Stantec

Memo

To:	Laurel McCreight MCIP, RPP	From:	Ahmed Abdelnaby M.Sc., P.Eng., RSP1., Mohammed Al Hasoo M.Eng., E.I.T.
	City of Ottawa, 110 Laurier Avenue West, 4th Floor, K1P 1J1		Stantec, 400 – 1331 Clyde Avenue, Ottawa, Ontario, K2C 3G4
File:	160401591	Date:	October 2, 2020

Reference: 2150 Wellings Private Transportation Study Addendum

BACKGROUND AND INTROCUTION

A Transportation Impact Study (TIS) was submitted in March 2016[1] in support of a site plan control application for the development located at 5731 Hazeldean Road in the west end of Ottawa, Ontario. The site plan included a 185-suite retirement home, a 256-suite long-term care building, a 17,000 sq.ft office, and a 16,000 sq.ft retail space.

Since the TIS's submission, the 185-suite retirement home has commenced construction and the remainder of the site plan has been revised to include the following:

- The removal of the planned office space;
- The removal of the planned retail space;
- The removal of all underground parking in the portion of the development, which is to be substituted with 120 surface parking spaces; and
- The relocation of the proposed 256-suite long-term care building closer to Hazeldean Road.

It is noted that the development's address has also been changed to **2150 Wellings Private**. The revised site plan can be found in **Attachment A**.

REVISED TRIP GENERATION

Based on the deletion of the retail and office spaces as discussed above, the trip generation analysis was updated following the same methods outlined in the original TIA, ITE Trip Generation Manual (9th edition). The resulting trips are summarized in **Table 1**.

It was found that during the AM peak period of traffic, the net two-way vehicular site generated trips have been reduced to 34 from 52, an **18**-vehicle reduction compared to the original TIA. During the PM peak period of traffic, the net two-way vehicular site generated trips have been reduced to 62 from 111, a **49**-vehicle reduction compared to the original TIA.

Overall, due to the anticipated reduction, the change in site generated trips is not anticipated to significantly impact the findings presented in the original TIA. It is anticipated that outbound and inbound traffic queueing

[1] *5731 Hazeldean Road Traffic Impact Study, March 2016, Stantec File: 160401195, Refer to Attachment B*

Reference: **2150 Wellings Private Transportation Study Addendum**

would slightly be reduced as compared to the original TIS findings. As such, the TIS's original analysis remains valid, but slightly conservative.

Table 1 New Total Site Generated Trips

		1000's GFA / # Units	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Step 1: ITE Trip Generation Rates								
254 – Assisted Living		256	65%	35%	0.14	44%	56%	0.22
253 – Congregate Care Facility		185	59%	41%	0.06	55%	45%	0.17
Step 2: Auto Trips Generated								
254 – Assisted Living		256	23	13	36	25	31	56
253 – Congregate Care Facility		185	6	5	11	17	14	31
Step 3: Conversion From Auto Trips to Person Trips								
Total Development	Trip Gen (ITE)		29	18	47	42	45	87
	Transit Share	10%	3	2	5	4	4	8
	Auto Occupancy	1.1	3	2	5	4	4	8
	Total Person Trips		35	22	57	50	53	103
Step 4: Person Trips by Modal Share								
Total Development	Auto	60%	21	13	34	30	32	62
	Passenger	10%	3	3	6	5	6	11
	Transit	25%	9	6	15	13	13	26
	Walk / Bike	Neg.	0	0	0	0	0	0
	Other	5%	1	1	2	3	3	6

The updated site plan is illustrated in **Figure 1** below and can be found in **Attachment A**.

Figure 1: Updated Site Plan

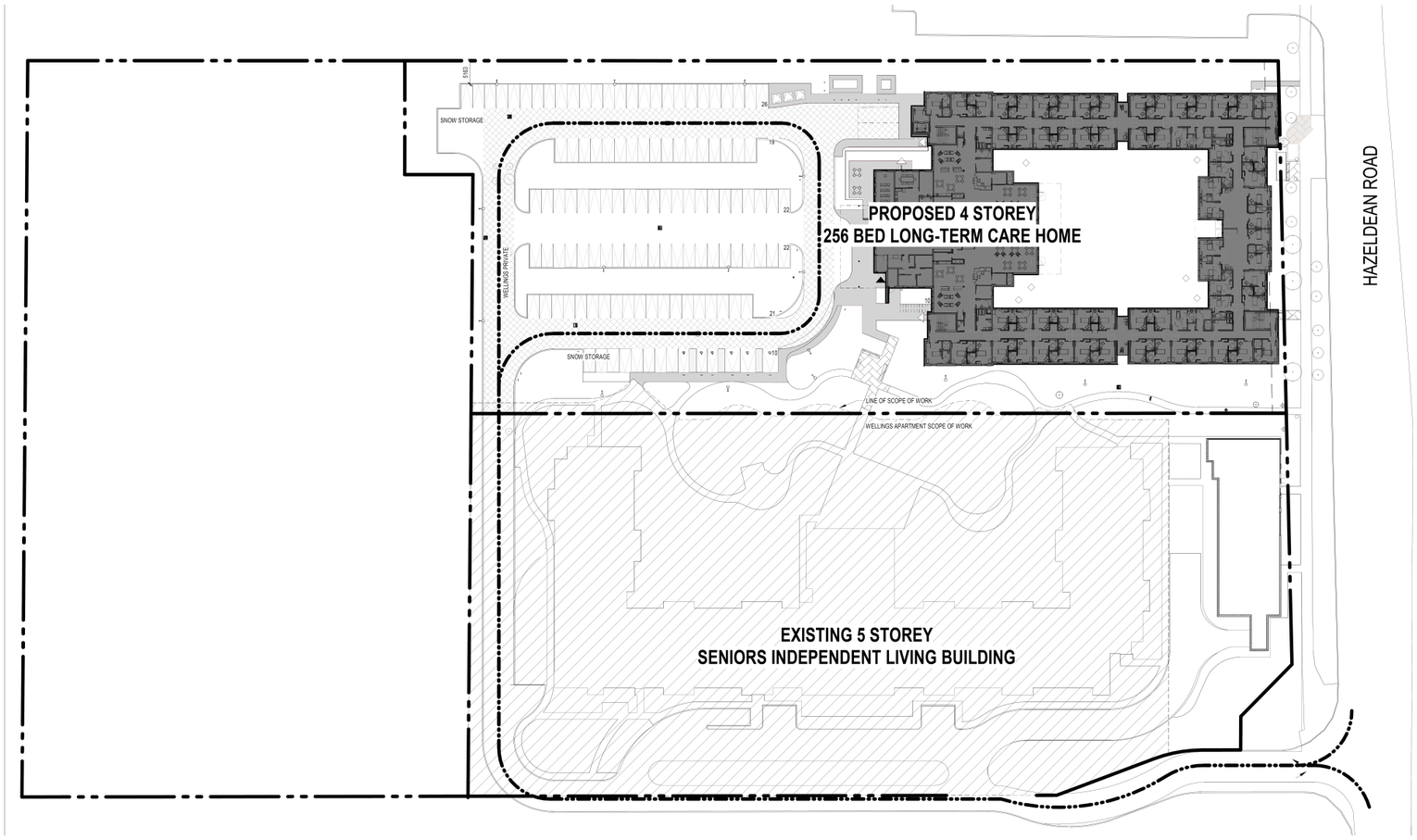
SITE STATISTICS

LOT AREA: 14,153m² / 152,342ft²

BUILDING AREA: 3415m² / 36,759ft² (24%)
TOTAL LANDSCAPED AREA: 6781m² / 72,990ft² (48%)
TOTAL ASPHALT AREA: 3987m² / 42,916ft² (28%)

GROSS FLOOR AREA: 14,130m² / 152,094ft²

ZONING MATRIX		
AM9 ZONE	REQUIRED	PROVIDED
LOT WIDTH	NO MIN.	77.4M
FRONT YARD	50% OF LOT WIDTH WITHIN 3M	
FRONTAGE	LOT IS > 90M NO REQUIREMENT	77.4M
REAR YARD SETBACK	10M	87.5M
INT. SIDE YARD SETBACK	7.5M (ABUTTING RES.) 0M (OTHER)	10M 7M
BLDG HEIGHT	15M	15M
PARKING (0.25/ROOM)	64	114
PARKING PERSONAL SERVICE (1/100M²)	1	1
ACCESSIBLE (TYPE A)	3	3
ACCESSIBLE (TYPE B)	3	3
TOTAL PARKING	71	120
LOADING	2	2
BICYCLE PARKING	10	10



1 CONTEXT PLAN
A1.02

Reference: **2150 Wellings Private Transportation Study Addendum**

PARKING REQUIREMENTS

Based on the City's bylaw requirements for Area C of schedule 1A, the required number of parking spaces for a long-term care facility is 0.25 spaces per dwelling unit in addition to 1 space per 100m^2 of gross floor area to be used for medical, health, or personal services. The designated area to be used for medical, health, or personal services is planned to be 112 m^2, which equates to 1 parking space for this use. As such, the total required number of parking spaces for the 256-unit long-term care facility is 65 spaces.

With the site plan changes, a total of 425 spaces mostly located underground have been revised to become 120 surface parking spaces, which are inclusive of 6 accessible parking spaces and 1 personal service parking space (for medical, health, or personal services). In addition to the 120 parking spaces, there are 2 loading spaces provided and 10 bicycle parking spaces.

As per the City of Ottawa's Accessibility Design Standards, 4% of the provided parking supply is required to be accessible parking spaces, which equates to a total of 5 spaces. The attached site plan indicates 6 accessible parking spaces.

Accordingly, the minimum parking requirements set out in the City of Ottawa's By-law are met.

CONCLUSIONS

Based on the trip generation and parking analysis review, it is concluded that the reduction in site generated trips due to the removal of the retail and office land uses is not anticipated to change the findings of the 2016 TIS significantly. It is acknowledged that queueing, for inbound and outbound site generated traffic, is expected to slightly decrease due to the reduction in the generated number of trips; however, this reduction is not anticipated to be significant. The proposed number of parking spaces was found to meet the City of Ottawa zoning by-law 2008-250 Section 101.

We trust that this memorandum provides the City of Ottawa with the required TIS update in support of the subject development. Please contact the undersigned should you have any questions or require additional information.

Stantec Consulting Ltd.

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Transportation Planning EIT

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Project Engineer

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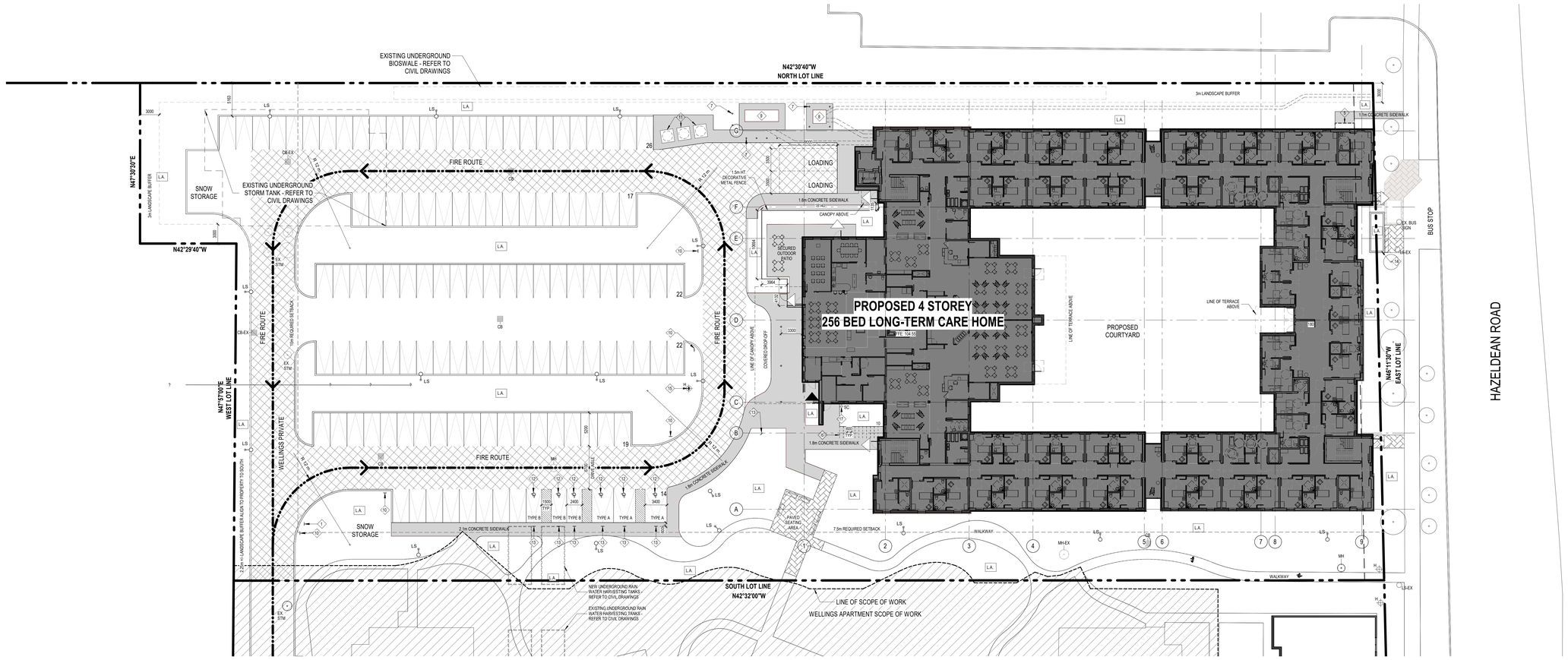
Attachment: Attachment A: Revised 2020 Site Plan
Attachment B: 5731 Hazeldean Road Transportation Impact Study – Stantec, March 2016.

cc Peter Moroz (Stantec)

ATTACHMENT A

REVISED 2020 SITE PLAN



2 A1.02 SITE PLAN
1 : 250
0 5 10 20 50

SITE STATISTICS

LOT AREA: 14,153m² / 152,342ft²

BUILDING AREA: 3415m² / 36,759ft² (24%)
TOTAL LANDSCAPED AREA: 6781m² / 72,990ft² (48%)
TOTAL ASPHALT AREA: 3987m² / 42,916ft² (28%)

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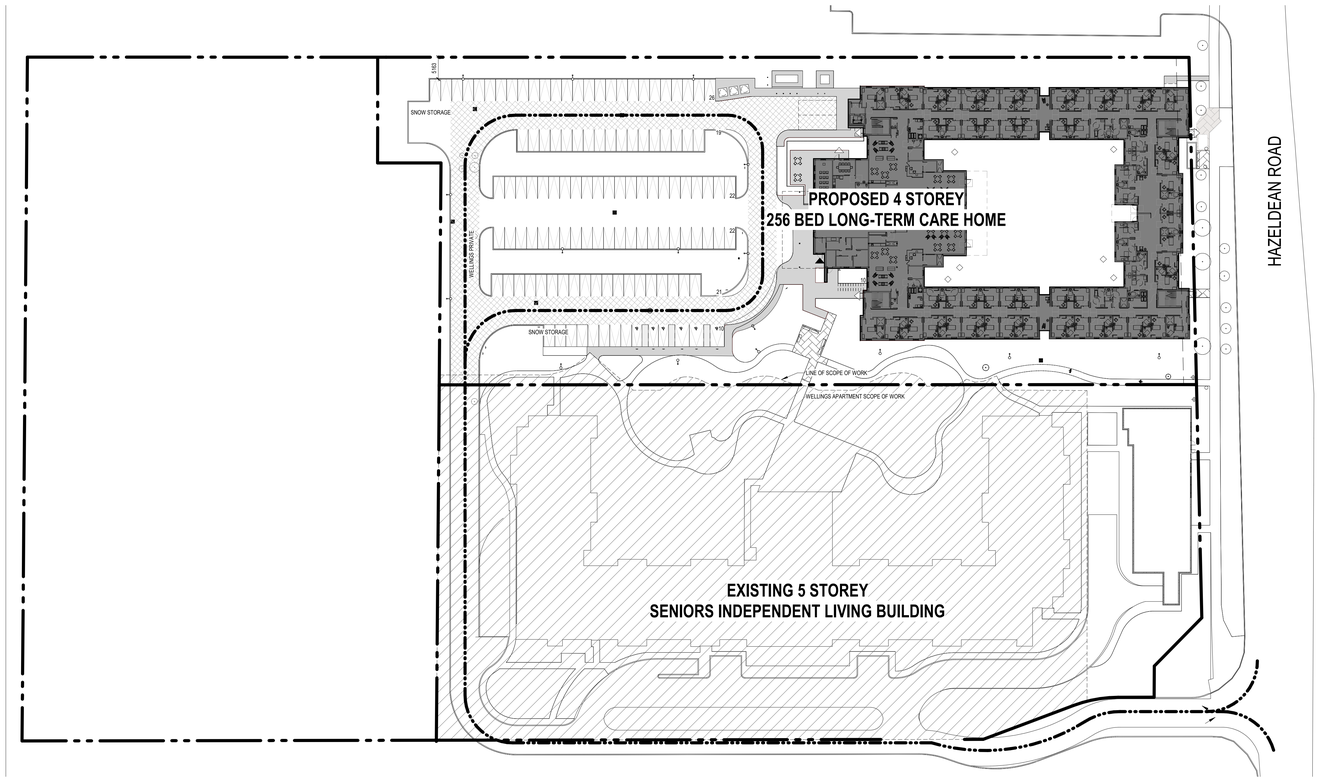
ZONING MATRIX		
AM9 ZONE	REQUIRED	PROVIDED
LOT WIDTH	NO MIN.	77.4M
FRONT YARD	50% OF LOT WIDTH WITHIN 3M	
FRONTAGE	LOT IS > 90M NO REQUIREMENT	77.4M
REAR YARD SETBACK	10M	87.5M
INT. SIDE YARD SETBACK	7.5M (ABUTTING RES.) 0M (OTHER)	10M 7M
BLDG HEIGHT	15M	15M
PARKING (0.25/ROOM)	64	114
PARKING PERSONAL SERVICE (1/100M²)	1	1
ACCESSIBLE (TYPE A)	3	3
ACCESSIBLE (TYPE B)	3	3
TOTAL PARKING	71	120
LOADING	2	2
BICYCLE PARKING	10	10



1 A1.02 CONTEXT PLAN
1 : 500
0 5 10 20 50 100

Montgomery Sisam Architects Inc.
197 Spadina Avenue, Toronto, Ontario M5T 2C8 montgomerysisam.com
Tel 416.364.8079 Fax 416.364.7723
MontgomerySisam

PROJECT NORTH
TRUE NORTH

SITE PLAN LEGEND

- ENTRANCE
- EXIT
- LIGHT STANDARD (REFER TO ELEC.)
- FIRE HYDRANT (REFER TO MECH.)
- HEAVY DUTY (H.D) ASPHALT PAVING BALANCE OF ASPHALT PAVING TO BE LIGHT DUTY
- WELLINGS APARTMENT SCOPE OF WORK
- PAVERS TO MATCH EXISTING
- EXISTING PAVERS
- CONCRETE POURED PAVING
- FIRE ROUTE
- LA LANDSCAPED AREA

KEYNOTES

1. DIRECTION SIGN
2. MAIN ENTRY SIGN
3. BARRIER-FREE TYPE A POST & SIGN. GRAPHIC TO MUNICIPAL STANDARD.
4. BARRIER-FREE TYPE B POST & SIGN. GRAPHIC TO MUNICIPAL STANDARD.
5. WALL MOUNTED GAS REGULATOR LOCATION. REFER TO MECHANICAL DRAWINGS.
6. LOCATION OF BIKE RACKS. REFER TO LANDSCAPE DRAWINGS.
7. STEEL BOLLARDS. REFER TO CIVIL AND ELECTRICAL DRAWINGS.
8. TRANSFORMER. REFER TO ELECTRICAL DRAWINGS.
9. GENERATOR. REFER TO ELECTRICAL DRAWINGS.
10. FIRE ACCESS ROUTE SIGN. GRAPHICS TO COMPLY WITH CITY AND FIRE DEPT. STANDARDS.
11. IN GROUND GARBAGE BINS. REFER TO DETAIL XAXXX ALSO SEE STRUCTURAL DRAWINGS.
12. ACCESSIBILITY PAVEMENT MARKING TO COMPLY WITH CITY ACCESSIBILITY DESIGN STANDARDS.
13. VERTICAL ACCESSIBILITY SIGNAGE TO COMPLY WITH CITY ACCESSIBILITY DESIGN STANDARDS.
14. PLANTER AND BENCHES. REFER TO LANDSCAPE DRAWINGS.
15. FIRE HYDRANT LOCATION.
16. FIRE DEPARTMENT CONNECTION SIGNAGE. GRAPHICS TO COMPLY TO CITY AND FIRE DEPT. STANDARDS.
17. FIRE DEPARTMENT SIAMESE CONNECTION. SIGNAGE TO COMPLY TO CITY AND FIRE DEPT. STANDARDS.

#	date:	revision:	by:
1	20.07.22	ISSUED FOR OCLDC REVIEW	MSA

revisions

EXTENDICARE STITTSVILLE

2510 WELLINGS PRIVATE
STITTSVILLE, ON

SITE PLAN

scale:	As indicated
drawn by:	CY
reviewed by:	LP / SK
job number:	20019
plot date:	08/19/2020

drawing number:

A1.02

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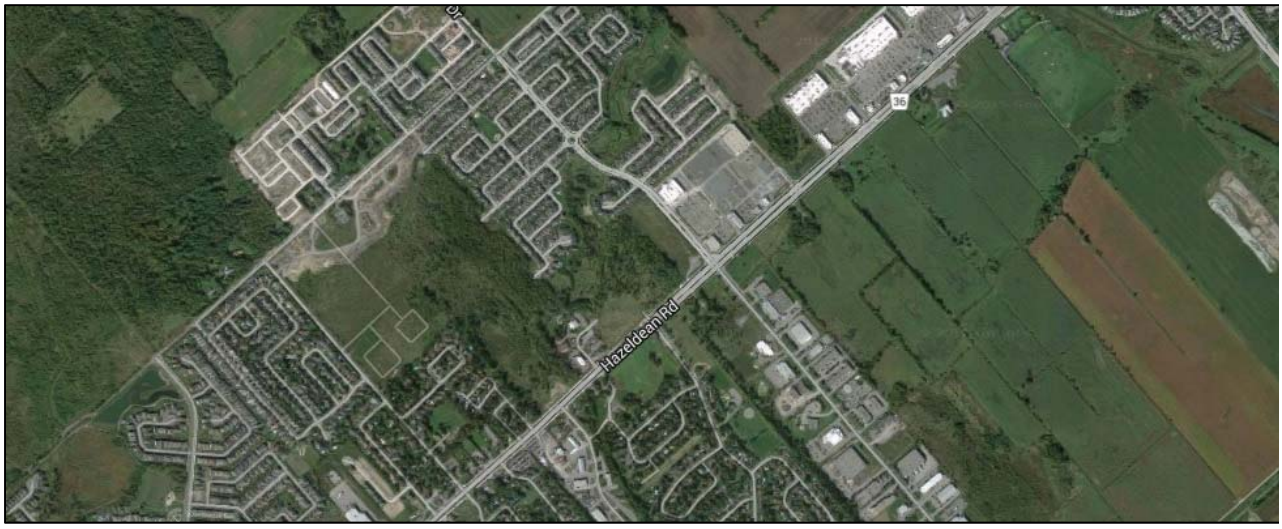
Memo

ATTACHMENT B

5731 HAZELDEAN ROAD TRANSPORTATION IMPACT STUDY – STANTEC, MARCH 2016



Wellings Communities Holding Inc and Extendicare (Canada) Inc.

5731 Hazeldean Road

Transportation Impact Study

Ottawa, Ontario

Project ID 160401195

Prepared by:
Stantec Consulting Ltd.

March 2016

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1.0 INTRODUCTION

1.1 STUDY PURPOSE

Wellings Communities Holding Inc and Extendicare (Canada) Inc. is preparing a site plan control application for a proposed development in the west end of Ottawa, Ontario. As part of the approvals process a Traffic Impact Study (TIS) is required to support the application.

This TIS has been prepared to assess the potential transportation implications of the proposed development and to determine whether transportation improvements are required to support it.

1.2 PROPOSED DEVELOPMENT

The proposed development is located in the City of Ottawa's Stittsville community and includes a long term care building, a retirement home, and office / retail space. The proposed site is bound by Hazeldean Road to the south, Poole Creek to the north, and undeveloped / vacant land parcels to the east and west. The proposed long term care building will include 256 suites, the retirement home will include 185 suites, the office space component will include 17,000 ft^2 gross floor area (GFA), and the retail space will include 16,000 ft^2 GFA. The final total number of units and GFA, however, may be subject to minor change as the development approvals process proceeds.

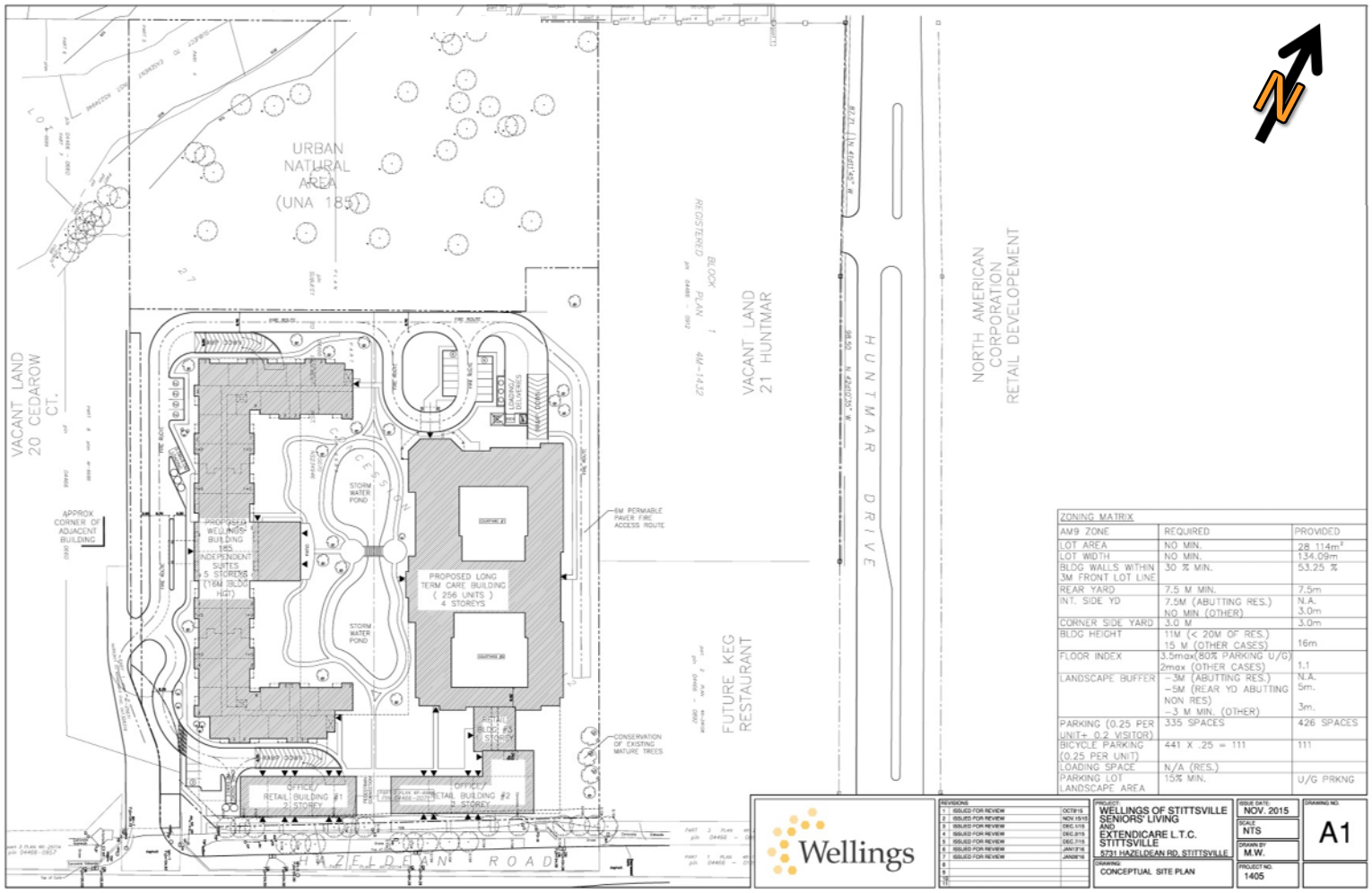
The site will be accessed by a proposed new private approach (i.e. a new north leg) at the existing Hazeldean Road at Fringewood Drive intersection and via internal connections with the abutting commercial property to the west.

Figure 1 illustrates the location of the subject development.

Figure 2 depicts the site plan for the proposed development.

Figure 1 Site Location

Figure 2 Proposed Site Plan



1.3 SCOPE OF THE ASSESSMENT

This TIS has been carried out in accordance with the City of Ottawa's 2006 *Transportation Impact Assessment (TIA) Guidelines*. The scope of the transportation assessment was discussed with City of Ottawa Development Approvals staff and is outlined as follows:

- Study area intersections include:
    - Hazeldean Road at Huntmar Drive / Iber Road; and
    - Hazeldean Road at Fringewood Drive / Proposed Site Access.
- Study horizons include:
    - 2016 existing conditions;
    - 2017 future background conditions;
    - 2017 total future conditions (total site build-out); and
    - 2022 total future conditions (5 years beyond build-out).
- Analysis time periods include the weekday AM and PM peak hours.

The methodology used in the TIS includes:

- The net increase in site traffic from the proposed development will be estimated;
- Background traffic growth will be accounted for using an annual growth rate of 2% as well as explicitly accounting for the nearby future Huntington Properties development at 5754 Hazeldean Road and the retail development at 20 Cedarow Court;
- Future background traffic volumes will be combined with the net increase in site traffic volumes to determine total future traffic volumes;
- Intersection analyses will be performed to determine the operating characteristics of the study area intersections under each study horizon; and
- Where operational deficiencies are identified mitigation measures will be examined.

2.0 EXISTING TRANSPORTATION ENVIRONMENT

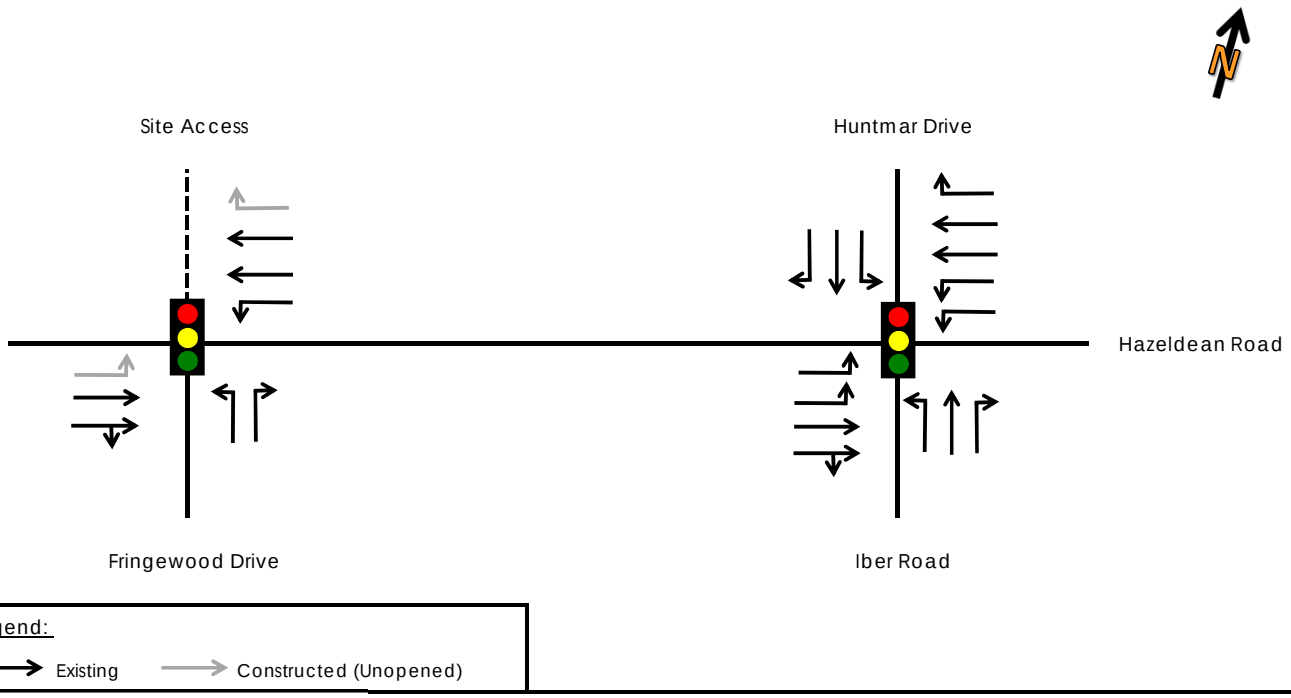
2.1 ROADS AND TRAFFIC CONTROL

The roadways under consideration in the study area are described below:

Hazeldean Road	In the vicinity of the study area, Hazeldean Road is a four-lane urban arterial road with a 60 km/h posted speed limit. Sidewalks are provided along both side of Hazeldean Road.
Huntmar Drive / Iber Road	Huntmar Drive / Iber Road is a major collector road within the study area. South of Hazeldean Road, Iber Road has a two-lane cross-section and a posted speed limit of 60 km/h. North of Hazeldean Road, Huntmar Drive has a four-lane cross-section and a posted speed limit of 50 km/h. The intersection with Hazeldean Road is signalized and exclusive dual left turn lanes are provided in the eastbound and westbound directions.
Fringewood Drive	Fringewood Drive is a two-lane local road with a rural cross-section and a posted speed limit of 40 km/h. The intersection with Hazeldean Road is signalized and dedicated turning lanes are provided in the eastbound and westbound directions. The eastbound left and westbound right turn lanes are already in place in order to accommodate the future developments on the north side of Hazeldean Road (the subject development as well as the proposed development at 20 Cedarow Court).

The road classifications noted above are referenced from Map 6 of the City of Ottawa's 2013 *Transportation Master Plan*.

Figure 3 illustrates the 2016 existing intersection control and lane configuration for the study area intersections.



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Wellings Communities Holding Inc
and Extendicare (Canada) Inc.
5731 Hazeldean Road

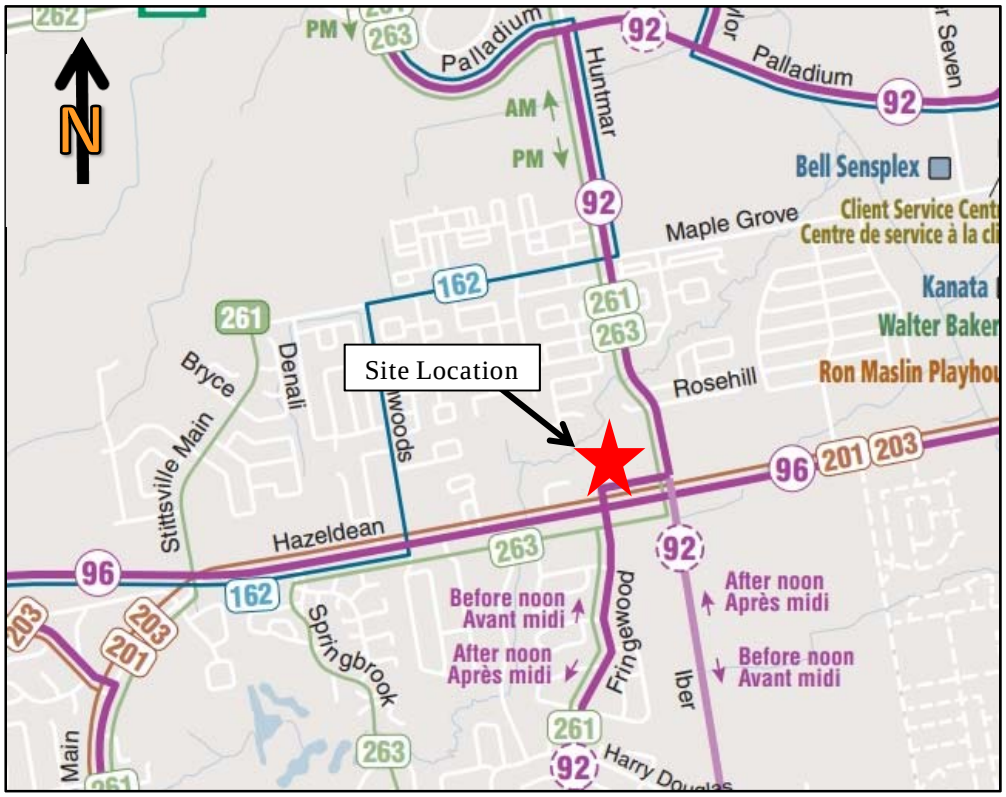
Figure 3
2016 Existing Intersection Control
and Lane Configuration

2.2 TRANSIT

Transit service is provided throughout the study area via routes 92, 96, 201, 203, and 263. Route 92 and 96 are regular routes that run from Stittsville to St. Laurent station. Route 201 is a Monday only route that runs from Carlingwood Shopping Centre to the Village of Richmond. Route 203 is a Wednesday only route that runs from Carlingwood Shopping Centre to Dunrobin. Route 261 is a peak hour route that runs from Mackenzie King Station to Stittsville. Route 263 is also a peak hour route that runs from Mackenzie King Station to Stittsville.

Figure 4 illustrates the study area transit routes.

Figure 4 Study Area Transit



(Source: OC Transpo System Map, accessed January 25th, 2016)

2.3 WALKING AND CYCLING

Within the surrounding community sidewalks are provided along the majority of the roads. Hazeldean Road and Huntmar Drive north of Hazeldean Road both currently have sidewalks along both sides of the road.

In terms of cycling facilities, Hazeldean Road and Huntmar Drive north of Hazeldean Road both currently have a bicycle lane while Iber Road south of Hazeldean Road has paved shoulders. As

outlined in the City's Existing Cycling Network, Fringewood Drive is considered a suggested cycling route.

Figure 5 illustrates the study area cycling routes and pathways.

Figure 5 Study Area Cycling Routes and Pathways

(Source: City of Ottawa geoOttawa, accessed January 25th, 2016)

2.4 TRAFFIC VOLUMES

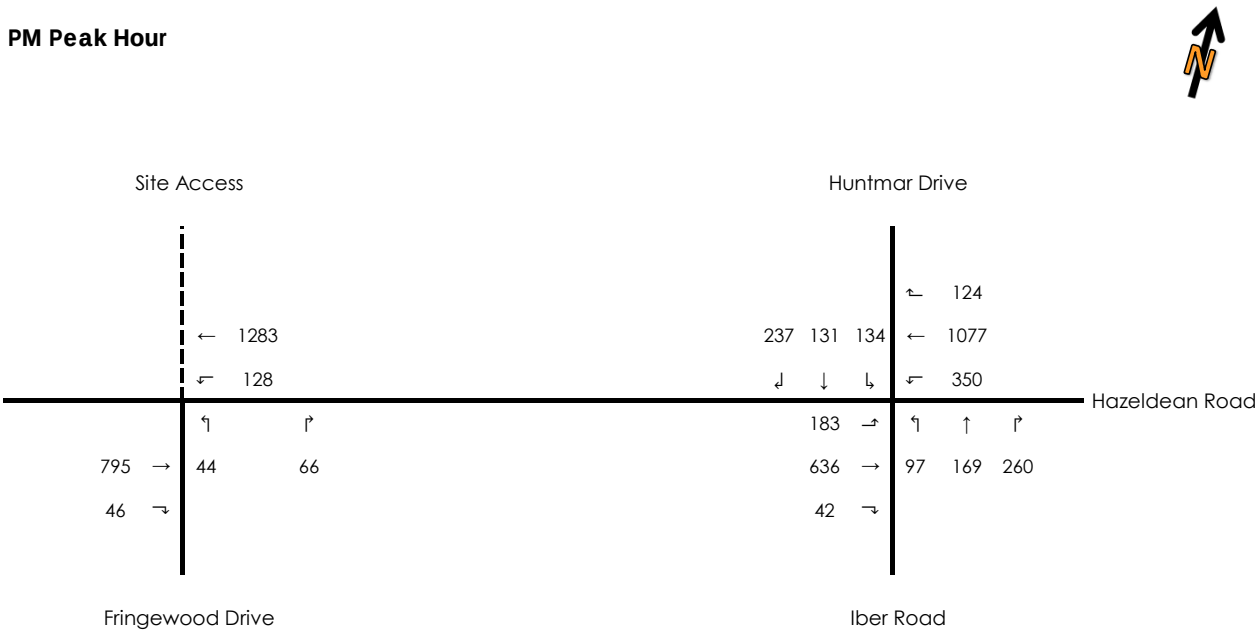
Traffic counts were provided by the City of Ottawa at the Hazeldean Road at Huntmar Drive / Iber Road intersection. As these traffic counts were collected in 2015, an annual rate of growth of 2% was applied to bring them to 2016 conditions. This background growth rate is consistent with previously completed Transportation Impact Assessments in the area. Traffic counts at the Hazeldean Road at Fringewood Drive intersection were undertaken by Stantec on Tuesday, January 26th, 2016.

Figure 6 illustrates 2016 existing AM and PM peak hour traffic volumes at the study area intersections.

Appendix A contains the traffic data and is provided for reference.

AM Peak Hour

PM Peak Hour



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and Extendicare (Canada) Inc.
5731 Hazeldean Road

Figure 6
2016 Existing Traffic Volumes

3.0 FUTURE TRANSPORTATION ENVIRONMENT

3.1 FUTURE NETWORK UPGRADES

3.1.1 Road Network Improvements

Numerous transportation roadway improvements in the vicinity of the study area have been identified in the City of Ottawa's *2013 Transportation Master Plan* (TMP) and are outlined in **Table 1** below.

Table 1 2013 Transportation Master Plan Scheduled Upgrades

Project	Description	TMP Phase
Stittsville North-South Arterial	New two-lane road between Fernbank Road and Abbott Street E	Phase 1 (2014 – 2019)
	New two-lane road between Palladium Drive and Abbott Street E	Phase 2 (2020 – 2025)
	Transit signal priority and queue jump lanes at select intersections	2031 Affordable Network
Huntmar Drive	Widen from two to four lanes between Campeau Drive extension to Cyclone Taylor Boulevard.	Phase 3 (2026 – 2031)
	Widen from two to four lanes between Palladium Drive to Maple Grove Road	Phase 3 (2026 – 2031)
Stittsville Main Street Extension	New two-lane road between Palladium Drive and Maple Grove Road	Phase 3 (2026 – 2031)
Hazeldean Road	Transit signal priority and queue jump lanes between Stittsville Main Street and Eagleson Road	2031 Affordable Network
Fernbank Road	Widen from two to four lanes between Stittsville Main Street and Terry Fox Drive	Beyond 2031
Maple Grove Road	Widen from two to four lanes between Terry Fox Drive and Huntmar Drive	Beyond 2031
Terry Fox Drive	Widen from two to four lanes between Winchester Drive and Eagleson Road	Beyond 2031
	Widen from four to six lanes between Campeau Drive and Palladium Drive	Beyond 2031

None of the improvements outlined above have a direct impact on the study area intersections assessed as part of this study.

3.2 FUTURE BACKGROUND DEVELOPMENTS

Huntington Properties - 5754 Hazeldean Road

Located on the south eastern quadrant of the Hazeldean Road at Fringewood Drive intersection, this proposed development consists of approximately 76,000 ft² of retail space, 59,200 ft² of office space, 11,500 ft² of pharmacy space, and 5,000 ft² of medical uses. The Traffic Impact Study (Delcan 2013) that was completed for this development estimated that it will generate approximately 269 auto trips during the AM peak hour and 447 auto trips during the PM peak hour. As this development is not currently constructed, these trips were added to the roadway network as background trips according to the distribution set forth in the aforementioned 2013 TIS.

20 Cedarow Road

Located on the north western quadrant of the Hazeldean Road at Fringewood Drive intersection, this proposed development consists of approximately 61,000 ft² of retail space. The Traffic Impact Study (Novatech 2009) that was completed for this development estimated that it will generate 327 auto trips during the PM peak hour and 373 auto trips during the Saturday peak hour. Through discussions with City of Ottawa staff, it is noted that this development is expected to be built by 2017, and as such, these trips were added to the roadway network as background trips according to the distribution set forth in the aforementioned 2009 TIS. The 20 Cedarow Road development will share the proposed new north leg of the Hazeldean Road at Fringewood Drive intersection with the subject development.

3.3 2017 FUTURE BACKGROUND CONDITIONS

Future background conditions are assessed to determine transportation improvements that may be required to address traffic growth exclusive from improvements that may be required to accommodate traffic generated by the subject development. Any improvements identified to address future background conditions are not attributed to the subject development.

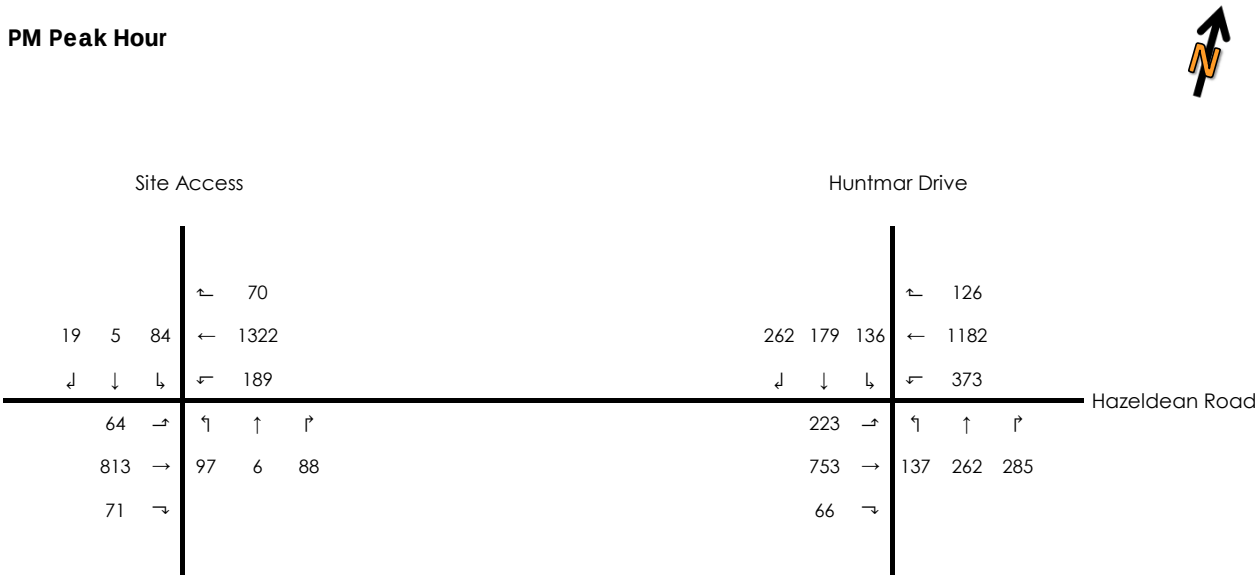
To account for future background growth an annual growth rate of 2% was applied to all movements at the study area intersections. This growth rate is consistent with previously completed traffic studies in the area. In addition to the growth rate, the traffic generated by the two future developments were added to the roadway network, as outlined in **Section 3.2**.

Figure 7 illustrates 2017 future background traffic volumes at the study area intersections.

An assessment of 2017 future background traffic conditions is outlined in **Section 4.2.**

AM Peak Hour

PM Peak Hour



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Wellings Communities Holding Inc and Extendicare (Canada) Inc.
5731 Hazeldean Road

Figure 7
2017 Future Background Traffic Volumes

3.4 SITE TRAFFIC GENERATION

3.4.1 Land Use and Trip Generation Rates

The *Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition)* was used to estimate traffic generated by the subject site. The ITE land use codes that were used are 254 – Assisted Living, 253 – Congregate Care Facility, 826 – Specialty Retail Center, and 710 – General Office Building.

Table 2 summarizes the average trip rates obtained from the *ITE Trip Generation Manual* and the ensuing sections describe the methodology used to convert these trips to person trips across all modes.

Table 2 Trips Generated by the Proposed Residential Development

		1000's GFA / # Units	Morning Peak Hour			Afternoon Peak Hour		
			In	Out	Total	In	Out	Total
Step 1: ITE Trip Generation Rates								
254 – Assisted Living		256	65%	35%	0.14	44%	56%	0.22
253 – Congregate Care Facility		185	59%	41%	0.06	55%	45%	0.17
826 – Specialty Retail Center		17	N/A	N/A	N/A	44%	56%	2.71
710 – General Office Building		16	88%	12%	1.56	17%	83%	1.49
Step 2: Auto Trips Generated								
254 – Assisted Living		256	23	13	36	25	31	56
252 – Senior Adult Housing		185	6	5	11	17	14	31
820 – Shopping Centre		17	0	0	0	20	26	46
710 – General Office Building		16	22	3	25	4	20	24
Step 3: Conversion From Auto Trips to Person Trips								
Total Development	Trip Gen (ITE)		51	21	72	66	91	157
	Transit Share	10%	5	2	7	6	9	15
	Auto Occupancy	1.1	5	2	7	6	9	15
	Total Person Trips		61	25	86	78	109	187
Step 4: Person Trips by Modal Share								
Total Development	Auto	60%	37	15	52	46	65	111
	Passenger	10%	6	3	9	7	11	18
	Transit	25%	15	6	21	20	27	47
	Walk / Bike	Neg.	0	0	0	0	0	0
	Other	5%	3	1	4	5	6	11

3.4.2 Conversion of ITE Rates to Person Trips

The notion of quantifying the volume of "person" trips expected to be generated by a given development is becoming a commonly accepted practice. It is aimed at quantifying the expected demands across the primary modes of transportation.

In order to convert ITE rates to person trips, the rates obtained from the ITE Trip Generation Manual were adjusted to account for an inherent transit modal share and auto occupancy. An assumed transit share of 10% was thought to be inherent within the ITE rates and an auto occupancy rate of 1.1 persons per vehicle was also assumed to be inherent within the ITE rates.

Step 3 of **Table 2** outlines the conversion from auto trips to person trips.

3.4.3 Net New Site Trips

The person trips were then assigned to the four primary modal shares (i.e. auto, passenger, transit, and active modes) according to local modal share characteristics as documented in the TRANS Committee's 2011 Origin-Destination (O-D) Survey for the Kanata / Stittsville District.

The proposed development is anticipated to generate approximately 86 person trips during the AM peak hour and 187 person trips during the PM peak hour. In terms of vehicle trips, the proposed development is anticipated to generate 52 net new auto trips (two-way) during the AM peak hour and 111 net new auto trips (two-way) during the PM peak hour.

Step 4 of **Table 2** summarizes the expected person trips by modal share.

3.4.4 Traffic Distribution and Assignment

The distribution of traffic to / from the study area was determined through examination of the existing volumes at the study area intersections, previously completed Transportation Impact Assessments within the study area, as well as our knowledge of the surrounding environment. Two distributions were used; one for the retail component and one for the office component. As the majority of the cars generated by the assisted living and congregate care facilities during the roadway peak hours are attributed to staff, these two land uses closely reflect the traffic patterns exhibited by office land uses, and thus were distributed according to the office distribution.

Table 3 provides a summary of the estimated distribution of traffic generated by the proposed development.

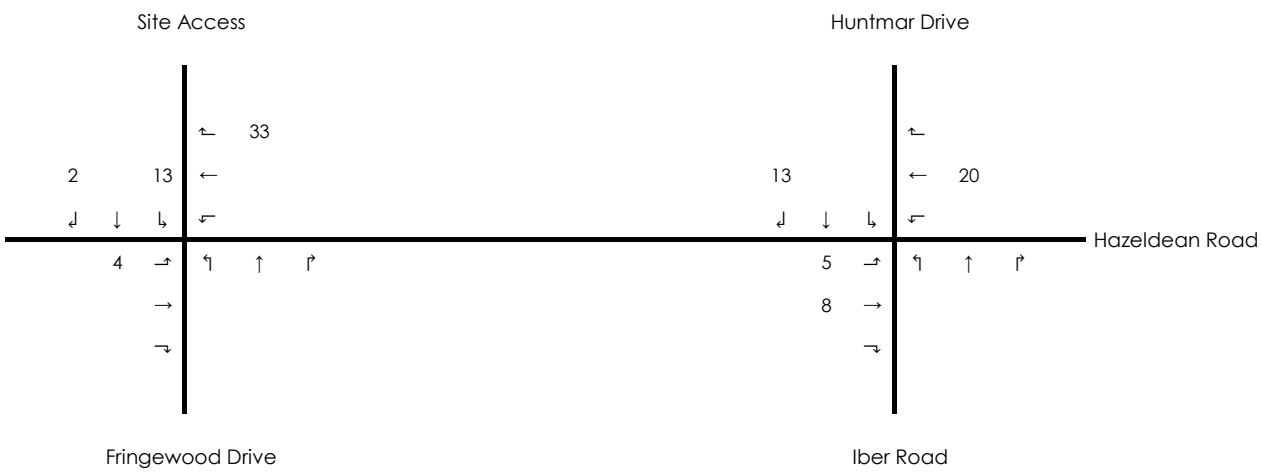
The anticipated site traffic generated by the proposed development was assigned to the boundary road network using a logical pattern of primary roads (i.e. along arterials and collectors).

Figure 8 illustrates the anticipated site traffic generated by the proposed development.

Table 3 Traffic Distribution to / from the Kanata and Stittsville District

Cardinal Direction	Retail	Office
North	20%	70%
East	40%	20%
South	Neg.	Neg.
West	40%	10%
Total	100%	100%

AM Peak Hour



PM Peak Hour

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5731 Hazeldean Road

Figure 8
Site Traffic Volumes

3.5 2017 TOTAL FUTURE CONDITIONS

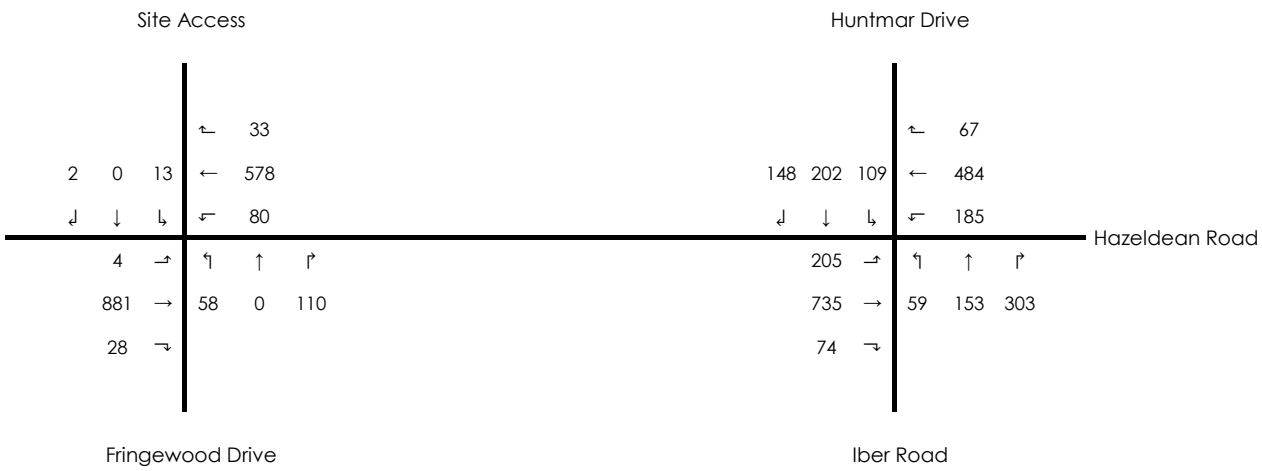
Total future conditions are examined to determine improvements that may be required as a direct result of the development of the site. It is anticipated that by 2017 the development will be fully built and occupied.

The 2017 total future traffic volumes were derived by adding the projected site generated trips to future background volumes anticipated for 2017.

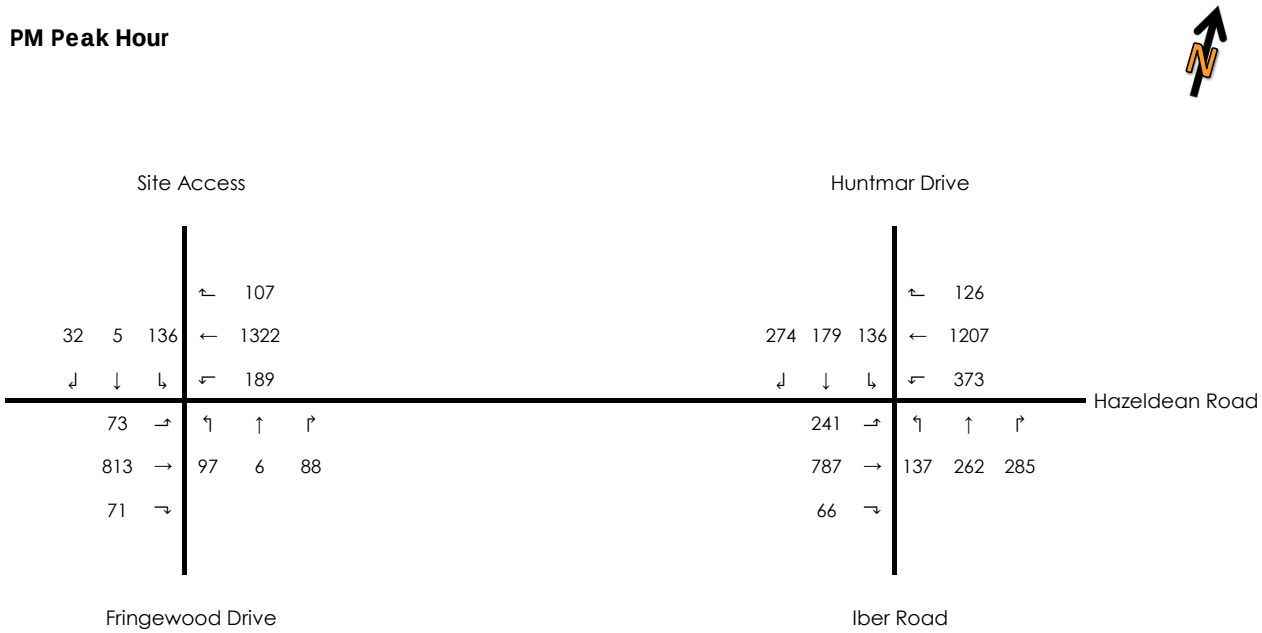
Figure 9 illustrates 2017 total future traffic volumes at the study area intersections during the AM and PM peak hours.

An assessment of 2017 total future traffic conditions is outlined in **Section 4.3**.

AM Peak Hour



PM Peak Hour



Stantec

Wellings Communities Holding Inc and Extendicare (Canada) Inc.
5731 Hazeldean Road

Figure 9
2017 Total Future Traffic Volumes

3.6 2022 ULTIMATE CONDITIONS

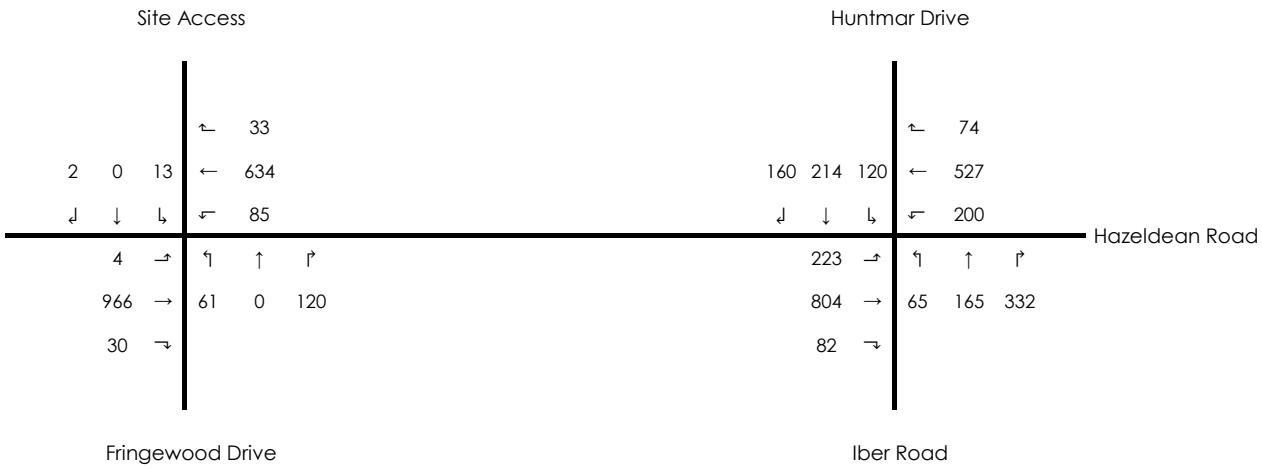
Ultimate conditions for the 2022 horizon were examined to determine if other improvements may be required due to further growth in background traffic volumes 5 years beyond the development of the subject site.

The 2022 ultimate traffic volumes were derived by adding five years of background growth to the 2017 total future traffic volumes using the background growth rate assumptions outlined in **Section 3.3**.

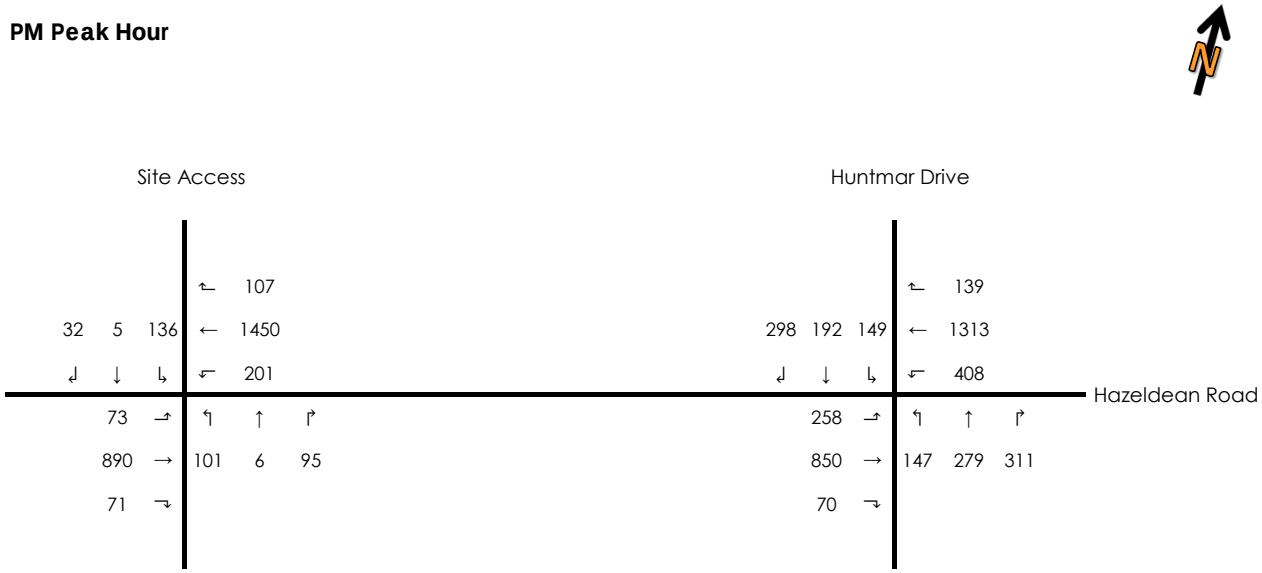
Figure 10 illustrates 2022 ultimate traffic volume at the study area intersections during the AM and PM peak hours.

An assessment of 2022 ultimate traffic conditions is outlined in **Section 4.4**.

AM Peak Hour



PM Peak Hour



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Wellings Communities Holding Inc
and Extendicare (Canada) Inc.
5731 Hazeldean Road

Figure 10
2022 Ultimate Traffic Volumes

4.0 TRANSPORTATION ASSESSMENT

4.1 2016 EXISTING CONDITIONS

Figure 3 (**Section 2.1**) illustrates the 2016 existing intersection controls and lane configuration at the study area intersections.

4.1.1 Intersection Operational Analysis

An assessment of the study area intersections was undertaken to determine their operational characteristics. Intersection operations were analyzed using the Highway Capacity Manual 2000 edition (HCM 2000) methodologies and facilitated with Synchro 9.0™ software.

Table 4 provides a summary of 2016 existing intersection operations.

Using the City's existing signal timing plans, both signalized intersections operate acceptably; therefore, no improvements are required to supplement existing conditions.

Appendix B contains detailed intersection performance worksheets.

Table 4 2016 Existing Signalized Intersection Operations

Signalized Intersections	Approach/Movement		2016 Existing Conditions		
			LOS	V/C[2]	Q[3] (m)
Hazeldean Road at Huntmar Drive / Iber Road	EB	Left	A (A)	0.39 (0.58)	12.5 (24.8)
		Through / Right	A (A)	0.43 (0.52)	66.4 (100.1)
	WB	Left	A (C)	0.51 (0.71)	27.4 (57.9)
		Through	A (C)	0.30 (0.71)	52.9 (#164.6)
		Right	A (A)	0.05 (0.09)	0.0 (9.8)
	NB	Left	A (A)	0.34 (0.44)	22.5 (31.8)
		Through	A (B)	0.52 (0.68)	43.1 (60.5)
		Right	A (A)	0.28 (0.19)	27.0 (22.6)
	SB	Left	B (C)	0.70 (0.72)	39.8 (42.9)
		Through	A (A)	0.48 (0.52)	40.1 (47.7)
		Right	A (A)	0.09 (0.17)	10.0 (21.5)
	Overall Intersection		***A (C)***	***0.53 (0.74)***	**-**
Hazeldean Road at Fringewood Drive	EB	Through / Right	A (A)	0.39 (0.38)	57.6 (62.4)
	WB	Left	A (A)	0.12 (0.29)	1.5 (m5.2)
		Through	A (A)	0.23 (0.50)	6.1 (23.0)
	NB	Left	A (A)	0.31 (0.44)	17.7 (22.6)
		Right	A (A)	0.07 (0.05)	15.9 (13.7)
	Overall Intersection		***A (A)***	***0.39 (0.52)***	**-**

1. Table Format: AM (PM)
2. v/c – represents the anticipated volume divided by the predicted capacity
3. 95th Percentile Queue (m)
4. # - 95th percentile volume exceeds capacity, queue may be longer
5. m - Volume for 95th percentile queue is metered by upstream signal

4.2 2017 FUTURE BACKGROUND CONDITIONS

Future background conditions for the 2017 horizon were assessed to determine transportation improvements that may be required to address growth in traffic exclusive from improvements that may be required to accommodate traffic generated by the proposed development.

The background development assumptions outlined in **Section 3.3** were applied to existing traffic volumes to predict 2017 future background traffic volumes.

Figure 11 illustrates the 2017 future background intersection control and lane configuration for the study area intersections.

4.2.1 Intersection Operational Analysis

Table 5 summarizes the operational characteristics of the study area intersections under 2017 future background conditions.

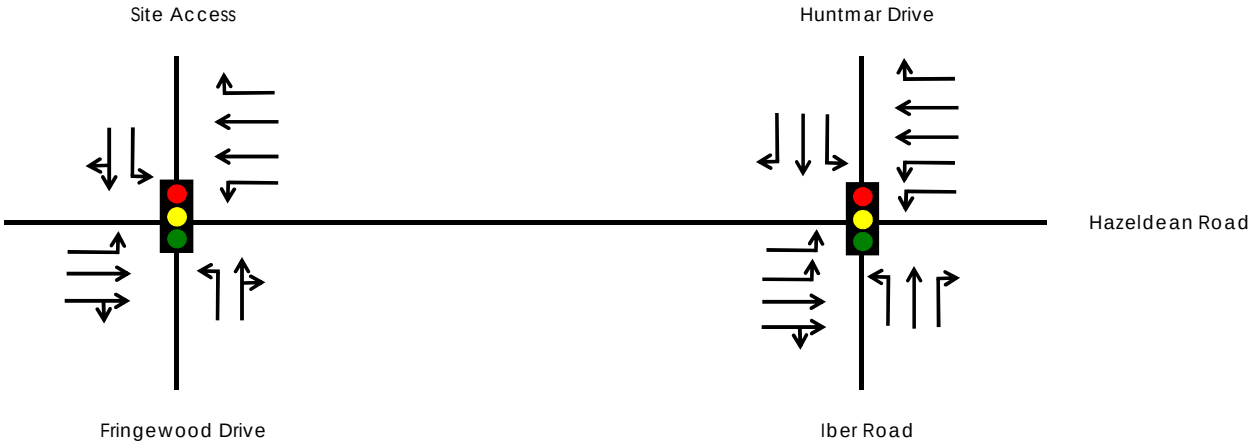
Network offsets and cycle lengths were optimized for the 2017 future background condition. Both study area intersections are expected to operate acceptably, and as such, no improvements are required to accommodate the projected 2017 future background traffic volumes.

Appendix B contains detailed intersection performance worksheets.

Table 5 2017 Future Background Intersection Operations

Signalized Intersections	Approach/Movement		2017 Future Background		
			LOS	V/C	Q^2 (m)
Hazeldean Road at Huntmar Drive / Iber Road	EB	Left	A (B)	0.35 (0.62)	18.8 (45.6)
		Through / Right	A (B)	0.48 (0.61)	31.4 (142.5)
	WB	Left	A (C)	0.50 (0.77)	28.2 (#73.9)
		Through	A (C)	0.37 (0.80)	57.6 (#233.6)
		Right	A (A)	0.04 (0.08)	0.0 (12.4)
	NB	Left	A (A)	0.36 (0.53)	21.2 (42.2)
		Through	A (C)	0.49 (0.75)	43.4 (91.9)
		Right	A (A)	0.20 (0.19)	28.9 (32.1)
	SB	Left	A (C)	0.53 (0.71)	34.8 (#43.8)
		Through	B (A)	0.64 (0.51)	56.4 (62.2)
		Right	A (A)	0.09 (0.17)	7.5 (30.2)
	Overall Intersection		***A (D)***	***0.57 (0.81)***	-
Hazeldean Road at Fringewood Drive	EB	Left	A (A)	0.00 (0.27)	0.0 (21.3)
		Through / Right	A (A)	0.39 (0.41)	72.2 (90.6)
	WB	Left	A (A)	0.18 (0.40)	8.1 (m42.8)
		Through	A (A)	0.21 (0.50)	24.6 (208.8)
		Right	A (A)	0.00 (0.05)	0.0 (m9.0)
	NB	Left	A (B)	0.46 (0.63)	27.2 (42.8)
		Through / Right	A (A)	0.07 (0.09)	0.0 (19.6)
	SB	Left	A (A)	0.00 (0.60)	0.0 (38.4)
		Through / Right	A (A)	0.00 (0.04)	0.0 (10.1)
	Overall Intersection		***A (A)***	***0.40 (0.55)***	-

1. Table Format: AM (PM)
2. v/c – represents the anticipated volume divided by the predicted capacity
3. 95th Percentile Queue (m)
4. # - 95th percentile volume exceeds capacity, queue may be longer
5. m - Volume for 95th percentile queue is metered by upstream signal



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Wellings Communities Holding Inc and Extendicare (Canada) Inc.
5731 Hazeldean Road

Figure 11
2017 Future Background Intersection Control and Lane Configuration

4.3 2017 TOTAL FUTURE CONDITIONS

Total future conditions are assessed to determine transportation improvements that may be required to accommodate traffic generated by the proposed development. The site trip generation, distribution, and assignment assumptions outlined in **Section 3.4** were applied to 2017 future background traffic volumes to predict 2017 total future traffic volumes.

4.3.1 Intersection Operational Analysis

Table 6 summarizes the operational characteristics of the study area intersections under 2017 total future conditions.

Network offsets and cycle lengths were optimized for the 2017 total future condition. Both study area intersections are expected to operate acceptably, and as such, no improvements are required to accommodate the projected 2017 total future traffic volumes.

Appendix B contains detailed intersection performance worksheets.

4.3.2 Site Access Configuration

The recommended lane configuration for the southbound approach to the Hazeldean Road at Fringewood Drive / Site Access intersection includes a three-lane cross-section featuring one inbound lane and two outbound lanes. The two outbound lanes include an exclusive left turn lane and a shared through/right turn lane.

The southbound left turn queues (95th percentile queues) at the site access are anticipated to extend to approximately 60m during the PM peak hour. With the proposed internal access to the subject lands located roughly 68m north of Hazeldean Road, the projected storage demands are not expected to block the internal access. As the southbound approach to this intersection will be a private approach, the taper length of the southbound left turn lane can be reduced from typical standards that would normally be applied to municipal roads. A taper length of 20 to 30 metres would likely be sufficient and this can be confirmed during design.

Table 6 2017 Total Future Intersection Operations

Signalized Intersections	Approach/Movement		2017 Future Background		
			LOS	V/C	Q^2 (m)
Hazeldean Road at Huntmar Drive / Iber Road	EB	Left	A (B)	0.36 (0.65)	24.0 (46.7)
		Through / Right	A (B)	0.49 (0.63)	62.6 (#150.1)
	WB	Left	A (C)	0.50 (0.77)	28.2 (#74.4)
		Through	A (D)	0.39 (0.82)	59.7 (#240.8)
		Right	A (A)	0.04 (0.08)	0.0 (12.4)
	NB	Left	A (A)	0.36 (0.53)	21.2 (42.2)
		Through	A (C)	0.49 (0.75)	43.4 (91.9)
		Right	A (A)	0.20 (0.19)	28.9 (32.1)
	SB	Left	A (C)	0.53 (0.71)	34.8 (#43.8)
		Through	B (A)	0.64 (0.51)	56.4 (62.2)
		Right	A (A)	0.10 (0.17)	10.2 (29.3)
	Overall Intersection		***A (D)***	***0.57 (0.82)***	-
Hazeldean Road at Fringewood Drive / Site Access	EB	Left	A (A)	0.01 (0.33)	1.9 (28.1)
		Through / Right	A (A)	0.42 (0.43)	71.7 (102.1)
	WB	Left	A (A)	0.19 (0.44)	4.6 (m4.5)
		Through	A (A)	0.22 (0.53)	4.8 (m180.1)
		Right	A (A)	0.02 (0.07)	m0.2 (m0.0)
	NB	Left	A (A)	0.46 (0.48)	22.7 (40.2)
		Through / Right	A (A)	0.11 (0.08)	18.9 (18.4)
	SB	Left	A (C)	0.13 (0.72)	8.1 (55.5)
		Through / Right	A (A)	0.04 (0.04)	5.1 (11.6)
	Overall Intersection		***A (A)***	***0.43 (0.60)***	-

1. Table Format: AM (PM)
2. v/c – represents the anticipated volume divided by the predicted capacity
3. 95th Percentile Queue (m)
4. # - 95th percentile volume exceeds capacity, queue may be longer
5. m - Volume for 95th percentile queue is metered by upstream signal

4.4 2022 ULTIMATE CONDITIONS

Ultimate future conditions for the 2022 horizon were examined to determine if other improvements may be required due to growth in background traffic volumes 5 years beyond the anticipated build-out horizon of the site. The difference between 2022 ultimate conditions and 2017 total future conditions is 5 years of additional background growth – consistent with the growth assumptions outlined in **Section 3.3**. As such, any improvements required to accommodate 2022 ultimate conditions are not attributed to the subject development.

4.4.1 Intersection Operational Analysis

Table 7 summarizes the operational characteristics of the study area intersections under 2022 ultimate conditions.

Network offsets and cycle lengths were optimized for the 2022 ultimate condition. Both study area intersections are expected to operate acceptably, and as such, no improvements are required to accommodate the projected 2022 ultimate traffic volumes.

Appendix B contains detailed intersection operation summaries.

Table 7 2022 Ultimate Intersection Operations

Signalized Intersections	Approach/Movement		2017 Future Background		
			LOS	V/C	Q^2 (m)
Hazeldean Road at Huntmar Drive / Iber Road	EB	Left	A (B)	0.39 (0.67)	22.8 (49.8)
		Through / Right	A (C)	0.54 (0.71)	36.6 (#169.4)
	WB	Left	A (C)	0.54 (0.79)	30.9 (#87.7)
		Through	A (E)	0.44 (0.91)	64.4 (#271.5)
		Right	A (A)	0.05 (0.09)	0.0 (15.5)
	NB	Left	A (A)	0.39 (0.57)	22.9 (44.8)
		Through	A (C)	0.50 (0.77)	46.0 (97.8)
		Right	A (A)	0.29 (0.21)	36.3 (34.2)
	SB	Left	A (C)	0.59 (0.79)	38.0 (#54.7)
		Through	B (A)	0.65 (0.53)	58.9 (66.8)
		Right	A (A)	0.11 (0.17)	12.6 (29.2)
	Overall Intersection		***B (D)***	***0.62 (0.89)***	-
Hazeldean Road at Fringewood Drive / Site Access	EB	Left	A (A)	0.01 (0.38)	1.9 (31.5)
		Through / Right	A (A)	0.47 (0.48)	82.5 (116.0)
	WB	Left	A (A)	0.22 (0.49)	6.5 (m6.4)
		Through	A (A)	0.25 (0.58)	11.2 (m183.1)
		Right	A (A)	0.02 (0.07)	m0.8 (m0.0)
	NB	Left	A (A)	0.42 (0.51)	23.6 (41.7)
		Through / Right	A (A)	0.11 (0.09)	19.5 (19.2)
	SB	Left	A (C)	0.12 (0.72)	8.0 (55.5)
		Through / Right	A (A)	0.03 (0.04)	5.1 (11.6)
	Overall Intersection		***A (B)***	***0.47 (0.64)***	-

1. Table Format: AM (PM)
2. v/c – represents the anticipated volume divided by the predicted capacity
3. 95th Percentile Queue (m)
4. # - 95th percentile volume exceeds capacity, queue may be longer
5. m - Volume for 95th percentile queue is metered by upstream signal

5.0 SUMMARY AND CONCLUSIONS

Proposed Development

- The proposed development is located in the City of Ottawa's Stittsville community and includes a long term care building, a retirement home, and office / retail space.
- The proposed site is bound by Hazeldean Road to the south, Poole Creek to the north, and greenspace to the east and west.
- The proposed long term care building will include 256 suites, the retirement home will include 185 suites, the office space will include 17,000 gross floor area (GFA), and the retail space will include 16,000 GFA. The final total number of units and GFA, however, may be subject to minor change as the development approvals process proceeds.
- The proposed development is anticipated to generate approximately 86 person trips during the AM peak hour and 187 person trips during the PM peak hour. In terms of vehicle trips, the proposed residential development is anticipated to generate 52 net new auto trips (two-way) during the AM peak hour and 111 net new auto trips (two-way) during the PM peak hour.

2016 Existing Conditions

- Operationally, both study area intersections operate satisfactorily, and as such, no improvements are required to supplement existing conditions.

2017 Future Background Conditions

- Operationally, both study area intersections are expected to operate satisfactorily under 2017 future background conditions. No improvements are required to accommodate the projected 2017 future background traffic volumes.

2017 Total Future Conditions

- Operationally, both study area intersections are expected to operate satisfactorily under 2017 total future conditions. No improvements are required to accommodate the projected 2017 total future traffic volumes.
- The recommended lane configuration for the southbound approach to the Hazeldean Road at Fringewood Drive / Site Access intersections includes a three-lane cross-section featuring one inbound lane and two outbound lanes. The two outbound lanes include an exclusive left turn lane and a shared through/right turn lane.

- The southbound left turn queues (95th percentile queues) at the site access are anticipated to extend to approximately 60m during the PM peak hour. With the proposed internal access to the subject lands located roughly 68m north of Hazeldean Road, the projected storage demands are not expected to block the internal access. As the southbound approach to this intersection will be a private approach, the taper length of the southbound left turn lane can be reduced from typical standards that would normally be applied to municipal roads. A taper length of 20 to 30 metres would likely be sufficient and this can be confirmed during design.

2022 Ultimate Conditions

- Operationally, both study area intersections are expected to operate satisfactorily under 2022 ultimate conditions. No improvements are required to accommodate the projected 2022 ultimate traffic volumes.

Based on the transportation evaluation and the negligible impacts that have been identified in this Transportation Impact Assessment, Wellings Communities Holding Inc and Extendicare (Canada) Inc.'s proposed 5731 Hazeldean Road development should be permitted to proceed from a transportation perspective.

*****

STANTEC CONSULTING LTD.

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Lauren O'Grady, B.A.Sc.
Transportation Engineering Intern

Appendix A
Traffic Data

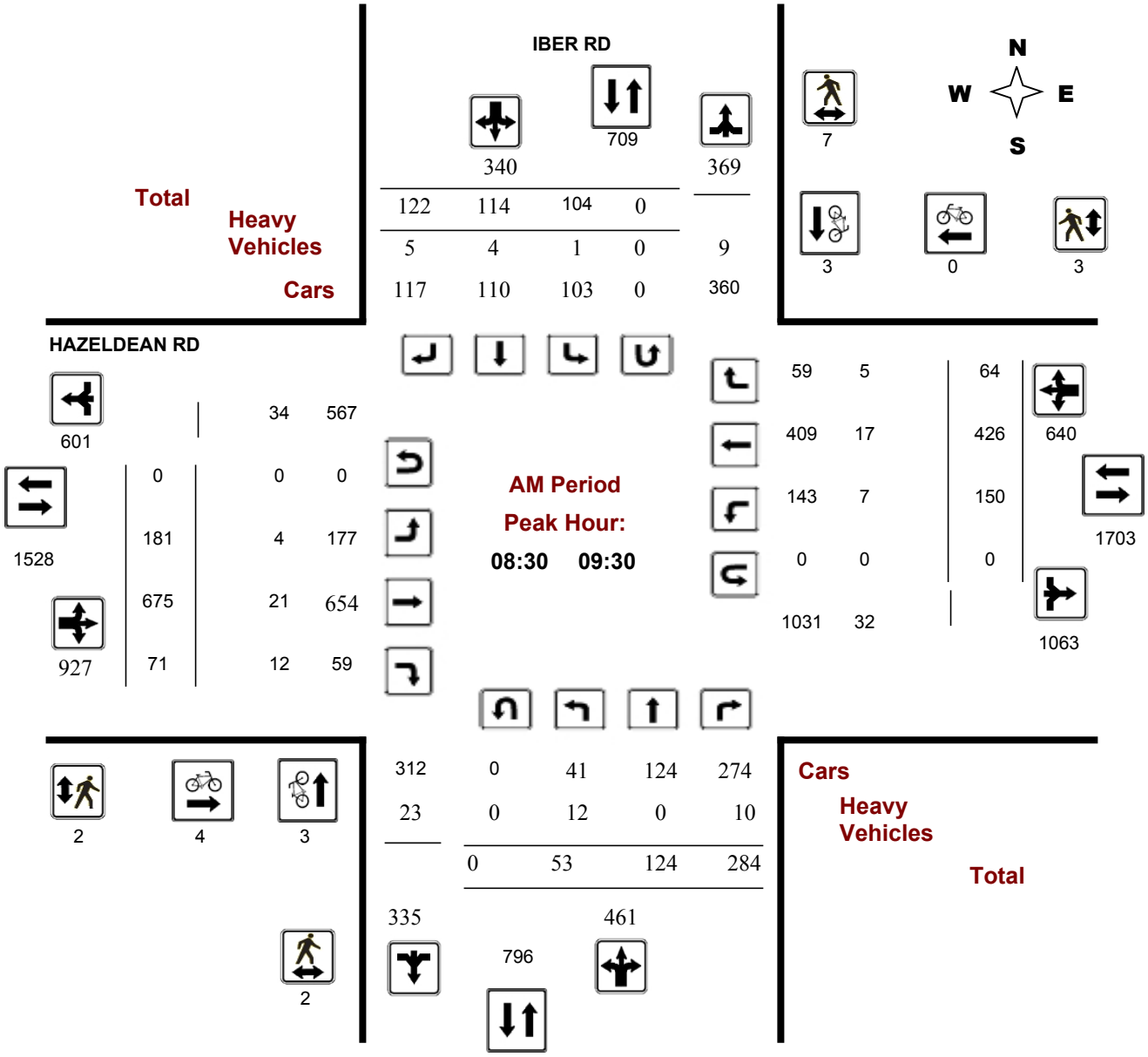
Public Works - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

HAZELDEAN RD @ IBER RD

Survey Date: Thursday, July 23, 2015
Start Time: 07:00

WO No: 34999
Device: Jamar Technologies, Inc



Comments

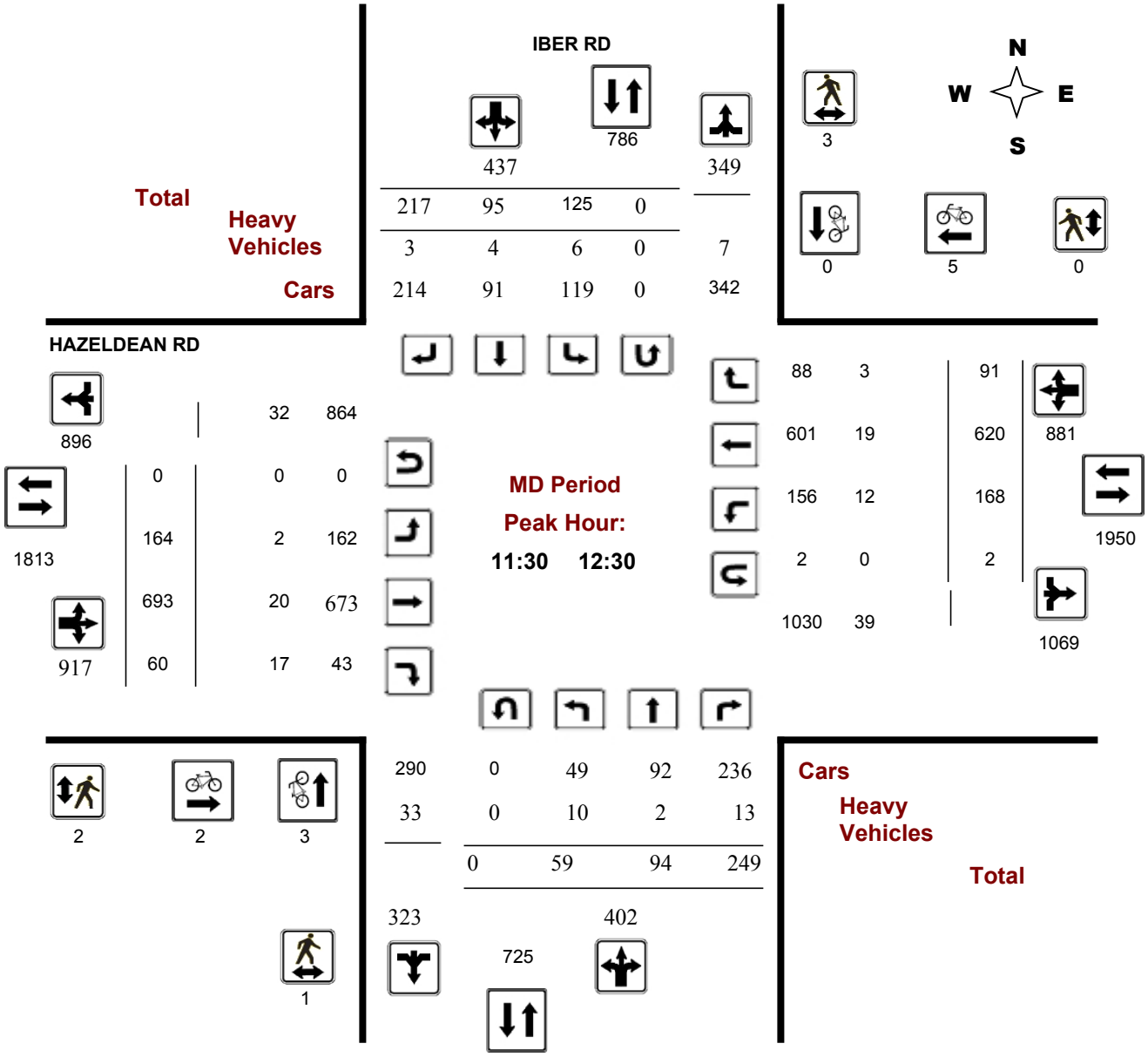
Public Works - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

HAZELDEAN RD @ IBER RD

Survey Date: Thursday, July 23, 2015
Start Time: 07:00

WO No: 34999
Device: Jamar Technologies, Inc



Comments

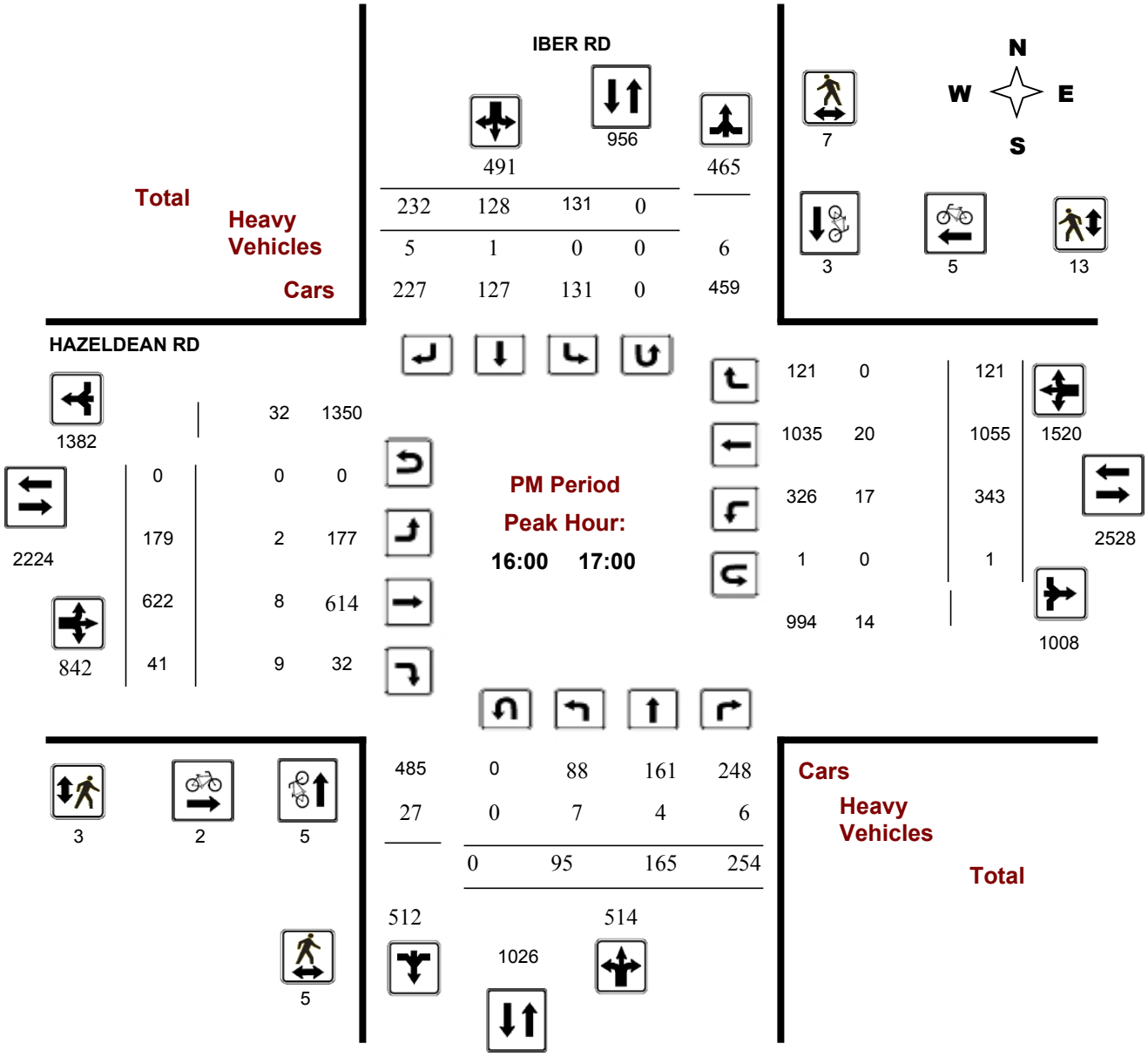
Public Works - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

HAZELDEAN RD @ IBER RD

Survey Date: Thursday, July 23, 2015
Start Time: 07:00

WO No: 34999
Device: Jamar Technologies, Inc



Comments

Stantec counts taken on January 26 2016

Hazeldean at Fringewood

	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
8:15-8:30	12	0	24	0	0	0	0	175	5	17	78	0
8:30-8:45	10	0	35	0	0	0	0	203	3	9	135	0
8:45-9:00	15	0	20	0	0	0	0	215	5	11	152	0
9:00-9:15	4	0	21	0	0	0	0	201	4	9	125	0
9:15-9:30	6	0	16	0	0	0	0	181	2	12	103	0
9:30-9:45	6	0	17	0	0	0	0	151	6	9	116	0
AM Peak Hour	**35**	**0**	**92**	**0**	**0**	**0**	**0**	**800**	**14**	**41**	**515**	**0**
3:45-4:00	9	0	13	0	0	0	0	145	9	16	244	0
4:00-4:15	11	0	15	0	0	0	0	188	6	26	269	0
4:15-4:30	15	0	7	0	0	0	0	168	11	21	285	0
4:30-4:45	11	0	20	0	0	0	0	198	17	38	291	0
4:45-5:00	7	0	16	0	0	0	0	154	12	28	288	0
5:00-5:15	11	0	13	0	0	0	0	193	9	29	255	0
PM Peak Hour	**44**	**0**	**58**	**0**	**0**	**0**	**0**	**708**	**46**	**113**	**1133**	**0**

Appendix B
Intersection Performance Worksheets

B.1 2016 EXISTING CONDITIONS

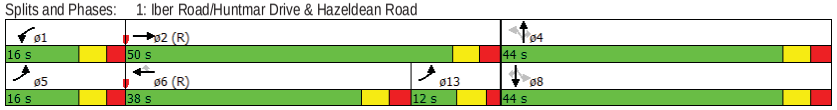
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	690	73	153	435	66	55	127	290	107	117	125
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	100.0		240.0	65.0		65.0	85.0		0.0
Storage Lanes	2		0	2		1	1		1	1		1
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3343	0	3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.950			0.950			0.655			0.621		
Satd. Flow (perm)	3288	3343	0	3288	3390	1517	1169	1784	1517	1108	1784	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12				164			297			164
Link Speed (k/h)		60			60			60			50	
Link Distance (m)		258.1			353.3			178.1			183.3	
Travel Time (s)		15.5			21.2			10.7			13.2	
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
Adj. Flow (vph)	201	750	79	166	473	72	60	138	315	116	127	136
Shared Lane Traffic (%)												
Lane Group Flow (vph)	201	829	0	166	473	72	60	138	315	116	127	136
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	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	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	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	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5 13	2		1	6			4			8	
Permitted Phases						6	4		4	8		8
Detector Phase	5 13	2		1	6	6	4	4	4	8	8	8

Lane Group	ø5	ø13
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	5	13
Permitted Phases		
Detector Phase		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)		24.6		11.3	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)		50.0		16.0	38.0	38.0	44.0	44.0	44.0	44.0	44.0	44.0
Total Split (%)		45.5%		14.5%	34.5%	34.5%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)		43.4		9.7	31.4	31.4	37.4	37.4	37.4	37.4	37.4	37.4
Yellow Time (s)		3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)		2.9		2.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag		Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode		C-Min		None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0			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	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0	0	0	0
Act Effct Green (s)	16.8	63.2		10.9	51.0	51.0	16.4	16.4	16.4	16.4	16.4	16.4
Actuated g/C Ratio	0.15	0.57		0.10	0.46	0.46	0.15	0.15	0.15	0.15	0.15	0.15
v/c Ratio	0.40	0.43		0.51	0.30	0.09	0.34	0.52	0.66	0.70	0.48	0.37
Control Delay	19.2	13.3		52.3	20.6	0.2	45.1	48.7	12.7	65.3	47.3	6.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	13.3		52.3	20.6	0.2	45.1	48.7	12.7	65.3	47.3	6.2
LOS	B	B		D	C	A	D	D	B	E	D	A
Approach Delay		14.4			26.0			26.2			38.1	
Approach LOS		B			C			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 33 (30%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 23.2		Intersection LOS: C	
Intersection Capacity Utilization 64.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Iber Road/Huntmar Drive & Hazeldean Road



Lane Group	ø5	ø13
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.3	11.0
Total Split (s)	16.0	12.0
Total Split (%)	15%	11%
Maximum Green (s)	9.7	6.0
Yellow Time (s)	3.7	4.0
All-Red Time (s)	2.6	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	201	829	166	473	72	60	138	315	116	127	136
v/c Ratio	0.40	0.43	0.51	0.30	0.09	0.34	0.52	0.66	0.70	0.48	0.37
Control Delay	19.2	13.3	52.3	20.6	0.2	45.1	48.7	12.7	65.3	47.3	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	13.3	52.3	20.6	0.2	45.1	48.7	12.7	65.3	47.3	6.2
Queue Length 50th (m)	13.9	40.4	17.7	32.1	0.0	11.7	27.7	3.4	24.0	25.4	0.0
Queue Length 95th (m)	10.5	55.5	27.4	52.9	0.0	22.5	43.1	27.0	39.8	40.1	10.0
Internal Link Dist (m)		234.1		329.3			154.1			159.3	
Turn Bay Length (m)	60.0		100.0		240.0	65.0		65.0	85.0		
Base Capacity (vph)	565	1925	336	1571	791	397	606	711	376	606	624
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.43	0.49	0.30	0.09	0.15	0.23	0.44	0.31	0.21	0.22

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	690	73	153	435	66	55	127	290	107	117	125
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.3	6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3288	3342		3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.65	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	3288	3342		3288	3390	1517	1168	1784	1517	1108	1784	1517
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	750	79	166	473	72	60	138	315	116	127	136
RTOR Reduction (vph)	0	5	0	0	0	39	0	0	253	0	0	116
Lane Group Flow (vph)	201	824	0	166	473	33	60	138	62	116	127	20
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5 13	2		1	6			4			8	
Permitted Phases						6	4		4	8		8
Actuated Green, G (s)	17.1	63.2		10.9	51.0	51.0	16.4	16.4	16.4	16.4	16.4	16.4
Effective Green, g (s)	17.1	63.2		10.9	51.0	51.0	16.4	16.4	16.4	16.4	16.4	16.4
Actuated g/C Ratio	0.16	0.57		0.10	0.46	0.46	0.15	0.15	0.15	0.15	0.15	0.15
Clearance Time (s)		6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	511	1920		325	1571	703	174	265	226	165	265	226
v/s Ratio Prot	0.06	c0.25		c0.05	c0.14			0.08			0.07	
v/s Ratio Perm						0.02	0.05		0.04	c0.10		0.01
v/c Ratio	0.39	0.43		0.51	0.30	0.05	0.34	0.52	0.28	0.70	0.48	0.09
Uniform Delay, d1	41.8	13.2		47.0	18.4	16.2	42.0	43.2	41.5	44.5	42.9	40.4
Progression Factor	0.72	0.87		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.7		1.4	0.5	0.1	1.2	1.8	0.7	12.7	1.4	0.2
Delay (s)	30.7	12.2		48.4	18.9	16.3	43.2	45.0	42.2	57.2	44.3	40.5
Level of Service	C	B		D	B	B	D	D	D	E	D	D
Approach Delay (s)		15.8			25.5			43.1			46.9	
Approach LOS		B			C			D			D	

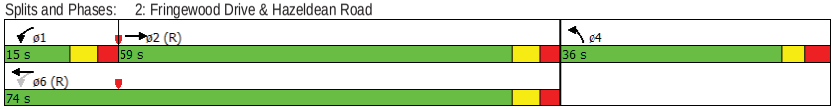
Intersection Summary					
HCM 2000 Control Delay	28.2	HCM 2000 Level of Service		C	
HCM 2000 Volume to Capacity ratio	0.53				
Actuated Cycle Length (s)	110.0	Sum of lost time (s)		25.5	
Intersection Capacity Utilization	64.3%	ICU Level of Service		C	
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	850	14	46	569	35	98
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	60.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			25.0		25.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.998				0.900	
Flt Protected			0.950		0.987	
Satd. Flow (prot)	3383	0	1695	3390	1585	0
Flt Permitted			0.258		0.987	
Satd. Flow (perm)	3383	0	460	3390	1585	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	2				107	
Link Speed (k/h)	60			60	40	
Link Distance (m)	189.6			258.1	101.9	
Travel Time (s)	11.4			15.5	9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	924	15	50	618	38	107
Shared Lane Traffic (%)						
Lane Group Flow (vph)	939	0	50	618	145	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			7.4	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (m)	30.5		6.1	30.5	6.1	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	1.8		6.1	1.8	6.1	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases			6			
Detector Phase	2		1	6	4	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	36.3		11.4	24.0	35.6	
Total Split (s)	59.0		15.0	74.0	36.0	
Total Split (%)	53.6%		13.6%	67.3%	32.7%	
Maximum Green (s)	52.6		8.6	67.6	29.4	
Yellow Time (s)	3.7		3.7	3.7	3.0	
All-Red Time (s)	2.7		2.7	2.7	3.6	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.4		6.4	6.4	6.6	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Min		None	C-Min	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	20.0				22.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	77.8		88.0	88.0	9.0	
Actuated g/C Ratio	0.71		0.80	0.80	0.08	
v/c Ratio	0.39		0.11	0.23	0.64	
Control Delay	8.1		1.3	0.9	28.2	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	8.1		1.3	0.9	28.2	
LOS	A		A	A	C	
Approach Delay	8.1			0.9	28.2	
Approach LOS	A			A	C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 72 (65%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 54.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Fringewood Drive & Hazeldean Road



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	939	50	618	145
v/c Ratio	0.39	0.11	0.23	0.64
Control Delay	8.1	1.3	0.9	28.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.1	1.3	0.9	28.2
Queue Length 50th (m)	39.9	0.4	2.7	7.9
Queue Length 95th (m)	64.1	1.3	5.2	26.1
Internal Link Dist (m)	165.6		234.1	77.9
Turn Bay Length (m)		60.0		
Base Capacity (vph)	2392	464	2712	502
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.11	0.23	0.29

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	850	14	46	569	35	98
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.4		6.4	6.4	6.6	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	1.00		1.00	1.00	0.90	
Flt Protected	1.00		0.95	1.00	0.99	
Satd. Flow (prot)	3382		1695	3390	1586	
Flt Permitted	1.00		0.26	1.00	0.99	
Satd. Flow (perm)	3382		460	3390	1586	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	924	15	50	618	38	107
RTOR Reduction (vph)	1	0	0	0	98	0
Lane Group Flow (vph)	938	0	50	618	47	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases			6			
Actuated Green, G (s)	76.5		88.0	88.0	9.0	
Effective Green, g (s)	76.5		88.0	88.0	9.0	
Actuated g/C Ratio	0.70		0.80	0.80	0.08	
Clearance Time (s)	6.4		6.4	6.4	6.6	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2352		425	2712	129	
v/s Ratio Prot	c0.28		0.01	c0.18	c0.03	
v/s Ratio Perm			0.09			
v/c Ratio	0.40		0.12	0.23	0.36	
Uniform Delay, d1	7.1		3.1	2.7	47.8	
Progression Factor	1.00		0.27	0.23	1.00	
Incremental Delay, d2	0.5		0.1	0.2	1.7	
Delay (s)	7.6		1.0	0.8	49.5	
Level of Service	A		A	A	D	
Approach Delay (s)	7.6			0.8	49.5	
Approach LOS	A			A	D	

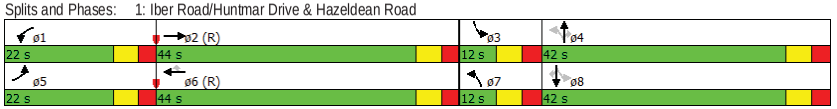
Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	54.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	183	636	42	350	1077	124	97	169	260	134	131	237
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	100.0		240.0	65.0		65.0	85.0		0.0
Storage Lanes	2		0	2		1	1		1	1		1
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3360	0	3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.950			0.950			0.588			0.464		
Satd. Flow (perm)	3288	3360	0	3288	3390	1517	1049	1784	1517	828	1784	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6				150			283			258
Link Speed (k/h)		60			60			60			50	
Link Distance (m)		258.1			353.3			178.1			183.3	
Travel Time (s)		15.5			21.2			10.7			13.2	
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
Adj. Flow (vph)	199	691	46	380	1171	135	105	184	283	146	142	258
Shared Lane Traffic (%)												
Lane Group Flow (vph)	199	737	0	380	1171	135	105	184	283	146	142	258
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	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	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	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	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6	4		4	8		8
Detector Phase	5	2		1	6	6	7	4	4	3	8	8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	34.3		11.3	34.3	34.3	11.6	38.6	38.6	11.6	38.6	38.6
Total Split (s)	22.0	44.0		22.0	44.0	44.0	12.0	42.0	42.0	12.0	42.0	42.0
Total Split (%)	18.3%	36.7%		18.3%	36.7%	36.7%	10.0%	35.0%	35.0%	10.0%	35.0%	35.0%
Maximum Green (s)	15.7	37.7		15.7	37.7	37.7	5.4	35.4	35.4	5.4	35.4	35.4
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		21.0			21.0	21.0		25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	12.5	51.0		19.7	58.1	58.1	23.5	18.1	18.1	23.5	18.1	18.1
Actuated g/C Ratio	0.10	0.42		0.16	0.48	0.48	0.20	0.15	0.15	0.20	0.15	0.15
v/c Ratio	0.58	0.52		0.71	0.71	0.17	0.45	0.68	0.60	0.73	0.53	0.58
Control Delay	49.1	29.5		54.6	28.9	3.2	42.5	60.6	10.6	60.2	53.1	10.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	29.5		54.6	28.9	3.2	42.5	60.6	10.6	60.2	53.1	10.4
LOS	D	C		D	C	A	D	E	B	E	D	B
Approach Delay		33.7			32.7			32.5			34.8	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 33.2		Intersection LOS: C	
Intersection Capacity Utilization 75.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 1: Iber Road/Huntmar Drive & Hazeldean Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	199	737	380	1171	135	105	184	283	146	142	258
v/c Ratio	0.58	0.52	0.71	0.71	0.17	0.45	0.68	0.60	0.73	0.53	0.58
Control Delay	49.1	29.5	54.6	28.9	3.2	42.5	60.6	10.6	60.2	53.1	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	29.5	54.6	28.9	3.2	42.5	60.6	10.6	60.2	53.1	10.4
Queue Length 50th (m)	23.5	75.9	43.9	110.4	0.0	19.9	41.7	0.0	28.4	31.4	0.0
Queue Length 95th (m)	26.3	103.8	57.9	161.5	9.7	32.1	61.1	22.8	43.3	48.2	21.7
Internal Link Dist (m)		234.1		329.3			154.1			159.3	
Turn Bay Length (m)	60.0		100.0		240.0	65.0		65.0	85.0		
Base Capacity (vph)	432	1430	542	1642	812	234	526	647	201	526	629
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.52	0.70	0.71	0.17	0.45	0.35	0.44	0.73	0.27	0.41

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	183	636	42	350	1077	124	97	169	260	134	131	237
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3288	3358		3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.59	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)	3288	3358		3288	3390	1517	1049	1784	1517	828	1784	1517
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	199	691	46	380	1171	135	105	184	283	146	142	258
RTOR Reduction (vph)	0	3	0	0	0	70	0	0	240	0	0	219
Lane Group Flow (vph)	199	734	0	380	1171	65	105	184	43	146	142	39
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6	4		4	8		8
Actuated Green, G (s)	12.5	51.0		19.7	58.2	58.2	23.5	18.1	18.1	23.5	18.1	18.1
Effective Green, g (s)	12.5	51.0		19.7	58.2	58.2	23.5	18.1	18.1	23.5	18.1	18.1
Actuated g/C Ratio	0.10	0.42		0.16	0.49	0.49	0.20	0.15	0.15	0.20	0.15	0.15
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	342	1427		539	1644	735	234	269	228	201	269	228
v/s Ratio Prot	0.06	0.22		c0.12	c0.35		0.02	0.10		c0.03	0.08	
v/s Ratio Perm						0.04	0.07		0.03	c0.11		0.03
v/c Ratio	0.58	0.51		0.71	0.71	0.09	0.45	0.68	0.19	0.73	0.53	0.17
Uniform Delay, d1	51.3	25.4		47.4	24.3	16.6	41.7	48.2	44.5	44.8	47.0	44.4
Progression Factor	0.84	1.05		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	1.2		4.2	2.7	0.2	1.4	7.0	0.4	12.3	1.9	0.4
Delay (s)	45.2	27.8		51.6	27.0	16.9	43.1	55.3	44.9	57.1	48.9	44.8
Level of Service	D	C		D	C	B	D	E	D	E	D	D
Approach Delay (s)		31.5			31.7			47.9			49.1	
Approach LOS		C			C			D			D	

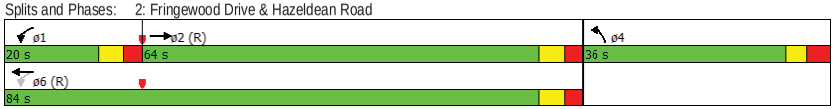
Intersection Summary				
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.8	
Intersection Capacity Utilization	75.7%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	795	45	128	1283	44	66
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	60.0		0.0	0.0
Storage Lanes		0	1		1	0
Taper Length (m)			25.0		25.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.992				0.919	
Flt Protected			0.950		0.980	
Satd. Flow (prot)	3363	0	1695	3390	1607	0
Flt Permitted			0.265		0.980	
Satd. Flow (perm)	3363	0	473	3390	1607	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7				60	
Link Speed (k/h)	60			60	40	
Link Distance (m)	189.6			258.1	101.9	
Travel Time (s)	11.4			15.5	9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	864	49	139	1395	48	72
Shared Lane Traffic (%)						
Lane Group Flow (vph)	913	0	139	1395	120	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			7.4	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2		1	2	1	
Detector Template	Thru		Left	Thru	Left	
Leading Detector (m)	30.5		6.1	30.5	6.1	
Trailing Detector (m)	0.0		0.0	0.0	0.0	
Detector 1 Position(m)	0.0		0.0	0.0	0.0	
Detector 1 Size(m)	1.8		6.1	1.8	6.1	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases			6			
Detector Phase	2		1	6	4	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	
Minimum Split (s)	36.3		11.4	24.0	35.6	
Total Split (s)	64.0		20.0	84.0	36.0	
Total Split (%)	53.3%		16.7%	70.0%	30.0%	
Maximum Green (s)	57.6		13.6	77.6	29.4	
Yellow Time (s)	3.7		3.7	3.7	3.0	
All-Red Time (s)	2.7		2.7	2.7	3.6	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.4		6.4	6.4	6.6	
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes					
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Min		None	C-Min	None	
Walk Time (s)	7.0				7.0	
Flash Dont Walk (s)	20.0				22.0	
Pedestrian Calls (#/hr)	0				0	
Act Effct Green (s)	82.6		96.7	96.7	10.3	
Actuated g/C Ratio	0.69		0.81	0.81	0.09	
v/c Ratio	0.39		0.30	0.51	0.62	
Control Delay	9.2		8.3	12.7	41.3	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	9.2		8.3	12.7	41.3	
LOS	A		A	B	D	
Approach Delay	9.2			12.3	41.3	
Approach LOS	A			B	D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 6 (5%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 55.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Fringewood Drive & Hazeldean Road



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	913	139	1395	120
v/c Ratio	0.39	0.30	0.51	0.62
Control Delay	9.2	8.3	12.7	41.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.2	8.3	12.7	41.3
Queue Length 50th (m)	42.6	13.8	108.4	13.7
Queue Length 95th (m)	67.8	m26.1	150.6	31.5
Internal Link Dist (m)	165.6		234.1	77.9
Turn Bay Length (m)		60.0		
Base Capacity (vph)	2316	519	2731	439
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.39	0.27	0.51	0.27

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	795	45	128	1283	44	66
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.4		6.4	6.4	6.6	
Lane Util. Factor	0.95		1.00	0.95	1.00	
Frt	0.99		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	3363		1695	3390	1608	
Flt Permitted	1.00		0.26	1.00	0.98	
Satd. Flow (perm)	3363		472	3390	1608	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	864	49	139	1395	48	72
RTOR Reduction (vph)	2	0	0	0	55	0
Lane Group Flow (vph)	911	0	139	1395	65	0
Turn Type	NA		pm+pt	NA	Prot	
Protected Phases	2		1	6	4	
Permitted Phases			6			
Actuated Green, G (s)	82.6		96.7	96.7	10.3	
Effective Green, g (s)	82.6		96.7	96.7	10.3	
Actuated g/C Ratio	0.69		0.81	0.81	0.09	
Clearance Time (s)	6.4		6.4	6.4	6.6	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	2314		458	2731	138	
v/s Ratio Prot	0.27		0.02	c0.41	c0.04	
v/s Ratio Perm			0.22			
v/c Ratio	0.39		0.30	0.51	0.47	
Uniform Delay, d1	8.0		3.5	3.8	52.3	
Progression Factor	1.00		2.42	2.85	1.00	
Incremental Delay, d2	0.5		0.3	0.5	2.5	
Delay (s)	8.5		8.7	11.5	54.8	
Level of Service	A		A	B	D	
Approach Delay (s)	8.5			11.2	54.8	
Approach LOS	A			B	D	

Intersection Summary

HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	55.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

B.2 2017 FUTURE BACKGROUND CONDITIONS

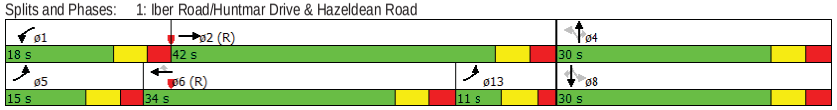
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	727	74	185	464	67	59	153	303	109	202	135
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	100.0		240.0	65.0		65.0	85.0		0.0
Storage Lanes	2		0	2		1	1		1	1		1
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3343	0	3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.950			0.950			0.521			0.648		
Satd. Flow (perm)	3288	3343	0	3288	3390	1517	930	1784	1517	1156	1784	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				200			303			200
Link Speed (k/h)		60			60			60			50	
Link Distance (m)		258.1			353.3			178.1			183.3	
Travel Time (s)		15.5			21.2			10.7			13.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	200	727	74	185	464	67	59	153	303	109	202	135
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	801	0	185	464	67	59	153	303	109	202	135
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	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	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	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	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5 13	2		1	6			4			8	
Permitted Phases						6	4		4	8		8
Detector Phase	5 13	2		1	6	6	4	4	4	8	8	8

Lane Group	ø5	ø13
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	5	13
Permitted Phases		
Detector Phase		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)		24.6		11.3	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)		42.0		18.0	34.0	34.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)		46.7%		20.0%	37.8%	37.8%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)		35.4		11.7	27.4	27.4	23.4	23.4	23.4	23.4	23.4	23.4
Yellow Time (s)		3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)		2.9		2.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag		Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode		C-Min		None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0			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	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0	0	0	0
Act Effct Green (s)	15.4	44.4		10.2	32.9	32.9	15.9	15.9	15.9	15.9	15.9	15.9
Actuated g/C Ratio	0.17	0.49		0.11	0.37	0.37	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.36	0.48		0.50	0.37	0.10	0.36	0.49	0.59	0.54	0.64	0.31
Control Delay	21.6	9.5		41.9	23.7	0.3	37.1	37.6	8.7	42.6	43.6	3.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	9.5		41.9	23.7	0.3	37.1	37.6	8.7	42.6	43.6	3.0
LOS	C	A		D	C	A	D	D	A	D	D	A
Approach Delay		11.9			26.2			20.6			31.1	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 87 (97%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 66.4%		ICU Level of Service C	
Analysis Period (min) 60			

Splits and Phases: 1: Iber Road/Huntmar Drive & Hazeldean Road



Lane Group	ø5	ø13
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.3	11.0
Total Split (s)	15.0	11.0
Total Split (%)	17%	12%
Maximum Green (s)	8.7	5.0
Yellow Time (s)	3.7	4.0
All-Red Time (s)	2.6	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	200	801	185	464	67	59	153	303	109	202	135
v/c Ratio	0.36	0.48	0.50	0.37	0.10	0.36	0.49	0.59	0.54	0.64	0.31
Control Delay	21.6	9.5	41.9	23.7	0.3	37.1	37.6	8.7	42.6	43.6	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	9.5	41.9	23.7	0.3	37.1	37.6	8.7	42.6	43.6	3.0
Queue Length 50th (m)	13.6	15.6	15.7	30.3	0.0	9.1	24.2	0.0	17.4	33.0	0.0
Queue Length 95th (m)	22.6	27.0	28.2	57.8	0.0	21.2	43.4	28.9	34.8	56.4	7.5
Internal Link Dist (m)		234.1		329.3			154.1			159.3	
Turn Bay Length (m)	60.0		100.0		240.0	65.0		65.0	85.0		
Base Capacity (vph)	612	1657	433	1268	692	241	463	618	300	463	542
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.48	0.43	0.37	0.10	0.24	0.33	0.49	0.36	0.44	0.25

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	727	74	185	464	67	59	153	303	109	202	135
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.3	6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3288	3343		3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.52	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	3288	3343		3288	3390	1517	930	1784	1517	1156	1784	1517
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	200	727	74	185	464	67	59	153	303	109	202	135
RTOR Reduction (vph)	0	7	0	0	0	43	0	0	249	0	0	111
Lane Group Flow (vph)	200	794	0	185	464	24	59	153	54	109	202	24
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5 13	2		1	6			4			8	
Permitted Phases						6	4		4	8		8
Actuated Green, G (s)	15.7	44.4		10.2	32.9	32.9	15.9	15.9	15.9	15.9	15.9	15.9
Effective Green, g (s)	15.7	44.4		10.2	32.9	32.9	15.9	15.9	15.9	15.9	15.9	15.9
Actuated g/C Ratio	0.17	0.49		0.11	0.37	0.37	0.18	0.18	0.18	0.18	0.18	0.18
Clearance Time (s)		6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	573	1649		372	1239	554	164	315	268	204	315	268
v/s Ratio Prot	0.06	c0.24		c0.06	c0.14			0.09			c0.11	
v/s Ratio Perm						0.02	0.06		0.04	0.09		0.02
v/c Ratio	0.35	0.48		0.50	0.37	0.04	0.36	0.49	0.20	0.53	0.64	0.09
Uniform Delay, d1	32.7	15.2		37.5	21.0	18.4	32.6	33.4	31.6	33.7	34.4	31.0
Progression Factor	1.17	0.52		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.9		1.1	0.9	0.2	1.4	1.2	0.4	2.7	4.5	0.1
Delay (s)	38.6	8.8		38.5	21.9	18.6	33.9	34.6	32.0	36.4	38.9	31.1
Level of Service	D	A		D	C	B	C	C	C	D	D	C
Approach Delay (s)		14.8			25.9			33.0			35.9	
Approach LOS		B			C			C			D	

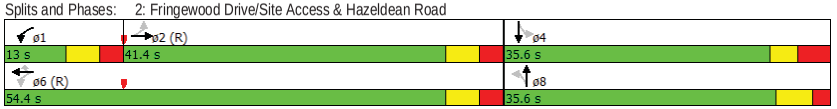
Intersection Summary				
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	25.5	
Intersection Capacity Utilization	66.4%	ICU Level of Service	C	
Analysis Period (min)	60			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	881	28	80	578	0	58	0	110	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	45.0		0.0	60.0		50.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995						0.912				
Flt Protected				0.950				0.983				
Satd. Flow (prot)	1784	3373	0	1695	3390	1784	0	1600	0	1784	1784	0
Flt Permitted				0.252				0.885				
Satd. Flow (perm)	1784	3373	0	450	3390	1784	0	1440	0	1784	1784	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4						119				
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		189.6			258.1			101.9			81.3	
Travel Time (s)		11.4			15.5			9.2			5.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	881	28	80	578	0	58	0	110	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	909	0	80	578	0	0	168	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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Perm	Perm	NA		Perm		
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	36.3	36.3		11.4	24.0	24.0	24.0	24.0		35.6	35.6	
Total Split (s)	41.4	41.4		13.0	54.4	54.4	35.6	35.6		35.6	35.6	
Total Split (%)	46.0%	46.0%		14.4%	60.4%	60.4%	39.6%	39.6%		39.6%	39.6%	
Maximum Green (s)	35.0	35.0		6.6	48.0	48.0	29.6	29.6		29.0	29.0	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.0	4.0		3.0	3.0	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.0	2.0		3.6	3.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4		6.0		6.6	6.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		None	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0					7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0					11.0	11.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)		57.3		68.0	68.0			9.6				
Actuated g/C Ratio		0.64		0.76	0.76			0.11				
v/c Ratio		0.42		0.19	0.23			0.65				
Control Delay		10.2		2.9	1.4			25.5				
Queue Delay		0.0		0.0	0.0			0.0				
Total Delay		10.2		2.9	1.4			25.5				
LOS		B		A	A			C				
Approach Delay		10.2			1.5			25.5				
Approach LOS		B			A			C				

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 8.4		Intersection LOS: A	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 60			

Splits and Phases: 2: Fringewood Drive/Site Access & Hazeldean Road



Lane Group	EBT	WBL	WBT	NBT
Lane Group Flow (vph)	909	80	578	168
v/c Ratio	0.42	0.19	0.23	0.65
Control Delay	10.2	2.9	1.4	25.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	10.2	2.9	1.4	25.5
Queue Length 50th (m)	38.3	0.9	3.7	8.1
Queue Length 95th (m)	77.7	5.3	7.1	31.8
Internal Link Dist (m)	165.6		234.1	77.9
Turn Bay Length (m)		60.0		
Base Capacity (vph)	2150	437	2562	553
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.18	0.23	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	881	28	80	578	0	58	0	110	0	0	0
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)		6.4		6.4	6.4			6.0				
Lane Util. Factor		0.95		1.00	0.95			1.00				
Frt		1.00		1.00	1.00			0.91				
Flt Protected		1.00		0.95	1.00			0.98				
Satd. Flow (prot)		3375		1695	3390			1599				
Flt Permitted		1.00		0.25	1.00			0.88				
Satd. Flow (perm)		3375		449	3390			1439				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	881	28	80	578	0	58	0	110	0	0	0
RTOR Reduction (vph)	0	2	0	0	0	0	0	106	0	0	0	0
Lane Group Flow (vph)	0	907	0	80	578	0	0	62	0	0	0	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm		
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)		56.0		68.0	68.0			9.6				
Effective Green, g (s)		56.0		68.0	68.0			9.6				
Actuated g/C Ratio		0.62		0.76	0.76			0.11				
Clearance Time (s)		6.4		6.4	6.4			6.0				
Vehicle Extension (s)		3.0		3.0	3.0			3.0				
Lane Grp Cap (vph)		2100		416	2561			153				
v/s Ratio Prot		c0.27		0.01	c0.17							
v/s Ratio Perm				0.13				c0.04				
v/c Ratio		0.43		0.19	0.23			0.40				
Uniform Delay, d1		8.8		3.8	3.2			37.5				
Progression Factor		1.00		0.55	0.32			1.00				
Incremental Delay, d2		0.7		0.2	0.2			1.7				
Delay (s)		9.4		2.3	1.2			39.3				
Level of Service		A		A	A			D				
Approach Delay (s)		9.4			1.4			39.3			0.0	
Approach LOS		A			A			D			A	

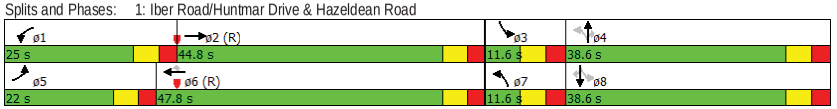
Intersection Summary					
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio	0.43				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	57.5%	ICU Level of Service		B	
Analysis Period (min)	60				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	223	753	66	378	1182	126	137	262	285	136	178	262
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	100.0		240.0	65.0		65.0	85.0		0.0
Storage Lanes	2		0	2		1	1		1	1		1
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3350	0	3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.950			0.950			0.535			0.347		
Satd. Flow (perm)	3288	3350	0	3288	3390	1517	955	1784	1517	619	1784	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				150			285			262
Link Speed (k/h)		60			60			60			50	
Link Distance (m)		258.1			353.3			178.1			183.3	
Travel Time (s)		15.5			21.2			10.7			13.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	223	753	66	378	1182	126	137	262	285	136	178	262
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	819	0	378	1182	126	137	262	285	136	178	262
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	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	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	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	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6	4		4	8		8
Detector Phase	5	2		1	6	6	7	4	4	3	8	8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	34.3		11.3	34.3	34.3	11.6	38.6	38.6	11.6	38.6	38.6
Total Split (s)	22.0	44.8		25.0	47.8	47.8	11.6	38.6	38.6	11.6	38.6	38.6
Total Split (%)	18.3%	37.3%		20.8%	39.8%	39.8%	9.7%	32.2%	32.2%	9.7%	32.2%	32.2%
Maximum Green (s)	15.7	38.5		18.7	41.5	41.5	5.0	32.0	32.0	5.0	32.0	32.0
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		21.0			21.0	21.0		25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	13.2	47.7		18.0	52.5	52.5	28.5	23.5	23.5	28.5	23.5	23.5
Actuated g/C Ratio	0.11	0.40		0.15	0.44	0.44	0.24	0.20	0.20	0.24	0.20	0.20
v/c Ratio	0.62	0.61		0.77	0.80	0.17	0.53	0.75	0.54	0.71	0.51	0.52
Control Delay	56.4	32.6		60.7	35.8	3.1	42.2	59.7	8.3	57.7	47.3	8.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	32.6		60.7	35.8	3.1	42.2	59.7	8.3	57.7	47.3	8.2
LOS	E	C		E	D	A	D	E	A	E	D	A
Approach Delay		37.7			38.9			34.8			32.0	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 81 (68%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 36.9		Intersection LOS: D	
Intersection Capacity Utilization 85.2%		ICU Level of Service E	
Analysis Period (min) 60			

Splits and Phases: 1: Iber Road/Huntmar Drive & Hazeldean Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	223	819	378	1182	126	137	262	285	136	178	262
v/c Ratio	0.62	0.61	0.77	0.80	0.17	0.53	0.75	0.54	0.71	0.51	0.52
Control Delay	56.4	32.6	60.7	35.8	3.1	42.2	59.7	8.3	57.7	47.3	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	32.6	60.7	35.8	3.1	42.2	59.7	8.3	57.7	47.3	8.2
Queue Length 50th (m)	25.6	50.0	44.1	125.1	0.0	24.7	58.5	0.0	24.5	37.6	0.0
Queue Length 95th (m)	45.6	142.5	#73.9	#233.6	12.4	42.2	91.9	32.1	#43.8	62.2	30.2
Internal Link Dist (m)		234.1		329.3			154.1			159.3	
Turn Bay Length (m)	60.0		100.0		240.0	65.0		65.0	85.0		
Base Capacity (vph)	432	1337	527	1484	748	257	475	613	191	475	596
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.61	0.72	0.80	0.17	0.53	0.55	0.46	0.71	0.37	0.44

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	223	753	66	378	1182	126	137	262	285	136	178	262
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3288	3349		3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.54	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	3288	3349		3288	3390	1517	955	1784	1517	620	1784	1517
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	223	753	66	378	1182	126	137	262	285	136	178	262
RTOR Reduction (vph)	0	5	0	0	0	71	0	0	229	0	0	211
Lane Group Flow (vph)	223	814	0	378	1182	55	137	262	56	136	178	51
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6	4		4	8		8
Actuated Green, G (s)	13.2	47.7		18.0	52.5	52.5	28.5	23.5	23.5	28.5	23.5	23.5
Effective Green, g (s)	13.2	47.7		18.0	52.5	52.5	28.5	23.5	23.5	28.5	23.5	23.5
Actuated g/C Ratio	0.11	0.40		0.15	0.44	0.44	0.24	0.20	0.20	0.24	0.20	0.20
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	361	1331		493	1483	663	257	349	297	192	349	297
v/s Ratio Prot	0.07	0.24		c0.11	c0.35		0.02	c0.15		c0.03	0.10	
v/s Ratio Perm						0.04	0.10		0.04	0.14		0.03
v/c Ratio	0.62	0.61		0.77	0.80	0.08	0.53	0.75	0.19	0.71	0.51	0.17
Uniform Delay, d1	51.0	28.8		49.0	29.1	19.7	39.6	45.5	40.3	41.9	43.1	40.2
Progression Factor	0.97	1.01		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	2.0		7.4	4.7	0.2	2.1	9.3	0.3	12.0	1.3	0.3
Delay (s)	52.2	31.0		56.3	33.9	19.9	41.7	54.8	40.6	53.9	44.4	40.4
Level of Service	D	C		E	C	B	D	D	D	D	D	D
Approach Delay (s)		35.5			37.9			46.2			44.8	
Approach LOS		D			D			D			D	

Intersection Summary

HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.8
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	64	813	71	189	1322	70	97	6	88	84	5	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	45.0		0.0	60.0		50.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988				0.850		0.938			0.881	
Flt Protected	0.950			0.950				0.975		0.950		
Satd. Flow (prot)	1695	3350	0	1695	3390	1517	0	1632	0	1695	1572	0
Flt Permitted	0.208			0.253				0.827		0.568		
Satd. Flow (perm)	371	3350	0	451	3390	1517	0	1384	0	1013	1572	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				65		34			19	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		189.6			258.1			101.9			100.7	
Travel Time (s)		11.4			15.5			9.2			7.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	813	71	189	1322	70	97	6	88	84	5	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	884	0	189	1322	70	0	191	0	84	24	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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	36.3	36.3		11.4	24.0	24.0	24.0	24.0		35.6	35.6	
Total Split (s)	62.8	62.8		21.6	84.4	84.4	35.6	35.6		35.6	35.6	
Total Split (%)	52.3%	52.3%		18.0%	70.3%	70.3%	29.7%	29.7%		29.7%	29.7%	
Maximum Green (s)	56.4	56.4		15.2	78.0	78.0	29.6	29.6		29.0	29.0	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	4.0	4.0		3.0	3.0	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.0	2.0		3.6	3.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4		6.0		6.6	6.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		None	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0					7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0					11.0	11.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	72.2	72.2		88.4	88.4	88.4		19.2		18.6	18.6	
Actuated g/C Ratio	0.60	0.60		0.74	0.74	0.74		0.16		0.16	0.16	
v/c Ratio	0.29	0.44		0.44	0.53	0.06		0.76		0.54	0.09	
Control Delay	19.1	14.9		6.0	3.0	0.1		60.6		58.1	19.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	19.1	14.9		6.0	3.0	0.1		60.6		58.1	19.3	
LOS	B	B		A	A	A		E		E	B	
Approach Delay		15.2			3.2			60.6			49.5	
Approach LOS		B			A			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 12.9		Intersection LOS: B	
Intersection Capacity Utilization 76.8%		ICU Level of Service D	
Analysis Period (min) 60			

Splits and Phases: 2: Fringewood Drive/Site Access & Hazeldean Road

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	64	884	189	1322	70	191	84	24
v/c Ratio	0.29	0.44	0.44	0.53	0.06	0.76	0.54	0.09
Control Delay	19.1	14.9	6.0	3.0	0.1	60.6	58.1	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	14.9	6.0	3.0	0.1	60.6	58.1	19.3
Queue Length 50th (m)	6.8	54.7	4.4	17.4	0.1	36.0	18.4	1.0
Queue Length 95th (m)	24.5	104.3	m8.1	16.5	m0.0	66.1	36.7	9.3
Internal Link Dist (m)		165.6		234.1		77.9		76.7
Turn Bay Length (m)	45.0		60.0		50.0			
Base Capacity (vph)	223	2019	489	2496	1134	367	244	394
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	0.29	0.44	0.39	0.53	0.06	0.52	0.34	0.06

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	64	813	71	189	1322	70	97	6	88	84	5	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4		6.0		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.94		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1695	3349		1695	3390	1517		1632		1695	1572	
Flt Permitted	0.21	1.00		0.25	1.00	1.00		0.83		0.57	1.00	
Satd. Flow (perm)	370	3349		452	3390	1517		1384		1014	1572	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	813	71	189	1322	70	97	6	88	84	5	19
RTOR Reduction (vph)	0	4	0	0	0	17	0	29	0	0	16	0
Lane Group Flow (vph)	64	880	0	189	1322	53	0	162	0	84	8	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	72.2	72.2		88.4	88.4	88.4		19.2		18.6	18.6	
Effective Green, g (s)	72.2	72.2		88.4	88.4	88.4		19.2		18.6	18.6	
Actuated g/C Ratio	0.60	0.60		0.74	0.74	0.74		0.16		0.16	0.16	
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4		6.0		6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	222	2014		434	2497	1117		221		157	243	
v/s Ratio Prot		0.26		0.04	c0.39						0.01	
v/s Ratio Perm	0.17			0.28		0.03		c0.12		0.08		
v/c Ratio	0.29	0.44		0.44	0.53	0.05		0.74		0.54	0.03	
Uniform Delay, d1	11.5	12.9		6.4	6.8	4.3		48.0		46.7	43.1	
Progression Factor	1.00	1.00		0.68	0.32	0.03		1.00		1.00	1.00	
Incremental Delay, d2	3.3	0.7		0.5	0.6	0.1		12.8		3.5	0.1	
Delay (s)	14.8	13.6		4.8	2.7	0.2		60.8		50.2	43.1	
Level of Service	B	B		A	A	A		E		D	D	
Approach Delay (s)		13.7			2.9			60.8			48.7	
Approach LOS		B			A			E			D	

Intersection Summary

HCM 2000 Control Delay	12.1	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.61				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	76.8%	ICU Level of Service		D	
Analysis Period (min)	60				

c Critical Lane Group

B.3 2017 TOTAL FUTURE CONDITIONS

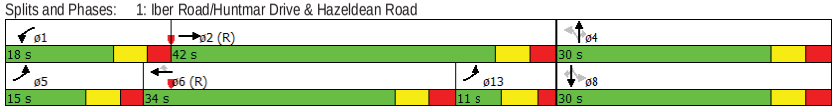
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	205	735	74	185	484	67	59	153	303	109	202	148
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	100.0		240.0	65.0		65.0	85.0		0.0
Storage Lanes	2		0	2		1	1		1	1		1
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3343	0	3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.950			0.950			0.521			0.648		
Satd. Flow (perm)	3288	3343	0	3288	3390	1517	930	1784	1517	1156	1784	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				200			303			200
Link Speed (k/h)		60			60			60			50	
Link Distance (m)		258.1			353.3			178.1			183.3	
Travel Time (s)		15.5			21.2			10.7			13.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	735	74	185	484	67	59	153	303	109	202	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	205	809	0	185	484	67	59	153	303	109	202	148
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	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	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	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	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5 13	2		1	6			4			8	
Permitted Phases						6	4		4	8		8
Detector Phase	5 13	2		1	6	6	4	4	4	8	8	8

Lane Group	ø5	ø13
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	5	13
Permitted Phases		
Detector Phase		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)		24.6		11.3	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)		42.0		18.0	34.0	34.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)		46.7%		20.0%	37.8%	37.8%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)		35.4		11.7	27.4	27.4	23.4	23.4	23.4	23.4	23.4	23.4
Yellow Time (s)		3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)		2.9		2.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag		Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode		C-Min		None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0			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	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0	0	0	0
Act Effct Green (s)	15.4	44.4		10.2	32.9	32.9	15.9	15.9	15.9	15.9	15.9	15.9
Actuated g/C Ratio	0.17	0.49		0.11	0.37	0.37	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.36	0.49		0.50	0.39	0.10	0.36	0.49	0.59	0.54	0.64	0.34
Control Delay	21.3	9.7		41.9	23.8	0.3	37.1	37.6	8.7	42.6	43.6	3.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	9.7		41.9	23.8	0.3	37.1	37.6	8.7	42.6	43.6	3.8
LOS	C	A		D	C	A	D	D	A	D	D	A
Approach Delay		12.0			26.2			20.6			30.6	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 85 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 20.6		Intersection LOS: C	
Intersection Capacity Utilization 66.6%		ICU Level of Service C	
Analysis Period (min) 60			

Splits and Phases: 1: Iber Road/Huntmar Drive & Hazeldean Road



Lane Group	ø5	ø13
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.3	11.0
Total Split (s)	15.0	11.0
Total Split (%)	17%	12%
Maximum Green (s)	8.7	5.0
Yellow Time (s)	3.7	4.0
All-Red Time (s)	2.6	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	205	809	185	484	67	59	153	303	109	202	148
v/c Ratio	0.36	0.49	0.50	0.39	0.10	0.36	0.49	0.59	0.54	0.64	0.34
Control Delay	21.3	9.7	41.9	23.8	0.3	37.1	37.6	8.7	42.6	43.6	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	9.7	41.9	23.8	0.3	37.1	37.6	8.7	42.6	43.6	3.8
Queue Length 50th (m)	13.7	16.7	15.7	31.8	0.0	9.1	24.2	0.0	17.4	33.0	0.0
Queue Length 95th (m)	23.1	28.9	28.2	59.7	0.0	21.2	43.4	28.9	34.8	56.4	10.2
Internal Link Dist (m)		234.1		329.3			154.1			159.3	
Turn Bay Length (m)	60.0		100.0		240.0	65.0		65.0	85.0		
Base Capacity (vph)	610	1657	433	1262	690	241	463	618	300	463	542
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.49	0.43	0.38	0.10	0.24	0.33	0.49	0.36	0.44	0.27

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	205	735	74	185	484	67	59	153	303	109	202	148
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.3	6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3288	3344		3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.52	1.00	1.00	0.65	1.00	1.00
Satd. Flow (perm)	3288	3344		3288	3390	1517	930	1784	1517	1156	1784	1517
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	735	74	185	484	67	59	153	303	109	202	148
RTOR Reduction (vph)	0	7	0	0	0	43	0	0	249	0	0	122
Lane Group Flow (vph)	205	802	0	185	484	24	59	153	54	109	202	26
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5 13	2		1	6			4			8	
Permitted Phases						6	4		4	8		8
Actuated Green, G (s)	15.7	44.4		10.2	32.9	32.9	15.9	15.9	15.9	15.9	15.9	15.9
Effective Green, g (s)	15.7	44.4		10.2	32.9	32.9	15.9	15.9	15.9	15.9	15.9	15.9
Actuated g/C Ratio	0.17	0.49		0.11	0.37	0.37	0.18	0.18	0.18	0.18	0.18	0.18
Clearance Time (s)		6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	573	1649		372	1239	554	164	315	268	204	315	268
v/s Ratio Prot	0.06	c0.24		c0.06	c0.14			0.09			c0.11	
v/s Ratio Perm						0.02	0.06		0.04	0.09		0.02
v/c Ratio	0.36	0.49		0.50	0.39	0.04	0.36	0.49	0.20	0.53	0.64	0.10
Uniform Delay, d1	32.7	15.2		37.5	21.1	18.4	32.6	33.4	31.6	33.7	34.4	31.0
Progression Factor	1.14	0.53		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	1.0		1.1	0.9	0.2	1.4	1.2	0.4	2.7	4.5	0.2
Delay (s)	37.8	9.0		38.5	22.1	18.6	33.9	34.6	32.0	36.4	38.9	31.2
Level of Service	D	A		D	C	B	C	C	C	D	D	C
Approach Delay (s)		14.8			25.9			33.0			35.8	
Approach LOS		B			C			C			D	

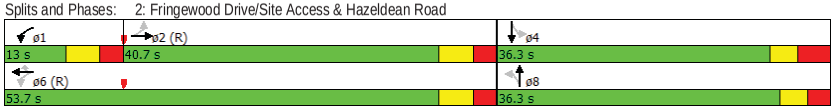
Intersection Summary				
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	25.5	
Intersection Capacity Utilization	66.6%	ICU Level of Service	C	
Analysis Period (min)	60			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	881	28	80	578	33	58	5	110	13	5	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	45.0		0.0	60.0		50.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995				0.850		0.914			0.957	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1695	3373	0	1695	3390	1517	0	1605	0	1695	1708	0
Flt Permitted	0.434			0.250				0.886		0.469		
Satd. Flow (perm)	774	3373	0	446	3390	1517	0	1445	0	837	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				44		106			2	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		189.6			258.1			101.9			99.2	
Travel Time (s)		11.4			15.5			9.2			7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	881	28	80	578	33	58	5	110	13	5	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	909	0	80	578	33	0	173	0	13	7	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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	36.3	36.3		11.4	24.0	24.0	24.4	24.4		36.3	36.3	
Total Split (s)	40.7	40.7		13.0	53.7	53.7	36.3	36.3		36.3	36.3	
Total Split (%)	45.2%	45.2%		14.4%	59.7%	59.7%	40.3%	40.3%		40.3%	40.3%	
Maximum Green (s)	34.3	34.3		6.6	47.3	47.3	30.7	30.7		29.7	29.7	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.6	2.6		3.6	3.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4		5.6		6.6	6.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		None	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0					7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0					11.0	11.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	56.7	56.7		67.5	67.5	67.5		10.5		9.5	9.5	
Actuated g/C Ratio	0.63	0.63		0.75	0.75	0.75		0.12		0.11	0.11	
v/c Ratio	0.01	0.43		0.19	0.23	0.03		0.66		0.15	0.04	
Control Delay	9.5	10.7		3.0	1.5	0.2		28.5		37.5	29.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	9.5	10.7		3.0	1.5	0.2		28.5		37.5	29.3	
LOS	A	B		A	A	A		C		D	C	
Approach Delay		10.7			1.6			28.5			34.6	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 88 (98%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 64.1%		ICU Level of Service C	
Analysis Period (min) 60			

Splits and Phases: 2: Fringewood Drive/Site Access & Hazeldean Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	4	909	80	578	33	173	13	7
v/c Ratio	0.01	0.43	0.19	0.23	0.03	0.66	0.15	0.04
Control Delay	9.5	10.7	3.0	1.5	0.2	28.5	37.5	29.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.5	10.7	3.0	1.5	0.2	28.5	37.5	29.3
Queue Length 50th (m)	0.2	39.4	1.0	4.0	0.0	11.0	2.1	0.8
Queue Length 95th (m)	2.1	79.6	5.5	9.4	m0.4	35.2	7.8	4.8
Internal Link Dist (m)		165.6		234.1		77.9		75.2
Turn Bay Length (m)	45.0		60.0		50.0			
Base Capacity (vph)	487	2128	432	2541	1148	562	276	564
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	0.43	0.19	0.23	0.03	0.31	0.05	0.01

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	881	28	80	578	33	58	5	110	13	5	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4		5.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1695	3375		1695	3390	1517		1604		1695	1708	
Flt Permitted	0.43	1.00		0.25	1.00	1.00		0.89		0.47	1.00	
Satd. Flow (perm)	775	3375		447	3390	1517		1444		836	1708	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	881	28	80	578	33	58	5	110	13	5	2
RTOR Reduction (vph)	0	2	0	0	0	8	0	94	0	0	2	0
Lane Group Flow (vph)	4	907	0	80	578	25	0	79	0	13	5	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	55.5	55.5		67.5	67.5	67.5		10.5		9.5	9.5	
Effective Green, g (s)	55.5	55.5		67.5	67.5	67.5		10.5		9.5	9.5	
Actuated g/C Ratio	0.62	0.62		0.75	0.75	0.75		0.12		0.11	0.11	
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4		5.6		6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	477	2081		412	2542	1137		168		88	180	
v/s Ratio Prot		c0.27		0.01	c0.17						0.00	
v/s Ratio Perm	0.01			0.13		0.02		c0.05		0.02		
v/c Ratio	0.01	0.44		0.19	0.23	0.02		0.47		0.15	0.03	
Uniform Delay, d1	6.6	9.0		4.0	3.4	2.9		37.2		36.6	36.1	
Progression Factor	1.00	1.00		0.54	0.35	0.12		1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.7		0.2	0.2	0.0		2.1		0.8	0.1	
Delay (s)	6.7	9.7		2.4	1.4	0.4		39.3		37.4	36.2	
Level of Service	A	A		A	A	A		D		D	D	
Approach Delay (s)		9.7			1.4			39.3			36.9	
Approach LOS		A			A			D			D	

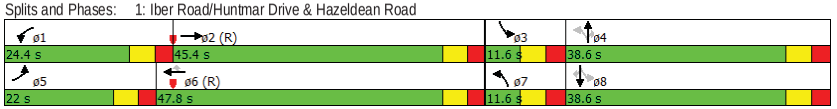
Intersection Summary					
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service		A	
HCM 2000 Volume to Capacity ratio	0.44				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	64.1%	ICU Level of Service		C	
Analysis Period (min)	60				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	241	787	66	373	1207	126	137	262	285	136	178	253
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	100.0		240.0	65.0		65.0	85.0		0.0
Storage Lanes	2		0	2		1	1		1	1		1
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3350	0	3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.950			0.950			0.535			0.347		
Satd. Flow (perm)	3288	3350	0	3288	3390	1517	955	1784	1517	619	1784	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				150			285			253
Link Speed (k/h)		60			60			60			50	
Link Distance (m)		258.1			353.3			178.1			183.3	
Travel Time (s)		15.5			21.2			10.7			13.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	241	787	66	373	1207	126	137	262	285	136	178	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	241	853	0	373	1207	126	137	262	285	136	178	253
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	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	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	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	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6	4		4	8		8
Detector Phase	5	2		1	6	6	7	4	4	3	8	8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	34.3		11.3	34.3	34.3	11.6	38.6	38.6	11.6	38.6	38.6
Total Split (s)	22.0	45.4		24.4	47.8	47.8	11.6	38.6	38.6	11.6	38.6	38.6
Total Split (%)	18.3%	37.8%		20.3%	39.8%	39.8%	9.7%	32.2%	32.2%	9.7%	32.2%	32.2%
Maximum Green (s)	15.7	39.1		18.1	41.5	41.5	5.0	32.0	32.0	5.0	32.0	32.0
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		21.0			21.0	21.0		25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	13.6	47.9		17.8	52.1	52.1	28.5	23.5	23.5	28.5	23.5	23.5
Actuated g/C Ratio	0.11	0.40		0.15	0.43	0.43	0.24	0.20	0.20	0.24	0.20	0.20
v/c Ratio	0.65	0.64		0.77	0.82	0.17	0.53	0.75	0.54	0.71	0.51	0.51
Control Delay	55.1	32.2		60.9	37.3	3.1	42.2	59.7	8.3	57.7	47.3	8.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	32.2		60.9	37.3	3.1	42.2	59.7	8.3	57.7	47.3	8.2
LOS	E	C		E	D	A	D	E	A	E	D	A
Approach Delay		37.3			39.9			34.8			32.3	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 10 (8%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 37.3		Intersection LOS: D	
Intersection Capacity Utilization 86.5%		ICU Level of Service E	
Analysis Period (min) 60			

Splits and Phases: 1: Iber Road/Huntmar Drive & Hazeldean Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	241	853	373	1207	126	137	262	285	136	178	253
v/c Ratio	0.65	0.64	0.77	0.82	0.17	0.53	0.75	0.54	0.71	0.51	0.51
Control Delay	55.1	32.2	60.9	37.3	3.1	42.2	59.7	8.3	57.7	47.3	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	32.2	60.9	37.3	3.1	42.2	59.7	8.3	57.7	47.3	8.2
Queue Length 50th (m)	27.0	54.3	43.5	130.4	0.0	24.7	58.5	0.0	24.5	37.6	0.0
Queue Length 95th (m)	46.9	#150.5	#74.4	#240.8	12.4	42.2	91.9	32.1	#43.8	62.2	29.3
Internal Link Dist (m)		234.1		329.3			154.1			159.3	
Turn Bay Length (m)	60.0		100.0		240.0	65.0		65.0	85.0		
Base Capacity (vph)	432	1343	516	1471	743	257	475	613	191	475	590
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.64	0.72	0.82	0.17	0.53	0.55	0.46	0.71	0.37	0.43

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	241	787	66	373	1207	126	137	262	285	136	178	253
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3288	3351		3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.54	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	3288	3351		3288	3390	1517	955	1784	1517	620	1784	1517
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	241	787	66	373	1207	126	137	262	285	136	178	253
RTOR Reduction (vph)	0	5	0	0	0	71	0	0	229	0	0	203
Lane Group Flow (vph)	241	848	0	373	1207	55	137	262	56	136	178	50
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6	4		4	8		8
Actuated Green, G (s)	13.6	47.9		17.8	52.1	52.1	28.5	23.5	23.5	28.5	23.5	23.5
Effective Green, g (s)	13.6	47.9		17.8	52.1	52.1	28.5	23.5	23.5	28.5	23.5	23.5
Actuated g/C Ratio	0.11	0.40		0.15	0.43	0.43	0.24	0.20	0.20	0.24	0.20	0.20
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	372	1337		487	1471	658	257	349	297	192	349	297
v/s Ratio Prot	0.07	0.25		c0.11	c0.36		0.02	c0.15		c0.03	0.10	
v/s Ratio Perm						0.04	0.10		0.04	0.14		0.03
v/c Ratio	0.65	0.63		0.77	0.82	0.08	0.53	0.75	0.19	0.71	0.51	0.17
Uniform Delay, d1	50.9	29.0		49.1	29.8	19.9	39.6	45.5	40.3	41.9	43.1	40.1
Progression Factor	0.93	0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	2.1		7.4	5.5	0.2	2.1	9.3	0.3	12.0	1.3	0.3
Delay (s)	51.1	30.6		56.5	35.3	20.2	41.7	54.8	40.6	53.9	44.4	40.4
Level of Service	D	C		E	D	C	D	D	D	D	D	D
Approach Delay (s)		35.1			38.9			46.2			44.9	
Approach LOS		D			D			D			D	

Intersection Summary

HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.8
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	813	71	189	1322	107	97	6	88	136	5	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	45.0		0.0	60.0		50.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988				0.850		0.938			0.870	
Flt Protected	0.950			0.950				0.975		0.950		
Satd. Flow (prot)	1695	3350	0	1695	3390	1517	0	1632	0	1695	1552	0
Flt Permitted	0.208			0.250				0.820		0.580		
Satd. Flow (perm)	371	3350	0	446	3390	1517	0	1372	0	1035	1552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				100		34			32	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		189.6			258.1			101.9			102.2	
Travel Time (s)		11.4			15.5			9.2			7.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	73	813	71	189	1322	107	97	6	88	136	5	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	884	0	189	1322	107	0	191	0	136	37	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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	36.3	36.3		11.4	24.0	24.0	24.6	24.6		35.6	35.6	
Total Split (s)	66.4	66.4		18.0	84.4	84.4	35.6	35.6		35.6	35.6	
Total Split (%)	55.3%	55.3%		15.0%	70.3%	70.3%	29.7%	29.7%		29.7%	29.7%	
Maximum Green (s)	60.0	60.0		11.6	78.0	78.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	3.6	3.6		3.6	3.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4		6.6		6.6	6.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		None	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0					7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0					11.0	11.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	70.9	70.9		86.8	86.8	86.8		20.2		20.2	20.2	
Actuated g/C Ratio	0.59	0.59		0.72	0.72	0.72		0.17		0.17	0.17	
v/c Ratio	0.33	0.45		0.45	0.54	0.10		0.74		0.78	0.13	
Control Delay	21.1	15.6		5.8	4.9	0.3		56.2		80.2	15.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	21.1	15.6		5.8	4.9	0.3		56.2		80.2	15.4	
LOS	C	B		A	A	A		E		F	B	
Approach Delay		16.1			4.7			56.2			66.4	
Approach LOS		B			A			E			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 48 (40%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 15.4		Intersection LOS: B	
Intersection Capacity Utilization 77.4%		ICU Level of Service D	
Analysis Period (min) 60			

Splits and Phases: 2: Fringewood Drive/Site Access & Hazeldean Road

Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	73	884	189	1322	107	191	136	37
v/c Ratio	0.33	0.45	0.45	0.54	0.10	0.74	0.78	0.13
Control Delay	21.1	15.6	5.8	4.9	0.3	56.2	80.2	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	15.6	5.8	4.9	0.3	56.2	80.2	15.4
Queue Length 50th (m)	8.3	57.0	5.0	19.9	0.2	35.6	31.0	1.0
Queue Length 95th (m)	28.7	104.3	m5.8	m183.5	m0.6	65.2	56.4	11.2
Internal Link Dist (m)		165.6		234.1		77.9		78.2
Turn Bay Length (m)	45.0		60.0		50.0			
Base Capacity (vph)	219	1982	443	2450	1124	357	250	399
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	0.33	0.45	0.43	0.54	0.10	0.54	0.54	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	813	71	189	1322	107	97	6	88	136	5	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4		6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.94		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1695	3349		1695	3390	1517		1632		1695	1553	
Flt Permitted	0.21	1.00		0.25	1.00	1.00		0.82		0.58	1.00	
Satd. Flow (perm)	370	3349		447	3390	1517		1373		1035	1553	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	73	813	71	189	1322	107	97	6	88	136	5	32
RTOR Reduction (vph)	0	5	0	0	0	28	0	28	0	0	27	0
Lane Group Flow (vph)	73	879	0	189	1322	79	0	163	0	136	10	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	70.9	70.9		86.8	86.8	86.8		20.2		20.2	20.2	
Effective Green, g (s)	70.9	70.9		86.8	86.8	86.8		20.2		20.2	20.2	
Actuated g/C Ratio	0.59	0.59		0.72	0.72	0.72		0.17		0.17	0.17	
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4		6.6		6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	218	1978		422	2452	1097		231		174	261	
v/s Ratio Prot		0.26		0.04	c0.39						0.01	
v/s Ratio Perm	0.20			0.29		0.05		0.12		c0.13		
v/c Ratio	0.33	0.44		0.45	0.54	0.07		0.70		0.78	0.04	
Uniform Delay, d1	12.5	13.6		7.0	7.5	4.8		47.1		47.8	41.8	
Progression Factor	1.00	1.00		0.55	0.51	0.11		1.00		1.00	1.00	
Incremental Delay, d2	4.1	0.7		0.5	0.6	0.1		9.8		22.8	0.1	
Delay (s)	16.7	14.4		4.4	4.4	0.6		56.9		70.6	41.8	
Level of Service	B	B		A	A	A		E		E	D	
Approach Delay (s)		14.5			4.1			56.9			64.5	
Approach LOS		B			A			E			E	

Intersection Summary					
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.62				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	77.4%	ICU Level of Service		D	
Analysis Period (min)	60				
c Critical Lane Group					

B.4 2022 ULTIMATE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	223	804	82	200	527	74	65	165	332	120	214	160
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	100.0		240.0	65.0		65.0	85.0		0.0
Storage Lanes	2		0	2		1	1		1	1		1
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3343	0	3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.950			0.950			0.501			0.621		
Satd. Flow (perm)	3288	3343	0	3288	3390	1517	894	1784	1517	1108	1784	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14				200			306			200
Link Speed (k/h)		60			60			60			50	
Link Distance (m)		258.1			353.3			178.1			183.3	
Travel Time (s)		15.5			21.2			10.7			13.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	223	804	82	200	527	74	65	165	332	120	214	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	886	0	200	527	74	65	165	332	120	214	160
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	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	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	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	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5 13	2		1	6			4			8	
Permitted Phases						6	4		4	8		8
Detector Phase	5 13	2		1	6	6	4	4	4	8	8	8

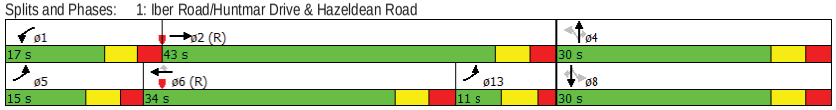
Lane Group	ø5	ø13
Lane Configurations		
Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (m)		
Storage Lanes		
Taper Length (m)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (k/h)		
Link Distance (m)		
Travel Time (s)		
Peak Hour Factor		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(m)		
Link Offset(m)		
Crosswalk Width(m)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (k/h)		
Number of Detectors		
Detector Template		
Leading Detector (m)		
Trailing Detector (m)		
Detector 1 Position(m)		
Detector 1 Size(m)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(m)		
Detector 2 Size(m)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	5	13
Permitted Phases		
Detector Phase		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)		5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)		24.6		11.3	24.6	24.6	24.6	24.6	24.6	24.6	24.6	24.6
Total Split (s)		43.0		17.0	34.0	34.0	30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)		47.8%		18.9%	37.8%	37.8%	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)		36.4		10.7	27.4	27.4	23.4	23.4	23.4	23.4	23.4	23.4
Yellow Time (s)		3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)		2.9		2.6	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag		Lag		Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode		C-Min		None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0			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	11.0
Pedestrian Calls (#/hr)		0			0	0	0	0	0	0	0	0
Act Effct Green (s)	15.3	43.7		10.1	32.2	32.2	16.7	16.7	16.7	16.7	16.7	16.7
Actuated g/C Ratio	0.17	0.49		0.11	0.36	0.36	0.19	0.19	0.19	0.19	0.19	0.19
v/c Ratio	0.40	0.54		0.54	0.43	0.11	0.39	0.50	0.63	0.59	0.65	0.36
Control Delay	21.6	10.3		43.4	24.8	0.3	37.7	37.2	10.7	44.6	42.9	4.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	10.3		43.4	24.8	0.3	37.7	37.2	10.7	44.6	42.9	4.4
LOS	C	B		D	C	A	D	D	B	D	D	A
Approach Delay		12.6			27.2			21.6			30.9	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 88 (98%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 21.3 Intersection LOS: C
Intersection Capacity Utilization 71.4% ICU Level of Service C
Analysis Period (min) 60

Splits and Phases: 1: Iber Road/Huntmar Drive & Hazeldean Road



Lane Group	ø5	ø13
Switch Phase		
Minimum Initial (s)	5.0	5.0
Minimum Split (s)	11.3	11.0
Total Split (s)	15.0	11.0
Total Split (%)	17%	12%
Maximum Green (s)	8.7	5.0
Yellow Time (s)	3.7	4.0
All-Red Time (s)	2.6	2.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag	Lead	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	None	None
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	223	886	200	527	74	65	165	332	120	214	160
v/c Ratio	0.40	0.54	0.54	0.43	0.11	0.39	0.50	0.63	0.59	0.65	0.36
Control Delay	21.6	10.3	43.4	24.8	0.3	37.7	37.2	10.7	44.6	42.9	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	10.3	43.4	24.8	0.3	37.7	37.2	10.7	44.6	42.9	4.4
Queue Length 50th (m)	15.1	18.1	17.0	36.6	0.0	9.9	25.8	3.8	19.1	34.5	0.0
Queue Length 95th (m)	23.1	31.5	30.9	64.4	0.0	22.9	46.0	36.3	38.0	58.9	12.6
Internal Link Dist (m)		234.1		329.3			154.1			159.3	
Turn Bay Length (m)	60.0		100.0		240.0	65.0		65.0	85.0		
Base Capacity (vph)	601	1631	400	1228	676	232	463	620	288	463	542
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.54	0.50	0.43	0.11	0.28	0.36	0.54	0.42	0.46	0.30

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	223	804	82	200	527	74	65	165	332	120	214	160
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.3	6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3288	3343		3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.50	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	3288	3343		3288	3390	1517	894	1784	1517	1109	1784	1517
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	223	804	82	200	527	74	65	165	332	120	214	160
RTOR Reduction (vph)	0	7	0	0	0	48	0	0	249	0	0	130
Lane Group Flow (vph)	223	879	0	200	527	26	65	165	83	120	214	30
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5 13	2		1	6			4			8	
Permitted Phases						6	4		4	8		8
Actuated Green, G (s)	15.7	43.7		10.1	32.1	32.1	16.7	16.7	16.7	16.7	16.7	16.7
Effective Green, g (s)	15.7	43.7		10.1	32.1	32.1	16.7	16.7	16.7	16.7	16.7	16.7
Actuated g/C Ratio	0.17	0.49		0.11	0.36	0.36	0.19	0.19	0.19	0.19	0.19	0.19
Clearance Time (s)		6.6		6.3	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)		3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	573	1623		368	1209	541	165	331	281	205	331	281
v/s Ratio Prot	0.07	c0.26		c0.06	0.16			0.09			c0.12	
v/s Ratio Perm						0.02	0.07		0.05	0.11		0.02
v/c Ratio	0.39	0.54		0.54	0.44	0.05	0.39	0.50	0.29	0.59	0.65	0.11
Uniform Delay, d1	32.9	16.2		37.8	22.1	19.0	32.2	32.9	31.6	33.5	33.9	30.4
Progression Factor	1.14	0.53		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	1.2		1.7	1.1	0.2	1.6	1.2	0.6	4.3	4.4	0.2
Delay (s)	37.8	9.7		39.4	23.2	19.1	33.8	34.1	32.2	37.8	38.3	30.6
Level of Service	D	A		D	C	B	C	C	C	D	D	C
Approach Delay (s)		15.3			26.9			32.9			35.7	
Approach LOS		B			C			C			D	

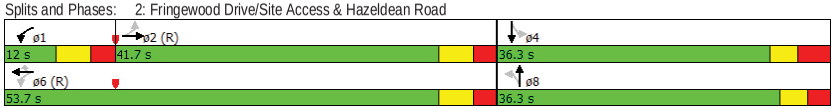
Intersection Summary				
HCM 2000 Control Delay	25.2	HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		25.5
Intersection Capacity Utilization	71.4%	ICU Level of Service		C
Analysis Period (min)	60			
c Critical Lane Group				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	966	30	85	634	33	61	5	120	13	5	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	45.0		0.0	60.0		50.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995				0.850		0.913			0.957	
Flt Protected	0.950			0.950				0.984		0.950		
Satd. Flow (prot)	1695	3373	0	1695	3390	1517	0	1603	0	1695	1708	0
Flt Permitted	0.411			0.220				0.888		0.449		
Satd. Flow (perm)	733	3373	0	393	3390	1517	0	1447	0	801	1708	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				44		110			2	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		189.6			258.1			101.9			99.2	
Travel Time (s)		11.4			15.5			9.2			7.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	966	30	85	634	33	61	5	120	13	5	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	996	0	85	634	33	0	186	0	13	7	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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	36.3	36.3		11.4	24.0	24.0	24.4	24.4		36.3	36.3	
Total Split (s)	41.7	41.7		12.0	53.7	53.7	36.3	36.3		36.3	36.3	
Total Split (%)	46.3%	46.3%		13.3%	59.7%	59.7%	40.3%	40.3%		40.3%	40.3%	
Maximum Green (s)	35.3	35.3		5.6	47.3	47.3	30.7	30.7		29.7	29.7	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	2.6	2.6		3.6	3.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4		5.6		6.6	6.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		None	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0					7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0					11.0	11.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	56.1	56.1		66.9	66.9	66.9		11.1		10.1	10.1	
Actuated g/C Ratio	0.62	0.62		0.74	0.74	0.74		0.12		0.11	0.11	
v/c Ratio	0.01	0.47		0.22	0.25	0.03		0.68		0.15	0.04	
Control Delay	10.0	11.6		5.0	1.8	0.2		29.4		36.8	28.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	10.0	11.6		5.0	1.8	0.2		29.4		36.8	28.6	
LOS	A	B		A	A	A		C		D	C	
Approach Delay		11.6			2.1			29.4			34.0	
Approach LOS		B			A			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 60			

Splits and Phases: 2: Fringewood Drive/Site Access & Hazeldean Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	4	996	85	634	33	186	13	7
v/c Ratio	0.01	0.47	0.22	0.25	0.03	0.68	0.15	0.04
Control Delay	10.0	11.6	5.0	1.8	0.2	29.4	36.8	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	11.6	5.0	1.8	0.2	29.4	36.8	28.6
Queue Length 50th (m)	0.3	45.9	1.2	4.6	0.0	12.5	2.1	0.8
Queue Length 95th (m)	2.1	93.1	10.4	12.6	m0.6	37.7	7.7	4.8
Internal Link Dist (m)		165.6		234.1		77.9		75.2
Turn Bay Length (m)	45.0		60.0		50.0			
Base Capacity (vph)	457	2104	391	2521	1139	566	264	564
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	0.47	0.22	0.25	0.03	0.33	0.05	0.01

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	966	30	85	634	33	61	5	120	13	5	2
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4		5.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85		0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1695	3375		1695	3390	1517		1603		1695	1708	
Flt Permitted	0.41	1.00		0.22	1.00	1.00		0.89		0.45	1.00	
Satd. Flow (perm)	734	3375		392	3390	1517		1446		801	1708	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	966	30	85	634	33	61	5	120	13	5	2
RTOR Reduction (vph)	0	2	0	0	0	8	0	96	0	0	2	0
Lane Group Flow (vph)	4	994	0	85	634	25	0	90	0	13	5	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	54.8	54.8		66.9	66.9	66.9		11.1		10.1	10.1	
Effective Green, g (s)	54.8	54.8		66.9	66.9	66.9		11.1		10.1	10.1	
Actuated g/C Ratio	0.61	0.61		0.74	0.74	0.74		0.12		0.11	0.11	
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4		5.6		6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	446	2055		373	2519	1127		178		89	191	
v/s Ratio Prot		c0.29		0.01	c0.19						0.00	
v/s Ratio Perm	0.01			0.15		0.02		c0.06		0.02		
v/c Ratio	0.01	0.48		0.23	0.25	0.02		0.50		0.15	0.03	
Uniform Delay, d1	6.9	9.8		4.5	3.6	3.0		36.9		36.1	35.6	
Progression Factor	1.00	1.00		0.94	0.37	0.14		1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.8		0.3	0.2	0.0		2.2		0.8	0.1	
Delay (s)	7.0	10.6		4.6	1.6	0.5		39.1		36.8	35.6	
Level of Service	A	B		A	A	A		D		D	D	
Approach Delay (s)		10.6			1.9			39.1			36.4	
Approach LOS		B			A			D			D	

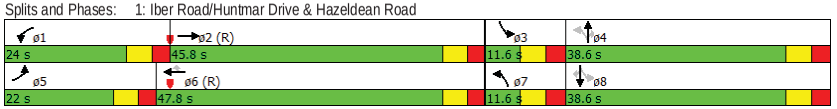
Intersection Summary					
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.49				
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	67.8%	ICU Level of Service		C	
Analysis Period (min)	60				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	258	850	70	408	1313	139	147	279	311	149	192	253
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	100.0		240.0	65.0		65.0	85.0		0.0
Storage Lanes	2		0	2		1	1		1	1		1
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	0.97	0.95	0.95	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3353	0	3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.950			0.950			0.511			0.325		
Satd. Flow (perm)	3288	3353	0	3288	3390	1517	912	1784	1517	580	1784	1517
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8				150			311			253
Link Speed (k/h)		60			60			60			50	
Link Distance (m)		258.1			353.3			178.1			183.3	
Travel Time (s)		15.5			21.2			10.7			13.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	258	850	70	408	1313	139	147	279	311	149	192	253
Shared Lane Traffic (%)												
Lane Group Flow (vph)	258	920	0	408	1313	139	147	279	311	149	192	253
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	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	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	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	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	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	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6	4		4	8		8
Detector Phase	5	2		1	6	6	7	4	4	3	8	8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.0	34.3		11.3	34.3	34.3	11.6	38.6	38.6	11.6	38.6	38.6
Total Split (s)	22.0	45.8		24.0	47.8	47.8	11.6	38.6	38.6	11.6	38.6	38.6
Total Split (%)	18.3%	38.2%		20.0%	39.8%	39.8%	9.7%	32.2%	32.2%	9.7%	32.2%	32.2%
Maximum Green (s)	15.7	39.5		17.7	41.5	41.5	5.0	32.0	32.0	5.0	32.0	32.0
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.6	2.6		2.6	2.6	2.6	2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Min		None	C-Min	C-Min	None	None	None	None	None	None
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		21.0			21.0	21.0		25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	14.0	46.0		18.8	50.8	50.8	29.4	24.4	24.4	29.4	24.4	24.4
Actuated g/C Ratio	0.12	0.38		0.16	0.42	0.42	0.24	0.20	0.20	0.24	0.20	0.20
v/c Ratio	0.67	0.71		0.79	0.92	0.19	0.58	0.77	0.56	0.79	0.53	0.50
Control Delay	60.9	41.6		61.8	46.7	4.2	43.8	60.5	8.2	70.0	47.2	7.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	41.6		61.8	46.7	4.2	43.8	60.5	8.2	70.0	47.2	7.9
LOS	E	D		E	D	A	D	E	A	E	D	A
Approach Delay		45.9			46.8			35.1			36.2	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 30 (25%), Referenced to phase 2:EBT and 6:WBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 43.1		Intersection LOS: D	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 60			

Splits and Phases: 1: Iber Road/Huntmar Drive & Hazeldean Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	258	920	408	1313	139	147	279	311	149	192	253
v/c Ratio	0.67	0.71	0.79	0.92	0.19	0.58	0.77	0.56	0.79	0.53	0.50
Control Delay	60.9	41.6	61.8	46.7	4.2	43.8	60.5	8.2	70.0	47.2	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	41.6	61.8	46.7	4.2	43.8	60.5	8.2	70.0	47.2	7.9
Queue Length 50th (m)	30.5	56.4	47.4	153.1	0.0	26.3	62.2	0.0	26.7	40.5	0.0
Queue Length 95th (m)	51.1	#169.6	#87.7	#271.5	15.5	44.8	97.8	34.2	#54.7	66.8	29.2
Internal Link Dist (m)		234.1		329.3			154.1			159.3	
Turn Bay Length (m)	60.0		100.0		240.0	65.0		65.0	85.0		
Base Capacity (vph)	433	1290	526	1434	728	255	475	632	188	475	590
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.71	0.78	0.92	0.19	0.58	0.59	0.49	0.79	0.40	0.43

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	258	850	70	408	1313	139	147	279	311	149	192	253
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3288	3352		3288	3390	1517	1695	1784	1517	1695	1784	1517
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.51	1.00	1.00	0.32	1.00	1.00
Satd. Flow (perm)	3288	3352		3288	3390	1517	912	1784	1517	579	1784	1517
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	258	850	70	408	1313	139	147	279	311	149	192	253
RTOR Reduction (vph)	0	5	0	0	0	80	0	0	248	0	0	202
Lane Group Flow (vph)	258	915	0	408	1313	59	147	279	63	149	192	51
Turn Type	Prot	NA		Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases						6	4		4	8		8
Actuated Green, G (s)	14.0	46.0		18.8	50.8	50.8	29.4	24.4	24.4	29.4	24.4	24.4
Effective Green, g (s)	14.0	46.0		18.8	50.8	50.8	29.4	24.4	24.4	29.4	24.4	24.4
Actuated g/C Ratio	0.12	0.38		0.16	0.42	0.42	0.24	0.20	0.20	0.24	0.20	0.20
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.6	6.6	6.6	6.6	6.6	6.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	383	1284		515	1435	642	256	362	308	188	362	308
v/s Ratio Prot	0.08	0.27		c0.12	c0.39		0.02	0.16		c0.03	0.11	
v/s Ratio Perm						0.04	0.12		0.04	c0.16		0.03
v/c Ratio	0.67	0.71		0.79	0.91	0.09	0.57	0.77	0.21	0.79	0.53	0.17
Uniform Delay, d1	50.8	31.4		48.7	32.6	20.8	39.6	45.2	39.7	42.6	42.7	39.4
Progression Factor	1.04	1.17		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.2	3.1		8.7	12.5	0.3	3.1	10.4	0.3	23.0	1.5	0.3
Delay (s)	56.9	39.9		57.4	45.0	21.0	42.8	55.6	40.1	65.6	44.2	39.7
Level of Service	E	D		E	D	C	D	E	D	E	D	D
Approach Delay (s)		43.7			46.0			46.5			47.6	
Approach LOS		D			D			D			D	

Intersection Summary

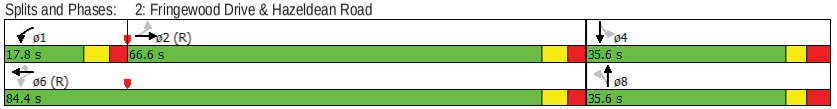
HCM 2000 Control Delay	45.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.8
Intersection Capacity Utilization	91.8%	ICU Level of Service	F
Analysis Period (min)	60		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	890	71	201	1450	107	101	6	95	136	5	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	45.0		0.0	60.0		50.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	1		1	0		0	1		0
Taper Length (m)	25.0			25.0			25.0			25.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989				0.850		0.937			0.870	
Flt Protected	0.950			0.950				0.976		0.950		
Satd. Flow (prot)	1695	3353	0	1695	3390	1517	0	1632	0	1695	1552	0
Flt Permitted	0.177			0.223				0.823		0.569		
Satd. Flow (perm)	316	3353	0	398	3390	1517	0	1376	0	1015	1552	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				91		35			32	
Link Speed (k/h)		60			60			40			50	
Link Distance (m)		189.6			258.1			101.9			102.2	
Travel Time (s)		11.4			15.5			9.2			7.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	73	890	71	201	1450	107	101	6	95	136	5	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	961	0	201	1450	107	0	202	0	136	37	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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	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	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
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	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Detector Phase	2	2		1	6	6	8	8		4	4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	36.3	36.3		11.4	24.0	24.0	24.6	24.6		35.6	35.6	
Total Split (s)	66.6	66.6		17.8	84.4	84.4	35.6	35.6		35.6	35.6	
Total Split (%)	55.5%	55.5%		14.8%	70.3%	70.3%	29.7%	29.7%		29.7%	29.7%	
Maximum Green (s)	60.2	60.2		11.4	78.0	78.0	29.0	29.0		29.0	29.0	
Yellow Time (s)	3.7	3.7		3.7	3.7	3.7	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.7	2.7		2.7	2.7	2.7	3.6	3.6		3.6	3.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Lost Time (s)	6.4	6.4		6.4	6.4	6.4		6.6		6.6	6.6	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		None	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0					7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	20.0	20.0					11.0	11.0		22.0	22.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	70.4	70.4		86.6	86.6	86.6		20.4		20.4	20.4	
Actuated g/C Ratio	0.59	0.59		0.72	0.72	0.72		0.17		0.17	0.17	
v/c Ratio	0.39	0.49		0.51	0.59	0.10		0.77		0.79	0.13	
Control Delay	24.9	16.5		10.5	3.7	0.1		59.6		82.2	15.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	24.9	16.5		10.5	3.7	0.1		59.6		82.2	15.4	
LOS	C	B		B	A	A		E		F	B	
Approach Delay		17.1			4.3			59.6			67.9	
Approach LOS		B			A			E			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 56 (47%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 81.8%		ICU Level of Service D	
Analysis Period (min) 60			

Splits and Phases: 2: Fringewood Drive & Hazeldean Road



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	73	961	201	1450	107	202	136	37
v/c Ratio	0.39	0.49	0.51	0.59	0.10	0.77	0.79	0.13
Control Delay	24.9	16.5	10.5	3.7	0.1	59.6	82.2	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	16.5	10.5	3.7	0.1	59.6	82.2	15.4
Queue Length 50th (m)	8.8	65.0	6.1	25.3	0.0	38.1	31.0	1.0
Queue Length 95th (m)	32.4	116.6	m11.6	m15.8	m0.0	69.0	56.8	11.2
Internal Link Dist (m)		165.6		234.1		77.9		78.2
Turn Bay Length (m)	45.0		60.0		50.0			
Base Capacity (vph)	185	1972	410	2445	1119	359	245	399
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	0.39	0.49	0.49	0.59	0.10	0.56	0.56	0.09

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	890	71	201	1450	107	101	6	95	136	5	32
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4		6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85		0.94		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98		0.95	1.00	
Satd. Flow (prot)	1695	3353		1695	3390	1517		1630		1695	1553	
Flt Permitted	0.18	1.00		0.22	1.00	1.00		0.82		0.57	1.00	
Satd. Flow (perm)	316	3353		398	3390	1517		1375		1014	1553	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	73	890	71	201	1450	107	101	6	95	136	5	32
RTOR Reduction (vph)	0	4	0	0	0	25	0	29	0	0	27	0
Lane Group Flow (vph)	73	957	0	201	1450	82	0	173	0	136	10	0
Turn Type	Perm	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	70.5	70.5		86.6	86.6	86.6		20.4		20.4	20.4	
Effective Green, g (s)	70.5	70.5		86.6	86.6	86.6		20.4		20.4	20.4	
Actuated g/C Ratio	0.59	0.59		0.72	0.72	0.72		0.17		0.17	0.17	
Clearance Time (s)	6.4	6.4		6.4	6.4	6.4		6.6		6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	185	1969		392	2446	1094		233		172	264	
v/s Ratio Prot		0.29		0.04	c0.43						0.01	
v/s Ratio Perm	0.23			0.33		0.05		0.13		c0.13		
v/c Ratio	0.39	0.49		0.51	0.59	0.07		0.74		0.79	0.04	
Uniform Delay, d1	13.3	14.3		7.8	8.1	4.9		47.3		47.8	41.6	
Progression Factor	1.00	1.00		1.23	0.34	0.01		1.00		1.00	1.00	
Incremental Delay, d2	6.3	0.9		0.7	0.6	0.1		12.9		24.7	0.1	
Delay (s)	19.6	15.2		10.2	3.4	0.1		60.2		72.5	41.7	
Level of Service	B	B		B	A	A		E		E	D	
Approach Delay (s)		15.5			4.0			60.2			65.9	
Approach LOS		B			A			E			E	

Intersection Summary					
HCM 2000 Control Delay	14.7	HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio	0.67				
Actuated Cycle Length (s)	120.0	Sum of lost time (s)		19.4	
Intersection Capacity Utilization	81.8%	ICU Level of Service		D	
Analysis Period (min)	60				
c Critical Lane Group					