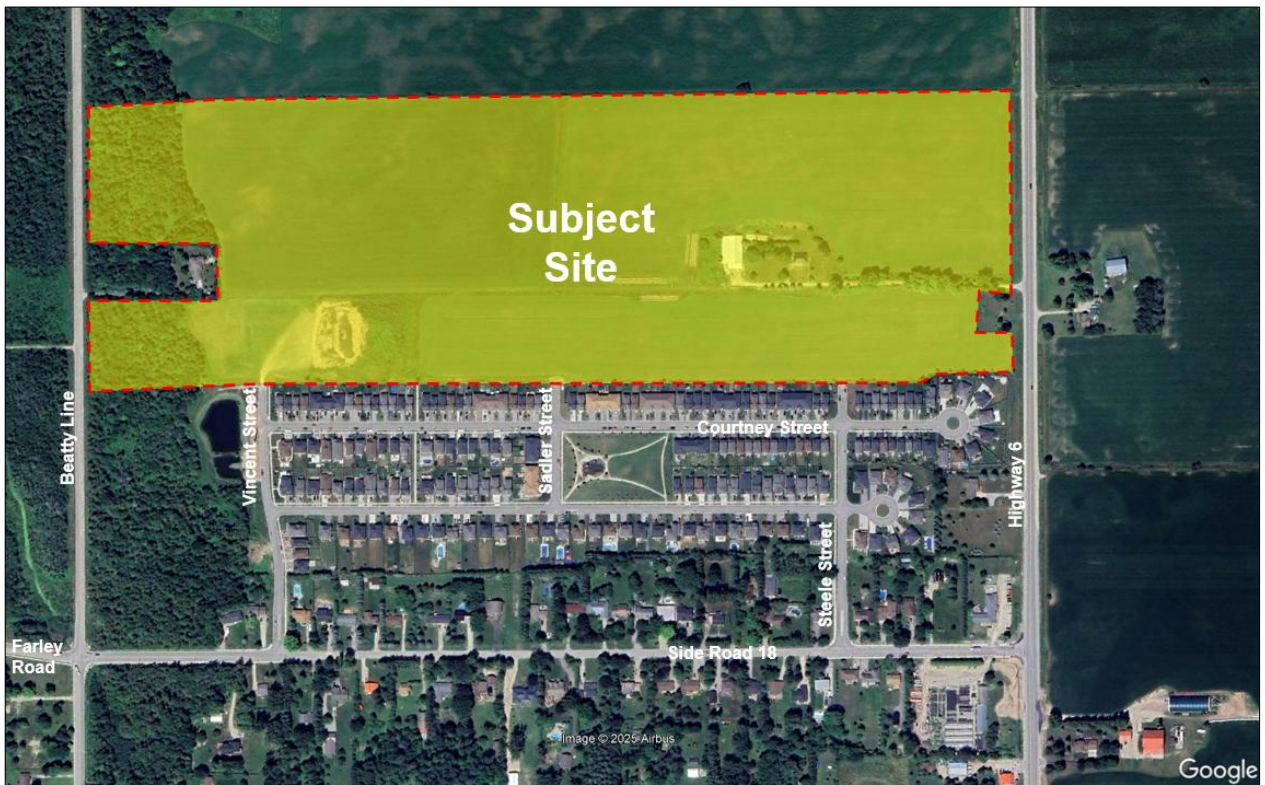
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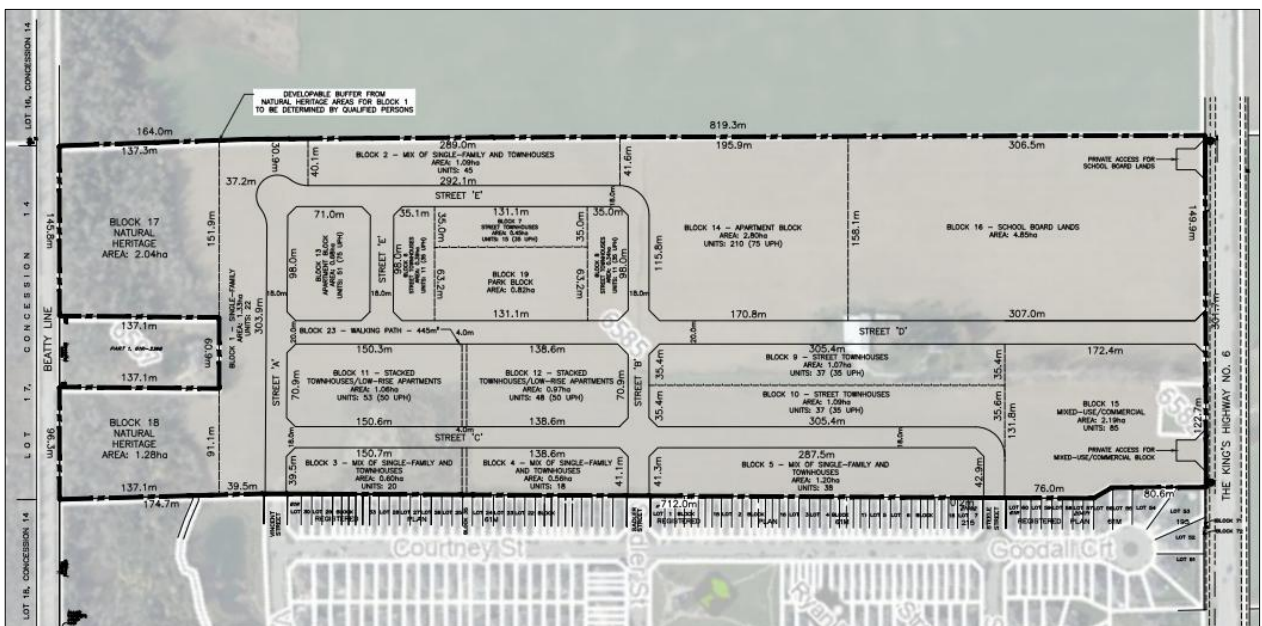
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GHD Inc. has been retained to prepare a Transportation Impact Study in support of an Official Plan Amendment, Zoning By-law Amendment, and Draft Plan of Subdivision for the lands located on lands municipally known as 6582-6585 Highway 6 in the Township of Centre Wellington.



The proposed developments consists of a series of single family, townhouse, apartment, mixed-use commercial, and school blocks with a total of 701 dwelling units.

Access is proposed via extensions of three existing roadways (Vincent Street, Sadler Street, Steele Street) and a new road intersecting Highway 6.



In order to properly scope this project, we ask that the Townships, County, and MTO review and provide comments on the following scope and confirm if there are any additional items required as part of the study.

Study Intersections

- Existing
 - Highway 6 and Side Road 18
 - Beatty Line and Farley Road/Side Road 18
 - Side Road 18 and Vincent Street
 - Side Road 18 and Steele Street
 - Courtney Street and Sadler Street
- Future/Proposed
 - Highway 6 and Street D

Traffic Data

Updated traffic counts at the existing study intersections will be undertaken during the a.m. and p.m. peak hours.

Study Peak Hours

Weekday a.m. (7-9 a.m.) and p.m. peak (4 – 6 p.m.) hours

Study Horizon Year

2026 (existing), 2029, 2034, and 2039, consisting of the year of build-out and 5 and 10 years post full build-out, consistent with the MTO's Traffic Impact Study guidelines.

Background Growth Rate

GHD proposes to use a 2% per annum growth rate, consistent with the growth rate typically used along MTO roadways.

Background Development Traffic

GHD reviewed the City's development application portal and identified the following background developments:

- 6581 Highway 6
- 968 St David St N
- 6586 Beatty Line N
- 961 St David St N
- 6704 Beatty Line N

Township staff to confirm if any additional developments should be included as background developments.

Trip Generation

Will be completed using rates published by the ITE Trip Generation 12th Edition.

The directional distribution of traffic approaching and departing the site will be determined based on TTS 2022 data, existing local patterns and first principles.

The analysis will identify the transportation system requirements and other measures required to ensure the acceptable operation of the study intersections, including auxiliary turning lanes and other transportation infrastructure improvements.

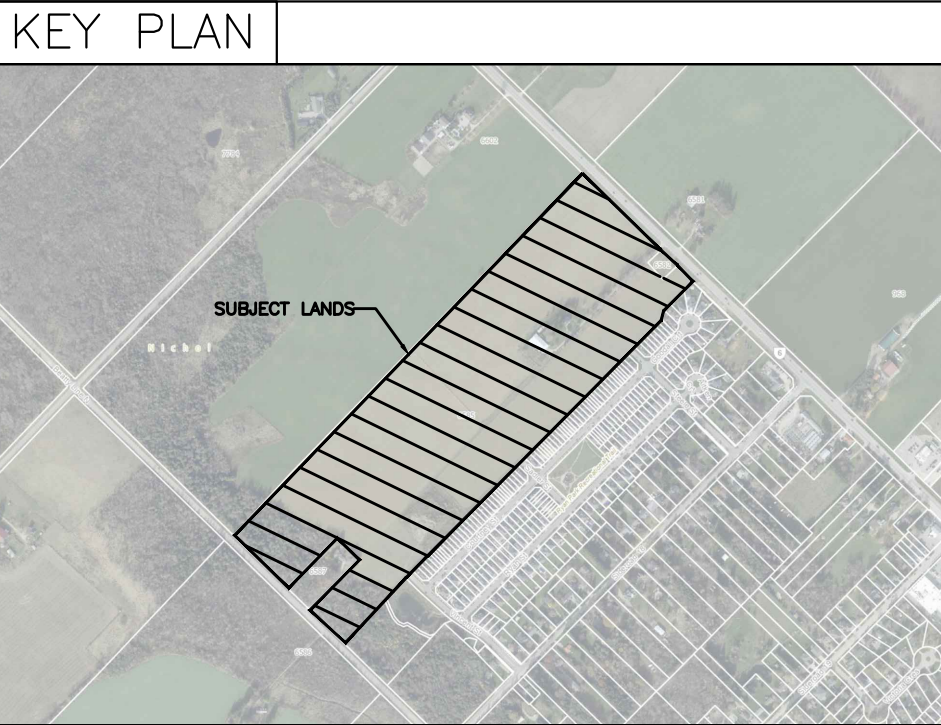
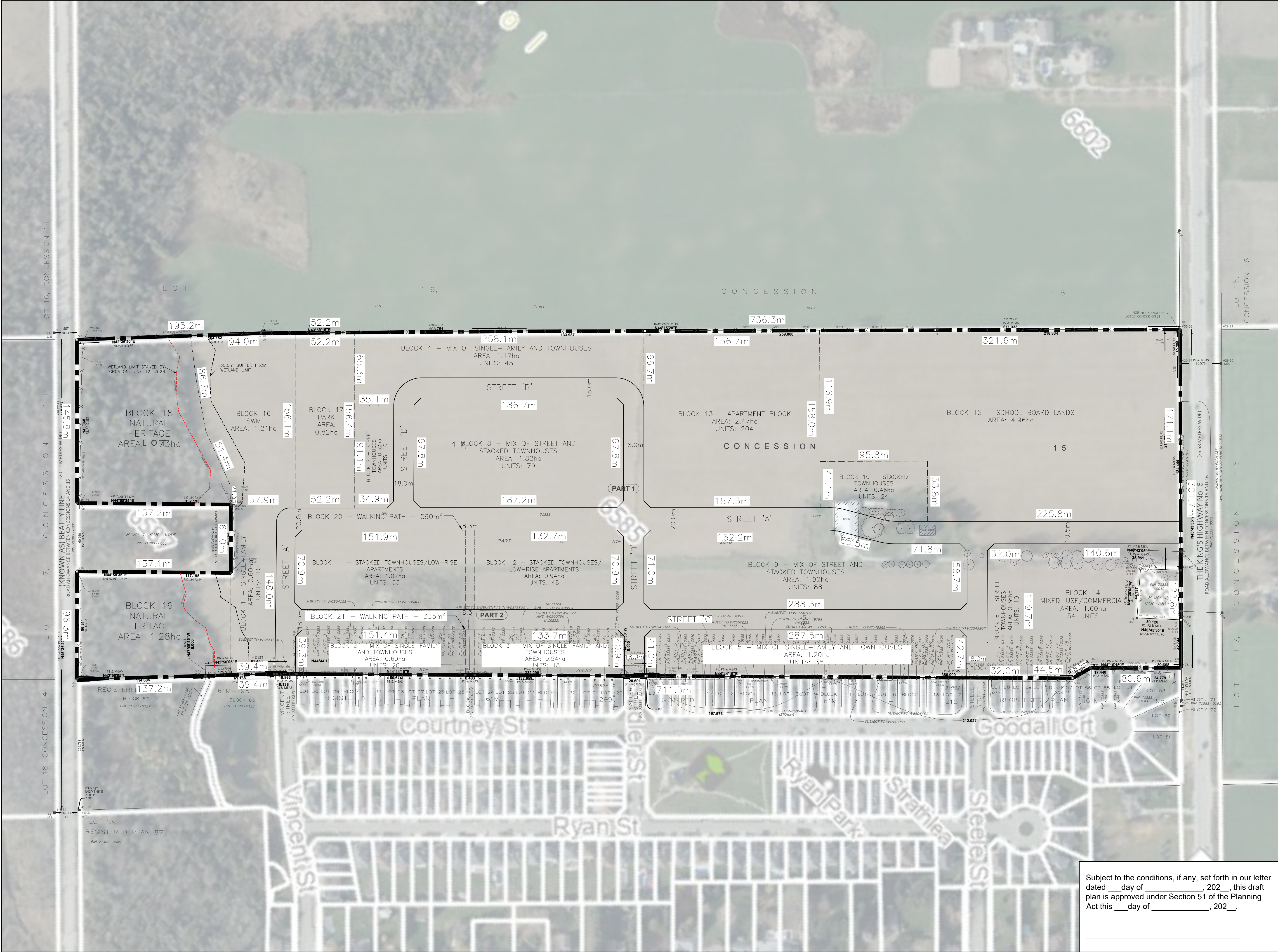
TAC, MTO, and Township guidelines will be reviewed in order to complete an access management. Review for the site access that reviews corner clearance, driveway spacing, auxiliary lanes, corner radii, and clear throat distance.

If the above scope is acceptable to the Township and MTO, it will form the basis of our scope of work.

Thank you,

Appendix B

Concept Plan



DRAFT PLAN OF SUBDIVISION

OF PART OF
LOT 17 CONCESSION 15
(GEOGRAPHIC TOWNSHIP OF NICHOL)

TOWNSHIP OF CENTRE WELLINGTON
COUNTY OF WELLINGTON

INFORMATION REQUIRED UNDER
SECTION 51 (17) OF THE PLANNING
ACT

- | | |
|--------------------|---|
| A) As shown | G) As shown |
| B) As shown | H) Municipal water supply available |
| C) As shown | I) Mix of Silty Sand & Silty Clay |
| D) As listed above | J) As shown |
| E) As shown | K) All municipal services to be available |
| F) As shown | L) As shown |

PROPOSED LAND USES AND AREAS	
Residential Single-Family and Townhouses (Blocks 1-7)	4.81 ha
Residential Stacked Townhouses (Blocks 8-10)	4.21 ha
Residential Apartment Buildings/Low-Rise Apartments (Blocks 11-12)	2.01 ha
Residential Stacked Townhouses (Block 13)	2.47 ha
Mixed Use/Commercial (Block 14)	1.60 ha
School Board Lands (Block 15)	4.96 ha
SWM (Block 16)	1.21 ha
Park (Block 17)	0.82 ha
Natural Heritage (Blocks 18-19)	3.01 ha
Walking Path (Blocks 20-21)	0.09 ha
Roads	4.09 ha
TOTAL	29.3 ha

OWNER'S CERTIFICATE
JAMES KROUSE
HEREBY CONSENTS TO THE FILING OF THIS PLAN IN DRAFT
FORM

James Krouse, Authorized Signature _____ DATED _____

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND
TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE
ADJACENT LANDS ARE ACCURATELY SHOWN ON THIS PLAN.

John S. Scott, OLS, Van Harten Land Surveyors _____ DATED _____

NO.	REVISION	DATE	INITIAL

6585 HIGHWAY #6
JAMES KROUSE

ZELINKA PRIMO LTD
A Professional Planning Practice
318 Wellington Road, London, Ontario N6C 4P4
Tel: (519) 474-7137 Fax: (519) 474-2284 e-mail: zp@zplp.com

DRAWN BY CM	PROJECT NO. KRS/FRG/25-01
DATE AUGUST 2026	SCALE 1:3,200

Subject to the conditions, if any, set forth in our letter dated ____ day of ____, 202__, this draft plan is approved under Section 51 of the Planning Act this ____ day of ____, 202__.

Appendix C

Traffic Data

Project #26-179 - GHD

Intersection Count Report

Intersection: Hwy 6 & Nichol Rd 15
Municipality: Fergus
Count Date: Thursday, Jun 11, 2026
Site Code: 2617900001
Count Categories: Cars, Trucks, Bicycles, Pedestrians
Count Period: 07:00-09:00, 16:00-18:00
Weather: Clear
Comments:

Traffic Count Map

Intersection:	Hwy 6 & Nichol Rd 15
Site Code:	2617900001
Municipality:	Fergus
Count Date:	Jun 11, 2026



Traffic Count Summary

Intersection: Hwy 6 & Nichol Rd 15
 Site Code: 2617900001
 Municipality: Fergus
 Count Date: Jun 11, 2026

Hwy 6 - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	283	31	0	314	1	93	184	0	0	277	0	591
08:00 - 09:00	0	304	36	0	340	2	97	177	0	0	274	0	614
BREAK													
16:00 - 17:00	0	317	23	0	340	2	118	441	0	0	559	0	899
17:00 - 18:00	0	351	23	0	374	2	97	453	0	0	550	0	924
GRAND TOTAL	0	1255	113	0	1368	7	405	1255	0	0	1660	0	3028

Traffic Count Summary

Intersection: Hwy 6 & Nichol Rd 15
 Site Code: 2617900001
 Municipality: Fergus
 Count Date: Jun 11, 2026

Nichol Rd 15 - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	1	0	0	1	0	24	0	86	0	110	0	111
08:00 - 09:00	0	0	0	0	0	1	24	0	105	0	129	0	129
BREAK													
16:00 - 17:00	0	0	0	0	0	0	33	0	121	0	154	0	154
17:00 - 18:00	0	0	0	0	0	0	28	0	134	0	162	0	162
GRAND TOTAL	0	1	0	0	1	1	109	0	446	0	555	0	556

Traffic Count Data

Intersection: Hwy 6 & Nichol Rd 15
 Site Code: 2617900001
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	0	34	5	0	39	0	1	0	0	1	0	0	0	0	0	0
07:15	0	76	5	0	81	0	7	0	0	7	0	0	0	0	0	0
07:30	0	76	11	0	87	0	3	0	0	3	0	0	0	0	0	0
07:45	0	82	10	0	92	0	4	0	0	4	0	0	0	0	0	1
08:00	0	70	12	0	82	0	9	1	0	10	0	0	0	0	0	1
08:15	0	70	5	0	75	0	7	0	0	7	0	0	0	0	0	0
08:30	0	61	10	0	71	0	2	2	0	4	0	0	0	0	0	1
08:45	0	79	6	0	85	0	6	0	0	6	0	0	0	0	0	0
SUBTOTAL	0	548	64	0	612	0	39	3	0	42	0	0	0	0	0	3

Traffic Count Data

Intersection: Hwy 6 & Nichol Rd 15
Site Code: 2617900001
Municipality: Fergus
Count Date: Jun 11, 2026

North Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	0	78	3	0	81	0	2	2	0	4	0	0	0	0	0	0
16:15	0	84	5	0	89	0	3	2	0	5	0	0	0	0	0	0
16:30	0	75	4	0	79	0	4	1	0	5	0	0	0	0	0	2
16:45	0	66	6	0	72	0	5	0	0	5	0	0	0	0	0	0
17:00	0	74	5	0	79	0	6	1	0	7	0	0	0	0	0	1
17:15	0	89	5	0	94	0	6	1	0	7	0	0	0	0	0	1
17:30	0	106	7	0	113	0	2	0	0	2	0	0	0	0	0	0
17:45	0	65	4	0	69	0	3	0	0	3	0	0	0	0	0	0
SUBTOTAL	0	637	39	0	676	0	31	7	0	38	0	0	0	0	0	4
GRAND TOTAL	0	1185	103	0	1288	0	70	10	0	80	0	0	0	0	0	7

Traffic Count Data

Intersection: Hwy 6 & Nichol Rd 15
 Site Code: 2617900001
 Municipality: Fergus
 Count Date: Jun 11, 2026

South Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	12	26	0	0	38	0	4	0	0	4	0	0	0	0	0	0
07:15	25	37	0	0	62	1	0	0	0	1	0	0	0	0	0	0
07:30	16	57	0	0	73	5	3	0	0	8	0	0	0	0	0	0
07:45	31	47	0	0	78	3	9	0	0	12	0	1	0	0	1	0
08:00	31	54	0	0	85	3	2	0	0	5	0	1	0	0	1	0
08:15	24	32	0	0	56	2	2	0	0	4	0	0	0	0	0	0
08:30	12	36	0	0	48	0	7	0	0	7	0	3	0	0	3	0
08:45	22	37	0	0	59	3	3	0	0	6	0	0	0	0	0	0
SUBTOTAL	173	326	0	0	499	17	30	0	0	47	0	5	0	0	5	0

Traffic Count Data

Intersection: Hwy 6 & Nichol Rd 15
Site Code: 2617900001
Municipality: Fergus
Count Date: Jun 11, 2026

South Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	31	104	0	0	135	0	1	0	0	1	0	0	0	0	0	0
16:15	26	99	0	0	125	1	1	0	0	2	0	0	0	0	0	0
16:30	33	122	0	0	155	0	3	0	0	3	0	0	0	0	0	0
16:45	25	110	0	0	135	2	1	0	0	3	0	0	0	0	0	0
17:00	29	128	0	0	157	1	4	0	0	5	0	0	0	0	0	0
17:15	25	105	0	0	130	0	5	0	0	5	0	0	0	0	0	0
17:30	22	100	0	0	122	0	2	0	0	2	0	0	0	0	0	0
17:45	20	106	0	0	126	0	3	0	0	3	0	0	0	0	0	0
SUBTOTAL	211	874	0	0	1085	4	20	0	0	24	0	0	0	0	0	0
GRAND TOTAL	384	1200	0	0	1584	21	50	0	0	71	0	5	0	0	5	0

	Cars						Trucks						Bicycles							
Start Time					Total						Total						Total	Total Peds		
07:00	0	1	0	0	1		0	0	0	0	0		0	0	0	0	0	0		
07:15	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
07:30	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
07:45	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
08:00	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
08:15	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
08:30	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	1		
08:45	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
SUBTOTAL	0	1	0	0	1		0	0	0	0	0		0	0	0	0	0	1		

Traffic Count Data

Intersection: Hwy 6 & Nichol Rd 15
 Site Code: 2617900001
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Nichol Rd 15

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	2	0	16	0	18	1	0	3	0	4	0	0	0	0	0	0
07:15	13	0	18	0	31	1	0	2	0	3	0	0	0	0	0	0
07:30	4	0	17	0	21	1	0	1	0	2	0	0	0	0	0	0
07:45	2	0	27	0	29	0	0	2	0	2	0	0	0	0	0	0
08:00	4	0	16	0	20	1	0	2	0	3	0	0	0	0	0	0
08:15	5	0	26	0	31	1	0	0	0	1	0	0	0	0	0	0
08:30	6	0	27	0	33	1	0	1	0	2	0	0	0	0	0	0
08:45	5	0	28	0	33	1	0	5	0	6	0	0	0	0	0	0
SUBTOTAL	41	0	175	0	216	7	0	16	0	23	0	0	0	0	0	0

Traffic Count Data

Intersection: Hwy 6 & Nichol Rd 15
 Site Code: 2617900001
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Nichol Rd 15

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	11	0	30	0	41	2	0	1	0	3	0	0	0	0	0	0
16:15	5	0	28	0	33	0	0	1	0	1	0	0	0	0	0	0
16:30	5	0	33	0	38	2	0	0	0	2	0	0	0	0	0	0
16:45	7	0	26	0	33	1	0	2	0	3	0	0	0	0	0	0
17:00	5	0	35	0	40	1	0	2	0	3	0	0	0	0	0	0
17:15	4	0	40	0	44	1	0	2	0	3	0	0	0	0	0	0
17:30	6	0	28	0	34	1	0	1	0	2	0	0	0	0	0	0
17:45	8	0	26	0	34	2	0	0	0	2	0	0	0	0	0	0
SUBTOTAL	51	0	246	0	297	10	0	9	0	19	0	0	0	0	0	0
GRAND TOTAL	92	0	421	0	513	17	0	25	0	42	0	0	0	0	0	0

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 07:15:00
To: 08:15:00

Intersection: Hwy 6 & Nichol Rd 15
Site Code: 2617900001
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hwy 6 runs N/S

North Approach

	Out	In	Total
	342	218	560
	24	17	41
	0	2	2
Totals	366	237	603

Hwy 6

	0	0	0	0
	1	23	0	0
	38	304	0	0
Totals	39	327	0	0






East Approach

	Out	In	Total
	0	0	0
	0	0	0
	0	0	0
Totals	0	0	0

Nichol Rd 15

				Totals
	0	0	0	0
	0	3	23	26
	0	0	0	0
	0	7	78	85

Peds: 2

Peds: 0



Peds: 0

Peds: 0

Nichol Rd 15

Totals			
	0	0	0
	0	0	0
	0	0	0
	0	0	0

West Approach

	Out	In	Total
	101	141	242
	10	13	23
	0	0	0
Totals	111	154	265

				
Totals	115	211	0	0
	103	195	0	0
	12	14	0	0
	0	2	0	0

Hwy 6

South Approach

	Out	In	Total
	298	382	680
	26	30	56
	2	0	2
Totals	326	412	738

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 6 & Nichol Rd 15
Site Code: 2617900001
Count Date: Jun 11, 2026
Period: 07:00 - 09:00

Peak Hour Data (07:15 - 08:15)

Start Time	North Approach Hwy 6						South Approach Hwy 6						East Approach Nichol Rd 15						West Approach Nichol Rd 15						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:15	0	83	5	0	0	88	26	37	0	0	0	63	0	0	0	0	0	0	14	0	20	0	0	34	185
07:30	0	79	11	0	0	90	21	60	0	0	0	81	0	0	0	0	0	0	5	0	18	0	0	23	194
07:45	0	86	10	0	1	96	34	57	0	0	0	91	0	0	0	0	0	0	2	0	29	0	0	31	218
08:00	0	79	13	0	1	92	34	57	0	0	0	91	0	0	0	0	0	0	5	0	18	0	0	23	206
Grand Total	0	327	39	0	2	366	115	211	0	0	0	326	0	0	0	0	0	0	26	0	85	0	0	111	803
Approach %	0	89.3	10.7	0	-	-	35.3	64.7	0	0	-	-	0	0	0	0	-	-	23.4	0	76.6	0	-	-	-
Totals %	0	40.7	4.9	0	-	45.6	14.3	26.3	0	0	-	40.6	0	0	0	0	-	-	3.2	0	10.6	0	-	13.8	-
PHF	0	0.95	0.75	0	-	0.95	0.85	0.88	0	0	-	0.9	0	0	0	0	-	-	0.46	0	0.73	0	-	0.82	0.92
Cars	0	304	38	0	-	342	103	195	0	0	-	298	0	0	0	0	-	-	23	0	78	0	-	101	741
% Cars	0	93	97.4	0	-	93.4	89.6	92.4	0	0	-	91.4	0	0	0	0	-	-	88.5	0	91.8	0	-	91	92.3
Trucks	0	23	1	0	-	24	12	14	0	0	-	26	0	0	0	0	-	-	3	0	7	0	-	10	60
% Trucks	0	7	2.6	0	-	6.6	10.4	6.6	0	0	-	8	0	0	0	0	-	-	11.5	0	8.2	0	-	9	7.5
Bicycles	0	0	0	0	-	0	0	2	0	0	-	2	0	0	0	0	-	-	0	0	0	0	-	0	2
% Bicycles	0	0	0	0	-	0	0	0.9	0	0	-	0.6	0	0	0	0	-	-	0	0	0	0	-	0	0.2
Peds	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	2
% Peds	-	-	-	-	100	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-

Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:30:00
To: 17:30:00

Intersection: Hwy 6 & Nichol Rd 15
Site Code: 2617900001
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hwy 6 runs N/S

North Approach

	Out	In	Total
	324	486	810
	24	18	42
	0	0	0
Totals	348	504	852

Hwy 6

	0	0	0	0
	3	21	0	0
	20	304	0	0
Totals	23	325	0	0






East Approach

	Out	In	Total
	0	0	0
	0	0	0
	0	0	0
Totals	0	0	0

Nichol Rd 15

				Totals
	0	0	0	0
	0	5	21	26
	0	0	0	0
	0	6	134	140

Peds: 4

Peds: 0



Peds: 0

Peds: 0

Nichol Rd 15

Totals			
	0	0	0
	0	0	0
	0	0	0
	0	0	0

West Approach

	Out	In	Total
	155	132	287
	11	6	17
	0	0	0
Totals	166	138	304

Totals				
	112	465	0	0
	3	13	0	0
	0	0	0	0

Hwy 6

South Approach

	Out	In	Total
	577	438	1015
	16	27	43
	0	0	0
Totals	593	465	1058

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 6 & Nichol Rd 15
Site Code: 2617900001
Count Date: Jun 11, 2026
Period: 16:00 - 18:00

Peak Hour Data (16:30 - 17:30)

Start Time	North Approach Hwy 6						South Approach Hwy 6						East Approach Nichol Rd 15						West Approach Nichol Rd 15						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:30	0	79	5	0	2	84	33	125	0	0	0	158	0	0	0	0	0	0	7	0	33	0	0	40	282
16:45	0	71	6	0	0	77	27	111	0	0	0	138	0	0	0	0	0	0	8	0	28	0	0	36	251
17:00	0	80	6	0	1	86	30	132	0	0	0	162	0	0	0	0	0	0	6	0	37	0	0	43	291
17:15	0	95	6	0	1	101	25	110	0	0	0	135	0	0	0	0	0	0	5	0	42	0	0	47	283
Grand Total	0	325	23	0	4	348	115	478	0	0	0	593	0	0	0	0	0	0	26	0	140	0	0	166	1107
Approach %	0	93.4	6.6	0	-	-	19.4	80.6	0	0	-	-	0	0	0	0	-	-	15.7	0	84.3	0	-	-	-
Totals %	0	29.4	2.1	0	-	31.4	10.4	43.2	0	0	-	53.6	0	0	0	0	-	0	2.3	0	12.6	0	-	15	-
PHF	0	0.86	0.96	0	-	0.86	0.87	0.91	0	0	-	0.92	0	0	0	0	-	0	0.81	0	0.83	0	-	0.88	0.95
Cars	0	304	20	0	-	324	112	465	0	0	-	577	0	0	0	0	-	0	21	0	134	0	-	155	1056
% Cars	0	93.5	87	0	-	93.1	97.4	97.3	0	0	-	97.3	0	0	0	0	-	0	80.8	0	95.7	0	-	93.4	95.4
Trucks	0	21	3	0	-	24	3	13	0	0	-	16	0	0	0	0	-	0	5	0	6	0	-	11	51
% Trucks	0	6.5	13	0	-	6.9	2.6	2.7	0	0	-	2.7	0	0	0	0	-	0	19.2	0	4.3	0	-	6.6	4.6
Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Peds	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	4
% Peds	-	-	-	-	100	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-

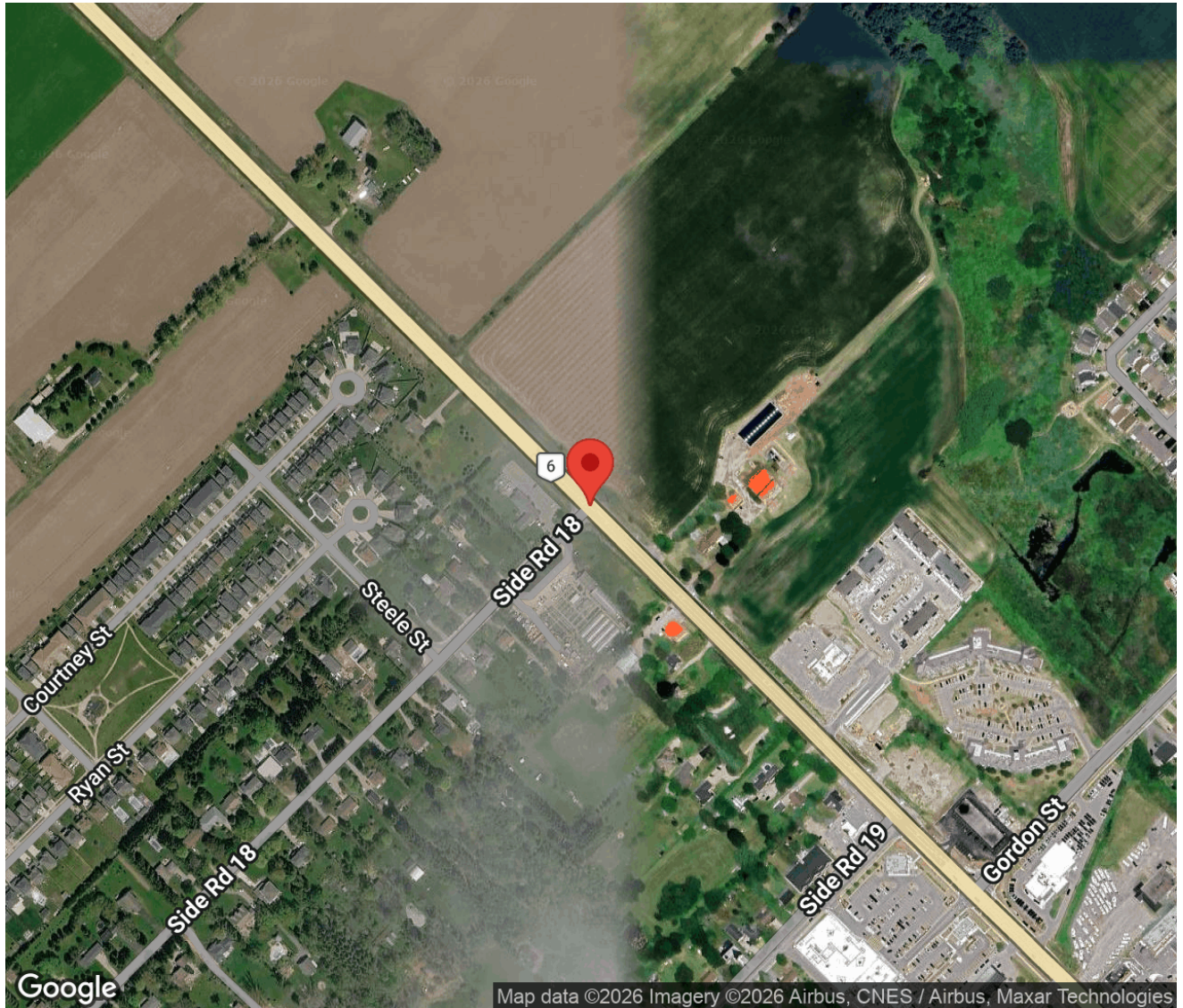
Project #26-179 - GHD

Intersection Count Report

Intersection: Hwy 6 & Side Rd 18
Municipality: Fergus
Count Date: Thursday, Jun 11, 2026
Site Code: 2617900002
Count Categories: Cars, Trucks, Bicycles, Pedestrians
Count Period: 07:00-09:00, 16:00-18:00
Weather: Clear
Comments:

Traffic Count Map

Intersection:	Hwy 6 & Side Rd 18
Site Code:	2617900002
Municipality:	Fergus
Count Date:	Jun 11, 2026



Traffic Count Summary

Intersection: Hwy 6 & Side Rd 18
 Site Code: 2617900002
 Municipality: Fergus
 Count Date: Jun 11, 2026

Hwy 6 - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	347	17	0	364	0	41	261	0	0	302	0	666
08:00 - 09:00	0	402	10	1	413	0	82	263	0	1	346	0	759
BREAK													
16:00 - 17:00	0	418	19	0	437	0	87	555	0	0	642	0	1079
17:00 - 18:00	0	470	24	0	494	0	75	536	0	0	611	0	1105
GRAND TOTAL	0	1637	70	1	1708	0	285	1615	0	1	1901	0	3609

Traffic Count Summary

Intersection: Hwy 6 & Side Rd 18
 Site Code: 2617900002
 Municipality: Fergus
 Count Date: Jun 11, 2026

Side Rd 18 - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	0	0	0	0	0	12	0	97	0	109	0	109
08:00 - 09:00	0	0	0	0	0	0	13	0	133	0	146	0	146
BREAK													
16:00 - 17:00	0	0	0	0	0	0	10	0	129	0	139	0	139
17:00 - 18:00	0	0	0	0	0	0	19	0	97	0	116	0	116
GRAND TOTAL	0	0	0	0	0	0	54	0	456	0	510	0	510

Traffic Count Data

Intersection: Hwy 6 & Side Rd 18
Site Code: 2617900002
Municipality: Fergus
Count Date: Jun 11, 2026

North Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	44	2	0	46	0	3	1	0	4	0	0	0	0	0	0
07:15	0	86	5	0	91	0	10	0	0	10	0	0	0	0	0	0
07:30	0	89	4	0	93	0	5	0	0	5	0	0	0	0	0	0
07:45	0	106	5	0	111	0	4	0	0	4	0	0	0	0	0	0
08:00	0	91	2	0	93	0	8	1	0	9	0	0	0	0	0	0
08:15	0	97	4	0	101	0	6	1	0	7	0	0	0	0	0	0
08:30	0	83	0	0	83	0	5	0	0	5	0	0	0	0	0	0
08:45	0	101	2	1	104	0	11	0	0	11	0	0	0	0	0	0
SUBTOTAL	0	697	24	1	722	0	52	3	0	55	0	0	0	0	0	0

Traffic Count Data

Intersection: Hwy 6 & Side Rd 18
Site Code: 2617900002
Municipality: Fergus
Count Date: Jun 11, 2026

North Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	0	102	5	0	107	0	3	0	0	3	0	0	0	0	0	0
16:15	0	107	6	0	113	0	3	0	0	3	0	0	0	0	0	0
16:30	0	105	2	0	107	0	2	1	0	3	0	0	0	0	0	0
16:45	0	91	5	0	96	0	5	0	0	5	0	0	0	0	0	0
17:00	0	110	4	0	114	0	10	0	0	10	0	0	0	0	0	0
17:15	0	125	6	0	131	0	8	1	0	9	0	0	0	0	0	0
17:30	0	126	5	0	131	0	2	1	0	3	0	0	0	0	0	0
17:45	0	85	7	0	92	0	4	0	0	4	0	0	0	0	0	0
SUBTOTAL	0	851	40	0	891	0	37	3	0	40	0	0	0	0	0	0
GRAND TOTAL	0	1548	64	1	1613	0	89	6	0	95	0	0	0	0	0	0

Traffic Count Data

Intersection: Hwy 6 & Side Rd 18
Site Code: 2617900002
Municipality: Fergus
Count Date: Jun 11, 2026

South Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	1	31	0	0	32	1	4	0	0	5	1	0	0	0	1	0
07:15	8	59	0	0	67	0	1	0	0	1	0	0	0	0	0	0
07:30	11	78	0	0	89	2	7	0	0	9	0	0	0	0	0	0
07:45	17	69	0	0	86	0	12	0	0	12	0	0	0	0	0	0
08:00	14	85	0	0	99	2	3	0	0	5	0	1	0	0	1	0
08:15	19	53	0	0	72	2	3	0	0	5	0	1	0	0	1	0
08:30	24	44	0	0	68	3	4	0	0	7	0	2	0	0	2	0
08:45	17	60	0	1	78	1	6	0	0	7	0	1	0	0	1	0
SUBTOTAL	111	479	0	1	591	11	40	0	0	51	1	5	0	0	6	0

Traffic Count Data

Intersection: Hwy 6 & Side Rd 18
Site Code: 2617900002
Municipality: Fergus
Count Date: Jun 11, 2026

South Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	28	135	0	0	163	1	2	0	0	3	0	0	0	0	0	0
16:15	22	124	0	0	146	0	1	0	0	1	0	2	0	0	2	0
16:30	18	156	0	0	174	2	2	0	0	4	0	0	0	0	0	0
16:45	16	129	0	0	145	0	3	0	0	3	0	1	0	0	1	0
17:00	20	154	0	0	174	0	3	0	0	3	0	0	0	0	0	0
17:15	22	125	0	0	147	1	2	0	0	3	0	1	0	0	1	0
17:30	15	115	0	0	130	1	5	0	0	6	0	1	0	0	1	0
17:45	16	126	0	0	142	0	4	0	0	4	0	0	0	0	0	0
SUBTOTAL	157	1064	0	0	1221	5	22	0	0	27	0	5	0	0	5	0
GRAND TOTAL	268	1543	0	1	1812	16	62	0	0	78	1	10	0	0	11	0

Traffic Count Data

Intersection: Hwy 6 & Side Rd 18
 Site Code: 2617900002
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	3	0	16	0	19	0	0	0	0	0	0	0	0	0	0	0
07:15	2	0	30	0	32	0	0	0	0	0	0	0	0	0	0	0
07:30	4	0	22	0	26	0	0	1	0	1	0	0	0	0	0	0
07:45	3	0	26	0	29	0	0	2	0	2	0	0	0	0	0	0
08:00	3	0	31	0	34	0	0	1	0	1	0	0	0	0	0	0
08:15	4	0	35	0	39	0	0	1	0	1	0	0	0	0	0	0
08:30	4	0	37	0	41	0	0	2	0	2	0	0	0	0	0	0
08:45	2	0	24	0	26	0	0	2	0	2	0	0	0	0	0	0
SUBTOTAL	25	0	221	0	246	0	0	9	0	9	0	0	0	0	0	0

Traffic Count Data

Intersection: Hwy 6 & Side Rd 18
 Site Code: 2617900002
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	1	0	33	0	34	0	0	2	0	2	0	0	0	0	0	0
16:15	2	0	28	0	30	0	0	1	0	1	0	0	0	0	0	0
16:30	3	0	33	0	36	0	0	1	0	1	0	0	0	0	0	0
16:45	4	0	31	0	35	0	0	0	0	0	0	0	0	0	0	0
17:00	5	0	25	0	30	0	0	2	0	2	0	0	0	0	0	0
17:15	7	0	20	0	27	0	0	2	0	2	0	0	0	0	0	0
17:30	5	0	22	0	27	0	0	0	0	0	0	0	0	0	0	0
17:45	2	0	25	0	27	0	0	1	0	1	0	0	0	0	0	0
SUBTOTAL	29	0	217	0	246	0	0	9	0	9	0	0	0	0	0	0
GRAND TOTAL	54	0	438	0	492	0	0	18	0	18	0	0	0	0	0	0

Peak Hour Diagram

Specified Period

From: 07:00:00

To: 09:00:00

One Hour Peak

From: 07:30:00

To: 08:30:00

Intersection: Hwy 6 & Side Rd 18

Site Code: 2617900002

Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hwy 6 runs N/S

North Approach

	Out	In	Total
	398	299	697
	25	25	50
	0	2	2
Totals	423	326	749

Hwy 6

	0	0	0
	2	23	0
	15	383	0
Totals	17	406	0

Peds: 0

Side Rd 18

	Totals	
	0	
	0	
	14	
Totals	14	

Peds: 0



Peds: 0

Peds: 0

West Approach

	Out	In	Total
	128	76	204
	5	8	13
	0	0	0
Totals	133	84	217

Totals	67	312	0
	61	285	0
	6	25	0
	0	2	0

Hwy 6

South Approach

	Out	In	Total
	346	497	843
	31	28	59
	2	0	2
Totals	379	525	904

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 6 & Side Rd 18
Site Code: 2617900002
Count Date: Jun 11, 2026
Period: 07:00 - 09:00

Peak Hour Data (07:30 - 08:30)

Start Time	North Approach Hwy 6						South Approach Hwy 6						East Approach						West Approach Side Rd 18						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:30		94	4	0	0	98	13	85		0	0	98					0		4		23	0	0	27	223
07:45		110	5	0	0	115	17	81		0	0	98					0		3		28	0	0	31	244
08:00		99	3	0	0	102	16	89		0	0	105					0		3		32	0	0	35	242
08:15		103	5	0	0	108	21	57		0	0	78					0		4		36	0	0	40	226
Grand Total		406	17	0	0	423	67	312		0	0	379					0	0	14		119	0	0	133	935
Approach %		96	4	0	-	-	17.7	82.3		0	-	-					-	-	10.5		89.5	0	-	-	
Totals %		43.4	1.8	0	-	45.2	7.2	33.4		0	-	40.5					0	-	1.5		12.7	0	-	14.2	
PHF		0.92	0.85	0	-	0.92	0.8	0.88		0	-	0.9					0	-	0.88		0.83	0	-	0.83	0.96
Cars		383	15	0	-	398	61	285		0	-	346					0	-	14		114	0	-	128	872
% Cars		94.3	88.2	0	-	94.1	91	91.3		0	-	91.3					0	-	100		95.8	0	-	96.2	93.3
Trucks		23	2	0	-	25	6	25		0	-	31					0	-	0		5	0	-	5	61
% Trucks		5.7	11.8	0	-	5.9	9	8		0	-	8.2					0	-	0		4.2	0	-	3.8	6.5
Bicycles		0	0	0	-	0	0	2		0	-	2					0	-	0		0	0	-	0	2
% Bicycles		0	0	0	-	0	0	0.6		0	-	0.5					0	-	0		0	0	-	0	0.2
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	

Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:30:00
To: 17:30:00

Intersection: Hwy 6 & Side Rd 18
Site Code: 2617900002
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hwy 6 runs N/S

North Approach

	Out	In	Total
	448	583	1031
	27	10	37
	0	2	2
Totals	475	595	1070

Hwy 6

	0	0	0
	2	25	0
	17	431	0
Totals	19	456	0

Peds: 0

Side Rd 18

	Totals	
	0	
	0	
	19	
Totals	114	

Peds: 0



Peds: 0

Peds: 0

West Approach

	Out	In	Total
	128	93	221
	5	5	10
	0	0	0
Totals	133	98	231

Totals	79	576	0
	76	564	0
	3	10	0
	0	2	0

Hwy 6

South Approach

	Out	In	Total
	640	540	1180
	13	30	43
	2	0	2
Totals	655	570	1225

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 6 & Side Rd 18
Site Code: 2617900002
Count Date: Jun 11, 2026
Period: 16:00 - 18:00

Peak Hour Data (16:30 - 17:30)

Start Time	North Approach Hwy 6						South Approach Hwy 6						East Approach						West Approach Side Rd 18						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:30		107	3	0	0	110	20	158		0	0	178					0		3		34	0	0	37	325
16:45		96	5	0	0	101	16	133		0	0	149					0		4		31	0	0	35	285
17:00		120	4	0	0	124	20	157		0	0	177					0		5		27	0	0	32	333
17:15		133	7	0	0	140	23	128		0	0	151					0		7		22	0	0	29	320
Grand Total		456	19	0	0	475	79	576		0	0	655					0	0	19		114	0	0	133	1263
Approach %		96	4	0	-	-	12.1	87.9		0	-	-					-	-	14.3		85.7	0	-	-	
Totals %		36.1	1.5	0	-	37.6	6.3	45.6		0	-	51.9					0	-	1.5		9	0	-	10.5	
PHF		0.86	0.68	0	-	0.85	0.86	0.91		0	-	0.92					0	-	0.68		0.84	0	-	0.9	0.95
Cars		431	17	0	-	448	76	564		0	-	640					0	-	19		109	0	-	128	1216
% Cars		94.5	89.5	0	-	94.3	96.2	97.9		0	-	97.7					0	-	100		95.6	0	-	96.2	96.3
Trucks		25	2	0	-	27	3	10		0	-	13					0	-	0		5	0	-	5	45
% Trucks		5.5	10.5	0	-	5.7	3.8	1.7		0	-	2					0	-	0		4.4	0	-	3.8	3.6
Bicycles		0	0	0	-	0	0	2		0	-	2					0	-	0		0	0	-	0	2
% Bicycles		0	0	0	-	0	0	0.3		0	-	0.3					0	-	0		0	0	-	0	0.2
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	

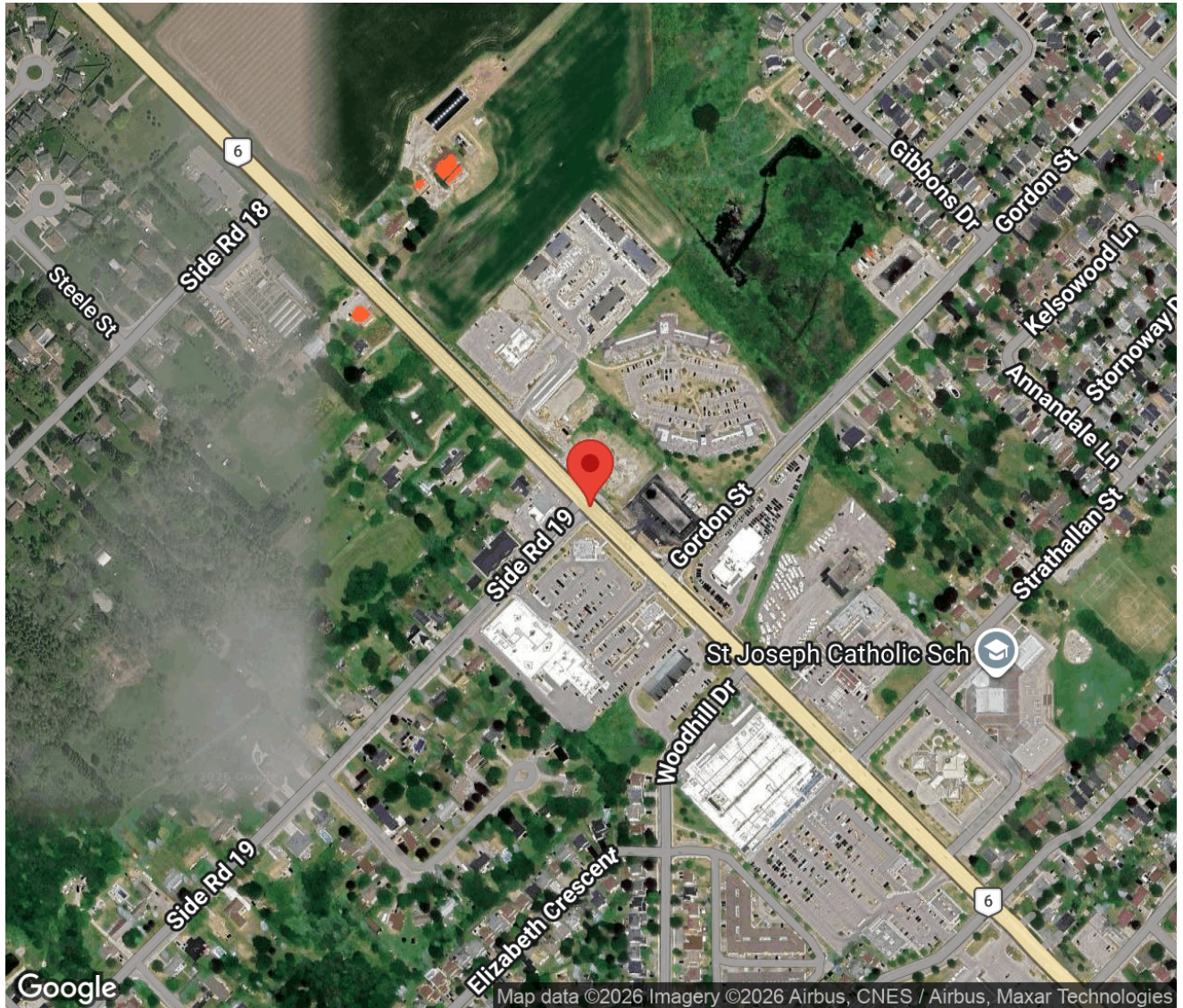
Project #26-179 - GHD

Intersection Count Report

Intersection:	Hwy 6 & Side Rd 19
Municipality:	Fergus
Count Date:	Thursday, Jun 11, 2026
Site Code:	2617900003
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Traffic Count Map

Intersection:	Hwy 6 & Side Rd 19
Site Code:	2617900003
Municipality:	Fergus
Count Date:	Jun 11, 2026



Traffic Count Summary

Intersection: Hwy 6 & Side Rd 19
 Site Code: 2617900003
 Municipality: Fergus
 Count Date: Jun 11, 2026

Hwy 6 - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	450	18	0	468	0	24	308	0	0	332	0	800
08:00 - 09:00	0	538	26	0	564	3	51	351	0	0	402	1	966
BREAK													
16:00 - 17:00	0	529	33	0	562	1	75	661	0	0	736	2	1298
17:00 - 18:00	0	551	47	0	598	2	59	601	0	0	660	3	1258
GRAND TOTAL	0	2068	124	0	2192	6	209	1921	0	0	2130	6	4322

Traffic Count Summary

Intersection: Hwy 6 & Side Rd 19
 Site Code: 2617900003
 Municipality: Fergus
 Count Date: Jun 11, 2026

Side Rd 19 - Traffic Summary

Hour	East Approach Totals						West Approach Totals							Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles							
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds		
07:00 - 08:00	0	0	0	0	0	0	4	0	45	0	49	3	49	
08:00 - 09:00	0	0	0	0	0	5	12	0	50	0	62	3	62	
BREAK														
16:00 - 17:00	0	0	0	0	0	2	18	0	75	0	93	7	93	
17:00 - 18:00	0	0	0	0	0	8	26	0	62	0	88	4	88	
GRAND TOTAL	0	0	0	0	0	15	60	0	232	0	292	17	292	

Traffic Count Data

Intersection: Hwy 6 & Side Rd 19
Site Code: 2617900003
Municipality: Fergus
Count Date: Jun 11, 2026

North Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	0	62	2	0	64	0	4	0	0	4	0	0	0	0	0	0
07:15	0	117	4	0	121	0	7	0	0	7	0	0	0	0	0	0
07:30	0	112	5	0	117	0	6	1	0	7	0	0	0	0	0	0
07:45	0	134	6	0	140	0	8	0	0	8	0	0	0	0	0	0
08:00	0	112	5	0	117	0	14	0	0	14	0	0	0	0	0	0
08:15	0	129	3	0	132	0	4	2	0	6	0	0	0	0	0	0
08:30	0	123	6	0	129	0	6	2	0	8	0	0	0	0	0	2
08:45	0	136	7	0	143	0	14	1	0	15	0	0	0	0	0	1
SUBTOTAL	0	925	38	0	963	0	63	6	0	69	0	0	0	0	0	3

Traffic Count Data

Intersection: Hwy 6 & Side Rd 19
 Site Code: 2617900003
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	0	131	10	0	141	0	11	0	0	11	0	1	0	0	1	0
16:15	0	117	7	0	124	0	9	0	0	9	0	0	0	0	0	1
16:30	0	126	7	0	133	0	4	0	0	4	0	0	0	0	0	0
16:45	0	126	9	0	135	0	3	0	0	3	0	1	0	0	1	0
17:00	0	132	18	0	150	0	2	0	0	2	0	0	1	0	1	0
17:15	0	138	8	0	146	0	6	2	0	8	0	0	0	0	0	0
17:30	0	159	7	0	166	0	3	0	0	3	0	0	0	0	0	0
17:45	0	110	11	0	121	0	0	0	0	0	0	1	0	0	1	2
SUBTOTAL	0	1039	77	0	1116	0	38	2	0	40	0	3	1	0	4	3
GRAND TOTAL	0	1964	115	0	2079	0	101	8	0	109	0	3	1	0	4	6

Traffic Count Data

Intersection: Hwy 6 & Side Rd 19
Site Code: 2617900003
Municipality: Fergus
Count Date: Jun 11, 2026

South Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	2	33	0	0	35	0	4	0	0	4	0	0	0	0	0	0
07:15	5	60	0	0	65	1	4	0	0	5	0	0	0	0	0	0
07:30	4	87	0	0	91	1	10	0	0	11	1	0	0	0	1	0
07:45	8	95	0	0	103	2	15	0	0	17	0	0	0	0	0	0
08:00	12	100	0	0	112	1	7	0	0	8	0	0	0	0	0	0
08:15	7	69	0	0	76	0	4	0	0	4	0	0	0	0	0	0
08:30	13	71	0	0	84	1	8	0	0	9	0	3	0	0	3	1
08:45	15	78	0	0	93	2	10	0	0	12	0	1	0	0	1	0
SUBTOTAL	66	593	0	0	659	8	62	0	0	70	1	4	0	0	5	1

Traffic Count Data

Intersection: Hwy 6 & Side Rd 19
Site Code: 2617900003
Municipality: Fergus
Count Date: Jun 11, 2026

South Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	19	154	0	0	173	1	7	0	0	8	0	0	0	0	0	0
16:15	18	156	0	0	174	1	10	0	0	11	0	1	0	0	1	0
16:30	12	173	0	0	185	2	3	0	0	5	0	0	0	0	0	1
16:45	21	155	0	0	176	1	2	0	0	3	0	0	0	0	0	1
17:00	11	172	0	0	183	0	2	0	0	2	0	0	0	0	0	0
17:15	18	147	0	0	165	2	1	0	0	3	0	0	0	0	0	0
17:30	14	130	0	0	144	1	2	0	0	3	0	1	0	0	1	0
17:45	11	138	0	0	149	0	7	0	0	7	2	1	0	0	3	3
SUBTOTAL	124	1225	0	0	1349	8	34	0	0	42	2	3	0	0	5	5
GRAND TOTAL	190	1818	0	0	2008	16	96	0	0	112	3	7	0	0	10	6

Traffic Count Data

Intersection: Hwy 6 & Side Rd 19
 Site Code: 2617900003
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Side Rd 19

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	0	8	0	8	0	0	0	0	0	0	0	1	0	1	2
07:15	2	0	15	0	17	0	0	0	0	0	0	0	0	0	0	0
07:30	1	0	9	0	10	0	0	0	0	0	0	0	0	0	0	1
07:45	1	0	11	0	12	0	0	1	0	1	0	0	0	0	0	0
08:00	2	0	7	0	9	0	0	1	0	1	0	0	0	0	0	0
08:15	1	0	6	0	7	1	0	1	0	2	0	0	0	0	0	0
08:30	3	0	18	0	21	1	0	2	0	3	0	0	1	0	1	1
08:45	4	0	14	0	18	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	14	0	88	0	102	2	0	5	0	7	0	0	2	0	2	6

Traffic Count Data

Intersection: Hwy 6 & Side Rd 19
 Site Code: 2617900003
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Side Rd 19

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	5	0	19	0	24	0	0	0	0	0	0	0	0	0	0	2
16:15	5	0	25	0	30	0	0	0	0	0	0	0	0	0	0	2
16:30	5	0	15	0	20	0	0	1	0	1	0	0	0	0	0	1
16:45	3	0	14	0	17	0	0	1	0	1	0	0	0	0	0	2
17:00	7	0	16	0	23	0	0	0	0	0	0	0	0	0	0	0
17:15	8	0	16	0	24	0	0	1	0	1	0	0	0	0	0	0
17:30	4	0	9	0	13	0	0	1	0	1	0	0	0	0	0	0
17:45	7	0	18	0	25	0	0	0	0	0	0	1	0	1	1	4
SUBTOTAL	44	0	132	0	176	0	0	4	0	4	0	0	1	0	1	11
GRAND TOTAL	58	0	220	0	278	2	0	9	0	11	0	0	3	0	3	17

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 08:00:00
To: 09:00:00

Intersection: Hwy 6 & Side Rd 19
Site Code: 2617900003
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hwy 6 runs N/S

North Approach

	Out	In	Total
	521	328	849
	43	31	74
	0	4	4
	564	363	927

Hwy 6

	0	0	0
	5	38	0
	21	500	0
Totals	26	538	0

Peds: 3

Side Rd 19

				Totals
	0	0	0	0
	0	2	10	12
	1	4	45	50

Peds: 3



Peds: 5

Peds: 1

West Approach

	Out	In	Total
	55	68	123
	6	9	15
	1	0	1
	62	77	139

Totals	51	351	0
	47	318	0
	4	29	0
	0	4	0

Hwy 6

South Approach

	Out	In	Total
	365	545	910
	33	42	75
	4	1	5
	402	588	990

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 6 & Side Rd 19
Site Code: 2617900003
Count Date: Jun 11, 2026
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Hwy 6						South Approach Hwy 6						East Approach						West Approach Side Rd 19						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
08:00		126	5	0	0	131	13	107		0	0	120					1		2		8	0	0	10	261
08:15		133	5	0	0	138	7	73		0	0	80					0		2		7	0	0	9	227
08:30		129	8	0	2	137	14	82		0	1	96					3		4		21	0	1	25	258
08:45		150	8	0	1	158	17	89		0	0	106					1		4		14	0	2	18	282
Grand Total		538	26	0	3	564	51	351		0	1	402					5	0	12		50	0	3	62	1028
Approach %		95.4	4.6	0	-	-	12.7	87.3		0	-	-					-	-	19.4		80.6	0	-	-	
Totals %		52.3	2.5	0	-	54.9	5	34.1		0	-	39.1					0	-	1.2		4.9	0	-	6	
PHF		0.9	0.81	0	-	0.89	0.75	0.82		0	-	0.84					0	-	0.75		0.6	0	-	0.62	0.91
Cars		500	21	0	-	521	47	318		0	-	365					0	-	10		45	0	-	55	941
% Cars		92.9	80.8	0	-	92.4	92.2	90.6		0	-	90.8					0	-	83.3		90	0	-	88.7	91.5
Trucks		38	5	0	-	43	4	29		0	-	33					0	-	2		4	0	-	6	82
% Trucks		7.1	19.2	0	-	7.6	7.8	8.3		0	-	8.2					0	-	16.7		8	0	-	9.7	8
Bicycles		0	0	0	-	0	0	4		0	-	4					0	-	0		1	0	-	1	5
% Bicycles		0	0	0	-	0	0	1.1		0	-	1					0	-	0		2	0	-	1.6	0.5
Peds					3	-					1	-					5	-					3	-	12
% Peds					25	-					8.3	-					41.7	-					25	-	

Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:15:00
To: 17:15:00

Intersection: Hwy 6 & Side Rd 19
Site Code: 2617900003
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hwy 6 runs N/S

North Approach

	Out	In	Total
	542	676	1218
	18	17	35
	2	1	3
	562	694	1256

Hwy 6

	1	1	0
	0	18	0
	41	501	0
Totals	42	520	0

Peds: 1

Side Rd 19

	Totals	
	0	
	0	
	0	
	0	
	20	
	72	

Peds: 5



Peds: 2

Peds: 2

West Approach

	Out	In	Total
	90	103	193
	2	4	6
	0	1	1
	92	108	200

Totals	66	674	0
	62	656	0
	4	17	0
	0	1	0

Hwy 6

South Approach

	Out	In	Total
	718	571	1289
	21	20	41
	1	1	2
	740	592	1332

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 6 & Side Rd 19
Site Code: 2617900003
Count Date: Jun 11, 2026
Period: 16:00 - 18:00

Peak Hour Data (16:15 - 17:15)

Start Time	North Approach Hwy 6						South Approach Hwy 6						East Approach						West Approach Side Rd 19						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:15		126	7	0	1	133	19	167		0	0	186					1		5		25	0	2	30	349
16:30		130	7	0	0	137	14	176		0	1	190					0		5		16	0	1	21	348
16:45		130	9	0	0	139	22	157		0	1	179					1		3		15	0	2	18	336
17:00		134	19	0	0	153	11	174		0	0	185					0		7		16	0	0	23	361
Grand Total		520	42	0	1	562	66	674		0	2	740					2	0	20		72	0	5	92	1394
Approach %		92.5	7.5	0	-	-	8.9	91.1		0	-	-					-	-	21.7		78.3	0	-	-	-
Totals %		37.3	3	0		40.3	4.7	48.4		0		53.1					0		1.4		5.2	0		6.6	
PHF		0.97	0.55	0		0.92	0.75	0.96		0		0.97					0		0.71		0.72	0		0.77	0.97
Cars		501	41	0		542	62	656		0		718					0		20		70	0		90	1350
% Cars		96.3	97.6	0		96.4	93.9	97.3		0		97					0		100		97.2	0		97.8	96.8
Trucks		18	0	0		18	4	17		0		21					0		0		2	0		2	41
% Trucks		3.5	0	0		3.2	6.1	2.5		0		2.8					0		0		2.8	0		2.2	2.9
Bicycles		1	1	0		2	0	1		0		1					0		0		0	0		0	3
% Bicycles		0.2	2.4	0		0.4	0	0.1		0		0.1					0		0		0	0		0	0.2
Peds					1	-					2	-					2	-					5	-	10
% Peds					10	-					20	-					20	-					50	-	

Project #26-179 - GHD

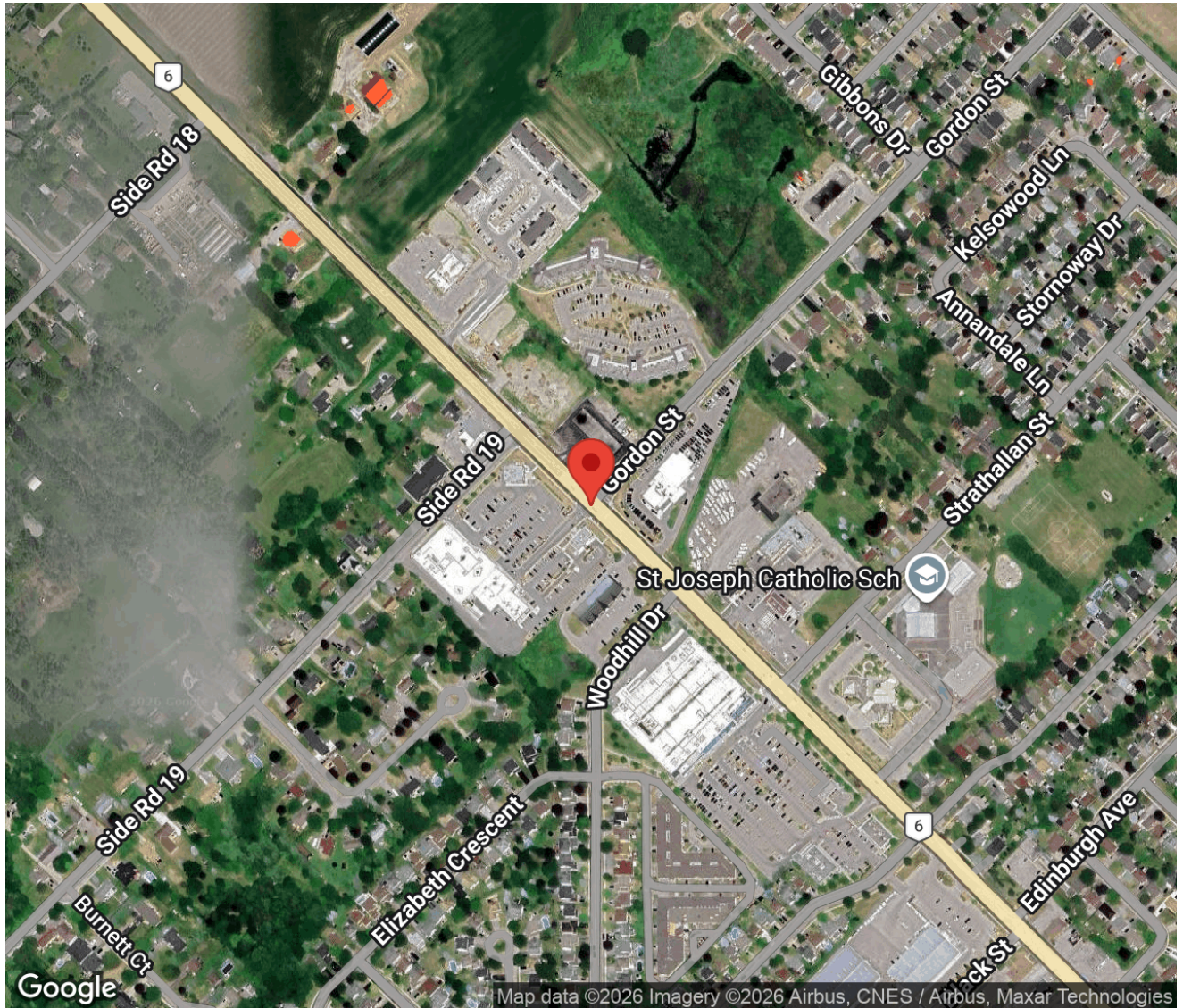
Intersection Count Report

Intersection: Hwy 6 & Gordon St - Commercial Access
Municipality: Fergus
Count Date: Thursday, Jun 11, 2026
Site Code: 2617900004
Count Categories: Cars, Trucks, Bicycles, Pedestrians
Count Period: 07:00-09:00, 16:00-18:00
Weather: Clear
Comments:



Traffic Count Map

Intersection:	Hwy 6 & Gordon St - Commercial Access
Site Code:	2617900004
Municipality:	Fergus
Count Date:	Jun 11, 2026



Traffic Count Summary

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

Hwy 6 - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	228	257	2	0	487	1	16	179	63	0	258	2	745
08:00 - 09:00	226	351	10	1	588	1	20	191	75	0	286	4	874
BREAK													
16:00 - 17:00	239	332	25	0	596	20	78	332	86	5	501	2	1097
17:00 - 18:00	232	360	24	0	616	17	81	322	73	1	477	1	1093
GRAND TOTAL	925	1300	61	1	2287	39	195	1024	297	6	1522	9	3809

Traffic Count Summary

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

Gordon St - Traffic Summary

Hour	East Approach Totals						West Approach Totals							Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles							
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds		
07:00 - 08:00	53	8	159	0	220	1	2	2	11	0	15	4	235	
08:00 - 09:00	81	12	199	0	292	7	5	8	25	0	38	9	330	
BREAK														
16:00 - 17:00	106	65	339	0	510	9	32	45	64	0	141	9	651	
17:00 - 18:00	101	52	300	0	453	13	20	40	90	0	150	15	603	
GRAND TOTAL	341	137	997	0	1475	30	59	95	190	0	344	37	1819	

Traffic Count Data

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	34	38	0	0	72	3	0	0	0	3	0	0	0	0	0	0
07:15	58	71	0	0	129	9	2	0	0	11	0	0	0	0	0	1
07:30	53	62	1	0	116	4	2	0	0	6	0	0	0	0	0	0
07:45	64	79	1	0	144	3	3	0	0	6	0	0	0	0	0	0
08:00	53	65	0	0	118	6	6	0	0	12	0	0	0	0	0	0
08:15	55	77	2	0	134	3	4	0	0	7	0	0	0	0	0	1
08:30	49	91	5	1	146	4	4	0	0	8	0	0	0	0	0	0
08:45	49	95	3	0	147	7	8	0	0	15	0	1	0	0	1	0
SUBTOTAL	415	578	12	1	1006	39	29	0	0	68	0	1	0	0	1	2

Traffic Count Data

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	62	84	9	0	155	6	4	0	0	10	0	0	0	0	0	3
16:15	55	81	3	0	139	5	2	0	0	7	0	1	0	0	1	4
16:30	53	85	8	0	146	3	3	0	0	6	0	0	0	0	0	3
16:45	52	72	5	0	129	3	0	0	0	3	0	0	0	0	0	10
17:00	55	88	5	0	148	3	0	0	0	3	0	0	0	0	0	2
17:15	63	90	7	0	160	2	1	0	0	3	0	1	0	0	1	7
17:30	54	105	7	0	166	2	0	0	0	2	0	0	0	0	0	3
17:45	52	75	5	0	132	1	0	0	0	1	0	0	0	0	0	5
SUBTOTAL	446	680	49	0	1175	25	10	0	0	35	0	2	0	0	2	37
GRAND TOTAL	861	1258	61	1	2181	64	39	0	0	103	0	3	0	0	3	39

Traffic Count Data

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

South Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	4	19	12	0	35	0	3	0	0	3	0	0	0	0	0	0
07:15	4	34	13	0	51	0	0	0	0	0	0	0	0	0	0	0
07:30	4	57	15	0	76	0	5	3	0	8	0	0	1	0	1	2
07:45	4	51	19	0	74	0	10	0	0	10	0	0	0	0	0	0
08:00	2	52	17	0	71	0	3	1	0	4	0	0	0	0	0	0
08:15	4	38	15	0	57	0	2	3	0	5	0	0	0	0	0	2
08:30	4	43	16	0	63	0	0	1	0	1	0	2	0	0	2	1
08:45	8	48	20	0	76	2	3	2	0	7	0	0	0	0	0	1
SUBTOTAL	34	342	127	0	503	2	26	10	0	38	0	2	1	0	3	6

Traffic Count Data

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

South Approach - Hwy 6

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	17	71	15	1	104	0	1	0	0	1	0	0	0	0	0	0
16:15	18	80	19	2	119	0	1	0	0	1	0	0	0	0	0	1
16:30	18	86	28	2	134	0	2	1	0	3	0	0	0	0	0	0
16:45	25	90	21	0	136	0	1	2	0	3	0	0	0	0	0	1
17:00	31	75	24	1	131	0	0	1	0	1	0	0	0	0	0	0
17:15	8	76	15	0	99	0	0	0	0	0	0	0	0	0	0	1
17:30	27	88	21	0	136	1	2	0	0	3	0	0	0	0	0	0
17:45	14	80	12	0	106	0	0	0	0	0	0	1	0	0	1	0
SUBTOTAL	158	646	155	6	965	1	7	4	0	12	0	1	0	0	1	3
GRAND TOTAL	192	988	282	6	1468	3	33	14	0	50	0	3	1	0	4	9

Traffic Count Data

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

East Approach - Gordon St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	13	2	21	0	36	0	0	2	0	2	0	0	0	0	0	0
07:15	14	2	32	0	48	0	0	5	0	5	0	0	0	0	0	0
07:30	15	3	38	0	56	1	0	6	0	7	0	0	1	0	1	0
07:45	10	1	46	0	57	0	0	8	0	8	0	0	0	0	0	1
08:00	17	1	49	0	67	1	0	7	0	8	0	0	0	0	0	1
08:15	17	3	38	0	58	2	0	3	0	5	0	0	0	0	0	0
08:30	14	3	37	0	54	3	1	8	0	12	0	1	0	0	1	4
08:45	26	3	46	0	75	1	0	11	0	12	0	0	0	0	0	2
SUBTOTAL	126	18	307	0	451	8	1	50	0	59	0	1	1	0	2	8

Traffic Count Data

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

East Approach - Gordon St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	37	14	86	0	137	0	0	3	0	3	0	0	0	0	0	1
16:15	25	12	67	0	104	0	0	10	0	10	0	0	1	0	1	3
16:30	31	20	86	0	137	1	0	4	0	5	0	0	0	0	0	1
16:45	12	19	82	0	113	0	0	0	0	0	0	0	0	0	0	4
17:00	27	14	92	0	133	0	0	3	0	3	0	0	0	0	0	0
17:15	19	16	84	0	119	0	0	2	0	2	1	0	0	0	1	4
17:30	30	8	52	0	90	1	0	2	0	3	0	0	1	0	1	6
17:45	23	14	60	0	97	0	0	4	0	4	0	0	0	0	0	3
SUBTOTAL	204	117	609	0	930	2	0	28	0	30	1	0	2	0	3	22
GRAND TOTAL	330	135	916	0	1381	10	1	78	0	89	1	1	3	0	5	30

Traffic Count Data

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Commercial Access

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	3
07:15	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
07:30	0	2	4	0	6	0	0	0	0	0	0	0	0	0	0	0
07:45	1	0	2	0	3	0	0	1	0	1	0	0	0	0	0	1
08:00	1	3	10	0	14	0	0	0	0	0	0	0	0	0	0	1
08:15	1	2	3	0	6	0	0	0	0	0	0	0	0	0	0	5
08:30	0	1	3	0	4	0	0	0	0	0	0	0	0	0	0	2
08:45	3	2	8	0	13	0	0	1	0	1	0	0	0	0	0	1
SUBTOTAL	7	10	34	0	51	0	0	2	0	2	0	0	0	0	0	13

Traffic Count Data

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Commercial Access

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	9	8	11	0	28	0	0	0	0	0	0	0	0	0	0	1
16:15	8	8	13	0	29	0	0	0	0	0	0	0	0	0	0	1
16:30	8	17	21	0	46	0	1	0	0	1	0	0	0	0	0	5
16:45	7	11	19	0	37	0	0	0	0	0	0	0	0	0	0	2
17:00	3	8	26	0	37	0	0	0	0	0	0	0	0	0	0	2
17:15	7	10	16	0	33	0	1	0	0	1	0	0	0	0	0	3
17:30	2	9	27	0	38	0	0	0	0	0	0	0	0	0	0	4
17:45	8	12	21	0	41	0	0	0	0	0	0	0	0	0	0	6
SUBTOTAL	52	83	154	0	289	0	2	0	0	2	0	0	0	0	0	24
GRAND TOTAL	59	93	188	0	340	0	2	2	0	4	0	0	0	0	0	37

Peak Hour Diagram

Specified Period

From: 07:00:00

To: 09:00:00

One Hour Peak

From: 08:00:00

To: 09:00:00

Intersection: Hwy 6 & Gordon St - Commercial Access

Site Code: 2617900004

Count Date: Jun 11, 2026

Weather conditions: Clear

** Unsignalized Intersection **

Major Road: Hwy 6 runs N/S

North Approach

	Out	In	Total
	545	357	902
	42	37	79
	1	2	3
Totals	588	396	984

Hwy 6

	0	1	0	0
	0	22	20	0
	10	328	206	1
Totals	10	351	226	1






East Approach

	Out	In	Total
	254	282	536
	37	27	64
	1	0	1
Totals	292	309	601

Commercial Access

				Totals
	0	0	0	0
	0	0	5	5
	0	0	8	8
	0	1	24	25






Peds: 1

Gordon St

Totals			
0	0	0	0
199	170	29	0
12	10	1	1
81	74	7	0






Peds: 9



Peds: 7

Peds: 4

West Approach

	Out	In	Total
	37	38	75
	1	3	4
	0	1	1
Totals	38	42	80

				
Totals	20	191	75	0
	18	181	68	0
	2	8	7	0
	0	2	0	0

Hwy 6

South Approach

	Out	In	Total
	267	426	693
	17	30	47
	2	1	3
Totals	286	457	743

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 6 & Gordon St - Commercial Access
Site Code: 2617900004
Count Date: Jun 11, 2026
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Hwy 6						South Approach Hwy 6						East Approach Gordon St						West Approach Commercial Access						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
08:00	59	71	0	0	0	130	2	55	18	0	0	75	18	1	56	0	1	75	1	3	10	0	1	14	294
08:15	58	81	2	0	1	141	4	40	18	0	2	62	19	3	41	0	0	63	1	2	3	0	5	6	272
08:30	53	95	5	1	0	154	4	45	17	0	1	66	17	5	45	0	4	67	0	1	3	0	2	4	291
08:45	56	104	3	0	0	163	10	51	22	0	1	83	27	3	57	0	2	87	3	2	9	0	1	14	347
Grand Total	226	351	10	1	1	588	20	191	75	0	4	286	81	12	199	0	7	292	5	8	25	0	9	38	1204
Approach %	38.4	59.7	1.7	0.2	-	-	7	66.8	26.2	0	-	-	27.7	4.1	68.2	0	-	-	13.2	21.1	65.8	0	-	-	-
Totals %	18.8	29.2	0.8	0.1	-	48.8	1.7	15.9	6.2	0	-	23.8	6.7	1	16.5	0	-	24.3	0.4	0.7	2.1	0	-	3.2	-
PHF	0.96	0.84	0.5	0.25	-	0.9	0.5	0.87	0.85	0	-	0.86	0.75	0.6	0.87	0	-	0.84	0.42	0.67	0.63	0	-	0.68	0.87
Cars	206	328	10	1	-	545	18	181	68	0	-	267	74	10	170	0	-	254	5	8	24	0	-	37	1103
% Cars	91.2	93.4	100	100	-	92.7	90	94.8	90.7	0	-	93.4	91.4	83.3	85.4	0	-	87	100	100	96	0	-	97.4	91.6
Trucks	20	22	0	0	-	42	2	8	7	0	-	17	7	1	29	0	-	37	0	0	1	0	-	1	97
% Trucks	8.8	6.3	0	0	-	7.1	10	4.2	9.3	0	-	5.9	8.6	8.3	14.6	0	-	12.7	0	0	4	0	-	2.6	8.1
Bicycles	0	1	0	0	-	1	0	2	0	0	-	2	0	1	0	0	-	1	0	0	0	0	-	0	4
% Bicycles	0	0.3	0	0	-	0.2	0	1	0	0	-	0.7	0	8.3	0	0	-	0.3	0	0	0	0	-	0	0.3
Peds	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	7	-	-	-	-	-	9	-	21
% Peds	-	-	-	-	4.8	-	-	-	-	-	19	-	-	-	-	-	33.3	-	-	-	-	-	42.9	-	-

Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:30:00
To: 17:30:00

Intersection: Hwy 6 & Gordon St - Commercial Access
Site Code: 2617900004
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hwy 6 runs N/S

North Approach

	Out	In	Total
	583	696	1279
	15	12	27
	1	0	1
Totals	599	708	1307

Hwy 6

	0	1	0	0
	0	4	11	0
	25	335	223	0
Totals	25	340	234	0






East Approach

	Out	In	Total
	502	357	859
	10	17	27
	1	0	1
Totals	513	374	887

Commercial Access

				Totals
	0	0	0	0
	0	0	25	25
	0	2	46	48
	0	0	82	82






Peds: 22

Peds: 12



Peds: 9

Peds: 2

Gordon St

Totals			
0	0	0	0
353	344	9	0
69	69	0	0
91	89	1	1






West Approach

	Out	In	Total
	153	176	329
	2	0	2
	0	0	0
Totals	155	176	331

Totals				
	82	327	88	3
	0	3	4	0
	0	0	0	0

Hwy 6

South Approach

	Out	In	Total
	500	509	1009
	7	5	12
	0	2	2
Totals	507	516	1023

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Hwy 6 & Gordon St - Commercial Access
 Site Code: 2617900004
 Count Date: Jun 11, 2026
 Period: 16:00 - 18:00

Peak Hour Data (16:30 - 17:30)

Start Time	North Approach Hwy 6						South Approach Hwy 6						East Approach Gordon St						West Approach Commercial Access						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:30	56	88	8	0	3	152	18	88	29	2	0	137	32	20	90	0	1	142	8	18	21	0	5	47	478
16:45	55	72	5	0	10	132	25	91	23	0	1	139	12	19	82	0	4	113	7	11	19	0	2	37	421
17:00	58	88	5	0	2	151	31	75	25	1	0	132	27	14	95	0	0	136	3	8	26	0	2	37	456
17:15	65	92	7	0	7	164	8	76	15	0	1	99	20	16	86	0	4	122	7	11	16	0	3	34	419
Grand Total	234	340	25	0	22	599	82	330	92	3	2	507	91	69	353	0	9	513	25	48	82	0	12	155	1774
Approach %	39.1	56.8	4.2	0	-	-	16.2	65.1	18.1	0.6	-	-	17.7	13.5	68.8	0	-	-	16.1	31	52.9	0	-	-	-
Totals %	13.2	19.2	1.4	0	33.8	-	4.6	18.6	5.2	0.2	28.6	-	5.1	3.9	19.9	0	28.9	-	1.4	2.7	4.6	0	8.7	-	-
PHF	0.9	0.92	0.78	0	0.91	-	0.66	0.91	0.79	0.38	0.91	-	0.71	0.86	0.93	0	0.9	-	0.78	0.67	0.79	0	0.82	0.93	-
Cars	223	335	25	0	-	583	82	327	88	3	-	500	89	69	344	0	-	502	25	46	82	0	-	153	1738
% Cars	95.3	98.5	100	0	-	97.3	100	99.1	95.7	100	-	98.6	97.8	100	97.5	0	-	97.9	100	95.8	100	0	-	98.7	98
Trucks	11	4	0	0	-	15	0	3	4	0	-	7	1	0	9	0	-	10	0	2	0	0	-	2	34
% Trucks	4.7	1.2	0	0	-	2.5	0	0.9	4.3	0	-	1.4	1.1	0	2.5	0	-	1.9	0	4.2	0	0	-	1.3	1.9
Bicycles	0	1	0	0	-	1	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	2
% Bicycles	0	0.3	0	0	-	0.2	0	0	0	0	-	0	1.1	0	0	0	-	0.2	0	0	0	0	-	0	0.1
Peds	-	-	-	-	22	-	-	-	-	-	2	-	-	-	-	-	9	-	-	-	-	-	12	-	45
% Peds	-	-	-	-	48.9	-	-	-	-	-	4.4	-	-	-	-	-	20	-	-	-	-	-	26.7	-	-

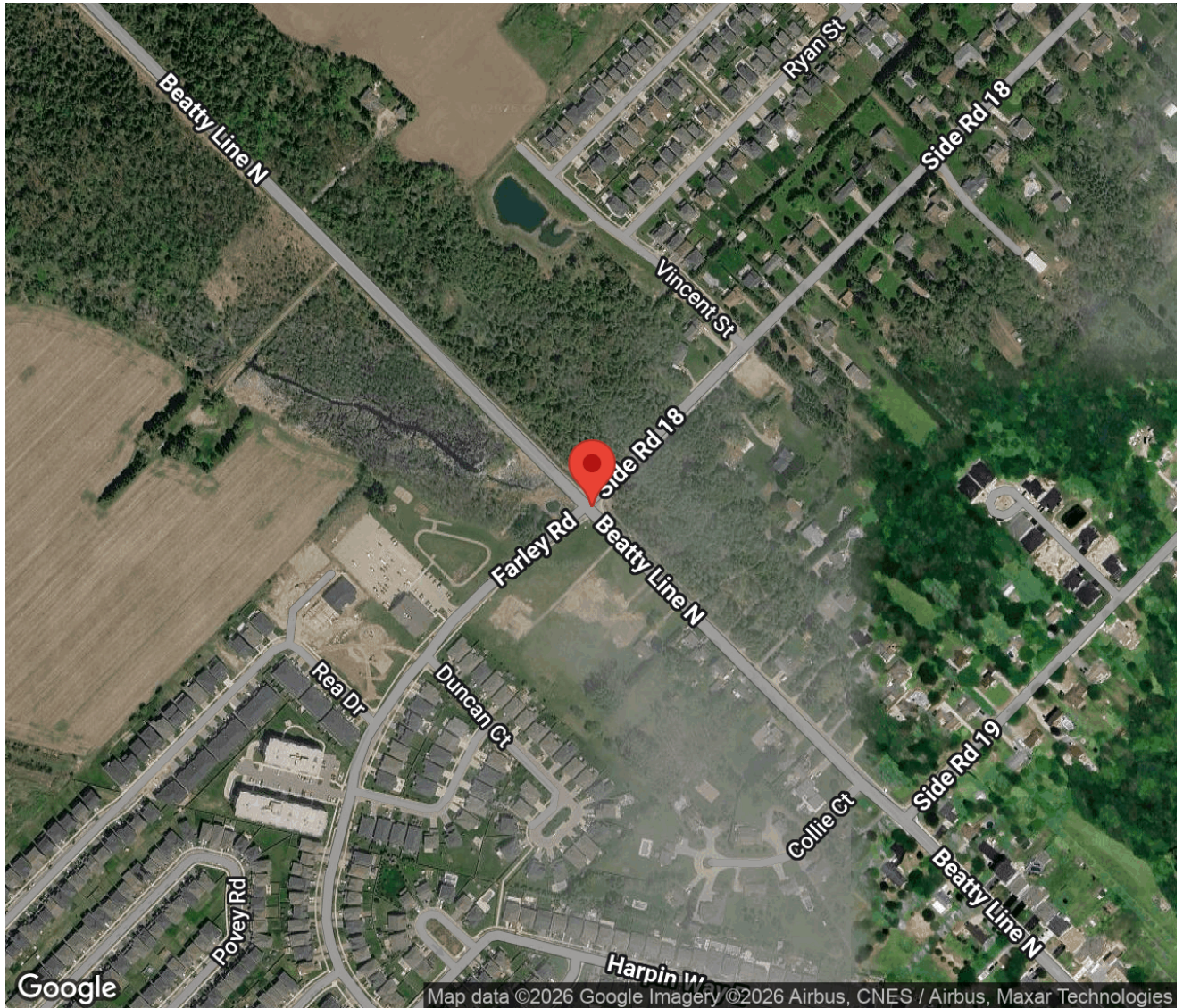
Project #26-179 - GHD

Intersection Count Report

Intersection: Beatty Line & Farley Rd - Side Rd 18
Municipality: Fergus
Count Date: Thursday, Jun 11, 2026
Site Code: 2617900005
Count Categories: Cars, Trucks, Bicycles, Pedestrians
Count Period: 07:00-09:00, 16:00-18:00
Weather: Clear
Comments:

Traffic Count Map

Intersection:	Beatty Line & Farley Rd - Side Rd 18
Site Code:	2617900005
Municipality:	Fergus
Count Date:	Jun 11, 2026



Traffic Count Summary

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

Beatty Line - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	6	43	13	0	62	2	19	58	21	0	98	8	160
08:00 - 09:00	7	67	34	0	108	0	31	49	31	0	111	19	219
BREAK													
16:00 - 17:00	17	63	47	0	127	1	82	85	32	0	199	6	326
17:00 - 18:00	18	74	31	0	123	1	91	69	33	0	193	8	316
GRAND TOTAL	48	247	125	0	420	4	223	261	117	0	601	41	1021

Traffic Count Summary

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

Side Rd 18 - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	35	32	9	1	77	1	33	56	55	0	144	1	221
08:00 - 09:00	55	50	21	0	126	3	56	76	63	0	195	0	321
BREAK													
16:00 - 17:00	38	70	11	0	119	2	25	35	49	0	109	2	228
17:00 - 18:00	29	62	13	0	104	3	24	64	53	0	141	1	245
GRAND TOTAL	157	214	54	1	426	9	138	231	220	0	589	4	1015

Traffic Count Data

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Beatty Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	0	6	1	0	7	0	1	1	0	2	0	0	0	0	0	0
07:15	1	9	2	0	12	0	0	0	0	0	0	0	0	0	0	1
07:30	2	6	5	0	13	2	0	2	0	4	0	1	0	0	1	1
07:45	1	19	2	0	22	0	1	0	0	1	0	0	0	0	0	0
08:00	2	11	8	0	21	0	0	3	0	3	0	0	0	0	0	0
08:15	0	15	8	0	23	0	1	1	0	2	0	0	0	0	0	0
08:30	1	21	5	0	27	1	1	1	0	3	0	0	0	0	0	0
08:45	3	18	8	0	29	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	10	105	39	0	154	3	4	8	0	15	0	1	0	0	1	2

Traffic Count Data

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Beatty Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	4	14	6	0	24	0	0	2	0	2	0	0	0	0	0	0
16:15	2	14	10	0	26	0	1	0	0	1	0	0	0	0	0	0
16:30	6	15	15	0	36	0	1	2	0	3	0	1	0	0	1	0
16:45	5	17	10	0	32	0	0	2	0	2	0	0	0	0	0	1
17:00	7	15	9	0	31	0	0	1	0	1	0	1	0	0	1	0
17:15	2	27	6	0	35	0	0	1	0	1	0	0	1	0	1	0
17:30	6	14	8	0	28	0	0	0	0	0	0	0	0	0	0	0
17:45	3	17	5	0	25	0	0	0	0	0	0	0	0	0	0	1
SUBTOTAL	35	133	69	0	237	0	2	8	0	10	0	2	1	0	3	2
GRAND TOTAL	45	238	108	0	391	3	6	16	0	25	0	3	1	0	4	4

Traffic Count Data

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

South Approach - Beatty Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	1	15	3	0	19	0	0	0	0	0	0	0	0	0	0	1
07:15	5	18	3	0	26	0	1	0	0	1	0	0	0	0	0	1
07:30	6	14	7	0	27	1	0	0	0	1	0	0	1	0	1	3
07:45	5	10	5	0	20	0	0	1	0	1	1	0	1	0	2	3
08:00	2	10	6	0	18	1	1	0	0	2	0	0	0	0	0	3
08:15	6	12	6	0	24	1	0	1	0	2	6	0	7	0	13	14
08:30	7	10	5	0	22	0	0	1	0	1	0	0	1	0	1	1
08:45	8	15	4	0	27	0	1	0	0	1	0	0	0	0	0	1
SUBTOTAL	40	104	39	0	183	3	3	3	0	9	7	0	10	0	17	27

Traffic Count Data

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

South Approach - Beatty Line

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	18	17	16	0	51	2	0	0	0	2	0	0	0	0	0	1
16:15	10	30	5	0	45	0	1	0	0	1	0	0	0	0	0	0
16:30	24	18	6	0	48	1	1	0	0	2	0	0	0	0	0	2
16:45	27	18	5	0	50	0	0	0	0	0	0	0	0	0	0	3
17:00	19	18	12	0	49	0	0	0	0	0	0	0	1	0	1	1
17:15	30	25	5	0	60	0	0	0	0	0	0	0	0	0	0	0
17:30	16	16	7	0	39	0	0	1	0	1	0	0	0	0	0	3
17:45	26	10	7	0	43	0	0	0	0	0	0	0	0	0	0	4
SUBTOTAL	170	152	63	0	385	3	2	1	0	6	0	0	1	0	1	14
GRAND TOTAL	210	256	102	0	568	6	5	4	0	15	7	0	11	0	18	41

Traffic Count Data

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

East Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	4	3	3	1	11	0	1	0	0	1	0	0	0	0	0	0
07:15	10	5	1	0	16	0	1	0	0	1	0	1	0	0	1	0
07:30	8	10	3	0	21	0	1	0	0	1	0	1	0	0	1	1
07:45	12	9	2	0	23	0	0	0	0	0	1	0	0	0	1	0
08:00	10	8	5	0	23	2	1	0	0	3	1	0	0	0	1	2
08:15	12	10	7	0	29	0	0	0	0	0	6	2	0	0	8	0
08:30	10	21	8	0	39	1	0	0	0	1	0	0	0	0	0	0
08:45	11	7	0	0	18	1	1	1	0	3	1	0	0	0	1	1
SUBTOTAL	77	73	29	1	180	4	5	1	0	10	9	4	0	0	13	4

Traffic Count Data

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

East Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	7	11	6	0	24	0	0	0	0	0	0	0	0	0	0	0
16:15	9	21	4	0	34	1	1	0	0	2	0	0	0	0	0	0
16:30	7	17	0	0	24	0	0	0	0	0	0	0	0	0	0	0
16:45	13	19	1	0	33	0	0	0	0	0	1	1	0	0	2	2
17:00	11	13	6	0	30	0	4	0	0	4	1	0	0	0	1	1
17:15	8	9	4	0	21	0	0	0	0	0	0	0	0	0	0	0
17:30	3	18	3	0	24	0	1	0	0	1	2	0	0	0	2	2
17:45	4	17	0	0	21	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	62	125	24	0	211	1	6	0	0	7	4	1	0	0	5	5
GRAND TOTAL	139	198	53	1	391	5	11	1	0	17	13	5	0	0	18	9

Traffic Count Data

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Farley Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	9	16	11	0	36	1	0	0	0	1	0	0	0	0	0	0
07:15	8	10	17	0	35	0	0	0	0	0	0	0	0	0	0	0
07:30	8	15	11	0	34	0	0	0	0	0	0	0	0	0	0	1
07:45	7	14	15	0	36	0	0	1	0	1	0	1	0	0	1	0
08:00	14	17	13	0	44	0	0	0	0	0	0	0	0	0	0	0
08:15	19	18	14	0	51	2	0	3	0	5	0	0	0	0	0	0
08:30	14	23	19	0	56	1	1	0	0	2	0	0	0	0	0	0
08:45	6	16	13	0	35	0	1	1	0	2	0	0	0	0	0	0
SUBTOTAL	85	129	113	0	327	4	2	5	0	11	0	1	0	0	1	1

Traffic Count Data

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Farley Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	6	7	9	0	22	1	1	0	0	2	0	1	0	0	1	1
16:15	6	5	13	0	24	0	2	2	0	4	0	0	0	0	0	0
16:30	3	14	14	0	31	1	0	0	0	1	0	0	0	0	0	1
16:45	7	5	11	0	23	1	0	0	0	1	0	0	0	0	0	0
17:00	6	14	16	0	36	0	0	1	0	1	0	0	0	0	0	0
17:15	9	11	12	0	32	0	0	0	0	0	0	0	0	0	0	0
17:30	3	23	15	0	41	0	0	0	0	0	0	0	0	0	0	0
17:45	5	16	9	0	30	0	0	0	0	0	1	0	0	0	1	1
SUBTOTAL	45	95	99	0	239	3	3	3	0	9	1	1	0	0	2	3
GRAND TOTAL	130	224	212	0	566	7	5	8	0	20	1	2	0	0	3	4

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 08:00:00
To: 09:00:00

Intersection: Beatty Line & Farley Rd - Side Rd 18
Site Code: 2617900005
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Side Rd 18 runs E/W

North Approach

	Out	In	Total
	100	120	220
	8	6	14
	0	0	0
Totals	108	126	234

Beatty Line

	0	0	0	0
	5	2	1	0
	29	65	6	0
Totals	34	67	7	0






East Approach

	Out	In	Total
	109	101	210
	7	5	12
	10	8	18
Totals	126	114	240

Farley Rd

				Totals
	0	0	0	0
	0	3	53	56
	0	2	74	76
	0	4	59	63






Peds: 0



Peds: 0

Peds: 3

Peds: 19

Side Rd 18

Totals			
0	0	0	0
21	20	1	0
50	46	2	2
55	43	4	8






West Approach

	Out	In	Total
	186	98	284
	9	9	18
	0	8	8
Totals	195	115	310

Totals	31	49	31	0
	23	47	21	0
	2	2	2	0
	6	0	8	0

Beatty Line

South Approach

	Out	In	Total
	91	167	258
	6	10	16
	14	8	22
Totals	111	185	296

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Beatty Line & Farley Rd - Side Rd 18
Site Code: 2617900005
Count Date: Jun 11, 2026
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Beatty Line						South Approach Beatty Line						East Approach Side Rd 18						West Approach Farley Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
08:00	2	11	11	0	0	24	3	11	6	0	3	20	13	9	5	0	2	27	14	17	13	0	0	44	115
08:15	0	16	9	0	0	25	13	12	14	0	14	39	18	12	7	0	0	37	21	18	17	0	0	56	157
08:30	2	22	6	0	0	30	7	10	7	0	1	24	11	21	8	0	0	40	15	24	19	0	0	58	152
08:45	3	18	8	0	0	29	8	16	4	0	1	28	13	8	1	0	1	22	6	17	14	0	0	37	116
Grand Total	7	67	34	0	0	108	31	49	31	0	19	111	55	50	21	0	3	126	56	76	63	0	0	195	540
Approach %	6.5	62	31.5	0	-	-	27.9	44.1	27.9	0	-	-	43.7	39.7	16.7	0	-	-	28.7	39	32.3	0	-	-	-
Totals %	1.3	12.4	6.3	0	-	20	5.7	9.1	5.7	0	-	20.6	10.2	9.3	3.9	0	-	23.3	10.4	14.1	11.7	0	-	36.1	-
PHF	0.58	0.76	0.77	0	-	0.9	0.6	0.77	0.55	0	-	0.71	0.76	0.6	0.66	0	-	0.79	0.67	0.79	0.83	0	-	0.84	0.86
Cars	6	65	29	0	-	100	23	47	21	0	-	91	43	46	20	0	-	109	53	74	59	0	-	186	486
% Cars	85.7	97	85.3	0	-	92.6	74.2	95.9	67.7	0	-	82	78.2	92	95.2	0	-	86.5	94.6	97.4	93.7	0	-	95.4	90
Trucks	1	2	5	0	-	8	2	2	2	0	-	6	4	2	1	0	-	7	3	2	4	0	-	9	30
% Trucks	14.3	3	14.7	0	-	7.4	6.5	4.1	6.5	0	-	5.4	7.3	4	4.8	0	-	5.6	5.4	2.6	6.3	0	-	4.6	5.6
Bicycles	0	0	0	0	-	0	6	0	8	0	-	14	8	2	0	0	-	10	0	0	0	0	-	0	24
% Bicycles	0	0	0	0	-	0	19.4	0	25.8	0	-	12.6	14.5	4	0	0	-	7.9	0	0	0	0	-	0	4.4
Peds	-	-	-	-	0	-	-	-	-	-	19	-	-	-	-	-	3	-	-	-	-	-	0	-	22
% Peds	-	-	-	-	0	-	-	-	-	-	86.4	-	-	-	-	-	13.6	-	-	-	-	0	-	-	-

Peak Hour Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:30:00

To: 17:30:00

Intersection: Beatty Line & Farley Rd - Side Rd 18

Site Code: 2617900005

Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Side Rd 18 runs E/W

North Approach

	Out	In	Total
	134	115	249
	7	3	10
	3	0	3
Totals	144	118	262

Beatty Line

	1	2	0	0
	6	1	0	0
	40	74	20	0
Totals	47	77	20	0






East Approach

	Out	In	Total
	108	92	200
	4	0	4
	3	1	4
Totals	115	93	208

Farley Rd

				Totals
	0	0	0	0
	0	2	25	27
	0	0	44	44
	0	1	53	54






Peds: 1



Peds: 6

Side Rd 18

Totals			
0	0	0	0
11	11	0	0
63	58	4	1
41	39	0	2






West Approach

	Out	In	Total
	122	198	320
	3	11	14
	0	2	2
Totals	125	211	336

Totals				
101	100	79	28	0
80	1	1	0	0
29	0	0	1	0
0				

Beatty Line

South Approach

	Out	In	Total
	207	166	373
	2	2	4
	1	4	5
Totals	210	172	382

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Beatty Line & Farley Rd - Side Rd 18
 Site Code: 2617900005
 Count Date: Jun 11, 2026
 Period: 16:00 - 18:00

Peak Hour Data (16:30 - 17:30)

Start Time	North Approach Beatty Line						South Approach Beatty Line						East Approach Side Rd 18						West Approach Farley Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:30	6	17	17	0	0	40	25	19	6	0	2	50	7	17	0	0	0	24	4	14	14	0	1	32	146
16:45	5	17	12	0	1	34	27	18	5	0	3	50	14	20	1	0	2	35	8	5	11	0	0	24	143
17:00	7	16	10	0	0	33	19	18	13	0	1	50	12	17	6	0	1	35	6	14	17	0	0	37	155
17:15	2	27	8	0	0	37	30	25	5	0	0	60	8	9	4	0	0	21	9	11	12	0	0	32	150
Grand Total	20	77	47	0	1	144	101	80	29	0	6	210	41	63	11	0	3	115	27	44	54	0	1	125	594
Approach %	13.9	53.5	32.6	0	-	-	48.1	38.1	13.8	0	-	-	35.7	54.8	9.6	0	-	-	21.6	35.2	43.2	0	-	-	-
Totals %	3.4	13	7.9	0	-	24.2	17	13.5	4.9	0	-	35.4	6.9	10.6	1.9	0	-	19.4	4.5	7.4	9.1	0	-	21	-
PHF	0.71	0.71	0.69	0	-	0.9	0.84	0.8	0.56	0	-	0.88	0.73	0.79	0.46	0	-	0.82	0.75	0.79	0.79	0	-	0.84	0.96
Cars	20	74	40	0	-	134	100	79	28	0	-	207	39	58	11	0	-	108	25	44	53	0	-	122	571
% Cars	100	96.1	85.1	0	-	93.1	99	98.8	96.6	0	-	98.6	95.1	92.1	100	0	-	93.9	92.6	100	98.1	0	-	97.6	96.1
Trucks	0	1	6	0	-	7	1	1	0	0	-	2	0	4	0	0	-	4	2	0	1	0	-	3	16
% Trucks	0	1.3	12.8	0	-	4.9	1	1.3	0	0	-	1	0	6.3	0	0	-	3.5	7.4	0	1.9	0	-	2.4	2.7
Bicycles	0	2	1	0	-	3	0	0	1	0	-	1	2	1	0	0	-	3	0	0	0	0	-	0	7
% Bicycles	0	2.6	2.1	0	-	2.1	0	0	3.4	0	-	0.5	4.9	1.6	0	0	-	2.6	0	0	0	0	-	0	1.2
Peds	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	3	-	-	-	-	-	1	-	11
% Peds	-	-	-	-	9.1	-	-	-	-	-	54.5	-	-	-	-	-	27.3	-	-	-	-	-	9.1	-	-

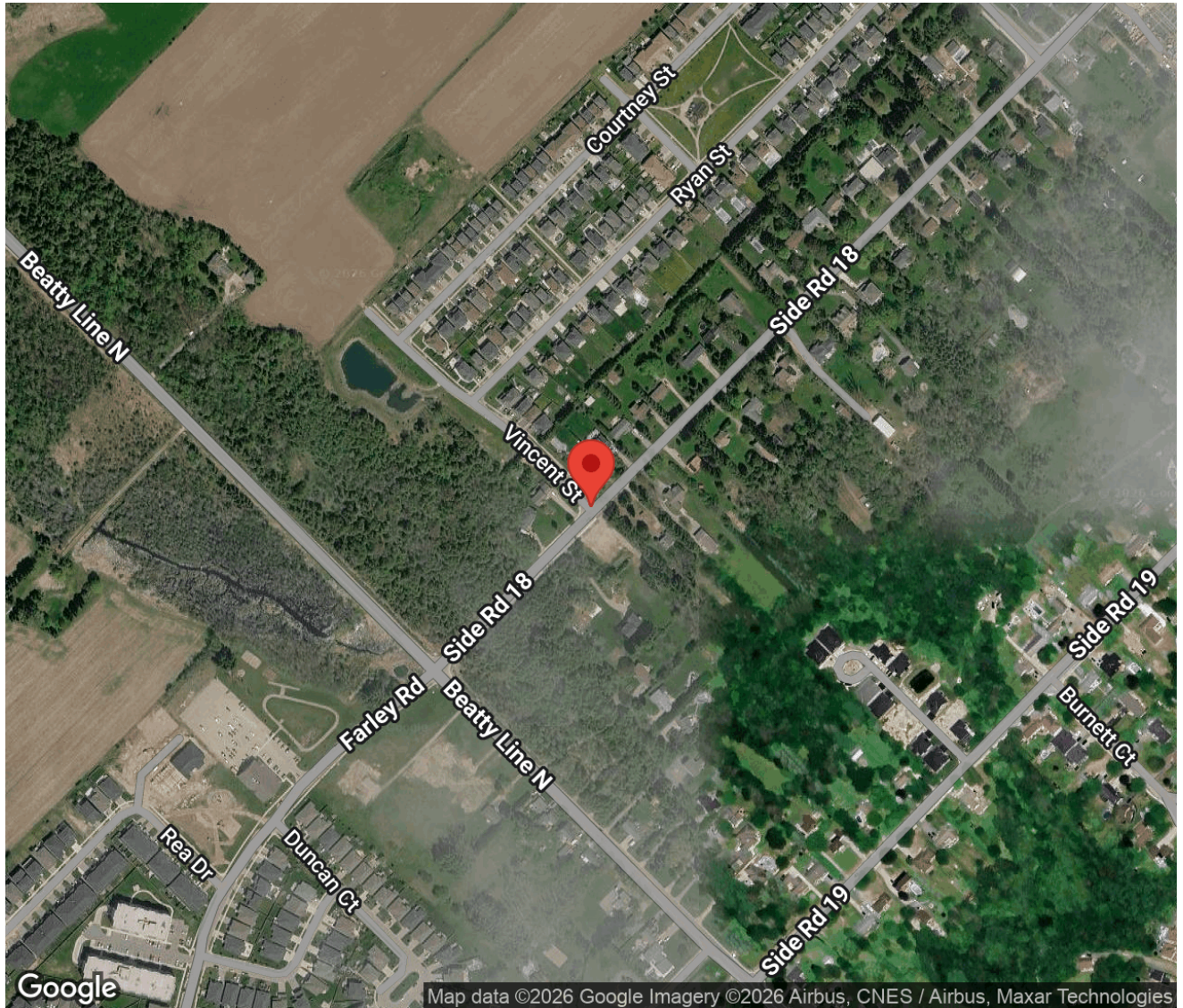
Project #26-179 - GHD

Intersection Count Report

Intersection:	Side Rd 18 & Vincent St
Municipality:	Fergus
Count Date:	Thursday, Jun 11, 2026
Site Code:	2617900006
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Traffic Count Map

Intersection:	Side Rd 18 & Vincent St
Site Code:	2617900006
Municipality:	Fergus
Count Date:	Jun 11, 2026



Traffic Count Summary

Intersection: Side Rd 18 & Vincent St
 Site Code: 2617900006
 Municipality: Fergus
 Count Date: Jun 11, 2026

Side Rd 18 - Traffic Summary

East Approach Totals							West Approach Totals						
Hour	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	46	2	0	48	3	11	74	0	0	85	0	133
08:00 - 09:00	0	89	8	0	97	10	16	90	0	0	106	1	203
BREAK													
16:00 - 17:00	0	72	2	0	74	3	11	74	0	0	85	0	159
17:00 - 18:00	0	89	8	0	97	10	16	90	0	0	106	1	203
GRAND TOTAL	0	296	20	0	316	26	54	328	0	0	382	2	698

Traffic Count Data

Intersection: Side Rd 18 & Vincent St
 Site Code: 2617900006
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Vincent St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	1	0	9	0	10	0	0	0	0	0	0	0	0	0	0	0
07:15	1	0	5	0	6	0	0	0	0	0	0	1	0	1		0
07:30	0	0	5	0	5	0	0	0	0	0	0	0	0	0		0
07:45	0	0	10	0	10	0	0	0	0	0	0	0	0	0		0
08:00	2	0	8	0	10	0	0	0	0	0	0	0	0	0		0
08:15	0	0	17	0	17	0	0	1	0	1	0	3	0	3		0
08:30	2	0	12	0	14	2	0	1	0	3	0	0	0	0		0
08:45	2	0	3	0	5	0	0	0	0	0	0	0	0	0		0
SUBTOTAL	8	0	69	0	77	2	0	2	0	4	0	0	4	0	4	0

Traffic Count Data

Intersection: Side Rd 18 & Vincent St
Site Code: 2617900006
Municipality: Fergus
Count Date: Jun 11, 2026

North Approach - Vincent St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	1	0	9	0	10	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	5	0	6	0	0	0	0	0	0	0	1	0	1	0
16:30	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	10	0	10	0	0	0	0	0	0	0	0	0	0	0
17:00	2	0	8	0	10	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	17	0	17	0	0	1	0	1	0	0	3	0	3	0
17:30	2	0	12	0	14	2	0	1	0	3	0	0	0	0	0	0
17:45	2	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	8	0	69	0	77	2	0	2	0	4	0	0	4	0	4	0
GRAND TOTAL	16	0	138	0	154	4	0	4	0	8	0	0	8	0	8	0

Traffic Count Data

Intersection: Side Rd 18 & Vincent St
 Site Code: 2617900006
 Municipality: Fergus
 Count Date: Jun 11, 2026

East Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	0
07:15	0	13	0	0	13	0	1	0	0	1	0	0	0	0	0	1
07:30	0	14	1	0	15	0	0	0	0	0	0	0	0	0	0	1
07:45	0	12	1	0	13	0	0	0	0	0	0	1	0	0	1	1
08:00	0	16	1	0	17	0	3	0	0	3	0	2	0	0	2	2
08:15	0	19	1	0	20	0	1	2	0	3	0	5	0	0	5	5
08:30	0	21	2	0	23	0	2	1	0	3	0	1	0	0	1	1
08:45	0	17	0	0	17	0	2	0	0	2	0	0	1	0	1	2
SUBTOTAL	0	116	6	0	122	0	10	3	0	13	0	9	1	0	10	13

Traffic Count Data

Intersection: Side Rd 18 & Vincent St
Site Code: 2617900006
Municipality: Fergus
Count Date: Jun 11, 2026

East Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	0	10	0	0	10	0	1	0	0	1	0	0	0	0	0	0
16:15	0	23	0	0	23	0	1	0	0	1	0	0	0	0	0	1
16:30	0	14	1	0	15	0	0	0	0	0	0	0	0	0	0	1
16:45	0	22	1	0	23	0	0	0	0	0	0	1	0	0	1	1
17:00	0	16	1	0	17	0	3	0	0	3	0	2	0	0	2	2
17:15	0	19	1	0	20	0	1	2	0	3	0	5	0	0	5	5
17:30	0	21	2	0	23	0	2	1	0	3	0	1	0	0	1	1
17:45	0	17	0	0	17	0	2	0	0	2	0	0	1	0	1	2
SUBTOTAL	0	142	6	0	148	0	10	3	0	13	0	9	1	0	10	13
GRAND TOTAL	0	258	12	0	270	0	20	6	0	26	0	18	2	0	20	26

Traffic Count Data

Intersection: Side Rd 18 & Vincent St
 Site Code: 2617900006
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	2	17	0	0	19	0	0	0	0	0	0	0	0	0	0	0
07:15	1	14	0	0	15	0	0	0	0	0	0	0	0	0	0	0
07:30	5	18	0	0	23	0	2	0	0	2	0	0	0	0	0	0
07:45	2	21	0	0	23	1	0	0	0	1	0	2	0	0	2	0
08:00	4	22	0	0	26	0	0	0	0	0	0	0	0	0	0	1
08:15	2	16	0	0	18	1	2	0	0	3	0	0	0	0	0	0
08:30	5	27	0	0	32	1	1	0	0	2	0	0	0	0	0	0
08:45	3	21	0	0	24	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	24	156	0	0	180	3	6	0	0	9	0	2	0	0	2	1

Traffic Count Data

Intersection: Side Rd 18 & Vincent St
Site Code: 2617900006
Municipality: Fergus
Count Date: Jun 11, 2026

West Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	2	17	0	0	19	0	0	0	0	0	0	0	0	0	0	0
16:15	1	14	0	0	15	0	0	0	0	0	0	0	0	0	0	0
16:30	5	18	0	0	23	0	2	0	0	2	0	0	0	0	0	0
16:45	2	21	0	0	23	1	0	0	0	1	0	2	0	0	2	0
17:00	4	22	0	0	26	0	0	0	0	0	0	0	0	0	0	1
17:15	2	16	0	0	18	1	2	0	0	3	0	0	0	0	0	0
17:30	5	27	0	0	32	1	1	0	0	2	0	0	0	0	0	0
17:45	3	21	0	0	24	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	24	156	0	0	180	3	6	0	0	9	0	2	0	0	2	1
GRAND TOTAL	48	312	0	0	360	6	12	0	0	18	0	4	0	0	4	2

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 07:45:00
To: 08:45:00

Intersection: Side Rd 18 & Vincent St
Site Code: 2617900006
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Side Rd 18 runs E/W

North Approach

	Out	In	Total
	51	18	69
	4	6	10
	3	0	3
	58	24	82

Vincent St

	3	0	0
	2	2	0
	47	4	0
Totals	52	6	0





East Approach

	Out	In	Total
	73	90	163
	9	5	14
	9	2	11
	91	97	188

Side Rd 18

				Totals
	0	0	0	0
	0	3	13	16
	2	3	86	91





Peds: 1

Peds: 0



Peds: 9

Peds: 12

Side Rd 18

Totals			
0	0	0	0
8	5	3	0
83	68	6	9





West Approach

	Out	In	Total
	99	115	214
	6	8	14
	2	12	14
	107	135	242

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Side Rd 18 & Vincent St
Site Code: 2617900006
Count Date: Jun 11, 2026
Period: 07:00 - 09:00

Peak Hour Data (07:45 - 08:45)

Start Time	North Approach Vincent St						South Approach						East Approach Side Rd 18						West Approach Side Rd 18						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:45	0		10	0	0	10					3			13	1	0	1	14	3	23		0	0	26	50
08:00	2		8	0	0	10					1			21	1	0	2	22	4	22		0	1	26	58
08:15	0		21	0	0	21					8			25	3	0	5	28	3	18		0	0	21	70
08:30	4		13	0	0	17					0			24	3	0	1	27	6	28		0	0	34	78
Grand Total	6		52	0	0	58					12	0		83	8	0	9	91	16	91		0	1	107	256
Approach %	10.3		89.7	0	-	-					-	-		91.2	8.8	0	-	-	15	85		0	-	-	-
Totals %	2.3		20.3	0		22.7					0			32.4	3.1	0		35.5	6.3	35.5		0		41.8	
PHF	0.38		0.62	0		0.69					0			0.83	0.67	0		0.81	0.67	0.81		0		0.79	0.82
Cars	4		47	0		51					0			68	5	0		73	13	86		0		99	223
% Cars	66.7		90.4	0		87.9					0			81.9	62.5	0		80.2	81.3	94.5		0		92.5	87.1
Trucks	2		2	0		4					0			6	3	0		9	3	3		0		6	19
% Trucks	33.3		3.8	0		6.9					0			7.2	37.5	0		9.9	18.8	3.3		0		5.6	7.4
Bicycles	0		3	0		3					0			9	0	0		9	0	2		0		2	14
% Bicycles	0		5.8	0		5.2					0			10.8	0	0		9.9	0	2.2		0		1.9	5.5
Peds					0	-					12	-					9	-					1	-	22
% Peds					0	-					54.5	-					40.9	-					4.5	-	

Peak Hour Diagram

Specified Period

From: 16:00:00
To: 18:00:00

One Hour Peak

From: 16:45:00
To: 17:45:00

Intersection: Side Rd 18 & Vincent St
Site Code: 2617900006
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Side Rd 18 runs E/W

North Approach

	Out	In	Total
	51	18	69
	4	6	10
	3	0	3
Totals	58	24	82

Vincent St

	3	0	0
	2	2	0
	47	4	0
Totals	52	6	0





East Approach

	Out	In	Total
	83	90	173
	9	5	14
	9	2	11
Totals	101	97	198

Side Rd 18

				Totals
	0	0	0	0
	0	3	13	16
	2	3	86	91





Peds: 1

Peds: 0



Peds: 9

Peds: 12

Side Rd 18

Totals			
0	0	0	0
8	5	3	0
93	78	6	9





West Approach

	Out	In	Total
	99	125	224
	6	8	14
	2	12	14
Totals	107	145	252

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Side Rd 18 & Vincent St
Site Code: 2617900006
Count Date: Jun 11, 2026
Period: 16:00 - 18:00

Peak Hour Data (16:45 - 17:45)

Start Time	North Approach Vincent St						South Approach						East Approach Side Rd 18						West Approach Side Rd 18						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:45	0		10	0	0	10					3			23	1	0	1	24	3	23		0	0	26	60
17:00	2		8	0	0	10					1			21	1	0	2	22	4	22		0	1	26	58
17:15	0		21	0	0	21					8			25	3	0	5	28	3	18		0	0	21	70
17:30	4		13	0	0	17					0			24	3	0	1	27	6	28		0	0	34	78
Grand Total	6		52	0	0	58					12	0		93	8	0	9	101	16	91		0	1	107	266
Approach %	10.3		89.7	0	-	-					-	-		92.1	7.9	0	-	-	15	85		0	-	-	-
Totals %	2.3		19.5	0		21.8					0			35	3	0		38	6	34.2		0		40.2	
PHF	0.38		0.62	0		0.69					0			0.93	0.67	0		0.9	0.67	0.81		0		0.79	0.85
Cars	4		47	0		51					0			78	5	0		83	13	86		0		99	233
% Cars	66.7		90.4	0		87.9					0			83.9	62.5	0		82.2	81.3	94.5		0		92.5	87.6
Trucks	2		2	0		4					0			6	3	0		9	3	3		0		6	19
% Trucks	33.3		3.8	0		6.9					0			6.5	37.5	0		8.9	18.8	3.3		0		5.6	7.1
Bicycles	0		3	0		3					0			9	0	0		9	0	2		0		2	14
% Bicycles	0		5.8	0		5.2					0			9.7	0	0		8.9	0	2.2		0		1.9	5.3
Peds					0	-					12	-					9	-					1	-	22
% Peds					0	-					54.5	-					40.9	-					4.5	-	

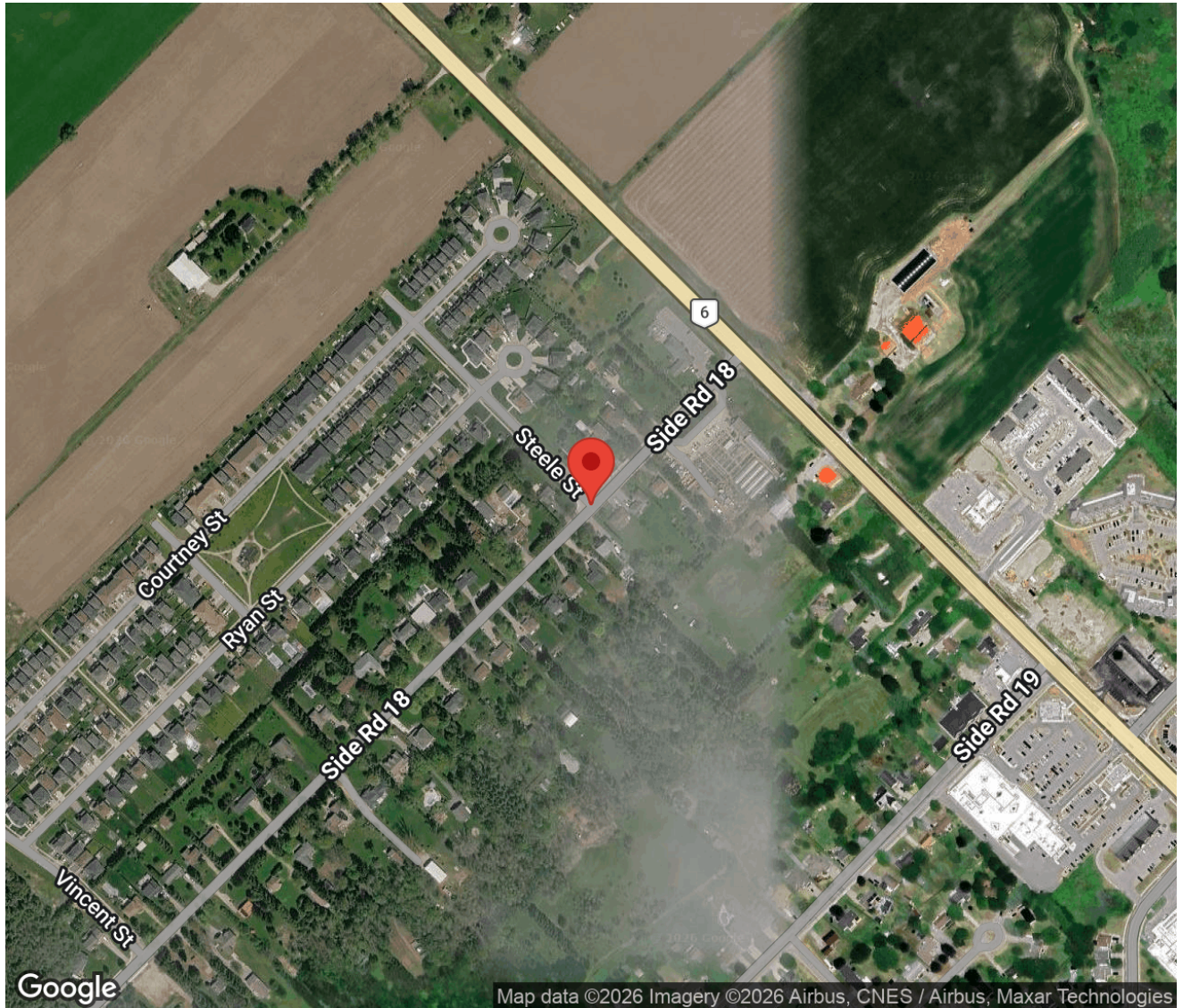
Project #26-179 - GHD

Intersection Count Report

Intersection: Side Rd 18 & Steele St
Municipality: Fergus
Count Date: Thursday, Jun 11, 2026
Site Code: 2617900007
Count Categories: Cars, Trucks, Bicycles, Pedestrians
Count Period: 07:00-09:00, 16:00-18:00
Weather: Clear
Comments:

Traffic Count Map

Intersection:	Side Rd 18 & Steele St
Site Code:	2617900007
Municipality:	Fergus
Count Date:	Jun 11, 2026



Traffic Count Summary

Intersection: Side Rd 18 & Steele St
 Site Code: 2617900007
 Municipality: Fergus
 Count Date: Jun 11, 2026

Steele St - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	39	0	9	0	48	1	0	0	1	0	1	4	49
08:00 - 09:00	46	0	9	1	56	2	0	0	1	0	1	2	57
BREAK													
16:00 - 17:00	26	0	8	0	34	6	0	0	0	0	0	5	34
17:00 - 18:00	46	0	6	0	52	3	0	0	3	0	3	2	55
GRAND TOTAL	157	0	32	1	190	12	0	0	5	0	5	13	195

Traffic Count Summary

Intersection: Side Rd 18 & Steele St
 Site Code: 2617900007
 Municipality: Fergus
 Count Date: Jun 11, 2026

Side Rd 18 - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	40	7	0	47	1	1	74	0	0	75	0	122
08:00 - 09:00	0	73	15	0	88	0	7	101	0	0	108	4	196
BREAK													
16:00 - 17:00	1	103	44	0	148	0	8	81	0	0	89	3	237
17:00 - 18:00	1	92	44	0	137	0	5	87	0	0	92	2	229
GRAND TOTAL	2	308	110	0	420	1	21	343	0	0	364	9	784

Traffic Count Data

Intersection: Side Rd 18 & Steele St
 Site Code: 2617900007
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Steele St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	4	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0
07:15	14	0	1	0	15	0	0	0	0	0	0	0	0	0	0	0
07:30	8	0	5	0	13	0	0	0	0	0	0	0	0	0	0	0
07:45	13	0	2	0	15	0	0	0	0	0	0	0	0	0	0	1
08:00	6	0	1	0	7	2	0	0	0	2	0	0	0	0	0	1
08:15	12	0	2	1	15	1	0	0	0	1	0	0	0	0	0	0
08:30	11	0	2	0	13	1	0	0	0	1	0	0	1	0	1	0
08:45	12	0	1	0	13	0	0	1	0	1	1	0	1	0	2	1
SUBTOTAL	80	0	15	1	96	4	0	1	0	5	1	0	2	0	3	3

Traffic Count Data

Intersection: Side Rd 18 & Steele St
 Site Code: 2617900007
 Municipality: Fergus
 Count Date: Jun 11, 2026

North Approach - Steele St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	5	0	5	0	10	0	0	0	0	0	0	0	1	0	1	3
16:15	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
16:30	9	0	0	0	9	0	0	0	0	0	1	0	0	0	1	3
16:45	7	0	2	0	9	1	0	0	0	1	0	0	0	0	0	0
17:00	6	0	2	0	8	0	0	0	0	0	0	0	1	0	1	0
17:15	10	0	1	0	11	0	0	0	0	0	0	0	0	0	0	0
17:30	21	0	1	0	22	0	0	0	0	0	0	0	0	0	0	1
17:45	9	0	1	0	10	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	70	0	12	0	82	1	0	0	0	1	1	0	2	0	3	9
GRAND TOTAL	150	0	27	1	178	5	0	1	0	6	2	0	4	0	6	12

	Cars						Trucks						Bicycles						
Start Time					Total						Total						Total	Total Peds	
07:00	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	4	
07:15	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	
07:30	0	0	1	0	1		0	0	0	0	0		0	0	0	0	0	0	
07:45	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	
08:00	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	1	
08:15	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	1	
08:30	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	
08:45	0	0	1	0	1		0	0	0	0	0		0	0	0	0	0	0	
SUBTOTAL	0	0	2	0	2		0	0	0	0	0		0	0	0	0	0	6	



Traffic Count Data

Intersection: Side Rd 18 & Steele St
Site Code: 2617900007
Municipality: Fergus
Count Date: Jun 11, 2026

East Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	3	0	0	3	0	2	0	0	2	0	0	0	0	0	0
07:15	0	6	2	0	8	0	0	0	0	0	0	0	0	0	0	0
07:30	0	14	1	0	15	0	2	1	0	3	0	0	0	0	0	0
07:45	0	13	3	0	16	0	0	0	0	0	0	0	0	0	0	1
08:00	0	11	4	0	15	0	3	0	0	3	0	1	0	0	1	0
08:15	0	20	1	0	21	0	3	0	0	3	0	0	0	0	0	0
08:30	0	20	2	0	22	0	1	1	0	2	0	0	0	0	0	0
08:45	0	13	6	0	19	0	1	1	0	2	0	0	0	0	0	0
SUBTOTAL	0	100	19	0	119	0	12	3	0	15	0	1	0	0	1	1

Traffic Count Data

Intersection: Side Rd 18 & Steele St
Site Code: 2617900007
Municipality: Fergus
Count Date: Jun 11, 2026

East Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	0	14	8	0	22	0	1	1	0	2	0	0	2	0	2	0
16:15	0	31	6	0	37	0	1	0	0	1	0	1	0	0	1	0
16:30	0	26	15	0	41	0	0	0	0	0	0	0	2	0	2	0
16:45	1	28	10	0	39	0	1	0	0	1	0	0	0	0	0	0
17:00	0	29	7	0	36	0	0	0	0	0	0	1	0	0	1	0
17:15	0	20	17	0	37	0	0	0	0	0	0	0	0	0	0	0
17:30	0	19	11	0	30	0	0	0	0	0	0	0	0	0	0	0
17:45	1	22	8	0	31	0	1	0	0	1	0	0	1	0	1	0
SUBTOTAL	2	189	82	0	273	0	4	1	0	5	0	2	5	0	7	0
GRAND TOTAL	2	289	101	0	392	0	16	4	0	20	0	3	5	0	8	1

Traffic Count Data

Intersection: Side Rd 18 & Steele St
 Site Code: 2617900007
 Municipality: Fergus
 Count Date: Jun 11, 2026

West Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0
07:15	0	19	0	0	19	0	0	0	0	0	0	0	0	0	0	0
07:30	0	17	0	0	17	0	1	0	0	1	0	0	0	0	0	0
07:45	1	21	0	0	22	0	0	0	0	0	0	0	0	0	0	0
08:00	1	24	0	0	25	0	0	0	0	0	0	1	0	0	1	0
08:15	0	25	0	0	25	0	0	0	0	0	0	0	0	0	0	0
08:30	2	24	0	0	26	2	1	0	0	3	0	0	0	0	0	4
08:45	1	24	0	0	25	1	2	0	0	3	0	0	0	0	0	0
SUBTOTAL	5	170	0	0	175	3	4	0	0	7	0	1	0	0	1	4

Traffic Count Data

Intersection: Side Rd 18 & Steele St
Site Code: 2617900007
Municipality: Fergus
Count Date: Jun 11, 2026

West Approach - Side Rd 18

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	1	19	0	0	20	0	1	0	0	1	0	0	0	0	0	2
16:15	4	16	0	0	20	0	2	0	0	2	1	0	0	0	1	1
16:30	1	19	0	0	20	0	1	0	0	1	0	0	0	0	0	0
16:45	1	23	0	0	24	0	0	0	0	0	0	0	0	0	0	0
17:00	1	19	0	0	20	0	0	0	0	0	0	0	0	0	0	0
17:15	2	18	0	0	20	0	0	0	0	0	0	0	0	0	0	0
17:30	2	28	0	0	30	0	0	0	0	0	0	0	0	0	0	0
17:45	0	22	0	0	22	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	12	164	0	0	176	0	4	0	0	4	1	0	0	0	1	5
GRAND TOTAL	17	334	0	0	351	3	8	0	0	11	1	1	0	0	2	9

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 08:00:00
To: 09:00:00

Intersection: Side Rd 18 & Steele St
Site Code: 2617900007
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Side Rd 18 runs E/W

North Approach

	Out	In	Total
	48	18	66
	5	5	10
	3	0	3
Totals	56	23	79

Steele St

	2	0	1	0
	1	0	4	0
	6	0	41	1
Totals	9	0	46	1






East Approach

	Out	In	Total
	77	139	216
	10	7	17
	1	2	3
Totals	88	148	236

Side Rd 18

				Totals
	0	0	0	0
	0	3	4	7
	1	3	97	101
	0	0	0	0

Peds: 4



Peds: 2

Peds: 2

Peds: 0

Side Rd 18

Totals			
	0	0	0
	15	13	2
	73	64	8
	0	0	0

West Approach

	Out	In	Total
	101	70	171
	6	9	15
	1	3	4
Totals	108	82	190

Totals				
	0	0	1	0
	0	0	0	0
	0	0	0	0

Steele St

South Approach

	Out	In	Total
	1	0	1
	0	0	0
	0	0	0
Totals	1	0	1

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Side Rd 18 & Steele St
Site Code: 2617900007
Count Date: Jun 11, 2026
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Steele St						South Approach Steele St						East Approach Side Rd 18						West Approach Side Rd 18						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
08:00	8	0	1	0	1	9	0	0	0	0	1	0	0	15	4	0	0	19	1	25	0	0	0	26	54
08:15	13	0	2	1	0	16	0	0	0	0	1	0	0	23	1	0	0	24	0	25	0	0	0	25	65
08:30	12	0	3	0	0	15	0	0	0	0	0	0	0	21	3	0	0	24	4	25	0	0	4	29	68
08:45	13	0	3	0	1	16	0	0	1	0	0	1	0	14	7	0	0	21	2	26	0	0	0	28	66
Grand Total	46	0	9	1	2	56	0	0	1	0	2	1	0	73	15	0	0	88	7	101	0	0	4	108	253
Approach %	82.1	0	16.1	1.8	-	-	0	0	100	0	-	-	0	83	17	0	-	-	6.5	93.5	0	0	-	-	-
Totals %	18.2	0	3.6	0.4	-	22.1	0	0	0.4	0	-	0.4	0	28.9	5.9	0	-	34.8	2.8	39.9	0	0	-	42.7	-
PHF	0.88	0	0.75	0.25	-	0.88	0	0	0.25	0	-	0.25	0	0.79	0.54	0	-	0.92	0.44	0.97	0	0	-	0.93	0.93
Cars	41	0	6	1	-	48	0	0	1	0	-	1	0	64	13	0	-	77	4	97	0	0	-	101	227
% Cars	89.1	0	66.7	100	-	85.7	0	0	100	0	-	100	0	87.7	86.7	0	-	87.5	57.1	96	0	0	-	93.5	89.7
Trucks	4	0	1	0	-	5	0	0	0	0	-	0	0	8	2	0	-	10	3	3	0	0	-	6	21
% Trucks	8.7	0	11.1	0	-	8.9	0	0	0	0	-	0	0	11	13.3	0	-	11.4	42.9	3	0	0	-	5.6	8.3
Bicycles	1	0	2	0	-	3	0	0	0	0	-	0	0	1	0	0	-	1	0	1	0	0	-	1	5
% Bicycles	2.2	0	22.2	0	-	5.4	0	0	0	0	-	0	0	1.4	0	0	-	1.1	0	1	0	0	-	0.9	2
Peds	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	4	-	8
% Peds	-	-	-	-	25	-	-	-	-	-	25	-	-	-	-	-	0	-	-	-	-	-	50	-	-

Peak Hour Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:45:00

To: 17:45:00

Intersection: Side Rd 18 & Steele St

Site Code: 2617900007

Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Side Rd 18 runs E/W

North Approach

	Out	In	Total
	50	51	101
	1	0	1
	1	0	1
Totals	52	51	103

Steele St

	1	0	0	0
	0	0	1	0
	6	0	44	0
Totals	7	0	45	0






East Approach

	Out	In	Total
	142	134	276
	1	1	2
	1	0	1
Totals	144	135	279

Side Rd 18

				Totals
	0	0	0	0
	0	0	6	6
	0	0	88	88
	0	0	0	0

Peds: 1

Peds: 0



Peds: 0

Peds: 3

Side Rd 18

Totals			
	0	0	0
	45	45	0
	98	96	1
	1	1	0

West Approach

	Out	In	Total
	94	102	196
	0	1	1
	0	2	2
Totals	94	105	199

Totals				
	0	0	2	0
	0	0	0	0
	0	0	0	0

Steele St

South Approach

	Out	In	Total
	2	1	3
	0	0	0
	0	0	0
Totals	2	1	3

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Side Rd 18 & Steele St
Site Code: 2617900007
Count Date: Jun 11, 2026
Period: 16:00 - 18:00

Peak Hour Data (16:45 - 17:45)

Start Time	North Approach Steele St						South Approach Steele St						East Approach Side Rd 18						West Approach Side Rd 18						Total Vehicles
	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	←	↑	→	↺	Peds	Total	
16:45	8	0	2	0	0	10	0	0	0	0	3	0	1	29	10	0	0	40	1	23	0	0	0	24	74
17:00	6	0	3	0	0	9	0	0	0	0	0	0	0	30	7	0	0	37	1	19	0	0	0	20	66
17:15	10	0	1	0	0	11	0	0	1	0	0	1	0	20	17	0	0	37	2	18	0	0	0	20	69
17:30	21	0	1	0	1	22	0	0	1	0	0	1	0	19	11	0	0	30	2	28	0	0	0	30	83
Grand Total	45	0	7	0	1	52	0	0	2	0	3	2	1	98	45	0	0	144	6	88	0	0	0	94	292
Approach %	86.5	0	13.5	0	-	-	0	0	100	0	-	-	0.7	68.1	31.3	0	-	-	6.4	93.6	0	0	-	-	-
Totals %	15.4	0	2.4	0	-	17.8	0	0	0.7	0	0.7	-	0.3	33.6	15.4	0	-	49.3	2.1	30.1	0	0	-	32.2	-
PHF	0.54	0	0.58	0	-	0.59	0	0	0.5	0	0.5	-	0.25	0.82	0.66	0	-	0.9	0.75	0.79	0	0	-	0.78	0.88
Cars	44	0	6	0	-	50	0	0	2	0	2	-	1	96	45	0	-	142	6	88	0	0	-	94	288
% Cars	97.8	0	85.7	0	-	96.2	0	0	100	0	100	-	100	98	100	0	-	98.6	100	100	0	0	-	100	98.6
Trucks	1	0	0	0	-	1	0	0	0	0	0	-	0	1	0	0	-	1	0	0	0	0	-	0	2
% Trucks	2.2	0	0	0	-	1.9	0	0	0	0	0	-	0	1	0	0	-	0.7	0	0	0	0	-	0	0.7
Bicycles	0	0	1	0	-	1	0	0	0	0	0	-	0	1	0	0	-	1	0	0	0	0	-	0	2
% Bicycles	0	0	14.3	0	-	1.9	0	0	0	0	0	-	0	1	0	0	-	0.7	0	0	0	0	-	0	0.7
Peds	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	4
% Peds	-	-	-	-	25	-	-	-	-	-	75	-	-	-	-	-	0	-	-	-	-	-	0	-	-

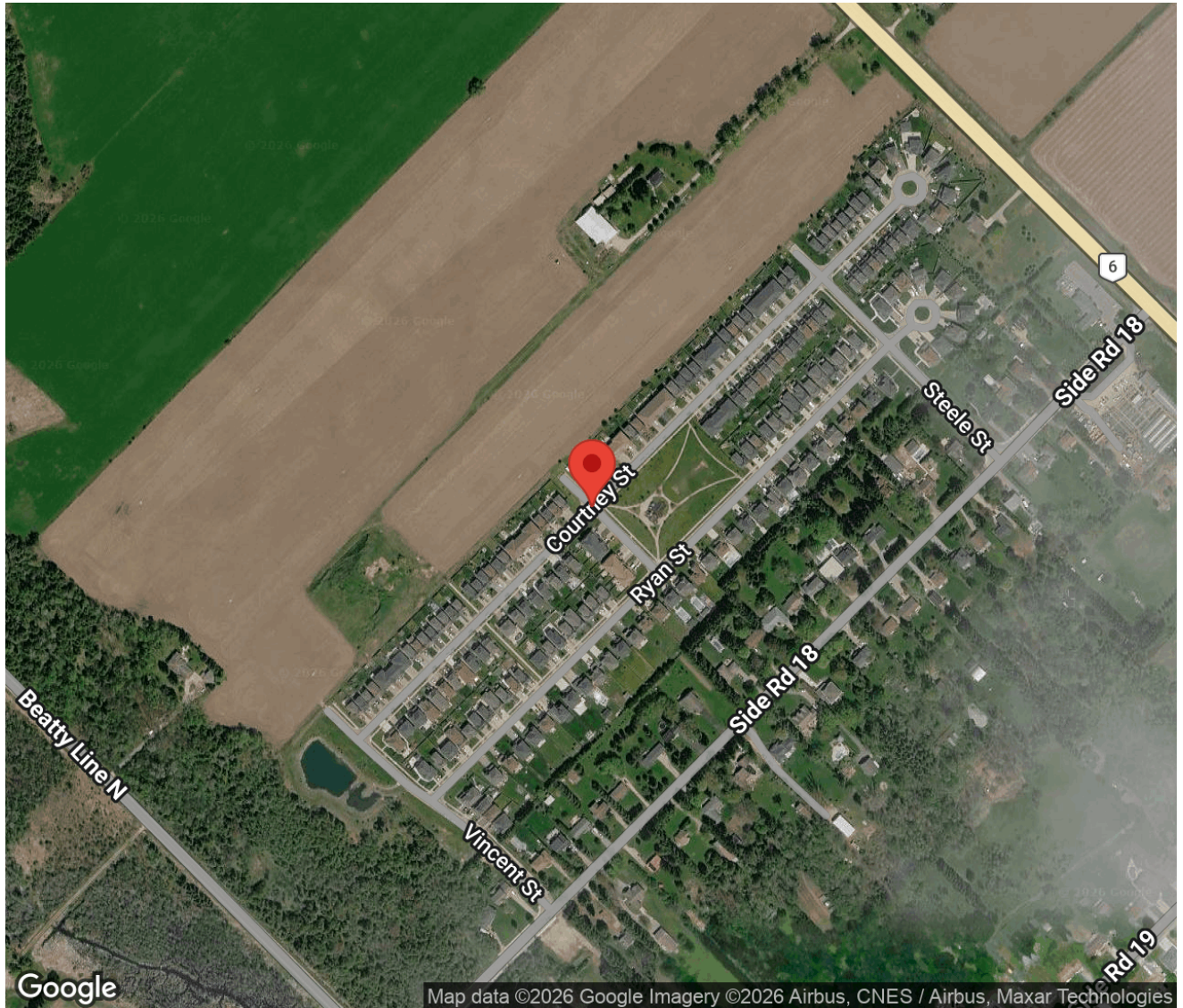
Project #26-179 - GHD

Intersection Count Report

Intersection: Courtney St & Sadler St
Municipality: Fergus
Count Date: Thursday, Jun 11, 2026
Site Code: 2617900008
Count Categories: Cars, Trucks, Bicycles, Pedestrians
Count Period: 07:00-09:00, 16:00-18:00
Weather: Clear
Comments:

Traffic Count Map

Intersection:	Courtney St & Sadler St
Site Code:	2617900008
Municipality:	Fergus
Count Date:	Jun 11, 2026



Traffic Count Summary

Intersection: Courtney St & Sadler St
 Site Code: 2617900008
 Municipality: Fergus
 Count Date: Jun 11, 2026

Sadler St - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	0	0	0	0	0	1	0	1	0	2	8	2
08:00 - 09:00	0	0	0	0	0	0	1	0	2	0	3	11	3
BREAK													
16:00 - 17:00	0	0	0	0	0	0	2	0	3	0	5	5	5
17:00 - 18:00	0	0	0	0	0	0	1	0	8	0	9	15	9
GRAND TOTAL	0	0	0	0	0	0	5	0	14	0	19	39	19

Traffic Count Summary

Intersection: Courtney St & Sadler St
 Site Code: 2617900008
 Municipality: Fergus
 Count Date: Jun 11, 2026

Courtney St - Traffic Summary

Hour	East Approach Totals						West Approach Totals							Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles							
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds		
07:00 - 08:00	3	10	0	0	13	4	0	9	4	0	13	0	26	
08:00 - 09:00	3	9	0	0	12	2	0	12	4	0	16	2	28	
BREAK														
16:00 - 17:00	1	11	0	0	12	3	0	16	4	0	20	0	32	
17:00 - 18:00	7	9	0	0	16	2	0	11	5	0	16	0	32	
GRAND TOTAL	14	39	0	0	53	11	0	48	17	0	65	2	118	

	Cars						Trucks						Bicycles							
Start Time					Total						Total						Total	Total Peds		
07:00	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
07:15	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
07:30	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
07:45	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
08:00	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
08:15	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
08:30	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
08:45	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		
SUBTOTAL	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0		

	Cars						Trucks						Bicycles							
Start Time					Total						Total						Total	Total Peds		
16:00	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
16:15	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
16:30	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
16:45	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
17:00	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
17:15	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
17:30	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
17:45	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
SUBTOTAL	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	
GRAND TOTAL	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	

Traffic Count Data

Intersection: Courtney St & Sadler St
 Site Code: 2617900008
 Municipality: Fergus
 Count Date: Jun 11, 2026

South Approach - Sadler St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
07:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
08:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	6
08:30	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	0	0	0	2	0	0	2	0	2	0	0	1	0	1	19

Traffic Count Data

Intersection: Courtney St & Sadler St
Site Code: 2617900008
Municipality: Fergus
Count Date: Jun 11, 2026

South Approach - Sadler St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
16:15	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
16:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
17:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	5
17:15	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	5
17:30	0	0	1	0	1	0	0	0	0	0	1	0	2	0	3	5
17:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	0	9	0	11	0	0	0	0	0	1	0	2	0	3	20
GRAND TOTAL	4	0	9	0	13	0	0	2	0	2	1	0	3	0	4	39

Traffic Count Data

Intersection: Courtney St & Sadler St
 Site Code: 2617900008
 Municipality: Fergus
 Count Date: Jun 11, 2026

East Approach - Courtney St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↪	Total	←	↑	→	↪	Total	←	↑	→	↪	Total	
07:00	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	2
07:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
07:30	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
07:45	0	4	0	0	4	1	0	0	0	1	0	0	0	0	0	2
08:00	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1
08:15	1	2	0	0	3	0	1	0	0	1	0	0	0	0	0	0
08:30	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	1
08:45	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	5	18	0	0	23	1	1	0	0	2	0	0	0	0	0	6

Traffic Count Data

Intersection: Courtney St & Sadler St
 Site Code: 2617900008
 Municipality: Fergus
 Count Date: Jun 11, 2026

East Approach - Courtney St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	1	2	0	0	3	0	1	0	0	1	0	0	0	0	0	0
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
16:30	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1
16:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
17:00	3	3	0	0	6	0	0	0	0	0	0	0	0	0	0	0
17:15	1	1	0	0	2	0	0	0	0	0	1	0	0	0	1	1
17:30	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	1
17:45	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	7	19	0	0	26	0	1	0	0	1	1	0	0	0	1	5
GRAND TOTAL	12	37	0	0	49	1	2	0	0	3	1	0	0	0	1	11

Traffic Count Data

Intersection: Courtney St & Sadler St
Site Code: 2617900008
Municipality: Fergus
Count Date: Jun 11, 2026

West Approach - Courtney St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
07:00	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
07:15	0	2	1	0	3	0	0	0	0	0	0	0	1	0	1	0
07:30	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0
07:45	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
08:00	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	0
08:15	0	3	2	0	5	0	1	0	0	1	0	0	0	0	0	2
08:30	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
08:45	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0
SUBTOTAL	0	20	6	0	26	0	1	0	0	1	0	0	2	0	2	2

Traffic Count Data

Intersection: Courtney St & Sadler St
Site Code: 2617900008
Municipality: Fergus
Count Date: Jun 11, 2026

West Approach - Courtney St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↺	Total	←	↑	→	↺	Total	←	↑	→	↺	Total	
16:00	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	0
16:15	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0
16:30	0	4	2	0	6	0	0	0	0	0	0	0	0	0	0	0
16:45	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0
17:00	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
17:15	0	1	1	0	2	0	0	0	0	0	0	0	1	0	1	0
17:30	0	4	2	0	6	0	0	0	0	0	0	0	0	0	0	0
17:45	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	26	8	0	34	0	1	0	0	1	0	0	1	0	1	0
GRAND TOTAL	0	46	14	0	60	0	2	0	0	2	0	0	3	0	3	2

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 07:45:00
To: 08:45:00

Intersection: Courtney St & Sadler St
Site Code: 2617900008
Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Courtney St runs E/W

North Approach

	Out	In	Total
	0	0	0
	0	0	0
	0	0	0
	0	0	0

Sadler St

	0	0	0	0
	0	0	0	0
	0	0	0	0
Totals	0	0	0	0






East Approach

	Out	In	Total
	12	12	24
	2	3	5
	0	0	0
	14	15	29

Courtney St

				Totals
	0	0	0	0
	0	0	0	0
	0	1	12	13
	0	0	3	3






Peds: 0



Peds: 2

Peds: 4

Peds: 11

Courtney St

Totals			
0	0	0	0
0	0	0	0
11	10	1	0
3	2	1	0






West Approach

	Out	In	Total
	15	11	26
	1	1	2
	0	0	0
	16	12	28

Totals				
	1	0	0	0
	0	0	2	0
	0	0	0	0

Sadler St

South Approach

	Out	In	Total
	1	5	6
	2	1	3
	0	0	0
	3	6	9

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

Intersection: Courtney St & Sadler St
Site Code: 2617900008
Count Date: Jun 11, 2026
Period: 07:00 - 09:00

Peak Hour Data (07:45 - 08:45)

	North Approach Sadler St						South Approach Sadler St						East Approach Courtney St						West Approach Courtney St						Total Vehicl es
Start Time					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:45	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	0	2	5	0	2	0	0	0	2	7
08:00	0	0	0	0	0	0	0	0	0	0	4	0	1	1	0	0	1	2	0	4	1	0	0	5	7
08:15	0	0	0	0	0	0	0	0	1	0	6	1	1	3	0	0	0	4	0	4	2	0	2	6	11
08:30	0	0	0	0	0	0	1	0	1	0	1	2	0	3	0	0	1	3	0	3	0	0	0	3	8
Grand Total	0	0	0	0	0	0	1	0	2	0	11	3	3	11	0	0	4	14	0	13	3	0	2	16	33
Approach %	0	0	0	0	-	-	33.3	0	66.7	0	-	-	21.4	78.6	0	0	-	-	0	81.3	18.8	0	-	-	-
Totals %	0	0	0	0	-	-	3	0	6.1	0	9.1	9.1	33.3	0	0	-	42.4	0	39.4	9.1	0	-	48.5	-	
PHF	0	0	0	0	-	-	0.25	0	0.5	0	0.38	0.75	0.69	0	0	-	0.7	0	0.81	0.38	0	-	0.67	0.75	
Cars	0	0	0	0	-	-	1	0	0	0	1	12	2	10	0	0	12	0	12	3	0	-	15	28	
% Cars	0	0	0	0	-	-	100	0	0	0	33.3	66.7	90.9	0	0	-	85.7	0	92.3	100	0	-	93.8	84.8	
Trucks	0	0	0	0	-	-	0	0	2	0	2	2	1	1	0	0	2	0	1	0	0	-	1	5	
% Trucks	0	0	0	0	-	-	0	0	100	0	66.7	33.3	9.1	0	0	-	14.3	0	7.7	0	0	-	6.3	15.2	
Bicycles	0	0	0	0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	
% Bicycles	0	0	0	0	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	
Peds	0 -						11 -						4 -						2 -						17
% Peds	0 -						64.7 -						23.5 -						11.8 -						-

Peak Hour Diagram

Specified Period

From: 16:00:00

To: 18:00:00

One Hour Peak

From: 16:45:00

To: 17:45:00

Intersection: Courtney St & Sadler St

Site Code: 2617900008

Count Date: Jun 11, 2026

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Courtney St runs E/W

North Approach

	Out	In	Total
	0	0	0
	0	0	0
	0	0	0
Totals	0	0	0

Sadler St

	0	0	0	0
	0	0	0	0
	0	0	0	0
Totals	0	0	0	0






East Approach

	Out	In	Total
	15	20	35
	0	0	0
	1	2	3
Totals	16	22	38

Courtney St

				Totals
	0	0	0	0
	0	0	0	0
	0	0	15	15
	1	0	3	4

Peds: 0



Peds: 2

Peds: 17

Courtney St

Totals			
	0	0	0
	0	0	0
	9	9	0
	7	6	1

West Approach

	Out	In	Total
	18	10	28
	0	0	0
	1	1	2
Totals	19	11	30

Totals				
	1	0	5	0
	0	0	0	0
	1	0	2	0

Sadler St

South Approach

	Out	In	Total
	6	9	15
	0	0	0
	3	2	5
Totals	9	11	20

 - Cars

 - Trucks

 - Bicycles

Comments

Peak Hour Summary

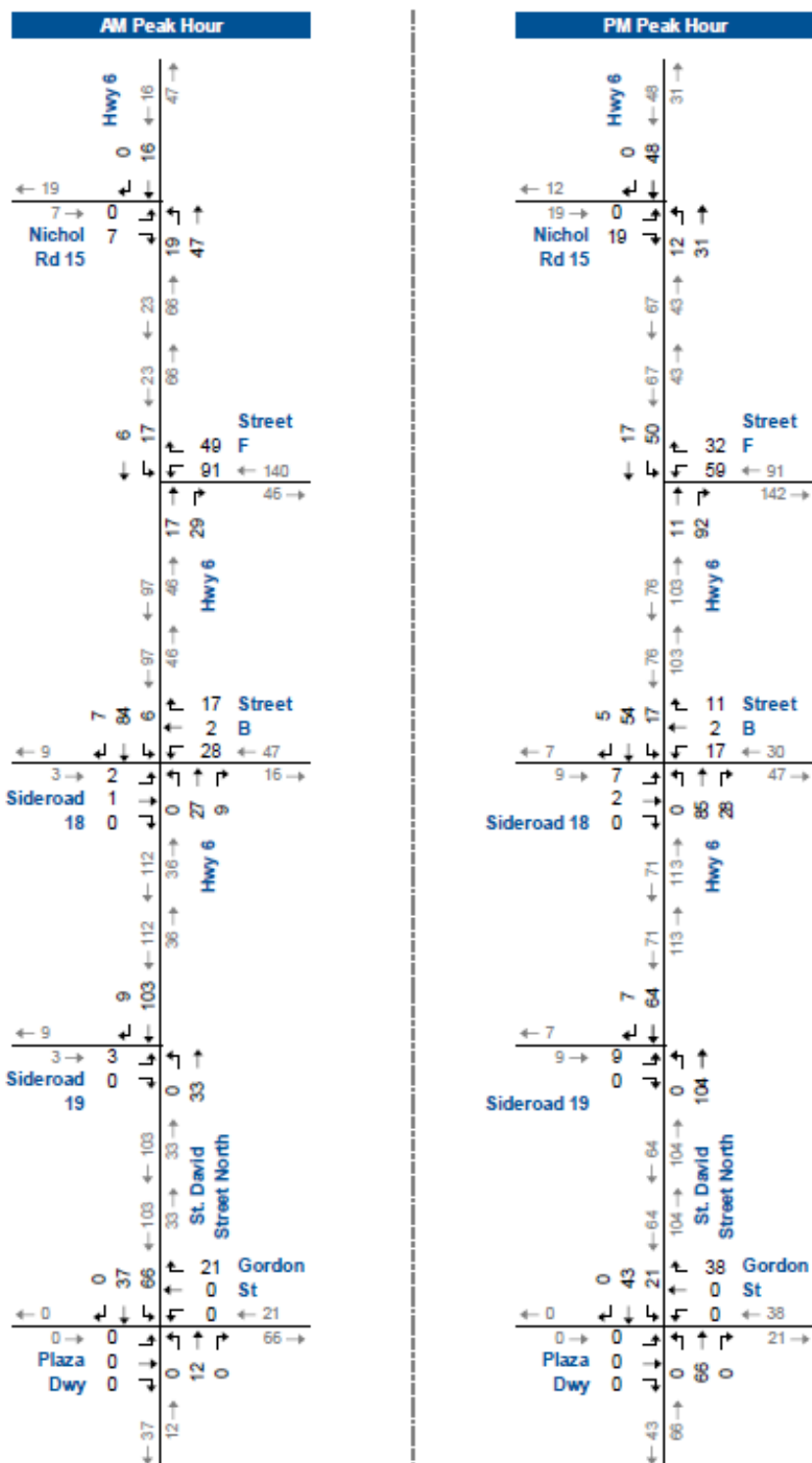
Intersection: Courtney St & Sadler St
Site Code: 2617900008
Count Date: Jun 11, 2026
Period: 16:00 - 18:00

Peak Hour Data (16:45 - 17:45)

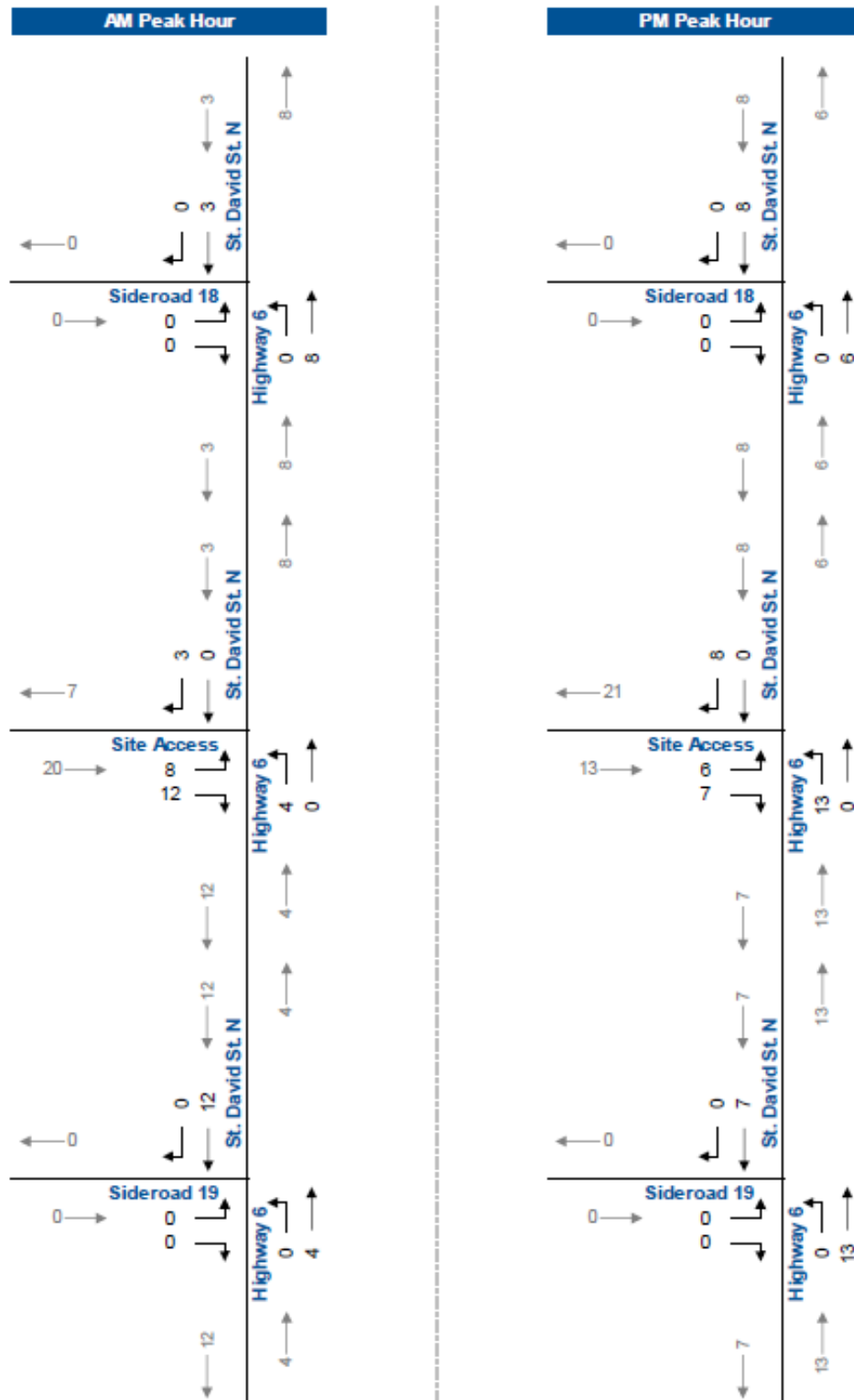
Start Time	North Approach Sadler St						South Approach Sadler St						East Approach Courtney St						West Approach Courtney St						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:45	0	0	0	0	0	0	1	0	0	0	2	1	0	3	0	0	0	3	0	7	0	0	0	7	11
17:00	0	0	0	0	0	0	0	0	2	0	5	2	3	3	0	0	0	6	0	3	0	0	0	3	11
17:15	0	0	0	0	0	0	0	0	2	0	5	2	2	1	0	0	1	3	0	1	2	0	0	3	8
17:30	0	0	0	0	0	0	1	0	3	0	5	4	2	2	0	0	1	4	0	4	2	0	0	6	14
Grand Total	0	0	0	0	0	0	2	0	7	0	17	9	7	9	0	0	2	16	0	15	4	0	0	19	44
Approach %	0	0	0	0	-	-	22.2	0	77.8	0	-	-	43.8	56.3	0	0	-	-	0	78.9	21.1	0	-	-	-
Totals %	0	0	0	0	0	0	4.5	0	15.9	0	20.5	20.5	15.9	20.5	0	0	36.4	36.4	0	34.1	9.1	0	43.2	43.2	43.2
PHF	0	0	0	0	0	0	0.5	0	0.58	0	0.56	0.56	0.58	0.75	0	0	0.67	0.67	0	0.54	0.5	0	0.68	0.68	0.79
Cars	0	0	0	0	0	0	1	0	5	0	6	6	6	9	0	0	15	15	0	15	3	0	18	18	39
% Cars	0	0	0	0	0	0	50	0	71.4	0	66.7	66.7	85.7	100	0	0	93.8	93.8	0	100	75	0	94.7	94.7	88.6
Trucks	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
% Trucks	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	0	0	0	0	0	0	1	0	2	0	3	3	1	0	0	0	1	1	0	0	1	0	1	1	5
% Bicycles	0	0	0	0	0	0	50	0	28.6	0	33.3	33.3	14.3	0	0	0	6.3	6.3	0	0	25	0	5.3	5.3	11.4
Peds					0	-					17	-					2	-					0	-	19
% Peds					0	-					89.5	-					10.5	-					0	-	43.2

Appendix D

Background Development Excerpts



Site Generated Traffic Volumes



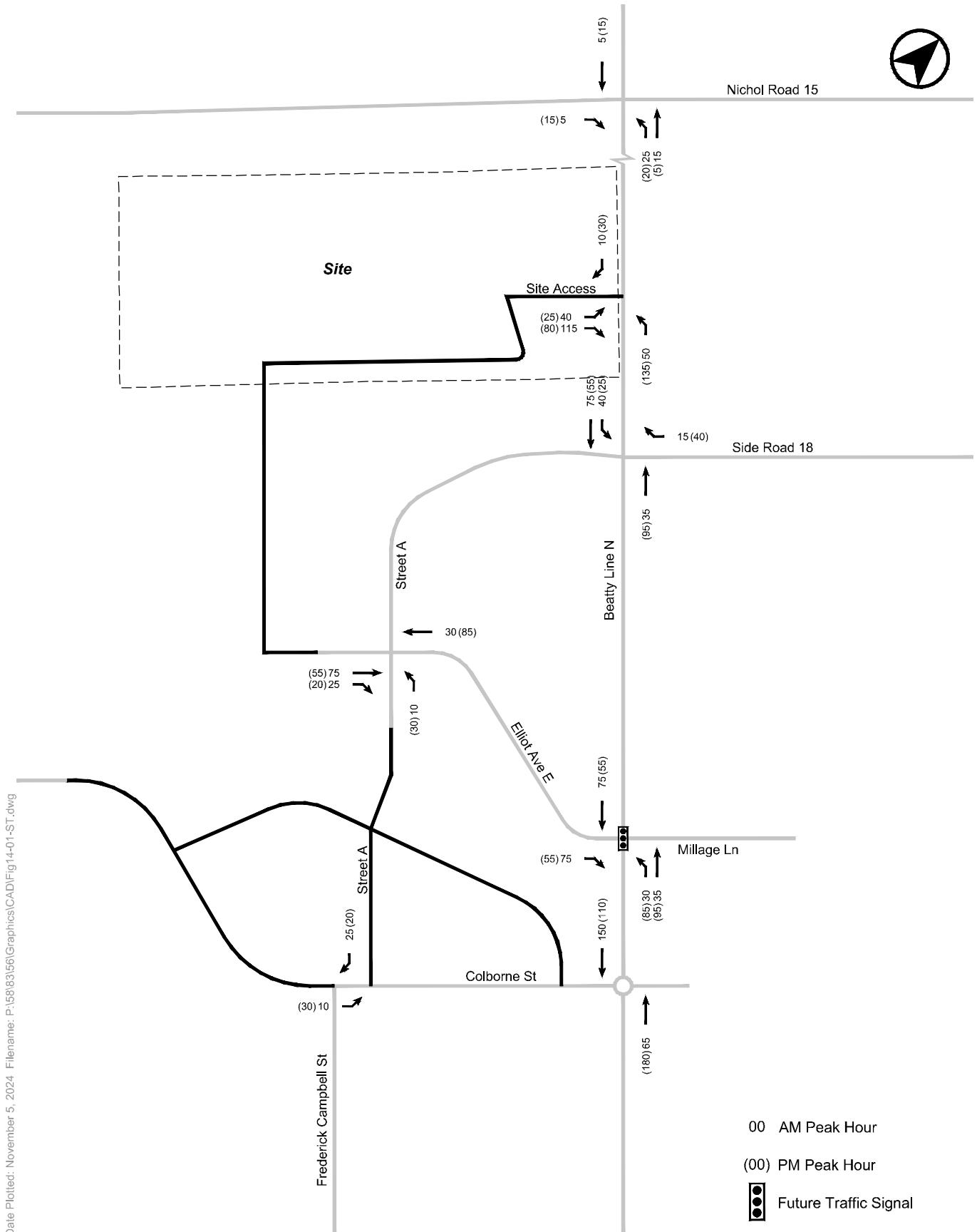


FIGURE 14 SITE TRAFFIC VOLUMES

Appendix E

Synchro Outputs

Lanes, Volumes, Timings
AM Peak Hour

Existing 2026
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	0	85	0	0	0	115	211	0	0	327	39
Future Volume (vph)	26	0	85	0	0	0	115	211	0	0	327	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.986	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1612	1495	0	1900	0	1641	1776	0	0	1758	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1612	1495	0	1900	0	1641	1776	0	0	1758	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			606.7			149.7	
Travel Time (s)		62.1			11.0			27.3			6.7	
Confl. Peds. (#/hr)	2					2						
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
Heavy Vehicles (%)	12%	0%	8%	0%	0%	0%	10%	7%	0%	0%	7%	3%
Adj. Flow (vph)	28	0	92	0	0	0	125	229	0	0	355	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	92	0	0	0	125	229	0	0	397	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 44.7%	ICU Level of Service A											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Existing 2026
AM Peak Hour

																			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Traffic Volume (veh/h)	26	0	85	0	0	0	115	211	0	0	327	39							
Future Volume (Veh/h)	26	0	85	0	0	0	115	211	0	0	327	39							
Sign Control	Stop			Stop			Free			Free									
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)	28	0	92	0	0	0	125	229	0	0	355	42							
Pedestrians												2							
Lane Width (m)												3.6							
Walking Speed (m/s)												1.2							
Percent Blockage												0							
Right turn flare (veh)	1																		
Median type	None											None							
Median storage veh																			
Upstream signal (m)																			
pX, platoon unblocked																			
vC, conflicting volume	857	855	376	901	876	231	397						229						
vC1, stage 1 conf vol																			
vC2, stage 2 conf vol																			
vCu, unblocked vol	857	855	376	901	876	231	397						229						
tC, single (s)	7.2	6.5	6.3	7.1	6.5	6.2	4.2						4.1						
tC, 2 stage (s)																			
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3						2.2						
p0 queue free %	88	100	86	100	100	100	89						100						
cM capacity (veh/h)	243	265	657	205	257	812	1119						1351						
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1														
Volume Total	120	0	125	229	397														
Volume Left	28	0	125	0	0														
Volume Right	92	0	0	0	42														
cSH	857	1700	1119	1700	1351														
Volume to Capacity	0.14	0.00	0.11	0.13	0.00														
Queue Length 95th (m)	3.9	0.0	3.0	0.0	0.0														
Control Delay (s)	13.8	0.0	8.6	0.0	0.0														
Lane LOS	B	A	A																
Approach Delay (s)	13.8	0.0	3.0	0.0															
Approach LOS	B	A																	
Intersection Summary																			
Average Delay	3.1																		
Intersection Capacity Utilization	44.7%											ICU Level of Service	A						
Analysis Period (min)	15																		

Lanes, Volumes, Timings
AM Peak Hour

Existing 2026
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	0	119	0	0	0	67	312	0	0	406	17
Future Volume (vph)	14	0	119	0	0	0	67	312	0	0	406	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. 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
Frt		0.880									0.994	
Flt Protected		0.995					0.950					
Satd. Flow (prot)	0	1606	0	0	1863	0	1656	1759	0	1863	1778	0
Flt Permitted		0.995					0.950					
Satd. Flow (perm)	0	1606	0	0	1863	0	1656	1759	0	1863	1778	0
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			109.4			358.6			413.0	
Travel Time (s)		18.0			7.9			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	15	0	124	0	0	0	70	325	0	0	423	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	139	0	0	0	0	70	325	0	0	441	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	44.2%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Existing 2026
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	0	119	0	0	0	67	312	0	0	406	17
Future Volume (Veh/h)	14	0	119	0	0	0	67	312	0	0	406	17
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Hourly flow rate (vph)	15	0	124	0	0	0	70	325	0	0	423	18
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)												
pX, platoon unblocked												
vC, conflicting volume	897	897	432	1012	906	325	441			325		
vC1, stage 1 conf vol	432	432		465	465							
vC2, stage 2 conf vol	465	465		547	441							
vCu, unblocked vol	897	897	432	1012	906	325	441			325		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2			4.1		
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	97	100	80	100	100	100	94			100		
cM capacity (veh/h)	453	444	619	315	420	716	1083			1235		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	139	0	70	325	0	441						
Volume Left	15	0	70	0	0	0						
Volume Right	124	0	0	0	0	18						
cSH	596	1700	1083	1700	1700	1700						
Volume to Capacity	0.23	0.00	0.06	0.19	0.00	0.26						
Queue Length 95th (m)	7.2	0.0	1.7	0.0	0.0	0.0						
Control Delay (s)	12.9	0.0	8.6	0.0	0.0	0.0						
Lane LOS	B	A	A									
Approach Delay (s)	12.9	0.0	1.5	0.0								
Approach LOS	B	A										
Intersection Summary												
Average Delay	2.4											
Intersection Capacity Utilization	44.2%			ICU Level of Service			A					
Analysis Period (min)	15											

Lanes, Volumes, Timings

AM Peak Hour

Existing 2026
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	12	50	51	351	538	26
Future Volume (vph)	12	50	51	351	538	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1671	1380	1671	1759	1756	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1671	1380	1671	1759	1756	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	3	1	3			3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	8%	17%	8%	8%	7%	19%
Adj. Flow (vph)	13	55	56	386	591	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	55	56	386	620	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Existing 2026
AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	50	51	351	538	26
Future Volume (Veh/h)	12	50	51	351	538	26
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	13	55	56	386	591	29
Pedestrians	3			1	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked						
vC, conflicting volume	1110	610	623			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1110	610	623			
tC, single (s)	6.5	6.4	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.5	2.3			
p0 queue free %	94	88	94			
cM capacity (veh/h)	211	467	927			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	68	56	386	620		
Volume Left	13	56	0	0		
Volume Right	55	0	0	29		
cSH	577	927	1700	1700		
Volume to Capacity	0.12	0.06	0.23	0.36		
Queue Length 95th (m)	3.2	1.5	0.0	0.0		
Control Delay (s)	15.5	9.1	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	15.5	1.2		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay	1.4					
Intersection Capacity Utilization	46.9%			ICU Level of Service	A	
Analysis Period (min)	15					

Lanes, Volumes, Timings
AM Peak Hour

Existing 2026
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	81	12	199	20	191	75	226	351	10
Future Volume (vph)	5	8	25	81	12	199	20	191	75	226	351	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. 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
Ped Bike Factor	1.00	0.98		0.99	0.98		0.99	0.99		0.99	1.00	
Frt		0.886			0.859			0.958			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1599	0	1656	1395	0	1641	1711	0	1656	1786	0
Flt Permitted	0.431			0.732			0.508			0.574		
Satd. Flow (perm)	818	1599	0	1267	1395	0	870	1711	0	992	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			229			47			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Adj. Flow (vph)	6	9	29	93	14	229	23	220	86	260	403	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	38	0	93	243	0	23	306	0	260	414	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings

AM Peak Hour

Existing 2026
AM Peak Hour

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	25.0	25.0		25.0	25.0		45.0	45.0		45.0	45.0	
Total Split (%)	35.7%	35.7%		35.7%	35.7%		64.3%	64.3%		64.3%	64.3%	
Maximum Green (s)	21.0	21.0		20.0	20.0		40.0	40.0		40.0	40.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	10.8	10.8		9.8	9.8		42.2	42.2		42.2	42.2	
Actuated g/C Ratio	0.17	0.17		0.16	0.16		0.68	0.68		0.68	0.68	
v/c Ratio	0.04	0.13		0.47	0.59		0.04	0.26		0.39	0.34	
Control Delay	20.2	11.3		30.3	10.7		4.5	4.4		7.1	5.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.2	11.3		30.3	10.7		4.5	4.4		7.1	5.6	
LOS	C	B		C	B		A	A		A	A	
Approach Delay		12.5			16.1			4.4			6.2	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 62

Natural Cycle: 50

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 8.4

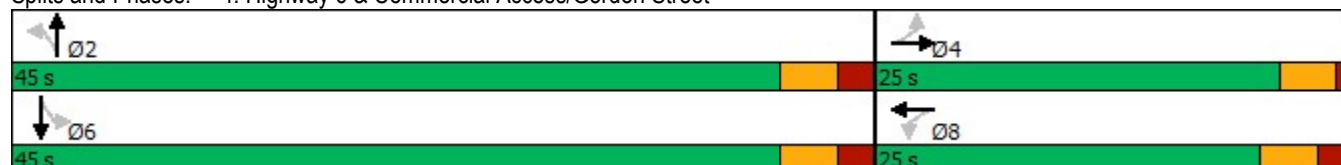
Intersection LOS: A

Intersection Capacity Utilization 53.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues
AM Peak Hour

Existing 2026
AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	38	93	243	23	306	260	414
v/c Ratio	0.04	0.13	0.47	0.59	0.04	0.26	0.39	0.34
Control Delay	20.2	11.3	30.3	10.7	4.5	4.4	7.1	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	11.3	30.3	10.7	4.5	4.4	7.1	5.6
Queue Length 50th (m)	0.6	0.9	9.8	1.4	0.7	9.2	10.7	16.1
Queue Length 95th (m)	3.1	7.0	21.1	16.4	3.2	21.7	27.0	34.6
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	277	561	409	605	591	1178	674	1215
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	0.07	0.23	0.40	0.04	0.26	0.39	0.34
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

AM Peak Hour

Existing 2026
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	81	12	199	20	191	75	226	351	10
Future Volume (vph)	5	8	25	81	12	199	20	191	75	226	351	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.86		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1803	1599		1645	1395		1627	1711		1643	1786	
Flt Permitted	0.43	1.00		0.73	1.00		0.51	1.00		0.57	1.00	
Satd. Flow (perm)	818	1599		1268	1395		871	1711		992	1786	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	9	29	93	14	229	23	220	86	260	403	11
RTOR Reduction (vph)	0	24	0	0	193	0	0	15	0	0	1	0
Lane Group Flow (vph)	6	14	0	93	50	0	23	291	0	260	413	0
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	10.8	10.8		9.8	9.8		42.2	42.2		42.2	42.2	
Effective Green, g (s)	10.8	10.8		9.8	9.8		42.2	42.2		42.2	42.2	
Actuated g/C Ratio	0.17	0.17		0.16	0.16		0.68	0.68		0.68	0.68	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	142	278		200	220		592	1164		675	1215	
v/s Ratio Prot		0.01			0.04			0.17			0.23	
v/s Ratio Perm	0.01			c0.07			0.03			c0.26		
v/c Ratio	0.04	0.05		0.47	0.23		0.04	0.25		0.39	0.34	
Uniform Delay, d1	21.3	21.3		23.7	22.8		3.2	3.8		4.3	4.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		1.7	0.5		0.1	0.5		1.7	0.8	
Delay (s)	21.4	21.4		25.4	23.3		3.4	4.3		5.9	4.9	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		21.4			23.9			4.3			5.3	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay	10.1			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.40											
Actuated Cycle Length (s)	62.0			Sum of lost time (s)			10.0					
Intersection Capacity Utilization	53.1%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings

AM Peak Hour

Existing 2026
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	76	63	55	50	21	31	49	31	7	67	34
Future Volume (vph)	56	76	63	55	50	21	31	49	31	7	67	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.956			0.978			0.962			0.957	
Flt Protected		0.986			0.979			0.986			0.997	
Satd. Flow (prot)	0	1713	0	0	1725	0	0	1705	0	0	1686	0
Flt Permitted		0.986			0.979			0.986			0.997	
Satd. Flow (perm)	0	1713	0	0	1725	0	0	1705	0	0	1686	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)			19	19					3	3		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	3%	6%	7%	4%	5%	7%	4%	7%	14%	3%	15%
Adj. Flow (vph)	65	88	73	64	58	24	36	57	36	8	78	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	226	0	0	146	0	0	129	0	0	126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	32.8%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Existing 2026
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	76	63	55	50	21	31	49	31	7	67	34
Future Volume (Veh/h)	56	76	63	55	50	21	31	49	31	7	67	34
Sign Control	Stop				Stop				Free			
Grade	0%				0%				0%			
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	65	88	73	64	58	24	36	57	36	8	78	40
Pedestrians					3				19			
Lane Width (m)					3.6				3.6			
Walking Speed (m/s)					1.2				1.2			
Percent Blockage					0				2			
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	314	282	117	400	284	78	118				96	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	314	282	117	400	284	78	118				96	
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3				2.3	
p0 queue free %	88	85	92	85	90	98	97				99	
cM capacity (veh/h)	557	604	910	432	601	972	1440				1422	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	226	146	129	126								
Volume Left	65	64	36	8								
Volume Right	73	24	36	40								
cSH	660	542	1440	1422								
Volume to Capacity	0.34	0.27	0.03	0.01								
Queue Length 95th (m)	12.2	8.7	0.6	0.1								
Control Delay (s)	13.3	14.1	2.3	0.5								
Lane LOS	B	B	A	A								
Approach Delay (s)	13.3	14.1	2.3	0.5								
Approach LOS	B	B										
Intersection Summary												
Average Delay				8.6								
Intersection Capacity Utilization				32.8%	ICU Level of Service				A			
Analysis Period (min)				15								

Lanes, Volumes, Timings
AM Peak Hour

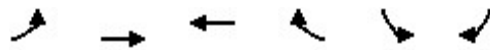
Existing 2026
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	91	83	8	6	52
Future Volume (vph)	16	91	83	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.988		0.878	
Flt Protected		0.992			0.995	
Satd. Flow (prot)	0	1788	1710	0	1553	0
Flt Permitted		0.992			0.995	
Satd. Flow (perm)	0	1788	1710	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	20	111	101	10	7	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	131	111	0	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Existing 2026
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	91	83	8	6	52
Future Volume (Veh/h)	16	91	83	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	20	111	101	10	7	63
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	111				266	107
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	111				266	107
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	99				99	93
cM capacity (veh/h)	1379				647	941
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	131	111	70			
Volume Left	20	0	7			
Volume Right	0	10	63			
cSH	1379	1700	900			
Volume to Capacity	0.01	0.07	0.08			
Queue Length 95th (m)	0.4	0.0	2.0			
Control Delay (s)	1.3	0.0	9.3			
Lane LOS	A		A			
Approach Delay (s)	1.3	0.0	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay		2.6				
Intersection Capacity Utilization		23.0%	ICU Level of Service	A		
Analysis Period (min)		15				

Lanes, Volumes, Timings

AM Peak Hour

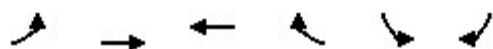
Existing 2026
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	101	73	15	46	9
Future Volume (vph)	7	101	73	15	46	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.977			0.977
Flt Protected	0.997				0.960	
Satd. Flow (prot)	0	1831	1667	0	1630	0
Flt Permitted	0.997				0.960	
Satd. Flow (perm)	0	1831	1667	0	1630	0
Link Speed (k/h)	40		40		50	
Link Distance (m)	596.4		199.9		240.0	
Travel Time (s)	53.7		18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	8	109	78	16	49	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	117	94	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0		3.6	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	4.8		4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Existing 2026
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	101	73	15	46	9
Future Volume (Veh/h)	7	101	73	15	46	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	109	78	16	49	10
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	96				217	92
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	96				217	92
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				93	99
cM capacity (veh/h)	1446				748	936
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	117	94	59			
Volume Left	8	0	49			
Volume Right	0	16	10			
cSH	1446	1700	774			
Volume to Capacity	0.01	0.06	0.08			
Queue Length 95th (m)	0.1	0.0	2.0			
Control Delay (s)	0.6	0.0	10.0			
Lane LOS	A		B			
Approach Delay (s)	0.6	0.0	10.0			
Approach LOS			B			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			22.3%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
AM Peak Hour

Existing 2026
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.974						0.899					
Flt Protected				0.990			0.988					
Satd. Flow (prot)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Flt Permitted				0.990			0.988					
Satd. Flow (perm)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Link Speed (k/h)	50			50			50			50		
Link Distance (m)	156.5			142.7			88.1			94.9		
Travel Time (s)	11.3			10.3			6.3			6.8		
Confl. Peds. (#/hr)				11	11	2			4	4	2	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	8%	0%	10%	9%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	19	0	0	4	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0			0.0			0.0			0.0		
Link Offset(m)	0.0			0.0			0.0			0.0		
Crosswalk Width(m)	4.8			4.8			4.8			4.8		
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25	15		25	15		25	15		25	15	
Sign Control	Stop			Stop			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.7%			ICU Level of Service A								
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Existing 2026
AM Peak Hour

																				
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR								
Lane Configurations																				
Sign Control		Stop			Stop			Stop			Stop									
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0								
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0								
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75								
Hourly flow rate (vph)	0	17	4	4	15	0	1	0	3	0	0	0								
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																
Volume Total (vph)	21	19	4	0																
Volume Left (vph)	0	4	1	0																
Volume Right (vph)	4	0	3	0																
Hadj (s)	0.00	0.20	-0.37	0.00																
Departure Headway (s)	3.9	4.1	3.6	4.0																
Degree Utilization, x	0.02	0.02	0.00	0.00																
Capacity (veh/h)	909	866	982	900																
Control Delay (s)	7.0	7.2	6.6	7.0																
Approach Delay (s)	7.0	7.2	6.6	0.0																
Approach LOS	A	A	A	A																
Intersection Summary																				
Delay			7.1																	
Level of Service			A																	
Intersection Capacity Utilization			17.7%	ICU Level of Service						A										
Analysis Period (min)			15																	

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	0	140	0	0	0	115	478	0	0	325	23
Future Volume (vph)	26	0	140	0	0	0	115	478	0	0	325	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.991	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1517	1553	0	1900	0	1752	1845	0	0	1753	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1517	1553	0	1900	0	1752	1845	0	0	1753	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			606.7			149.7	
Travel Time (s)		62.1			11.0			27.3			6.7	
Confl. Peds. (#/hr)	4					4						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	19%	0%	4%	0%	0%	0%	3%	3%	0%	0%	7%	13%
Adj. Flow (vph)	27	0	147	0	0	0	121	503	0	0	342	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	147	0	0	0	121	503	0	0	366	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	58.2%						ICU Level of Service B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Existing 2026
PM Peak Hour

																			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Traffic Volume (veh/h)	26	0	140	0	0	0	115	478	0	0	325	23							
Future Volume (Veh/h)	26	0	140	0	0	0	115	478	0	0	325	23							
Sign Control	Stop			Stop			Free			Free									
Grade	0%			0%			0%			0%									
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95							
Hourly flow rate (vph)	27	0	147	0	0	0	121	503	0	0	342	24							
Pedestrians												4							
Lane Width (m)												3.6							
Walking Speed (m/s)												1.2							
Percent Blockage												0							
Right turn flare (veh)	1																		
Median type	None											None							
Median storage veh																			
Upstream signal (m)																			
pX, platoon unblocked																			
vC, conflicting volume	1103	1099	354	1172	1111	507	366						503						
vC1, stage 1 conf vol																			
vC2, stage 2 conf vol																			
vCu, unblocked vol	1103	1099	354	1172	1111	507	366						503						
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1						4.1						
tC, 2 stage (s)																			
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2						2.2						
p0 queue free %	83	100	79	100	100	100	90						100						
cM capacity (veh/h)	161	192	685	124	189	568	1187						1072						
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1														
Volume Total	174	0	121	503	366														
Volume Left	27	0	121	0	0														
Volume Right	147	0	0	0	24														
cSH	811	1700	1187	1700	1072														
Volume to Capacity	0.21	0.00	0.10	0.30	0.00														
Queue Length 95th (m)	6.5	0.0	2.7	0.0	0.0														
Control Delay (s)	14.8	0.0	8.4	0.0	0.0														
Lane LOS	B	A	A																
Approach Delay (s)	14.8	0.0	1.6	0.0															
Approach LOS	B	A																	
Intersection Summary																			
Average Delay	3.1																		
Intersection Capacity Utilization	58.2%											ICU Level of Service	B						
Analysis Period (min)	15																		

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	0	114	0	0	0	79	576	0	0	456	19
Future Volume (vph)	19	0	114	0	0	0	79	576	0	0	456	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. 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
Frt		0.884									0.994	
Flt Protected		0.993					0.950					
Satd. Flow (prot)	0	1613	0	0	1863	0	1736	1863	0	1863	1778	0
Flt Permitted		0.993					0.950					
Satd. Flow (perm)	0	1613	0	0	1863	0	1736	1863	0	1863	1778	0
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			109.4			358.6			413.0	
Travel Time (s)		18.0			7.9			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	20	0	120	0	0	0	83	606	0	0	480	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	0	0	0	0	83	606	0	0	500	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	51.7%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Existing 2026
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	0	114	0	0	0	79	576	0	0	456	19
Future Volume (Veh/h)	19	0	114	0	0	0	79	576	0	0	456	19
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	20	0	120	0	0	0	83	606	0	0	480	20
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)												
pX, platoon unblocked												
vC, conflicting volume	1262	1262	490	1372	1272	606	500				606	
vC1, stage 1 conf vol	490	490		772	772							
vC2, stage 2 conf vol	772	772		600	500							
vCu, unblocked vol	1262	1262	490	1372	1272	606	500				606	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	94	100	79	100	100	100	92				100	
cM capacity (veh/h)	321	332	574	243	317	497	1054				972	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	140	0	83	606	0	500						
Volume Left	20	0	83	0	0	0						
Volume Right	120	0	0	0	0	20						
cSH	516	1700	1054	1700	1700	1700						
Volume to Capacity	0.27	0.00	0.08	0.36	0.00	0.29						
Queue Length 95th (m)	8.7	0.0	2.0	0.0	0.0	0.0						
Control Delay (s)	14.5	0.0	8.7	0.0	0.0	0.0						
Lane LOS	B	A	A									
Approach Delay (s)	14.5	0.0	1.0	0.0								
Approach LOS	B	A										
Intersection Summary												
Average Delay	2.1											
Intersection Capacity Utilization	51.7%			ICU Level of Service					A			
Analysis Period (min)	15											

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	72	66	674	520	42
Future Volume (vph)	20	72	66	674	520	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.990	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1568	1703	1845	1814	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1568	1703	1845	1814	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	1	2	5			5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	6%	3%	4%	0%
Adj. Flow (vph)	21	74	68	695	536	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	74	68	695	579	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Existing 2026
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	72	66	674	520	42
Future Volume (Veh/h)	20	72	66	674	520	42
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	21	74	68	695	536	43
Pedestrians	5			2	1	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked	0.92					
vC, conflicting volume	1394	564	584			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1386	564	584			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	85	86	93			
cM capacity (veh/h)	136	520	967			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	95	68	695	579		
Volume Left	21	68	0	0		
Volume Right	74	0	0	43		
cSH	615	967	1700	1700		
Volume to Capacity	0.15	0.07	0.41	0.34		
Queue Length 95th (m)	4.3	1.8	0.0	0.0		
Control Delay (s)	18.2	9.0	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	18.2	0.8	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			47.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	91	69	353	85	330	92	234	340	25
Future Volume (vph)	25	48	82	91	69	353	85	330	92	234	340	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. 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
Ped Bike Factor	0.98	0.99		1.00	0.95		0.99	0.99		0.99	1.00	
Frt		0.906			0.874			0.967			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1671	0	1787	1536	0	1805	1793	0	1719	1858	0
Flt Permitted	0.325			0.663			0.517			0.473		
Satd. Flow (perm)	608	1671	0	1243	1536	0	970	1793	0	849	1858	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			377			32			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Adj. Flow (vph)	27	52	88	98	74	380	91	355	99	252	366	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	140	0	98	454	0	91	454	0	252	393	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	26.0	26.0		26.0	26.0		44.0	44.0		44.0	44.0	
Total Split (%)	37.1%	37.1%		37.1%	37.1%		62.9%	62.9%		62.9%	62.9%	
Maximum Green (s)	22.0	22.0		21.0	21.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.3	12.3		11.3	11.3		39.3	39.3		39.3	39.3	
Actuated g/C Ratio	0.20	0.20		0.19	0.19		0.65	0.65		0.65	0.65	
v/c Ratio	0.22	0.34		0.43	0.77		0.14	0.39		0.46	0.33	
Control Delay	23.6	11.1		26.9	14.3		6.4	6.9		10.4	6.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.6	11.1		26.9	14.3		6.4	6.9		10.4	6.6	
LOS	C	B		C	B		A	A		B	A	
Approach Delay		13.1			16.5			6.8			8.1	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 60.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 10.6

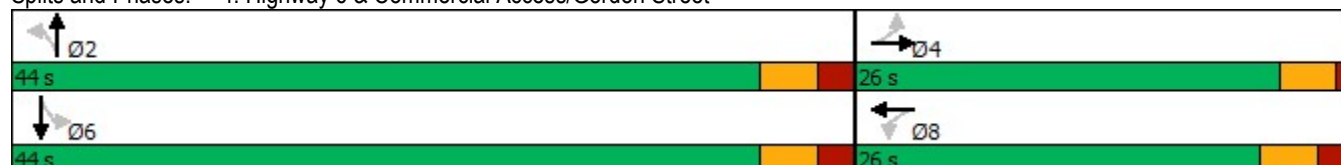
Intersection LOS: B

Intersection Capacity Utilization 83.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues
PM Peak Hour

Existing 2026
PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	140	98	454	91	454	252	393
v/c Ratio	0.22	0.34	0.43	0.77	0.14	0.39	0.46	0.33
Control Delay	23.6	11.1	26.9	14.3	6.4	6.9	10.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	11.1	26.9	14.3	6.4	6.9	10.4	6.6
Queue Length 50th (m)	2.7	5.0	10.2	7.7	3.1	16.9	11.0	14.9
Queue Length 95th (m)	8.5	17.0	22.0	33.5	12.6	51.2	41.0	44.1
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	222	666	433	781	628	1173	550	1207
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.21	0.23	0.58	0.14	0.39	0.46	0.33
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

PM Peak Hour

Existing 2026
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	91	69	353	85	330	92	234	340	25
Future Volume (vph)	25	48	82	91	69	353	85	330	92	234	340	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.95		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1781	1671		1782	1544		1784	1794		1706	1858	
Flt Permitted	0.33	1.00		0.66	1.00		0.52	1.00		0.47	1.00	
Satd. Flow (perm)	610	1671		1244	1544		971	1794		850	1858	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	52	88	98	74	380	91	355	99	252	366	27
RTOR Reduction (vph)	0	70	0	0	307	0	0	11	0	0	3	0
Lane Group Flow (vph)	27	70	0	98	147	0	91	443	0	252	390	0
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.3	12.3		11.3	11.3		39.3	39.3		39.3	39.3	
Effective Green, g (s)	12.3	12.3		11.3	11.3		39.3	39.3		39.3	39.3	
Actuated g/C Ratio	0.20	0.20		0.19	0.19		0.65	0.65		0.65	0.65	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	123	339		231	287		629	1163		551	1204	
v/s Ratio Prot		0.04			c0.10			0.25			0.21	
v/s Ratio Perm	0.04			0.08			0.09			c0.30		
v/c Ratio	0.22	0.21		0.42	0.51		0.14	0.38		0.46	0.32	
Uniform Delay, d1	20.1	20.1		21.8	22.2		4.1	5.0		5.3	4.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.3		1.3	1.5		0.5	0.9		2.7	0.7	
Delay (s)	21.0	20.4		23.0	23.7		4.6	5.9		8.0	5.5	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		20.5			23.6			5.7			6.5	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			12.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			60.6			Sum of lost time (s)				10.0		
Intersection Capacity Utilization			83.3%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	44	54	41	63	11	101	80	29	20	77	47
Future Volume (vph)	27	44	54	41	63	11	101	80	29	20	77	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.942			0.988			0.981			0.956	
Flt Protected		0.989			0.982			0.976			0.993	
Satd. Flow (prot)	0	1729	0	0	1785	0	0	1804	0	0	1721	0
Flt Permitted		0.989			0.982			0.976			0.993	
Satd. Flow (perm)	0	1729	0	0	1785	0	0	1804	0	0	1721	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)	1		6	6		1	1		3	3		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	0%	2%	0%	6%	0%	1%	1%	0%	0%	1%	13%
Adj. Flow (vph)	28	46	56	43	66	11	105	83	30	21	80	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	130	0	0	120	0	0	218	0	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	40.5%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Existing 2026
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	44	54	41	63	11	101	80	29	20	77	47
Future Volume (Veh/h)	27	44	54	41	63	11	101	80	29	20	77	47
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	28	46	56	43	66	11	105	83	30	21	80	49
Pedestrians		1			3			6			1	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	500	474	112	542	483	102	130			116		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	500	474	112	542	483	102	130			116		
tC, single (s)	7.2	6.5	6.2	7.1	6.6	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.1	3.3	2.2			2.2		
p0 queue free %	93	90	94	88	85	99	93			99		
cM capacity (veh/h)	385	449	936	365	435	955	1460			1482		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	130	120	218	150								
Volume Left	28	43	105	21								
Volume Right	56	11	30	49								
cSH	553	427	1460	1482								
Volume to Capacity	0.23	0.28	0.07	0.01								
Queue Length 95th (m)	7.2	9.1	1.9	0.3								
Control Delay (s)	13.5	16.7	4.0	1.1								
Lane LOS	B	C	A	A								
Approach Delay (s)	13.5	16.7	4.0	1.1								
Approach LOS	B	C										
Intersection Summary												
Average Delay			7.8									
Intersection Capacity Utilization			40.5%			ICU Level of Service				A		
Analysis Period (min)			15									

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	91	93	8	6	52
Future Volume (vph)	16	91	93	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.990		0.879	
Flt Protected		0.993			0.995	
Satd. Flow (prot)	0	1790	1720	0	1553	0
Flt Permitted		0.993			0.995	
Satd. Flow (perm)	0	1790	1720	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	19	107	109	9	7	61
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	126	118	0	68	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Existing 2026
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	91	93	8	6	52
Future Volume (Veh/h)	16	91	93	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	19	107	109	9	7	61
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	118				268	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	118				268	114
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	99				99	93
cM capacity (veh/h)	1371				646	932
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	126	118	68			
Volume Left	19	0	7			
Volume Right	0	9	61			
cSH	1371	1700	891			
Volume to Capacity	0.01	0.07	0.08			
Queue Length 95th (m)	0.3	0.0	2.0			
Control Delay (s)	1.3	0.0	9.4			
Lane LOS	A		A			
Approach Delay (s)	1.3	0.0	9.4			
Approach LOS			A			
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			23.0%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	88	98	45	45	7
Future Volume (vph)	6	88	98	45	45	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.957		0.982	
Flt Protected		0.997			0.959	
Satd. Flow (prot)	0	1894	1806	0	1784	0
Flt Permitted		0.997			0.959	
Satd. Flow (perm)	0	1894	1806	0	1784	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	7	100	111	51	51	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	107	162	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	19.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Existing 2026
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	88	98	45	45	7
Future Volume (Veh/h)	6	88	98	45	45	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	100	111	51	51	8
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	163				252	138
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	163				252	138
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				93	99
cM capacity (veh/h)	1427				737	910
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	107	162	59			
Volume Left	7	0	51			
Volume Right	0	51	8			
cSH	1427	1700	757			
Volume to Capacity	0.00	0.10	0.08			
Queue Length 95th (m)	0.1	0.0	2.0			
Control Delay (s)	0.5	0.0	10.2			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			19.6%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
PM Peak Hour

Existing 2026
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.972						0.899					
Flt Protected				0.978			0.988					
Satd. Flow (prot)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Flt Permitted				0.978			0.988					
Satd. Flow (perm)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Link Speed (k/h)	50			50			50			50		
Link Distance (m)	156.5			142.7			88.1			94.9		
Travel Time (s)	11.3			10.3			6.3			6.8		
Confl. Peds. (#/hr)				17	17				2	2		
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	20	0	0	12	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0			0.0			0.0			0.0		
Link Offset(m)	0.0			0.0			0.0			0.0		
Crosswalk Width(m)	4.8			4.8			4.8			4.8		
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25	15		25	15		25	15		25	15	
Sign Control	Stop			Stop			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.3%			ICU Level of Service A								
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Existing 2026
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	24	20	12	0								
Volume Left (vph)	0	9	3	0								
Volume Right (vph)	5	0	9	0								
Hadj (s)	-0.13	0.09	-0.40	0.00								
Departure Headway (s)	3.8	4.0	3.6	4.0								
Degree Utilization, x	0.03	0.02	0.01	0.00								
Capacity (veh/h)	932	884	987	900								
Control Delay (s)	6.9	7.1	6.6	7.0								
Approach Delay (s)	6.9	7.1	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				6.9								
Level of Service				A								
Intersection Capacity Utilization				18.3%	ICU Level of Service		A					
Analysis Period (min)				15								

Lanes, Volumes, Timings
AM Peak Hour

Future Background 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	0	104	0	0	0	156	315	0	0	385	41
Future Volume (vph)	28	0	104	0	0	0	156	315	0	0	385	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.987	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			606.7			149.7	
Travel Time (s)		62.1			11.0			27.3			6.7	
Confl. Peds. (#/hr)	2					2						
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
Heavy Vehicles (%)	12%	0%	8%	0%	0%	0%	10%	7%	0%	0%	7%	3%
Adj. Flow (vph)	30	0	113	0	0	0	170	342	0	0	418	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	113	0	0	0	170	342	0	0	463	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.3%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Future Background 2029
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	28	0	104	0	0	0	156	315	0	0	385	41	
Future Volume (Veh/h)	28	0	104	0	0	0	156	315	0	0	385	41	
Sign Control	Stop			Stop			Free			Free			
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)	30	0	113	0	0	0	170	342	0	0	418	45	
Pedestrians												2	
Lane Width (m)												3.6	
Walking Speed (m/s)												1.2	
Percent Blockage												0	
Right turn flare (veh)	1												
Median type	None											None	
Median storage veh													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	1124	1122	440	1179	1145	344	463				342		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1124	1122	440	1179	1145	344	463				342		
tC, single (s)	7.2	6.5	6.3	7.1	6.5	6.2	4.2				4.1		
tC, 2 stage (s)													
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3				2.2		
p0 queue free %	80	100	81	100	100	100	84				100		
cM capacity (veh/h)	153	174	604	120	169	702	1057				1228		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1								
Volume Total	143	0	170	342	463								
Volume Left	30	0	170	0	0								
Volume Right	113	0	0	0	45								
cSH	728	1700	1057	1700	1228								
Volume to Capacity	0.20	0.00	0.16	0.20	0.00								
Queue Length 95th (m)	5.8	0.0	4.6	0.0	0.0								
Control Delay (s)	16.9	0.0	9.1	0.0	0.0								
Lane LOS	C	A	A										
Approach Delay (s)	16.9	0.0	3.0	0.0									
Approach LOS	C	A											
Intersection Summary													
Average Delay	3.5												
Intersection Capacity Utilization	53.3%												
ICU Level of Service	A												
Analysis Period (min)	15												

Lanes, Volumes, Timings
AM Peak Hour

Future Background 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	5	166	115	9	68	86	366	53	32	518	25
Future Volume (vph)	17	5	166	115	9	68	86	366	53	32	518	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. 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
Frt		0.881			0.952			0.980			0.993	
Flt Protected		0.995			0.971		0.950			0.950		
Satd. Flow (prot)	0	1608	0	0	1722	0	1656	1737	0	1770	1775	0
Flt Permitted		0.995			0.971		0.950			0.950		
Satd. Flow (perm)	0	1608	0	0	1722	0	1656	1737	0	1770	1775	0
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			109.4			358.6			413.0	
Travel Time (s)		18.0			7.9			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	18	5	173	125	10	74	90	381	58	35	540	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	196	0	0	209	0	90	439	0	35	566	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 69.3%	ICU Level of Service C											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Future Background 2029
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	5	166	115	9	68	86	366	53	32	518	25
Future Volume (Veh/h)	17	5	166	115	9	68	86	366	53	32	518	25
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Hourly flow rate (vph)	18	5	173	125	10	74	90	381	58	35	540	26
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)												
pX, platoon unblocked												
vC, conflicting volume	1263	1242	553	1376	1226	410	566				439	
vC1, stage 1 conf vol	623	623		590	590							
vC2, stage 2 conf vol	640	619		786	636							
vCu, unblocked vol	1263	1242	553	1376	1226	410	566				439	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.2				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3				2.2	
p0 queue free %	94	98	67	18	97	88	91				97	
cM capacity (veh/h)	283	328	529	152	311	642	972				1121	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	196	209	90	439	35	566						
Volume Left	18	125	90	0	35	0						
Volume Right	173	74	0	58	0	26						
cSH	483	215	972	1700	1121	1700						
Volume to Capacity	0.41	0.97	0.09	0.26	0.03	0.33						
Queue Length 95th (m)	15.6	67.9	2.4	0.0	0.8	0.0						
Control Delay (s)	17.5	101.3	9.1	0.0	8.3	0.0						
Lane LOS	C	F	A		A							
Approach Delay (s)	17.5	101.3	1.5		0.5							
Approach LOS	C	F										
Intersection Summary												
Average Delay	16.7											
Intersection Capacity Utilization	69.3%			ICU Level of Service			C					
Analysis Period (min)	15											

Lanes, Volumes, Timings

AM Peak Hour

Future Background 2029
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	53	54	449	766	44
Future Volume (vph)	20	53	54	449	766	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.993	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1671	1380	1671	1759	1753	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1671	1380	1671	1759	1753	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	3	1	3			3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	8%	17%	8%	8%	7%	19%
Adj. Flow (vph)	22	58	59	493	842	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	58	59	493	890	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.2%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Future Background 2029
AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	53	54	449	766	44
Future Volume (Veh/h)	20	53	54	449	766	44
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	22	58	59	493	842	48
Pedestrians	3			1	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)		1				
Median type				None	None	
Median storage veh						
Upstream signal (m)				93		
pX, platoon unblocked	0.90					
vC, conflicting volume	1483	870	893			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1481	870	893			
tC, single (s)	6.5	6.4	4.2			
tC, 2 stage (s)						
tF (s)	3.6	3.5	2.3			
p0 queue free %	80	82	92			
cM capacity (veh/h)	111	329	733			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	80	59	493	890		
Volume Left	22	59	0	0		
Volume Right	58	0	0	48		
cSH	402	733	1700	1700		
Volume to Capacity	0.20	0.08	0.29	0.52		
Queue Length 95th (m)	5.9	2.1	0.0	0.0		
Control Delay (s)	25.8	10.3	0.0	0.0		
Lane LOS	D	B				
Approach Delay (s)	25.8	1.1		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			55.2%		ICU Level of Service	B
Analysis Period (min)			15			

Lanes, Volumes, Timings
AM Peak Hour

Future Background 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	86	12	257	20	234	80	357	450	10
Future Volume (vph)	5	8	25	86	12	257	20	234	80	357	450	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. 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
Ped Bike Factor	1.00	0.98		0.99	0.98		0.99	0.99		0.99	1.00	
Frt		0.886			0.857			0.962			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1599	0	1656	1390	0	1641	1721	0	1656	1788	0
Flt Permitted				0.533			0.468			0.334		
Satd. Flow (perm)	1898	1599	0	923	1390	0	802	1721	0	579	1788	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			295			24			2	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Adj. Flow (vph)	6	9	29	99	14	295	23	269	92	410	517	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	38	0	99	309	0	23	361	0	410	528	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings

AM Peak Hour

Future Background 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		9.5	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	22.5	22.5		9.5	32.0		23.0	23.0		15.0	38.0	
Total Split (%)	32.1%	32.1%		13.6%	45.7%		32.9%	32.9%		21.4%	54.3%	
Maximum Green (s)	18.5	18.5		5.0	27.0		18.0	18.0		10.5	33.0	
Yellow Time (s)	3.0	3.0		3.5	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.5	5.0		5.0	5.0		4.5	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effect Green (s)	6.4	6.4		9.8	9.3		18.2	18.2		33.8	33.3	
Actuated g/C Ratio	0.12	0.12		0.19	0.18		0.35	0.35		0.64	0.63	
v/c Ratio	0.03	0.17		0.40	0.63		0.08	0.59		0.70	0.47	
Control Delay	22.6	14.2		22.6	9.7		15.0	19.5		14.9	7.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.6	14.2		22.6	9.7		15.0	19.5		14.9	7.9	
LOS	C	B		C	A		B	B		B	A	
Approach Delay		15.3			12.8			19.3			11.0	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 52.7

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 13.3

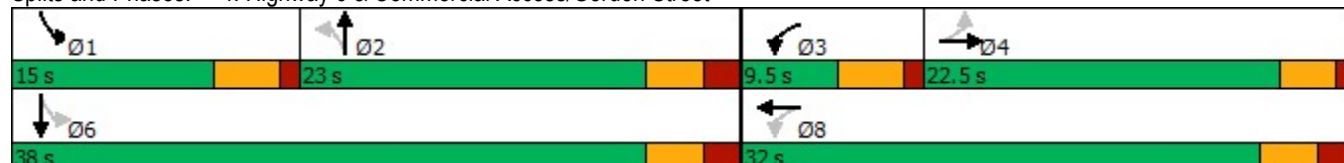
Intersection LOS: B

Intersection Capacity Utilization 65.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues
AM Peak Hour

Future Background 2029
AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	38	99	309	23	361	410	528
v/c Ratio	0.03	0.17	0.40	0.63	0.08	0.59	0.70	0.47
Control Delay	22.6	14.2	22.6	9.7	15.0	19.5	14.9	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	14.2	22.6	9.7	15.0	19.5	14.9	7.9
Queue Length 50th (m)	0.5	0.8	8.6	1.2	1.3	23.3	11.5	16.6
Queue Length 95th (m)	3.3	7.8	18.2	16.0	6.3	56.3	#50.0	53.8
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	672	584	249	860	276	608	587	1130
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	0.01	0.07	0.40	0.36	0.08	0.59	0.70	0.47

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

AM Peak Hour

Future Background 2029
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	86	12	257	20	234	80	357	450	10
Future Volume (vph)	5	8	25	86	12	257	20	234	80	357	450	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.86		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1803	1600		1652	1390		1630	1722		1654	1788	
Flt Permitted	1.00	1.00		0.53	1.00		0.47	1.00		0.33	1.00	
Satd. Flow (perm)	1898	1600		927	1390		803	1722		581	1788	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	9	29	99	14	295	23	269	92	410	517	11
RTOR Reduction (vph)	0	27	0	0	231	0	0	16	0	0	1	0
Lane Group Flow (vph)	6	11	0	99	78	0	23	345	0	410	527	0
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	4.0	4.0		12.0	12.0		18.2	18.2		33.3	33.3	
Effective Green, g (s)	4.0	4.0		12.0	12.0		18.2	18.2		33.3	33.3	
Actuated g/C Ratio	0.07	0.07		0.22	0.22		0.33	0.33		0.60	0.60	
Clearance Time (s)	4.0	4.0		4.5	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	137	115		260	301		264	566		555	1076	
v/s Ratio Prot		0.01		c0.03	0.06			0.20		c0.14	0.29	
v/s Ratio Perm	0.00			c0.05			0.03			c0.30		
v/c Ratio	0.04	0.10		0.38	0.26		0.09	0.61		0.74	0.49	
Uniform Delay, d1	23.9	24.0		18.2	18.0		12.8	15.6		7.1	6.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		0.9	0.5		0.6	4.8		5.1	1.6	
Delay (s)	24.0	24.3		19.1	18.4		13.5	20.4		12.2	7.8	
Level of Service	C	C		B	B		B	C		B	A	
Approach Delay (s)		24.3			18.6			20.0			9.7	
Approach LOS		C			B			B			A	
Intersection Summary												
HCM 2000 Control Delay	14.3			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.75											
Actuated Cycle Length (s)	55.3			Sum of lost time (s)			18.0					
Intersection Capacity Utilization	65.9%			ICU Level of Service			C					
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings

AM Peak Hour

Future Background 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	78	65	65	52	45	32	85	35	50	144	35
Future Volume (vph)	58	78	65	65	52	45	32	85	35	50	144	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.956			0.963			0.969			0.979	
Flt Protected		0.986			0.980			0.990			0.989	
Satd. Flow (prot)	0	1713	0	0	1700	0	0	1731	0	0	1715	0
Flt Permitted		0.986			0.980			0.990			0.989	
Satd. Flow (perm)	0	1713	0	0	1700	0	0	1731	0	0	1715	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)			19	19					3	3		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	3%	6%	7%	4%	5%	7%	4%	7%	14%	3%	15%
Adj. Flow (vph)	67	91	76	76	60	52	37	99	41	58	167	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	234	0	0	188	0	0	177	0	0	266	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.4%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Future Background 2029
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	78	65	65	52	45	32	85	35	50	144	35
Future Volume (Veh/h)	58	78	65	65	52	45	32	85	35	50	144	35
Sign Control	Stop				Stop				Free		Free	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	67	91	76	76	60	52	37	99	41	58	167	41
Pedestrians					3				19			
Lane Width (m)					3.6				3.6			
Walking Speed (m/s)					1.2				1.2			
Percent Blockage					0				2			
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	579	520	206	640	520	122	208				143	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	579	520	206	640	520	122	208				143	
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3				2.3	
p0 queue free %	80	79	91	72	86	94	97				96	
cM capacity (veh/h)	336	426	811	268	425	918	1334				1366	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	234	188	177	266								
Volume Left	67	76	37	58								
Volume Right	76	52	41	41								
cSH	462	391	1334	1366								
Volume to Capacity	0.51	0.48	0.03	0.04								
Queue Length 95th (m)	22.4	20.2	0.7	1.1								
Control Delay (s)	20.5	22.5	1.8	2.0								
Lane LOS	C	C	A	A								
Approach Delay (s)	20.5	22.5	1.8	2.0								
Approach LOS	C	C										
Intersection Summary												
Average Delay			11.4									
Intersection Capacity Utilization			37.4%		ICU Level of Service			A				
Analysis Period (min)			15									

Lanes, Volumes, Timings

AM Peak Hour

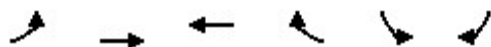
Future Background 2029
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	144	119	8	6	52
Future Volume (vph)	16	144	119	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.991		0.878	
Flt Protected		0.995			0.995	
Satd. Flow (prot)	0	1807	1727	0	1553	0
Flt Permitted		0.995			0.995	
Satd. Flow (perm)	0	1807	1727	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	20	176	145	10	7	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	196	155	0	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Future Background 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	144	119	8	6	52
Future Volume (Veh/h)	16	144	119	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	20	176	145	10	7	63
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	155				375	151
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	155				375	151
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				99	93
cM capacity (veh/h)	1328				557	889
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	196	155	70			
Volume Left	20	0	7			
Volume Right	0	10	63			
cSH	1328	1700	839			
Volume to Capacity	0.02	0.09	0.08			
Queue Length 95th (m)	0.4	0.0	2.2			
Control Delay (s)	0.9	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	0.9	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			29.2%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Lanes, Volumes, Timings

AM Peak Hour

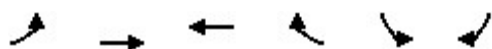
Future Background 2029
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	154	108	15	46	9
Future Volume (vph)	7	154	108	15	46	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.984		0.977	
Flt Protected		0.998			0.960	
Satd. Flow (prot)	0	1835	1681	0	1630	0
Flt Permitted		0.998			0.960	
Satd. Flow (perm)	0	1835	1681	0	1630	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	8	166	116	16	49	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	174	132	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Future Background 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	154	108	15	46	9
Future Volume (Veh/h)	7	154	108	15	46	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	166	116	16	49	10
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	134				312	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	134				312	130
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				93	99
cM capacity (veh/h)	1400				659	892
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	174	132	59			
Volume Left	8	0	49			
Volume Right	0	16	10			
cSH	1400	1700	690			
Volume to Capacity	0.01	0.08	0.09			
Queue Length 95th (m)	0.1	0.0	2.2			
Control Delay (s)	0.4	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			25.0%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings

AM Peak Hour

Future Background 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.974						0.899					
Flt Protected	0.990						0.988					
Satd. Flow (prot)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Flt Permitted	0.990						0.988					
Satd. Flow (perm)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Link Speed (k/h)	50						50					
Link Distance (m)	156.5						88.1					
Travel Time (s)	11.3						6.3					
Confl. Peds. (#/hr)	11			11			2			4		
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	8%	0%	10%	9%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	19	0	0	4	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0						0.0					
Link Offset(m)	0.0						0.0					
Crosswalk Width(m)	4.8						4.8					
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25	15			25	15			25	15		
Sign Control	Stop				Stop				Stop			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.7%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

AM Peak Hour

Future Background 2029
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	21	19	4	0								
Volume Left (vph)	0	4	1	0								
Volume Right (vph)	4	0	3	0								
Hadj (s)	0.00	0.20	-0.37	0.00								
Departure Headway (s)	3.9	4.1	3.6	4.0								
Degree Utilization, x	0.02	0.02	0.00	0.00								
Capacity (veh/h)	909	866	982	900								
Control Delay (s)	7.0	7.2	6.6	7.0								
Approach Delay (s)	7.0	7.2	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.1								
Level of Service				A								
Intersection Capacity Utilization				17.7%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	0	186	0	0	0	147	570	0	0	437	24
Future Volume (vph)	28	0	186	0	0	0	147	570	0	0	437	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.993	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			606.7			149.7	
Travel Time (s)		62.1			11.0			27.3			6.7	
Confl. Peds. (#/hr)	4					4						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	19%	0%	4%	0%	0%	0%	3%	3%	0%	0%	7%	13%
Adj. Flow (vph)	29	0	196	0	0	0	155	600	0	0	460	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	196	0	0	0	155	600	0	0	485	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 69.0%	ICU Level of Service C											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Future Background 2029
PM Peak Hour

																																						
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																										
Lane Configurations																																						
Traffic Volume (veh/h)	28	0	186	0	0	0	147	570	0	0	437	24																										
Future Volume (Veh/h)	28	0	186	0	0	0	147	570	0	0	437	24																										
Sign Control	Stop			Stop			Free			Free																												
Grade	0%			0%			0%			0%																												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95																										
Hourly flow rate (vph)	29	0	196	0	0	0	155	600	0	0	460	25																										
Pedestrians												4																										
Lane Width (m)												3.6																										
Walking Speed (m/s)												1.2																										
Percent Blockage												0																										
Right turn flare (veh)	1																																					
Median type	None											None																										
Median storage veh																																						
Upstream signal (m)																																						
pX, platoon unblocked																																						
vC, conflicting volume	1386	1382	472	1480	1395	604	485						600																									
vC1, stage 1 conf vol																																						
vC2, stage 2 conf vol																																						
vCu, unblocked vol	1386	1382	472	1480	1395	604	485						600																									
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1						4.1																									
tC, 2 stage (s)																																						
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2						2.2																									
p0 queue free %	70	100	67	100	100	100	86						100																									
cM capacity (veh/h)	98	124	587	62	122	500	1073						987																									
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1																																	
Volume Total	225	0	155	600	485																																	
Volume Left	29	0	155	0	0																																	
Volume Right	196	0	0	0	25																																	
cSH	674	1700	1073	1700	987																																	
Volume to Capacity	0.33	0.00	0.14	0.35	0.00																																	
Queue Length 95th (m)	11.7	0.0	4.0	0.0	0.0																																	
Control Delay (s)	19.6	0.0	8.9	0.0	0.0																																	
Lane LOS	C	A	A																																			
Approach Delay (s)	19.6	0.0	1.8																																			
Approach LOS	C	A																																				
Intersection Summary																																						
Average Delay	4.0																																					
Intersection Capacity Utilization	69.0%																																					
Analysis Period (min)	15																																					
ICU Level of Service C																																						

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	11	146	104	8	75	124	684	151	91	534	25
Future Volume (vph)	27	11	146	104	8	75	124	684	151	91	534	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. 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
Frt		0.893			0.946			0.972			0.993	
Flt Protected		0.993			0.973		0.950			0.950		
Satd. Flow (prot)	0	1631	0	0	1715	0	1736	1811	0	1770	1776	0
Flt Permitted		0.993			0.973		0.950			0.950		
Satd. Flow (perm)	0	1631	0	0	1715	0	1736	1811	0	1770	1776	0
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			109.4			358.6			413.0	
Travel Time (s)		18.0			7.9			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	28	12	154	113	9	82	131	720	164	99	562	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	194	0	0	204	0	131	884	0	99	588	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	85.4%						ICU Level of Service E					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Future Background 2029
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	11	146	104	8	75	124	684	151	91	534	25
Future Volume (Veh/h)	27	11	146	104	8	75	124	684	151	91	534	25
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Hourly flow rate (vph)	28	12	154	113	9	82	131	720	164	99	562	26
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)												
pX, platoon unblocked												
vC, conflicting volume	1842	1919	575	1984	1850	802	588				884	
vC1, stage 1 conf vol	773	773		1064	1064							
vC2, stage 2 conf vol	1068	1146		920	786							
vCu, unblocked vol	1842	1919	575	1984	1850	802	588				884	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)	6.1	5.5		6.1	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	63	91	70	0	95	79	87				87	
cM capacity (veh/h)	76	130	514	58	172	384	977				765	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	194	204	131	884	99	588						
Volume Left	28	113	131	0	99	0						
Volume Right	154	82	0	164	0	26						
cSH	255	92	977	1700	765	1700						
Volume to Capacity	0.76	2.21	0.13	0.52	0.13	0.35						
Queue Length 95th (m)	44.1	145.5	3.7	0.0	3.5	0.0						
Control Delay (s)	53.0	654.4	9.3	0.0	10.4	0.0						
Lane LOS	F	F	A		B							
Approach Delay (s)	53.0	654.4	1.2		1.5							
Approach LOS	F	F										
Intersection Summary												
Average Delay				69.5								
Intersection Capacity Utilization				85.4%	ICU Level of Service				E			
Analysis Period (min)				15								

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	76	70	927	692	58
Future Volume (vph)	39	76	70	927	692	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt		0.850			0.990	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1568	1703	1845	1814	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1568	1703	1845	1814	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	1	2	5			5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	6%	3%	4%	0%
Adj. Flow (vph)	40	78	72	956	713	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	78	72	956	773	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	59.4%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Future Background 2029
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	76	70	927	692	58
Future Volume (Veh/h)	39	76	70	927	692	58
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	40	78	72	956	713	60
Pedestrians	5			2	1	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked	0.69					
vC, conflicting volume	1849	750	778			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2009	750	778			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	2	81	91			
cM capacity (veh/h)	41	407	818			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	118	72	956	773		
Volume Left	40	72	0	0		
Volume Right	78	0	0	60		
cSH	106	818	1700	1700		
Volume to Capacity	1.12	0.09	0.56	0.45		
Queue Length 95th (m)	59.7	2.3	0.0	0.0		
Control Delay (s)	198.1	9.8	0.0	0.0		
Lane LOS	F	A				
Approach Delay (s)	198.1	0.7	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay	12.6					
Intersection Capacity Utilization	59.4%		ICU Level of Service		B	
Analysis Period (min)	15					

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	97	69	447	85	490	98	294	455	25
Future Volume (vph)	25	48	82	97	69	447	85	490	98	294	455	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. 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
Ped Bike Factor	0.98	0.99		1.00	0.95		0.99	0.99			1.00	
Frt		0.906			0.870			0.975			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1671	0	1787	1525	0	1805	1814	0	1719	1863	0
Flt Permitted	0.396			0.433			0.473			0.149		
Satd. Flow (perm)	739	1671	0	812	1525	0	888	1814	0	270	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			334			15			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Adj. Flow (vph)	27	52	88	104	74	481	91	527	105	316	489	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	140	0	104	555	0	91	632	0	316	516	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		9.5	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	22.5	22.5		9.5	32.0		27.0	27.0		11.0	38.0	
Total Split (%)	32.1%	32.1%		13.6%	45.7%		38.6%	38.6%		15.7%	54.3%	
Maximum Green (s)	18.5	18.5		5.0	27.0		22.0	22.0		6.5	33.0	
Yellow Time (s)	3.0	3.0		3.5	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		1.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.5	5.0		5.0	5.0		4.5	5.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0			7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effect Green (s)	10.1	10.1		16.9	16.4		22.3	22.3		34.0	33.5	
Actuated g/C Ratio	0.17	0.17		0.28	0.27		0.37	0.37		0.57	0.56	
v/c Ratio	0.22	0.40		0.34	0.84		0.28	0.92		1.01	0.50	
Control Delay	25.8	13.4		18.2	20.4		18.9	43.1		73.5	11.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.8	13.4		18.2	20.4		18.9	43.1		73.5	11.9	
LOS	C	B		B	C		B	D		E	B	
Approach Delay		15.4			20.1			40.1			35.3	
Approach LOS		B			C			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 60

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 31.2

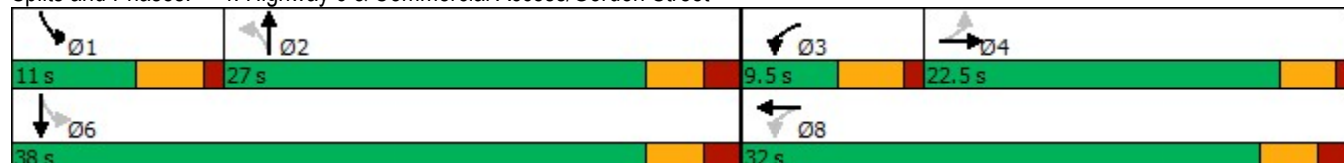
Intersection LOS: C

Intersection Capacity Utilization 100.8%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues
PM Peak Hour

Future Background 2029
PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	140	104	555	91	632	316	516
v/c Ratio	0.22	0.40	0.34	0.84	0.28	0.92	1.01	0.50
Control Delay	25.8	13.4	18.2	20.4	18.9	43.1	73.5	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.8	13.4	18.2	20.4	18.9	43.1	73.5	11.9
Queue Length 50th (m)	2.8	5.4	9.0	21.6	7.1	65.5	~21.3	31.8
Queue Length 95th (m)	9.0	18.4	18.5	58.5	21.7	#160.9	#85.8	77.8
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	231	583	310	878	330	684	312	1042
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.24	0.34	0.63	0.28	0.92	1.01	0.50

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.

HCM Signalized Intersection Capacity Analysis

PM Peak Hour

Future Background 2029
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	97	69	447	85	490	98	294	455	25
Future Volume (vph)	25	48	82	97	69	447	85	490	98	294	455	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.5	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.95		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1779	1671		1785	1532		1787	1815		1719	1863	
Flt Permitted	0.40	1.00		0.43	1.00		0.47	1.00		0.15	1.00	
Satd. Flow (perm)	742	1671		813	1532		890	1815		269	1863	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	52	88	104	74	481	91	527	105	316	489	27
RTOR Reduction (vph)	0	73	0	0	239	0	0	9	0	0	2	0
Lane Group Flow (vph)	27	67	0	104	316	0	91	623	0	316	514	0
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	10.1	10.1		17.4	17.4		22.4	22.4		33.5	33.5	
Effective Green, g (s)	10.1	10.1		17.4	17.4		22.4	22.4		33.5	33.5	
Actuated g/C Ratio	0.17	0.17		0.29	0.29		0.37	0.37		0.55	0.55	
Clearance Time (s)	4.0	4.0		4.5	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	123	277		292	437		327	667		305	1024	
v/s Ratio Prot		0.04		0.02	c0.21			0.34		c0.11	0.28	
v/s Ratio Perm	0.04			0.08			0.10			c0.46		
v/c Ratio	0.22	0.24		0.36	0.72		0.28	0.93		1.04	0.50	
Uniform Delay, d1	22.0	22.1		16.7	19.6		13.6	18.5		13.9	8.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.5		0.7	5.9		2.1	21.9		61.2	1.8	
Delay (s)	22.9	22.5		17.4	25.5		15.7	40.4		75.1	10.3	
Level of Service	C	C		B	C		B	D		E	B	
Approach Delay (s)		22.6			24.2			37.3			34.9	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			60.9			Sum of lost time (s)				18.0		
Intersection Capacity Utilization			100.8%			ICU Level of Service				G		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	45	56	48	65	57	104	117	39	55	134	48
Future Volume (vph)	28	45	56	48	65	57	104	117	39	55	134	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.942			0.955			0.980			0.973	
Flt Protected		0.989			0.986			0.980			0.989	
Satd. Flow (prot)	0	1729	0	0	1749	0	0	1809	0	0	1772	0
Flt Permitted		0.989			0.986			0.980			0.989	
Satd. Flow (perm)	0	1729	0	0	1749	0	0	1809	0	0	1772	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)	1		6	6		1	1		3	3		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	0%	2%	0%	6%	0%	1%	1%	0%	0%	1%	13%
Adj. Flow (vph)	29	47	58	50	68	59	108	122	41	57	140	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	134	0	0	177	0	0	271	0	0	247	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	45.3%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Future Background 2029
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	45	56	48	65	57	104	117	39	55	134	48
Future Volume (Veh/h)	28	45	56	48	65	57	104	117	39	55	134	48
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	29	47	58	50	68	59	108	122	41	57	140	50
Pedestrians		1			3			6			1	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	732	662	172	728	666	146	191			166		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	732	662	172	728	666	146	191			166		
tC, single (s)	7.2	6.5	6.2	7.1	6.6	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.1	3.3	2.2			2.2		
p0 queue free %	88	86	93	81	79	93	92			96		
cM capacity (veh/h)	237	339	867	258	331	903	1388			1421		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	134	177	271	247								
Volume Left	29	50	108	57								
Volume Right	58	59	41	50								
cSH	409	381	1388	1421								
Volume to Capacity	0.33	0.47	0.08	0.04								
Queue Length 95th (m)	11.2	19.1	2.0	1.0								
Control Delay (s)	18.0	22.4	3.5	2.0								
Lane LOS	C	C	A	A								
Approach Delay (s)	18.0	22.4	3.5	2.0								
Approach LOS	C	C										
Intersection Summary												
Average Delay			9.5									
Intersection Capacity Utilization			45.3%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	140	152	8	6	52
Future Volume (vph)	16	140	152	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.879	
Flt Protected		0.995			0.995	
Satd. Flow (prot)	0	1806	1741	0	1553	0
Flt Permitted		0.995			0.995	
Satd. Flow (perm)	0	1806	1741	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	19	165	179	9	7	61
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	184	188	0	68	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Future Background 2029
PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	140	152	8	6	52
Future Volume (Veh/h)	16	140	152	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	19	165	179	9	7	61
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	188				396	184
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	188				396	184
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	99				99	93
cM capacity (veh/h)	1290				541	852
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	184	188	68			
Volume Left	19	0	7			
Volume Right	0	9	61			
cSH	1290	1700	804			
Volume to Capacity	0.01	0.11	0.08			
Queue Length 95th (m)	0.4	0.0	2.2			
Control Delay (s)	0.9	0.0	9.9			
Lane LOS	A		A			
Approach Delay (s)	0.9	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			30.7%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	136	157	45	45	7
Future Volume (vph)	6	136	157	45	45	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.970		0.982	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1896	1829	0	1784	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1896	1829	0	1784	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	7	155	178	51	51	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	162	229	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Future Background 2029
PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	136	157	45	45	7
Future Volume (Veh/h)	6	136	157	45	45	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	155	178	51	51	8
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	230				374	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	230				374	204
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	99
cM capacity (veh/h)	1349				628	835
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	162	229	59			
Volume Left	7	0	51			
Volume Right	0	51	8			
cSH	1349	1700	650			
Volume to Capacity	0.01	0.13	0.09			
Queue Length 95th (m)	0.1	0.0	2.4			
Control Delay (s)	0.4	0.0	11.1			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	11.1			
Approach LOS			B			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization		22.0%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
PM Peak Hour

Future Background 2029
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.972						0.899					
Flt Protected				0.978			0.988					
Satd. Flow (prot)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Flt Permitted				0.978			0.988					
Satd. Flow (perm)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Link Speed (k/h)	50			50			50			50		
Link Distance (m)	156.5			142.7			88.1			94.9		
Travel Time (s)	11.3			10.3			6.3			6.8		
Confl. Peds. (#/hr)				17	17				2	2		
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	20	0	0	12	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0			0.0			0.0			0.0		
Link Offset(m)	0.0			0.0			0.0			0.0		
Crosswalk Width(m)	4.8			4.8			4.8			4.8		
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25	15		25	15		25	15		25	15	
Sign Control	Stop			Stop			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.3%			ICU Level of Service A								
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

PM Peak Hour

Future Background 2029
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	24	20	12	0								
Volume Left (vph)	0	9	3	0								
Volume Right (vph)	5	0	9	0								
Hadj (s)	-0.13	0.09	-0.40	0.00								
Departure Headway (s)	3.8	4.0	3.6	4.0								
Degree Utilization, x	0.03	0.02	0.01	0.00								
Capacity (veh/h)	932	884	987	900								
Control Delay (s)	6.9	7.1	6.6	7.0								
Approach Delay (s)	6.9	7.1	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				6.9								
Level of Service				A								
Intersection Capacity Utilization				18.3%	ICU Level of Service	A						
Analysis Period (min)				15								

**With Background Development-Related
Proposed Road Improvements**

Lanes, Volumes, Timings

Future Background 2029

1: Highway 6 & Nichol Road 15/Private Driveway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	0	104	0	0	0	156	315	0	0	385	41
Future Volume (vph)	28	0	104	0	0	0	156	315	0	0	385	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.987	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	2					2						
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
Heavy Vehicles (%)	12%	0%	8%	0%	0%	0%	10%	7%	0%	0%	7%	3%
Adj. Flow (vph)	30	0	113	0	0	0	170	342	0	0	418	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	113	0	0	0	170	342	0	0	463	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.3%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Background 2029

AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	28	0	104	0	0	0	156	315	0	0	385	41	
Future Volume (Veh/h)	28	0	104	0	0	0	156	315	0	0	385	41	
Sign Control	Stop			Stop			Free			Free			
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)	30	0	113	0	0	0	170	342	0	0	418	45	
Pedestrians												2	
Lane Width (m)												3.6	
Walking Speed (m/s)												1.2	
Percent Blockage												0	
Right turn flare (veh)	1												
Median type	None											None	
Median storage veh													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	1124	1122	440	1179	1145	344	463				342		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1124	1122	440	1179	1145	344	463				342		
tC, single (s)	7.2	6.5	6.3	7.1	6.5	6.2	4.2				4.1		
tC, 2 stage (s)													
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3				2.2		
p0 queue free %	80	100	81	100	100	100	84				100		
cM capacity (veh/h)	153	174	604	120	169	702	1057				1228		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1								
Volume Total	143	0	170	342	463								
Volume Left	30	0	170	0	0								
Volume Right	113	0	0	0	45								
cSH	728	1700	1057	1700	1228								
Volume to Capacity	0.20	0.00	0.16	0.20	0.00								
Queue Length 95th (m)	5.8	0.0	4.6	0.0	0.0								
Control Delay (s)	16.9	0.0	9.1	0.0	0.0								
Lane LOS	C	A	A										
Approach Delay (s)	16.9	0.0	3.0	0.0									
Approach LOS	C	A											
Intersection Summary													
Average Delay	3.5												
Intersection Capacity Utilization	53.3%												
ICU Level of Service	A												
Analysis Period (min)	15												

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2029

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	5	166	115	9	68	86	366	53	32	518	25
Future Volume (vph)	17	5	166	115	9	68	86	366	53	32	518	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.854			0.868			0.980			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1561	0	1770	1617	0	1656	3300	0	1770	3373	0
Flt Permitted	0.702			0.569			0.439			0.497		
Satd. Flow (perm)	1334	1561	0	1060	1617	0	765	3300	0	926	3373	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		173			74			44			13	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	18	5	173	125	10	74	90	381	58	35	540	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	178	0	125	84	0	90	439	0	35	566	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2029

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		47.0	47.0		47.0	47.0	
Total Split (%)	32.9%	32.9%		32.9%	32.9%		67.1%	67.1%		67.1%	67.1%	
Maximum Green (s)	18.5	18.5		18.5	18.5		42.5	42.5		42.5	42.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.4	12.4		12.4	12.4		45.4	45.4		45.4	45.4	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.68	0.68		0.68	0.68	
v/c Ratio	0.07	0.41		0.63	0.23		0.17	0.19		0.06	0.25	
Control Delay	20.8	7.4		38.7	8.7		6.1	4.4		5.1	5.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.8	7.4		38.7	8.7		6.1	4.4		5.1	5.0	
LOS	C	A		D	A		A	A		A	A	
Approach Delay		8.6			26.6			4.7			5.0	
Approach LOS		A			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 66.9

Natural Cycle: 45

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 8.3

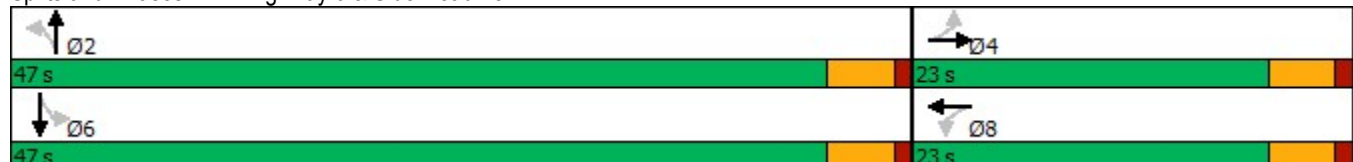
Intersection LOS: A

Intersection Capacity Utilization 51.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues
2: Highway 6 & Side Road 18

Future Background 2029
AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	178	125	84	90	439	35	566
v/c Ratio	0.07	0.41	0.63	0.23	0.17	0.19	0.06	0.25
Control Delay	20.8	7.4	38.7	8.7	6.1	4.4	5.1	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	7.4	38.7	8.7	6.1	4.4	5.1	5.0
Queue Length 50th (m)	1.9	0.5	14.3	1.0	3.5	8.0	1.2	11.7
Queue Length 95th (m)	6.5	14.3	29.9	10.7	11.4	17.4	5.1	24.2
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	370	558	294	502	519	2254	628	2293
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	0.32	0.43	0.17	0.17	0.19	0.06	0.25
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Background 2029

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	5	166	115	9	68	86	366	53	32	518	25
Future Volume (vph)	17	5	166	115	9	68	86	366	53	32	518	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1561		1770	1617		1656	3301		1770	3373	
Flt Permitted	0.70	1.00		0.57	1.00		0.44	1.00		0.50	1.00	
Satd. Flow (perm)	1335	1561		1059	1617		766	3301		926	3373	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	18	5	173	125	10	74	90	381	58	35	540	26
RTOR Reduction (vph)	0	141	0	0	60	0	0	14	0	0	4	0
Lane Group Flow (vph)	18	37	0	125	24	0	90	425	0	35	562	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.4	12.4		12.4	12.4		45.4	45.4		45.4	45.4	
Effective Green, g (s)	12.4	12.4		12.4	12.4		45.4	45.4		45.4	45.4	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.68	0.68		0.68	0.68	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	247	289		196	300		520	2243		629	2292	
v/s Ratio Prot		0.02			0.01			0.13			c0.17	
v/s Ratio Perm	0.01			c0.12			0.12			0.04		
v/c Ratio	0.07	0.13		0.64	0.08		0.17	0.19		0.06	0.25	
Uniform Delay, d1	22.5	22.7		25.1	22.5		3.9	3.9		3.6	4.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.2		6.6	0.1		0.7	0.2		0.2	0.3	
Delay (s)	22.6	22.9		31.8	22.6		4.6	4.1		3.7	4.4	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		22.9			28.1			4.2			4.3	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			9.9			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.33									
Actuated Cycle Length (s)			66.8			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			51.8%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

3: Highway 6 & Side Road 19

Future Background 2029

AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	53	54	449	766	44
Future Volume (vph)	20	53	54	449	766	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1671	1380	1671	3343	3327	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1671	1380	1671	3343	3327	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	3	1	3			3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	8%	17%	8%	8%	7%	19%
Adj. Flow (vph)	22	58	59	493	842	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	58	59	493	890	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Highway 6 & Side Road 19

Future Background 2029
AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	53	54	449	766	44
Future Volume (Veh/h)	20	53	54	449	766	44
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	22	58	59	493	842	48
Pedestrians	3			1	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked						
vC, conflicting volume	1236	449	893			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1236	449	893			
tC, single (s)	7.0	7.2	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.5	2.3			
p0 queue free %	85	89	92			
cM capacity (veh/h)	146	516	717			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	80	59	246	246	561	329
Volume Left	22	59	0	0	0	0
Volume Right	58	0	0	0	0	48
cSH	531	717	1700	1700	1700	1700
Volume to Capacity	0.15	0.08	0.14	0.14	0.33	0.19
Queue Length 95th (m)	4.2	2.1	0.0	0.0	0.0	0.0
Control Delay (s)	18.7	10.5	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	18.7	1.1	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	1.4					
Intersection Capacity Utilization	39.6%			ICU Level of Service		A
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2029

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	86	12	257	20	234	80	357	450	10
Future Volume (vph)	5	8	25	86	12	257	20	234	80	357	450	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		0.99	0.99		0.99	0.99		0.99	1.00	
Frt		0.886			0.857			0.962			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1610	0	1656	1401	0	1641	3266	0	1656	3396	0
Flt Permitted	0.299			0.732			0.456			0.536		
Satd. Flow (perm)	568	1610	0	1268	1401	0	778	3266	0	923	3396	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			295			92			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Adj. Flow (vph)	6	9	29	99	14	295	23	269	92	410	517	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	38	0	99	309	0	23	361	0	410	528	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	23.0	23.0		23.0	23.0		77.0	77.0		77.0	77.0	
Total Split (%)	23.0%	23.0%		23.0%	23.0%		77.0%	77.0%		77.0%	77.0%	
Maximum Green (s)	19.0	19.0		18.0	18.0		72.0	72.0		72.0	72.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	13.4	13.4		12.4	12.4		72.1	72.1		72.1	72.1	
Actuated g/C Ratio	0.14	0.14		0.13	0.13		0.76	0.76		0.76	0.76	
v/c Ratio	0.07	0.15		0.60	0.70		0.04	0.14		0.58	0.20	
Control Delay	36.4	17.4		53.5	14.8		3.8	2.6		9.7	3.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.4	17.4		53.5	14.8		3.8	2.6		9.7	3.7	
LOS	D	B		D	B		A	A		A	A	
Approach Delay		20.0			24.2			2.7			6.3	
Approach LOS		B			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 94.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 10.0

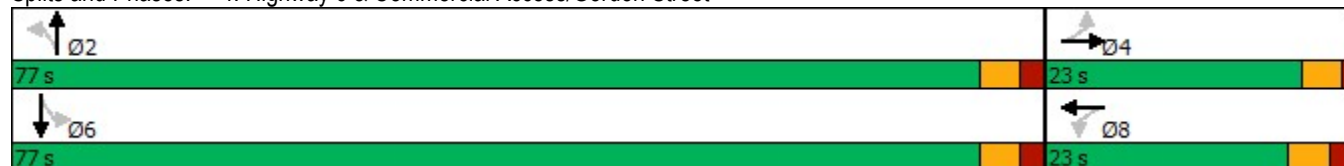
Intersection LOS: A

Intersection Capacity Utilization 63.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



4: Highway 6 & Commercial Access/Gordon Street

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	38	99	309	23	361	410	528
v/c Ratio	0.07	0.15	0.60	0.70	0.04	0.14	0.58	0.20
Control Delay	36.4	17.4	53.5	14.8	3.8	2.6	9.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	17.4	53.5	14.8	3.8	2.6	9.7	3.7
Queue Length 50th (m)	1.0	1.5	18.2	2.4	0.9	5.6	27.2	12.0
Queue Length 95th (m)	4.5	9.9	33.4	24.3	3.2	11.2	61.2	20.7
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	114	347	241	505	593	2512	703	2591
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	0.11	0.41	0.61	0.04	0.14	0.58	0.20
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Background 2029

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	86	12	257	20	234	80	357	450	10
Future Volume (vph)	5	8	25	86	12	257	20	234	80	357	450	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.86		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1610		1646	1401		1622	3266		1638	3396	
Flt Permitted	0.30	1.00		0.73	1.00		0.46	1.00		0.54	1.00	
Satd. Flow (perm)	567	1610		1269	1401		779	3266		924	3396	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	9	29	99	14	295	23	269	92	410	517	11
RTOR Reduction (vph)	0	25	0	0	256	0	0	22	0	0	1	0
Lane Group Flow (vph)	6	13	0	99	53	0	23	339	0	410	527	0
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.4	13.4		12.4	12.4		72.1	72.1		72.1	72.1	
Effective Green, g (s)	13.4	13.4		12.4	12.4		72.1	72.1		72.1	72.1	
Actuated g/C Ratio	0.14	0.14		0.13	0.13		0.76	0.76		0.76	0.76	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	228		166	183		594	2491		704	2591	
v/s Ratio Prot		0.01			0.04			0.10			0.16	
v/s Ratio Perm	0.01			c0.08			0.03			c0.44		
v/c Ratio	0.07	0.06		0.60	0.29		0.04	0.14		0.58	0.20	
Uniform Delay, d1	35.2	35.1		38.7	37.1		2.7	3.0		4.8	3.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1		5.7	0.9		0.1	0.1		3.5	0.2	
Delay (s)	35.6	35.2		44.3	37.9		2.9	3.1		8.3	3.3	
Level of Service	D	D		D	D		A	A		A	A	
Approach Delay (s)		35.2			39.5			3.1			5.5	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			13.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			94.5			Sum of lost time (s)				10.0		
Intersection Capacity Utilization			63.9%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

5: Beatty Line North & Farley Road/Side Road 18

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	78	65	65	52	45	32	85	35	50	144	35
Future Volume (vph)	58	78	65	65	52	45	32	85	35	50	144	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.956			0.963			0.969			0.979	
Flt Protected		0.986			0.980			0.990			0.989	
Satd. Flow (prot)	0	1713	0	0	1700	0	0	1731	0	0	1715	0
Flt Permitted		0.986			0.980			0.990			0.989	
Satd. Flow (perm)	0	1713	0	0	1700	0	0	1731	0	0	1715	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)			19	19					3	3		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	3%	6%	7%	4%	5%	7%	4%	7%	14%	3%	15%
Adj. Flow (vph)	67	91	76	76	60	52	37	99	41	58	167	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	234	0	0	188	0	0	177	0	0	266	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.4%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis

5: Beatty Line North & Farley Road/Side Road 18

Future Background 2029

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	78	65	65	52	45	32	85	35	50	144	35
Future Volume (Veh/h)	58	78	65	65	52	45	32	85	35	50	144	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	67	91	76	76	60	52	37	99	41	58	167	41
Pedestrians					3			19				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					0			2				
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	579	520	206	640	520	122	208			143		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	579	520	206	640	520	122	208			143		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3			2.3		
p0 queue free %	80	79	91	72	86	94	97			96		
cM capacity (veh/h)	336	426	811	268	425	918	1334			1366		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	234	188	177	266								
Volume Left	67	76	37	58								
Volume Right	76	52	41	41								
cSH	462	391	1334	1366								
Volume to Capacity	0.51	0.48	0.03	0.04								
Queue Length 95th (m)	22.4	20.2	0.7	1.1								
Control Delay (s)	20.5	22.5	1.8	2.0								
Lane LOS	C	C	A	A								
Approach Delay (s)	20.5	22.5	1.8	2.0								
Approach LOS	C	C										
Intersection Summary												
Average Delay			11.4									
Intersection Capacity Utilization			37.4%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

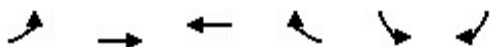
Future Background 2029
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	144	119	8	6	52
Future Volume (vph)	16	144	119	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.991		0.878	
Flt Protected		0.995			0.995	
Satd. Flow (prot)	0	1807	1727	0	1553	0
Flt Permitted		0.995			0.995	
Satd. Flow (perm)	0	1807	1727	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	20	176	145	10	7	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	196	155	0	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

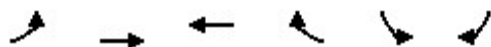
Future Background 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	144	119	8	6	52
Future Volume (Veh/h)	16	144	119	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	20	176	145	10	7	63
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	155				375	151
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	155				375	151
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				99	93
cM capacity (veh/h)	1328				557	889
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	196	155	70			
Volume Left	20	0	7			
Volume Right	0	10	63			
cSH	1328	1700	839			
Volume to Capacity	0.02	0.09	0.08			
Queue Length 95th (m)	0.4	0.0	2.2			
Control Delay (s)	0.9	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	0.9	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			29.2%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Background 2029
AM Peak Hour

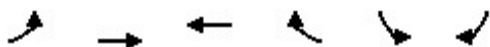


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	154	108	15	46	9
Future Volume (vph)	7	154	108	15	46	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.984		0.977	
Flt Protected		0.998			0.960	
Satd. Flow (prot)	0	1835	1681	0	1630	0
Flt Permitted		0.998			0.960	
Satd. Flow (perm)	0	1835	1681	0	1630	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	8	166	116	16	49	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	174	132	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Background 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	154	108	15	46	9
Future Volume (Veh/h)	7	154	108	15	46	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	166	116	16	49	10
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	134				312	130
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	134				312	130
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				93	99
cM capacity (veh/h)	1400				659	892
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	174	132	59			
Volume Left	8	0	49			
Volume Right	0	16	10			
cSH	1400	1700	690			
Volume to Capacity	0.01	0.08	0.09			
Queue Length 95th (m)	0.1	0.0	2.2			
Control Delay (s)	0.4	0.0	10.7			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	10.7			
Approach LOS			B			
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			25.0%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Background 2029

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.974							0.899				
Flt Protected					0.990				0.988			
Satd. Flow (prot)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Flt Permitted					0.990				0.988			
Satd. Flow (perm)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Link Speed (k/h)	50				50				50			
Link Distance (m)	156.5				142.7				88.1			
Travel Time (s)	11.3				10.3				6.3			
Confl. Peds. (#/hr)			11	11			2			4	4	2
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	8%	0%	10%	9%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	19	0	0	4	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0				0.0				0.0			
Link Offset(m)	0.0				0.0				0.0			
Crosswalk Width(m)	4.8				4.8				4.8			
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control	Stop				Stop				Stop			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.7%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Background 2029
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	21	19	4	0								
Volume Left (vph)	0	4	1	0								
Volume Right (vph)	4	0	3	0								
Hadj (s)	0.00	0.20	-0.37	0.00								
Departure Headway (s)	3.9	4.1	3.6	4.0								
Degree Utilization, x	0.02	0.02	0.00	0.00								
Capacity (veh/h)	909	866	982	900								
Control Delay (s)	7.0	7.2	6.6	7.0								
Approach Delay (s)	7.0	7.2	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.1								
Level of Service				A								
Intersection Capacity Utilization				17.7%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings

Future Background 2029

1: Highway 6 & Nichol Road 15/Private Driveway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	0	186	0	0	0	147	570	0	0	437	24
Future Volume (vph)	28	0	186	0	0	0	147	570	0	0	437	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.993	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	4					4						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	19%	0%	4%	0%	0%	0%	3%	3%	0%	0%	7%	13%
Adj. Flow (vph)	29	0	196	0	0	0	155	600	0	0	460	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	196	0	0	0	155	600	0	0	485	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 69.0% ICU Level of Service C

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Background 2029
PM Peak Hour

																			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Traffic Volume (veh/h)	28	0	186	0	0	0	147	570	0	0	437	24							
Future Volume (Veh/h)	28	0	186	0	0	0	147	570	0	0	437	24							
Sign Control	Stop			Stop			Free			Free									
Grade	0%			0%			0%			0%									
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95							
Hourly flow rate (vph)	29	0	196	0	0	0	155	600	0	0	460	25							
Pedestrians												4							
Lane Width (m)												3.6							
Walking Speed (m/s)												1.2							
Percent Blockage												0							
Right turn flare (veh)	1																		
Median type	None											None							
Median storage veh																			
Upstream signal (m)																			
pX, platoon unblocked																			
vC, conflicting volume	1386	1382	472	1480	1395	604	485						600						
vC1, stage 1 conf vol																			
vC2, stage 2 conf vol																			
vCu, unblocked vol	1386	1382	472	1480	1395	604	485						600						
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1						4.1						
tC, 2 stage (s)																			
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2						2.2						
p0 queue free %	70	100	67	100	100	100	86						100						
cM capacity (veh/h)	98	124	587	62	122	500	1073						987						
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1														
Volume Total	225	0	155	600	485														
Volume Left	29	0	155	0	0														
Volume Right	196	0	0	0	25														
cSH	674	1700	1073	1700	987														
Volume to Capacity	0.33	0.00	0.14	0.35	0.00														
Queue Length 95th (m)	11.7	0.0	4.0	0.0	0.0														
Control Delay (s)	19.6	0.0	8.9	0.0	0.0														
Lane LOS	C	A	A																
Approach Delay (s)	19.6	0.0	1.8	0.0															
Approach LOS	C	A																	
Intersection Summary																			
Average Delay	4.0																		
Intersection Capacity Utilization	69.0%											ICU Level of Service	C						
Analysis Period (min)	15																		

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2029
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	11	146	104	8	75	124	684	151	91	534	25
Future Volume (vph)	27	11	146	104	8	75	124	684	151	91	534	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.861			0.865			0.972			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1575	0	1770	1611	0	1736	3440	0	1770	3375	0
Flt Permitted	0.698			0.592			0.430			0.303		
Satd. Flow (perm)	1326	1575	0	1103	1611	0	786	3440	0	564	3375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		154			82			73			12	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	28	12	154	113	9	82	131	720	164	99	562	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	166	0	113	91	0	131	884	0	99	588	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2029

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		47.5	47.5		47.5	47.5	
Total Split (%)	32.1%	32.1%		32.1%	32.1%		67.9%	67.9%		67.9%	67.9%	
Maximum Green (s)	18.0	18.0		18.0	18.0		43.0	43.0		43.0	43.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	11.7	11.7		11.7	11.7		45.9	45.9		45.9	45.9	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.69	0.69		0.69	0.69	
v/c Ratio	0.12	0.41		0.59	0.26		0.24	0.37		0.26	0.25	
Control Delay	22.2	8.4		36.6	8.8		6.2	4.9		7.1	4.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.2	8.4		36.6	8.8		6.2	4.9		7.1	4.7	
LOS	C	A		D	A		A	A		A	A	
Approach Delay		10.4			24.2			5.1			5.0	
Approach LOS		B			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 66.6

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 7.4

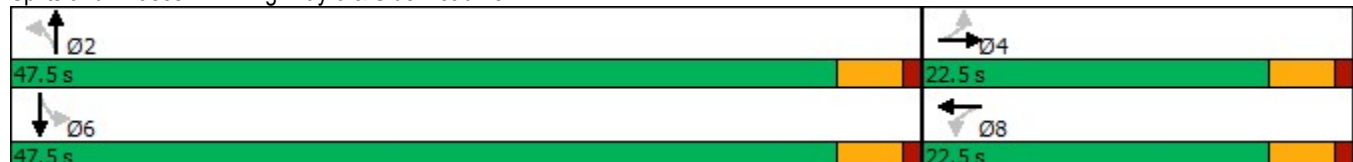
Intersection LOS: A

Intersection Capacity Utilization 59.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues
2: Highway 6 & Side Road 18

Future Background 2029
PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	166	113	91	131	884	99	588
v/c Ratio	0.12	0.41	0.59	0.26	0.24	0.37	0.26	0.25
Control Delay	22.2	8.4	36.6	8.8	6.2	4.9	7.1	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	8.4	36.6	8.8	6.2	4.9	7.1	4.7
Queue Length 50th (m)	2.9	1.2	12.9	0.9	5.0	17.7	3.8	11.6
Queue Length 95th (m)	8.9	14.9	27.3	11.1	15.8	36.1	13.6	24.2
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	360	539	299	496	541	2393	388	2330
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	0.08	0.31	0.38	0.18	0.24	0.37	0.26	0.25
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Background 2029

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	11	146	104	8	75	124	684	151	91	534	25
Future Volume (vph)	27	11	146	104	8	75	124	684	151	91	534	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.86		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1575		1770	1611		1736	3441		1770	3376	
Flt Permitted	0.70	1.00		0.59	1.00		0.43	1.00		0.30	1.00	
Satd. Flow (perm)	1326	1575		1103	1611		786	3441		564	3376	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	28	12	154	113	9	82	131	720	164	99	562	26
RTOR Reduction (vph)	0	127	0	0	68	0	0	23	0	0	4	0
Lane Group Flow (vph)	28	39	0	113	23	0	131	861	0	99	584	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.7	11.7		11.7	11.7		45.9	45.9		45.9	45.9	
Effective Green, g (s)	11.7	11.7		11.7	11.7		45.9	45.9		45.9	45.9	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.69	0.69		0.69	0.69	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	232	276		193	283		541	2371		388	2326	
v/s Ratio Prot		0.02			0.01			0.25			0.17	
v/s Ratio Perm	0.02			0.10			0.17			0.18		
v/c Ratio	0.12	0.14		0.59	0.08		0.24	0.36		0.26	0.25	
Uniform Delay, d1	23.1	23.2		25.2	23.0		3.9	4.3		3.9	3.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2		4.5	0.1		1.1	0.4		1.6	0.3	
Delay (s)	23.4	23.4		29.7	23.1		4.9	4.7		5.5	4.1	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		23.4			26.7			4.7			4.3	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			8.5			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.41									
Actuated Cycle Length (s)			66.6			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			59.1%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

3: Highway 6 & Side Road 19

Future Background 2029
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	76	70	927	692	58
Future Volume (vph)	39	76	70	927	692	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.988	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1568	1703	3505	3440	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1568	1703	3505	3440	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	1	2	5			5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	6%	3%	4%	0%
Adj. Flow (vph)	40	78	72	956	713	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	78	72	956	773	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	38.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Highway 6 & Side Road 19

Future Background 2029
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	76	70	927	692	58
Future Volume (Veh/h)	39	76	70	927	692	58
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	40	78	72	956	713	60
Pedestrians	5			2	1	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked	0.90					
vC, conflicting volume	1371	394	778			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1193	394	778			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	73	87	91			
cM capacity (veh/h)	149	599	805			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	118	72	478	478	475	298
Volume Left	40	72	0	0	0	0
Volume Right	78	0	0	0	0	60
cSH	440	805	1700	1700	1700	1700
Volume to Capacity	0.27	0.09	0.28	0.28	0.28	0.18
Queue Length 95th (m)	8.6	2.3	0.0	0.0	0.0	0.0
Control Delay (s)	20.7	9.9	0.0	0.0	0.0	0.0
Lane LOS	C	A				
Approach Delay (s)	20.7	0.7	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	1.6					
Intersection Capacity Utilization	38.9%			ICU Level of Service		A
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2029

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	97	69	447	85	490	98	294	455	25
Future Volume (vph)	25	48	82	97	69	447	85	490	98	294	455	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00	0.96		0.98	0.99		0.99	1.00	
Frt		0.906			0.870			0.975			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1680	0	1787	1544	0	1805	3442	0	1719	3538	0
Flt Permitted	0.190			0.611			0.461			0.318		
Satd. Flow (perm)	361	1680	0	1146	1544	0	862	3442	0	572	3538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			344			23			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Adj. Flow (vph)	27	52	88	104	74	481	91	527	105	316	489	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	140	0	104	555	0	91	632	0	316	516	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2029

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	37.0	37.0		37.0	37.0		33.6	33.6		29.4	63.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		33.6%	33.6%		29.4%	63.0%	
Maximum Green (s)	33.0	33.0		32.0	32.0		28.6	28.6		24.9	58.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	21.0	21.0		20.0	20.0		40.9	40.9		59.1	58.6	
Actuated g/C Ratio	0.24	0.24		0.23	0.23		0.46	0.46		0.67	0.66	
v/c Ratio	0.32	0.30		0.40	0.90		0.23	0.40		0.57	0.22	
Control Delay	36.8	12.5		32.7	31.3		22.3	19.3		12.2	7.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.8	12.5		32.7	31.3		22.3	19.3		12.2	7.4	
LOS	D	B		C	C		C	B		B	A	
Approach Delay		16.4			31.5			19.6			9.2	
Approach LOS		B			C			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 88.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 19.1

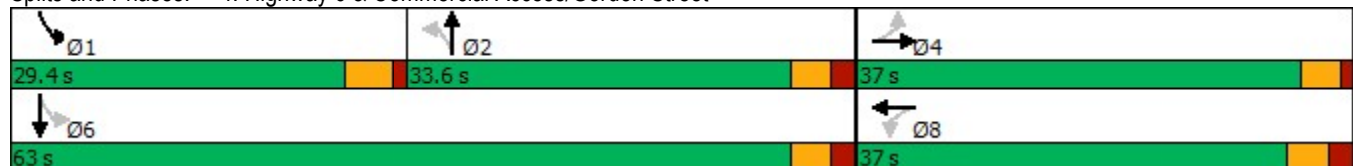
Intersection LOS: B

Intersection Capacity Utilization 85.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2029
PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	140	104	555	91	632	316	516
v/c Ratio	0.32	0.30	0.40	0.90	0.23	0.40	0.57	0.22
Control Delay	36.8	12.5	32.7	31.3	22.3	19.3	12.2	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	12.5	32.7	31.3	22.3	19.3	12.2	7.4
Queue Length 50th (m)	4.0	7.3	15.8	38.4	9.4	36.0	20.9	17.1
Queue Length 95th (m)	11.8	21.2	30.4	84.7	28.9	73.0	46.9	34.0
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	135	686	417	781	397	1599	706	2341
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.20	0.25	0.71	0.23	0.40	0.45	0.22
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Background 2029

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	97	69	447	85	490	98	294	455	25
Future Volume (vph)	25	48	82	97	69	447	85	490	98	294	455	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1680		1783	1550		1779	3444		1716	3539	
Flt Permitted	0.19	1.00		0.61	1.00		0.46	1.00		0.32	1.00	
Satd. Flow (perm)	362	1680		1146	1550		864	3444		575	3539	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	52	88	104	74	481	91	527	105	316	489	27
RTOR Reduction (vph)	0	67	0	0	266	0	0	12	0	0	3	0
Lane Group Flow (vph)	27	73	0	104	289	0	91	620	0	316	513	0
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.0	21.0		20.0	20.0		40.9	40.9		58.6	58.6	
Effective Green, g (s)	21.0	21.0		20.0	20.0		40.9	40.9		58.6	58.6	
Actuated g/C Ratio	0.24	0.24		0.23	0.23		0.46	0.46		0.66	0.66	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	85	398		258	349		398	1589		550	2340	
v/s Ratio Prot		0.04			c0.19			0.18		c0.09	0.14	
v/s Ratio Perm	0.07			0.09			0.11			c0.29		
v/c Ratio	0.32	0.18		0.40	0.83		0.23	0.39		0.57	0.22	
Uniform Delay, d1	27.9	27.0		29.2	32.7		14.4	15.7		7.3	5.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.2		1.0	14.8		1.3	0.7		1.5	0.2	
Delay (s)	30.0	27.2		30.2	47.4		15.7	16.4		8.7	6.2	
Level of Service	C	C		C	D		B	B		A	A	
Approach Delay (s)		27.6			44.7			16.3			7.1	
Approach LOS		C			D			B			A	
Intersection Summary												
HCM 2000 Control Delay			21.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			88.6			Sum of lost time (s)				14.5		
Intersection Capacity Utilization			85.7%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	45	56	48	65	57	104	117	39	55	134	48
Future Volume (vph)	28	45	56	48	65	57	104	117	39	55	134	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.942			0.955			0.980			0.973	
Flt Protected		0.989			0.986			0.980			0.989	
Satd. Flow (prot)	0	1729	0	0	1749	0	0	1809	0	0	1772	0
Flt Permitted		0.989			0.986			0.980			0.989	
Satd. Flow (perm)	0	1729	0	0	1749	0	0	1809	0	0	1772	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)	1		6	6		1	1		3	3		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	0%	2%	0%	6%	0%	1%	1%	0%	0%	1%	13%
Adj. Flow (vph)	29	47	58	50	68	59	108	122	41	57	140	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	134	0	0	177	0	0	271	0	0	247	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	45.3%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 5: Beatty Line North & Farley Road/Side Road 18

Future Background 2029
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	45	56	48	65	57	104	117	39	55	134	48
Future Volume (Veh/h)	28	45	56	48	65	57	104	117	39	55	134	48
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	29	47	58	50	68	59	108	122	41	57	140	50
Pedestrians		1			3			6			1	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	732	662	172	728	666	146	191			166		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	732	662	172	728	666	146	191			166		
tC, single (s)	7.2	6.5	6.2	7.1	6.6	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.1	3.3	2.2			2.2		
p0 queue free %	88	86	93	81	79	93	92			96		
cM capacity (veh/h)	237	339	867	258	331	903	1388			1421		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	134	177	271	247								
Volume Left	29	50	108	57								
Volume Right	58	59	41	50								
cSH	409	381	1388	1421								
Volume to Capacity	0.33	0.47	0.08	0.04								
Queue Length 95th (m)	11.2	19.1	2.0	1.0								
Control Delay (s)	18.0	22.4	3.5	2.0								
Lane LOS	C	C	A	A								
Approach Delay (s)	18.0	22.4	3.5	2.0								
Approach LOS	C	C										
Intersection Summary												
Average Delay			9.5									
Intersection Capacity Utilization			45.3%	ICU Level of Service						A		
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Background 2029
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	140	152	8	6	52
Future Volume (vph)	16	140	152	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.879	
Flt Protected		0.995			0.995	
Satd. Flow (prot)	0	1806	1741	0	1553	0
Flt Permitted		0.995			0.995	
Satd. Flow (perm)	0	1806	1741	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	19	165	179	9	7	61
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	184	188	0	68	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.7%			ICU Level of Service A		
Analysis Period (min)	15					

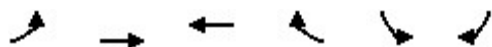
HCM Unsignalized Intersection Capacity Analysis 6: Side Road 18 & Vincent Street

Future Background 2029
PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	140	152	8	6	52
Future Volume (Veh/h)	16	140	152	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	19	165	179	9	7	61
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	188				396	184
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	188				396	184
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	99				99	93
cM capacity (veh/h)	1290				541	852
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	184	188	68			
Volume Left	19	0	7			
Volume Right	0	9	61			
cSH	1290	1700	804			
Volume to Capacity	0.01	0.11	0.08			
Queue Length 95th (m)	0.4	0.0	2.2			
Control Delay (s)	0.9	0.0	9.9			
Lane LOS	A		A			
Approach Delay (s)	0.9	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			30.7%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Background 2029
PM Peak Hour

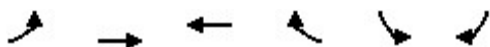


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	136	157	45	45	7
Future Volume (vph)	6	136	157	45	45	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.970		0.982	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1896	1829	0	1784	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1896	1829	0	1784	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	7	155	178	51	51	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	162	229	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Background 2029
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	136	157	45	45	7
Future Volume (Veh/h)	6	136	157	45	45	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	155	178	51	51	8
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	230				374	204
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	230				374	204
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	99
cM capacity (veh/h)	1349				628	835
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	162	229	59			
Volume Left	7	0	51			
Volume Right	0	51	8			
cSH	1349	1700	650			
Volume to Capacity	0.01	0.13	0.09			
Queue Length 95th (m)	0.1	0.0	2.4			
Control Delay (s)	0.4	0.0	11.1			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	11.1			
Approach LOS			B			
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization		22.0%		ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Background 2029
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.972								0.899			
Flt Protected					0.978				0.988			
Satd. Flow (prot)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Flt Permitted					0.978				0.988			
Satd. Flow (perm)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Link Speed (k/h)	50				50				50			
Link Distance (m)	156.5				142.7				88.1			
Travel Time (s)	11.3				10.3				6.3			
Confl. Peds. (#/hr)					17				2			
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	20	0	0	12	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0				0.0				0.0			
Link Offset(m)	0.0				0.0				0.0			
Crosswalk Width(m)	4.8				4.8				4.8			
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control	Stop				Stop				Stop			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.3%				ICU Level of Service A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Background 2029
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	24	20	12	0								
Volume Left (vph)	0	9	3	0								
Volume Right (vph)	5	0	9	0								
Hadj (s)	-0.13	0.09	-0.40	0.00								
Departure Headway (s)	3.8	4.0	3.6	4.0								
Degree Utilization, x	0.03	0.02	0.01	0.00								
Capacity (veh/h)	932	884	987	900								
Control Delay (s)	6.9	7.1	6.6	7.0								
Approach Delay (s)	6.9	7.1	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				6.9								
Level of Service				A								
Intersection Capacity Utilization				18.3%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2029

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	0	104	0	0	0	156	357	0	0	411	41
Future Volume (vph)	28	0	104	0	0	0	156	357	0	0	411	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.988	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1612	1495	0	1900	0	1641	1776	0	0	1760	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1612	1495	0	1900	0	1641	1776	0	0	1760	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	2					2						
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
Heavy Vehicles (%)	12%	0%	8%	0%	0%	0%	10%	7%	0%	0%	7%	3%
Adj. Flow (vph)	30	0	113	0	0	0	170	388	0	0	447	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	113	0	0	0	170	388	0	0	492	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 56.9%	ICU Level of Service B											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2029
AM Peak Hour

																																																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																																						
Lane Configurations																																																		
Traffic Volume (veh/h)	28	0	104	0	0	0	156	357	0	0	411	41																																						
Future Volume (Veh/h)	28	0	104	0	0	0	156	357	0	0	411	41																																						
Sign Control	Stop			Stop			Free			Free																																								
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)	30	0	113	0	0	0	170	388	0	0	447	45																																						
Pedestrians												2																																						
Lane Width (m)												3.6																																						
Walking Speed (m/s)												1.2																																						
Percent Blockage												0																																						
Right turn flare (veh)	1																																																	
Median type	None											None																																						
Median storage veh																																																		
Upstream signal (m)																																																		
pX, platoon unblocked																																																		
vC, conflicting volume	1200	1198	470	1254	1220	390	492				388																																							
vC1, stage 1 conf vol																																																		
vC2, stage 2 conf vol																																																		
vCu, unblocked vol	1200	1198	470	1254	1220	390	492				388																																							
tC, single (s)	7.2	6.5	6.3	7.1	6.5	6.2	4.2				4.1																																							
tC, 2 stage (s)																																																		
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3				2.2																																							
p0 queue free %	78	100	81	100	100	100	84				100																																							
cM capacity (veh/h)	135	156	582	106	152	662	1031				1182																																							
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1																																													
Volume Total	143	0	170	388	492																																													
Volume Left	30	0	170	0	0																																													
Volume Right	113	0	0	0	45																																													
cSH	643	1700	1031	1700	1182																																													
Volume to Capacity	0.22	0.00	0.16	0.23	0.00																																													
Queue Length 95th (m)	6.8	0.0	4.7	0.0	0.0																																													
Control Delay (s)	18.2	0.0	9.2	0.0	0.0																																													
Lane LOS	C	A	A																																															
Approach Delay (s)	18.2	0.0	2.8																																															
Approach LOS	C	A																																																
Intersection Summary																																																		
Average Delay	3.5																																																	
Intersection Capacity Utilization	56.9%																																																	
Analysis Period (min)	15																																																	
ICU Level of Service																																																		
B																																																		

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	5	207	115	9	133	129	518	53	47	789	25
Future Volume (vph)	17	5	207	115	9	133	129	518	53	47	789	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.853			0.860			0.985			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1559	0	1770	1602	0	1656	3310	0	1770	3383	0
Flt Permitted	0.636			0.484			0.312			0.424		
Satd. Flow (perm)	1208	1559	0	902	1602	0	544	3310	0	790	3383	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		185			145			30			8	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	18	5	216	125	10	145	134	540	58	51	822	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	221	0	125	155	0	134	598	0	51	848	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		47.0	47.0		47.0	47.0	
Total Split (%)	32.9%	32.9%		32.9%	32.9%		67.1%	67.1%		67.1%	67.1%	
Maximum Green (s)	18.5	18.5		18.5	18.5		42.5	42.5		42.5	42.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.9	12.9		12.9	12.9		43.5	43.5		43.5	43.5	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.66	0.66		0.66	0.66	
v/c Ratio	0.08	0.48		0.70	0.36		0.37	0.27		0.10	0.38	
Control Delay	20.7	9.5		45.1	7.5		9.9	5.2		5.7	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.7	9.5		45.1	7.5		9.9	5.2		5.7	6.1	
LOS	C	A		D	A		A	A		A	A	
Approach Delay		10.4			24.3			6.1			6.1	
Approach LOS		B			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 65.5

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 8.9

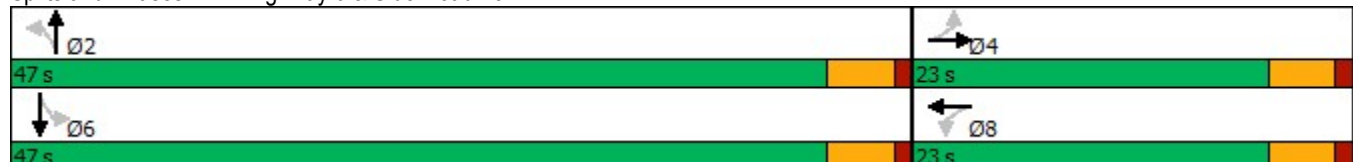
Intersection LOS: A

Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues

Future Total 2029

2: Highway 6 & Side Road 18

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	221	125	155	134	598	51	848
v/c Ratio	0.08	0.48	0.70	0.36	0.37	0.27	0.10	0.38
Control Delay	20.7	9.5	45.1	7.5	9.9	5.2	5.7	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	9.5	45.1	7.5	9.9	5.2	5.7	6.1
Queue Length 50th (m)	1.9	3.7	14.7	1.0	6.4	13.0	2.0	21.2
Queue Length 95th (m)	6.5	19.5	31.5	14.0	21.2	25.1	6.9	39.2
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	341	573	255	557	361	2210	525	2251
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	0.39	0.49	0.28	0.37	0.27	0.10	0.38
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2029

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	5	207	115	9	133	129	518	53	47	789	25
Future Volume (vph)	17	5	207	115	9	133	129	518	53	47	789	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1560		1770	1601		1656	3312		1770	3384	
Flt Permitted	0.64	1.00		0.48	1.00		0.31	1.00		0.42	1.00	
Satd. Flow (perm)	1208	1560		902	1601		544	3312		790	3384	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	18	5	216	125	10	145	134	540	58	51	822	26
RTOR Reduction (vph)	0	148	0	0	116	0	0	10	0	0	3	0
Lane Group Flow (vph)	18	73	0	125	39	0	134	588	0	51	845	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.0	13.0		13.0	13.0		43.5	43.5		43.5	43.5	
Effective Green, g (s)	13.0	13.0		13.0	13.0		43.5	43.5		43.5	43.5	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.66	0.66		0.66	0.66	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	239	309		179	317		361	2199		524	2247	
v/s Ratio Prot		0.05			0.02			0.18			c0.25	
v/s Ratio Perm	0.01			c0.14			0.25			0.06		
v/c Ratio	0.08	0.24		0.70	0.12		0.37	0.27		0.10	0.38	
Uniform Delay, d1	21.4	22.1		24.4	21.6		4.9	4.5		3.9	4.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		11.3	0.2		2.9	0.3		0.4	0.5	
Delay (s)	21.5	22.5		35.7	21.7		7.8	4.8		4.3	5.4	
Level of Service	C	C		D	C		A	A		A	A	
Approach Delay (s)		22.4			28.0			5.3			5.3	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.2				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			65.5				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			64.2%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
3: Highway 6 & Side Road 19

Future Total 2029
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	20	53	54	643	1078	44
Future Volume (vph)	20	53	54	643	1078	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1671	1380	1671	3343	3339	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1671	1380	1671	3343	3339	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	3	1	3			3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	8%	17%	8%	8%	7%	19%
Adj. Flow (vph)	22	58	59	707	1185	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	58	59	707	1233	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Highway 6 & Side Road 19

Future Total 2029
AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	53	54	643	1078	44
Future Volume (Veh/h)	20	53	54	643	1078	44
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	22	58	59	707	1185	48
Pedestrians	3			1	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked	0.99					
vC, conflicting volume	1686	620	1236			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1675	620	1236			
tC, single (s)	7.0	7.2	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.5	2.3			
p0 queue free %	69	85	89			
cM capacity (veh/h)	71	394	526			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	80	59	354	354	790	443
Volume Left	22	59	0	0	0	0
Volume Right	58	0	0	0	0	48
cSH	258	526	1700	1700	1700	1700
Volume to Capacity	0.31	0.11	0.21	0.21	0.46	0.26
Queue Length 95th (m)	10.2	3.0	0.0	0.0	0.0	0.0
Control Delay (s)	32.6	12.7	0.0	0.0	0.0	0.0
Lane LOS	D	B				
Approach Delay (s)	32.6	1.0	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay	1.6					
Intersection Capacity Utilization	48.2%			ICU Level of Service		A
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	86	12	326	20	360	80	485	633	10
Future Volume (vph)	5	8	25	86	12	326	20	360	80	485	633	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		0.99	0.99		0.99	0.99		0.99	1.00	
Frt		0.886			0.855			0.973			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1610	0	1656	1397	0	1641	3324	0	1656	3399	0
Flt Permitted	0.299			0.732			0.365			0.466		
Satd. Flow (perm)	568	1610	0	1268	1397	0	625	3324	0	804	3399	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			375			68			4	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Adj. Flow (vph)	6	9	29	99	14	375	23	414	92	557	728	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	38	0	99	389	0	23	506	0	557	739	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	23.0	23.0		23.0	23.0		77.0	77.0		77.0	77.0	
Total Split (%)	23.0%	23.0%		23.0%	23.0%		77.0%	77.0%		77.0%	77.0%	
Maximum Green (s)	19.0	19.0		18.0	18.0		72.0	72.0		72.0	72.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	13.4	13.4		12.4	12.4		72.1	72.1		72.1	72.1	
Actuated g/C Ratio	0.14	0.14		0.13	0.13		0.76	0.76		0.76	0.76	
v/c Ratio	0.07	0.15		0.60	0.76		0.05	0.20		0.91	0.28	
Control Delay	36.4	17.4		53.5	15.7		3.9	3.2		32.8	4.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.4	17.4		53.5	15.7		3.9	3.2		32.8	4.1	
LOS	D	B		D	B		A	A		C	A	
Approach Delay		20.0			23.3			3.2			16.4	
Approach LOS		B			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 94.6

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 14.9

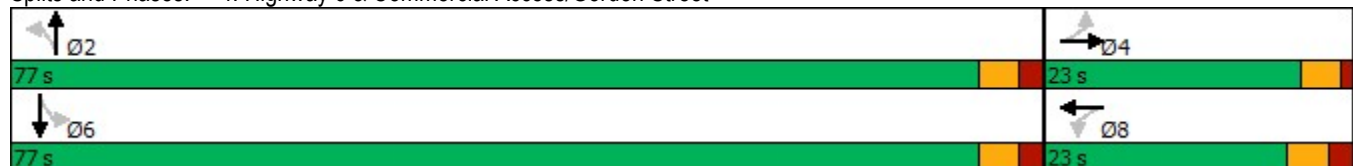
Intersection LOS: B

Intersection Capacity Utilization 75.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues

Future Total 2029

4: Highway 6 & Commercial Access/Gordon Street

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	38	99	389	23	506	557	739
v/c Ratio	0.07	0.15	0.60	0.76	0.05	0.20	0.91	0.28
Control Delay	36.4	17.4	53.5	15.7	3.9	3.2	32.8	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	17.4	53.5	15.7	3.9	3.2	32.8	4.1
Queue Length 50th (m)	1.0	1.5	18.2	2.4	0.9	9.7	67.0	18.2
Queue Length 95th (m)	4.5	9.9	33.4	27.5	3.3	17.5	#169.7	30.2
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	114	347	241	569	476	2551	613	2593
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	0.11	0.41	0.68	0.05	0.20	0.91	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Total 2029
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	86	12	326	20	360	80	485	633	10
Future Volume (vph)	5	8	25	86	12	326	20	360	80	485	633	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.86		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1610		1646	1398		1627	3324		1641	3399	
Flt Permitted	0.30	1.00		0.73	1.00		0.36	1.00		0.47	1.00	
Satd. Flow (perm)	567	1610		1269	1398		625	3324		805	3399	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	9	29	99	14	375	23	414	92	557	728	11
RTOR Reduction (vph)	0	25	0	0	326	0	0	16	0	0	1	0
Lane Group Flow (vph)	6	13	0	99	63	0	23	490	0	557	738	0
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.4	13.4		12.4	12.4		72.1	72.1		72.1	72.1	
Effective Green, g (s)	13.4	13.4		12.4	12.4		72.1	72.1		72.1	72.1	
Actuated g/C Ratio	0.14	0.14		0.13	0.13		0.76	0.76		0.76	0.76	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	80	228		166	183		476	2536		614	2593	
v/s Ratio Prot		0.01			0.05			0.15			0.22	
v/s Ratio Perm	0.01			c0.08			0.04			c0.69		
v/c Ratio	0.07	0.06		0.60	0.35		0.05	0.19		0.91	0.28	
Uniform Delay, d1	35.2	35.1		38.7	37.4		2.8	3.1		8.6	3.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1		5.7	1.1		0.2	0.2		19.5	0.3	
Delay (s)	35.6	35.2		44.3	38.5		2.9	3.3		28.1	3.7	
Level of Service	D	D		D	D		A	A		C	A	
Approach Delay (s)		35.2			39.7			3.3			14.2	
Approach LOS		D			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			17.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			94.5			Sum of lost time (s)			10.0			
Intersection Capacity Utilization			75.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

5: Beatty Line North & Farley Road/Side Road 18

Future Total 2029

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	121	65	90	87	70	32	85	78	58	144	35
Future Volume (vph)	58	121	65	90	87	70	32	85	78	58	144	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.964			0.962			0.946			0.980	
Flt Protected		0.988			0.982			0.992			0.988	
Satd. Flow (prot)	0	1735	0	0	1703	0	0	1687	0	0	1712	0
Flt Permitted		0.988			0.982			0.992			0.988	
Satd. Flow (perm)	0	1735	0	0	1703	0	0	1687	0	0	1712	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)			19	19					3	3		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	3%	6%	7%	4%	5%	7%	4%	7%	14%	3%	15%
Adj. Flow (vph)	67	141	76	105	101	81	37	99	91	67	167	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	284	0	0	287	0	0	227	0	0	275	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	49.0%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis

5: Beatty Line North & Farley Road/Side Road 18

Future Total 2029
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	121	65	90	87	70	32	85	78	58	144	35
Future Volume (Veh/h)	58	121	65	90	87	70	32	85	78	58	144	35
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	67	141	76	105	101	81	37	99	91	67	167	41
Pedestrians					3			19				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					0			2				
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	672	588	206	708	564	148	208			193		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	672	588	206	708	564	148	208			193		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3			2.3		
p0 queue free %	73	63	91	49	75	91	97			95		
cM capacity (veh/h)	252	386	811	206	398	889	1334			1308		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	284	287	227	275								
Volume Left	67	105	37	67								
Volume Right	76	81	91	41								
cSH	392	336	1334	1308								
Volume to Capacity	0.73	0.85	0.03	0.05								
Queue Length 95th (m)	44.7	62.1	0.7	1.3								
Control Delay (s)	34.9	55.1	1.5	2.3								
Lane LOS	D	F	A	A								
Approach Delay (s)	34.9	55.1	1.5	2.3								
Approach LOS	D	F										
Intersection Summary												
Average Delay			24.9									
Intersection Capacity Utilization			49.0%	ICU Level of Service						A		
Analysis Period (min)			15									

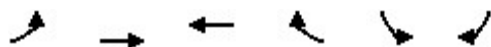
Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2029
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	232	175	22	20	80
Future Volume (vph)	25	232	175	22	20	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.985		0.892	
Flt Protected		0.995			0.990	
Satd. Flow (prot)	0	1809	1694	0	1529	0
Flt Permitted		0.995			0.990	
Satd. Flow (perm)	0	1809	1694	0	1529	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	30	283	213	27	24	98
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	313	240	0	122	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: Side Road 18 & Vincent Street

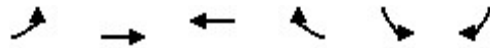
Future Total 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	232	175	22	20	80
Future Volume (Veh/h)	25	232	175	22	20	80
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	30	283	213	27	24	98
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	240				578	228
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	240				578	228
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				94	88
cM capacity (veh/h)	1233				416	806
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	313	240	122			
Volume Left	30	0	24			
Volume Right	0	27	98			
cSH	1233	1700	681			
Volume to Capacity	0.02	0.14	0.18			
Queue Length 95th (m)	0.6	0.0	5.2			
Control Delay (s)	1.0	0.0	11.4			
Lane LOS	A		B			
Approach Delay (s)	1.0	0.0	11.4			
Approach LOS			B			
Intersection Summary						
Average Delay		2.5				
Intersection Capacity Utilization		40.5%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2029
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	168	122	43	74	65
Future Volume (vph)	95	168	122	43	74	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.965			0.937
Flt Protected	0.982				0.974	
Satd. Flow (prot)	0	1768	1644	0	1577	0
Flt Permitted	0.982				0.974	
Satd. Flow (perm)	0	1768	1644	0	1577	0
Link Speed (k/h)	40		40		50	
Link Distance (m)	596.4		199.9		240.0	
Travel Time (s)	53.7		18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	181	131	46	80	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	283	177	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0		3.6	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	4.8		4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	168	122	43	74	65
Future Volume (Veh/h)	95	168	122	43	74	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	181	131	46	80	70
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	179				545	160
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	179				545	160
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	92				82	92
cM capacity (veh/h)	1348				448	858
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	283	177	150			
Volume Left	102	0	80			
Volume Right	0	46	70			
cSH	1348	1700	577			
Volume to Capacity	0.08	0.10	0.26			
Queue Length 95th (m)	2.0	0.0	8.3			
Control Delay (s)	3.3	0.0	13.4			
Lane LOS	A		B			
Approach Delay (s)	3.3	0.0	13.4			
Approach LOS			B			
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization			42.4%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Total 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Future Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.977			0.960			0.899			0.932	
Flt Protected		0.994			0.993			0.988			0.976	
Satd. Flow (prot)	0	1746	0	0	1701	0	0	1663	0	0	1728	0
Flt Permitted		0.994			0.993			0.988			0.976	
Satd. Flow (perm)	0	1746	0	0	1701	0	0	1663	0	0	1728	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		156.5			142.7			88.1			94.9	
Travel Time (s)		11.3			10.3			6.3			6.8	
Confl. Peds. (#/hr)			11	11			2		4	4		2
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	8%	0%	10%	9%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	3	17	4	4	15	8	1	0	3	8	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	27	0	0	4	0	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.7%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Total 2029
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Future Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	3	17	4	4	15	8	1	0	3	8	0	8
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	24	27	4	16								
Volume Left (vph)	3	4	1	8								
Volume Right (vph)	4	8	3	8								
Hadj (s)	0.02	-0.04	-0.37	-0.20								
Departure Headway (s)	4.0	3.9	3.6	3.8								
Degree Utilization, x	0.03	0.03	0.00	0.02								
Capacity (veh/h)	891	907	969	927								
Control Delay (s)	7.1	7.0	6.7	6.9								
Approach Delay (s)	7.1	7.0	6.7	6.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.0								
Level of Service				A								
Intersection Capacity Utilization				17.7%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings
9: Highway 6 & Street A

Future Total 2029
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	57	287	217	451	575	91
Future Volume (vph)	57	287	217	451	575	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			15.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.5		25.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3343	3343	1615
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3343	3343	1615
Link Speed (k/h)	50			60	60	
Link Distance (m)	197.6			413.0	200.4	
Travel Time (s)	14.2			24.8	12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	8%	8%	0%
Adj. Flow (vph)	62	312	236	490	625	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	312	236	490	625	99
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: Highway 6 & Street A

Future Total 2029
AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	57	287	217	451	575	91		
Future Volume (Veh/h)	57	287	217	451	575	91		
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)	62	312	236	490	625	99		
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	1342	312	724					
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	1342	312	724					
tC, single (s)	6.8	6.9	4.1					
tC, 2 stage (s)								
tF (s)	3.5	3.3	2.2					
p0 queue free %	42	55	73					
cM capacity (veh/h)	107	689	888					
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	62	312	236	245	245	312	312	99
Volume Left	62	0	236	0	0	0	0	0
Volume Right	0	312	0	0	0	0	0	99
cSH	107	689	888	1700	1700	1700	1700	1700
Volume to Capacity	0.58	0.45	0.27	0.14	0.14	0.18	0.18	0.06
Queue Length 95th (m)	22.1	18.9	8.6	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	76.9	14.5	10.5	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	B					
Approach Delay (s)	24.8		3.4			0.0		
Approach LOS	C							
Intersection Summary								
Average Delay			6.5					
Intersection Capacity Utilization			41.3%	ICU Level of Service			A	
Analysis Period (min)			15					

Lanes, Volumes, Timings

Future Total 2029

1: Highway 6 & Nichol Road 15/Private Driveway

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	0	186	0	0	0	147	590	0	0	485	24
Future Volume (vph)	28	0	186	0	0	0	147	590	0	0	485	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.994	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1517	1553	0	1900	0	1752	1845	0	0	1760	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1517	1553	0	1900	0	1752	1845	0	0	1760	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	4					4						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	19%	0%	4%	0%	0%	0%	3%	3%	0%	0%	7%	13%
Adj. Flow (vph)	29	0	196	0	0	0	155	621	0	0	511	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	196	0	0	0	155	621	0	0	536	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	72.6%						ICU Level of Service C					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2029

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	0	186	0	0	0	147	590	0	0	485	24
Future Volume (Veh/h)	28	0	186	0	0	0	147	590	0	0	485	24
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	29	0	196	0	0	0	155	621	0	0	511	25
Pedestrians												4
Lane Width (m)												3.6
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)	1											
Median type	None											None
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1458	1454	524	1552	1467	625	536	621				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1458	1454	524	1552	1467	625	536	621				
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	67	100	64	100	100	100	85	100				
cM capacity (veh/h)	87	112	550	53	110	487	1027	969				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	225	0	155	621	536							
Volume Left	29	0	155	0	0							
Volume Right	196	0	0	0	25							
cSH	478	1700	1027	1700	969							
Volume to Capacity	0.47	0.00	0.15	0.37	0.00							
Queue Length 95th (m)	19.8	0.0	4.2	0.0	0.0							
Control Delay (s)	19.0	0.0	9.1	0.0	0.0							
Lane LOS	C	A	A									
Approach Delay (s)	19.0	0.0	1.8	0.0								
Approach LOS	C	A										
Intersection Summary												
Average Delay	3.7											
Intersection Capacity Utilization	72.6%		ICU Level of Service					C				
Analysis Period (min)	15											

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2029

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	11	193	104	8	80	186	848	151	103	683	25
Future Volume (vph)	27	11	193	104	8	80	186	848	151	103	683	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.858			0.864			0.977			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1569	0	1770	1609	0	1736	3458	0	1770	3383	0
Flt Permitted	0.695			0.479			0.357			0.241		
Satd. Flow (perm)	1320	1569	0	892	1609	0	652	3458	0	449	3383	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		203			87			56			9	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	28	12	203	113	9	87	196	893	164	112	719	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	215	0	113	96	0	196	1057	0	112	745	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2029

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		47.5	47.5		47.5	47.5	
Total Split (%)	32.1%	32.1%		32.1%	32.1%		67.9%	67.9%		67.9%	67.9%	
Maximum Green (s)	18.0	18.0		18.0	18.0		43.0	43.0		43.0	43.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.4	12.4		12.4	12.4		45.5	45.5		45.5	45.5	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.68	0.68		0.68	0.68	
v/c Ratio	0.11	0.47		0.68	0.26		0.44	0.45		0.37	0.32	
Control Delay	21.8	8.0		45.5	8.4		10.1	5.9		10.3	5.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.8	8.0		45.5	8.4		10.1	5.9		10.3	5.4	
LOS	C	A		D	A		B	A		B	A	
Approach Delay		9.6			28.4			6.6			6.0	
Approach LOS		A			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 66.9

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 8.5

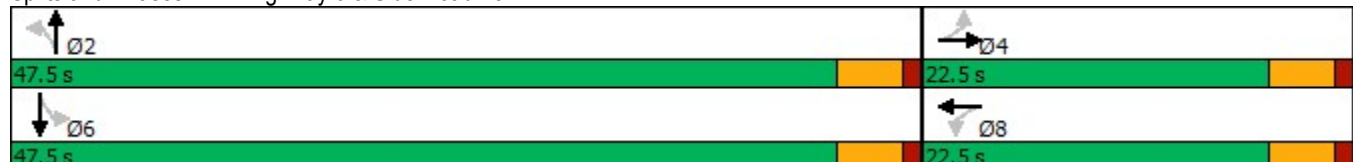
Intersection LOS: A

Intersection Capacity Utilization 67.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



2: Highway 6 & Side Road 18

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	215	113	96	196	1057	112	745
v/c Ratio	0.11	0.47	0.68	0.26	0.44	0.45	0.37	0.32
Control Delay	21.8	8.0	45.5	8.4	10.1	5.9	10.3	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.8	8.0	45.5	8.4	10.1	5.9	10.3	5.4
Queue Length 50th (m)	2.9	1.2	13.2	0.9	9.6	25.4	5.1	16.8
Queue Length 95th (m)	8.8	16.5	28.8	11.4	30.3	48.2	19.0	32.5
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	356	571	240	497	443	2367	304	2301
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	0.08	0.38	0.47	0.19	0.44	0.45	0.37	0.32
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

Future Total 2029

2: Highway 6 & Side Road 18

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	11	193	104	8	80	186	848	151	103	683	25
Future Volume (vph)	27	11	193	104	8	80	186	848	151	103	683	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.86		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1570		1770	1610		1736	3457		1770	3382	
Flt Permitted	0.69	1.00		0.48	1.00		0.36	1.00		0.24	1.00	
Satd. Flow (perm)	1320	1570		892	1610		652	3457		448	3382	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	28	12	203	113	9	87	196	893	164	112	719	26
RTOR Reduction (vph)	0	165	0	0	71	0	0	18	0	0	3	0
Lane Group Flow (vph)	28	50	0	113	25	0	196	1039	0	112	742	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.4	12.4		12.4	12.4		45.4	45.4		45.4	45.4	
Effective Green, g (s)	12.4	12.4		12.4	12.4		45.4	45.4		45.4	45.4	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.68	0.68		0.68	0.68	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	245	291		165	298		443	2349		304	2298	
v/s Ratio Prot		0.03			0.02			0.30			0.22	
v/s Ratio Perm	0.02			0.13			0.30			0.25		
v/c Ratio	0.11	0.17		0.68	0.08		0.44	0.44		0.37	0.32	
Uniform Delay, d1	22.6	22.9		25.4	22.5		4.9	4.9		4.6	4.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		11.2	0.1		3.2	0.6		3.4	0.4	
Delay (s)	22.8	23.2		36.5	22.6		8.1	5.5		8.0	4.8	
Level of Service	C	C		D	C		A	A		A	A	
Approach Delay (s)		23.1			30.1			5.9			5.2	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			9.3				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			66.8				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			67.2%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
3: Highway 6 & Side Road 19

Future Total 2029

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	39	76	70	1153	888	58
Future Volume (vph)	39	76	70	1153	888	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1568	1703	3505	3448	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1568	1703	3505	3448	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	1	2	5			5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	6%	3%	4%	0%
Adj. Flow (vph)	40	78	72	1189	915	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	78	72	1189	975	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Highway 6 & Side Road 19

Future Total 2029

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	76	70	1153	888	58
Future Volume (Veh/h)	39	76	70	1153	888	58
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	40	78	72	1189	915	60
Pedestrians	5			2	1	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked	0.84					
vC, conflicting volume	1690	494	980			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1435	494	980			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	58	85	89			
cM capacity (veh/h)	94	515	673			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	118	72	594	594	610	365
Volume Left	40	72	0	0	0	0
Volume Right	78	0	0	0	0	60
cSH	242	673	1700	1700	1700	1700
Volume to Capacity	0.49	0.11	0.35	0.35	0.36	0.21
Queue Length 95th (m)	19.7	2.9	0.0	0.0	0.0	0.0
Control Delay (s)	33.3	11.0	0.0	0.0	0.0	0.0
Lane LOS	D	B				
Approach Delay (s)	33.3	0.6	0.0			
Approach LOS	D					
Intersection Summary						
Average Delay	2.0					
Intersection Capacity Utilization	44.3%			ICU Level of Service		A
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2029

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	97	69	536	85	628	98	369	576	25
Future Volume (vph)	25	48	82	97	69	536	85	628	98	369	576	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00	0.96		0.99	0.99			1.00	
Frt		0.906			0.867			0.980			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1680	0	1787	1536	0	1805	3468	0	1719	3546	0
Flt Permitted	0.164			0.619			0.406			0.210		
Satd. Flow (perm)	312	1680	0	1161	1536	0	761	3468	0	380	3546	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			412			17			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Adj. Flow (vph)	27	52	88	104	74	576	91	675	105	397	619	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	140	0	104	650	0	91	780	0	397	646	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2029

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	37.0	37.0		37.0	37.0		33.6	33.6		29.4	63.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		33.6%	33.6%		29.4%	63.0%	
Maximum Green (s)	33.0	33.0		32.0	32.0		28.6	28.6		24.9	58.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	24.4	24.4		23.4	23.4		35.1	35.1		59.1	58.6	
Actuated g/C Ratio	0.26	0.26		0.25	0.25		0.38	0.38		0.64	0.64	
v/c Ratio	0.33	0.27		0.35	0.93		0.31	0.59		0.77	0.29	
Control Delay	37.5	11.9		30.4	33.2		30.2	27.8		23.4	9.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.5	11.9		30.4	33.2		30.2	27.8		23.4	9.0	
LOS	D	B		C	C		C	C		C	A	
Approach Delay		16.0			32.8			28.1			14.5	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 92.1

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 23.6

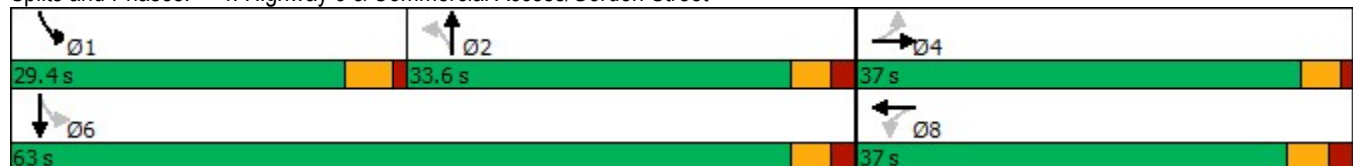
Intersection LOS: C

Intersection Capacity Utilization 99.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



4: Highway 6 & Commercial Access/Gordon Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	140	104	650	91	780	397	646
v/c Ratio	0.33	0.27	0.35	0.93	0.31	0.59	0.77	0.29
Control Delay	37.5	11.9	30.4	33.2	30.2	27.8	23.4	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	11.9	30.4	33.2	30.2	27.8	23.4	9.0
Queue Length 50th (m)	4.0	7.3	15.7	47.3	13.3	66.3	37.4	28.7
Queue Length 95th (m)	12.2	21.2	30.3	#120.0	31.1	98.2	78.1	43.5
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	112	664	407	806	290	1332	609	2257
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	0.24	0.21	0.26	0.81	0.31	0.59	0.65	0.29

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Total 2029

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	97	69	536	85	628	98	369	576	25
Future Volume (vph)	25	48	82	97	69	536	85	628	98	369	576	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1680		1783	1541		1782	3468		1718	3546	
Flt Permitted	0.16	1.00		0.62	1.00		0.41	1.00		0.21	1.00	
Satd. Flow (perm)	311	1680		1162	1541		763	3468		379	3546	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	52	88	104	74	576	91	675	105	397	619	27
RTOR Reduction (vph)	0	65	0	0	307	0	0	11	0	0	3	0
Lane Group Flow (vph)	27	75	0	104	343	0	91	769	0	397	643	0
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.4	24.4		23.4	23.4		35.1	35.1		58.5	58.5	
Effective Green, g (s)	24.4	24.4		23.4	23.4		35.1	35.1		58.5	58.5	
Actuated g/C Ratio	0.27	0.27		0.25	0.25		0.38	0.38		0.64	0.64	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	82	446		295	392		291	1324		516	2257	
v/s Ratio Prot		0.04			c0.22			0.22		c0.16	0.18	
v/s Ratio Perm	0.09			0.09			0.12			c0.33		
v/c Ratio	0.33	0.17		0.35	0.87		0.31	0.58		0.77	0.29	
Uniform Delay, d1	27.2	26.0		28.0	32.8		19.9	22.6		12.5	7.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.2		0.7	19.0		2.8	1.9		6.8	0.3	
Delay (s)	29.5	26.1		28.8	51.8		22.7	24.4		19.3	7.7	
Level of Service	C	C		C	D		C	C		B	A	
Approach Delay (s)		26.7			48.7			24.3			12.1	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			26.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			91.9			Sum of lost time (s)				14.5		
Intersection Capacity Utilization			99.2%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

5: Beatty Line North & Farley Road/Side Road 18

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	71	56	63	88	69	104	117	77	74	134	48
Future Volume (vph)	28	71	56	63	88	69	104	117	77	74	134	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.951			0.958			0.965			0.975	
Flt Protected		0.991			0.986			0.983			0.986	
Satd. Flow (prot)	0	1756	0	0	1753	0	0	1789	0	0	1774	0
Flt Permitted		0.991			0.986			0.983			0.986	
Satd. Flow (perm)	0	1756	0	0	1753	0	0	1789	0	0	1774	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)	1		6	6		1	1		3	3		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	0%	2%	0%	6%	0%	1%	1%	0%	0%	1%	13%
Adj. Flow (vph)	29	74	58	66	92	72	108	122	80	77	140	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	161	0	0	230	0	0	310	0	0	267	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	50.4%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 5: Beatty Line North & Farley Road/Side Road 18

Future Total 2029

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	71	56	63	88	69	104	117	77	74	134	48
Future Volume (Veh/h)	28	71	56	63	88	69	104	117	77	74	134	48
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	29	74	58	66	92	72	108	122	80	77	140	50
Pedestrians		1			3			6			1	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	817	741	172	801	726	166	191			205		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	817	741	172	801	726	166	191			205		
tC, single (s)	7.2	6.5	6.2	7.1	6.6	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.1	3.3	2.2			2.2		
p0 queue free %	84	75	93	68	69	92	92			94		
cM capacity (veh/h)	183	301	867	207	300	881	1388			1375		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	161	230	310	267								
Volume Left	29	66	108	77								
Volume Right	58	72	80	50								
cSH	341	325	1388	1375								
Volume to Capacity	0.47	0.71	0.08	0.06								
Queue Length 95th (m)	19.3	40.7	2.0	1.4								
Control Delay (s)	24.6	38.9	3.2	2.6								
Lane LOS	C	E	A	A								
Approach Delay (s)	24.6	38.9	3.2	2.6								
Approach LOS	C	E										
Intersection Summary												
Average Delay			15.1									
Intersection Capacity Utilization			50.4%	ICU Level of Service						A		
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2029

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	192	187	29	22	68
Future Volume (vph)	48	192	187	29	22	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.982		0.898	
Flt Protected		0.990			0.988	
Satd. Flow (prot)	0	1772	1679	0	1517	0
Flt Permitted		0.990			0.988	
Satd. Flow (perm)	0	1772	1679	0	1517	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	56	226	220	34	26	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	254	0	106	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: Side Road 18 & Vincent Street

Future Total 2029

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	192	187	29	22	68
Future Volume (Veh/h)	48	192	187	29	22	68
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	56	226	220	34	26	80
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	254				584	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	254				584	238
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	95				94	90
cM capacity (veh/h)	1218				404	795
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	282	254	106			
Volume Left	56	0	26			
Volume Right	0	34	80			
cSH	1218	1700	642			
Volume to Capacity	0.05	0.15	0.17			
Queue Length 95th (m)	1.2	0.0	4.7			
Control Delay (s)	2.0	0.0	11.7			
Lane LOS	A		B			
Approach Delay (s)	2.0	0.0	11.7			
Approach LOS			B			
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization		40.1%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2029

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	152	178	86	76	42
Future Volume (vph)	58	152	178	86	76	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.956		0.952	
Flt Protected		0.986			0.969	
Satd. Flow (prot)	0	1873	1804	0	1740	0
Flt Permitted		0.986			0.969	
Satd. Flow (perm)	0	1873	1804	0	1740	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	173	202	98	86	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	239	300	0	134	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 7: Side Road 18 & Steele Street

Future Total 2029

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	152	178	86	76	42
Future Volume (Veh/h)	58	152	178	86	76	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	173	202	98	86	48
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	301				557	252
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	301				557	252
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				82	94
cM capacity (veh/h)	1270				469	786
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	239	300	134			
Volume Left	66	0	86			
Volume Right	0	98	48			
cSH	1270	1700	548			
Volume to Capacity	0.05	0.18	0.24			
Queue Length 95th (m)	1.3	0.0	7.6			
Control Delay (s)	2.5	0.0	13.7			
Lane LOS	A		B			
Approach Delay (s)	2.5	0.0	13.7			
Approach LOS			B			
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization		42.6%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Total 2029

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Future Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.979			0.955			0.899			0.955	
Flt Protected		0.988			0.985			0.988			0.968	
Satd. Flow (prot)	0	1838	0	0	1787	0	0	1688	0	0	1756	0
Flt Permitted		0.988			0.985			0.988			0.968	
Satd. Flow (perm)	0	1838	0	0	1787	0	0	1688	0	0	1756	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		156.5			142.7			88.1			94.9	
Travel Time (s)		11.3			10.3			6.3			6.8	
Confl. Peds. (#/hr)			17	17					2	2		
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	19	5	9	11	10	3	0	9	8	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	30	0	0	12	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.3%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Total 2029

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Future Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	8	19	5	9	11	10	3	0	9	8	0	4
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	32	30	12	12								
Volume Left (vph)	8	9	3	8								
Volume Right (vph)	5	10	9	4								
Hadj (s)	-0.04	-0.14	-0.40	-0.07								
Departure Headway (s)	3.9	3.8	3.6	4.0								
Degree Utilization, x	0.03	0.03	0.01	0.01								
Capacity (veh/h)	902	926	959	887								
Control Delay (s)	7.1	7.0	6.7	7.0								
Approach Delay (s)	7.1	7.0	6.7	7.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.0								
Level of Service				A								
Intersection Capacity Utilization				18.3%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings
9: Highway 6 & Street A

Future Total 2029

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	160	169	780	642	53
Future Volume (vph)	32	160	169	780	642	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			15.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.5		25.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3505	3406	1615
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3505	3406	1615
Link Speed (k/h)	50			60	60	
Link Distance (m)	197.6			413.0	200.4	
Travel Time (s)	14.2			24.8	12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	6%	0%
Adj. Flow (vph)	35	174	184	848	698	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	174	184	848	698	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	40.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: Highway 6 & Street A

Future Total 2029

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	32	160	169	780	642	53		
Future Volume (Veh/h)	32	160	169	780	642	53		
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)	35	174	184	848	698	58		
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	1490	349	756					
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	1490	349	756					
tC, single (s)	6.8	6.9	4.1					
tC, 2 stage (s)								
tF (s)	3.5	3.3	2.2					
p0 queue free %	62	73	79					
cM capacity (veh/h)	92	653	864					
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	35	174	184	424	424	349	349	58
Volume Left	35	0	184	0	0	0	0	0
Volume Right	0	174	0	0	0	0	0	58
cSH	92	653	864	1700	1700	1700	1700	1700
Volume to Capacity	0.38	0.27	0.21	0.25	0.25	0.21	0.21	0.03
Queue Length 95th (m)	12.2	8.6	6.4	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	66.5	12.5	10.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	B					
Approach Delay (s)	21.5			1.8			0.0	
Approach LOS	C							
Intersection Summary								
Average Delay			3.2					
Intersection Capacity Utilization			40.4%	ICU Level of Service			A	
Analysis Period (min)			15					

Lanes, Volumes, Timings

Future Background 2034

1: Highway 6 & Nichol Road 15/Private Driveway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	0	114	0	0	0	169	338	0	0	421	46
Future Volume (vph)	30	0	114	0	0	0	169	338	0	0	421	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.987	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	2					2						
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
Heavy Vehicles (%)	12%	0%	8%	0%	0%	0%	10%	7%	0%	0%	7%	3%
Adj. Flow (vph)	33	0	124	0	0	0	184	367	0	0	458	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	124	0	0	0	184	367	0	0	508	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 56.7%	ICU Level of Service B											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Background 2034

AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	30	0	114	0	0	0	169	338	0	0	421	46	
Future Volume (Veh/h)	30	0	114	0	0	0	169	338	0	0	421	46	
Sign Control	Stop			Stop			Free			Free			
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)	33	0	124	0	0	0	184	367	0	0	458	50	
Pedestrians												2	
Lane Width (m)												3.6	
Walking Speed (m/s)												1.2	
Percent Blockage												0	
Right turn flare (veh)	1												
Median type	None											None	
Median storage veh													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	1220	1218	483	1280	1243	369	508				367		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1220	1218	483	1280	1243	369	508				367		
tC, single (s)	7.2	6.5	6.3	7.1	6.5	6.2	4.2				4.1		
tC, 2 stage (s)													
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3				2.2		
p0 queue free %	74	100	78	100	100	100	82				100		
cM capacity (veh/h)	129	149	572	97	144	680	1017				1203		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1								
Volume Total	157	0	184	367	508								
Volume Left	33	0	184	0	0								
Volume Right	124	0	0	0	50								
cSH	612	1700	1017	1700	1203								
Volume to Capacity	0.26	0.00	0.18	0.22	0.00								
Queue Length 95th (m)	8.1	0.0	5.3	0.0	0.0								
Control Delay (s)	19.2	0.0	9.3	0.0	0.0								
Lane LOS	C	A	A										
Approach Delay (s)	19.2	0.0	3.1	0.0									
Approach LOS	C	A											
Intersection Summary													
Average Delay	3.9												
Intersection Capacity Utilization	56.7%												
ICU Level of Service	B												
Analysis Period (min)	15												

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2034

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	5	179	115	9	68	94	401	53	32	563	27
Future Volume (vph)	18	5	179	115	9	68	94	401	53	32	563	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.854			0.868			0.982			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1561	0	1770	1617	0	1656	3305	0	1770	3373	0
Flt Permitted	0.702			0.540			0.417			0.480		
Satd. Flow (perm)	1334	1561	0	1006	1617	0	727	3305	0	894	3373	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		186			74			39			12	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	19	5	186	125	10	74	98	418	58	35	586	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	191	0	125	84	0	98	476	0	35	614	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2034

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.2	23.2		23.2	23.2		46.8	46.8		46.8	46.8	
Total Split (%)	33.1%	33.1%		33.1%	33.1%		66.9%	66.9%		66.9%	66.9%	
Maximum Green (s)	18.7	18.7		18.7	18.7		42.3	42.3		42.3	42.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.7	12.7		12.7	12.7		45.2	45.2		45.2	45.2	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.68	0.68		0.68	0.68	
v/c Ratio	0.08	0.43		0.66	0.23		0.20	0.21		0.06	0.27	
Control Delay	20.7	7.2		40.7	8.6		6.5	4.6		5.2	5.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.7	7.2		40.7	8.6		6.5	4.6		5.2	5.2	
LOS	C	A		D	A		A	A		A	A	
Approach Delay		8.4			27.8			4.9			5.2	
Approach LOS		A			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 66.9

Natural Cycle: 45

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 8.4

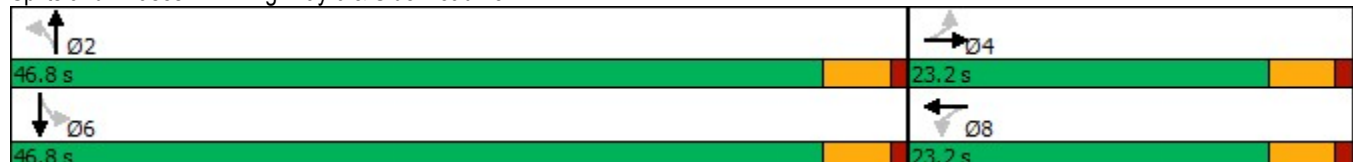
Intersection LOS: A

Intersection Capacity Utilization 54.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18

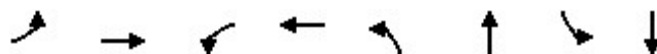


Queues

Future Background 2034

2: Highway 6 & Side Road 18

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	19	191	125	84	98	476	35	614
v/c Ratio	0.08	0.43	0.66	0.23	0.20	0.21	0.06	0.27
Control Delay	20.7	7.2	40.7	8.6	6.5	4.6	5.2	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	7.2	40.7	8.6	6.5	4.6	5.2	5.2
Queue Length 50th (m)	1.9	0.5	14.4	1.0	3.9	9.0	1.3	13.2
Queue Length 95th (m)	6.7	14.7	30.2	10.6	12.8	19.4	5.1	26.7
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	374	571	282	506	491	2245	603	2282
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	0.33	0.44	0.17	0.20	0.21	0.06	0.27
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Background 2034

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	5	179	115	9	68	94	401	53	32	563	27
Future Volume (vph)	18	5	179	115	9	68	94	401	53	32	563	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1561		1770	1617		1656	3304		1770	3374	
Flt Permitted	0.70	1.00		0.54	1.00		0.42	1.00		0.48	1.00	
Satd. Flow (perm)	1335	1561		1006	1617		727	3304		894	3374	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	19	5	186	125	10	74	98	418	58	35	586	28
RTOR Reduction (vph)	0	151	0	0	60	0	0	13	0	0	4	0
Lane Group Flow (vph)	19	40	0	125	24	0	98	463	0	35	610	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.7	12.7		12.7	12.7		45.2	45.2		45.2	45.2	
Effective Green, g (s)	12.7	12.7		12.7	12.7		45.2	45.2		45.2	45.2	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.68	0.68		0.68	0.68	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	253	296		190	306		491	2232		604	2279	
v/s Ratio Prot		0.03			0.01			0.14			c0.18	
v/s Ratio Perm	0.01			c0.12			0.13			0.04		
v/c Ratio	0.08	0.14		0.66	0.08		0.20	0.21		0.06	0.27	
Uniform Delay, d1	22.3	22.5		25.1	22.3		4.1	4.1		3.7	4.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.2		8.0	0.1		0.9	0.2		0.2	0.3	
Delay (s)	22.4	22.7		33.1	22.4		5.0	4.3		3.8	4.6	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		22.7			28.8			4.4			4.5	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			9.9			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.35									
Actuated Cycle Length (s)			66.9			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			54.3%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

3: Highway 6 & Side Road 19

Future Background 2034

AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	59	60	488	825	46
Future Volume (vph)	21	59	60	488	825	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1671	1380	1671	3343	3327	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1671	1380	1671	3343	3327	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	3	1	3			3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	8%	17%	8%	8%	7%	19%
Adj. Flow (vph)	23	65	66	536	907	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	65	66	536	958	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 3: Highway 6 & Side Road 19

Future Background 2034
AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	21	59	60	488	825	46
Future Volume (Veh/h)	21	59	60	488	825	46
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	23	65	66	536	907	51
Pedestrians	3			1	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked						
vC, conflicting volume	1338	483	961			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1338	483	961			
tC, single (s)	7.0	7.2	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.5	2.3			
p0 queue free %	81	87	90			
cM capacity (veh/h)	123	490	674			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	88	66	268	268	605	353
Volume Left	23	66	0	0	0	0
Volume Right	65	0	0	0	0	51
cSH	470	674	1700	1700	1700	1700
Volume to Capacity	0.19	0.10	0.16	0.16	0.36	0.21
Queue Length 95th (m)	5.5	2.6	0.0	0.0	0.0	0.0
Control Delay (s)	20.7	10.9	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	20.7	1.2	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	1.5					
Intersection Capacity Utilization	41.3%			ICU Level of Service		A
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2034

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	95	12	279	20	255	88	382	489	10
Future Volume (vph)	5	8	25	95	12	279	20	255	88	382	489	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		0.99	0.99		0.99	0.99		0.99	1.00	
Frt		0.886			0.856			0.962			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1610	0	1656	1399	0	1641	3266	0	1656	3396	0
Flt Permitted	0.286			0.732			0.436			0.519		
Satd. Flow (perm)	543	1610	0	1268	1399	0	745	3266	0	895	3396	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			321			101			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Adj. Flow (vph)	6	9	29	109	14	321	23	293	101	439	562	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	38	0	109	335	0	23	394	0	439	573	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2034

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	23.0	23.0		23.0	23.0		77.0	77.0		77.0	77.0	
Total Split (%)	23.0%	23.0%		23.0%	23.0%		77.0%	77.0%		77.0%	77.0%	
Maximum Green (s)	19.0	19.0		18.0	18.0		72.0	72.0		72.0	72.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	14.0	14.0		13.0	13.0		72.1	72.1		72.1	72.1	
Actuated g/C Ratio	0.15	0.15		0.14	0.14		0.76	0.76		0.76	0.76	
v/c Ratio	0.07	0.15		0.63	0.72		0.04	0.16		0.65	0.22	
Control Delay	36.2	17.3		55.0	14.6		3.9	2.8		12.0	3.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.2	17.3		55.0	14.6		3.9	2.8		12.0	3.9	
LOS	D	B		E	B		A	A		B	A	
Approach Delay		19.9			24.5			2.8			7.4	
Approach LOS		B			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 95.1

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 10.6

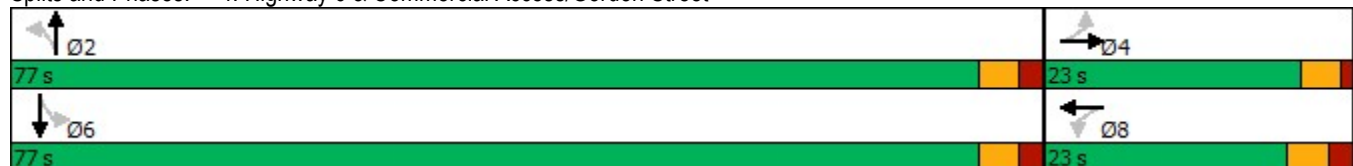
Intersection LOS: B

Intersection Capacity Utilization 66.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



4: Highway 6 & Commercial Access/Gordon Street

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	38	109	335	23	394	439	573
v/c Ratio	0.07	0.15	0.63	0.72	0.04	0.16	0.65	0.22
Control Delay	36.2	17.3	55.0	14.6	3.9	2.8	12.0	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	17.3	55.0	14.6	3.9	2.8	12.0	3.9
Queue Length 50th (m)	1.0	1.5	20.1	2.4	0.9	6.5	33.3	13.9
Queue Length 95th (m)	4.6	9.9	36.4	25.6	3.3	12.1	73.9	22.6
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	108	345	240	525	564	2499	678	2575
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	0.06	0.11	0.45	0.64	0.04	0.16	0.65	0.22
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Background 2034

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	95	12	279	20	255	88	382	489	10
Future Volume (vph)	5	8	25	95	12	279	20	255	88	382	489	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.86		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1610		1646	1400		1623	3265		1638	3397	
Flt Permitted	0.29	1.00		0.73	1.00		0.44	1.00		0.52	1.00	
Satd. Flow (perm)	543	1610		1269	1400		746	3265		896	3397	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	9	29	109	14	321	23	293	101	439	562	11
RTOR Reduction (vph)	0	25	0	0	277	0	0	24	0	0	1	0
Lane Group Flow (vph)	6	13	0	109	58	0	23	370	0	439	572	0
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.0	14.0		13.0	13.0		72.1	72.1		72.1	72.1	
Effective Green, g (s)	14.0	14.0		13.0	13.0		72.1	72.1		72.1	72.1	
Actuated g/C Ratio	0.15	0.15		0.14	0.14		0.76	0.76		0.76	0.76	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	237		173	191		565	2475		679	2575	
v/s Ratio Prot		0.01			0.04			0.11			0.17	
v/s Ratio Perm	0.01			c0.09			0.03			c0.49		
v/c Ratio	0.08	0.06		0.63	0.30		0.04	0.15		0.65	0.22	
Uniform Delay, d1	35.0	34.9		38.8	37.0		2.9	3.1		5.5	3.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1		7.3	0.9		0.1	0.1		4.7	0.2	
Delay (s)	35.4	35.0		46.0	37.9		3.0	3.3		10.2	3.5	
Level of Service	D	C		D	D		A	A		B	A	
Approach Delay (s)		35.0			39.9			3.2			6.4	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			14.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			95.1			Sum of lost time (s)				10.0		
Intersection Capacity Utilization			66.7%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	82	68	68	54	46	34	88	37	51	148	37
Future Volume (vph)	61	82	68	68	54	46	34	88	37	51	148	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.956			0.963			0.969			0.979	
Flt Protected		0.986			0.980			0.989			0.989	
Satd. Flow (prot)	0	1713	0	0	1700	0	0	1728	0	0	1715	0
Flt Permitted		0.986			0.980			0.989			0.989	
Satd. Flow (perm)	0	1713	0	0	1700	0	0	1728	0	0	1715	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)			19	19					3	3		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	3%	6%	7%	4%	5%	7%	4%	7%	14%	3%	15%
Adj. Flow (vph)	71	95	79	79	63	53	40	102	43	59	172	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	245	0	0	195	0	0	185	0	0	274	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	38.4%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 5: Beatty Line North & Farley Road/Side Road 18

Future Background 2034
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	82	68	68	54	46	34	88	37	51	148	37
Future Volume (Veh/h)	61	82	68	68	54	46	34	88	37	51	148	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	71	95	79	79	63	53	40	102	43	59	172	43
Pedestrians					3			19				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					0			2				
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	600	540	212	664	540	126	215			148		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	600	540	212	664	540	126	215			148		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3			2.3		
p0 queue free %	78	77	90	69	85	94	97			96		
cM capacity (veh/h)	321	414	805	253	413	914	1326			1360		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	245	195	185	274								
Volume Left	71	79	40	59								
Volume Right	79	53	43	43								
cSH	447	373	1326	1360								
Volume to Capacity	0.55	0.52	0.03	0.04								
Queue Length 95th (m)	25.9	23.2	0.7	1.1								
Control Delay (s)	22.4	24.7	1.9	2.0								
Lane LOS	C	C	A	A								
Approach Delay (s)	22.4	24.7	1.9	2.0								
Approach LOS	C	C										
Intersection Summary												
Average Delay			12.5									
Intersection Capacity Utilization			38.4%	ICU Level of Service						A		
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

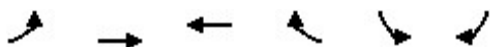
Future Background 2034
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	154	128	8	6	52
Future Volume (vph)	16	154	128	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.992		0.878	
Flt Protected		0.995			0.995	
Satd. Flow (prot)	0	1808	1731	0	1553	0
Flt Permitted		0.995			0.995	
Satd. Flow (perm)	0	1808	1731	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	20	188	156	10	7	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	208	166	0	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	30.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

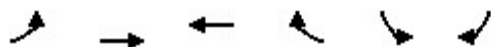
Future Background 2034
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	154	128	8	6	52
Future Volume (Veh/h)	16	154	128	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	20	188	156	10	7	63
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	166				398	162
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	166				398	162
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				99	93
cM capacity (veh/h)	1315				539	877
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	208	166	70			
Volume Left	20	0	7			
Volume Right	0	10	63			
cSH	1315	1700	825			
Volume to Capacity	0.02	0.10	0.08			
Queue Length 95th (m)	0.4	0.0	2.2			
Control Delay (s)	0.9	0.0	9.8			
Lane LOS	A		A			
Approach Delay (s)	0.9	0.0	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			30.2%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Background 2034
AM Peak Hour

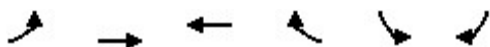


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	165	117	15	46	9
Future Volume (vph)	7	165	117	15	46	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.985		0.977	
Flt Protected		0.998			0.960	
Satd. Flow (prot)	0	1836	1683	0	1630	0
Flt Permitted		0.998			0.960	
Satd. Flow (perm)	0	1836	1683	0	1630	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	8	177	126	16	49	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	185	142	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Background 2034
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	165	117	15	46	9
Future Volume (Veh/h)	7	165	117	15	46	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	177	126	16	49	10
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	144				333	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	144				333	140
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				92	99
cM capacity (veh/h)	1388				641	880
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	185	142	59			
Volume Left	8	0	49			
Volume Right	0	16	10			
cSH	1388	1700	672			
Volume to Capacity	0.01	0.08	0.09			
Queue Length 95th (m)	0.1	0.0	2.3			
Control Delay (s)	0.4	0.0	10.9			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	10.9			
Approach LOS			B			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			25.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Background 2034

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.974						0.899					
Flt Protected				0.990			0.988					
Satd. Flow (prot)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Flt Permitted				0.990			0.988					
Satd. Flow (perm)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Link Speed (k/h)	50			50			50			50		
Link Distance (m)	156.5			142.7			88.1			94.9		
Travel Time (s)	11.3			10.3			6.3			6.8		
Confl. Peds. (#/hr)				11	11	2		4		4	2	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	8%	0%	10%	9%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	19	0	0	4	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0			0.0			0.0			0.0		
Link Offset(m)	0.0			0.0			0.0			0.0		
Crosswalk Width(m)	4.8			4.8			4.8			4.8		
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25	15		25	15		25	15		25	15	
Sign Control	Stop			Stop			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.7%			ICU Level of Service A								
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Background 2034
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	21	19	4	0								
Volume Left (vph)	0	4	1	0								
Volume Right (vph)	4	0	3	0								
Hadj (s)	0.00	0.20	-0.37	0.00								
Departure Headway (s)	3.9	4.1	3.6	4.0								
Degree Utilization, x	0.02	0.02	0.00	0.00								
Capacity (veh/h)	909	866	982	900								
Control Delay (s)	7.0	7.2	6.6	7.0								
Approach Delay (s)	7.0	7.2	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.1								
Level of Service				A								
Intersection Capacity Utilization				17.7%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings

Future Background 2034

1: Highway 6 & Nichol Road 15/Private Driveway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	0	201	0	0	0	160	623	0	0	473	27
Future Volume (vph)	30	0	201	0	0	0	160	623	0	0	473	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.993	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	4					4						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	19%	0%	4%	0%	0%	0%	3%	3%	0%	0%	7%	13%
Adj. Flow (vph)	32	0	212	0	0	0	168	656	0	0	498	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	212	0	0	0	168	656	0	0	526	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	73.9%						ICU Level of Service D					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Background 2034
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	201	0	0	0	160	623	0	0	473	27
Future Volume (Veh/h)	30	0	201	0	0	0	160	623	0	0	473	27
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	32	0	212	0	0	0	168	656	0	0	498	28
Pedestrians												4
Lane Width (m)												3.6
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)			1									
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1508	1504	512	1610	1518	660	526			656		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1508	1504	512	1610	1518	660	526			656		
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	60	100	62	100	100	100	84			100		
cM capacity (veh/h)	79	103	558	46	101	465	1036			941		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	244	0	168	656	526							
Volume Left	32	0	168	0	0							
Volume Right	212	0	0	0	28							
cSH	457	1700	1036	1700	941							
Volume to Capacity	0.53	0.00	0.16	0.39	0.00							
Queue Length 95th (m)	24.6	0.0	4.6	0.0	0.0							
Control Delay (s)	21.5	0.0	9.1	0.0	0.0							
Lane LOS	C	A	A									
Approach Delay (s)	21.5	0.0	1.9		0.0							
Approach LOS	C	A										
Intersection Summary												
Average Delay			4.3									
Intersection Capacity Utilization			73.9%			ICU Level of Service				D		
Analysis Period (min)			15									

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2034

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	11	159	104	8	75	133	748	151	91	584	27
Future Volume (vph)	29	11	159	104	8	75	133	748	151	91	584	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.860			0.865			0.974			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1573	0	1770	1611	0	1736	3447	0	1770	3375	0
Flt Permitted	0.698			0.522			0.344			0.301		
Satd. Flow (perm)	1326	1573	0	972	1611	0	628	3447	0	561	3375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		167			82			61			8	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	31	12	167	113	9	82	140	787	164	99	615	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	179	0	113	91	0	140	951	0	99	643	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2034

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		12.0	56.0		44.0	44.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.0%	70.0%		55.0%	55.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		7.5	51.5		39.5	39.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	13.0	13.0		13.0	13.0		53.1	53.1		43.7	43.7	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.71	0.71		0.58	0.58	
v/c Ratio	0.14	0.44		0.68	0.26		0.26	0.39		0.30	0.33	
Control Delay	26.1	9.0		48.4	9.6		5.5	5.2		14.2	10.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.1	9.0		48.4	9.6		5.5	5.2		14.2	10.1	
LOS	C	A		D	A		A	A		B	B	
Approach Delay		11.5			31.1			5.2			10.7	
Approach LOS		B			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 75.1

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 10.0

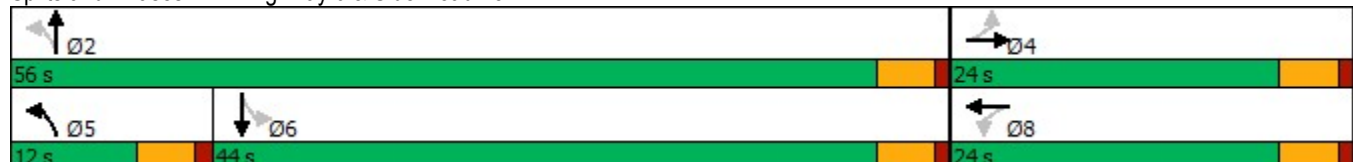
Intersection LOS: A

Intersection Capacity Utilization 61.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues
2: Highway 6 & Side Road 18

Future Background 2034
PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	179	113	91	140	951	99	643
v/c Ratio	0.14	0.44	0.68	0.26	0.26	0.39	0.30	0.33
Control Delay	26.1	9.0	48.4	9.6	5.5	5.2	14.2	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	9.0	48.4	9.6	5.5	5.2	14.2	10.1
Queue Length 50th (m)	3.9	1.5	15.5	1.1	5.4	22.3	7.4	25.4
Queue Length 95th (m)	10.7	16.7	31.9	12.1	14.2	43.1	21.7	44.0
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	344	532	252	479	555	2456	326	1968
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	0.09	0.34	0.45	0.19	0.25	0.39	0.30	0.33
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Background 2034

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	11	159	104	8	75	133	748	151	91	584	27
Future Volume (vph)	29	11	159	104	8	75	133	748	151	91	584	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.86		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1573		1770	1611		1736	3448		1770	3376	
Flt Permitted	0.70	1.00		0.52	1.00		0.34	1.00		0.30	1.00	
Satd. Flow (perm)	1326	1573		972	1611		629	3448		560	3376	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	31	12	167	113	9	82	140	787	164	99	615	28
RTOR Reduction (vph)	0	138	0	0	68	0	0	18	0	0	3	0
Lane Group Flow (vph)	31	41	0	113	23	0	140	933	0	99	640	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.0	13.0		13.0	13.0		54.1	54.1		43.8	43.8	
Effective Green, g (s)	13.0	13.0		13.0	13.0		54.1	54.1		43.8	43.8	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.71	0.71		0.58	0.58	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	226	268		166	275		531	2451		322	1943	
v/s Ratio Prot		0.03			0.01		0.02	c0.27			0.19	
v/s Ratio Perm	0.02			c0.12			0.17			0.18		
v/c Ratio	0.14	0.15		0.68	0.08		0.26	0.38		0.31	0.33	
Uniform Delay, d1	26.8	26.9		29.6	26.5		3.9	4.4		8.3	8.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		10.9	0.1		0.3	0.5		2.5	0.5	
Delay (s)	27.1	27.1		40.5	26.7		4.2	4.8		10.8	8.9	
Level of Service	C	C		D	C		A	A		B	A	
Approach Delay (s)		27.1			34.3			4.7			9.2	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			76.1				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			61.7%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
3: Highway 6 & Side Road 19

Future Background 2034

PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	41	84	77	1002	749	62
Future Volume (vph)	41	84	77	1002	749	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.989	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1568	1703	3505	3443	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1568	1703	3505	3443	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	1	2	5			5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	6%	3%	4%	0%
Adj. Flow (vph)	42	87	79	1033	772	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	87	79	1033	836	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Highway 6 & Side Road 19

Future Background 2034
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	84	77	1002	749	62
Future Volume (Veh/h)	41	84	77	1002	749	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	42	87	79	1033	772	64
Pedestrians	5			2	1	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked	0.88					
vC, conflicting volume	1484	425	841			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1282	425	841			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	67	85	90			
cM capacity (veh/h)	126	572	762			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	129	79	516	516	515	321
Volume Left	42	79	0	0	0	0
Volume Right	87	0	0	0	0	64
cSH	326	762	1700	1700	1700	1700
Volume to Capacity	0.40	0.10	0.30	0.30	0.30	0.19
Queue Length 95th (m)	14.6	2.8	0.0	0.0	0.0	0.0
Control Delay (s)	23.1	10.3	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	23.1	0.7	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay	1.8					
Intersection Capacity Utilization	41.0%		ICU Level of Service		A	
Analysis Period (min)	15					

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2034

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	107	69	486	85	527	108	320	492	25
Future Volume (vph)	25	48	82	107	69	486	85	527	108	320	492	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00	0.96		0.98	0.99		0.99	1.00	
Frt		0.906			0.869			0.975			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1680	0	1787	1541	0	1805	3441	0	1719	3542	0
Flt Permitted	0.175			0.616			0.444			0.282		
Satd. Flow (perm)	332	1680	0	1156	1541	0	831	3441	0	508	3542	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			374			24			9	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Adj. Flow (vph)	27	52	88	115	74	523	91	567	116	344	529	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	140	0	115	597	0	91	683	0	344	556	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2034

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	37.0	37.0		37.0	37.0		34.0	34.0		29.0	63.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		34.0%	34.0%		29.0%	63.0%	
Maximum Green (s)	33.0	33.0		32.0	32.0		29.0	29.0		24.5	58.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	22.9	22.9		21.9	21.9		39.2	39.2		59.1	58.6	
Actuated g/C Ratio	0.25	0.25		0.24	0.24		0.43	0.43		0.65	0.65	
v/c Ratio	0.33	0.29		0.41	0.91		0.25	0.46		0.65	0.24	
Control Delay	37.1	12.1		32.3	31.2		25.4	22.3		14.8	8.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.1	12.1		32.3	31.2		25.4	22.3		14.8	8.2	
LOS	D	B		C	C		C	C		B	A	
Approach Delay		16.1			31.4			22.7			10.7	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 90.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 20.5

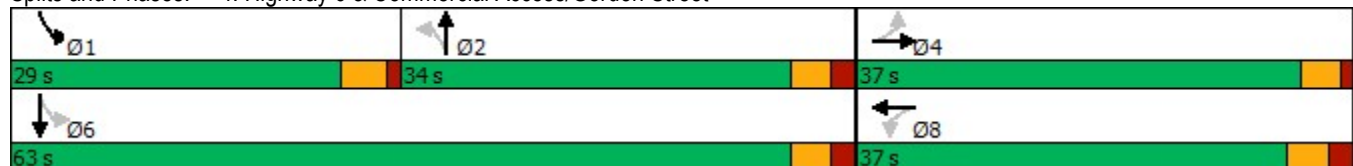
Intersection LOS: C

Intersection Capacity Utilization 90.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2034
PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	140	115	597	91	683	344	556
v/c Ratio	0.33	0.29	0.41	0.91	0.25	0.46	0.65	0.24
Control Delay	37.1	12.1	32.3	31.2	25.4	22.3	14.8	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	12.1	32.3	31.2	25.4	22.3	14.8	8.2
Queue Length 50th (m)	4.0	7.3	17.6	42.0	10.6	44.5	26.4	21.2
Queue Length 95th (m)	12.1	21.2	33.1	#95.8	30.2	82.8	51.7	36.7
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	122	673	412	790	359	1501	662	2294
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	0.22	0.21	0.28	0.76	0.25	0.46	0.52	0.24

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Background 2034

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	107	69	486	85	527	108	320	492	25
Future Volume (vph)	25	48	82	107	69	486	85	527	108	320	492	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1680		1783	1545		1780	3441		1717	3541	
Flt Permitted	0.17	1.00		0.62	1.00		0.44	1.00		0.28	1.00	
Satd. Flow (perm)	332	1680		1156	1545		831	3441		509	3541	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	52	88	115	74	523	91	567	116	344	529	27
RTOR Reduction (vph)	0	66	0	0	283	0	0	14	0	0	3	0
Lane Group Flow (vph)	27	74	0	115	314	0	91	669	0	344	553	0
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	22.9	22.9		21.9	21.9		39.2	39.2		58.6	58.6	
Effective Green, g (s)	22.9	22.9		21.9	21.9		39.2	39.2		58.6	58.6	
Actuated g/C Ratio	0.25	0.25		0.24	0.24		0.43	0.43		0.65	0.65	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	84	425		279	373		359	1490		528	2292	
v/s Ratio Prot		0.04			c0.20			0.19		c0.11	0.16	
v/s Ratio Perm	0.08			0.10			0.11			c0.31		
v/c Ratio	0.32	0.17		0.41	0.84		0.25	0.45		0.65	0.24	
Uniform Delay, d1	27.5	26.4		28.9	32.6		16.3	18.1		8.7	6.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.2		1.0	15.5		1.7	1.0		2.9	0.2	
Delay (s)	29.7	26.6		29.9	48.2		18.0	19.0		11.5	6.9	
Level of Service	C	C		C	D		B	B		B	A	
Approach Delay (s)		27.1			45.2			18.9			8.7	
Approach LOS		C			D			B			A	
Intersection Summary												
HCM 2000 Control Delay			23.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			90.5			Sum of lost time (s)				14.5		
Intersection Capacity Utilization			90.9%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

Future Background 2034

5: Beatty Line North & Farley Road/Side Road 18

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	48	58	50	68	58	109	122	40	56	138	51
Future Volume (vph)	29	48	58	50	68	58	109	122	40	56	138	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.942			0.956			0.980			0.972	
Flt Protected		0.989			0.986			0.980			0.989	
Satd. Flow (prot)	0	1729	0	0	1750	0	0	1809	0	0	1769	0
Flt Permitted		0.989			0.986			0.980			0.989	
Satd. Flow (perm)	0	1729	0	0	1750	0	0	1809	0	0	1769	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)	1		6	6		1	1		3	3		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	0%	2%	0%	6%	0%	1%	1%	0%	0%	1%	13%
Adj. Flow (vph)	30	50	60	52	71	60	114	127	42	58	144	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	0	0	183	0	0	283	0	0	255	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	47.2%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 5: Beatty Line North & Farley Road/Side Road 18

Future Background 2034
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	48	58	50	68	58	109	122	40	56	138	51
Future Volume (Veh/h)	29	48	58	50	68	58	109	122	40	56	138	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	30	50	60	52	71	60	114	127	42	58	144	53
Pedestrians		1			3			6			1	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	760	688	178	756	693	152	198			172		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	760	688	178	756	693	152	198			172		
tC, single (s)	7.2	6.5	6.2	7.1	6.6	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.1	3.3	2.2			2.2		
p0 queue free %	86	85	93	78	78	93	92			96		
cM capacity (veh/h)	222	326	860	242	317	897	1379			1414		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	140	183	283	255								
Volume Left	30	52	114	58								
Volume Right	60	60	42	53								
cSH	391	362	1379	1414								
Volume to Capacity	0.36	0.51	0.08	0.04								
Queue Length 95th (m)	12.8	21.9	2.2	1.0								
Control Delay (s)	19.3	24.7	3.6	2.0								
Lane LOS	C	C	A	A								
Approach Delay (s)	19.3	24.7	3.6	2.0								
Approach LOS	C	C										
Intersection Summary												
Average Delay			10.2									
Intersection Capacity Utilization			47.2%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

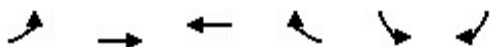
Future Background 2034

PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	150	162	8	6	52
Future Volume (vph)	16	150	162	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.879	
Flt Protected		0.995			0.995	
Satd. Flow (prot)	0	1808	1742	0	1553	0
Flt Permitted		0.995			0.995	
Satd. Flow (perm)	0	1808	1742	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	19	176	191	9	7	61
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	195	200	0	68	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: Side Road 18 & Vincent Street

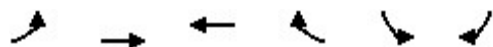
Future Background 2034
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	150	162	8	6	52
Future Volume (Veh/h)	16	150	162	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	19	176	191	9	7	61
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	200				418	196
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	200				418	196
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	99				99	93
cM capacity (veh/h)	1277				524	839
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	195	200	68			
Volume Left	19	0	7			
Volume Right	0	9	61			
cSH	1277	1700	790			
Volume to Capacity	0.01	0.12	0.09			
Queue Length 95th (m)	0.4	0.0	2.3			
Control Delay (s)	0.9	0.0	10.0			
Lane LOS	A		A			
Approach Delay (s)	0.9	0.0	10.0			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			31.8%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Background 2034
PM Peak Hour

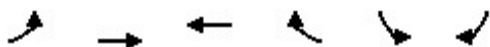


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	146	168	45	45	7
Future Volume (vph)	6	146	168	45	45	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.972		0.982	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1896	1832	0	1784	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1896	1832	0	1784	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	7	166	191	51	51	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	173	242	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Background 2034
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	146	168	45	45	7
Future Volume (Veh/h)	6	146	168	45	45	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	166	191	51	51	8
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	243				398	218
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	243				398	218
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	99
cM capacity (veh/h)	1334				608	822
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	173	242	59			
Volume Left	7	0	51			
Volume Right	0	51	8			
cSH	1334	1700	630			
Volume to Capacity	0.01	0.14	0.09			
Queue Length 95th (m)	0.1	0.0	2.5			
Control Delay (s)	0.4	0.0	11.3			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			22.5%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Background 2034

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.972						0.899					
Flt Protected				0.978			0.988					
Satd. Flow (prot)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Flt Permitted				0.978			0.988					
Satd. Flow (perm)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Link Speed (k/h)	50			50			50			50		
Link Distance (m)	156.5			142.7			88.1			94.9		
Travel Time (s)	11.3			10.3			6.3			6.8		
Confl. Peds. (#/hr)				17	17				2	2		
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	20	0	0	12	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0			0.0			0.0			0.0		
Link Offset(m)	0.0			0.0			0.0			0.0		
Crosswalk Width(m)	4.8			4.8			4.8			4.8		
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25	15		25	15		25	15		25	15	
Sign Control	Stop			Stop			Stop			Stop		
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.3%			ICU Level of Service A								
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Background 2034
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	24	20	12	0								
Volume Left (vph)	0	9	3	0								
Volume Right (vph)	5	0	9	0								
Hadj (s)	-0.13	0.09	-0.40	0.00								
Departure Headway (s)	3.8	4.0	3.6	4.0								
Degree Utilization, x	0.03	0.02	0.01	0.00								
Capacity (veh/h)	932	884	987	900								
Control Delay (s)	6.9	7.1	6.6	7.0								
Approach Delay (s)	6.9	7.1	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				6.9								
Level of Service				A								
Intersection Capacity Utilization				18.3%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings

Future Total 2034

1: Highway 6 & Nichol Road 15/Private Driveway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	0	114	0	0	0	169	380	0	0	447	46
Future Volume (vph)	30	0	114	0	0	0	169	380	0	0	447	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.987	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	2					2						
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
Heavy Vehicles (%)	12%	0%	8%	0%	0%	0%	10%	7%	0%	0%	7%	3%
Adj. Flow (vph)	33	0	124	0	0	0	184	413	0	0	486	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	124	0	0	0	184	413	0	0	536	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 60.3%	ICU Level of Service B											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2034
AM Peak Hour

																																																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																																						
Lane Configurations																																																		
Traffic Volume (veh/h)	30	0	114	0	0	0	169	380	0	0	447	46																																						
Future Volume (Veh/h)	30	0	114	0	0	0	169	380	0	0	447	46																																						
Sign Control	Stop			Stop			Free			Free																																								
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)	33	0	124	0	0	0	184	413	0	0	486	50																																						
Pedestrians												2																																						
Lane Width (m)												3.6																																						
Walking Speed (m/s)												1.2																																						
Percent Blockage												0																																						
Right turn flare (veh)	1																																																	
Median type	None											None																																						
Median storage veh																																																		
Upstream signal (m)																																																		
pX, platoon unblocked																																																		
vC, conflicting volume	1294	1292	511	1354	1317	415	536						413																																					
vC1, stage 1 conf vol																																																		
vC2, stage 2 conf vol																																																		
vCu, unblocked vol	1294	1292	511	1354	1317	415	536						413																																					
tC, single (s)	7.2	6.5	6.3	7.1	6.5	6.2	4.2						4.1																																					
tC, 2 stage (s)																																																		
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3						2.2																																					
p0 queue free %	71	100	77	100	100	100	81						100																																					
cM capacity (veh/h)	114	134	551	85	129	641	993						1157																																					
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1																																													
Volume Total	157	0	184	413	536																																													
Volume Left	33	0	184	0	0																																													
Volume Right	124	0	0	0	50																																													
cSH	541	1700	993	1700	1157																																													
Volume to Capacity	0.29	0.00	0.19	0.24	0.00																																													
Queue Length 95th (m)	9.6	0.0	5.4	0.0	0.0																																													
Control Delay (s)	20.9	0.0	9.4	0.0	0.0																																													
Lane LOS	C	A	A																																															
Approach Delay (s)	20.9	0.0	2.9																																															
Approach LOS	C	A																																																
Intersection Summary																																																		
Average Delay	3.9																																																	
Intersection Capacity Utilization	60.3%																																																	
Analysis Period (min)	15																																																	
ICU Level of Service																																																		
B																																																		

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2034
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	5	220	115	9	133	137	553	53	47	834	27
Future Volume (vph)	18	5	220	115	9	133	137	553	53	47	834	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.853			0.860			0.986			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1559	0	1770	1602	0	1656	3313	0	1770	3383	0
Flt Permitted	0.638			0.460			0.293			0.406		
Satd. Flow (perm)	1212	1559	0	857	1602	0	511	3313	0	756	3383	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		165			145			27			8	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	19	5	229	125	10	145	143	576	58	51	869	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	234	0	125	155	0	143	634	0	51	897	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2034
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.2	23.2		23.2	23.2		46.8	46.8		46.8	46.8	
Total Split (%)	33.1%	33.1%		33.1%	33.1%		66.9%	66.9%		66.9%	66.9%	
Maximum Green (s)	18.7	18.7		18.7	18.7		42.3	42.3		42.3	42.3	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	13.2	13.2		13.2	13.2		43.2	43.2		43.2	43.2	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.66	0.66		0.66	0.66	
v/c Ratio	0.08	0.53		0.73	0.35		0.42	0.29		0.10	0.40	
Control Delay	20.6	12.1		47.8	7.3		11.5	5.5		5.9	6.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.6	12.1		47.8	7.3		11.5	5.5		5.9	6.4	
LOS	C	B		D	A		B	A		A	A	
Approach Delay		12.8			25.4			6.6			6.3	
Approach LOS		B			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 65.4

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 9.5

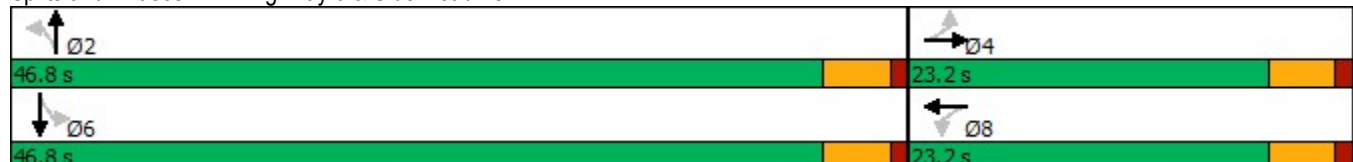
Intersection LOS: A

Intersection Capacity Utilization 66.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18

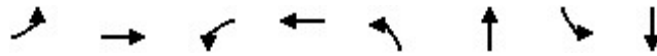


Queues

2: Highway 6 & Side Road 18

Future Total 2034

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	19	234	125	155	143	634	51	897
v/c Ratio	0.08	0.53	0.73	0.35	0.42	0.29	0.10	0.40
Control Delay	20.6	12.1	47.8	7.3	11.5	5.5	5.9	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	12.1	47.8	7.3	11.5	5.5	5.9	6.4
Queue Length 50th (m)	2.0	7.3	14.8	1.0	7.3	14.4	2.0	23.4
Queue Length 95th (m)	6.7	24.7	#32.3	13.9	24.8	27.3	7.1	42.4
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	347	564	245	562	337	2197	499	2237
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	0.41	0.51	0.28	0.42	0.29	0.10	0.40

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2034

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	5	220	115	9	133	137	553	53	47	834	27
Future Volume (vph)	18	5	220	115	9	133	137	553	53	47	834	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1559		1770	1601		1656	3314		1770	3384	
Flt Permitted	0.64	1.00		0.46	1.00		0.29	1.00		0.41	1.00	
Satd. Flow (perm)	1212	1559		856	1601		510	3314		756	3384	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	19	5	229	125	10	145	143	576	58	51	869	28
RTOR Reduction (vph)	0	132	0	0	116	0	0	9	0	0	3	0
Lane Group Flow (vph)	19	102	0	125	39	0	143	625	0	51	894	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.2	13.2		13.2	13.2		43.2	43.2		43.2	43.2	
Effective Green, g (s)	13.2	13.2		13.2	13.2		43.2	43.2		43.2	43.2	
Actuated g/C Ratio	0.20	0.20		0.20	0.20		0.66	0.66		0.66	0.66	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	244	314		172	323		336	2189		499	2235	
v/s Ratio Prot		0.07			0.02			0.19			0.26	
v/s Ratio Perm	0.02			0.15			0.28			0.07		
v/c Ratio	0.08	0.33		0.73	0.12		0.43	0.29		0.10	0.40	
Uniform Delay, d1	21.2	22.3		24.4	21.4		5.2	4.6		4.0	5.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.6		14.2	0.2		3.9	0.3		0.4	0.5	
Delay (s)	21.3	22.9		38.6	21.5		9.2	5.0		4.5	5.7	
Level of Service	C	C		D	C		A	A		A	A	
Approach Delay (s)		22.8			29.1			5.7			5.6	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			65.4			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			66.8%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
3: Highway 6 & Side Road 19

Future Total 2034
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	59	60	682	1137	46
Future Volume (vph)	21	59	60	682	1137	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1671	1380	1671	3343	3339	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1671	1380	1671	3343	3339	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	3	1	3			3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	8%	17%	8%	8%	7%	19%
Adj. Flow (vph)	23	65	66	749	1249	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	65	66	749	1300	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 3: Highway 6 & Side Road 19

Future Total 2034
AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	21	59	60	682	1137	46
Future Volume (Veh/h)	21	59	60	682	1137	46
Sign Control	Stop			Free		Free
Grade	0%			0%		0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	23	65	66	749	1249	51
Pedestrians	3			1	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)		1				
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked	0.99					
vC, conflicting volume	1787	654	1303			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1772	654	1303			
tC, single (s)	7.0	7.2	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.5	2.3			
p0 queue free %	61	83	87			
cM capacity (veh/h)	59	374	495			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	88	66	374	374	833	467
Volume Left	23	66	0	0	0	0
Volume Right	65	0	0	0	0	51
cSH	192	495	1700	1700	1700	1700
Volume to Capacity	0.46	0.13	0.22	0.22	0.49	0.27
Queue Length 95th (m)	17.4	3.7	0.0	0.0	0.0	0.0
Control Delay (s)	38.8	13.4	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	38.8	1.1			0.0	
Approach LOS	E					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			49.9%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2034
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	95	12	348	20	381	88	510	672	10
Future Volume (vph)	5	8	25	95	12	348	20	381	88	510	672	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		0.99	0.99		0.99	0.99		0.99	1.00	
Frt		0.886			0.855			0.972			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1610	0	1656	1397	0	1641	3319	0	1656	3399	0
Flt Permitted	0.286			0.732			0.346			0.451		
Satd. Flow (perm)	543	1610	0	1268	1397	0	593	3319	0	779	3399	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			400			71			4	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Adj. Flow (vph)	6	9	29	109	14	400	23	438	101	586	772	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	38	0	109	414	0	23	539	0	586	783	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2034
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	23.0	23.0		23.0	23.0		77.0	77.0		77.0	77.0	
Total Split (%)	23.0%	23.0%		23.0%	23.0%		77.0%	77.0%		77.0%	77.0%	
Maximum Green (s)	19.0	19.0		18.0	18.0		72.0	72.0		72.0	72.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	14.0	14.0		13.0	13.0		72.1	72.1		72.1	72.1	
Actuated g/C Ratio	0.15	0.15		0.14	0.14		0.76	0.76		0.76	0.76	
v/c Ratio	0.07	0.15		0.63	0.77		0.05	0.21		0.99	0.30	
Control Delay	36.2	17.3		55.0	15.4		4.0	3.4		50.9	4.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	36.2	17.3		55.0	15.4		4.0	3.4		50.9	4.3	
LOS	D	B		E	B		A	A		D	A	
Approach Delay		19.9			23.6			3.4			24.3	
Approach LOS		B			C			A			C	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 95.1

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 19.4

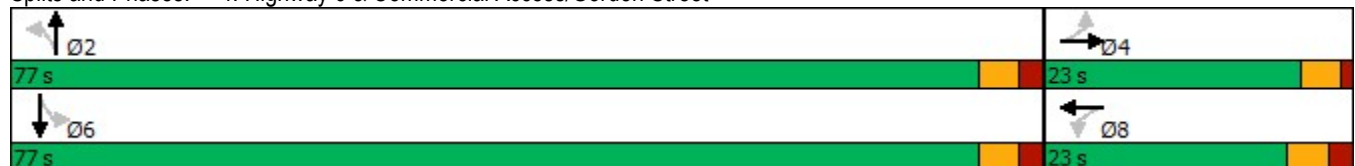
Intersection LOS: B

Intersection Capacity Utilization 78.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues

Future Total 2034

4: Highway 6 & Commercial Access/Gordon Street

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	38	109	414	23	539	586	783
v/c Ratio	0.07	0.15	0.63	0.77	0.05	0.21	0.99	0.30
Control Delay	36.2	17.3	55.0	15.4	4.0	3.4	50.9	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	17.3	55.0	15.4	4.0	3.4	50.9	4.3
Queue Length 50th (m)	1.0	1.5	20.1	2.4	0.9	11.1	91.8	20.5
Queue Length 95th (m)	4.6	9.9	36.4	28.4	3.3	18.7	#186.8	32.3
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	108	345	240	588	449	2532	590	2577
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	0.06	0.11	0.45	0.70	0.05	0.21	0.99	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Total 2034
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	95	12	348	20	381	88	510	672	10
Future Volume (vph)	5	8	25	95	12	348	20	381	88	510	672	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.89		1.00	0.86		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1610		1646	1397		1628	3320		1641	3399	
Flt Permitted	0.29	1.00		0.73	1.00		0.35	1.00		0.45	1.00	
Satd. Flow (perm)	543	1610		1269	1397		594	3320		780	3399	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	9	29	109	14	400	23	438	101	586	772	11
RTOR Reduction (vph)	0	25	0	0	345	0	0	17	0	0	1	0
Lane Group Flow (vph)	6	13	0	109	69	0	23	522	0	586	782	0
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.0	14.0		13.0	13.0		72.1	72.1		72.1	72.1	
Effective Green, g (s)	14.0	14.0		13.0	13.0		72.1	72.1		72.1	72.1	
Actuated g/C Ratio	0.15	0.15		0.14	0.14		0.76	0.76		0.76	0.76	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	237		173	190		450	2517		591	2576	
v/s Ratio Prot		0.01			0.05			0.16			0.23	
v/s Ratio Perm	0.01			c0.09			0.04			c0.75		
v/c Ratio	0.08	0.06		0.63	0.36		0.05	0.21		0.99	0.30	
Uniform Delay, d1	35.0	34.9		38.8	37.3		2.9	3.3		11.2	3.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.1		7.3	1.2		0.2	0.2		35.0	0.3	
Delay (s)	35.4	35.0		46.0	38.5		3.1	3.5		46.2	3.9	
Level of Service	D	C		D	D		A	A		D	A	
Approach Delay (s)		35.0			40.0			3.5			22.0	
Approach LOS		D			D			A			C	
Intersection Summary												
HCM 2000 Control Delay			21.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			95.1			Sum of lost time (s)			10.0			
Intersection Capacity Utilization			78.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

5: Beatty Line North & Farley Road/Side Road 18

Future Total 2034

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	125	68	93	89	71	34	88	80	59	148	37
Future Volume (vph)	61	125	68	93	89	71	34	88	80	59	148	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.964			0.962			0.947			0.980	
Flt Protected		0.988			0.982			0.992			0.988	
Satd. Flow (prot)	0	1735	0	0	1703	0	0	1689	0	0	1711	0
Flt Permitted		0.988			0.982			0.992			0.988	
Satd. Flow (perm)	0	1735	0	0	1703	0	0	1689	0	0	1711	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)			19	19					3	3		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	3%	6%	7%	4%	5%	7%	4%	7%	14%	3%	15%
Adj. Flow (vph)	71	145	79	108	103	83	40	102	93	69	172	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	295	0	0	294	0	0	235	0	0	284	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	49.8%											
Analysis Period (min)	15											
	ICU Level of Service A											

HCM Unsignalized Intersection Capacity Analysis

5: Beatty Line North & Farley Road/Side Road 18

Future Total 2034
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	125	68	93	89	71	34	88	80	59	148	37
Future Volume (Veh/h)	61	125	68	93	89	71	34	88	80	59	148	37
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	71	145	79	108	103	83	40	102	93	69	172	43
Pedestrians					3			19				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					0			2				
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	694	610	212	734	584	152	215			198		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	694	610	212	734	584	152	215			198		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3			2.3		
p0 queue free %	70	61	90	44	73	91	97			95		
cM capacity (veh/h)	238	374	805	192	385	885	1326			1303		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	295	294	235	284								
Volume Left	71	108	40	69								
Volume Right	79	83	93	43								
cSH	376	318	1326	1303								
Volume to Capacity	0.78	0.92	0.03	0.05								
Queue Length 95th (m)	52.8	72.9	0.7	1.3								
Control Delay (s)	41.7	70.1	1.5	2.3								
Lane LOS	E	F	A	A								
Approach Delay (s)	41.7	70.1	1.5	2.3								
Approach LOS	E	F										
Intersection Summary												
Average Delay			30.6									
Intersection Capacity Utilization			49.8%	ICU Level of Service				A				
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2034
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	242	184	22	20	80
Future Volume (vph)	25	242	184	22	20	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.985		0.892	
Flt Protected		0.995			0.990	
Satd. Flow (prot)	0	1809	1696	0	1529	0
Flt Permitted		0.995			0.990	
Satd. Flow (perm)	0	1809	1696	0	1529	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	30	295	224	27	24	98
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	325	251	0	122	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

Future Total 2034
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	242	184	22	20	80
Future Volume (Veh/h)	25	242	184	22	20	80
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	30	295	224	27	24	98
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	251				602	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	251				602	238
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				94	88
cM capacity (veh/h)	1221				403	795
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	325	251	122			
Volume Left	30	0	24			
Volume Right	0	27	98			
cSH	1221	1700	667			
Volume to Capacity	0.02	0.15	0.18			
Queue Length 95th (m)	0.6	0.0	5.3			
Control Delay (s)	1.0	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	1.0	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			2.5			
Intersection Capacity Utilization			41.5%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2034
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	179	131	43	74	65
Future Volume (vph)	95	179	131	43	74	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.967		0.937	
Flt Protected		0.983			0.974	
Satd. Flow (prot)	0	1772	1648	0	1577	0
Flt Permitted		0.983			0.974	
Satd. Flow (perm)	0	1772	1648	0	1577	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	192	141	46	80	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	294	187	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2034
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	179	131	43	74	65
Future Volume (Veh/h)	95	179	131	43	74	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	192	141	46	80	70
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	189				566	170
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	189				566	170
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	92				82	92
cM capacity (veh/h)	1336				436	847
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	294	187	150			
Volume Left	102	0	80			
Volume Right	0	46	70			
cSH	1336	1700	563			
Volume to Capacity	0.08	0.11	0.27			
Queue Length 95th (m)	2.0	0.0	8.5			
Control Delay (s)	3.2	0.0	13.7			
Lane LOS	A		B			
Approach Delay (s)	3.2	0.0	13.7			
Approach LOS			B			
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization			43.4%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Total 2034
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Future Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.977			0.960			0.899			0.932	
Flt Protected		0.994			0.993			0.988			0.976	
Satd. Flow (prot)	0	1746	0	0	1701	0	0	1663	0	0	1728	0
Flt Permitted		0.994			0.993			0.988			0.976	
Satd. Flow (perm)	0	1746	0	0	1701	0	0	1663	0	0	1728	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		156.5			142.7			88.1			94.9	
Travel Time (s)		11.3			10.3			6.3			6.8	
Confl. Peds. (#/hr)			11	11			2		4	4		2
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	8%	0%	10%	9%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	3	17	4	4	15	8	1	0	3	8	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	27	0	0	4	0	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.7%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Total 2034
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Future Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	3	17	4	4	15	8	1	0	3	8	0	8
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	24	27	4	16								
Volume Left (vph)	3	4	1	8								
Volume Right (vph)	4	8	3	8								
Hadj (s)	0.02	-0.04	-0.37	-0.20								
Departure Headway (s)	4.0	3.9	3.6	3.8								
Degree Utilization, x	0.03	0.03	0.00	0.02								
Capacity (veh/h)	891	907	969	927								
Control Delay (s)	7.1	7.0	6.7	6.9								
Approach Delay (s)	7.1	7.0	6.7	6.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.0								
Level of Service				A								
Intersection Capacity Utilization				17.7%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings
9: Highway 6 & Street A

Future Total 2034
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	57	287	217	487	622	91
Future Volume (vph)	57	287	217	487	622	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			15.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.5		25.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3343	3343	1615
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3343	3343	1615
Link Speed (k/h)	50			60	60	
Link Distance (m)	197.6			413.0	200.4	
Travel Time (s)	14.2			24.8	12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	8%	8%	0%
Adj. Flow (vph)	62	312	236	529	676	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	312	236	529	676	99
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: Highway 6 & Street A

Future Total 2034
AM Peak Hour

									
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	57	287	217	487	622	91			
Future Volume (Veh/h)	57	287	217	487	622	91			
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)	62	312	236	529	676	99			
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	1412	338	775						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	1412	338	775						
tC, single (s)	6.8	6.9	4.1						
tC, 2 stage (s)									
tF (s)	3.5	3.3	2.2						
p0 queue free %	35	53	72						
cM capacity (veh/h)	95	664	850						
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	
Volume Total	62	312	236	264	264	338	338	99	
Volume Left	62	0	236	0	0	0	0	0	
Volume Right	0	312	0	0	0	0	0	99	
cSH	95	664	850	1700	1700	1700	1700	1700	
Volume to Capacity	0.65	0.47	0.28	0.16	0.16	0.20	0.20	0.06	
Queue Length 95th (m)	25.5	20.1	9.1	0.0	0.0	0.0	0.0	0.0	
Control Delay (s)	96.4	15.1	10.9	0.0	0.0	0.0	0.0	0.0	
Lane LOS	F	C	B						
Approach Delay (s)	28.6		3.3			0.0			
Approach LOS	D								
Intersection Summary									
Average Delay			6.9						
Intersection Capacity Utilization			42.5%		ICU Level of Service		A		
Analysis Period (min)			15						

Lanes, Volumes, Timings

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2034

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	0	201	0	0	0	160	643	0	0	521	27
Future Volume (vph)	30	0	201	0	0	0	160	643	0	0	521	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.993	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	4					4						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	19%	0%	4%	0%	0%	0%	3%	3%	0%	0%	7%	13%
Adj. Flow (vph)	32	0	212	0	0	0	168	677	0	0	548	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	212	0	0	0	168	677	0	0	576	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 77.5%	ICU Level of Service D											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2034
PM Peak Hour

																																																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																																						
Lane Configurations																																																		
Traffic Volume (veh/h)	30	0	201	0	0	0	160	643	0	0	521	27																																						
Future Volume (Veh/h)	30	0	201	0	0	0	160	643	0	0	521	27																																						
Sign Control	Stop			Stop			Free			Free																																								
Grade	0%			0%			0%			0%																																								
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95																																						
Hourly flow rate (vph)	32	0	212	0	0	0	168	677	0	0	548	28																																						
Pedestrians												4																																						
Lane Width (m)												3.6																																						
Walking Speed (m/s)												1.2																																						
Percent Blockage												0																																						
Right turn flare (veh)	1																																																	
Median type	None											None																																						
Median storage veh																																																		
Upstream signal (m)																																																		
pX, platoon unblocked																																																		
vC, conflicting volume	1579	1575	562	1681	1589	681	576						677																																					
vC1, stage 1 conf vol																																																		
vC2, stage 2 conf vol																																																		
vCu, unblocked vol	1579	1575	562	1681	1589	681	576						677																																					
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1						4.1																																					
tC, 2 stage (s)																																																		
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2						2.2																																					
p0 queue free %	54	100	59	100	100	100	83						100																																					
cM capacity (veh/h)	70	92	523	39	90	452	992						924																																					
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1																																													
Volume Total	244	0	168	677	576																																													
Volume Left	32	0	168	0	0																																													
Volume Right	212	0	0	0	28																																													
cSH	408	1700	992	1700	924																																													
Volume to Capacity	0.60	0.00	0.17	0.40	0.00																																													
Queue Length 95th (m)	30.2	0.0	4.9	0.0	0.0																																													
Control Delay (s)	26.1	0.0	9.4	0.0	0.0																																													
Lane LOS	D	A	A																																															
Approach Delay (s)	26.1	0.0	1.9																																															
Approach LOS	D	A																																																
Intersection Summary																																																		
Average Delay	4.8																																																	
Intersection Capacity Utilization	77.5%																																																	
Analysis Period (min)	15																																																	
ICU Level of Service																																																		
D																																																		

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2034
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	11	206	104	8	80	195	912	151	103	733	27
Future Volume (vph)	29	11	206	104	8	80	195	912	151	103	733	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.858			0.864			0.978			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1569	0	1770	1609	0	1736	3461	0	1770	3383	0
Flt Permitted	0.695			0.423			0.266			0.253		
Satd. Flow (perm)	1320	1569	0	788	1609	0	486	3461	0	471	3383	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		217			87			48			6	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	31	12	217	113	9	87	205	960	164	112	772	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	229	0	113	96	0	205	1124	0	112	800	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2034
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		12.0	56.0		44.0	44.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.0%	70.0%		55.0%	55.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		7.5	51.5		39.5	39.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	13.9	13.9		13.9	13.9		51.7	51.7		39.9	39.9	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.69	0.69		0.53	0.53	
v/c Ratio	0.13	0.49		0.77	0.26		0.45	0.47		0.44	0.44	
Control Delay	25.5	8.5		61.5	9.2		8.0	6.3		19.7	12.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.5	8.5		61.5	9.2		8.0	6.3		19.7	12.2	
LOS	C	A		E	A		A	A		B	B	
Approach Delay		10.6			37.5			6.6			13.1	
Approach LOS		B			D			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 74.6

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 11.5

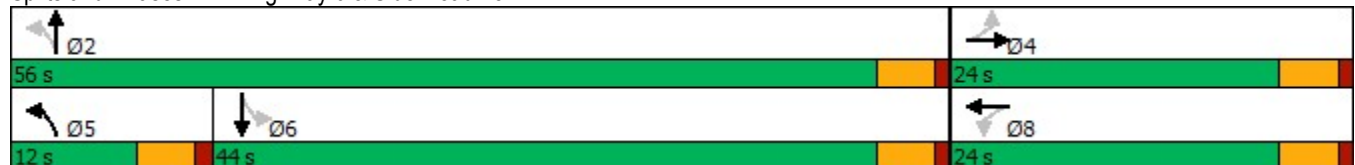
Intersection LOS: B

Intersection Capacity Utilization 69.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues
2: Highway 6 & Side Road 18

Future Total 2034
PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	229	113	96	205	1124	112	800
v/c Ratio	0.13	0.49	0.77	0.26	0.45	0.47	0.44	0.44
Control Delay	25.5	8.5	61.5	9.2	8.0	6.3	19.7	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.5	8.5	61.5	9.2	8.0	6.3	19.7	12.2
Queue Length 50th (m)	3.9	1.5	16.0	1.1	9.1	32.4	9.7	36.0
Queue Length 95th (m)	10.7	18.5	#37.5	12.5	20.2	55.4	28.1	57.0
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	346	571	206	486	463	2412	252	1814
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	0.09	0.40	0.55	0.20	0.44	0.47	0.44	0.44

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2034

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	11	206	104	8	80	195	912	151	103	733	27
Future Volume (vph)	29	11	206	104	8	80	195	912	151	103	733	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.86		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1569		1770	1610		1736	3462		1770	3382	
Flt Permitted	0.69	1.00		0.42	1.00		0.27	1.00		0.25	1.00	
Satd. Flow (perm)	1320	1569		788	1610		487	3462		472	3382	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	31	12	217	113	9	87	205	960	164	112	772	28
RTOR Reduction (vph)	0	177	0	0	71	0	0	15	0	0	3	0
Lane Group Flow (vph)	31	52	0	113	25	0	205	1109	0	112	797	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.9	13.9		13.9	13.9		51.7	51.7		40.0	40.0	
Effective Green, g (s)	13.9	13.9		13.9	13.9		51.7	51.7		40.0	40.0	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.69	0.69		0.54	0.54	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	245	292		146	299		458	2399		253	1813	
v/s Ratio Prot		0.03			0.02		0.04	0.32			0.24	
v/s Ratio Perm	0.02			0.14			0.27			0.24		
v/c Ratio	0.13	0.18		0.77	0.08		0.45	0.46		0.44	0.44	
Uniform Delay, d1	25.3	25.5		28.9	25.1		5.1	5.2		10.5	10.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		22.1	0.1		0.7	0.6		5.5	0.8	
Delay (s)	25.5	25.8		51.0	25.2		5.8	5.8		16.1	11.3	
Level of Service	C	C		D	C		A	A		B	B	
Approach Delay (s)		25.8			39.1			5.8			11.9	
Approach LOS		C			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			12.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			74.6				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			69.8%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
3: Highway 6 & Side Road 19

Future Total 2034
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	41	84	77	1228	945	62
Future Volume (vph)	41	84	77	1228	945	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1568	1703	3505	3448	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1568	1703	3505	3448	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	1	2	5			5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	6%	3%	4%	0%
Adj. Flow (vph)	42	87	79	1266	974	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	87	79	1266	1038	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Highway 6 & Side Road 19

Future Total 2034
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	41	84	77	1228	945	62
Future Volume (Veh/h)	41	84	77	1228	945	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	42	87	79	1266	974	64
Pedestrians	5			2	1	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)	1					
Median type				None	None	
Median storage veh						
Upstream signal (m)	93					
pX, platoon unblocked	0.81					
vC, conflicting volume	1803	526	1043			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1526	526	1043			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	46	82	88			
cM capacity (veh/h)	78	491	637			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	129	79	633	633	649	389
Volume Left	42	79	0	0	0	0
Volume Right	87	0	0	0	0	64
cSH	210	637	1700	1700	1700	1700
Volume to Capacity	0.61	0.12	0.37	0.37	0.38	0.23
Queue Length 95th (m)	28.2	3.4	0.0	0.0	0.0	0.0
Control Delay (s)	46.0	11.5	0.0	0.0	0.0	0.0
Lane LOS	E	B				
Approach Delay (s)	46.0	0.7	0.0			
Approach LOS	E					
Intersection Summary						
Average Delay	2.7					
Intersection Capacity Utilization	46.4%			ICU Level of Service		A
Analysis Period (min)	15					

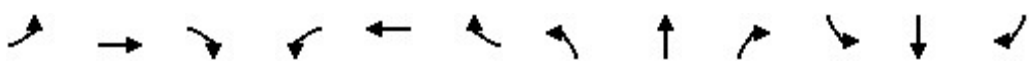
Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2034
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	107	69	575	85	665	108	395	613	25
Future Volume (vph)	25	48	82	107	69	575	85	665	108	395	613	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00	0.96		0.99	0.99			1.00	
Frt		0.906			0.866			0.979			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1680	0	1787	1534	0	1805	3463	0	1719	3547	0
Flt Permitted	0.153			0.623			0.391			0.167		
Satd. Flow (perm)	291	1680	0	1169	1534	0	733	3463	0	302	3547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			442			18			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Adj. Flow (vph)	27	52	88	115	74	618	91	715	116	425	659	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	140	0	115	692	0	91	831	0	425	686	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2034
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	37.0	37.0		37.0	37.0		34.0	34.0		29.0	63.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		34.0%	34.0%		29.0%	63.0%	
Maximum Green (s)	33.0	33.0		32.0	32.0		29.0	29.0		24.5	58.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	26.2	26.2		25.2	25.2		32.9	32.9		59.0	58.4	
Actuated g/C Ratio	0.28	0.28		0.27	0.27		0.35	0.35		0.63	0.62	
v/c Ratio	0.33	0.26		0.37	0.94		0.35	0.68		0.84	0.31	
Control Delay	38.1	11.7		30.4	34.0		32.5	31.5		33.9	9.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.1	11.7		30.4	34.0		32.5	31.5		33.9	9.6	
LOS	D	B		C	C		C	C		C	A	
Approach Delay		15.9			33.5			31.6			18.9	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 93.7

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 26.5

Intersection LOS: C

Intersection Capacity Utilization 104.4%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues

Future Total 2034

4: Highway 6 & Commercial Access/Gordon Street

PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	140	115	692	91	831	425	686
v/c Ratio	0.33	0.26	0.37	0.94	0.35	0.68	0.84	0.31
Control Delay	38.1	11.7	30.4	34.0	32.5	31.5	33.9	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	11.7	30.4	34.0	32.5	31.5	33.9	9.6
Queue Length 50th (m)	4.0	7.3	17.6	52.2	14.7	79.6	55.4	34.2
Queue Length 95th (m)	12.5	21.2	33.1	#130.7	31.3	105.4	#106.9	46.6
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	103	652	402	817	257	1227	563	2215
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	0.26	0.21	0.29	0.85	0.35	0.68	0.75	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Total 2034
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	107	69	575	85	665	108	395	613	25
Future Volume (vph)	25	48	82	107	69	575	85	665	108	395	613	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1680		1783	1537		1783	3464		1719	3547	
Flt Permitted	0.15	1.00		0.62	1.00		0.39	1.00		0.17	1.00	
Satd. Flow (perm)	290	1680		1169	1537		734	3464		303	3547	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	52	88	115	74	618	91	715	116	425	659	27
RTOR Reduction (vph)	0	63	0	0	323	0	0	12	0	0	3	0
Lane Group Flow (vph)	27	77	0	115	369	0	91	819	0	425	683	0
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.2	26.2		25.2	25.2		33.0	33.0		58.5	58.5	
Effective Green, g (s)	26.2	26.2		25.2	25.2		33.0	33.0		58.5	58.5	
Actuated g/C Ratio	0.28	0.28		0.27	0.27		0.35	0.35		0.62	0.62	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	81	469		314	413		258	1219		506	2214	
v/s Ratio Prot		0.05			c0.24			0.24		c0.19	0.19	
v/s Ratio Perm	0.09			0.10			0.12			c0.34		
v/c Ratio	0.33	0.16		0.37	0.89		0.35	0.67		0.84	0.31	
Uniform Delay, d1	26.8	25.5		27.8	33.0		22.4	25.8		19.2	8.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.2		0.7	20.9		3.8	3.0		11.7	0.4	
Delay (s)	29.2	25.6		28.5	53.9		26.2	28.7		30.9	8.6	
Level of Service	C	C		C	D		C	C		C	A	
Approach Delay (s)		26.2			50.3			28.5			17.1	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			30.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			93.7			Sum of lost time (s)				14.5		
Intersection Capacity Utilization			104.4%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

5: Beatty Line North & Farley Road/Side Road 18

Future Total 2034

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	74	58	65	91	70	109	122	78	75	138	51
Future Volume (vph)	29	74	58	65	91	70	109	122	78	75	138	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.951			0.958			0.966			0.974	
Flt Protected		0.991			0.986			0.983			0.986	
Satd. Flow (prot)	0	1756	0	0	1752	0	0	1791	0	0	1771	0
Flt Permitted		0.991			0.986			0.983			0.986	
Satd. Flow (perm)	0	1756	0	0	1752	0	0	1791	0	0	1771	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)	1		6	6		1	1		3	3		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	0%	2%	0%	6%	0%	1%	1%	0%	0%	1%	13%
Adj. Flow (vph)	30	77	60	68	95	73	114	127	81	78	144	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	167	0	0	236	0	0	322	0	0	275	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	52.2%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

5: Beatty Line North & Farley Road/Side Road 18

Future Total 2034
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	74	58	65	91	70	109	122	78	75	138	51
Future Volume (Veh/h)	29	74	58	65	91	70	109	122	78	75	138	51
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	30	77	60	68	95	73	114	127	81	78	144	53
Pedestrians		1			3			6			1	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	844	766	178	830	752	172	198			211		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	844	766	178	830	752	172	198			211		
tC, single (s)	7.2	6.5	6.2	7.1	6.6	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.1	3.3	2.2			2.2		
p0 queue free %	82	73	93	65	67	92	92			94		
cM capacity (veh/h)	170	289	860	192	288	874	1379			1368		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	167	236	322	275								
Volume Left	30	68	114	78								
Volume Right	60	73	81	53								
cSH	326	308	1379	1368								
Volume to Capacity	0.51	0.77	0.08	0.06								
Queue Length 95th (m)	22.2	47.5	2.2	1.4								
Control Delay (s)	27.1	46.6	3.3	2.6								
Lane LOS	D	E	A	A								
Approach Delay (s)	27.1	46.6	3.3	2.6								
Approach LOS	D	E										
Intersection Summary												
Average Delay			17.3									
Intersection Capacity Utilization			52.2%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2034
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	202	197	29	22	68
Future Volume (vph)	48	202	197	29	22	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.983		0.898	
Flt Protected		0.991			0.988	
Satd. Flow (prot)	0	1776	1683	0	1517	0
Flt Permitted		0.991			0.988	
Satd. Flow (perm)	0	1776	1683	0	1517	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	56	238	232	34	26	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	294	266	0	106	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

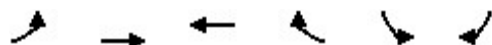
Future Total 2034
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	202	197	29	22	68
Future Volume (Veh/h)	48	202	197	29	22	68
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	56	238	232	34	26	80
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	266				608	250
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	266				608	250
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	95				93	90
cM capacity (veh/h)	1206				390	783
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	294	266	106			
Volume Left	56	0	26			
Volume Right	0	34	80			
cSH	1206	1700	628			
Volume to Capacity	0.05	0.16	0.17			
Queue Length 95th (m)	1.2	0.0	4.8			
Control Delay (s)	1.9	0.0	11.9			
Lane LOS	A		B			
Approach Delay (s)	1.9	0.0	11.9			
Approach LOS			B			
Intersection Summary						
Average Delay		2.7				
Intersection Capacity Utilization		41.2%		ICU Level of Service	A	
Analysis Period (min)		15				

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2034
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	162	189	86	76	42
Future Volume (vph)	58	162	189	86	76	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.958		0.952	
Flt Protected		0.987			0.969	
Satd. Flow (prot)	0	1875	1808	0	1740	0
Flt Permitted		0.987			0.969	
Satd. Flow (perm)	0	1875	1808	0	1740	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	184	215	98	86	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	250	313	0	134	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2034
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	162	189	86	76	42
Future Volume (Veh/h)	58	162	189	86	76	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	184	215	98	86	48
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	314				581	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	314				581	265
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				81	94
cM capacity (veh/h)	1257				454	773
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	250	313	134			
Volume Left	66	0	86			
Volume Right	0	98	48			
cSH	1257	1700	532			
Volume to Capacity	0.05	0.18	0.25			
Queue Length 95th (m)	1.3	0.0	7.9			
Control Delay (s)	2.5	0.0	14.0			
Lane LOS	A		B			
Approach Delay (s)	2.5	0.0	14.0			
Approach LOS			B			
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization		43.7%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Total 2034
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Future Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.979			0.955			0.899			0.955	
Flt Protected		0.988			0.985			0.988			0.968	
Satd. Flow (prot)	0	1838	0	0	1787	0	0	1688	0	0	1756	0
Flt Permitted		0.988			0.985			0.988			0.968	
Satd. Flow (perm)	0	1838	0	0	1787	0	0	1688	0	0	1756	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		156.5			142.7			88.1			94.9	
Travel Time (s)		11.3			10.3			6.3			6.8	
Confl. Peds. (#/hr)			17	17					2	2		
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	19	5	9	11	10	3	0	9	8	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	30	0	0	12	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.3%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Total 2034
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Future Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	8	19	5	9	11	10	3	0	9	8	0	4
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	32	30	12	12								
Volume Left (vph)	8	9	3	8								
Volume Right (vph)	5	10	9	4								
Hadj (s)	-0.04	-0.14	-0.40	-0.07								
Departure Headway (s)	3.9	3.8	3.6	4.0								
Degree Utilization, x	0.03	0.03	0.01	0.01								
Capacity (veh/h)	902	926	959	887								
Control Delay (s)	7.1	7.0	6.7	7.0								
Approach Delay (s)	7.1	7.0	6.7	7.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.0								
Level of Service				A								
Intersection Capacity Utilization				18.3%	ICU Level of Service							A
Analysis Period (min)				15								

Lanes, Volumes, Timings
9: Highway 6 & Street A

Future Total 2034
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	160	169	846	695	53
Future Volume (vph)	32	160	169	846	695	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			15.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.5		25.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3505	3406	1615
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3505	3406	1615
Link Speed (k/h)	50			60	60	
Link Distance (m)	197.6			413.0	200.4	
Travel Time (s)	14.2			24.8	12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	6%	0%
Adj. Flow (vph)	35	174	184	920	755	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	174	184	920	755	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	41.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: Highway 6 & Street A

Future Total 2034
PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	32	160	169	846	695	53		
Future Volume (Veh/h)	32	160	169	846	695	53		
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)	35	174	184	920	755	58		
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	1583	378	813					
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	1583	378	813					
tC, single (s)	6.8	6.9	4.1					
tC, 2 stage (s)								
tF (s)	3.5	3.3	2.2					
p0 queue free %	56	72	78					
cM capacity (veh/h)	79	626	823					
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	35	174	184	460	460	378	378	58
Volume Left	35	0	184	0	0	0	0	0
Volume Right	0	174	0	0	0	0	0	58
cSH	79	626	823	1700	1700	1700	1700	1700
Volume to Capacity	0.44	0.28	0.22	0.27	0.27	0.22	0.22	0.03
Queue Length 95th (m)	14.5	9.1	6.8	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	83.2	13.0	10.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	B					
Approach Delay (s)	24.7	1.8				0.0		
Approach LOS	C							
Intersection Summary								
Average Delay			3.4					
Intersection Capacity Utilization			41.9%	ICU Level of Service			A	
Analysis Period (min)			15					

Lanes, Volumes, Timings

Future Background 2039

1: Highway 6 & Nichol Road 15/Private Driveway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	0	124	0	0	0	183	364	0	0	461	50
Future Volume (vph)	34	0	124	0	0	0	183	364	0	0	461	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.987	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	2					2						
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
Heavy Vehicles (%)	12%	0%	8%	0%	0%	0%	10%	7%	0%	0%	7%	3%
Adj. Flow (vph)	37	0	135	0	0	0	199	396	0	0	501	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	135	0	0	0	199	396	0	0	555	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	60.4%						ICU Level of Service B					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Background 2039

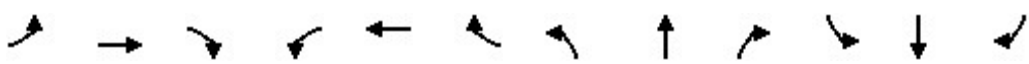
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	34	0	124	0	0	0	183	364	0	0	461	50	
Future Volume (Veh/h)	34	0	124	0	0	0	183	364	0	0	461	50	
Sign Control	Stop			Stop			Free			Free			
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	0	135	0	0	0	199	396	0	0	501	54	
Pedestrians												2	
Lane Width (m)												3.6	
Walking Speed (m/s)												1.2	
Percent Blockage												0	
Right turn flare (veh)	1												
Median type	None											None	
Median storage veh													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	1324	1322	528	1390	1349	398	555				396		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1324	1322	528	1390	1349	398	555				396		
tC, single (s)	7.2	6.5	6.3	7.1	6.5	6.2	4.2				4.1		
tC, 2 stage (s)													
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3				2.2		
p0 queue free %	65	100	75	100	100	100	80				100		
cM capacity (veh/h)	107	126	539	76	121	655	976				1174		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1								
Volume Total	172	0	199	396	555								
Volume Left	37	0	199	0	0								
Volume Right	135	0	0	0	54								
cSH	392	1700	976	1700	1174								
Volume to Capacity	0.44	0.00	0.20	0.23	0.00								
Queue Length 95th (m)	17.4	0.0	6.1	0.0	0.0								
Control Delay (s)	21.2	0.0	9.6	0.0	0.0								
Lane LOS	C	A	A										
Approach Delay (s)	21.2	0.0	3.2	0.0									
Approach LOS	C	A											
Intersection Summary													
Average Delay	4.2												
Intersection Capacity Utilization	60.4%											ICU Level of Service	B
Analysis Period (min)	15												

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2039

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	5	194	115	9	68	102	439	53	32	612	29
Future Volume (vph)	20	5	194	115	9	68	102	439	53	32	612	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.854			0.868			0.983			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1561	0	1770	1617	0	1656	3306	0	1770	3373	0
Flt Permitted	0.702			0.505			0.391			0.462		
Satd. Flow (perm)	1334	1561	0	941	1617	0	682	3306	0	861	3373	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		202			74			36			12	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	21	5	202	125	10	74	106	457	58	35	638	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	207	0	125	84	0	106	515	0	35	668	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2039

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		47.0	47.0		47.0	47.0	
Total Split (%)	32.9%	32.9%		32.9%	32.9%		67.1%	67.1%		67.1%	67.1%	
Maximum Green (s)	18.5	18.5		18.5	18.5		42.5	42.5		42.5	42.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	12.9	12.9		12.9	12.9		45.1	45.1		45.1	45.1	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.67	0.67		0.67	0.67	
v/c Ratio	0.08	0.45		0.69	0.23		0.23	0.23		0.06	0.29	
Control Delay	20.8	7.2		44.1	8.6		7.0	4.8		5.3	5.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.8	7.2		44.1	8.6		7.0	4.8		5.3	5.4	
LOS	C	A		D	A		A	A		A	A	
Approach Delay		8.4			29.9			5.2			5.4	
Approach LOS		A			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 67

Natural Cycle: 45

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 8.6

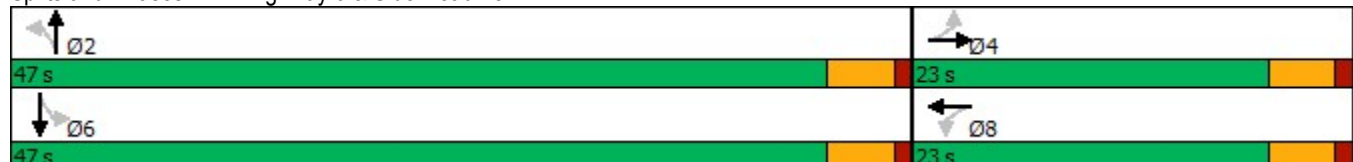
Intersection LOS: A

Intersection Capacity Utilization 57.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues

Future Background 2039

2: Highway 6 & Side Road 18

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	207	125	84	106	515	35	668
v/c Ratio	0.08	0.45	0.69	0.23	0.23	0.23	0.06	0.29
Control Delay	20.8	7.2	44.1	8.6	7.0	4.8	5.3	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.8	7.2	44.1	8.6	7.0	4.8	5.3	5.4
Queue Length 50th (m)	2.2	0.5	14.6	1.0	4.5	10.4	1.3	15.1
Queue Length 95th (m)	7.3	15.2	31.0	10.7	13.9	21.1	5.1	29.2
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	369	578	260	501	459	2236	579	2273
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	0.06	0.36	0.48	0.17	0.23	0.23	0.06	0.29
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Background 2039

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	5	194	115	9	68	102	439	53	32	612	29
Future Volume (vph)	20	5	194	115	9	68	102	439	53	32	612	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1560		1770	1617		1656	3307		1770	3374	
Flt Permitted	0.70	1.00		0.50	1.00		0.39	1.00		0.46	1.00	
Satd. Flow (perm)	1335	1560		941	1617		681	3307		860	3374	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	21	5	202	125	10	74	106	457	58	35	638	30
RTOR Reduction (vph)	0	163	0	0	60	0	0	12	0	0	4	0
Lane Group Flow (vph)	21	44	0	125	24	0	106	503	0	35	664	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.9	12.9		12.9	12.9		45.1	45.1		45.1	45.1	
Effective Green, g (s)	12.9	12.9		12.9	12.9		45.1	45.1		45.1	45.1	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.67	0.67		0.67	0.67	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	257	300		181	311		458	2226		578	2271	
v/s Ratio Prot		0.03			0.01			0.15			c0.20	
v/s Ratio Perm	0.02			c0.13			0.16			0.04		
v/c Ratio	0.08	0.15		0.69	0.08		0.23	0.23		0.06	0.29	
Uniform Delay, d1	22.2	22.5		25.2	22.2		4.2	4.2		3.7	4.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.2		10.8	0.1		1.2	0.2		0.2	0.3	
Delay (s)	22.3	22.7		36.0	22.3		5.4	4.5		3.9	4.8	
Level of Service	C	C		D	C		A	A		A	A	
Approach Delay (s)		22.7			30.5			4.6			4.7	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			67.0				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			57.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

3: Highway 6 & Side Road 19

Future Background 2039

AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	65	66	531	891	50
Future Volume (vph)	23	65	66	531	891	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1671	1380	1671	3343	3327	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1671	1380	1671	3343	3327	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	3	1	3			3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	8%	17%	8%	8%	7%	19%
Adj. Flow (vph)	25	71	73	584	979	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	71	73	584	1034	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Highway 6 & Side Road 19

Future Background 2039
AM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	65	66	531	891	50
Future Volume (Veh/h)	23	65	66	531	891	50
Sign Control	Stop			Free		Free
Grade	0%			0%		0%
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Hourly flow rate (vph)	25	71	73	584	979	55
Pedestrians	3			1	3	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)		1				
Median type				None	None	
Median storage veh						
Upstream signal (m)				93		
pX, platoon unblocked	0.99					
vC, conflicting volume	1450	521	1037			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1435	521	1037			
tC, single (s)	7.0	7.2	4.3			
tC, 2 stage (s)						
tF (s)	3.6	3.5	2.3			
p0 queue free %	76	85	88			
cM capacity (veh/h)	103	461	630			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	96	73	292	292	653	381
Volume Left	25	73	0	0	0	0
Volume Right	71	0	0	0	0	55
cSH	394	630	1700	1700	1700	1700
Volume to Capacity	0.24	0.12	0.17	0.17	0.38	0.22
Queue Length 95th (m)	7.5	3.1	0.0	0.0	0.0	0.0
Control Delay (s)	23.8	11.5	0.0	0.0	0.0	0.0
Lane LOS	C	B				
Approach Delay (s)	23.8	1.3			0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			43.6%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2039

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	105	12	303	20	278	97	409	532	10
Future Volume (vph)	5	8	25	105	12	303	20	278	97	409	532	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		0.99	0.99		0.99	0.99		0.99	1.00	
Frt		0.886			0.856			0.961			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1611	0	1656	1399	0	1641	3263	0	1656	3396	0
Flt Permitted	0.282			0.732			0.416			0.436		
Satd. Flow (perm)	535	1611	0	1269	1399	0	712	3263	0	755	3396	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			348			51			4	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Adj. Flow (vph)	6	9	29	121	14	348	23	320	111	470	611	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	38	0	121	362	0	23	431	0	470	622	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2039

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	25.0	25.0		25.0	25.0		27.0	27.0		38.0	65.0	
Total Split (%)	27.8%	27.8%		27.8%	27.8%		30.0%	30.0%		42.2%	72.2%	
Maximum Green (s)	21.0	21.0		20.0	20.0		22.0	22.0		33.5	60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	14.2	14.2		13.2	13.2		39.9	39.9		60.7	60.2	
Actuated g/C Ratio	0.17	0.17		0.16	0.16		0.48	0.48		0.73	0.72	
v/c Ratio	0.07	0.13		0.60	0.70		0.07	0.27		0.65	0.25	
Control Delay	29.6	14.5		45.4	12.5		18.1	14.4		9.7	4.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.6	14.5		45.4	12.5		18.1	14.4		9.7	4.7	
LOS	C	B		D	B		B	B		A	A	
Approach Delay		16.5			20.8			14.5			6.9	
Approach LOS		B			C			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 83.4

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 12.0

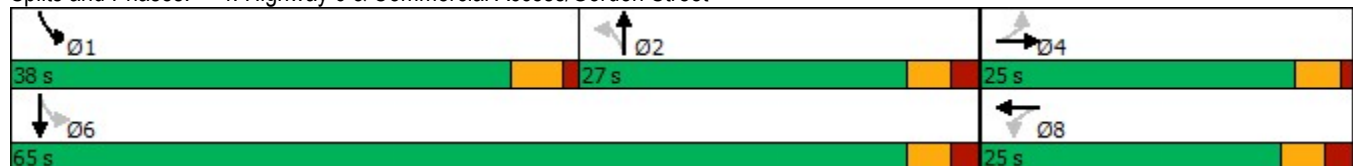
Intersection LOS: B

Intersection Capacity Utilization 69.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



4: Highway 6 & Commercial Access/Gordon Street

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	38	121	362	23	431	470	622
v/c Ratio	0.07	0.13	0.60	0.70	0.07	0.27	0.65	0.25
Control Delay	29.6	14.5	45.4	12.5	18.1	14.4	9.7	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	14.5	45.4	12.5	18.1	14.4	9.7	4.7
Queue Length 50th (m)	0.9	1.3	19.0	2.0	1.9	18.1	24.3	15.1
Queue Length 95th (m)	4.0	8.7	34.6	23.2	8.7	40.0	50.0	27.5
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	135	428	305	600	340	1586	912	2452
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	0.04	0.09	0.40	0.60	0.07	0.27	0.52	0.25
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Background 2039

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	105	12	303	20	278	97	409	532	10
Future Volume (vph)	5	8	25	105	12	303	20	278	97	409	532	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.86		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1611		1647	1399		1626	3266		1651	3398	
Flt Permitted	0.28	1.00		0.73	1.00		0.42	1.00		0.44	1.00	
Satd. Flow (perm)	535	1611		1270	1399		712	3266		758	3398	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	9	29	121	14	348	23	320	111	470	611	11
RTOR Reduction (vph)	0	24	0	0	293	0	0	27	0	0	1	0
Lane Group Flow (vph)	6	14	0	121	69	0	23	404	0	470	621	0
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.2	14.2		13.2	13.2		39.9	39.9		60.2	60.2	
Effective Green, g (s)	14.2	14.2		13.2	13.2		39.9	39.9		60.2	60.2	
Actuated g/C Ratio	0.17	0.17		0.16	0.16		0.48	0.48		0.72	0.72	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	91	274		201	221		340	1562		716	2452	
v/s Ratio Prot		0.01			0.05			0.12		c0.12	0.18	
v/s Ratio Perm	0.01			c0.10			0.03			c0.35		
v/c Ratio	0.07	0.05		0.60	0.31		0.07	0.26		0.66	0.25	
Uniform Delay, d1	29.0	29.0		32.7	31.1		11.7	12.9		4.9	3.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		5.0	0.8		0.4	0.4		2.2	0.2	
Delay (s)	29.3	29.0		37.7	31.9		12.1	13.4		7.1	4.2	
Level of Service	C	C		D	C		B	B		A	A	
Approach Delay (s)		29.1			33.3			13.3			5.5	
Approach LOS		C			C			B			A	
Intersection Summary												
HCM 2000 Control Delay			14.2			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			83.4			Sum of lost time (s)				14.5		
Intersection Capacity Utilization			69.2%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	86	72	71	57	47	35	91	38	51	151	39
Future Volume (vph)	64	86	72	71	57	47	35	91	38	51	151	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.956			0.964			0.969			0.978	
Flt Protected		0.986			0.980			0.989			0.990	
Satd. Flow (prot)	0	1713	0	0	1702	0	0	1729	0	0	1715	0
Flt Permitted		0.986			0.980			0.989			0.990	
Satd. Flow (perm)	0	1713	0	0	1702	0	0	1729	0	0	1715	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)			19	19					3	3		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	3%	6%	7%	4%	5%	7%	4%	7%	14%	3%	15%
Adj. Flow (vph)	74	100	84	83	66	55	41	106	44	59	176	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	258	0	0	204	0	0	191	0	0	280	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.3%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 5: Beatty Line North & Farley Road/Side Road 18

Future Background 2039
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	86	72	71	57	47	35	91	38	51	151	39
Future Volume (Veh/h)	64	86	72	71	57	47	35	91	38	51	151	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	74	100	84	83	66	55	41	106	44	59	176	45
Pedestrians					3			19				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					0			2				
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	614	552	218	682	552	131	221			153		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	614	552	218	682	552	131	221			153		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3			2.3		
p0 queue free %	76	75	89	65	84	94	97			96		
cM capacity (veh/h)	310	407	799	240	406	908	1319			1354		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	258	204	191	280								
Volume Left	74	83	41	59								
Volume Right	84	55	44	45								
cSH	438	359	1319	1354								
Volume to Capacity	0.59	0.57	0.03	0.04								
Queue Length 95th (m)	29.6	27.0	0.8	1.1								
Control Delay (s)	24.4	27.5	1.9	1.9								
Lane LOS	C	D	A	A								
Approach Delay (s)	24.4	27.5	1.9	1.9								
Approach LOS	C	D										
Intersection Summary												
Average Delay			13.7									
Intersection Capacity Utilization			39.3%		ICU Level of Service					A		
Analysis Period (min)			15									

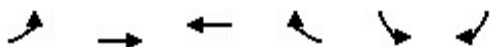
Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Background 2039
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	165	138	8	6	52
Future Volume (vph)	16	165	138	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.992		0.878	
Flt Protected		0.995			0.995	
Satd. Flow (prot)	0	1810	1733	0	1553	0
Flt Permitted		0.995			0.995	
Satd. Flow (perm)	0	1810	1733	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	20	201	168	10	7	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	221	178	0	70	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	31.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: Side Road 18 & Vincent Street

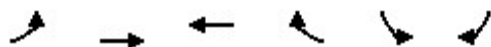
Future Background 2039
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	165	138	8	6	52
Future Volume (Veh/h)	16	165	138	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	20	201	168	10	7	63
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	178				423	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	178				423	174
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				99	93
cM capacity (veh/h)	1302				521	864
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	221	178	70			
Volume Left	20	0	7			
Volume Right	0	10	63			
cSH	1302	1700	810			
Volume to Capacity	0.02	0.10	0.09			
Queue Length 95th (m)	0.4	0.0	2.3			
Control Delay (s)	0.8	0.0	9.9			
Lane LOS	A		A			
Approach Delay (s)	0.8	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			31.3%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Background 2039
AM Peak Hour

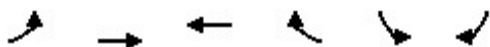


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	7	178	125	15	46	9
Future Volume (vph)	7	178	125	15	46	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.986		0.977	
Flt Protected		0.998			0.960	
Satd. Flow (prot)	0	1836	1685	0	1630	0
Flt Permitted		0.998			0.960	
Satd. Flow (perm)	0	1836	1685	0	1630	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	8	191	134	16	49	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	199	150	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Background 2039
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	178	125	15	46	9
Future Volume (Veh/h)	7	178	125	15	46	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	191	134	16	49	10
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	152				355	148
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152				355	148
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	99				92	99
cM capacity (veh/h)	1379				622	871
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	199	150	59			
Volume Left	8	0	49			
Volume Right	0	16	10			
cSH	1379	1700	654			
Volume to Capacity	0.01	0.09	0.09			
Queue Length 95th (m)	0.1	0.0	2.4			
Control Delay (s)	0.4	0.0	11.0			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	11.0			
Approach LOS			B			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			26.3%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Background 2039

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.974						0.899					
Flt Protected	0.990						0.988					
Satd. Flow (prot)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Flt Permitted	0.990						0.988					
Satd. Flow (perm)	0	1738	0	0	1722	0	0	1663	0	0	1900	0
Link Speed (k/h)	50						50					
Link Distance (m)	156.5						88.1					
Travel Time (s)	11.3						6.3					
Confl. Peds. (#/hr)	11			11			2			4		
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	8%	0%	10%	9%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	19	0	0	4	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0						0.0					
Link Offset(m)	0.0						0.0					
Crosswalk Width(m)	4.8						4.8					
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25	15			25	15			25	15		
Sign Control	Stop				Stop				Stop			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.7%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Background 2039
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Future Volume (vph)	0	13	3	3	11	0	1	0	2	0	0	0
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	0	17	4	4	15	0	1	0	3	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	21	19	4	0								
Volume Left (vph)	0	4	1	0								
Volume Right (vph)	4	0	3	0								
Hadj (s)	0.00	0.20	-0.37	0.00								
Departure Headway (s)	3.9	4.1	3.6	4.0								
Degree Utilization, x	0.02	0.02	0.00	0.00								
Capacity (veh/h)	909	866	982	900								
Control Delay (s)	7.0	7.2	6.6	7.0								
Approach Delay (s)	7.0	7.2	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.1								
Level of Service				A								
Intersection Capacity Utilization				17.7%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings

Future Background 2039

1: Highway 6 & Nichol Road 15/Private Driveway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	0	218	0	0	0	174	681	0	0	512	30
Future Volume (vph)	34	0	218	0	0	0	174	681	0	0	512	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.992	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1517	1553	0	1900	0	1752	1845	0	0	1756	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1517	1553	0	1900	0	1752	1845	0	0	1756	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	4					4						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	19%	0%	4%	0%	0%	0%	3%	3%	0%	0%	7%	13%
Adj. Flow (vph)	36	0	229	0	0	0	183	717	0	0	539	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	229	0	0	0	183	717	0	0	571	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 79.2%	ICU Level of Service D											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Background 2039

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	0	218	0	0	0	174	681	0	0	512	30
Future Volume (Veh/h)	34	0	218	0	0	0	174	681	0	0	512	30
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	0	229	0	0	0	183	717	0	0	539	32
Pedestrians												4
Lane Width (m)												3.6
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)	1											
Median type	None											None
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1642	1638	555	1752	1654	721	571				717	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1642	1638	555	1752	1654	721	571				717	
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	42	100	57	100	100	100	82				100	
cM capacity (veh/h)	62	83	527	33	81	429	997				893	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	265	0	183	717	571							
Volume Left	36	0	183	0	0							
Volume Right	229	0	0	0	32							
cSH	360	1700	997	1700	893							
Volume to Capacity	0.74	0.00	0.18	0.42	0.00							
Queue Length 95th (m)	45.4	0.0	5.4	0.0	0.0							
Control Delay (s)	38.4	0.0	9.4	0.0	0.0							
Lane LOS	E	A	A									
Approach Delay (s)	38.4	0.0	1.9	0.0								
Approach LOS	E	A										
Intersection Summary												
Average Delay			6.8									
Intersection Capacity Utilization			79.2%	ICU Level of Service					D			
Analysis Period (min)			15									

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2039

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	11	172	104	8	75	142	818	151	91	640	30
Future Volume (vph)	32	11	172	104	8	75	142	818	151	91	640	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.859			0.865			0.976			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1571	0	1770	1611	0	1736	3454	0	1770	3375	0
Flt Permitted	0.698			0.501			0.308			0.280		
Satd. Flow (perm)	1326	1571	0	933	1611	0	563	3454	0	522	3375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		181			82			55			8	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	34	12	181	113	9	82	149	861	164	99	674	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	193	0	113	91	0	149	1025	0	99	706	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Background 2039
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		12.0	56.0		44.0	44.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.0%	70.0%		55.0%	55.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		7.5	51.5		39.5	39.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	13.1	13.1		13.1	13.1		51.7	51.7		40.2	40.2	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.70	0.70		0.54	0.54	
v/c Ratio	0.15	0.45		0.68	0.26		0.29	0.42		0.35	0.38	
Control Delay	26.1	8.8		49.4	9.6		6.0	5.6		15.8	11.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.1	8.8		49.4	9.6		6.0	5.6		15.8	11.2	
LOS	C	A		D	A		A	A		B	B	
Approach Delay		11.4			31.6			5.6			11.7	
Approach LOS		B			C			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 73.8

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 10.4

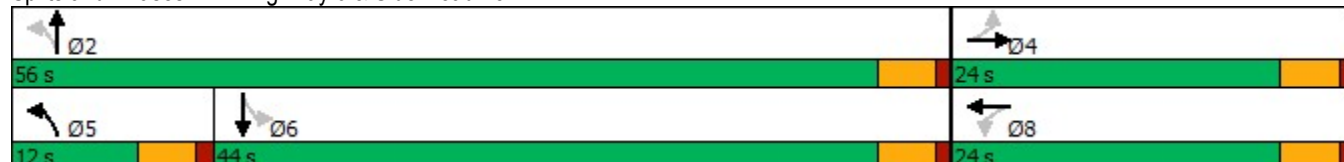
Intersection LOS: B

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues
2: Highway 6 & Side Road 18

Future Background 2039
PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	193	113	91	149	1025	99	706
v/c Ratio	0.15	0.45	0.68	0.26	0.29	0.42	0.35	0.38
Control Delay	26.1	8.8	49.4	9.6	6.0	5.6	15.8	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	8.8	49.4	9.6	6.0	5.6	15.8	11.2
Queue Length 50th (m)	4.2	1.5	15.6	1.1	5.9	25.8	7.7	29.1
Queue Length 95th (m)	11.4	17.2	32.2	12.1	15.1	48.1	22.6	49.0
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	351	549	247	487	514	2436	284	1840
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	0.10	0.35	0.46	0.19	0.29	0.42	0.35	0.38
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Background 2039

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	11	172	104	8	75	142	818	151	91	640	30
Future Volume (vph)	32	11	172	104	8	75	142	818	151	91	640	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.86		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1572		1770	1611		1736	3454		1770	3375	
Flt Permitted	0.70	1.00		0.50	1.00		0.31	1.00		0.28	1.00	
Satd. Flow (perm)	1326	1572		933	1611		563	3454		521	3375	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	34	12	181	113	9	82	149	861	164	99	674	32
RTOR Reduction (vph)	0	149	0	0	67	0	0	16	0	0	4	0
Lane Group Flow (vph)	34	44	0	113	24	0	149	1009	0	99	702	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.1	13.1		13.1	13.1		51.7	51.7		40.2	40.2	
Effective Green, g (s)	13.1	13.1		13.1	13.1		51.7	51.7		40.2	40.2	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.70	0.70		0.54	0.54	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	235	279		165	285		505	2419		283	1838	
v/s Ratio Prot		0.03			0.01		0.03	0.29			0.21	
v/s Ratio Perm	0.03			0.12			0.18			0.19		
v/c Ratio	0.14	0.16		0.68	0.08		0.30	0.42		0.35	0.38	
Uniform Delay, d1	25.6	25.7		28.4	25.3		4.3	4.7		9.4	9.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		11.2	0.1		0.3	0.5		3.4	0.6	
Delay (s)	25.9	26.0		39.6	25.5		4.6	5.2		12.8	10.3	
Level of Service	C	C		D	C		A	A		B	B	
Approach Delay (s)		25.9			33.3			5.1			10.6	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			11.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			73.8				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			64.4%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
3: Highway 6 & Side Road 19

Future Background 2039
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	93	85	1084	813	67
Future Volume (vph)	44	93	85	1084	813	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.989	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1568	1703	3505	3443	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1568	1703	3505	3443	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	1	2	5			5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	6%	3%	4%	0%
Adj. Flow (vph)	45	96	88	1118	838	69
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	96	88	1118	907	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 3: Highway 6 & Side Road 19

Future Background 2039
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	93	85	1084	813	67
Future Volume (Veh/h)	44	93	85	1084	813	67
Sign Control	Stop			Free		Free
Grade	0%			0%		0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	45	96	88	1118	838	69
Pedestrians	5			2	1	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)		1				
Median type				None	None	
Median storage veh						
Upstream signal (m)				93		
pX, platoon unblocked	0.86					
vC, conflicting volume	1614	460	912			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1388	460	912			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	56	82	88			
cM capacity (veh/h)	102	542	715			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	141	88	559	559	559	348
Volume Left	45	88	0	0	0	0
Volume Right	96	0	0	0	0	69
cSH	274	715	1700	1700	1700	1700
Volume to Capacity	0.51	0.12	0.33	0.33	0.33	0.20
Queue Length 95th (m)	21.8	3.3	0.0	0.0	0.0	0.0
Control Delay (s)	31.2	10.7	0.0	0.0	0.0	0.0
Lane LOS	D	B				
Approach Delay (s)	31.2	0.8			0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			43.3%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2039

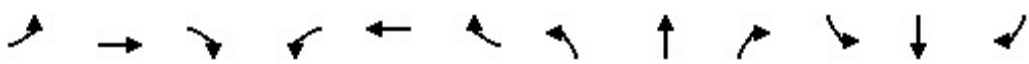
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	118	69	529	85	567	119	349	534	25
Future Volume (vph)	25	48	82	118	69	529	85	567	119	349	534	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00	0.96		0.99	0.99			1.00	
Frt		0.906			0.867			0.974			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1680	0	1787	1537	0	1805	3437	0	1719	3542	0
Flt Permitted	0.163			0.617			0.425			0.244		
Satd. Flow (perm)	310	1680	0	1158	1537	0	796	3437	0	442	3542	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			401			25			8	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Adj. Flow (vph)	27	52	88	127	74	569	91	610	128	375	574	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	140	0	127	643	0	91	738	0	375	601	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Background 2039

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	36.0	36.0		36.0	36.0		35.0	35.0		29.0	64.0	
Total Split (%)	36.0%	36.0%		36.0%	36.0%		35.0%	35.0%		29.0%	64.0%	
Maximum Green (s)	32.0	32.0		31.0	31.0		30.0	30.0		24.5	59.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	24.5	24.5		23.5	23.5		38.0	38.0		59.9	59.4	
Actuated g/C Ratio	0.26	0.26		0.25	0.25		0.41	0.41		0.64	0.64	
v/c Ratio	0.33	0.28		0.43	0.93		0.28	0.52		0.73	0.27	
Control Delay	38.6	12.1		33.2	34.5		27.4	24.8		18.9	8.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	38.6	12.1		33.2	34.5		27.4	24.8		18.9	8.6	
LOS	D	B		C	C		C	C		B	A	
Approach Delay		16.4			34.3			25.1			12.6	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 93

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 22.7

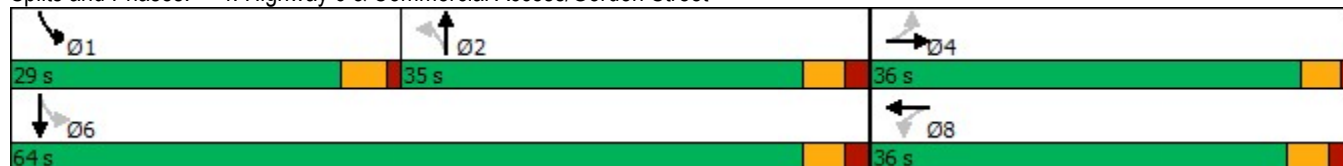
Intersection LOS: C

Intersection Capacity Utilization 96.7%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



4: Highway 6 & Commercial Access/Gordon Street

PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	140	127	643	91	738	375	601
v/c Ratio	0.33	0.28	0.43	0.93	0.28	0.52	0.73	0.27
Control Delay	38.6	12.1	33.2	34.5	27.4	24.8	18.9	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.6	12.1	33.2	34.5	27.4	24.8	18.9	8.6
Queue Length 50th (m)	4.1	7.4	20.0	49.0	12.5	58.1	33.8	26.8
Queue Length 95th (m)	12.5	21.6	36.8	#121.4	30.0	89.2	62.8	39.0
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	107	639	388	782	325	1419	623	2267
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	0.25	0.22	0.33	0.82	0.28	0.52	0.60	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

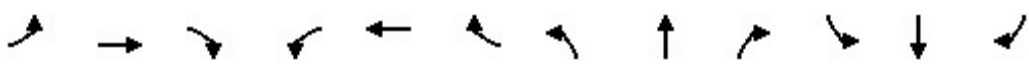
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Background 2039

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	118	69	529	85	567	119	349	534	25
Future Volume (vph)	25	48	82	118	69	529	85	567	119	349	534	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1680		1783	1541		1781	3438		1717	3544	
Flt Permitted	0.16	1.00		0.62	1.00		0.42	1.00		0.24	1.00	
Satd. Flow (perm)	310	1680		1158	1541		796	3438		441	3544	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	52	88	127	74	569	91	610	128	375	574	27
RTOR Reduction (vph)	0	65	0	0	300	0	0	15	0	0	3	0
Lane Group Flow (vph)	27	75	0	127	343	0	91	723	0	375	598	0
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.5	24.5		23.5	23.5		38.1	38.1		59.5	59.5	
Effective Green, g (s)	24.5	24.5		23.5	23.5		38.1	38.1		59.5	59.5	
Actuated g/C Ratio	0.26	0.26		0.25	0.25		0.41	0.41		0.64	0.64	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	81	442		292	389		326	1408		514	2267	
v/s Ratio Prot		0.04			c0.22			0.21		c0.13	0.17	
v/s Ratio Perm	0.09			0.11			0.11			c0.33		
v/c Ratio	0.33	0.17		0.43	0.88		0.28	0.51		0.73	0.26	
Uniform Delay, d1	27.7	26.4		29.2	33.4		18.3	20.5		10.3	7.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	0.2		1.0	20.3		2.1	1.3		5.1	0.3	
Delay (s)	30.1	26.6		30.2	53.7		20.4	21.9		15.5	7.5	
Level of Service	C	C		C	D		C	C		B	A	
Approach Delay (s)		27.2			49.8			21.7			10.6	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			26.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			93.0			Sum of lost time (s)				14.5		
Intersection Capacity Utilization			96.7%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

Future Background 2039

5: Beatty Line North & Farley Road/Side Road 18

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	50	61	53	72	59	115	126	42	57	143	53
Future Volume (vph)	31	50	61	53	72	59	115	126	42	57	143	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.942			0.957			0.980			0.972	
Flt Protected		0.989			0.986			0.980			0.989	
Satd. Flow (prot)	0	1729	0	0	1752	0	0	1809	0	0	1768	0
Flt Permitted		0.989			0.986			0.980			0.989	
Satd. Flow (perm)	0	1729	0	0	1752	0	0	1809	0	0	1768	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)	1		6	6		1	1		3	3		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	0%	2%	0%	6%	0%	1%	1%	0%	0%	1%	13%
Adj. Flow (vph)	32	52	64	55	75	61	120	131	44	59	149	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	0	191	0	0	295	0	0	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	49.4%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 5: Beatty Line North & Farley Road/Side Road 18

Future Background 2039
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	50	61	53	72	59	115	126	42	57	143	53
Future Volume (Veh/h)	31	50	61	53	72	59	115	126	42	57	143	53
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	32	52	64	55	75	61	120	131	44	59	149	55
Pedestrians		1			3			6			1	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	788	714	184	786	719	157	205			178		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	788	714	184	786	719	157	205			178		
tC, single (s)	7.2	6.5	6.2	7.1	6.6	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.1	3.3	2.2			2.2		
p0 queue free %	85	83	93	76	75	93	91			96		
cM capacity (veh/h)	207	313	854	226	305	891	1371			1407		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	148	191	295	263								
Volume Left	32	55	120	59								
Volume Right	64	61	44	55								
cSH	374	342	1371	1407								
Volume to Capacity	0.40	0.56	0.09	0.04								
Queue Length 95th (m)	14.8	25.9	2.3	1.0								
Control Delay (s)	20.8	28.0	3.7	2.0								
Lane LOS	C	D	A	A								
Approach Delay (s)	20.8	28.0	3.7	2.0								
Approach LOS	C	D										
Intersection Summary												
Average Delay			11.2									
Intersection Capacity Utilization			49.4%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

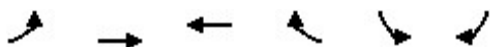
Future Background 2039
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	16	161	173	8	6	52
Future Volume (vph)	16	161	173	8	6	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.994		0.879	
Flt Protected		0.995			0.995	
Satd. Flow (prot)	0	1810	1744	0	1553	0
Flt Permitted		0.995			0.995	
Satd. Flow (perm)	0	1810	1744	0	1553	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	19	189	204	9	7	61
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	208	213	0	68	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

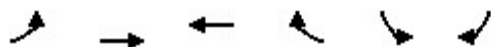
Future Background 2039
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	161	173	8	6	52
Future Volume (Veh/h)	16	161	173	8	6	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	19	189	204	9	7	61
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	213				444	210
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	213				444	210
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				99	93
cM capacity (veh/h)	1263				506	825
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	208	213	68			
Volume Left	19	0	7			
Volume Right	0	9	61			
cSH	1263	1700	775			
Volume to Capacity	0.02	0.13	0.09			
Queue Length 95th (m)	0.4	0.0	2.3			
Control Delay (s)	0.8	0.0	10.1			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	10.1			
Approach LOS			B			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			32.4%		ICU Level of Service	
Analysis Period (min)			15			
			A			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Background 2039
PM Peak Hour

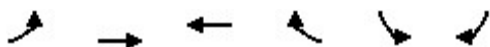


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	157	180	45	45	7
Future Volume (vph)	6	157	180	45	45	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.973		0.982	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1896	1834	0	1784	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1896	1834	0	1784	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	7	178	205	51	51	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	185	256	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	23.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Background 2039
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	157	180	45	45	7
Future Volume (Veh/h)	6	157	180	45	45	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	178	205	51	51	8
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	257				424	232
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	257				424	232
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				91	99
cM capacity (veh/h)	1318				587	807
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	185	256	59			
Volume Left	7	0	51			
Volume Right	0	51	8			
cSH	1318	1700	610			
Volume to Capacity	0.01	0.15	0.10			
Queue Length 95th (m)	0.1	0.0	2.6			
Control Delay (s)	0.3	0.0	11.5			
Lane LOS	A		B			
Approach Delay (s)	0.3	0.0	11.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilization			23.1%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Background 2039
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt	0.972								0.899			
Flt Protected					0.978				0.988			
Satd. Flow (prot)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Flt Permitted					0.978				0.988			
Satd. Flow (perm)	0	1847	0	0	1858	0	0	1688	0	0	1900	0
Link Speed (k/h)	50				50				50			
Link Distance (m)	156.5				142.7				88.1			
Travel Time (s)	11.3				10.3				6.3			
Confl. Peds. (#/hr)					17				2			
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	20	0	0	12	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)	0.0				0.0				0.0			
Link Offset(m)	0.0				0.0				0.0			
Crosswalk Width(m)	4.8				4.8				4.8			
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control	Stop				Stop				Stop			
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.3%				ICU Level of Service A							
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Background 2039
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Future Volume (vph)	0	15	4	7	9	0	2	0	7	0	0	0
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	0	19	5	9	11	0	3	0	9	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	24	20	12	0								
Volume Left (vph)	0	9	3	0								
Volume Right (vph)	5	0	9	0								
Hadj (s)	-0.13	0.09	-0.40	0.00								
Departure Headway (s)	3.8	4.0	3.6	4.0								
Degree Utilization, x	0.03	0.02	0.01	0.00								
Capacity (veh/h)	932	884	987	900								
Control Delay (s)	6.9	7.1	6.6	7.0								
Approach Delay (s)	6.9	7.1	6.6	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				6.9								
Level of Service				A								
Intersection Capacity Utilization				18.3%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings

Future Total 2039

1: Highway 6 & Nichol Road 15/Private Driveway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	0	124	0	0	0	183	406	0	0	487	50
Future Volume (vph)	34	0	124	0	0	0	183	406	0	0	487	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.987	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1612	1495	0	1900	0	1641	1776	0	0	1759	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	2						2					
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
Heavy Vehicles (%)	12%	0%	8%	0%	0%	0%	10%	7%	0%	0%	7%	3%
Adj. Flow (vph)	37	0	135	0	0	0	199	441	0	0	529	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	135	0	0	0	199	441	0	0	583	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	64.0%						ICU Level of Service C					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2039
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	34	0	124	0	0	0	183	406	0	0	487	50	
Future Volume (Veh/h)	34	0	124	0	0	0	183	406	0	0	487	50	
Sign Control	Stop			Stop			Free			Free			
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	0	135	0	0	0	199	441	0	0	529	54	
Pedestrians												2	
Lane Width (m)												3.6	
Walking Speed (m/s)												1.2	
Percent Blockage												0	
Right turn flare (veh)	1												
Median type	None											None	
Median storage veh													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	1397	1395	556	1462	1422	443	583				441		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1397	1395	556	1462	1422	443	583				441		
tC, single (s)	7.2	6.5	6.3	7.1	6.5	6.2	4.2				4.1		
tC, 2 stage (s)													
tF (s)	3.6	4.0	3.4	3.5	4.0	3.3	2.3				2.2		
p0 queue free %	61	100	74	100	100	100	79				100		
cM capacity (veh/h)	94	113	519	67	109	618	953				1130		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1								
Volume Total	172	0	199	441	583								
Volume Left	37	0	199	0	0								
Volume Right	135	0	0	0	54								
cSH	351	1700	953	1700	1130								
Volume to Capacity	0.49	0.00	0.21	0.26	0.00								
Queue Length 95th (m)	20.7	0.0	6.3	0.0	0.0								
Control Delay (s)	24.7	0.0	9.8	0.0	0.0								
Lane LOS	C	A	A										
Approach Delay (s)	24.7	0.0	3.0	0.0									
Approach LOS	C	A											
Intersection Summary													
Average Delay	4.4												
Intersection Capacity Utilization	64.0%			ICU Level of Service					C				
Analysis Period (min)	15												

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2039
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	5	235	115	9	133	145	591	53	47	883	29
Future Volume (vph)	20	5	235	115	9	133	145	591	53	47	883	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.853			0.860			0.987			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1559	0	1770	1602	0	1656	3315	0	1770	3383	0
Flt Permitted	0.638			0.429			0.272			0.386		
Satd. Flow (perm)	1212	1559	0	799	1602	0	474	3315	0	719	3383	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		148			145			26			8	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	21	5	245	125	10	145	151	616	58	51	920	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	250	0	125	155	0	151	674	0	51	950	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2039
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		47.0	47.0		47.0	47.0	
Total Split (%)	32.9%	32.9%		32.9%	32.9%		67.1%	67.1%		67.1%	67.1%	
Maximum Green (s)	18.5	18.5		18.5	18.5		42.5	42.5		42.5	42.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	13.5	13.5		13.5	13.5		43.2	43.2		43.2	43.2	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.66	0.66		0.66	0.66	
v/c Ratio	0.08	0.57		0.76	0.35		0.49	0.31		0.11	0.43	
Control Delay	20.7	15.2		53.6	7.3		13.9	5.7		6.1	6.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	20.7	15.2		53.6	7.3		13.9	5.7		6.1	6.7	
LOS	C	B		D	A		B	A		A	A	
Approach Delay		15.7			27.9			7.2			6.7	
Approach LOS		B			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 70

Actuated Cycle Length: 65.7

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 10.4

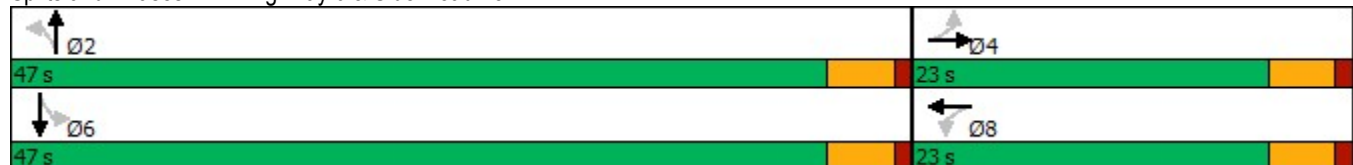
Intersection LOS: B

Intersection Capacity Utilization 69.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18

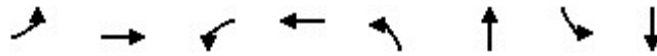


Queues

2: Highway 6 & Side Road 18

Future Total 2039

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	250	125	155	151	674	51	950
v/c Ratio	0.08	0.57	0.76	0.35	0.49	0.31	0.11	0.43
Control Delay	20.7	15.2	53.6	7.3	13.9	5.7	6.1	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	15.2	53.6	7.3	13.9	5.7	6.1	6.7
Queue Length 50th (m)	2.2	11.1	15.0	1.0	8.5	16.1	2.1	26.3
Queue Length 95th (m)	7.3	30.5	#36.8	14.0	29.0	29.1	7.0	45.3
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	342	546	225	556	311	2187	472	2225
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	0.06	0.46	0.56	0.28	0.49	0.31	0.11	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2039

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	5	235	115	9	133	145	591	53	47	883	29
Future Volume (vph)	20	5	235	115	9	133	145	591	53	47	883	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.85		1.00	0.86		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1559		1770	1601		1656	3315		1770	3383	
Flt Permitted	0.64	1.00		0.43	1.00		0.27	1.00		0.39	1.00	
Satd. Flow (perm)	1213	1559		798	1601		475	3315		719	3383	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	21	5	245	125	10	145	151	616	58	51	920	30
RTOR Reduction (vph)	0	118	0	0	115	0	0	9	0	0	3	0
Lane Group Flow (vph)	21	132	0	125	40	0	151	665	0	51	947	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.5	13.5		13.5	13.5		43.2	43.2		43.2	43.2	
Effective Green, g (s)	13.5	13.5		13.5	13.5		43.2	43.2		43.2	43.2	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.66	0.66		0.66	0.66	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	249	320		163	328		312	2179		472	2224	
v/s Ratio Prot		0.08			0.02			0.20			0.28	
v/s Ratio Perm	0.02			0.16			0.32			0.07		
v/c Ratio	0.08	0.41		0.77	0.12		0.48	0.31		0.11	0.43	
Uniform Delay, d1	21.1	22.7		24.6	21.3		5.7	4.8		4.1	5.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.9		19.2	0.2		5.3	0.4		0.5	0.6	
Delay (s)	21.2	23.5		43.8	21.4		10.9	5.2		4.6	6.0	
Level of Service	C	C		D	C		B	A		A	A	
Approach Delay (s)		23.4			31.4			6.2			5.9	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			65.7				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			69.5%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
3: Highway 6 & Side Road 19

Future Total 2039
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	65	66	725	1203	50
Future Volume (vph)	23	65	66	725	1203	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1671	1380	1671	3343	3339	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1671	1380	1671	3343	3339	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	3	1	3			3
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	8%	17%	8%	8%	7%	19%
Adj. Flow (vph)	25	71	73	797	1322	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	71	73	797	1377	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

3: Highway 6 & Side Road 19

Future Total 2039
AM Peak Hour

									
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	23	65	66	725	1203	50			
Future Volume (Veh/h)	23	65	66	725	1203	50			
Sign Control	Stop			Free	Free				
Grade	0%			0%	0%				
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91			
Hourly flow rate (vph)	25	71	73	797	1322	55			
Pedestrians	3			1	3				
Lane Width (m)	3.6			3.6	3.6				
Walking Speed (m/s)	1.2			1.2	1.2				
Percent Blockage	0			0	0				
Right turn flare (veh)	1								
Median type				None	None				
Median storage veh									
Upstream signal (m)	93								
pX, platoon unblocked	0.90								
vC, conflicting volume	1900	692	1380						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	1781	692	1380						
tC, single (s)	7.0	7.2	4.3						
tC, 2 stage (s)									
tF (s)	3.6	3.5	2.3						
p0 queue free %	52	80	84						
cM capacity (veh/h)	52	352	461						
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2			
Volume Total	96	73	398	398	881	496			
Volume Left	25	73	0	0	0	0			
Volume Right	71	0	0	0	0	55			
cSH	170	461	1700	1700	1700	1700			
Volume to Capacity	0.57	0.16	0.23	0.23	0.52	0.29			
Queue Length 95th (m)	23.7	4.5	0.0	0.0	0.0	0.0			
Control Delay (s)	50.8	14.3	0.0	0.0	0.0	0.0			
Lane LOS	F	B							
Approach Delay (s)	50.8	1.2	0.0						
Approach LOS	F								
Intersection Summary									
Average Delay	2.5								
Intersection Capacity Utilization	52.2%			ICU Level of Service		A			
Analysis Period (min)	15								

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2039
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	105	12	372	20	404	97	537	715	10
Future Volume (vph)	5	8	25	105	12	372	20	404	97	537	715	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	0.99		0.99	0.99		0.99	0.99		1.00	1.00	
Frt		0.886			0.855			0.971			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1611	0	1656	1397	0	1641	3316	0	1656	3400	0
Flt Permitted	0.282			0.732			0.338			0.304		
Satd. Flow (perm)	536	1611	0	1269	1397	0	580	3316	0	527	3400	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			428			31			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Adj. Flow (vph)	6	9	29	121	14	428	23	464	111	617	822	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	6	38	0	121	442	0	23	575	0	617	833	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2039
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	25.0	25.0		25.0	25.0		27.0	27.0		38.0	65.0	
Total Split (%)	27.8%	27.8%		27.8%	27.8%		30.0%	30.0%		42.2%	72.2%	
Maximum Green (s)	21.0	21.0		20.0	20.0		22.0	22.0		33.5	60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	14.2	14.2		13.2	13.2		29.7	29.7		60.7	60.2	
Actuated g/C Ratio	0.17	0.17		0.16	0.16		0.36	0.36		0.73	0.72	
v/c Ratio	0.07	0.13		0.60	0.76		0.11	0.48		0.84	0.34	
Control Delay	29.6	14.5		45.4	13.3		26.5	24.3		21.2	5.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.6	14.5		45.4	13.3		26.5	24.3		21.2	5.2	
LOS	C	B		D	B		C	C		C	A	
Approach Delay		16.5			20.2			24.3			12.0	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 83.4

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 16.6

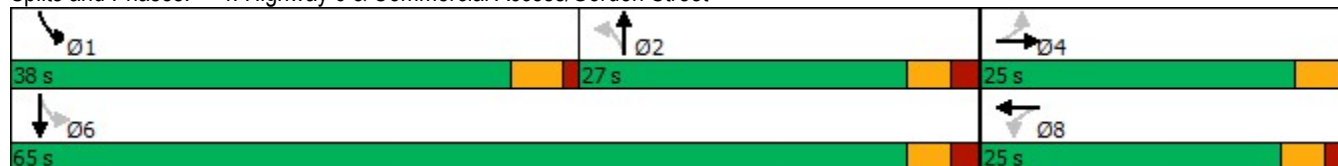
Intersection LOS: B

Intersection Capacity Utilization 80.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues

4: Highway 6 & Commercial Access/Gordon Street

Future Total 2039

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	6	38	121	442	23	575	617	833
v/c Ratio	0.07	0.13	0.60	0.76	0.11	0.48	0.84	0.34
Control Delay	29.6	14.5	45.4	13.3	26.5	24.3	21.2	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	14.5	45.4	13.3	26.5	24.3	21.2	5.2
Queue Length 50th (m)	0.9	1.3	19.0	2.0	2.6	37.9	46.7	22.0
Queue Length 95th (m)	4.0	8.7	34.6	26.0	9.9	63.2	99.5	38.9
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	135	428	305	661	206	1201	838	2454
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	0.04	0.09	0.40	0.67	0.11	0.48	0.74	0.34
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Total 2039
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	8	25	105	12	372	20	404	97	537	715	10
Future Volume (vph)	5	8	25	105	12	372	20	404	97	537	715	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.89		1.00	0.85		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1611		1647	1397		1630	3317		1654	3400	
Flt Permitted	0.28	1.00		0.73	1.00		0.34	1.00		0.30	1.00	
Satd. Flow (perm)	535	1611		1270	1397		580	3317		530	3400	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	6	9	29	121	14	428	23	464	111	617	822	11
RTOR Reduction (vph)	0	24	0	0	360	0	0	20	0	0	1	0
Lane Group Flow (vph)	6	14	0	121	82	0	23	555	0	617	832	0
Confl. Peds. (#/hr)	1		4	4		1	9		7	7		9
Heavy Vehicles (%)	0%	0%	4%	9%	8%	15%	10%	4%	9%	9%	6%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.2	14.2		13.2	13.2		29.8	29.8		60.2	60.2	
Effective Green, g (s)	14.2	14.2		13.2	13.2		29.8	29.8		60.2	60.2	
Actuated g/C Ratio	0.17	0.17		0.16	0.16		0.36	0.36		0.72	0.72	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	91	274		201	221		207	1185		731	2454	
v/s Ratio Prot		0.01			0.06			0.17		c0.26	0.24	
v/s Ratio Perm	0.01			c0.10			0.04			c0.35		
v/c Ratio	0.07	0.05		0.60	0.37		0.11	0.47		0.84	0.34	
Uniform Delay, d1	29.0	29.0		32.7	31.4		17.9	20.7		10.2	4.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		5.0	1.0		1.1	1.3		8.8	0.4	
Delay (s)	29.3	29.0		37.7	32.4		19.0	22.0		19.0	4.6	
Level of Service	C	C		D	C		B	C		B	A	
Approach Delay (s)		29.1			33.6			21.9			10.8	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay	18.4			HCM 2000 Level of Service			B					
HCM 2000 Volume to Capacity ratio	0.84											
Actuated Cycle Length (s)	83.4			Sum of lost time (s)			14.5					
Intersection Capacity Utilization	80.6%			ICU Level of Service			D					
Analysis Period (min)	15											
c Critical Lane Group												

Lanes, Volumes, Timings

5: Beatty Line North & Farley Road/Side Road 18

Future Total 2039

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	129	72	96	92	72	35	91	81	59	151	39
Future Volume (vph)	64	129	72	96	92	72	35	91	81	59	151	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.963			0.963			0.947			0.979	
Flt Protected		0.988			0.982			0.992			0.988	
Satd. Flow (prot)	0	1733	0	0	1705	0	0	1689	0	0	1710	0
Flt Permitted		0.988			0.982			0.992			0.988	
Satd. Flow (perm)	0	1733	0	0	1705	0	0	1689	0	0	1710	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)			19	19					3	3		
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	5%	3%	6%	7%	4%	5%	7%	4%	7%	14%	3%	15%
Adj. Flow (vph)	74	150	84	112	107	84	41	106	94	69	176	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	308	0	0	303	0	0	241	0	0	290	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	50.6%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 5: Beatty Line North & Farley Road/Side Road 18

Future Total 2039
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	129	72	96	92	72	35	91	81	59	151	39
Future Volume (Veh/h)	64	129	72	96	92	72	35	91	81	59	151	39
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Hourly flow rate (vph)	74	150	84	112	107	84	41	106	94	69	176	45
Pedestrians					3			19				
Lane Width (m)					3.6			3.6				
Walking Speed (m/s)					1.2			1.2				
Percent Blockage					0			2				
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	709	622	218	752	597	156	221			203		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	709	622	218	752	597	156	221			203		
tC, single (s)	7.1	6.5	6.3	7.2	6.5	6.2	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.4	3.6	4.0	3.3	2.3			2.3		
p0 queue free %	68	59	89	38	72	90	97			95		
cM capacity (veh/h)	229	368	799	180	378	880	1319			1297		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	308	303	241	290								
Volume Left	74	112	41	69								
Volume Right	84	84	94	45								
cSH	368	303	1319	1297								
Volume to Capacity	0.84	1.00	0.03	0.05								
Queue Length 95th (m)	61.0	85.2	0.8	1.3								
Control Delay (s)	48.9	89.9	1.6	2.3								
Lane LOS	E	F	A	A								
Approach Delay (s)	48.9	89.9	1.6	2.3								
Approach LOS	E	F										
Intersection Summary												
Average Delay			37.9									
Intersection Capacity Utilization			50.6%	ICU Level of Service					A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2039
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	253	194	22	20	80
Future Volume (vph)	25	253	194	22	20	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.986		0.892	
Flt Protected		0.996			0.990	
Satd. Flow (prot)	0	1812	1700	0	1529	0
Flt Permitted		0.996			0.990	
Satd. Flow (perm)	0	1812	1700	0	1529	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	30	309	237	27	24	98
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	339	264	0	122	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: Side Road 18 & Vincent Street

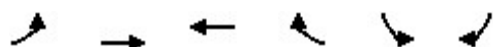
Future Total 2039
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	253	194	22	20	80
Future Volume (Veh/h)	25	253	194	22	20	80
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	30	309	237	27	24	98
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	264				628	252
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	264				628	252
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				94	87
cM capacity (veh/h)	1208				388	782
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	339	264	122			
Volume Left	30	0	24			
Volume Right	0	27	98			
cSH	1208	1700	651			
Volume to Capacity	0.02	0.16	0.19			
Queue Length 95th (m)	0.6	0.0	5.5			
Control Delay (s)	0.9	0.0	11.8			
Lane LOS	A		B			
Approach Delay (s)	0.9	0.0	11.8			
Approach LOS			B			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			42.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2039
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	192	139	43	74	65
Future Volume (vph)	95	192	139	43	74	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.968		0.937	
Flt Protected		0.984			0.974	
Satd. Flow (prot)	0	1775	1650	0	1577	0
Flt Permitted		0.984			0.974	
Satd. Flow (perm)	0	1775	1650	0	1577	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	206	149	46	80	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	308	195	0	150	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2039
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	192	139	43	74	65
Future Volume (Veh/h)	95	192	139	43	74	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	206	149	46	80	70
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	197				588	178
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	197				588	178
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	92				81	92
cM capacity (veh/h)	1327				423	838
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	308	195	150			
Volume Left	102	0	80			
Volume Right	0	46	70			
cSH	1327	1700	550			
Volume to Capacity	0.08	0.11	0.27			
Queue Length 95th (m)	2.0	0.0	8.8			
Control Delay (s)	3.1	0.0	14.0			
Lane LOS	A		B			
Approach Delay (s)	3.1	0.0	14.0			
Approach LOS			B			
Intersection Summary						
Average Delay		4.7				
Intersection Capacity Utilization		44.5%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Total 2039
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Future Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.977			0.960			0.899			0.932	
Flt Protected		0.994			0.993			0.988			0.976	
Satd. Flow (prot)	0	1746	0	0	1701	0	0	1663	0	0	1728	0
Flt Permitted		0.994			0.993			0.988			0.976	
Satd. Flow (perm)	0	1746	0	0	1701	0	0	1663	0	0	1728	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		156.5			142.7			88.1			94.9	
Travel Time (s)		11.3			10.3			6.3			6.8	
Confl. Peds. (#/hr)			11	11			2		4	4		2
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	0%	8%	0%	10%	9%	0%	0%	0%	2%	0%	0%	0%
Adj. Flow (vph)	3	17	4	4	15	8	1	0	3	8	0	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	27	0	0	4	0	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	17.7%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Total 2039
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Future Volume (vph)	2	13	3	3	11	6	1	0	2	6	0	6
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	3	17	4	4	15	8	1	0	3	8	0	8
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	24	27	4	16								
Volume Left (vph)	3	4	1	8								
Volume Right (vph)	4	8	3	8								
Hadj (s)	0.02	-0.04	-0.37	-0.20								
Departure Headway (s)	4.0	3.9	3.6	3.8								
Degree Utilization, x	0.03	0.03	0.00	0.02								
Capacity (veh/h)	891	907	969	927								
Control Delay (s)	7.1	7.0	6.7	6.9								
Approach Delay (s)	7.1	7.0	6.7	6.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				7.0								
Level of Service				A								
Intersection Capacity Utilization				17.7%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings
9: Highway 6 & Street A

Future Total 2039
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	57	287	217	527	673	91
Future Volume (vph)	57	287	217	527	673	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			15.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.5		25.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3343	3343	1615
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3343	3343	1615
Link Speed (k/h)	50			60	60	
Link Distance (m)	197.6			413.0	200.4	
Travel Time (s)	14.2			24.8	12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	8%	8%	0%
Adj. Flow (vph)	62	312	236	573	732	99
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	312	236	573	732	99
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: Highway 6 & Street A

Future Total 2039
AM Peak Hour

													
Movement	EBL	EBR	NBL	NBT	SBT	SBR							
Lane Configurations													
Traffic Volume (veh/h)	57	287	217	527	673	91							
Future Volume (Veh/h)	57	287	217	527	673	91							
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)	62	312	236	573	732	99							
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	1490	366	831										
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1490	366	831										
tC, single (s)	6.8	6.9	4.1										
tC, 2 stage (s)													
tF (s)	3.5	3.3	2.2										
p0 queue free %	25	51	71										
cM capacity (veh/h)	83	637	810										
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3					
Volume Total	62	312	236	286	286	366	366	99					
Volume Left	62	0	236	0	0	0	0	0					
Volume Right	0	312	0	0	0	0	0	99					
cSH	83	637	810	1700	1700	1700	1700	1700					
Volume to Capacity	0.75	0.49	0.29	0.17	0.17	0.22	0.22	0.06					
Queue Length 95th (m)	29.6	21.6	9.7	0.0	0.0	0.0	0.0	0.0					
Control Delay (s)	126.0	16.0	11.3	0.0	0.0	0.0	0.0	0.0					
Lane LOS	F	C	B										
Approach Delay (s)	34.2		3.3			0.0							
Approach LOS	D												
Intersection Summary													
Average Delay			7.7										
Intersection Capacity Utilization			44.0%		ICU Level of Service		A						
Analysis Period (min)			15										

Lanes, Volumes, Timings

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2039

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	0	218	0	0	0	174	701	0	0	560	30
Future Volume (vph)	34	0	218	0	0	0	174	701	0	0	560	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		5.0	0.0		0.0	115.0		0.0	0.0		0.0
Storage Lanes	0		1	0		0	1		0	0		0
Taper Length (m)	7.5			7.5			95.0			7.5		
Lane Util. 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
Ped Bike Factor												
Frt			0.850								0.993	
Flt Protected		0.950					0.950					
Satd. Flow (prot)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Flt Permitted		0.950					0.950					
Satd. Flow (perm)	0	1517	1553	0	1900	0	1752	1845	0	0	1758	0
Link Speed (k/h)		40			40			80			80	
Link Distance (m)		689.6			121.8			406.3			149.7	
Travel Time (s)		62.1			11.0			18.3			6.7	
Confl. Peds. (#/hr)	4					4						
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	19%	0%	4%	0%	0%	0%	3%	3%	0%	0%	7%	13%
Adj. Flow (vph)	36	0	229	0	0	0	183	738	0	0	589	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	229	0	0	0	183	738	0	0	621	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 82.8%

ICU Level of Service E

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

1: Highway 6 & Nichol Road 15/Private Driveway

Future Total 2039
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	0	218	0	0	0	174	701	0	0	560	30
Future Volume (Veh/h)	34	0	218	0	0	0	174	701	0	0	560	30
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	36	0	229	0	0	0	183	738	0	0	589	32
Pedestrians												4
Lane Width (m)												3.6
Walking Speed (m/s)												1.2
Percent Blockage												0
Right turn flare (veh)	1											
Median type	None											None
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1713	1709	605	1824	1725	742	621	738				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1713	1709	605	1824	1725	742	621	738				
tC, single (s)	7.3	6.5	6.2	7.1	6.5	6.2	4.1	4.1				
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
p0 queue free %	34	100	54	100	100	100	81	100				
cM capacity (veh/h)	55	74	494	28	73	418	955	877				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	265	0	183	738	621							
Volume Left	36	0	183	0	0							
Volume Right	229	0	0	0	32							
cSH	293	1700	955	1700	877							
Volume to Capacity	0.91	0.00	0.19	0.43	0.00							
Queue Length 95th (m)	67.1	0.0	5.6	0.0	0.0							
Control Delay (s)	70.0	0.0	9.7	0.0	0.0							
Lane LOS	F	A	A									
Approach Delay (s)	70.0	0.0	1.9	0.0								
Approach LOS	F	A										
Intersection Summary												
Average Delay	11.2											
Intersection Capacity Utilization	82.8%			ICU Level of Service					E			
Analysis Period (min)	15											

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2039
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	11	219	104	8	80	204	982	151	103	789	30
Future Volume (vph)	32	11	219	104	8	80	204	982	151	103	789	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.857			0.864			0.979			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1567	0	1770	1609	0	1736	3465	0	1770	3379	0
Flt Permitted	0.695			0.396			0.241			0.235		
Satd. Flow (perm)	1320	1567	0	738	1609	0	440	3465	0	438	3379	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		231			87			44			7	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	34	12	231	113	9	87	215	1034	164	112	831	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	243	0	113	96	0	215	1198	0	112	863	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2039
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		12.0	56.0		44.0	44.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		15.0%	70.0%		55.0%	55.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		7.5	51.5		39.5	39.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effect Green (s)	14.3	14.3		14.3	14.3		51.7	51.7		39.9	39.9	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.69	0.69		0.53	0.53	
v/c Ratio	0.14	0.50		0.81	0.26		0.50	0.50		0.48	0.48	
Control Delay	25.6	8.4		68.3	9.1		9.2	6.8		21.8	12.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.6	8.4		68.3	9.1		9.2	6.8		21.8	12.9	
LOS	C	A		E	A		A	A		C	B	
Approach Delay		10.5			41.1			7.1			13.9	
Approach LOS		B			D			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 75

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 12.2

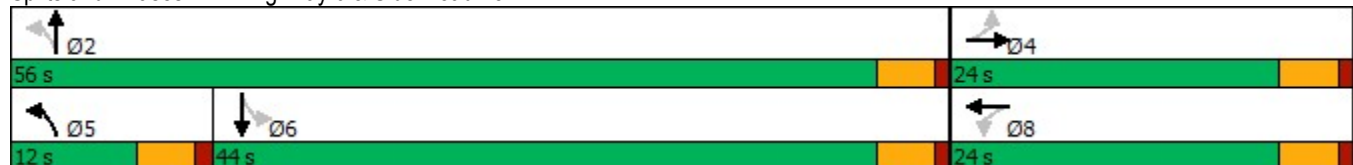
Intersection LOS: B

Intersection Capacity Utilization 72.5%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues

2: Highway 6 & Side Road 18

Future Total 2039

PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	243	113	96	215	1198	112	863
v/c Ratio	0.14	0.50	0.81	0.26	0.50	0.50	0.48	0.48
Control Delay	25.6	8.4	68.3	9.1	9.2	6.8	21.8	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	8.4	68.3	9.1	9.2	6.8	21.8	12.9
Queue Length 50th (m)	4.2	1.5	16.2	1.1	10.0	37.2	10.1	40.6
Queue Length 95th (m)	11.4	19.1	#39.6	12.5	21.1	61.0	29.9	62.5
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)					20.0		20.0	
Base Capacity (vph)	344	579	192	484	433	2402	233	1801
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	0.10	0.42	0.59	0.20	0.50	0.50	0.48	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2039

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	11	219	104	8	80	204	982	151	103	789	30
Future Volume (vph)	32	11	219	104	8	80	204	982	151	103	789	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.86		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1568		1770	1610		1736	3467		1770	3381	
Flt Permitted	0.69	1.00		0.40	1.00		0.24	1.00		0.24	1.00	
Satd. Flow (perm)	1320	1568		739	1610		440	3467		438	3381	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	34	12	231	113	9	87	215	1034	164	112	831	32
RTOR Reduction (vph)	0	187	0	0	70	0	0	14	0	0	3	0
Lane Group Flow (vph)	34	56	0	113	26	0	215	1184	0	112	860	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.3	14.3		14.3	14.3		51.7	51.7		39.9	39.9	
Effective Green, g (s)	14.3	14.3		14.3	14.3		51.7	51.7		39.9	39.9	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.69	0.69		0.53	0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	251	298		140	306		429	2389		233	1798	
v/s Ratio Prot		0.04			0.02		0.05	0.34			0.25	
v/s Ratio Perm	0.03			0.15			0.30			0.26		
v/c Ratio	0.14	0.19		0.81	0.08		0.50	0.50		0.48	0.48	
Uniform Delay, d1	25.2	25.5		29.0	25.0		5.6	5.5		11.0	11.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		27.7	0.1		0.9	0.7		6.9	0.9	
Delay (s)	25.5	25.8		56.8	25.1		6.5	6.2		18.0	11.9	
Level of Service	C	C		E	C		A	A		B	B	
Approach Delay (s)		25.7			42.2			6.3			12.6	
Approach LOS		C			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			12.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			75.0				Sum of lost time (s)			13.5		
Intersection Capacity Utilization			72.5%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
3: Highway 6 & Side Road 19

Future Total 2039
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	93	85	1310	1009	67
Future Volume (vph)	44	93	85	1310	1009	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	5.0	30.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		20.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor						
Frt		0.850			0.991	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1568	1703	3505	3448	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1568	1703	3505	3448	0
Link Speed (k/h)	40			60	60	
Link Distance (m)	509.0			92.6	58.0	
Travel Time (s)	45.8			5.6	3.5	
Confl. Peds. (#/hr)	1	2	5			5
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	6%	3%	4%	0%
Adj. Flow (vph)	45	96	88	1351	1040	69
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	96	88	1351	1109	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 3: Highway 6 & Side Road 19

Future Total 2039
PM Peak Hour

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	93	85	1310	1009	67
Future Volume (Veh/h)	44	93	85	1310	1009	67
Sign Control	Stop			Free		Free
Grade	0%			0%		0%
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	45	96	88	1351	1040	69
Pedestrians	5			2	1	
Lane Width (m)	3.6			3.6	3.6	
Walking Speed (m/s)	1.2			1.2	1.2	
Percent Blockage	0			0	0	
Right turn flare (veh)		1				
Median type				None	None	
Median storage veh						
Upstream signal (m)				93		
pX, platoon unblocked	0.79					
vC, conflicting volume	1932	562	1114			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1641	562	1114			
tC, single (s)	6.8	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	27	79	85			
cM capacity (veh/h)	62	465	597			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	141	88	676	676	693	416
Volume Left	45	88	0	0	0	0
Volume Right	96	0	0	0	0	69
cSH	165	597	1700	1700	1700	1700
Volume to Capacity	0.85	0.15	0.40	0.40	0.41	0.24
Queue Length 95th (m)	47.3	4.1	0.0	0.0	0.0	0.0
Control Delay (s)	91.0	12.1	0.0	0.0	0.0	0.0
Lane LOS	F	B				
Approach Delay (s)	91.0	0.7			0.0	
Approach LOS	F					
Intersection Summary						
Average Delay			5.2			
Intersection Capacity Utilization			48.7%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2039
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	118	69	618	85	705	119	424	655	25
Future Volume (vph)	25	48	82	118	69	618	85	705	119	424	655	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0		0.0	25.0		0.0	20.0		0.0	15.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	15.0			55.0			60.0			20.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		0.99		1.00	0.96		0.99	0.99			1.00	
Frt		0.906			0.865			0.978			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1680	0	1787	1531	0	1805	3458	0	1719	3547	0
Flt Permitted	0.142			0.624			0.374			0.126		
Satd. Flow (perm)	270	1680	0	1171	1531	0	702	3458	0	228	3547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			469			19			7	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		103.5			516.0			310.1			92.6	
Travel Time (s)		7.5			37.2			18.6			5.6	
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Adj. Flow (vph)	27	52	88	127	74	665	91	758	128	456	704	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	140	0	127	739	0	91	886	0	456	731	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings
4: Highway 6 & Commercial Access/Gordon Street

Future Total 2039
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		23.0	23.0		23.0	23.0		9.5	23.0	
Total Split (s)	36.0	36.0		36.0	36.0		35.0	35.0		29.0	64.0	
Total Split (%)	36.0%	36.0%		36.0%	36.0%		35.0%	35.0%		29.0%	64.0%	
Maximum Green (s)	32.0	32.0		31.0	31.0		30.0	30.0		24.5	59.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.5	3.0	
All-Red Time (s)	1.0	1.0		2.0	2.0		2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effect Green (s)	28.1	28.1		27.1	27.1		31.8	31.8		59.8	59.3	
Actuated g/C Ratio	0.29	0.29		0.28	0.28		0.33	0.33		0.62	0.62	
v/c Ratio	0.35	0.25		0.39	0.96		0.39	0.77		0.92	0.34	
Control Delay	40.0	11.8		31.2	37.9		34.2	35.3		49.8	10.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	40.0	11.8		31.2	37.9		34.2	35.3		49.8	10.1	
LOS	D	B		C	D		C	D		D	B	
Approach Delay		16.4			36.9			35.2			25.3	
Approach LOS		B			D			D			C	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 96.4

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 31.0

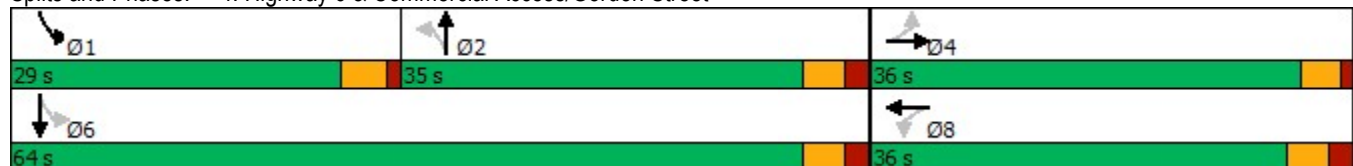
Intersection LOS: C

Intersection Capacity Utilization 110.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 4: Highway 6 & Commercial Access/Gordon Street



Queues

Future Total 2039

4: Highway 6 & Commercial Access/Gordon Street

PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	140	127	739	91	886	456	731
v/c Ratio	0.35	0.25	0.39	0.96	0.39	0.77	0.92	0.34
Control Delay	40.0	11.8	31.2	37.9	34.2	35.3	49.8	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	11.8	31.2	37.9	34.2	35.3	49.8	10.1
Queue Length 50th (m)	4.2	7.4	19.9	61.2	14.9	87.1	71.8	37.3
Queue Length 95th (m)	13.0	21.6	36.7	#145.4	31.2	#114.4	#132.3	48.7
Internal Link Dist (m)		79.5		492.0		286.1		68.6
Turn Bay Length (m)	20.0		25.0		20.0		15.0	
Base Capacity (vph)	90	618	378	812	231	1153	521	2182
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	0.30	0.23	0.34	0.91	0.39	0.77	0.88	0.34

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

4: Highway 6 & Commercial Access/Gordon Street

Future Total 2039
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	48	82	118	69	618	85	705	119	424	655	25
Future Volume (vph)	25	48	82	118	69	618	85	705	119	424	655	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.87		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1680		1783	1533		1784	3460		1719	3549	
Flt Permitted	0.14	1.00		0.62	1.00		0.37	1.00		0.13	1.00	
Satd. Flow (perm)	270	1680		1172	1533		702	3460		228	3549	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	27	52	88	127	74	665	91	758	128	456	704	27
RTOR Reduction (vph)	0	62	0	0	337	0	0	13	0	0	3	0
Lane Group Flow (vph)	27	78	0	127	402	0	91	873	0	456	728	0
Confl. Peds. (#/hr)	22		2	2		22	12		9	9		12
Heavy Vehicles (%)	0%	4%	0%	1%	0%	3%	0%	1%	4%	5%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.1	28.1		27.1	27.1		31.8	31.8		59.2	59.2	
Effective Green, g (s)	28.1	28.1		27.1	27.1		31.8	31.8		59.2	59.2	
Actuated g/C Ratio	0.29	0.29		0.28	0.28		0.33	0.33		0.61	0.61	
Clearance Time (s)	4.0	4.0		5.0	5.0		5.0	5.0		4.5	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	78	490		329	431		231	1142		494	2181	
v/s Ratio Prot		0.05			c0.26			0.25		c0.22	0.21	
v/s Ratio Perm	0.10			0.11			0.13			c0.35		
v/c Ratio	0.35	0.16		0.39	0.93		0.39	0.76		0.92	0.33	
Uniform Delay, d1	26.9	25.3		27.9	33.7		24.8	28.9		25.4	9.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.2		0.8	27.1		5.0	4.9		22.9	0.4	
Delay (s)	29.5	25.5		28.6	60.8		29.8	33.8		48.3	9.4	
Level of Service	C	C		C	E		C	C		D	A	
Approach Delay (s)		26.1			56.1			33.4			24.3	
Approach LOS		C			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			35.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			96.3			Sum of lost time (s)				14.5		
Intersection Capacity Utilization			110.2%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

Future Total 2039

5: Beatty Line North & Farley Road/Side Road 18

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	76	61	68	95	71	115	126	80	76	143	53
Future Volume (vph)	31	76	61	68	95	71	115	126	80	76	143	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.951			0.959			0.966			0.974	
Flt Protected		0.991			0.986			0.982			0.986	
Satd. Flow (prot)	0	1755	0	0	1754	0	0	1789	0	0	1771	0
Flt Permitted		0.991			0.986			0.982			0.986	
Satd. Flow (perm)	0	1755	0	0	1754	0	0	1789	0	0	1771	0
Link Speed (k/h)		50			40			50			50	
Link Distance (m)		271.3			214.7			599.2			318.8	
Travel Time (s)		19.5			19.3			43.1			23.0	
Confl. Peds. (#/hr)	1		6	6		1	1		3	3		1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	0%	2%	0%	6%	0%	1%	1%	0%	0%	1%	13%
Adj. Flow (vph)	32	79	64	71	99	74	120	131	83	79	149	55
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	175	0	0	244	0	0	334	0	0	283	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	54.1%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis

5: Beatty Line North & Farley Road/Side Road 18

Future Total 2039
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	76	61	68	95	71	115	126	80	76	143	53
Future Volume (Veh/h)	31	76	61	68	95	71	115	126	80	76	143	53
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	32	79	64	71	99	74	120	131	83	79	149	55
Pedestrians		1			3			6			1	
Lane Width (m)		3.6			3.6			3.6			3.6	
Walking Speed (m/s)		1.2			1.2			1.2			1.2	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	872	792	184	860	778	176	205			217		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	872	792	184	860	778	176	205			217		
tC, single (s)	7.2	6.5	6.2	7.1	6.6	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.0	3.3	3.5	4.1	3.3	2.2			2.2		
p0 queue free %	80	72	93	60	64	91	91			94		
cM capacity (veh/h)	157	277	854	179	276	869	1371			1361		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	175	244	334	283								
Volume Left	32	71	120	79								
Volume Right	64	74	83	55								
cSH	310	290	1371	1361								
Volume to Capacity	0.56	0.84	0.09	0.06								
Queue Length 95th (m)	26.0	56.8	2.3	1.5								
Control Delay (s)	30.6	58.9	3.3	2.6								
Lane LOS	D	F	A	A								
Approach Delay (s)	30.6	58.9	3.3	2.6								
Approach LOS	D	F										
Intersection Summary												
Average Delay			20.8									
Intersection Capacity Utilization			54.1%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2039
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	213	208	29	22	68
Future Volume (vph)	48	213	208	29	22	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.984		0.898	
Flt Protected		0.991			0.988	
Satd. Flow (prot)	0	1778	1688	0	1517	0
Flt Permitted		0.991			0.988	
Satd. Flow (perm)	0	1778	1688	0	1517	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	56	251	245	34	26	80
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	307	279	0	106	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

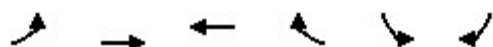
Future Total 2039
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	213	208	29	22	68
Future Volume (Veh/h)	48	213	208	29	22	68
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	56	251	245	34	26	80
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	279				634	263
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	279				634	263
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	95				93	90
cM capacity (veh/h)	1192				376	770
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	307	279	106			
Volume Left	56	0	26			
Volume Right	0	34	80			
cSH	1192	1700	613			
Volume to Capacity	0.05	0.16	0.17			
Queue Length 95th (m)	1.2	0.0	5.0			
Control Delay (s)	1.9	0.0	12.1			
Lane LOS	A		B			
Approach Delay (s)	1.9	0.0	12.1			
Approach LOS			B			
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			42.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2039
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	173	201	86	76	42
Future Volume (vph)	58	173	201	86	76	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.959		0.952	
Flt Protected		0.988			0.969	
Satd. Flow (prot)	0	1877	1809	0	1740	0
Flt Permitted		0.988			0.969	
Satd. Flow (perm)	0	1877	1809	0	1740	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	197	228	98	86	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	263	326	0	134	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2039
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	173	201	86	76	42
Future Volume (Veh/h)	58	173	201	86	76	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	197	228	98	86	48
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	327				607	278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	327				607	278
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				80	94
cM capacity (veh/h)	1243				438	760
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	263	326	134			
Volume Left	66	0	86			
Volume Right	0	98	48			
cSH	1243	1700	516			
Volume to Capacity	0.05	0.19	0.26			
Queue Length 95th (m)	1.3	0.0	8.2			
Control Delay (s)	2.4	0.0	14.4			
Lane LOS	A		B			
Approach Delay (s)	2.4	0.0	14.4			
Approach LOS			B			
Intersection Summary						
Average Delay		3.5				
Intersection Capacity Utilization		44.9%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
8: Sadler Street & Courtney Street

Future Total 2039
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Future Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. 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
Ped Bike Factor												
Frt		0.979			0.955			0.899			0.955	
Flt Protected		0.988			0.985			0.988			0.968	
Satd. Flow (prot)	0	1838	0	0	1787	0	0	1688	0	0	1756	0
Flt Permitted		0.988			0.985			0.988			0.968	
Satd. Flow (perm)	0	1838	0	0	1787	0	0	1688	0	0	1756	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		156.5			142.7			88.1			94.9	
Travel Time (s)		11.3			10.3			6.3			6.8	
Confl. Peds. (#/hr)			17	17					2	2		
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	8	19	5	9	11	10	3	0	9	8	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	30	0	0	12	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	18.3%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 8: Sadler Street & Courtney Street

Future Total 2039
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Future Volume (vph)	6	15	4	7	9	8	2	0	7	6	0	3
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	8	19	5	9	11	10	3	0	9	8	0	4
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	32	30	12	12								
Volume Left (vph)	8	9	3	8								
Volume Right (vph)	5	10	9	4								
Hadj (s)	-0.04	-0.14	-0.40	-0.07								
Departure Headway (s)	3.9	3.8	3.6	4.0								
Degree Utilization, x	0.03	0.03	0.01	0.01								
Capacity (veh/h)	902	926	959	887								
Control Delay (s)	7.1	7.0	6.7	7.0								
Approach Delay (s)	7.1	7.0	6.7	7.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.0									
Level of Service			A									
Intersection Capacity Utilization			18.3%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings
9: Highway 6 & Street A

Future Total 2039
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	160	169	919	752	53
Future Volume (vph)	32	160	169	919	752	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			15.0
Storage Lanes	1	1	1			1
Taper Length (m)	7.5		25.0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1805	1615	1805	3505	3406	1615
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1805	1615	1805	3505	3406	1615
Link Speed (k/h)	50			60	60	
Link Distance (m)	197.6			413.0	200.4	
Travel Time (s)	14.2			24.8	12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	3%	6%	0%
Adj. Flow (vph)	35	174	184	999	817	58
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	174	184	999	817	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

9: Highway 6 & Street A

Future Total 2039
PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	32	160	169	919	752	53		
Future Volume (Veh/h)	32	160	169	919	752	53		
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)	35	174	184	999	817	58		
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	1684	408	875					
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	1684	408	875					
tC, single (s)	6.8	6.9	4.1					
tC, 2 stage (s)								
tF (s)	3.5	3.3	2.2					
p0 queue free %	47	71	76					
cM capacity (veh/h)	66	598	780					
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	35	174	184	500	500	408	408	58
Volume Left	35	0	184	0	0	0	0	0
Volume Right	0	174	0	0	0	0	0	58
cSH	66	598	780	1700	1700	1700	1700	1700
Volume to Capacity	0.53	0.29	0.24	0.29	0.29	0.24	0.24	0.03
Queue Length 95th (m)	17.3	9.6	7.3	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	108.5	13.5	11.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	B					
Approach Delay (s)	29.4	1.7		0.0				
Approach LOS	D							
Intersection Summary								
Average Delay			3.6					
Intersection Capacity Utilization			43.5%	ICU Level of Service			A	
Analysis Period (min)			15					

Without Street A

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	20	478	115	74	68	280	366	53	32	518	116
Future Volume (vph)	74	20	478	115	74	68	280	366	53	32	518	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.856			0.928			0.980			0.973	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1565	0	1770	1729	0	1656	3300	0	1770	3280	0
Flt Permitted	0.659			0.255			0.255			0.497		
Satd. Flow (perm)	1252	1565	0	475	1729	0	444	3300	0	926	3280	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		469			67			31			33	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	77	22	498	125	80	74	292	381	58	35	540	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	77	520	0	125	154	0	292	439	0	35	661	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2029
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		10.6	34.6		19.0	45.4		26.4	26.4	
Total Split (%)	30.0%	30.0%		13.3%	43.3%		23.8%	56.8%		33.0%	33.0%	
Maximum Green (s)	19.5	19.5		6.1	30.1		14.5	40.9		21.9	21.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	11.2	11.2		19.5	19.3		41.5	41.5		25.4	25.4	
Actuated g/C Ratio	0.16	0.16		0.28	0.28		0.59	0.59		0.36	0.36	
v/c Ratio	0.38	0.81		0.51	0.29		0.63	0.22		0.10	0.55	
Control Delay	32.1	15.2		25.7	12.3		15.6	8.0		21.1	21.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.1	15.2		25.7	12.3		15.6	8.0		21.1	21.7	
LOS	C	B		C	B		B	A		C	C	
Approach Delay		17.4			18.3			11.1			21.6	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 16.8

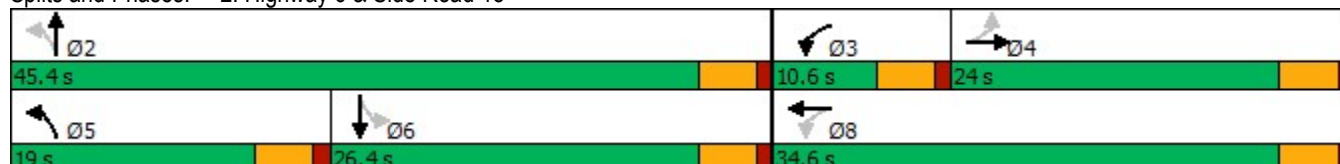
Intersection LOS: B

Intersection Capacity Utilization 85.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues

Future Total 2029

2: Highway 6 & Side Road 18

AM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	77	520	125	154	292	439	35	661
v/c Ratio	0.38	0.81	0.51	0.29	0.63	0.22	0.10	0.55
Control Delay	32.1	15.2	25.7	12.3	15.6	8.0	21.1	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	15.2	25.7	12.3	15.6	8.0	21.1	21.7
Queue Length 50th (m)	10.0	6.4	13.1	8.9	18.3	12.6	3.2	36.4
Queue Length 95th (m)	21.8	38.0	24.9	21.5	43.2	26.8	11.6	67.0
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)	15.0				20.0		20.0	
Base Capacity (vph)	354	779	246	792	518	1970	335	1209
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	0.22	0.67	0.51	0.19	0.56	0.22	0.10	0.55
Intersection Summary								

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2029

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	20	478	115	74	68	280	366	53	32	518	116
Future Volume (vph)	74	20	478	115	74	68	280	366	53	32	518	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.93		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1566		1770	1728		1656	3301		1770	3278	
Flt Permitted	0.66	1.00		0.25	1.00		0.25	1.00		0.50	1.00	
Satd. Flow (perm)	1252	1566		475	1728		444	3301		926	3278	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	77	22	498	125	80	74	292	381	58	35	540	121
RTOR Reduction (vph)	0	395	0	0	48	0	0	13	0	0	21	0
Lane Group Flow (vph)	77	125	0	125	106	0	292	426	0	35	640	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.2	11.2		20.4	20.4		41.6	41.6		25.5	25.5	
Effective Green, g (s)	11.2	11.2		20.4	20.4		41.6	41.6		25.5	25.5	
Actuated g/C Ratio	0.16	0.16		0.29	0.29		0.59	0.59		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	197	247		222	496		458	1934		332	1177	
v/s Ratio Prot		0.08		c0.04	0.06		c0.10	0.13			0.20	
v/s Ratio Perm	0.06			c0.12			c0.27			0.04		
v/c Ratio	0.39	0.51		0.56	0.21		0.64	0.22		0.11	0.54	
Uniform Delay, d1	26.8	27.4		20.4	19.2		8.8	7.0		15.2	18.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	1.6		3.2	0.2		2.9	0.3		0.6	1.8	
Delay (s)	28.1	29.0		23.7	19.4		11.7	7.3		15.8	19.9	
Level of Service	C	C		C	B		B	A		B	B	
Approach Delay (s)		28.9			21.3			9.0			19.7	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			18.9			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			71.0			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			85.5%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2029
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	232	163	33	84	92
Future Volume (vph)	25	232	163	33	84	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.977		0.929	
Flt Protected		0.995			0.977	
Satd. Flow (prot)	0	1809	1655	0	1464	0
Flt Permitted		0.995			0.977	
Satd. Flow (perm)	0	1809	1655	0	1464	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	30	283	199	40	102	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	313	239	0	214	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

Future Total 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	232	163	33	84	92
Future Volume (Veh/h)	25	232	163	33	84	92
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	30	283	199	40	102	112
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	239				571	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	239				571	220
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				76	86
cM capacity (veh/h)	1234				420	814
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	313	239	214			
Volume Left	30	0	102			
Volume Right	0	40	112			
cSH	1234	1700	563			
Volume to Capacity	0.02	0.14	0.38			
Queue Length 95th (m)	0.6	0.0	14.2			
Control Delay (s)	1.0	0.0	15.3			
Lane LOS	A		C			
Approach Delay (s)	1.0	0.0	15.3			
Approach LOS			C			
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization			44.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2029
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	232	133	340	351	53
Future Volume (vph)	95	232	133	340	351	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.903		0.982	
Flt Protected		0.986			0.958	
Satd. Flow (prot)	0	1784	1526	0	1636	0
Flt Permitted		0.986			0.958	
Satd. Flow (perm)	0	1784	1526	0	1636	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	249	143	366	377	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	351	509	0	434	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	78.3%			ICU Level of Service D		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	232	133	340	351	53
Future Volume (Veh/h)	95	232	133	340	351	53
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	249	143	366	377	57
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)			200			
pX, platoon unblocked	0.97				0.97	0.97
vC, conflicting volume	511				785	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	483				765	299
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	90				0	92
cM capacity (veh/h)	1009				315	696
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	351	509	434			
Volume Left	102	0	377			
Volume Right	0	366	57			
cSH	1009	1700	339			
Volume to Capacity	0.10	0.30	1.28			
Queue Length 95th (m)	2.7	0.0	160.1			
Control Delay (s)	3.4	0.0	179.2			
Lane LOS	A		F			
Approach Delay (s)	3.4	0.0	179.2			
Approach LOS			F			
Intersection Summary						
Average Delay		61.0				
Intersection Capacity Utilization		78.3%		ICU Level of Service		D
Analysis Period (min)		15				

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2029

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	23	342	104	13	75	350	684	151	91	534	78
Future Volume (vph)	59	23	342	104	13	75	350	684	151	91	534	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.860			0.872			0.972			0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1573	0	1770	1624	0	1736	3440	0	1770	3321	0
Flt Permitted	0.695			0.280			0.268			0.322		
Satd. Flow (perm)	1320	1573	0	522	1624	0	490	3440	0	600	3321	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		360			82			54			19	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	62	25	360	113	14	82	368	720	164	99	562	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	385	0	113	96	0	368	884	0	99	644	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2029

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		9.5	32.0		22.7	48.0		25.3	25.3	
Total Split (%)	28.1%	28.1%		11.9%	40.0%		28.4%	60.0%		31.6%	31.6%	
Maximum Green (s)	18.0	18.0		5.0	27.5		18.2	43.5		20.8	20.8	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	9.7	9.7		17.0	17.0		44.0	44.0		25.9	25.9	
Actuated g/C Ratio	0.14	0.14		0.24	0.24		0.63	0.63		0.37	0.37	
v/c Ratio	0.34	0.73		0.52	0.21		0.67	0.41		0.45	0.52	
Control Delay	32.6	13.3		29.2	7.6		14.9	7.9		31.7	21.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.6	13.3		29.2	7.6		14.9	7.9		31.7	21.4	
LOS	C	B		C	A		B	A		C	C	
Approach Delay		16.0			19.3			10.0			22.8	
Approach LOS		B			B			A			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70.1

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 15.3

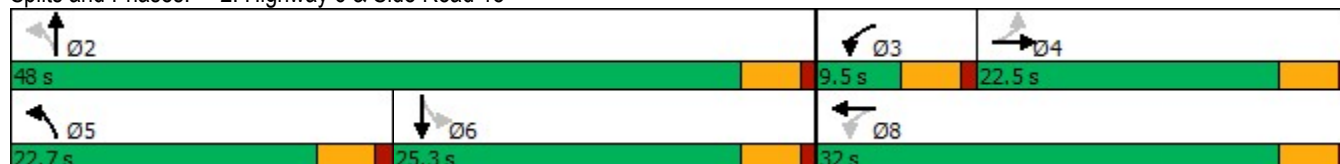
Intersection LOS: B

Intersection Capacity Utilization 79.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



2: Highway 6 & Side Road 18

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	385	113	96	368	884	99	644
v/c Ratio	0.34	0.73	0.52	0.21	0.67	0.41	0.45	0.52
Control Delay	32.6	13.3	29.2	7.6	14.9	7.9	31.7	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	13.3	29.2	7.6	14.9	7.9	31.7	21.4
Queue Length 50th (m)	8.1	3.2	12.5	1.5	21.9	27.2	10.4	35.5
Queue Length 95th (m)	18.6	27.3	24.2	11.3	53.1	53.7	#37.2	67.3
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)	15.0				20.0		20.0	
Base Capacity (vph)	342	674	217	693	634	2177	221	1238
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	0.18	0.57	0.52	0.14	0.58	0.41	0.45	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

Future Total 2029

2: Highway 6 & Side Road 18

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	23	342	104	13	75	350	684	151	91	534	78
Future Volume (vph)	59	23	342	104	13	75	350	684	151	91	534	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.87		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1573		1770	1624		1736	3441		1770	3321	
Flt Permitted	0.69	1.00		0.28	1.00		0.27	1.00		0.32	1.00	
Satd. Flow (perm)	1320	1573		521	1624		489	3441		599	3321	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	62	25	360	113	14	82	368	720	164	99	562	82
RTOR Reduction (vph)	0	310	0	0	61	0	0	21	0	0	12	0
Lane Group Flow (vph)	62	75	0	113	35	0	368	863	0	99	632	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.8	9.8		18.1	18.1		44.0	44.0		26.0	26.0	
Effective Green, g (s)	9.8	9.8		18.1	18.1		44.0	44.0		26.0	26.0	
Actuated g/C Ratio	0.14	0.14		0.25	0.25		0.62	0.62		0.37	0.37	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	181	216		199	413		539	2129		219	1214	
v/s Ratio Prot		0.05		c0.03	0.02		c0.13	0.25			0.19	
v/s Ratio Perm	0.05			c0.11			c0.29			0.17		
v/c Ratio	0.34	0.35		0.57	0.08		0.68	0.41		0.45	0.52	
Uniform Delay, d1	27.7	27.7		21.9	20.2		8.1	6.9		17.1	17.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	1.0		3.7	0.1		3.6	0.6		6.6	1.6	
Delay (s)	28.9	28.7		25.6	20.3		11.6	7.5		23.7	19.3	
Level of Service	C	C		C	C		B	A		C	B	
Approach Delay (s)		28.7			23.1			8.7			19.9	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			16.3			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			71.1			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			79.8%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2029

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	192	169	72	50	86
Future Volume (vph)	48	192	169	72	50	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.960		0.915	
Flt Protected		0.990			0.982	
Satd. Flow (prot)	0	1772	1569	0	1488	0
Flt Permitted		0.990			0.982	
Satd. Flow (perm)	0	1772	1569	0	1488	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	56	226	199	85	59	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	284	0	160	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: Side Road 18 & Vincent Street

Future Total 2029

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	192	169	72	50	86
Future Volume (Veh/h)	48	192	169	72	50	86
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	56	226	199	85	59	101
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	284				588	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	284				588	242
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	95				85	87
cM capacity (veh/h)	1187				401	791
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	282	284	160			
Volume Left	56	0	59			
Volume Right	0	85	101			
cSH	1187	1700	582			
Volume to Capacity	0.05	0.17	0.28			
Queue Length 95th (m)	1.2	0.0	8.9			
Control Delay (s)	2.0	0.0	13.5			
Lane LOS	A		B			
Approach Delay (s)	2.0	0.0	13.5			
Approach LOS			B			
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			44.3%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2029

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	180	221	265	240	24
Future Volume (vph)	58	180	221	265	240	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.926		0.988	
Flt Protected		0.988			0.956	
Satd. Flow (prot)	0	1877	1751	0	1791	0
Flt Permitted		0.988			0.956	
Satd. Flow (perm)	0	1877	1751	0	1791	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	205	251	301	273	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	271	552	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	65.4%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 7: Side Road 18 & Steele Street

Future Total 2029

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	180	221	265	240	24
Future Volume (Veh/h)	58	180	221	265	240	24
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	205	251	301	273	27
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)			200			
pX, platoon unblocked	0.94				0.94	0.94
vC, conflicting volume	553				740	402
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	490				689	330
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				25	96
cM capacity (veh/h)	1015				363	667
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	271	552	300			
Volume Left	66	0	273			
Volume Right	0	301	27			
cSH	1015	1700	379			
Volume to Capacity	0.07	0.32	0.79			
Queue Length 95th (m)	1.7	0.0	54.2			
Control Delay (s)	2.6	0.0	42.4			
Lane LOS	A		E			
Approach Delay (s)	2.6	0.0	42.4			
Approach LOS			E			
Intersection Summary						
Average Delay		12.0				
Intersection Capacity Utilization		65.4%	ICU Level of Service		C	
Analysis Period (min)		15				

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2034
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	20	491	115	74	68	288	401	53	32	563	118
Future Volume (vph)	75	20	491	115	74	68	288	401	53	32	563	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.856			0.928			0.982			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1565	0	1770	1729	0	1656	3305	0	1770	3285	0
Flt Permitted	0.659			0.250			0.224			0.480		
Satd. Flow (perm)	1252	1565	0	466	1729	0	390	3305	0	894	3285	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		469			67			28			30	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	78	22	511	125	80	74	300	418	58	35	586	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	78	533	0	125	154	0	300	476	0	35	709	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2034
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		10.6	34.6		19.5	45.4		25.9	25.9	
Total Split (%)	30.0%	30.0%		13.3%	43.3%		24.4%	56.8%		32.4%	32.4%	
Maximum Green (s)	19.5	19.5		6.1	30.1		15.0	40.9		21.4	21.4	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	11.5	11.5		19.7	19.6		41.6	41.6		24.8	24.8	
Actuated g/C Ratio	0.16	0.16		0.28	0.28		0.59	0.59		0.35	0.35	
v/c Ratio	0.38	0.82		0.51	0.29		0.67	0.24		0.11	0.60	
Control Delay	31.9	16.5		25.7	12.2		18.2	8.3		21.8	23.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.9	16.5		25.7	12.2		18.2	8.3		21.8	23.5	
LOS	C	B		C	B		B	A		C	C	
Approach Delay		18.5			18.3			12.1			23.4	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70.3

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.9

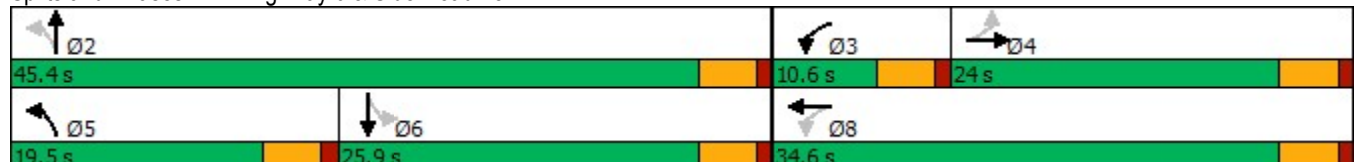
Intersection LOS: B

Intersection Capacity Utilization 88.1%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18

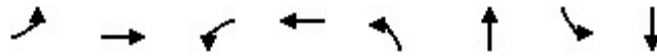


Queues

2: Highway 6 & Side Road 18

Future Total 2034

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	78	533	125	154	300	476	35	709
v/c Ratio	0.38	0.82	0.51	0.29	0.67	0.24	0.11	0.60
Control Delay	31.9	16.5	25.7	12.2	18.2	8.3	21.8	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.9	16.5	25.7	12.2	18.2	8.3	21.8	23.5
Queue Length 50th (m)	10.1	8.1	13.1	8.9	19.2	14.2	3.4	41.6
Queue Length 95th (m)	21.9	41.8	24.9	21.5	#49.7	29.4	11.7	#74.1
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)	15.0				20.0		20.0	
Base Capacity (vph)	352	778	245	790	505	1965	315	1179
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	0.22	0.69	0.51	0.19	0.59	0.24	0.11	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2034

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	20	491	115	74	68	288	401	53	32	563	118
Future Volume (vph)	75	20	491	115	74	68	288	401	53	32	563	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.93		1.00	0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1565		1770	1728		1656	3304		1770	3285	
Flt Permitted	0.66	1.00		0.25	1.00		0.22	1.00		0.48	1.00	
Satd. Flow (perm)	1252	1565		466	1728		391	3304		894	3285	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	78	22	511	125	80	74	300	418	58	35	586	123
RTOR Reduction (vph)	0	393	0	0	48	0	0	12	0	0	20	0
Lane Group Flow (vph)	78	140	0	125	106	0	300	464	0	35	689	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	11.5	11.5		20.7	20.7		41.6	41.6		24.9	24.9	
Effective Green, g (s)	11.5	11.5		20.7	20.7		41.6	41.6		24.9	24.9	
Actuated g/C Ratio	0.16	0.16		0.29	0.29		0.58	0.58		0.35	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	201	252		221	501		444	1927		312	1147	
v/s Ratio Prot		0.09		c0.04	0.06		c0.12	0.14			0.21	
v/s Ratio Perm	0.06			c0.13			c0.28			0.04		
v/c Ratio	0.39	0.55		0.57	0.21		0.68	0.24		0.11	0.60	
Uniform Delay, d1	26.8	27.5		20.4	19.1		9.4	7.2		15.7	19.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	2.6		3.3	0.2		4.0	0.3		0.7	2.3	
Delay (s)	28.0	30.2		23.7	19.3		13.5	7.5		16.4	21.4	
Level of Service	C	C		C	B		B	A		B	C	
Approach Delay (s)		29.9			21.3			9.8			21.2	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			19.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			71.3				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			88.1%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2034
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	242	172	33	84	92
Future Volume (vph)	25	242	172	33	84	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.978		0.929	
Flt Protected		0.995			0.977	
Satd. Flow (prot)	0	1809	1660	0	1464	0
Flt Permitted		0.995			0.977	
Satd. Flow (perm)	0	1809	1660	0	1464	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	30	295	210	40	102	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	325	250	0	214	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

Future Total 2034
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	242	172	33	84	92
Future Volume (Veh/h)	25	242	172	33	84	92
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	30	295	210	40	102	112
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	250				594	231
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	250				594	231
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				75	86
cM capacity (veh/h)	1223				407	803
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	325	250	214			
Volume Left	30	0	102			
Volume Right	0	40	112			
cSH	1223	1700	548			
Volume to Capacity	0.02	0.15	0.39			
Queue Length 95th (m)	0.6	0.0	14.7			
Control Delay (s)	1.0	0.0	15.7			
Lane LOS	A		C			
Approach Delay (s)	1.0	0.0	15.7			
Approach LOS			C			
Intersection Summary						
Average Delay		4.7				
Intersection Capacity Utilization		45.6%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2034
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	243	142	340	351	53
Future Volume (vph)	95	243	142	340	351	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.905		0.982	
Flt Protected		0.986			0.958	
Satd. Flow (prot)	0	1785	1530	0	1636	0
Flt Permitted		0.986			0.958	
Satd. Flow (perm)	0	1785	1530	0	1636	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	261	153	366	377	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	363	519	0	434	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	79.3%			ICU Level of Service D		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 7: Side Road 18 & Steele Street

Future Total 2034
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	243	142	340	351	53
Future Volume (Veh/h)	95	243	142	340	351	53
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	261	153	366	377	57
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)			200			
pX, platoon unblocked	0.97				0.97	0.97
vC, conflicting volume	521				807	342
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	487				783	302
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	90				0	92
cM capacity (veh/h)	999				305	690
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	363	519	434			
Volume Left	102	0	377			
Volume Right	0	366	57			
cSH	999	1700	329			
Volume to Capacity	0.10	0.31	1.32			
Queue Length 95th (m)	2.7	0.0	167.5			
Control Delay (s)	3.3	0.0	196.2			
Lane LOS	A		F			
Approach Delay (s)	3.3	0.0	196.2			
Approach LOS			F			
Intersection Summary						
Average Delay		65.6				
Intersection Capacity Utilization		79.3%		ICU Level of Service		D
Analysis Period (min)		15				

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2034
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	23	355	104	13	75	359	748	151	91	584	80
Future Volume (vph)	61	23	355	104	13	75	359	748	151	91	584	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.859			0.872			0.974			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1571	0	1770	1624	0	1736	3447	0	1770	3326	0
Flt Permitted	0.695			0.280			0.234			0.301		
Satd. Flow (perm)	1320	1571	0	522	1624	0	427	3447	0	561	3326	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		374			82			48			18	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	64	25	374	113	14	82	378	787	164	99	615	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	399	0	113	96	0	378	951	0	99	699	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2034
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		9.5	32.0		22.0	48.0		26.0	26.0	
Total Split (%)	28.1%	28.1%		11.9%	40.0%		27.5%	60.0%		32.5%	32.5%	
Maximum Green (s)	18.0	18.0		5.0	27.5		17.5	43.5		21.5	21.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	9.8	9.8		17.1	17.1		44.0	44.0		25.4	25.4	
Actuated g/C Ratio	0.14	0.14		0.24	0.24		0.63	0.63		0.36	0.36	
v/c Ratio	0.35	0.74		0.52	0.21		0.71	0.44		0.49	0.58	
Control Delay	32.8	13.4		29.2	7.6		17.9	8.3		34.3	22.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.8	13.4		29.2	7.6		17.9	8.3		34.3	22.7	
LOS	C	B		C	A		B	A		C	C	
Approach Delay		16.1			19.3			11.0			24.1	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70.2

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 16.2

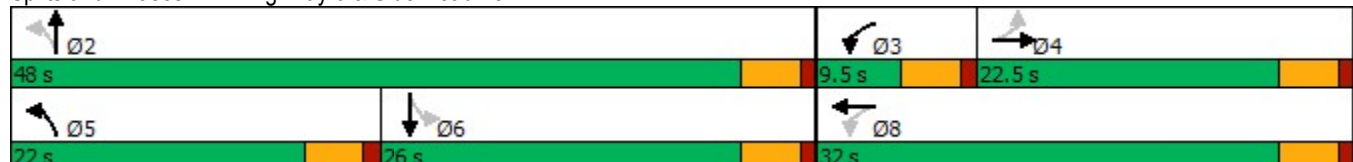
Intersection LOS: B

Intersection Capacity Utilization 82.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues

2: Highway 6 & Side Road 18

Future Total 2034

PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	64	399	113	96	378	951	99	699
v/c Ratio	0.35	0.74	0.52	0.21	0.71	0.44	0.49	0.58
Control Delay	32.8	13.4	29.2	7.6	17.9	8.3	34.3	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	13.4	29.2	7.6	17.9	8.3	34.3	22.7
Queue Length 50th (m)	8.4	3.2	12.5	1.5	22.8	30.4	11.1	41.5
Queue Length 95th (m)	19.0	27.6	24.2	11.3	#68.3	59.4	#38.1	73.2
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)	15.0				20.0		20.0	
Base Capacity (vph)	342	684	217	692	597	2177	202	1212
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	0.19	0.58	0.52	0.14	0.63	0.44	0.49	0.58

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2034

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	23	355	104	13	75	359	748	151	91	584	80
Future Volume (vph)	61	23	355	104	13	75	359	748	151	91	584	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.87		1.00	0.97		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1572		1770	1624		1736	3448		1770	3325	
Flt Permitted	0.69	1.00		0.28	1.00		0.23	1.00		0.30	1.00	
Satd. Flow (perm)	1320	1572		521	1624		428	3448		560	3325	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	64	25	374	113	14	82	378	787	164	99	615	84
RTOR Reduction (vph)	0	322	0	0	61	0	0	18	0	0	12	0
Lane Group Flow (vph)	64	77	0	113	35	0	378	933	0	99	687	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.8	9.8		18.1	18.1		44.0	44.0		25.4	25.4	
Effective Green, g (s)	9.8	9.8		18.1	18.1		44.0	44.0		25.4	25.4	
Actuated g/C Ratio	0.14	0.14		0.25	0.25		0.62	0.62		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	181	216		199	413		524	2133		200	1187	
v/s Ratio Prot		0.05		c0.03	0.02		c0.14	0.27			0.21	
v/s Ratio Perm	0.05			c0.11			c0.30			0.18		
v/c Ratio	0.35	0.35		0.57	0.08		0.72	0.44		0.49	0.58	
Uniform Delay, d1	27.8	27.8		21.9	20.2		8.7	7.1		17.8	18.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.0		3.7	0.1		4.9	0.7		8.5	2.1	
Delay (s)	29.0	28.8		25.6	20.3		13.6	7.7		26.3	20.6	
Level of Service	C	C		C	C		B	A		C	C	
Approach Delay (s)		28.8			23.1			9.4			21.3	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			17.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			71.1			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			82.5%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2034
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	202	179	72	50	86
Future Volume (vph)	48	202	179	72	50	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.961		0.915	
Flt Protected		0.991			0.982	
Satd. Flow (prot)	0	1776	1575	0	1488	0
Flt Permitted		0.991			0.982	
Satd. Flow (perm)	0	1776	1575	0	1488	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	56	238	211	85	59	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	294	296	0	160	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.4%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

Future Total 2034
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	202	179	72	50	86
Future Volume (Veh/h)	48	202	179	72	50	86
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	56	238	211	85	59	101
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	296				612	254
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	296				612	254
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	95				85	87
cM capacity (veh/h)	1174				387	779
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	294	296	160			
Volume Left	56	0	59			
Volume Right	0	85	101			
cSH	1174	1700	567			
Volume to Capacity	0.05	0.17	0.28			
Queue Length 95th (m)	1.2	0.0	9.2			
Control Delay (s)	1.9	0.0	13.8			
Lane LOS	A		B			
Approach Delay (s)	1.9	0.0	13.8			
Approach LOS			B			
Intersection Summary						
Average Delay		3.7				
Intersection Capacity Utilization		45.4%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2034
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	190	232	265	240	24
Future Volume (vph)	58	190	232	265	240	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.928		0.988	
Flt Protected		0.988			0.956	
Satd. Flow (prot)	0	1877	1755	0	1791	0
Flt Permitted		0.988			0.956	
Satd. Flow (perm)	0	1877	1755	0	1791	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	216	264	301	273	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	565	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	66.5%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2034
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	190	232	265	240	24
Future Volume (Veh/h)	58	190	232	265	240	24
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	216	264	301	273	27
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked	0.93				0.93	0.93
vC, conflicting volume	566				764	416
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	498				710	337
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				22	96
cM capacity (veh/h)	1003				351	657
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	282	565	300			
Volume Left	66	0	273			
Volume Right	0	301	27			
cSH	1003	1700	366			
Volume to Capacity	0.07	0.33	0.82			
Queue Length 95th (m)	1.7	0.0	58.0			
Control Delay (s)	2.6	0.0	46.9			
Lane LOS	A		E			
Approach Delay (s)	2.6	0.0	46.9			
Approach LOS			E			
Intersection Summary						
Average Delay			12.9			
Intersection Capacity Utilization			66.5%		ICU Level of Service	
Analysis Period (min)			15			
			C			

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2039
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	20	506	115	74	68	296	439	53	32	612	120
Future Volume (vph)	77	20	506	115	74	68	296	439	53	32	612	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.856			0.928			0.983			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1565	0	1770	1729	0	1656	3306	0	1770	3290	0
Flt Permitted	0.659			0.222			0.196			0.462		
Satd. Flow (perm)	1252	1565	0	414	1729	0	342	3306	0	861	3290	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		423			66			25			29	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Adj. Flow (vph)	80	22	527	125	80	74	308	457	58	35	638	125
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	549	0	125	154	0	308	515	0	35	763	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2		6		

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2039
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		10.0	34.0		18.0	46.0		28.0	28.0	
Total Split (%)	30.0%	30.0%		12.5%	42.5%		22.5%	57.5%		35.0%	35.0%	
Maximum Green (s)	19.5	19.5		5.5	29.5		13.5	41.5		23.5	23.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	13.5	13.5		21.1	21.1		42.2	42.2		25.4	25.4	
Actuated g/C Ratio	0.19	0.19		0.29	0.29		0.58	0.58		0.35	0.35	
v/c Ratio	0.34	0.86		0.56	0.28		0.73	0.27		0.12	0.65	
Control Delay	29.9	22.6		28.2	12.2		23.8	9.0		21.5	24.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.9	22.6		28.2	12.2		23.8	9.0		21.5	24.6	
LOS	C	C		C	B		C	A		C	C	
Approach Delay		23.6			19.3			14.6			24.4	
Approach LOS		C			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 72.4

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 20.4

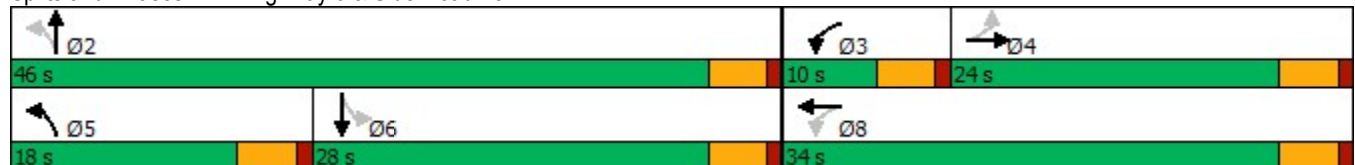
Intersection LOS: C

Intersection Capacity Utilization 90.9%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18

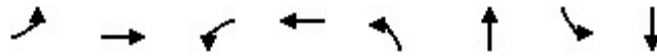


Queues

Future Total 2039

2: Highway 6 & Side Road 18

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	80	549	125	154	308	515	35	763
v/c Ratio	0.34	0.86	0.56	0.28	0.73	0.27	0.12	0.65
Control Delay	29.9	22.6	28.2	12.2	23.8	9.0	21.5	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	22.6	28.2	12.2	23.8	9.0	21.5	24.6
Queue Length 50th (m)	10.4	16.6	13.3	9.2	23.4	18.7	3.7	50.9
Queue Length 95th (m)	22.4	#70.6	25.3	21.9	#64.5	31.6	11.3	77.6
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)	15.0				20.0		20.0	
Base Capacity (vph)	342	735	225	754	448	1936	302	1174
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	0.23	0.75	0.56	0.20	0.69	0.27	0.12	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2039

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	20	506	115	74	68	296	439	53	32	612	120
Future Volume (vph)	77	20	506	115	74	68	296	439	53	32	612	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.93		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1565		1770	1728		1656	3307		1770	3291	
Flt Permitted	0.66	1.00		0.22	1.00		0.20	1.00		0.46	1.00	
Satd. Flow (perm)	1252	1565		414	1728		342	3307		860	3291	
Peak-hour factor, PHF	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Adj. Flow (vph)	80	22	527	125	80	74	308	457	58	35	638	125
RTOR Reduction (vph)	0	345	0	0	46	0	0	11	0	0	19	0
Lane Group Flow (vph)	80	204	0	125	108	0	308	504	0	35	744	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	9%	8%	2%	2%	6%	12%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.5	13.5		22.2	22.2		42.2	42.2		25.5	25.5	
Effective Green, g (s)	13.5	13.5		22.2	22.2		42.2	42.2		25.5	25.5	
Actuated g/C Ratio	0.18	0.18		0.30	0.30		0.57	0.57		0.35	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	287		202	522		415	1901		298	1143	
v/s Ratio Prot		0.13		c0.04	0.06		c0.12	0.15			0.23	
v/s Ratio Perm	0.06			c0.15			c0.30			0.04		
v/c Ratio	0.35	0.71		0.62	0.21		0.74	0.27		0.12	0.65	
Uniform Delay, d1	26.1	28.1		20.6	19.0		10.7	7.8		16.3	20.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	8.0		5.5	0.2		7.0	0.3		0.8	2.9	
Delay (s)	27.0	36.1		26.2	19.2		17.7	8.2		17.1	23.1	
Level of Service	C	D		C	B		B	A		B	C	
Approach Delay (s)		35.0			22.4			11.7			22.8	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			22.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			73.4				Sum of lost time (s)			18.0		
Intersection Capacity Utilization			90.9%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

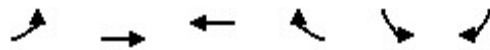
Future Total 2039
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	253	182	33	84	92
Future Volume (vph)	25	253	182	33	84	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.979		0.929	
Flt Protected		0.996			0.977	
Satd. Flow (prot)	0	1812	1665	0	1464	0
Flt Permitted		0.996			0.977	
Satd. Flow (perm)	0	1812	1665	0	1464	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	30	309	222	40	102	112
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	339	262	0	214	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: Side Road 18 & Vincent Street

Future Total 2039
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	253	182	33	84	92
Future Volume (Veh/h)	25	253	182	33	84	92
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	30	309	222	40	102	112
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	262				620	243
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	262				620	243
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	98				74	86
cM capacity (veh/h)	1210				392	790
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	339	262	214			
Volume Left	30	0	102			
Volume Right	0	40	112			
cSH	1210	1700	533			
Volume to Capacity	0.02	0.15	0.40			
Queue Length 95th (m)	0.6	0.0	15.4			
Control Delay (s)	0.9	0.0	16.2			
Lane LOS	A		C			
Approach Delay (s)	0.9	0.0	16.2			
Approach LOS			C			
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			46.7%		ICU Level of Service	
Analysis Period (min)			15		A	

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2039
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	256	150	340	351	53
Future Volume (vph)	95	256	150	340	351	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.906		0.982	
Flt Protected		0.987			0.958	
Satd. Flow (prot)	0	1788	1532	0	1636	0
Flt Permitted		0.987			0.958	
Satd. Flow (perm)	0	1788	1532	0	1636	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	275	161	366	377	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	377	527	0	434	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	80.4%			ICU Level of Service D		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2039
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	256	150	340	351	53
Future Volume (Veh/h)	95	256	150	340	351	53
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	275	161	366	377	57
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)			200			
pX, platoon unblocked	0.96				0.96	0.96
vC, conflicting volume	529				829	350
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	484				798	296
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	90				0	92
cM capacity (veh/h)	991				295	687
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	377	527	434			
Volume Left	102	0	377			
Volume Right	0	366	57			
cSH	991	1700	319			
Volume to Capacity	0.10	0.31	1.36			
Queue Length 95th (m)	2.7	0.0	174.9			
Control Delay (s)	3.3	0.0	214.1			
Lane LOS	A		F			
Approach Delay (s)	3.3	0.0	214.1			
Approach LOS			F			
Intersection Summary						
Average Delay			70.4			
Intersection Capacity Utilization			80.4%	ICU Level of Service		D
Analysis Period (min)			15			

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2039
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	23	368	104	13	75	368	818	151	91	640	83
Future Volume (vph)	64	23	368	104	13	75	368	818	151	91	640	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0		0.0	0.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.859			0.872			0.976			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	1571	0	1770	1624	0	1736	3454	0	1770	3330	0
Flt Permitted	0.695			0.278			0.203			0.280		
Satd. Flow (perm)	1320	1571	0	518	1624	0	371	3454	0	522	3330	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		387			82			43			18	
Link Speed (k/h)		40			50			60			60	
Link Distance (m)		199.9			104.5			358.6			413.0	
Travel Time (s)		18.0			7.5			21.5			24.8	
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Adj. Flow (vph)	67	25	387	113	14	82	387	861	164	99	674	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	412	0	113	96	0	387	1025	0	99	761	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane								Yes				
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	

Lanes, Volumes, Timings
2: Highway 6 & Side Road 18

Future Total 2039
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		9.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		9.5	32.0		20.0	48.0		28.0	28.0	
Total Split (%)	28.1%	28.1%		11.9%	40.0%		25.0%	60.0%		35.0%	35.0%	
Maximum Green (s)	18.0	18.0		5.0	27.5		15.5	43.5		23.5	23.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lag	Lag		Lead			Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes			Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		Max	Max	
Walk Time (s)	7.0	7.0			7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0			11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0			0			0		0	0	
Act Effect Green (s)	9.9	9.9		17.2	17.2		44.0	44.0		25.2	25.2	
Actuated g/C Ratio	0.14	0.14		0.24	0.24		0.63	0.63		0.36	0.36	
v/c Ratio	0.36	0.75		0.52	0.21		0.76	0.47		0.53	0.63	
Control Delay	33.2	13.4		29.2	7.6		22.7	8.7		35.8	23.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.2	13.4		29.2	7.6		22.7	8.7		35.8	23.2	
LOS	C	B		C	A		C	A		D	C	
Approach Delay		16.2			19.3			12.6			24.6	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70.3

Natural Cycle: 80

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 17.1

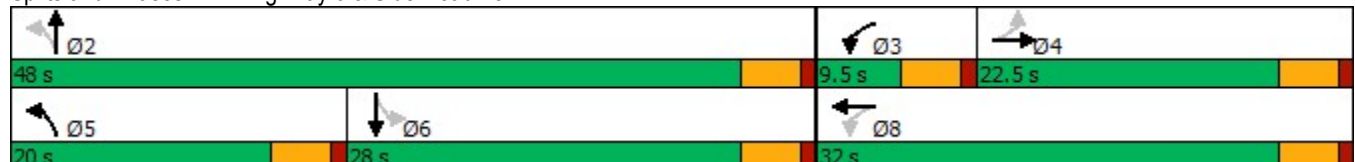
Intersection LOS: B

Intersection Capacity Utilization 85.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Highway 6 & Side Road 18



Queues

2: Highway 6 & Side Road 18

Future Total 2039

PM Peak Hour

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	67	412	113	96	387	1025	99	761
v/c Ratio	0.36	0.75	0.52	0.21	0.76	0.47	0.53	0.63
Control Delay	33.2	13.4	29.2	7.6	22.7	8.7	35.8	23.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	13.4	29.2	7.6	22.7	8.7	35.8	23.2
Queue Length 50th (m)	8.8	3.2	12.5	1.5	24.9	34.5	11.2	46.4
Queue Length 95th (m)	19.7	28.1	24.2	11.3	#82.7	66.2	#37.7	77.9
Internal Link Dist (m)		175.9		80.5		334.6		389.0
Turn Bay Length (m)	15.0				20.0		20.0	
Base Capacity (vph)	342	693	216	692	536	2177	187	1205
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.59	0.52	0.14	0.72	0.47	0.53	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

2: Highway 6 & Side Road 18

Future Total 2039

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	23	368	104	13	75	368	818	151	91	640	83
Future Volume (vph)	64	23	368	104	13	75	368	818	151	91	640	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.87		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1571		1770	1624		1736	3454		1770	3329	
Flt Permitted	0.69	1.00		0.28	1.00		0.20	1.00		0.28	1.00	
Satd. Flow (perm)	1320	1571		517	1624		371	3454		521	3329	
Peak-hour factor, PHF	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Adj. Flow (vph)	67	25	387	113	14	82	387	861	164	99	674	87
RTOR Reduction (vph)	0	333	0	0	61	0	0	16	0	0	12	0
Lane Group Flow (vph)	67	79	0	113	35	0	387	1009	0	99	749	0
Heavy Vehicles (%)	0%	2%	4%	2%	2%	2%	4%	2%	2%	2%	6%	11%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.9	9.9		18.2	18.2		44.0	44.0		25.3	25.3	
Effective Green, g (s)	9.9	9.9		18.2	18.2		44.0	44.0		25.3	25.3	
Actuated g/C Ratio	0.14	0.14		0.26	0.26		0.62	0.62		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	183	218		199	415		501	2134		185	1182	
v/s Ratio Prot		0.05		c0.03	0.02		c0.15	0.29			0.23	
v/s Ratio Perm	0.05			c0.11			c0.32			0.19		
v/c Ratio	0.37	0.36		0.57	0.08		0.77	0.47		0.54	0.63	
Uniform Delay, d1	27.8	27.8		21.9	20.2		10.2	7.3		18.3	19.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	1.0		3.7	0.1		7.3	0.8		10.7	2.6	
Delay (s)	29.0	28.8		25.6	20.2		17.5	8.1		28.9	21.7	
Level of Service	C	C		C	C		B	A		C	C	
Approach Delay (s)		28.8			23.1			10.7			22.5	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			17.9			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			71.2			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			85.4%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
6: Side Road 18 & Vincent Street

Future Total 2039
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	213	190	72	50	86
Future Volume (vph)	48	213	190	72	50	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.963		0.915	
Flt Protected		0.991			0.982	
Satd. Flow (prot)	0	1778	1584	0	1488	0
Flt Permitted		0.991			0.982	
Satd. Flow (perm)	0	1778	1584	0	1488	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		214.7	596.4		242.8	
Travel Time (s)		19.3	53.7		17.5	
Confl. Peds. (#/hr)					9	1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	19%	3%	7%	38%	33%	4%
Adj. Flow (vph)	56	251	224	85	59	101
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	307	309	0	160	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 6: Side Road 18 & Vincent Street

Future Total 2039
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	213	190	72	50	86
Future Volume (Veh/h)	48	213	190	72	50	86
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	56	251	224	85	59	101
Pedestrians		1	9			
Lane Width (m)		3.6	3.6			
Walking Speed (m/s)		1.2	1.2			
Percent Blockage		0	1			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	309				638	268
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	309				638	268
tC, single (s)	4.3				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.4				3.8	3.3
p0 queue free %	95				84	87
cM capacity (veh/h)	1161				373	766
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	307	309	160			
Volume Left	56	0	59			
Volume Right	0	85	101			
cSH	1161	1700	552			
Volume to Capacity	0.05	0.18	0.29			
Queue Length 95th (m)	1.2	0.0	9.6			
Control Delay (s)	1.9	0.0	14.2			
Lane LOS	A		B			
Approach Delay (s)	1.9	0.0	14.2			
Approach LOS			B			
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization		46.5%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2039
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	201	244	265	240	24
Future Volume (vph)	58	201	244	265	240	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.930		0.988	
Flt Protected		0.989			0.956	
Satd. Flow (prot)	0	1879	1759	0	1791	0
Flt Permitted		0.989			0.956	
Satd. Flow (perm)	0	1879	1759	0	1791	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	228	277	301	273	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	294	578	0	300	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	67.7%			ICU Level of Service C		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2039
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	201	244	265	240	24
Future Volume (Veh/h)	58	201	244	265	240	24
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	228	277	301	273	27
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked	0.93				0.93	0.93
vC, conflicting volume	579				788	428
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	506				732	344
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				19	96
cM capacity (veh/h)	990				338	647
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	294	578	300			
Volume Left	66	0	273			
Volume Right	0	301	27			
cSH	990	1700	353			
Volume to Capacity	0.07	0.34	0.85			
Queue Length 95th (m)	1.7	0.0	62.3			
Control Delay (s)	2.5	0.0	52.3			
Lane LOS	A		F			
Approach Delay (s)	2.5	0.0	52.3			
Approach LOS			F			
Intersection Summary						
Average Delay			14.0			
Intersection Capacity Utilization			67.7%		ICU Level of Service C	
Analysis Period (min)			15			

Without Street A, With Improvements

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2029
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	232	133	340	351	53
Future Volume (vph)	95	232	133	340	351	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected		0.986			0.950	
Satd. Flow (prot)	0	1784	1712	1429	1656	1455
Flt Permitted		0.986			0.950	
Satd. Flow (perm)	0	1784	1712	1429	1656	1455
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	249	143	366	377	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	351	143	366	377	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	54.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2029
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	232	133	340	351	53
Future Volume (Veh/h)	95	232	133	340	351	53
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	249	143	366	377	57
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	511				602	149
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	511				602	149
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	90				7	93
cM capacity (veh/h)	1013				404	870
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	
Volume Total	351	143	366	377	57	
Volume Left	102	0	0	377	0	
Volume Right	0	0	366	0	57	
cSH	1013	1700	1700	404	870	
Volume to Capacity	0.10	0.08	0.22	0.93	0.07	
Queue Length 95th (m)	2.7	0.0	0.0	82.6	1.7	
Control Delay (s)	3.4	0.0	0.0	61.9	9.4	
Lane LOS	A			F	A	
Approach Delay (s)	3.4	0.0		55.0		
Approach LOS				F		
Intersection Summary						
Average Delay			19.4			
Intersection Capacity Utilization			54.3%		ICU Level of Service	
Analysis Period (min)			15			
					A	

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2029

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	180	221	265	240	24
Future Volume (vph)	58	180	221	265	240	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected		0.988			0.950	
Satd. Flow (prot)	0	1877	1881	1615	1805	1583
Flt Permitted		0.988			0.950	
Satd. Flow (perm)	0	1877	1881	1615	1805	1583
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	205	251	301	273	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	271	251	301	273	27
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2029

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	180	221	265	240	24
Future Volume (Veh/h)	58	180	221	265	240	24
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	205	251	301	273	27
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	553				589	252
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	553				589	252
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				38	97
cM capacity (veh/h)	1026				443	786
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	
Volume Total	271	251	301	273	27	
Volume Left	66	0	0	273	0	
Volume Right	0	0	301	0	27	
cSH	1026	1700	1700	443	786	
Volume to Capacity	0.06	0.15	0.18	0.62	0.03	
Queue Length 95th (m)	1.6	0.0	0.0	32.3	0.9	
Control Delay (s)	2.6	0.0	0.0	25.3	9.7	
Lane LOS	A			D	A	
Approach Delay (s)	2.6	0.0		23.9		
Approach LOS				C		
Intersection Summary						
Average Delay			7.0			
Intersection Capacity Utilization			47.7%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2034
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	243	142	340	351	53
Future Volume (vph)	95	243	142	340	351	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected		0.986			0.950	
Satd. Flow (prot)	0	1785	1712	1429	1656	1455
Flt Permitted		0.986			0.950	
Satd. Flow (perm)	0	1785	1712	1429	1656	1455
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	261	153	366	377	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	363	153	366	377	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.3%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2034
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	243	142	340	351	53
Future Volume (Veh/h)	95	243	142	340	351	53
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	261	153	366	377	57
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	521				624	159
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	521				624	159
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	90				4	93
cM capacity (veh/h)	1004				392	859
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	
Volume Total	363	153	366	377	57	
Volume Left	102	0	0	377	0	
Volume Right	0	0	366	0	57	
cSH	1004	1700	1700	392	859	
Volume to Capacity	0.10	0.09	0.22	0.96	0.07	
Queue Length 95th (m)	2.7	0.0	0.0	88.1	1.7	
Control Delay (s)	3.3	0.0	0.0	69.4	9.5	
Lane LOS	A			F	A	
Approach Delay (s)	3.3	0.0		61.6		
Approach LOS				F		
Intersection Summary						
Average Delay			21.2			
Intersection Capacity Utilization			55.3%		ICU Level of Service	
Analysis Period (min)			15			
					B	

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2034
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	190	232	265	240	24
Future Volume (vph)	58	190	232	265	240	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected		0.988			0.950	
Satd. Flow (prot)	0	1877	1881	1615	1805	1583
Flt Permitted		0.988			0.950	
Satd. Flow (perm)	0	1877	1881	1615	1805	1583
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	216	264	301	273	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	264	301	273	27
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2034
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	190	232	265	240	24
Future Volume (Veh/h)	58	190	232	265	240	24
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	216	264	301	273	27
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	566				613	265
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	566				613	265
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				36	97
cM capacity (veh/h)	1015				429	773
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	
Volume Total	282	264	301	273	27	
Volume Left	66	0	0	273	0	
Volume Right	0	0	301	0	27	
cSH	1015	1700	1700	429	773	
Volume to Capacity	0.07	0.16	0.18	0.64	0.03	
Queue Length 95th (m)	1.7	0.0	0.0	34.4	0.9	
Control Delay (s)	2.6	0.0	0.0	27.0	9.8	
Lane LOS	A			D	A	
Approach Delay (s)	2.6	0.0		25.4		
Approach LOS				D		
Intersection Summary						
Average Delay			7.3			
Intersection Capacity Utilization			48.8%		ICU Level of Service	
Analysis Period (min)			15			
					A	

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2039
AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	256	150	340	351	53
Future Volume (vph)	95	256	150	340	351	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected		0.987			0.950	
Satd. Flow (prot)	0	1788	1712	1429	1656	1455
Flt Permitted		0.987			0.950	
Satd. Flow (perm)	0	1788	1712	1429	1656	1455
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	2			2	4	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	10%	3%	11%	13%	9%	11%
Adj. Flow (vph)	102	275	161	366	377	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	377	161	366	377	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	56.4%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2039
AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↱	↱	↱	↱	↱
Traffic Volume (veh/h)	95	256	150	340	351	53
Future Volume (Veh/h)	95	256	150	340	351	53
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	102	275	161	366	377	57
Pedestrians		4	4		2	
Lane Width (m)		3.6	3.6		3.6	
Walking Speed (m/s)		1.2	1.2		1.2	
Percent Blockage		0	0		0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	529				646	167
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	529				646	167
tC, single (s)	4.2				6.5	6.3
tC, 2 stage (s)						
tF (s)	2.3				3.6	3.4
p0 queue free %	90				1	93
cM capacity (veh/h)	997				380	850
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	
Volume Total	377	161	366	377	57	
Volume Left	102	0	0	377	0	
Volume Right	0	0	366	0	57	
cSH	997	1700	1700	380	850	
Volume to Capacity	0.10	0.09	0.22	0.99	0.07	
Queue Length 95th (m)	2.7	0.0	0.0	93.7	1.7	
Control Delay (s)	3.2	0.0	0.0	77.9	9.5	
Lane LOS	A			F	A	
Approach Delay (s)	3.2	0.0		68.9		
Approach LOS				F		
Intersection Summary						
Average Delay			23.3			
Intersection Capacity Utilization			56.4%		ICU Level of Service	
Analysis Period (min)			15			
					B	

Lanes, Volumes, Timings
7: Side Road 18 & Steele Street

Future Total 2039
PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	58	201	244	265	240	24
Future Volume (vph)	58	201	244	265	240	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected		0.989			0.950	
Satd. Flow (prot)	0	1879	1881	1615	1805	1583
Flt Permitted		0.989			0.950	
Satd. Flow (perm)	0	1879	1881	1615	1805	1583
Link Speed (k/h)		40	40		50	
Link Distance (m)		596.4	199.9		240.0	
Travel Time (s)		53.7	18.0		17.3	
Confl. Peds. (#/hr)	1			1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	1%	0%	0%	2%
Adj. Flow (vph)	66	228	277	301	273	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	294	277	301	273	27
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

7: Side Road 18 & Steele Street

Future Total 2039
PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	201	244	265	240	24
Future Volume (Veh/h)	58	201	244	265	240	24
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	66	228	277	301	273	27
Pedestrians					1	
Lane Width (m)					3.6	
Walking Speed (m/s)					1.2	
Percent Blockage					0	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)			200			
pX, platoon unblocked						
vC, conflicting volume	579				638	278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	579				638	278
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				34	96
cM capacity (veh/h)	1004				414	760
Direction, Lane #	EB 1	WB 1	WB 2	SB 1	SB 2	
Volume Total	294	277	301	273	27	
Volume Left	66	0	0	273	0	
Volume Right	0	0	301	0	27	
cSH	1004	1700	1700	414	760	
Volume to Capacity	0.07	0.16	0.18	0.66	0.04	
Queue Length 95th (m)	1.7	0.0	0.0	36.8	0.9	
Control Delay (s)	2.5	0.0	0.0	28.9	9.9	
Lane LOS	A			D	A	
Approach Delay (s)	2.5	0.0		27.2		
Approach LOS				D		
Intersection Summary						
Average Delay			7.6			
Intersection Capacity Utilization			49.9%		ICU Level of Service	
Analysis Period (min)			15			
					A	

Appendix F

Left-Turn Warrant

AM PEAK HOUR

$V_L = 217$
 $V_o = 764$



PM PEAK HOUR

$V_L = 169$
 $V_o = 805$



Left Lane Required? **Yes**

Left Lane Required? **Yes**

Required = **50**

Required = **40**

Figure EB-1

