

Traffic Impact Study

Quigley Development

Prepared for
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Submitted by
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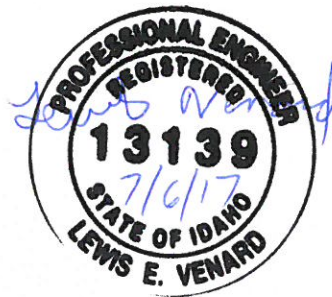


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I. INTRODUCTION AND SUMMARY

A. Purpose of the Report and Study Objectives

The purpose of this report is to assess the effects of the proposed Quigley Development on the surrounding transportation network and to determine the provisions needed for safe and efficient site access and accommodate traffic flow in the area. The scope of this study is in accordance with Idaho Transportation Department (ITD), “*Requirements for Transportation Impact Studies*”, Board Policy B-12-06.

Existing traffic volumes and a 2042 horizon year have been analyzed for this study. In 2042, the Quigley Development Area is anticipated to be fully built.

B. Previous Work

The *Transportation Master Plan* for the City of Hailey was prepared by The Transpo Group in November 2007. It should be noted that traffic volumes recorded at that time were actually higher than they are today. Today’s volumes have not quite reached pre-recession levels. In light of the unexpected drop in traffic volumes beginning in 2008, assumptions and projections stated in the *Master Plan* should be considered outdated, and not presently accurate.

C. Executive Summary

Location and Study Area

The Quigley Canyon Development is located on approximately 116 acres on the eastern edge of Hailey, Idaho. The project will use Fox Acres Road and Bullion Street/Quigley Drive as primary accesses to the proposed development. The following off-site intersections have been analyzed as part of this study:

- Fox Acres Road & Main Street (SH-75)
- Fox Acres Road & Creekside Drive
- Fox Acres Road & Woodside Boulevard
- Fox Acres Road & Eastridge Drive
- Fox Acres Road & Foxmoor Drive
- Fox Acres Road & Wood River High School Driveways (South, Middle, and North)
- Bullion Street & Main Street (SH-75)
- Croy Street & Main Street (SH-75)
- Bullion Street & 3rd Avenue
- Croy Street & 4th Avenue
- Croy Street & 8th Avenue
- Quigley Drive & 8th Avenue

Trip distribution was automatically calculated by the traffic analysis software. The software calculated the split to be 38% Fox Acres Road and 62% Quigley Drive averaged over the AM and PM peaks. Trips were also assigned automatically to the fastest routes.

Development Description

The proposed Quigley development includes 200 residential units, athletic fields, mixed-use retail/commercial and non-profit offices, a trailhead, lodging, and a school. The total area of the development is approximately 116 acres.

Principal Findings

The results of this traffic analysis indicate Fox Acres Road and Quigley Drive would provide sufficient access to the development. The project will not have any significant impacts to the intersections in the study area. As traffic volumes increase in the study area, the anticipated Level of service (LOS) will deteriorate to an “E” or “F” at some of the intersections during peak hours in 2042. The largest increases in delay will occur at the minor legs of the SH-75 and Creekside intersections with Fox Acres.

Study Area Improvements

A roundabout was recently constructed at the Woodside and Fox Acres intersection. To accommodate additional traffic generated by the Quigley Development, a second westbound right turn lane could be added to Fox Acres Road at SH-75, and an acceptance lane (two-way left turn lane) can be added for the turning movement at Creekside. All of these improvements can be constructed inside existing right-of-way. In order to achieve acceptable level of service for all intersections throughout the analysis period, regardless of the development, will require improvements at over-capacity intersections.

Conclusions

The combination of the background traffic growth and traffic from the proposed Quigley Development will result in a peak hour LOS of “E” or worse for the Creekside and SH-75 intersections with Fox Acres Road, and the Croy & SH-75 intersection by the year 2042. The most significant impact to traffic will be at the Fox Acres leg of the SH-75 intersection. Deteriorating conditions will occur with growth of the background traffic alone. With the development, conditions are worsened.

The improvements listed in this study will provide additional capacity to significantly improve traffic flow. The additional capacity will provide an improved LOS with development traffic compared to no improvements with background traffic.

II. PROPOSED DEVELOPMENT

A. Off-Site Development

There is no proposed off-site development related to this project.

B. Description of On-Site Development

Land Use and Density

The Quigley development is located on approximately 116 acres of land. It includes the following proposed improvements:

Residential:

- 77 individual home building lots ranging from 1/8th to 4+ acres in size
- 33 live/work units
- 20 duplex units
- 43 cottages
- 27 affordable units

Lodging – Bed & Breakfast with 25 rooms

School – Private school with 120 students and 20 employees

Athletic Fields – 12 acres

Trailhead – new trailhead

Mixed Use – 14,490 sf of retail/commercial and 59,156 sf of non-profit offices

Location

The Quigley development is located east of Hailey in Blaine County, Idaho. The proposed development begins at the entrance to Quigley Canyon and extends approximately 1/2 mile east up Quigley Canyon. See Figure 1 for a location map of the proposed development.

Figure 1 – Location Map



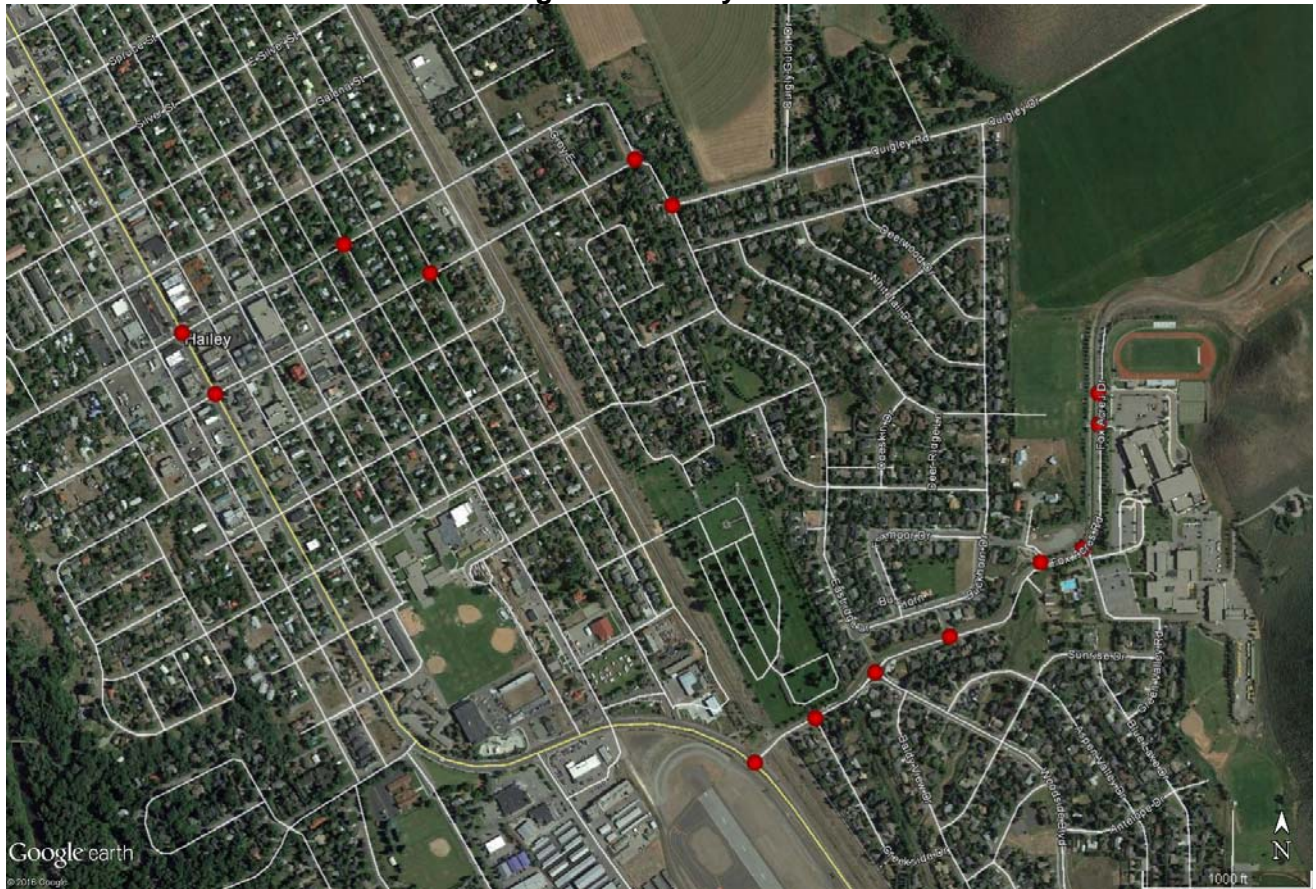
III. AREA CONDITIONS

A. Study Area

The proposed project will use Bullion Street/Quigley Drive and Fox Acres Road as primary accesses to the proposed development. The study area includes the following intersections (see Figure 2):

- Main Street (SH-75)
- Creekside Drive
- Woodside Blvd.
- Eastridge Drive
- Foxmoor Drive
- Wood River High School Driveways (South, Middle, and North)
- Bullion Street & Main Street (SH-75)
- Croy Street & Main Street (SH-75)
- Bullion Street & 3rd Avenue
- Croy Street & 4th Avenue
- Croy Street & 8th Avenue
- Quigley Drive & 8th Avenue

Figure 2 – Study Area



B. Study Area Land Use

Existing Land Use

The land uses surrounding the project site are single-family residential and Wood River High School. The commercial core of the City of Hailey is approximately 2.0 miles from the project site.

Anticipated Future Development

The City of Hailey is growing and there is little undeveloped area left in the vicinity of Quigley Canyon. There are a few vacant parcels north and west of Quigley Canyon. These are planned to be developed for residential use.

C. Site Accessibility/Study Area Roadway System

Fox Acres Road

Fox Acres Road is a collector, providing east/west access from State Highway 75 to residential neighborhoods and Wood River High School (WRHS). The speed limit for the entire length is 20 mph, and the school zone from west of Foxmoor Drive to north of the WRHS south entrance is posted at 15 mph. Fox Acres Road is primarily a two-lane roadway with approximately 32 feet of pavement. At the SH-75 and Foxmoor Drive intersections, the pavement widens to approximately 40 feet to accommodate a left-turn lane in the median. The land uses adjacent to Fox Acres Road are low density residential and the Wood River High School. A 10 foot wide mixed use path runs along the north side of Fox Acres Road from where the Wood River Trail crosses near the SH-75 intersection to where the road currently ends. Additional segments of sidewalk provide connectivity to bus stops, Woodside Boulevard, Foxmoor Drive, and the High School entrances.

State Highway 75

State Highway 75 is a major arterial providing regional north/south access throughout the Wood River Valley. At the intersection of State Highway 75/Fox Acres Road, State Highway 75 is a five-lane arterial with two northbound lanes, two southbound lanes and one southbound left turn lane. The intersection of State Highway 75/Fox Acres Road is controlled by an ITD traffic signal. At the intersection of State Highway 75 with Croy Street, State Highway 75 is a five-lane arterial with two northbound lanes, two southbound lanes, one two-way left turn lane, and parallel parking on both sides. Croy Street is stop controlled with one through lane in each direction and angled parking on both sides. At the intersection of State Highway 75 with Bullion Street, State Highway 75 is a five-lane arterial with two northbound lanes, two southbound lanes, one left turn lane in each direction, and parallel parking on both sides. Bullion Street has one through lane in each direction, one left turn lane in each direction, and angled parking on both sides. The intersection of State Highway 75 & Bullion Street is controlled by an ITD traffic signal.

Creekside Drive

Creekside Drive is a two-lane local roadway. It provides north/south residential access to Fox Acres Road. The pavement width is approximately 30 feet and the speed limit is 20 mph. The intersection of Creekside Drive and Fox Acres Road is stop controlled for Creekside Drive.

Woodside Boulevard

Woodside Boulevard is a two-lane collector in the City of Hailey. Woodside Boulevard provides north/south access through residential neighborhoods with a speed limit of 25 mph. Woodside Boulevard is bordered by single-family residential land uses in the vicinity of the project area. The pavement width is approximately 32 feet. The intersection of Woodside Blvd and Fox Acres Road is a single lane roundabout.

Eastridge Drive

Eastridge Drive is a two-lane local roadway that provides north/south access from Fox Acres Road to Croy Street and 8th Avenue. Eastridge Drive has a pavement width of approximately 30 feet and a speed limit of 20 mph. Eastridge Dive is bordered by low-density residential developments. Eastridge Drive is stop controlled at the intersection with Fox Acres Road.

Foxmoor Drive

Foxmoor Dive is a two-lane local roadway. It provides access from the Foxmoor and Deerfield Subdivisions to Fox Acres Road. Foxmoor Drive has a pavement width of approximately 30 feet and a speed limit of 20 mph. It is bordered by low-density residential development. The intersection of Foxmoor Drive and Fox Acres Road is stop controlled for Foxmoor Drive.

Wood River High School/Blaine County Aquatic Center

Wood River High School and the Blaine County Aquatic Center are located at the east end of Fox Acres Road. They share a driveway on the south end of the campus. There are two additional driveways on the north end of the campus near the stadium. All three of the driveways are stop controlled where they intersect with Fox Acres Road

Quigley Drive

Quigley Drive is a two-lane collector roadway. It provides east/west access to 8th Avenue. Quigley Drive has a pavement width of approximately 30 feet. It is bordered by low-density residential development. The intersection of Quigley Drive and 8th Avenue is stop controlled for Quigley Drive.

8th Avenue

8th Avenue is a two-lane collector roadway. It provides north/south access between Croy Street and Bullion Street. 8th Avenue has a pavement width of approximately 26 feet. It is bordered by low-density residential development. The intersection of 8th Avenue and Croy Street/Eastridge Drive is stop controlled for 8th Avenue.

Croy Street

Croy Street provides east/west access between 8th Avenue and SH-75. The speed limit is 20 mph. Croy Street is a two-lane local roadway between Eastridge Drive and 2nd Avenue. It is bordered by low-density residential development. There are discontinuous, disconnected segments of detached sidewalk along the portion of Croy Street between 5th Avenue and 2nd Avenue, with wide swales and mature trees between the sidewalks and the street. The intersection of Croy Street and 4th Avenue is 4-way stop controlled. Between 2nd Avenue and SH-75, Croy Street has angled parking, sidewalks, and curb and gutter. This segment is part of Hailey's downtown core, and is bordered by shops and a grocery store.

Bullion Street

Bullion Street provides east/west access between 8th Avenue and SH-75. Bullion Street is a two-lane collector roadway, with a 20 mph speed limit. Between Eastridge Drive and 2nd Avenue, it is bordered by low-density residential development. There are discontinuous, disconnected segments of detached sidewalk along the portion of Bullion Street between 4th Avenue and 2nd Avenue, with wide swales and mature trees between the sidewalks and the street. The intersection of Bullion Street and 4th Avenue is 4-way stop controlled. Between 2nd Avenue and SH-75, Bullion Street has a mix of angled and 90-degree parking, sidewalks, and curb and gutter. This segment is part of Hailey's downtown core, and is bordered by shops and a grocery store.

Existing Traffic volumes

AM and PM peak hour traffic data was collected for the intersections on Fox Acres Road, and key intersections on Croy Street and Bullion Street as directed by City of Hailey staff. Volumes on Fox Acres Road were collected for each turning movement during the hours of 7:00 am to 9:00 am and 4:00 pm to 6:00 pm on Tuesday, November 17, 2015, except PM peak volumes for the High School entrances were collected between 3:00 pm and 5:00 pm. Volumes on Croy Street and Bullion Street were collected on March 30, 2017. The AM peak hour generally occurred from 7:30 am to 8:30 am. The PM peak hour varied by intersection. For most of the intersections, the PM peak hour began at roughly 5:00. The High School driveways' PM peak began at 3:15. For a conservative analysis approach, the PM peak hour for all of the intersections was assumed to occur at the same time. Traffic volumes on SH-75 at the Bullion Street and Croy Street intersections were adjusted to account for seasonal variability. An adjustment factor of 1.11 was used to bring March SH-75 volumes up to the annual average. Existing traffic count data is included in the Appendix A.

Public transportation service

The Peak Bus, operated by South Valley Commuter Service, runs between Bellevue and Sun Valley. Buses run at approximately 30 minute headways during AM and PM peak hours and 2-3 hour headways during non-peak hours from 6:00 am to 8:00 pm. The route runs north-south along Woodside Blvd. and east-west along Fox Acres Road between SH-75 and Woodside Blvd. There are stops located on Fox Acres Road between Creekside Dr. and Woodside Blvd.

IV. PROJECTED TRAFFIC

A. Site Traffic

Trip generation for the Quigley Development was estimated using data published in *Trip Generation, Ninth Edition, Institute of Transportation Engineers (ITE), 2012*. Land Use Code 210, *Single-Family Detached Housing* was utilized to calculate trip generation for residences. Code 310, *Hotel* was used for lodging. Code 411, *City Park*, was used for the athletic fields. Code 534, *Private School (K-8)*, was used for the school. Code 710, *General Office Building*, was used for the mixed-use, non-profit offices. Finally, Code 826, *Specialty Retail Center*, was used for the mixed-use retail. See Appendix A for ITE trip generation rates used in this study. Table 2 includes trip generation data for each type of land use including AM peak, PM peak, average weekday, and directional distribution volumes.

The proposed Quigley Development may be constructed in more than one phase, however this study only considers full build out, which is anticipated to be in 2042. Table 3 includes trip generation data for the development including AM peak, PM peak, average weekday, and directional distribution volumes.

Table 2 – Development Category Traffic Volumes

Traffic Generator	Houses	Lodging (rooms)	School (students)	Athletic Fields (acres)	Trailhead	Retail	Office	Total Traffic
Quantity	200	25	120	12	1	14490	59156	-
AM Peak Hour Traffic	151	14	108	54	16	100	92	535
In	38	8	59	30	12	48	81	276
Out	113	6	49	24	4	52	11	259
PM Peak Hour Traffic	202	14	72	42	16	73	88	507
In	127	7	34	24	4	41	15	252
Out	75	7	38	18	12	32	73	255
Average Weekday Traffic	1914	185	180	96	164	642	652	3833

Table 3 – Development Traffic Volumes

Traffic Generators						Weekday Peak Hour Traffic						Average Weekday Traffic		
						AM			PM					
Houses	Lodging (rooms)	School (students)	Athletic Fields (acres)	Trailhead	Mixed Use (sf)	In	Out	Total	In	Out	Total			
200	25	120	12	1										
						Retail	Office		In	Out	Total	In	Out	Total
						14490	59156		276	259	535	252	255	507

B. Background Traffic Forecast

To develop future volumes for through movements on SH-75, a growth rate was calculated from ITD automatic traffic recorder data. Comparison of traffic volumes between 1990 and 2015 resulted in an average growth rate of 1.6% per year. This rate was used to forecast future background traffic volumes for the horizon year.

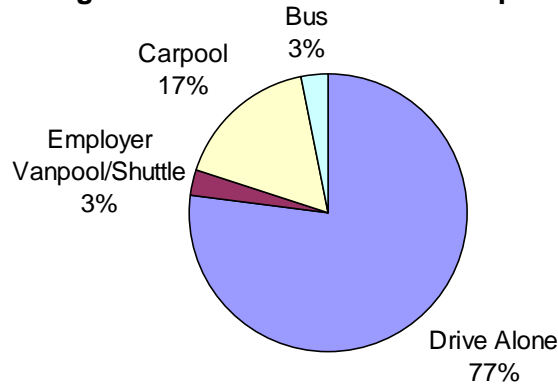
C. Trip Distribution

Trip distribution was automatically calculated by the traffic analysis software based on existing traffic volumes on the surrounding road network. The proposed development is not anticipated to change the current distribution of traffic flow through the study area. In developing forecast volumes for each intersection, the development volumes were dispersed automatically by the traffic analysis software. The software distributed 43% of the trips to Fox Acres Road and 57% to Quigley Drive in the AM peak. In the PM peak, the split was 33% Fox Acres Road and 67% Quigley Drive. Averaged over the AM and PM peaks, the split was 38% Fox Acres Road and 62% Quigley Drive. See the Appendix A for traffic volumes for each intersection.

D. Modal Split/Travel Demand Management (TDM)

ITD conducted a survey of commuters using the SH-75 corridor for the *Timmerman to Ketchum Environmental Analyses*. The results of this survey included the following modal split for the SH-75 corridor:

Figure 4 – SH-75 Traffic Modal Split



The Quigley development trip generation traffic volumes were not reduced to account for mode split. A conservative approach was taken considering the distance of the closest bus stop to the development and the uncertainty of vehicle trips on the local network for carpooling.

V. TRAFFIC ANALYSIS

A. Analysis Methodology

The study area intersections for the Quigley Development were analyzed using the methodologies presented in *Highway Capacity Manual 2010* edition. It provides a systematic and consistent basis for assessing the capacity and level of service of transportation facilities. Synchro v9 software was used to apply this methodology. Traffic models were developed and analyzed for AM and PM peak hours during existing conditions, Horizon Year (2042) without the project, and Horizon Year (2042) with the project using the trip distribution as described above.

Two Measures of Effectiveness (MOE's) were used to quantify intersection traffic conditions for the various scenarios. These MOE's were Level of Service (LOS) and intersection delay (seconds/vehicle). LOS is a simplistic approach to describe the effectiveness of a transportation facility by grouping levels of performance to a letter "grade". The four types of controlled intersections within the study area, signalized, roundabout, all-way stop controlled and two-way stop controlled, each require a separate methodology for analysis. For two-way stop controlled intersections, LOS is calculated by approaching lane groups only. Table 4 shows the average vehicle delay criteria used by the HCM 2010 to determine LOS for signalized intersections. Table 5 shows LOS criteria for unsignalized intersections.

Average delay per vehicle calculated for intersections is also known as control delay. It is measured by comparing the travel time in seconds per vehicle of a movement that is controlled versus an uncontrolled condition. Comparison of delay between alternatives shows slight differences and quantifies excessive delays significantly higher than LOS E. Legs of an intersection that are free-flowing do not experience control delay and will not have values for "Delay" or "LOS" on Tables 6 and 7.

Table 4 – Signalized Intersection LOS Criteria

LOS	Average Delay (seconds/veh.)
A	≤ 10
B	> 10 to 20
C	> 20 to 35
D	> 35 to 55
E	> 55 to 80
F	> 80

Source: *Highway Capacity Manual* (Transportation Research Board, 2010)

Table 5 – Unsignalized Intersection LOS Criteria

LOS	Average Delay (seconds/veh.)
A	≤ 10
B	> 10 to 15
C	> 15 to 25
D	> 25 to 35
E	> 35 to 50
F	> 50

Source: *Highway Capacity Manual* (Transportation Research Board, 2010)

B. Analysis Results

A summary of the MOE's for the intersections within the study area for each of the horizon years analyzed and existing conditions is included in Tables 6 and 7. As can be seen from these tables, all of the study area intersections currently operate at a LOS "D" or better under the existing traffic conditions, except the SH-75 & Croy intersection is LOS "E" in the AM peak hour and LOS "F" in the PM peak hour. With addition of projected background traffic in horizon year 2042, the LOS at the SR-75 & Fox Acres and SH-75 & Croy intersections deteriorate to LOS "F". The other study area intersections all remain at LOS "D" or better.

With the addition of development traffic, only the Creekside intersection with Fox Acres will deteriorate to an LOS of "E" or worse during the AM peak hour in addition to the intersections that fail under background traffic alone.

Table 6 – AM Peak Traffic Analysis Results

Intersection	Approach	Traffic Control	2015 / 2017		2042			
			Existing		W/out Dev.		With Dev.	
			LOS	Delay	LOS	Delay	LOS	Delay
SR-75/ Fox Acres	SB	Signal	C	20.7	E	66.7	F	104.3
	NB	Signal	C	29.3	E	75.5	F	81.5
	WB	Signal	F	132.1	F	281.4	F	346.6
	Intersection		D	52.8	F	122.2	F	154.5
SR-75/ Bullion	SB	Signal	A	9.2	A	9.1	A	9.7
	NB	Signal	B	16.5	B	18.9	C	22.2
	EB	Signal	C	24.3	D	38.5	D	44.7
	WB	Signal	C	24.8	D	45.4	D	53.3
	Intersection		B	16.0	C	21.1	C	23.9
Woodside/ Fox Acres	NE	Roundabout	A	7.0	A	9.7	B	11.7
	SW	Roundabout	A	8.7	C	15.2	C	21.4
	WB	Roundabout	B	12	D	32.7	F	56.3
	Intersection		A	9.5	C	20.5	D	31.2
Croy/ 4th Ave	SB	Stop	A	7.5	A	7.8	A	9.1
	NB	Stop	A	7.3	A	7.6	A	8.7
	EB	Stop	A	7.4	A	7.7	A	9.4
	WB	Stop	A	7.3	A	7.5	A	9.5
	Intersection		A	7.4	A	7.7	A	9.3
Creekside/ Fox Acres	NB	Stop	C	18.1	D	33.9	E	46.6
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	0.8	N/A	1.6	N/A	1.9
Eastridge/ Fox Acres	SB	Stop	B	11.3	B	14.3	C	18.4
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	2.4	N/A	2.9	N/A	3
Eastridge/ Quigley	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	8.9	A	9.2	B	10.3
	Intersection		N/A	2.2	N/A	2.3	N/A	5.7
Foxmoor/ Fox Acres	SB	Stop	B	13.6	C	19.3	D	28.7
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	2.6	N/A	3.8	N/A	5.1
WRHS S/ Fox Acres	NB	Stop	B	12.9	C	18.2	D	26.3
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	3.9	N/A	5.4	N/A	6.3
WRHS Mid/ Fox Acres	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	9.2	A	9.4	B	10.5
	Intersection		N/A	1.1	N/A	1.1	N/A	0.5
WRHS N/ Fox Acres	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	9.0	A	9.1	B	10.1
	Intersection		N/A	2.5	N/A	2.6	N/A	0.7
Croy/ SH-75	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	EB	Stop	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	E	40.5	F	269.5	F	601.8
	Intersection		N/A	1.6	N/A	8.6	N/A	47.8
Croy/ 8th Ave	SE	Stop	A	9.6	B	10.2	B	14.3
	NE	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NW	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	3.1	N/A	3.2	N/A	2.3
Bullion/ 3rd Ave	SB	Stop	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Stop	B	10	B	10.6	B	10.6
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	3.1	N/A	3.2	N/A	3.2

Table 7 – PM Peak Traffic Analysis Results

Intersection	Approach	Traffic Control	2015 / 2017		2042			
			Existing		W/out Dev.		With Dev.	
			LOS	Delay	LOS	Delay	LOS	Delay
SR-75/ Fox Acres	SB	Signal	A	6.1	B	14.2	B	17.1
	NB	Signal	B	11.6	C	27.4	D	39.3
	WB	Signal	D	37.5	E	76.8	F	123.6
	Intersection		B	11	C	24.5	D	36
SR-75/ Bullion	SB	Signal	B	18.2	D	35.9	D	44.9
	NB	Signal	B	11.3	B	17.4	C	25.2
	EB	Signal	C	25.1	D	40.4	E	78.5
	WB	Signal	C	26.9	E	60.8	F	87.8
	Intersection		B	17.6	C	33.1	D	45.5
Woodside/ Fox Acres	NB	Roundabout	A	9.9	C	18.5	D	25.9
	SB	Roundabout	A	6.1	A	8.1	A	9.6
	WB	Roundabout	A	6.4	A	8.8	A	10
	Intersection		A	8.3	B	14	C	18.5
Croy/ 4th Ave	SB	Stop	A	7.7	A	8.1	A	9.5
	NB	Stop	A	7.7	A	8.1	A	9.4
	EB	Stop	A	7.8	A	8.3	B	11.3
	WB	Stop	A	7.5	A	7.8	B	10.3
	Intersection		A	7.7	A	8.1	B	10.5
Creekside/ Fox Acres	NB	Stop	C	16.1	C	24.7	D	29.7
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	0.4	N/A	0.5	N/A	0.6
Eastridge/ Fox Acres	SB	Stop	A	9.7	B	10.6	B	11.6
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	2.2	N/A	2.4	N/A	2.1
Eastridge/ Quigley	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	8.9	A	9.2	B	10.3
	Intersection		N/A	2.7	N/A	2.8	N/A	6.1
Foxmoor/ Fox Acres	SB	Stop	B	11.0	B	12.0	B	13.6
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	1.5	N/A	1.8	N/A	1.7
WRHS S/ Fox Acres	NB	Stop	B	11.9	B	14.9	C	18.5
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	4.5	N/A	5.7	N/A	5.7
WRHS Mid/ Fox Acres	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	9.6	B	10	B	11.1
	Intersection		N/A	5.0	N/A	5.2	N/A	3.2
WRHS N/ Fox Acres	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	9.1	A	9.3	B	10.2
	Intersection		N/A	7.3	N/A	7.4	N/A	2.9
Croy/ SH-75	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	EB	Stop	N/A	N/A	F	ERR	F	ERR
	WB	Stop	F	459.5	F	ERR	F	ERR
	Intersection		N/A	17.9	N/A	ERR	N/A	ERR
Croy/ 8th Ave	SE	Stop	A	9.8	B	10.6	C	15.7
	NE	Free	N/A	N/A	N/A	N/A	N/A	N/A
	NW	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	3.2	N/A	3.5	N/A	2.5
Bullion/ 3rd Ave	SB	Stop	A	9.9	B	10.5	B	10.5
	NB	Stop	A	9.9	B	10.5	B	10.5
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	2.8	N/A	3	N/A	3.1

C. Traffic Safety

Current traffic conditions on Fox Acres Road and Bullion Street operate acceptably, at an LOS of “D” or better. As volumes increase, improvements should be constructed to continually provide a safe facility. As delay increases, drivers tend to become frustrated and attempt to enter free-flowing traffic with smaller gaps than they normally would, potentially causing accidents.

An existing sight distance deficiency has been identified where Bullion Street bends 90 degrees and becomes 8th Avenue. The vertical crest curve of Bullion Street over the irrigation canal blocks the view of the horizontal curve. A curve warning sign exists for Bullion Street, but not for 8th Avenue. A curve warning sign for 8th Avenue is recommended, and an advisory speed warning plaque is recommended for both directions. Changes to the horizontal and/or vertical geometry could also improve sight distance at this location.

VI. IMPROVEMENT ANALYSIS

A. Study Area Improvements

The analysis results shown in Section V indicate that as traffic volumes increase in the study area, the anticipated LOS will deteriorate at some of the intersections during peak hours in 2042. The largest increases in delay will occur at the minor legs of the SH-75 and Creekside intersections with Fox Acres, and at Croy & SH-75. To accommodate additional traffic generated by the Quigley development, capacity improvements could be constructed at those intersections. The following capacity and safety improvements were added to the study traffic model and analyzed for the 2042 horizon year:

- Second westbound right turn lane and overlap signal phase on Fox Acres Road at the SR-75 intersection.
- Northbound to westbound acceptance lane (TWLTL) at the Creekside intersection.

These improvements can be constructed inside existing right-of-way. The widening for the additional right turn lane at the SH-75 intersection could be constructed to the south to avoid the existing curb, gutter, and signal equipment on the north corner. The existing right-of-way for Fox Acres Road and Woodside Blvd. is 80 feet wide, ample room for a two-way left turn lane west of the Creekside intersection.

B. Improvement Analysis Results

The improvements listed above would reduce delay in the study area. Table 8 includes a summary of the MOE’s from the analysis of the study intersections with these enhancements. The improvements provide additional capacity to significantly improve the LOS and reduce delay. Analysis of the study area indicates that additional traffic from the Quigley development and the improvements listed above provide an improved LOS compared to the scenario of no development on the existing transportation network.

Table 8 – AM/PM Improvement Traffic Analysis Results

Intersection	Approach	Traffic Control	2042 AM		2042 PM	
			LOS	Delay	LOS	Delay
SR-75/ Fox Acres	SB	Signal	C	32.0	B	13.8
	NB	Signal	D	50.8	C	27.5
	WB	Signal	C	31.3	D	37.4
	Intersection		D	40.7	B	19.7
Creekside/ Fox Acres	NB	Stop	C	21.1	C	18.1
	EB	Free	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	N/A	N/A
	Intersection		N/A	0.9	N/A	0.4

VII. CONCLUSIONS/RECOMENDATIONS

A. Site Accessibility

The Quigley development is proposing to utilize Fox Acres Road and Quigley Drive as the primary accesses to the project. Fox Acres Road, Bullion Street and their connections to State Highway 75 are appropriate facilities for this development.

B. Traffic Impacts

The combination of the background traffic growth and traffic from the proposed Quigley development will result in a peak hour LOS of “E” or worse for three intersections by the year 2042. The most significant impacts to traffic will be at the minor legs of the SH-75 and Creekside intersections with Fox Acres Road. As the gaps in traffic are reduced with an increase in congestion, cars are less able to access Fox Acres Road and SH-75.

C. Need for Improvements

The improvements listed in Section VI will provide additional capacity in the study area to significantly improve traffic flow. Comparing the traffic analysis results on Table 8 with the results on Tables 6 and 7 reveals that if the listed improvements were constructed, the study area would experience an LOS better than conditions without the development for the minor approaches at the Creekside and SH-75 intersections with Fox Acres Road.

TECHNICAL APPENDIX

APPENDIX A – EXISTING TRAFFIC & FORECAST VOLUMES

APPENDIX B – EXISTING ANALYSIS RESULTS

APPENDIX C – 2042 BASELINE ANALYSIS RESULTS

APPENDIX D – 2042 WITH PROJECT ANALYSIS RESULTS

APPENDIX E – IMPROVEMENT ANALYSIS RESULTS

**APPENDIX A – EXISTING TRAFFIC &
FORECAST VOLUMES**

SR-75 & Fox Acres

AM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL			0.0%				
NBT	970	0	90.6%	1389	0	1389	0
NBR	101		9.4%	168		145	
SBL	220		36.4%	365		315	
SBT	384	0	63.6%	550	0	550	0
SBR			0.0%				
EBL							
EBT		0			0		0
EBR							
WBL	59		11.6%	96		87	
WBT		0	0.0%				
WBR	451		88.4%	735		665	

PM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL			0.0%				
NBT	384	0	86.5%	550	0	550	0
NBR	60		13.5%	94		86	
SBL	424		29.2%	665		607	
SBT	1026	0	70.8%	1469	0	1469	0
SBR			0.0%				
EBL							
EBT		0			0		0
EBR							
WBL	46		18.0%	78		67	
WBT		0	0.0%		0		0
WBR	210		82.0%	357		308	

SR-75 Growth Rate (%/Yr) = 1.6

Creekside & Fox Acres

AM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	34		87.2%	49		49	
NBT		0	0.0%		0		0
NBR	5		12.8%	8		7	
SBL							
SBT		0			0		0
SBR							
EBL			0.0%				
EBT	317	1	98.8%	527	1	454	1
EBR	4		1.2%	6		6	
WBL	2		0.4%	3		3	
WBT	491	0	99.6%	782	0	703	0
WBR			0.0%				

PM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	16		100.0%	23		23	
NBT		0	0.0%		0		0
NBR	1		5.9%	1		1	
SBL							
SBT		0			0		0
SBR							
EBL	0		0.0%				
EBT	467	0	91.7%	735	0	669	0
EBR	42		8.3%	60		60	
WBL	0		0.0%	0		0	
WBT	246	0	100.0%	412	0	352	0
WBR			0.0%				

Growth Rate (%/Yr.) = 1.6

Woodside & Fox Acres

AM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	291		74.4%	417		417	
NBT		0	0.0%		0		0
NBR	100		25.6%	166		143	
SBL							
SBT					0		0
SBR							
EBL			0.0%				
EBT	250	0	77.9%	432	0	358	0
EBR	71		22.1%	102		102	
WBL	47		19.3%	74		67	
WBT	197	0	80.7%	361	0	282	0
WBR			0.0%				

PM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	118		70.2%	169		169	
NBT		0	0.0%		0		0
NBR	50		29.8%	79		72	
SBL							
SBT					0		0
SBR							
EBL			0.0%				
EBT	207	0	44.6%	362	0	296	0
EBR	257		55.4%	368		368	
WBL	72		35.0%	119		103	
WBT	134	0	65.0%	252	0	192	0
WBR			0.0%				

Growth Rate (%/Yr.) = 1.6

Eastridge & Fox Acres

AM Peak Hour				Build		No-Build	
Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL							
NBT		0			0		0
NBR							
SBL	21		21.2%	35		30	
SBT		0	0.0%		0		0
SBR	78		78.8%	112		112	
EBL	37		11.1%	53		53	
EBT	295	0	88.9%	519	0	422	0
EBR			0.0%				
WBL			0.0%				
WBT	166	10	98.8%	324	14	238	14
WBR	2		1.2%	3		3	

PM Peak Hour				Build		No-Build	
Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL							
NBT		0			0		0
NBR							
SBL	4		6.1%	7		6	
SBT		1	0.0%		1		1
SBR	62		93.9%	89		89	
EBL	44	0	18.4%	63	0	63	0
EBT	195		81.6%	352		279	
EBR			0.0%				
WBL			0.0%				
WBT	130	7	97.7%	262	10	186	10
WBR	3		2.3%	5		4	

Growth Rate (%/Yr.) = 1.6

Foxmoor & Fox Acres

AM Peak Hour				Build		No-Build	
Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL							
NBT		0			0		0
NBR							
SBL	124		98.4%	206		178	
SBT		0	0.0%		0		0
SBR	2		1.6%	3		3	
EBL	2		0.6%	3		3	
EBT	319	0	99.4%	559	0	457	0
EBR			0.0%				
WBL			0.0%				
WBT	164	0	78.1%	321	0	235	0
WBR	46		21.9%	73		66	

PM Peak Hour				Build		No-Build	
Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL							
NBT		0					0
NBR							
SBL	55		96.5%	87		79	
SBT		1	0.0%		1		1
SBR	2		3.5%	3		3	
EBL	1		0.5%	1		1	
EBT	195	2	99.5%	300	3	226	3
EBR			0.0%				
WBL			0.0%				
WBT	134	4	80.2%	269	6	192	6
WBR	33		19.8%	54		47	

Growth Rate (%/Yr.) = 1.6

WRHS South Driveway & Fox Acres

AM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	191		99.5%	274		274	
NBT		0	0.0%		0		0
NBR	1		0.5%	1		1	
SBL							
SBT							
SBR							
EBL			0.0%				
EBT	78	0	17.7%	242	0	112	0
EBR	363		82.3%	520		520	
WBL	8		33.3%	12		11	
WBT	16		66.7%	116	0	23	
WBR			0.0%				

PM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	182		99.5%	261		261	
NBT		1	0.0%		1		1
NBR	1		0.5%	1		1	
SBL							
SBT							
SBR							
EBL			0.0%				
EBT	18	25	10.2%	108	36	26	36
EBR	158		89.8%	226		226	
WBL	3		2.4%	5		4	
WBT	123		97.6%	260		176	
WBR			0.0%				

Growth Rate (%/Yr.) = 1.6

WRHS Middle Driveway & Fox Acres

AM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL			0.0%				
NBT	32	2	37.6%	176	3	46	3
NBR	53		62.4%	76		76	
SBL			0.0%	0		0	
SBT	13	4	100.0%	113	6	19	6
SBR			0.0%				
EBL							
EBT							
EBR							
WBL	12		92.3%	17		17	
WBT		0	0.0%		0		0
WBR	1		7.7%	1		1	

PM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL			0.0%				
NBT	13	1	68.4%	101	1	19	1
NBR	6		31.6%	9		9	
SBL	1		2.0%	1		1	
SBT	50	0	98.0%	157	0	72	0
SBR			0.0%				
EBL							
EBT							
EBR							
WBL	76		100.0%	109		109	
WBT		0	0.0%		0		0
WBR	0		0.0%	0		0	

Growth Rate (%/Yr.) = 1.6

WRHS North Driveway & Fox Acres

AM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL			0.0%				
NBT		0	0.0%	130	0		0
NBR	33		100.0%	47		47	
SBL							
SBT				94			
SBR							
EBL							
EBT							
EBR							
WBL	13		100.0%	19		19	
WBT		0	0.0%		0		0
WBR			0.0%				

PM Peak Hour

Movement	Existing 2015 Traffic	Existing 2015 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL			0.0%				
NBT		0	0.0%	82	0		0
NBR	13		100.0%	19		19	
SBL							
SBT				85			
SBR							
EBL							
EBT							
EBR							
WBL	52		100.0%	74		74	
WBT		0	0.0%		0		0
WBR			0.0%				

Growth Rate (%/Yr.) = 1.6

Bullion & SH-75

AM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	32		3.0%	50		45	
NBT	1011	1	93.9%	1565	1	1416	1
NBR	33		3.1%	47		47	
SBL	20		4.0%	28		28	
SBT	463	3	93.3%	752	4	648	4
SBR	13		2.7%	19		19	
EBL	107		60.8%	150		150	
EBT	29		16.5%	41		41	
EBR	40		22.7%	65		56	
WBL	132		60.8%	185		185	
WBT	35	1	16.1%	49	1	49	1
WBR	50		23.0%	70		70	

PM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	80		10.5%	130		112	
NBT	644	5	84.0%	1044	7	902	7
NBR	42		5.5%	59		59	
SBL	47		4.2%	66		66	
SBT	1039	8	92.3%	1594	11	1455	11
SBR	40		3.6%	56		56	
EBL	72		34.3%	101		101	
EBT	63	5	30.0%	88	7	88	7
EBR	75		35.7%	115		105	
WBL	172		63.9%	241		241	
WBT	57	1	21.2%	80	1	80	1
WBR	40		14.9%	56		56	

Growth Rate (%/Yr.) = 1.6

Bullion & 3rd

AM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	16		39.0%	22		22	
NBT	22	3	53.7%	31	4	31	4
NBR	3		7.3%	4		4	
SBL	0		0.0%	0		0	
SBT	10	0	76.9%	14	0	14	0
SBR	3		23.1%	4		4	
EBL	1		2.0%	1		1	
EBT	45	1	91.8%	63	1	63	1
EBR	3		6.1%	4		4	
WBL	2		2.6%	3		3	
WBT	75	1	96.2%	106	1	105	1
WBR	1		1.3%	1		1	

PM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	7		21.2%	10		10	
NBT	18	0	54.5%	25	0	25	0
NBR	8		24.2%	12		11	
SBL	5		23.8%	8		7	
SBT	12	2	57.1%	17	3	17	3
SBR	4		19.0%	6		6	
EBL	2		2.4%	3		3	
EBT	70	7	83.3%	98	10	98	10
EBR	12		14.3%	17		17	
WBL	3		4.6%	5		4	
WBT	62	1	95.4%	87	1	87	1
WBR	0		0.0%	0		0	

Growth Rate (%/Yr.) = 1.6

Croy & SH-75

AM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	37		3.2%	52		52	
NBT	1072	2	92.8%	1501	3	1501	3
NBR	47		4.1%	77		66	
SBL	12		1.9%	130		17	
SBT	635	3	96.9%	890	4	890	4
SBR	8		1.2%	11		11	
EBL	2		13.3%	3		3	
EBT	1	1	6.7%	1	1	1	1
EBR	12		80.0%	17		17	
WBL	7		22.6%	11		10	
WBT	1	1	3.2%	1	1	1	1
WBR	23		74.2%	186		32	

PM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	35		4.3%	48		48	
NBT	692	2	85.5%	969	3	969	3
NBR	82		10.2%	126		115	
SBL	40		3.1%	205		56	
SBT	1243	11	95.1%	1740	15	1740	15
SBR	25		1.9%	34		34	
EBL	1		2.0%	1		1	
EBT	5	6	10.0%	8	8	7	8
EBR	44		88.0%	62		62	
WBL	26		36.1%	42		36	
WBT	4	4	5.6%	7	6	6	6
WBR	42		58.3%	219		59	

Growth Rate (%/Yr.) = 1.6

Croy & 4th

AM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	2		4.1%	3		3	
NBT	40	4	81.6%	56	6	56	6
NBR	7		14.3%	12		10	
SBL	7		11.1%	22		10	
SBT	54	3	85.7%	76	4	76	4
SBR	2		3.2%	3		3	
EBL	9		22.0%	13		13	
EBT	27	3	65.9%	162	4	38	4
EBR	5		12.2%	7		7	
WBL	2		11.1%	3		3	
WBT	13	0	72.2%	175	0	18	0
WBR	3		16.7%	10		4	

PM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	4		6.0%	6		6	
NBT	53	2	79.1%	74	3	74	3
NBR	10		14.9%	15		14	
SBL	11		19.6%	16		15	
SBT	44	2	78.6%	62	3	62	3
SBR	1		1.8%	1		1	
EBL	4		4.5%	6		6	
EBT	70	6	78.7%	259	8	98	8
EBR	15		16.9%	21		21	
WBL	2		5.6%	3		3	
WBT	29	3	80.6%	208	4	41	4
WBR	5		13.9%	8		7	

Growth Rate (%/Yr.) = 1.6

Croy & 8th

AM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	22		21.8%	196		31	
NBT	79	0	78.2%	111	0	111	0
NBR							
SBL							
SBT	73	0	100.0%	102	0	102	0
SBR	0		0.0%	0		0	
EBL	0		0.0%	0		0	
EBT							
EBR	55		100.0%	223		77	
WBL							
WBT							
WBR							

PM Peak Hour

Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	Build		No-Build	
				2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL	23		31.9%	202		32	
NBT	49	0	68.1%	69	0	69	0
NBR							
SBL							
SBT	76	0	98.7%	106	0	106	0
SBR	1		1.3%	1		1	
EBL	2		2.2%	3		3	
EBT		1			1		1
EBR	89		97.8%	295		125	
WBL							
WBT							
WBR							

Growth Rate (%/Yr.) = 1.6

Quigley & 8th

AM Peak Hour

AM Peak Hour				Build		No-Build	
Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL							
NBT	70	2	97.2%	98	3	98	3
NBR	2		2.8%	3		3	
SBL	33		24.6%	192		46	
SBT	101	0	75.4%	141	0	141	0
SBR							
EBL							
EBT							
EBR							
WBL	2		6.5%	3		3	
WBT							
WBR	29		93.5%	206		41	

PM Peak Hour












PM Peak Hour				Build		No-Build	
Movement	Existing 2017 Traffic	Existing 2017 Peds	Lane Dist.	2042 Traffic	2042 Peds	2042 Traffic	2042 Peds
NBL							
NBT	41	1	95.3%	57	1	57	1
NBR	2		4.7%	3		3	
SBL	40		25.6%	226		56	
SBT	116	0	74.4%	162	0	162	0
SBR							
EBL							
EBT							
EBR							
WBL	4		10.3%	7		6	
WBT							
WBR	35		89.7%	219		49	

Growth Rate (%/Yr.) = 1.6

APPENDIX B – EXISTING ANALYSIS RESULTS

























HCM 2010 Signalized Intersection Summary
 1: SR-75 & Fox Acres

6/7/2017

								
Movement	SEL	SET	NWT	NWR	SWL	SWR		
Lane Configurations								
Traffic Volume (veh/h)	220	384	970	101	59	451		
Future Volume (veh/h)	220	384	970	101	59	451		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	308	436	1102	142	77	593		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	345	2159	1444	186	550	491		
Arrive On Green	0.11	0.61	0.46	0.46	0.31	0.31		
Sat Flow, veh/h	1774	3632	3248	406	1774	1583		
Grp Volume(v), veh/h	308	436	617	627	77	593		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1791	1774	1583		
Q Serve(g_s), s	8.7	5.5	29.0	29.2	3.1	31.0		
Cycle Q Clear(g_c), s	8.7	5.5	29.0	29.2	3.1	31.0		
Prop In Lane	1.00			0.23	1.00	1.00		
Lane Grp Cap(c), veh/h	345	2159	810	820	550	491		
V/C Ratio(X)	0.89	0.20	0.76	0.76	0.14	1.21		
Avail Cap(c_a), veh/h	430	2159	810	820	550	491		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.8	8.7	22.6	22.6	24.9	34.5		
Incr Delay (d2), s/veh	17.7	0.2	6.7	6.7	0.1	111.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.9	2.7	15.6	15.8	1.6	28.7		
LnGrp Delay(d),s/veh	37.5	8.9	29.3	29.3	25.0	146.0		
LnGrp LOS	D	A	C	C	C	F		
Approach Vol, veh/h		744	1244		670			
Approach Delay, s/veh		20.7	29.3		132.1			
Approach LOS		C	C		F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	15.2	49.8				65.0		35.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	16.0	41.0				61.0		31.0
Max Q Clear Time (g_c+I1), s	10.7	31.2				7.5		33.0
Green Ext Time (p_c), s	0.5	5.1				9.1		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			52.8					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary
 11: SH-75 & Bullion

6/7/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	29	40	132	35	50	32	1011	33	20	463	13
Future Volume (veh/h)	107	29	40	132	35	50	32	1011	33	20	463	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	122	33	56	150	40	57	42	1320	38	23	647	15
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	143	121	318	143	121	464	1710	49	237	1681	39
Arrive On Green	0.07	0.09	0.09	0.07	0.09	0.09	0.03	0.54	0.54	0.02	0.53	0.53
Sat Flow, veh/h	1597	1676	1420	1597	1676	1420	1597	3162	91	1597	3182	74
Grp Volume(v), veh/h	122	33	56	150	40	57	42	664	694	23	324	338
Grp Sat Flow(s),veh/h/ln	1597	1676	1420	1597	1676	1420	1597	1593	1660	1597	1593	1663
Q Serve(g_s), s	4.0	1.0	2.1	4.0	1.3	2.2	0.7	18.7	18.7	0.4	6.8	6.8
Cycle Q Clear(g_c), s	4.0	1.0	2.1	4.0	1.3	2.2	0.7	18.7	18.7	0.4	6.8	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		0.04
Lane Grp Cap(c), veh/h	312	143	121	318	143	121	464	862	898	237	841	879
V/C Ratio(X)	0.39	0.23	0.46	0.47	0.28	0.47	0.09	0.77	0.77	0.10	0.38	0.39
Avail Cap(c_a), veh/h	312	472	400	318	472	400	522	862	898	315	841	879
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	24.2	24.7	22.6	24.3	24.7	6.0	10.3	10.3	8.9	7.9	7.9
Incr Delay (d2), s/veh	0.8	0.8	2.7	1.1	1.0	2.8	0.1	6.6	6.4	0.2	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.5	0.9	2.2	0.6	0.9	0.3	9.7	10.1	0.2	3.3	3.4
LnGrp Delay(d),s/veh	22.7	25.0	27.4	23.7	25.4	27.6	6.1	16.9	16.7	9.1	9.3	9.2
LnGrp LOS	C	C	C	C	C	C	A	B	B	A	A	A
Approach Vol, veh/h		211			247			1400			685	
Approach Delay, s/veh		24.3			24.8			16.5			9.2	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	34.7	8.0	8.8	5.9	34.0	8.0	8.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	30.0	4.0	16.0	4.0	30.0	4.0	16.0				
Max Q Clear Time (g_c+I1), s	2.4	20.7	6.0	4.1	2.7	8.8	6.0	4.2				
Green Ext Time (p_c), s	0.0	7.4	0.0	0.5	0.0	14.2	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			16.0									
HCM 2010 LOS			B									

HCM 2010 Roundabout
4: Fox Acres & Woodside

4/17/2017

Intersection			
Intersection Delay, s/veh	9.5		
Intersection LOS	A		
Approach	WB	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	445	365	277
Demand Flow Rate, veh/h	454	373	282
Vehicles Circulating, veh/h	290	54	338
Vehicles Exiting, veh/h	137	566	406
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	15	7
Ped Cap Adj	1.000	0.998	0.999
Approach Delay, s/veh	12.0	7.0	8.7
Approach LOS	B	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	454	373	282
Cap Entry Lane, veh/h	845	1071	806
Entry HV Adj Factor	0.980	0.979	0.981
Flow Entry, veh/h	445	365	277
Cap Entry, veh/h	829	1046	789
V/C Ratio	0.537	0.349	0.350
Control Delay, s/veh	12.0	7.0	8.7
LOS	B	A	A
95th %tile Queue, veh	3	2	2

Intersection

Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	9	27	5	0	2	13	3	0	2	40	7
Future Vol, veh/h	0	9	27	5	0	2	13	3	0	2	40	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	31	6	0	2	15	3	0	2	45	8
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.4	7.3	7.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	22%	11%	11%
Vol Thru, %	82%	66%	72%	86%
Vol Right, %	14%	12%	17%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	41	18	63
LT Vol	2	9	2	7
Through Vol	40	27	13	54
RT Vol	7	5	3	2
Lane Flow Rate	56	47	20	72
Geometry Grp	1	1	1	1
Degree of Util (X)	0.062	0.054	0.023	0.081
Departure Headway (Hd)	4.026	4.14	4.112	4.094
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	884	857	861	871
Service Time	2.077	2.202	2.181	2.141
HCM Lane V/C Ratio	0.063	0.055	0.023	0.083
HCM Control Delay	7.3	7.4	7.3	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.3

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	7	54	2
Future Vol, veh/h	0	7	54	2
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	8	61	2
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.5
HCM LOS	A

Lane

Intersection

Int Delay, s/veh 0.8

Movement	NBL	NBR	NET	NER	SWL	SWT
Traffic Vol, veh/h	34	5	317	4	2	491
Future Vol, veh/h	34	5	317	4	2	491
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	6	360	5	2	558

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	927	365	0	0	366	0
Stage 1	364	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	298	680	-	-	1193	-
Stage 1	703	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	297	679	-	-	1192	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	568	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	320	1192	-
HCM Lane V/C Ratio	-	-	0.138	0.002	-
HCM Control Delay (s)	-	-	18.1	8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	37	295	166	2	21	78
Future Vol, veh/h	37	295	166	2	21	78
Conflicting Peds, #/hr	10	0	0	10	10	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	335	189	2	24	89

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	201	0	210
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1371	-	830
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1360	-	816
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1360	-	-	-	684
HCM Lane V/C Ratio	0.031	-	-	-	0.164
HCM Control Delay (s)	7.7	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection

Int Delay, s/veh 2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	2	29	70	2	33	101
Future Vol, veh/h	2	29	70	2	33	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	33	80	2	38	115

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	271	81	0
Stage 1	81	-	-
Stage 2	190	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	718	979	-
Stage 1	942	-	-
Stage 2	842	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	699	979	-
Mov Cap-2 Maneuver	699	-	-
Stage 1	942	-	-
Stage 2	819	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	1.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	954	1515
HCM Lane V/C Ratio	-	-	0.037	0.025
HCM Control Delay (s)	-	-	8.9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBT	WBT	WBR	SEL	SER
Traffic Vol, veh/h	2	319	164	46	124	2
Future Vol, veh/h	2	319	164	46	124	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	363	186	52	141	2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	239	0	580
Stage 1	-	-	213
Stage 2	-	-	367
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1328	-	827
Stage 1	-	-	823
Stage 2	-	-	701
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1328	-	827
Mov Cap-2 Maneuver	-	-	559
Stage 1	-	-	823
Stage 2	-	-	700

Approach	EB	WB	SE
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1328	-	-	-	562
HCM Lane V/C Ratio	0.002	-	-	-	0.255
HCM Control Delay (s)	7.7	-	-	-	13.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1

Intersection

Int Delay, s/veh 3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	78	363	8	16	191	1
Future Vol, veh/h	78	363	8	16	191	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	413	9	18	217	1

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	501
Stage 1	-	-	295
Stage 2	-	-	36
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1063
Stage 1	-	-	755
Stage 2	-	-	986
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1063
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	755
Stage 2	-	-	978

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	669	744	-	-	1063	-
HCM Lane V/C Ratio	0.324	0.002	-	-	0.009	-
HCM Control Delay (s)	12.9	9.8	-	-	8.4	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	1.4	0	-	-	0	-

Intersection

Int Delay, s/veh 1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	12	1	32	53	0	13
Future Vol, veh/h	12	1	32	53	0	13
Conflicting Peds, #/hr	2	2	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	1	36	60	0	15

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	83	70	0
Stage 1	68	-	-
Stage 2	15	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	919	993	1494
Stage 1	955	-	-
Stage 2	1008	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	916	990	1492
Mov Cap-2 Maneuver	860	-	-
Stage 1	953	-	-
Stage 2	1006	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	869	1492
HCM Lane V/C Ratio	-	-	0.017	-
HCM Control Delay (s)	-	-	9.2	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh 2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	13	0	0	33	0	0
Future Vol, veh/h	13	0	0	33	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	0	0	38	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	19	19	0 0 38 0
Stage 1	19	-	- - - -
Stage 2	0	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	998	1059	- - 1572 -
Stage 1	1004	-	- - - -
Stage 2	-	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	998	1059	- - 1572 -
Mov Cap-2 Maneuver	916	-	- - - -
Stage 1	1004	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 916	1572	-
HCM Lane V/C Ratio	-	- 0.016	-	-
HCM Control Delay (s)	-	- 9	0	-
HCM Lane LOS	-	- A	A	-
HCM 95th %tile Q(veh)	-	- 0	0	-

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	1	12	7	1	23	37	1072	47	12	635	8
Future Vol, veh/h	2	1	12	7	1	23	37	1072	47	12	635	8
Conflicting Peds, #/hr	1	0	1	1	0	1	3	0	2	2	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	14	8	1	26	42	1218	53	14	722	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1449	2111	369	1720	2089	640	732	0	0	1273	0	0
Stage 1	754	754	-	1330	1330	-	-	-	-	-	-	-
Stage 2	695	1357	-	390	759	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	92	50	628	58	52	418	868	-	-	541	-	-
Stage 1	367	415	-	163	222	-	-	-	-	-	-	-
Stage 2	399	215	-	606	413	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	71	40	626	47	41	417	866	-	-	540	-	-
Mov Cap-2 Maneuver	71	40	-	47	41	-	-	-	-	-	-	-
Stage 1	305	396	-	135	184	-	-	-	-	-	-	-
Stage 2	308	179	-	564	394	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.9	40.5	0.9	0.5
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	866	-	-	207	136	540	-
HCM Lane V/C Ratio	0.049	-	-	0.082	0.259	0.025	-
HCM Control Delay (s)	9.4	0.7	-	23.9	40.5	11.8	0.3
HCM Lane LOS	A	A	-	C	E	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0.3	1	0.1	-

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	55	22	79	73	0
Future Vol, veh/h	0	55	22	79	73	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	63	25	90	83	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	115	0	70
Stage 1	-	-	70
Stage 2	-	-	63
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1474	-	993
Stage 1	-	-	953
Stage 2	-	-	960
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1474	-	993
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	953
Stage 2	-	-	960

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1474	-	-	-	861
HCM Lane V/C Ratio	-	-	-	-	0.096
HCM Control Delay (s)	0	-	-	-	9.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection												
Int Delay, s/veh	3.1											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	45	3	2	75	1	16	22	3	0	10	3
Future Vol, veh/h	1	45	3	2	75	1	16	22	3	0	10	3
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	51	3	2	85	1	18	25	3	0	11	3












Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	89	0	0	58	0	0	159	152	57	165	153	90
Stage 1	-	-	-	-	-	-	58	58	-	93	93	-
Stage 2	-	-	-	-	-	-	101	94	-	72	60	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1506	-	-	1546	-	-	807	740	1009	800	739	968
Stage 1	-	-	-	-	-	-	954	847	-	914	818	-
Stage 2	-	-	-	-	-	-	905	817	-	938	845	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1505	-	-	1545	-	-	791	735	1006	773	734	965
Mov Cap-2 Maneuver	-	-	-	-	-	-	791	735	-	773	734	-
Stage 1	-	-	-	-	-	-	951	844	-	911	815	-
Stage 2	-	-	-	-	-	-	888	814	-	905	842	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			10			9.7		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	772	1505	-	-	1545	-	-	777
HCM Lane V/C Ratio	0.06	0.001	-	-	0.001	-	-	0.019
HCM Control Delay (s)	10	7.4	0	-	7.3	0	-	9.7
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1
























HCM 2010 Signalized Intersection Summary
 1: SR-75 & Fox Acres

6/7/2017

								
Movement	SEL	SET	NWT	NWR	SWL	SWR		
Lane Configurations								
Traffic Volume (veh/h)	424	1026	384	60	46	210		
Future Volume (veh/h)	424	1026	384	60	46	210		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	482	1166	436	68	52	239		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	746	2559	1627	252	323	289		
Arrive On Green	0.15	0.72	0.53	0.53	0.18	0.18		
Sat Flow, veh/h	1774	3632	3165	476	1774	1583		
Grp Volume(v), veh/h	482	1166	250	254	52	239		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1779	1774	1583		
Q Serve(g_s), s	9.5	11.5	6.5	6.6	2.1	12.3		
Cycle Q Clear(g_c), s	9.5	11.5	6.5	6.6	2.1	12.3		
Prop In Lane	1.00			0.27	1.00	1.00		
Lane Grp Cap(c), veh/h	746	2559	937	942	323	289		
V/C Ratio(X)	0.65	0.46	0.27	0.27	0.16	0.83		
Avail Cap(c_a), veh/h	824	2559	937	942	652	582		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	6.2	4.8	10.9	10.9	29.1	33.2		
Incr Delay (d2), s/veh	1.5	0.6	0.7	0.7	0.2	6.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.9	5.7	3.4	3.4	1.0	5.9		
LnGrp Delay(d),s/veh	7.7	5.4	11.6	11.6	29.3	39.3		
LnGrp LOS	A	A	B	B	C	D		
Approach Vol, veh/h		1648	504		291			
Approach Delay, s/veh		6.1	11.6		37.5			
Approach LOS		A	B		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.3	48.7				65.0		19.4
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	16.0	41.0				61.0		31.0
Max Q Clear Time (g_c+I1), s	11.5	8.6				13.5		14.3
Green Ext Time (p_c), s	0.9	9.0				9.5		1.1
Intersection Summary								
HCM 2010 Ctrl Delay			11.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
 11: SH-75 & Bullion

6/7/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	63	75	172	57	40	80	644	42	47	1039	40
Future Volume (veh/h)	72	63	75	172	57	40	80	644	42	47	1039	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	82	72	85	195	65	45	91	732	48	53	1181	45
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	315	196	164	310	210	176	282	1552	102	403	1560	59
Arrive On Green	0.06	0.12	0.12	0.07	0.13	0.13	0.05	0.51	0.51	0.04	0.50	0.50
Sat Flow, veh/h	1597	1676	1407	1597	1676	1408	1597	3033	199	1597	3128	119
Grp Volume(v), veh/h	82	72	85	195	65	45	91	384	396	53	601	625
Grp Sat Flow(s),veh/h/ln	1597	1676	1407	1597	1676	1408	1597	1593	1640	1597	1593	1654
Q Serve(g_s), s	2.7	2.4	3.4	4.0	2.1	1.7	1.6	9.3	9.3	1.0	18.3	18.3
Cycle Q Clear(g_c), s	2.7	2.4	3.4	4.0	2.1	1.7	1.6	9.3	9.3	1.0	18.3	18.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.07
Lane Grp Cap(c), veh/h	315	196	164	310	210	176	282	815	839	403	794	825
V/C Ratio(X)	0.26	0.37	0.52	0.63	0.31	0.26	0.32	0.47	0.47	0.13	0.76	0.76
Avail Cap(c_a), veh/h	328	446	374	310	446	375	305	815	839	447	794	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	24.5	25.0	24.2	23.9	23.8	10.0	9.4	9.5	7.3	12.1	12.1
Incr Delay (d2), s/veh	0.4	1.2	2.5	4.0	0.8	0.8	0.7	2.0	1.9	0.1	6.6	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.2	1.4	3.1	1.0	0.7	0.7	4.5	4.6	0.4	9.3	9.6
LnGrp Delay(d),s/veh	22.0	25.7	27.5	28.2	24.8	24.5	10.7	11.4	11.4	7.5	18.8	18.6
LnGrp LOS	C	C	C	C	C	C	B	B	B	A	B	B
Approach Vol, veh/h		239			305			871			1279	
Approach Delay, s/veh		25.1			26.9			11.3			18.2	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	34.8	8.0	11.0	7.1	34.0	7.5	11.5				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	30.0	4.0	16.0	4.0	30.0	4.0	16.0				
Max Q Clear Time (g_c+I1), s	3.0	11.3	6.0	5.4	3.6	20.3	4.7	4.1				
Green Ext Time (p_c), s	0.0	12.7	0.0	0.8	0.0	7.6	0.0	0.9				
Intersection Summary												
HCM 2010 Ctrl Delay			17.6									
HCM 2010 LOS			B									

HCM 2010 Roundabout
4: Fox Acres & Woodside

4/17/2017

Intersection			
Intersection Delay, s/veh	8.3		
Intersection LOS	A		
Approach	WB	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	191	527	234
Demand Flow Rate, veh/h	195	538	239
Vehicles Circulating, veh/h	240	84	137
Vehicles Exiting, veh/h	382	292	298
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	15	7
Ped Cap Adj	1.000	0.998	0.999
Approach Delay, s/veh	6.4	9.9	6.1
Approach LOS	A	A	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	195	538	239
Cap Entry Lane, veh/h	889	1039	985
Entry HV Adj Factor	0.979	0.980	0.979
Flow Entry, veh/h	191	527	234
Cap Entry, veh/h	871	1016	964
V/C Ratio	0.219	0.519	0.243
Control Delay, s/veh	6.4	9.9	6.1
LOS	A	A	A
95th %tile Queue, veh	1	3	1

Intersection

Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	4	70	15	0	2	29	5	0	4	53	10
Future Vol, veh/h	0	4	70	15	0	2	29	5	0	4	53	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	80	17	0	2	33	6	0	5	60	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.8	7.5	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	4%	6%	20%
Vol Thru, %	79%	79%	81%	79%
Vol Right, %	15%	17%	14%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	89	36	56
LT Vol	4	4	2	11
Through Vol	53	70	29	44
RT Vol	10	15	5	1
Lane Flow Rate	76	101	41	64
Geometry Grp	1	1	1	1
Degree of Util (X)	0.088	0.116	0.048	0.075
Departure Headway (Hd)	4.152	4.116	4.184	4.268
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	850	859	842	827
Service Time	2.242	2.2	2.282	2.36
HCM Lane V/C Ratio	0.089	0.118	0.049	0.077
HCM Control Delay	7.7	7.8	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.2	0.2

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	11	44	1
Future Vol, veh/h	0	11	44	1
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	13	50	1
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.7
HCM LOS	A

Lane

Intersection

Int Delay, s/veh 0.4

Movement	NBL	NBR	NET	NER	SWL	SWT
Traffic Vol, veh/h	16	1	467	42	0	246
Future Vol, veh/h	16	1	467	42	0	246
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	1	531	48	0	280

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	835	555	0	0	578	0
Stage 1	555	-	-	-	-	-
Stage 2	280	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	338	531	-	-	996	-
Stage 1	575	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	338	531	-	-	996	-
Mov Cap-2 Maneuver	338	-	-	-	-	-
Stage 1	575	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	16.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	345	996	-
HCM Lane V/C Ratio	-	-	0.056	-	-
HCM Control Delay (s)	-	-	16.1	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	44	195	130	3	4	62
Future Vol, veh/h	44	195	130	3	4	62
Conflicting Peds, #/hr	7	0	0	7	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	222	148	3	5	70

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	152	0	157
Stage 1	-	-	150
Stage 2	-	-	322
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1429	-	889
Stage 1	-	-	878
Stage 2	-	-	735
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1421	-	883
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	877
Stage 2	-	-	705

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1421	-	-	-	848
HCM Lane V/C Ratio	0.035	-	-	-	0.088
HCM Control Delay (s)	7.6	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection

Int Delay, s/veh 2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	4	35	41	2	40	116
Future Vol, veh/h	4	35	41	2	40	116
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	40	47	2	45	132

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	271	49	0
Stage 1	48	-	-
Stage 2	223	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	718	1020	1558
Stage 1	974	-	-
Stage 2	814	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	695	1019	1557
Mov Cap-2 Maneuver	695	-	-
Stage 1	974	-	-
Stage 2	788	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	1.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	973	1557
HCM Lane V/C Ratio	-	-	0.046	0.029
HCM Control Delay (s)	-	-	8.9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	WBT	WBR	SEL	SER
Traffic Vol, veh/h	1	195	134	33	55	2
Future Vol, veh/h	1	195	134	33	55	2
Conflicting Peds, #/hr	2	0	0	4	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	222	152	38	63	2

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	191	0	396
Stage 1	-	-	172
Stage 2	-	-	224
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1383	-	609
Stage 1	-	-	858
Stage 2	-	-	813
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1381	-	608
Mov Cap-2 Maneuver	-	-	657
Stage 1	-	-	857
Stage 2	-	-	812

Approach	EB	WB	SE
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1381	-	-	-	663
HCM Lane V/C Ratio	0.001	-	-	-	0.098
HCM Control Delay (s)	7.6	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection

Int Delay, s/veh 4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	18	158	3	123	182	1
Future Vol, veh/h	18	158	3	123	182	1
Conflicting Peds, #/hr	0	25	0	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	180	3	140	207	1

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	258
Stage 1	-	-	111
Stage 2	-	-	147
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	1371	731
Stage 1	-	-	914
Stage 2	-	-	880
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1371	714
Mov Cap-2 Maneuver	-	-	729
Stage 1	-	-	913
Stage 2	-	-	860

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	729	941	-	-	1371	-
HCM Lane V/C Ratio	0.284	0.001	-	-	0.002	-
HCM Control Delay (s)	11.9	8.8	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	1.2	0	-	-	0	-

Intersection

Int Delay, s/veh 5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	76	0	13	6	1	50
Future Vol, veh/h	76	0	13	6	1	50
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	0	15	7	1	57

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	77	18	0	0	22	0
Stage 1	18	-	-	-	-	-
Stage 2	59	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	926	1061	-	-	1593	-
Stage 1	1005	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	925	1061	-	-	1593	-
Mov Cap-2 Maneuver	868	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	963	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	868	1593
HCM Lane V/C Ratio	-	-	0.099	0.001
HCM Control Delay (s)	-	-	9.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection

Int Delay, s/veh 7.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	52	0	0	13	0	0
Future Vol, veh/h	52	0	0	13	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	0	0	15	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	7	7	0
Stage 1	7	-	-
Stage 2	0	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	1014	1075	1603
Stage 1	1016	-	-
Stage 2	-	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	1014	1075	1603
Mov Cap-2 Maneuver	927	-	-
Stage 1	1016	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	927	1603
HCM Lane V/C Ratio	-	-	0.064	-
HCM Control Delay (s)	-	-	9.1	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection

Int Delay, s/veh 17.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	5	44	26	4	42	35	692	82	40	1243	25
Future Vol, veh/h	1	5	44	26	4	42	35	692	82	40	1243	25
Conflicting Peds, #/hr	4	0	6	6	0	4	11	0	2	2	0	11
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	6	50	30	5	48	40	786	93	45	1413	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2005	2489	737	1725	2457	457	1447	0	0	886	0	0
Stage 1	1524	1524	-	919	919	-	-	-	-	-	-	-
Stage 2	481	965	-	806	1538	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	35	29	361	57	30	551	464	-	-	760	-	-
Stage 1	123	179	-	292	348	-	-	-	-	-	-	-
Stage 2	535	331	-	342	176	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	17	17	356	~ 24	17	543	460	-	-	753	-	-
Mov Cap-2 Maneuver	17	17	-	~ 24	17	-	-	-	-	-	-	-
Stage 1	101	124	-	240	286	-	-	-	-	-	-	-
Stage 2	393	272	-	193	122	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	73.9	\$ 459.5	1.5	1.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	460	-	-	105	52	753	-
HCM Lane V/C Ratio	0.086	-	-	0.541	1.573	0.06	-
HCM Control Delay (s)	13.6	1.1	-	73.9	\$ 459.5	10.1	1.4
HCM Lane LOS	B	A	-	F	F	B	A
HCM 95th %tile Q(veh)	0.3	-	-	2.5	7.7	0.2	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	2	89	23	49	76	1
Future Vol, veh/h	2	89	23	49	76	1
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	101	26	56	86	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	83	0	55
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1514	-	1012
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1514	-	1011
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1514	-	-	-	830
HCM Lane V/C Ratio	0.002	-	-	-	0.105
HCM Control Delay (s)	7.4	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	70	12	3	62	0	7	18	8	5	12	4
Future Vol, veh/h	2	70	12	3	62	0	7	18	8	5	12	4
Conflicting Peds, #/hr	1	0	7	7	0	1	2	0	0	0	0	2
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	80	14	3	70	0	8	20	9	6	14	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	72	0	0	95	0	0	181	172	95	187	179	79
Stage 1	-	-	-	-	-	-	93	93	-	79	79	-
Stage 2	-	-	-	-	-	-	88	79	-	108	100	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1528	-	-	1499	-	-	781	721	962	774	715	981
Stage 1	-	-	-	-	-	-	914	818	-	930	829	-
Stage 2	-	-	-	-	-	-	920	829	-	897	812	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1519	-	-	1490	-	-	758	716	955	743	710	974
Mov Cap-2 Maneuver	-	-	-	-	-	-	758	716	-	743	710	-
Stage 1	-	-	-	-	-	-	912	816	-	928	826	-
Stage 2	-	-	-	-	-	-	894	826	-	860	810	-












Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	9.9	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	772	1519	-	-	1490	-	-	757
HCM Lane V/C Ratio	0.049	0.001	-	-	0.002	-	-	0.032
HCM Control Delay (s)	9.9	7.4	0	-	7.4	0	-	9.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

APPENDIX C – 2042 BASELINE ANALYSIS RESULTS
























HCM 2010 Signalized Intersection Summary
 1: SR-75 & Fox Acres

6/8/2017

								
Movement	SEL	SET	NWT	NWR	SWL	SWR		
Lane Configurations								
Traffic Volume (veh/h)	315	550	1389	145	87	665		
Future Volume (veh/h)	315	550	1389	145	87	665		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	358	625	1578	165	99	756		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	291	2220	1501	155	532	475		
Arrive On Green	0.13	0.63	0.46	0.46	0.30	0.30		
Sat Flow, veh/h	1774	3632	3331	335	1774	1583		
Grp Volume(v), veh/h	358	625	854	889	99	756		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1804	1774	1583		
Q Serve(g_s), s	14.0	8.8	51.0	51.0	4.6	33.0		
Cycle Q Clear(g_c), s	14.0	8.8	51.0	51.0	4.6	33.0		
Prop In Lane	1.00			0.19	1.00	1.00		
Lane Grp Cap(c), veh/h	291	2220	820	836	532	475		
V/C Ratio(X)	1.23	0.28	1.04	1.06	0.19	1.59		
Avail Cap(c_a), veh/h	291	2220	820	836	532	475		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	36.8	9.3	29.5	29.5	28.5	38.5		
Incr Delay (d2), s/veh	129.5	0.3	42.7	49.1	0.2	276.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	19.3	4.4	34.6	36.7	2.3	50.8		
LnGrp Delay(d),s/veh	166.3	9.6	72.2	78.6	28.7	314.5		
LnGrp LOS	F	A	F	F	C	F		
Approach Vol, veh/h		983	1743		855			
Approach Delay, s/veh		66.7	75.5		281.4			
Approach LOS		E	E		F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	18.0	55.0				73.0		37.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	14.0	51.0				69.0		33.0
Max Q Clear Time (g_c+I1), s	16.0	53.0				10.8		35.0
Green Ext Time (p_c), s	0.0	0.0				18.2		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			122.2					
HCM 2010 LOS			F					

HCM 2010 Signalized Intersection Summary
 11: SH-75 & Bullion

6/8/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	41	56	185	49	70	45	1416	47	28	648	19
Future Volume (veh/h)	150	41	56	185	49	70	45	1416	47	28	648	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	170	47	64	210	56	80	51	1609	53	32	736	22
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	256	151	128	263	151	128	458	1956	64	191	1936	58
Arrive On Green	0.06	0.09	0.09	0.06	0.09	0.09	0.03	0.62	0.62	0.03	0.61	0.61
Sat Flow, veh/h	1597	1676	1420	1597	1676	1420	1597	3147	103	1597	3158	94
Grp Volume(v), veh/h	170	47	64	210	56	80	51	812	850	32	371	387
Grp Sat Flow(s),veh/h/ln	1597	1676	1420	1597	1676	1420	1597	1593	1658	1597	1593	1659
Q Serve(g_s), s	5.0	2.1	3.4	5.0	2.5	4.3	0.9	31.5	31.8	0.6	9.4	9.4
Cycle Q Clear(g_c), s	5.0	2.1	3.4	5.0	2.5	4.3	0.9	31.5	31.8	0.6	9.4	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		0.06
Lane Grp Cap(c), veh/h	256	151	128	263	151	128	458	990	1030	191	976	1017
V/C Ratio(X)	0.66	0.31	0.50	0.80	0.37	0.62	0.11	0.82	0.82	0.17	0.38	0.38
Avail Cap(c_a), veh/h	256	336	284	263	336	284	484	990	1030	230	976	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	34.0	34.6	34.4	34.2	35.0	5.7	11.7	11.7	12.2	7.8	7.8
Incr Delay (d2), s/veh	6.3	1.2	3.0	15.7	1.5	4.9	0.1	7.6	7.5	0.4	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.0	1.5	5.3	1.2	1.9	0.4	15.6	16.6	0.3	4.4	4.6
LnGrp Delay(d),s/veh	39.7	35.2	37.6	50.1	35.7	39.9	5.9	19.3	19.3	12.6	8.9	8.9
LnGrp LOS	D	D	D	D	D	D	A	B	B	B	A	A
Approach Vol, veh/h		281			346			1713			790	
Approach Delay, s/veh		38.5			45.4			18.9			9.1	
Approach LOS		D			D			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	53.7	9.0	11.2	6.7	53.0	9.0	11.2				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	49.0	5.0	16.0	4.0	49.0	5.0	16.0				
Max Q Clear Time (g_c+I1), s	2.6	33.8	7.0	5.4	2.9	11.4	7.0	6.3				
Green Ext Time (p_c), s	0.0	12.7	0.0	0.7	0.0	26.0	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									

HCM 2010 Roundabout
4: Fox Acres & Woodside

4/17/2017

Intersection			
Intersection Delay, s/veh	20.5		
Intersection LOS	C		
Approach	WB	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	637	523	396
Demand Flow Rate, veh/h	649	533	404
Vehicles Circulating, veh/h	415	78	483
Vehicles Exiting, veh/h	196	809	581
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	15	7
Ped Cap Adj	1.000	0.998	0.999
Approach Delay, s/veh	32.7	9.7	15.2
Approach LOS	D	A	C
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	649	533	404
Cap Entry Lane, veh/h	746	1045	697
Entry HV Adj Factor	0.982	0.981	0.979
Flow Entry, veh/h	637	523	396
Cap Entry, veh/h	732	1023	682
V/C Ratio	0.870	0.511	0.580
Control Delay, s/veh	32.7	9.7	15.2
LOS	D	A	C
95th %tile Queue, veh	11	3	4

Intersection

Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	13	38	7	0	3	18	4	0	3	56	10
Future Vol, veh/h	0	13	38	7	0	3	18	4	0	3	56	10
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	43	8	0	3	20	5	0	3	64	11
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.7	7.5	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	22%	12%	11%
Vol Thru, %	81%	66%	72%	85%
Vol Right, %	14%	12%	16%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	58	25	89
LT Vol	3	13	3	10
Through Vol	56	38	18	76
RT Vol	10	7	4	3
Lane Flow Rate	78	66	28	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.089	0.078	0.034	0.117
Departure Headway (Hd)	4.098	4.238	4.331	4.161
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	863	831	832	852
Service Time	2.177	2.335	2.331	2.233
HCM Lane V/C Ratio	0.09	0.079	0.034	0.119
HCM Control Delay	7.6	7.7	7.5	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.1	0.4

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	10	76	3
Future Vol, veh/h	0	10	76	3
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	11	86	3
Number of Lanes	0	0	1	0

Approach

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.8
HCM LOS	A

Lane

Intersection

Int Delay, s/veh 1.6

Movement	NBL	NBR	NET	NER	SWL	SWT
Traffic Vol, veh/h	49	7	454	6	3	703
Future Vol, veh/h	49	7	454	6	3	703
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	8	516	7	3	799

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1326	521	0	0	524	0
Stage 1	520	-	-	-	-	-
Stage 2	806	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	172	555	-	-	1043	-
Stage 1	597	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	171	554	-	-	1042	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	597	-	-	-	-	-
Stage 2	436	-	-	-	-	-

Approach	NB		NE		SW
HCM Control Delay, s	33.9		0		0
HCM LOS	D				

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	187	1042	-
HCM Lane V/C Ratio	-	-	0.34	0.003	-
HCM Control Delay (s)	-	-	33.9	8.5	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	1.4	0	-

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	53	422	238	3	30	112
Future Vol, veh/h	53	422	238	3	30	112
Conflicting Peds, #/hr	14	0	0	14	14	14
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	480	270	3	34	127

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	288	0	886
Stage 1	-	-	286
Stage 2	-	-	600
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1274	-	315
Stage 1	-	-	763
Stage 2	-	-	548
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1259	-	288
Mov Cap-2 Maneuver	-	-	288
Stage 1	-	-	754
Stage 2	-	-	506

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1259	-	-	-	548
HCM Lane V/C Ratio	0.048	-	-	-	0.294
HCM Control Delay (s)	8	0	-	-	14.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.2

Intersection

Int Delay, s/veh 2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	3	41	98	3	46	141
Future Vol, veh/h	3	41	98	3	46	141
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	47	111	3	52	160

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	378	116	0
Stage 1	113	-	-
Stage 2	265	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	624	936	1474
Stage 1	912	-	-
Stage 2	779	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	598	934	1470
Mov Cap-2 Maneuver	598	-	-
Stage 1	912	-	-
Stage 2	747	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	900	1470
HCM Lane V/C Ratio	-	-	0.056	0.036
HCM Control Delay (s)	-	-	9.2	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Intersection

Int Delay, s/veh 3.8

Movement	EBL	EBT	WBT	WBR	SEL	SER
Traffic Vol, veh/h	3	457	235	66	178	3
Future Vol, veh/h	3	457	235	66	178	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	519	267	75	202	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	342	0	831
Stage 1	-	-	305
Stage 2	-	-	526
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1217	-	340
Stage 1	-	-	748
Stage 2	-	-	593
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1217	-	339
Mov Cap-2 Maneuver	-	-	452
Stage 1	-	-	748
Stage 2	-	-	592

Approach	EB	WB	SE
HCM Control Delay, s	0.1	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1217	-	-	-	455
HCM Lane V/C Ratio	0.003	-	-	-	0.452
HCM Control Delay (s)	8	-	-	-	19.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	2.3

Intersection

Int Delay, s/veh 5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	112	520	11	23	274	1
Future Vol, veh/h	112	520	11	23	274	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	127	591	13	26	311	1

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	474
Stage 1	-	-	423
Stage 2	-	-	51
Critical Hdwy	-	4.12	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	2.218	3.518
Pot Cap-1 Maneuver	-	883	549
Stage 1	-	-	661
Stage 2	-	-	971
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	883	541
Mov Cap-2 Maneuver	-	-	579
Stage 1	-	-	661
Stage 2	-	-	957

Approach	EB	WB	NB
HCM Control Delay, s	0	3	18.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	579	631	-	-	883	-
HCM Lane V/C Ratio	0.538	0.002	-	-	0.014	-
HCM Control Delay (s)	18.2	10.7	-	-	9.1	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	3.2	0	-	-	0	-

Intersection

Int Delay, s/veh 1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	17	1	46	76	0	19
Future Vol, veh/h	17	1	46	76	0	19
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	1	52	86	0	22

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	120	101	0
Stage 1	98	-	-
Stage 2	22	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	876	954	1441
Stage 1	926	-	-
Stage 2	1001	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	872	949	1437
Mov Cap-2 Maneuver	830	-	-
Stage 1	924	-	-
Stage 2	998	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	836	1437
HCM Lane V/C Ratio	-	-	0.024	-
HCM Control Delay (s)	-	-	9.4	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh 2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	19	0	0	47	0	0
Future Vol, veh/h	19	0	0	47	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	0	0	53	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	27	27	0 0 53 0
Stage 1	27	-	- - - -
Stage 2	0	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	988	1048	- - 1553 -
Stage 1	996	-	- - - -
Stage 2	-	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	988	1048	- - 1553 -
Mov Cap-2 Maneuver	909	-	- - - -
Stage 1	996	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 909	1553	-
HCM Lane V/C Ratio	-	- 0.024	-	-
HCM Control Delay (s)	-	- 9.1	0	-
HCM Lane LOS	-	- A	A	-
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Intersection

Int Delay, s/veh 8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	1	17	10	1	32	52	1501	66	17	890	11
Future Vol, veh/h	3	1	17	10	1	32	52	1501	66	17	890	11
Conflicting Peds, #/hr	1	0	1	1	0	1	4	0	3	3	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	19	11	1	36	59	1706	75	19	1011	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2030	2957	517	2408	2926	895	1025	0	0	1782	0	0
Stage 1	1057	1057	-	1862	1862	-	-	-	-	-	-	-
Stage 2	973	1900	-	546	1064	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	34	14	503	17	15	284	673	-	-	344	-	-
Stage 1	240	300	-	75	121	-	-	-	-	-	-	-
Stage 2	271	116	-	490	298	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	25	12	501	14	13	283	671	-	-	343	-	-
Mov Cap-2 Maneuver	25	12	-	14	13	-	-	-	-	-	-	-
Stage 1	240	261	-	75	121	-	-	-	-	-	-	-
Stage 2	233	116	-	407	259	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	59.7	269.5	5.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	671	-	-	89	48	343	-	-
HCM Lane V/C Ratio	0.088	-	-	0.268	1.018	0.056	-	-
HCM Control Delay (s)	10.9	5.1	-	59.7	269.5	16.1	1	-
HCM Lane LOS	B	A	-	F	F	C	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1	4.3	0.2	-	-

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	77	31	111	102	0
Future Vol, veh/h	0	77	31	111	102	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	88	35	126	116	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	161	0	98
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1418	-	958
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1418	-	958
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1418	-	-	-	803
HCM Lane V/C Ratio	-	-	-	-	0.144
HCM Control Delay (s)	0	-	-	-	10.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection													
Int Delay, s/veh	3.2												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	63	4	3	105	1	22	31	4	0	14	4
Future Vol, veh/h	1	63	4	3	105	1	22	31	4	0	14	4
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	4	4	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	72	5	3	119	1	25	35	5	0	16	5












Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	124	0	0	80	0	0	221	211	79	231	213	125
Stage 1	-	-	-	-	-	-	80	80	-	131	131	-
Stage 2	-	-	-	-	-	-	141	131	-	100	82	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1463	-	-	1518	-	-	735	686	981	724	684	926
Stage 1	-	-	-	-	-	-	929	828	-	873	788	-
Stage 2	-	-	-	-	-	-	862	788	-	906	827	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1462	-	-	1517	-	-	714	679	977	688	677	922
Mov Cap-2 Maneuver	-	-	-	-	-	-	714	679	-	688	677	-
Stage 1	-	-	-	-	-	-	925	824	-	869	784	-
Stage 2	-	-	-	-	-	-	838	784	-	862	823	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	10.6	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	708	1462	-	-	1517	-	-	719
HCM Lane V/C Ratio	0.091	0.001	-	-	0.002	-	-	0.028
HCM Control Delay (s)	10.6	7.5	0	-	7.4	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1























HCM 2010 Signalized Intersection Summary
 1: SR-75 & Fox Acres

6/8/2017

								
Movement	SEL	SET	NWT	NWR	SWL	SWR		
Lane Configurations								
Traffic Volume (veh/h)	607	1469	550	86	67	308		
Future Volume (veh/h)	607	1469	550	86	67	308		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	690	1669	625	98	76	350		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	747	2407	977	153	378	338		
Arrive On Green	0.31	0.68	0.32	0.32	0.21	0.21		
Sat Flow, veh/h	1774	3632	3161	480	1774	1583		
Grp Volume(v), veh/h	690	1669	360	363	76	350		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1778	1774	1583		
Q Serve(g_s), s	19.2	21.4	13.1	13.1	2.6	16.0		
Cycle Q Clear(g_c), s	19.2	21.4	13.1	13.1	2.6	16.0		
Prop In Lane	1.00			0.27	1.00	1.00		
Lane Grp Cap(c), veh/h	747	2407	563	566	378	338		
V/C Ratio(X)	0.92	0.69	0.64	0.64	0.20	1.04		
Avail Cap(c_a), veh/h	886	2407	563	566	378	338		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.4	7.3	21.9	21.9	24.2	29.5		
Incr Delay (d2), s/veh	13.6	1.7	5.5	5.5	0.3	58.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	16.2	10.8	7.3	7.3	1.3	12.4		
LnGrp Delay(d),s/veh	27.0	8.9	27.4	27.4	24.5	88.1		
LnGrp LOS	C	A	C	C	C	F		
Approach Vol, veh/h		2359	723		426			
Approach Delay, s/veh		14.2	27.4		76.8			
Approach LOS		B	C		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.1	27.9				55.0		20.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	29.0	18.0				51.0		16.0
Max Q Clear Time (g_c+I1), s	21.2	15.1				23.4		18.0
Green Ext Time (p_c), s	2.0	2.5				14.5		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			24.5					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary
 11: SH-75 & Bullion

6/8/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	88	105	241	80	56	112	902	59	66	1455	56
Future Volume (veh/h)	101	88	105	241	80	56	112	902	59	66	1455	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	115	100	119	274	91	64	127	1025	67	75	1653	64
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	204	170	293	239	200	177	1762	115	303	1766	68
Arrive On Green	0.07	0.12	0.12	0.09	0.14	0.14	0.05	0.58	0.58	0.04	0.56	0.56
Sat Flow, veh/h	1597	1676	1400	1597	1676	1404	1597	3034	198	1597	3126	121
Grp Volume(v), veh/h	115	100	119	274	91	64	127	538	554	75	839	878
Grp Sat Flow(s),veh/h/ln	1597	1676	1400	1597	1676	1404	1597	1593	1639	1597	1593	1654
Q Serve(g_s), s	6.0	5.3	7.8	9.0	4.7	3.9	3.2	20.4	20.4	1.9	46.3	47.1
Cycle Q Clear(g_c), s	6.0	5.3	7.8	9.0	4.7	3.9	3.2	20.4	20.4	1.9	46.3	47.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		0.07
Lane Grp Cap(c), veh/h	294	204	170	293	239	200	177	925	952	303	900	934
V/C Ratio(X)	0.39	0.49	0.70	0.93	0.38	0.32	0.72	0.58	0.58	0.25	0.93	0.94
Avail Cap(c_a), veh/h	294	281	234	293	316	264	177	925	952	345	900	934
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	39.2	40.3	38.2	37.2	36.8	22.4	12.7	12.7	10.2	19.1	19.3
Incr Delay (d2), s/veh	0.8	1.8	5.4	35.5	1.0	0.9	13.0	2.7	2.6	0.4	17.5	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.6	3.3	9.2	2.2	1.6	2.5	9.7	9.9	0.8	24.4	25.9
LnGrp Delay(d),s/veh	34.3	41.1	45.7	73.7	38.2	37.8	35.4	15.3	15.3	10.6	36.6	37.3
LnGrp LOS	C	D	D	E	D	D	D	B	B	B	D	D
Approach Vol, veh/h		334			429			1219			1792	
Approach Delay, s/veh		40.4			60.8			17.4			35.9	
Approach LOS		D			E			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	59.5	13.0	15.6	9.0	58.0	11.0	17.6				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	6.0	53.0	9.0	16.0	5.0	54.0	7.0	18.0				
Max Q Clear Time (g_c+I1), s	3.9	22.4	11.0	9.8	5.2	49.1	8.0	6.7				
Green Ext Time (p_c), s	0.0	25.3	0.0	0.9	0.0	4.7	0.0	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			33.1									
HCM 2010 LOS			C									

HCM 2010 Roundabout
4: Fox Acres & Woodside

4/17/2017

Intersection			
Intersection Delay, s/veh	14.0		
Intersection LOS	B		
Approach	WB	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	274	754	335
Demand Flow Rate, veh/h	280	769	341
Vehicles Circulating, veh/h	343	119	196
Vehicles Exiting, veh/h	545	418	427
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	15	7
Ped Cap Adj	1.000	0.998	0.999
Approach Delay, s/veh	8.8	18.5	8.1
Approach LOS	A	C	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	280	769	341
Cap Entry Lane, veh/h	802	1003	929
Entry HV Adj Factor	0.979	0.981	0.981
Flow Entry, veh/h	274	754	335
Cap Entry, veh/h	785	982	911
V/C Ratio	0.349	0.768	0.367
Control Delay, s/veh	8.8	18.5	8.1
LOS	A	C	A
95th %tile Queue, veh	2	8	2

Intersection												
Intersection Delay, s/veh	8.1											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	6	98	21	0	3	41	7	0	6	74	14
Future Vol, veh/h	0	6	98	21	0	3	41	7	0	6	74	14
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	111	24	0	3	47	8	0	7	84	16
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0
Approach												
	EB				WB				NB			
Opposing Approach	WB				EB				SB			
Opposing Lanes	1				1				1			
Conflicting Approach Left	SB				NB				EB			
Conflicting Lanes Left	1				1				1			
Conflicting Approach Right	NB				SB				WB			
Conflicting Lanes Right	1				1				1			
HCM Control Delay	8.3				7.8				8.1			
HCM LOS	A				A				A			
Lane												
	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	6%	5%	6%	19%								
Vol Thru, %	79%	78%	80%	79%								
Vol Right, %	15%	17%	14%	1%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	94	125	51	78								
LT Vol	6	6	3	15								
Through Vol	74	98	41	62								
RT Vol	14	21	7	1								
Lane Flow Rate	107	142	58	89								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.131	0.172	0.072	0.112								
Departure Headway (Hd)	4.414	4.359	4.473	4.54								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	814	825	802	791								
Service Time	2.433	2.377	2.493	2.559								
HCM Lane V/C Ratio	0.131	0.172	0.072	0.113								
HCM Control Delay	8.1	8.3	7.8	8.1								
HCM Lane LOS	A	A	A	A								
HCM 95th-tile Q	0.4	0.6	0.2	0.4								

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	15	62	1
Future Vol, veh/h	0	15	62	1
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	17	70	1
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8.1
HCM LOS	A

Lane

Intersection

Int Delay, s/veh 0.5

Movement	NBL	NBR	NET	NER	SWL	SWT
Traffic Vol, veh/h	23	1	669	60	0	352
Future Vol, veh/h	23	1	669	60	0	352
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	1	760	68	0	400

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1194	794	0	0	828	0
Stage 1	794	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	206	388	-	-	803	-
Stage 1	445	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	206	388	-	-	803	-
Mov Cap-2 Maneuver	206	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	677	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	24.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	210	803	-
HCM Lane V/C Ratio	-	-	0.13	-	-
HCM Control Delay (s)	-	-	24.7	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	63	279	186	4	6	89
Future Vol, veh/h	63	279	186	4	6	89
Conflicting Peds, #/hr	10	0	0	10	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	317	211	5	7	101

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	217	0	675
Stage 1	-	-	215
Stage 2	-	-	460
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1353	-	419
Stage 1	-	-	821
Stage 2	-	-	636
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1342	-	391
Mov Cap-2 Maneuver	-	-	391
Stage 1	-	-	820
Stage 2	-	-	594

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1342	-	-	-	756
HCM Lane V/C Ratio	0.053	-	-	-	0.143
HCM Control Delay (s)	7.8	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5

Intersection

Int Delay, s/veh 2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	6	49	57	3	56	162
Future Vol, veh/h	6	49	57	3	56	162
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	56	65	3	64	184

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	377	67	0
Stage 1	66	-	-
Stage 2	311	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	625	997	1533
Stage 1	957	-	-
Stage 2	743	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	595	996	1532
Mov Cap-2 Maneuver	595	-	-
Stage 1	957	-	-
Stage 2	707	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	1.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	928	1532
HCM Lane V/C Ratio	-	-	0.067	0.042
HCM Control Delay (s)	-	-	9.2	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Intersection

Int Delay, s/veh 1.8

Movement	EBL	EBT	WBT	WBR	SEL	SER
Traffic Vol, veh/h	1	226	192	47	79	3
Future Vol, veh/h	1	226	192	47	79	3
Conflicting Peds, #/hr	6	0	0	3	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	257	218	53	90	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	273	0	505
Stage 1	-	-	246
Stage 2	-	-	259
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1290	-	527
Stage 1	-	-	795
Stage 2	-	-	784
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1284	-	526
Mov Cap-2 Maneuver	-	-	600
Stage 1	-	-	794
Stage 2	-	-	783

Approach	EB	WB	SE
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1284	-	-	-	605
HCM Lane V/C Ratio	0.001	-	-	-	0.154
HCM Control Delay (s)	7.8	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection

Int Delay, s/veh 5.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	26	226	4	176	261	1
Future Vol, veh/h	26	226	4	176	261	1
Conflicting Peds, #/hr	0	36	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	257	5	200	297	1

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	287
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1275
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1275
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	656	885	-	-	1275	-
HCM Lane V/C Ratio	0.452	0.001	-	-	0.004	-
HCM Control Delay (s)	14.9	9.1	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	2.4	0	-	-	0	-

Intersection

Int Delay, s/veh 5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	109	0	19	9	1	72
Future Vol, veh/h	109	0	19	9	1	72
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	0	22	10	1	82

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	111	27	0 0 32 0
Stage 1	27	-	- - - -
Stage 2	84	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	886	1048	- - 1580 -
Stage 1	996	-	- - - -
Stage 2	939	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	885	1048	- - 1580 -
Mov Cap-2 Maneuver	841	-	- - - -
Stage 1	996	-	- - - -
Stage 2	938	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 841	1580	-
HCM Lane V/C Ratio	-	- 0.147	0.001	-
HCM Control Delay (s)	-	- 10	7.3	-
HCM Lane LOS	-	- B	A	-
HCM 95th %tile Q(veh)	-	- 0.5	0	-

Intersection

Int Delay, s/veh 7.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	74	0	0	19	0	0
Future Vol, veh/h	74	0	0	19	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	0	0	22	0	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	11	11	0 0 22 0
Stage 1	11	-	- - - -
Stage 2	0	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	1009	1070	- - 1593 -
Stage 1	1012	-	- - - -
Stage 2	-	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	1009	1070	- - 1593 -
Mov Cap-2 Maneuver	924	-	- - - -
Stage 1	1012	-	- - - -
Stage 2	-	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 924	1593	-
HCM Lane V/C Ratio	-	- 0.091	-	-
HCM Control Delay (s)	-	- 9.3	0	-
HCM Lane LOS	-	- A	A	-
HCM 95th %tile Q(veh)	-	- 0.3	0	-

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	7	62	36	6	59	48	969	115	56	1740	34
Future Vol, veh/h	1	7	62	36	6	59	48	969	115	56	1740	34
Conflicting Peds, #/hr	6	0	8	8	0	6	15	0	3	3	0	15
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	8	70	41	7	67	55	1101	131	64	1977	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2803	3481	1031	2412	3435	639	2024	0	0	1240	0	0
Stage 1	2132	2132	-	1284	1284	-	-	-	-	-	-	-
Stage 2	671	1349	-	1128	2151	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	8	~ 6	230	~ 17	7	419	277	-	-	557	-	-
Stage 1	51	88	-	174	234	-	-	-	-	-	-	-
Stage 2	412	217	-	218	86	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 2	226	-	~ 2	411	274	-	-	550	-	-
Mov Cap-2 Maneuver	-	~ 2	-	-	~ 2	-	-	-	-	-	-	-
Stage 1	17	87	-	58	77	-	-	-	-	-	-	-
Stage 2	103	72	-	135	85	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			6.5	0.4
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	274	-	-	-	550	-	-
HCM Lane V/C Ratio	0.199	-	-	-	0.116	-	-
HCM Control Delay (s)	21.4	6.5	-	-	12.4	0	-
HCM Lane LOS	C	A	-	-	B	A	-
HCM 95th %tile Q(veh)	0.7	-	-	-	0.4	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	3	125	32	69	106	1
Future Vol, veh/h	3	125	32	69	106	1
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	142	36	78	120	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	116	0	77
Stage 1	-	-	77
Stage 2	-	-	149
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1473	-	984
Stage 1	-	-	946
Stage 2	-	-	879
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1473	-	983
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	945
Stage 2	-	-	877

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1473	-	-	-	761
HCM Lane V/C Ratio	0.002	-	-	-	0.16
HCM Control Delay (s)	7.5	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	98	17	4	87	0	10	25	11	7	17	6
Future Vol, veh/h	3	98	17	4	87	0	10	25	11	7	17	6
Conflicting Peds, #/hr	1	0	10	10	0	1	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	111	19	5	99	0	11	28	13	8	19	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	102	0	0	134	0	0	255	242	134	262	252	112
Stage 1	-	-	-	-	-	-	131	131	-	111	111	-
Stage 2	-	-	-	-	-	-	124	111	-	151	141	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1490	-	-	1451	-	-	698	660	915	691	651	941
Stage 1	-	-	-	-	-	-	873	788	-	894	804	-
Stage 2	-	-	-	-	-	-	880	804	-	851	780	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1478	-	-	1439	-	-	667	653	905	649	644	931
Mov Cap-2 Maneuver	-	-	-	-	-	-	667	653	-	649	644	-
Stage 1	-	-	-	-	-	-	869	784	-	890	799	-
Stage 2	-	-	-	-	-	-	842	799	-	800	776	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	10.5	10.5
HCM LOS			B	B












Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	703	1478	-	-	1439	-	-	688
HCM Lane V/C Ratio	0.074	0.002	-	-	0.003	-	-	0.05
HCM Control Delay (s)	10.5	7.4	0	-	7.5	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

APPENDIX D – 2042 WITH PROJECT ANALYSIS RESULTS

HCM 2010 Signalized Intersection Summary
























1: SR-75 & Fox Acres

6/8/2017

								
Movement	SEL	SET	NWT	NWR	SWL	SWR		
Lane Configurations								
Traffic Volume (veh/h)	315	550	1389	145	87	665		
Future Volume (veh/h)	365	550	1389	168	96	735		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	415	625	1578	191	109	835		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	291	2220	1477	176	532	475		
Arrive On Green	0.13	0.63	0.46	0.46	0.30	0.30		
Sat Flow, veh/h	1774	3632	3278	380	1774	1583		
Grp Volume(v), veh/h	415	625	867	902	109	835		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1796	1774	1583		
Q Serve(g_s), s	14.0	8.8	51.0	51.0	5.0	33.0		
Cycle Q Clear(g_c), s	14.0	8.8	51.0	51.0	5.0	33.0		
Prop In Lane	1.00			0.21	1.00	1.00		
Lane Grp Cap(c), veh/h	291	2220	820	833	532	475		
V/C Ratio(X)	1.42	0.28	1.06	1.08	0.20	1.76		
Avail Cap(c_a), veh/h	291	2220	820	833	532	475		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	36.8	9.3	29.5	29.5	28.7	38.5		
Incr Delay (d2), s/veh	210.1	0.3	47.6	56.2	0.2	349.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	25.8	4.4	35.7	38.2	2.5	60.5		
LnGrp Delay(d),s/veh	246.8	9.6	77.1	85.7	28.9	388.1		
LnGrp LOS	F	A	F	F	C	F		
Approach Vol, veh/h		1040	1769		944			
Approach Delay, s/veh		104.3	81.5		346.6			
Approach LOS		F	F		F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	18.0	55.0				73.0		37.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	14.0	51.0				69.0		33.0
Max Q Clear Time (g_c+I1), s	16.0	53.0				10.8		35.0
Green Ext Time (p_c), s	0.0	0.0				18.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			154.5					
HCM 2010 LOS			F					

HCM 2010 Signalized Intersection Summary
 11: SH-75 & Bullion

6/8/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	41	56	185	49	70	45	1416	47	28	648	19
Future Volume (veh/h)	150	41	65	185	49	70	50	1565	47	28	752	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	170	47	74	210	56	80	57	1778	53	32	855	22
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	145	123	253	145	123	419	2044	61	161	2025	52
Arrive On Green	0.07	0.09	0.09	0.07	0.09	0.09	0.03	0.65	0.65	0.02	0.64	0.64
Sat Flow, veh/h	1597	1676	1420	1597	1676	1420	1597	3158	94	1597	3173	82
Grp Volume(v), veh/h	170	47	74	210	56	80	57	893	938	32	429	448
Grp Sat Flow(s),veh/h/ln	1597	1676	1420	1597	1676	1420	1597	1593	1660	1597	1593	1662
Q Serve(g_s), s	6.0	2.4	4.6	6.0	2.9	5.0	1.1	40.9	41.7	0.6	12.1	12.1
Cycle Q Clear(g_c), s	6.0	2.4	4.6	6.0	2.9	5.0	1.1	40.9	41.7	0.6	12.1	12.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		0.05
Lane Grp Cap(c), veh/h	246	145	123	253	145	123	419	1031	1074	161	1016	1060
V/C Ratio(X)	0.69	0.32	0.60	0.83	0.39	0.65	0.14	0.87	0.87	0.20	0.42	0.42
Avail Cap(c_a), veh/h	246	295	250	253	295	250	435	1031	1074	192	1016	1060
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	39.0	40.0	39.1	39.3	40.2	6.0	12.9	13.0	16.0	8.1	8.1
Incr Delay (d2), s/veh	8.0	1.3	4.7	20.3	1.7	5.8	0.1	9.7	9.8	0.6	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	1.2	1.9	6.2	1.4	2.1	0.5	20.4	21.7	0.4	5.6	5.8
LnGrp Delay(d),s/veh	45.8	40.3	44.7	59.4	40.9	46.0	6.1	22.6	22.8	16.6	9.4	9.4
LnGrp LOS	D	D	D	E	D	D	A	C	C	B	A	A
Approach Vol, veh/h		291			346			1888			909	
Approach Delay, s/veh		44.7			53.3			22.2			9.7	
Approach LOS		D			D			C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	62.8	10.0	11.8	7.1	62.0	10.0	11.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	4.0	58.0	6.0	16.0	4.0	58.0	6.0	16.0				
Max Q Clear Time (g_c+I1), s	2.6	43.7	8.0	6.6	3.1	14.1	8.0	7.0				
Green Ext Time (p_c), s	0.0	12.8	0.0	0.7	0.0	33.2	0.0	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			23.9									
HCM 2010 LOS			C									

HCM 2010 Roundabout
4: Fox Acres & Woodside

6/8/2017

Intersection			
Intersection Delay, s/veh	31.2		
Intersection LOS	D		
Approach	WB	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	663	607	494
Demand Flow Rate, veh/h	676	619	504
Vehicles Circulating, veh/h	501	86	483
Vehicles Exiting, veh/h	204	901	694
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	15	7
Ped Cap Adj	1.000	0.998	0.999
Approach Delay, s/veh	56.3	11.7	21.4
Approach LOS	F	B	C
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	676	619	504
Cap Entry Lane, veh/h	685	1037	697
Entry HV Adj Factor	0.981	0.981	0.980
Flow Entry, veh/h	663	607	494
Cap Entry, veh/h	671	1015	682
V/C Ratio	0.987	0.598	0.724
Control Delay, s/veh	56.3	11.7	21.4
LOS	F	B	C
95th %tile Queue, veh	15	4	6

Intersection												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	13	38	7	0	3	18	4	0	3	56	10
Future Vol, veh/h	0	13	162	7	0	3	175	10	0	3	56	12
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	15	184	8	0	3	199	11	0	3	64	14
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0
Approach	EB			WB				NB				
Opposing Approach	WB			EB				SB				
Opposing Lanes	1			1				1				
Conflicting Approach Left	SB			NB				EB				
Conflicting Lanes Left	1			1				1				
Conflicting Approach Right	NB			SB				WB				
Conflicting Lanes Right	1			1				1				
HCM Control Delay	9.4			9.5				8.7				
HCM LOS	A			A				A				
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	4%	7%	2%	22%								
Vol Thru, %	79%	89%	93%	75%								
Vol Right, %	17%	4%	5%	3%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	71	182	188	101								
LT Vol	3	13	3	22								
Through Vol	56	162	175	76								
RT Vol	12	7	10	3								
Lane Flow Rate	81	207	214	115								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.112	0.268	0.275	0.161								
Departure Headway (Hd)	4.977	4.666	4.639	5.044								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	716	767	771	707								
Service Time	3.037	2.714	2.688	3.101								
HCM Lane V/C Ratio	0.113	0.27	0.278	0.163								
HCM Control Delay	8.7	9.4	9.5	9.1								
HCM Lane LOS	A	A	A	A								
HCM 95th-tile Q	0.4	1.1	1.1	0.6								

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	10	76	3
Future Vol, veh/h	0	22	76	3
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	25	86	3
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.1
HCM LOS	A

Lane

Intersection

Int Delay, s/veh 1.9

Movement	NBL	NBR	NET	NER	SWL	SWT
Traffic Vol, veh/h	49	7	454	6	3	703
Future Vol, veh/h	49	8	527	6	3	782
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	9	599	7	3	889

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1498	604	0	0	607	0
Stage 1	603	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	135	498	-	-	971	-
Stage 1	546	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	134	497	-	-	970	-
Mov Cap-2 Maneuver	134	-	-	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	396	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	46.6	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	149	970	-
HCM Lane V/C Ratio	-	-	0.435	0.004	-
HCM Control Delay (s)	-	-	46.6	8.7	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	1.9	0	-

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	53	422	238	3	30	112
Future Vol, veh/h	53	519	324	3	35	112
Conflicting Peds, #/hr	14	0	0	14	14	14
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	590	368	3	40	127

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	386	0	398
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1172	-	652
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1158	-	637
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1158	-	-	-	433
HCM Lane V/C Ratio	0.052	-	-	-	0.386
HCM Control Delay (s)	8.3	0	-	-	18.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	1.8

Intersection

Int Delay, s/veh 5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	3	41	98	3	46	141
Future Vol, veh/h	3	206	98	3	192	141
Conflicting Peds, #/hr	0	0	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	234	111	3	218	160

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	710	116	0
Stage 1	113	-	-
Stage 2	597	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	400	936	1474
Stage 1	912	-	-
Stage 2	550	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	334	934	1470
Mov Cap-2 Maneuver	334	-	-
Stage 1	912	-	-
Stage 2	459	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	4.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	911	1470
HCM Lane V/C Ratio	-	-	0.261	0.148
HCM Control Delay (s)	-	-	10.3	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1	0.5

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBT	WBT	WBR	SEL	SER
Traffic Vol, veh/h	3	457	235	66	178	3
Future Vol, veh/h	3	559	321	73	206	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	635	365	83	234	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	448	0	1048
Stage 1	-	-	406
Stage 2	-	-	642
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1112	-	252
Stage 1	-	-	673
Stage 2	-	-	524
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1112	-	251
Mov Cap-2 Maneuver	-	-	380
Stage 1	-	-	673
Stage 2	-	-	523

Approach	EB	WB	SE
HCM Control Delay, s	0	0	28.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1112	-	-	-	382
HCM Lane V/C Ratio	0.003	-	-	-	0.622
HCM Control Delay (s)	8.2	-	-	-	28.7
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	4

Intersection

Int Delay, s/veh 6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	112	520	11	23	274	1
Future Vol, veh/h	242	520	12	116	274	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	275	591	14	132	311	1

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	866
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	777
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	777
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	26.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	470	521	-	-	777	-
HCM Lane V/C Ratio	0.662	0.002	-	-	0.018	-
HCM Control Delay (s)	26.4	11.9	-	-	9.7	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	4.8	0	-	-	0.1	-

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	17	1	46	76	0	19
Future Vol, veh/h	17	1	176	76	0	113
Conflicting Peds, #/hr	3	3	0	3	3	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	19	1	200	86	0	128

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	374	249	0 0 289 0
Stage 1	246	-	- - - -
Stage 2	128	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	627	790	- - 1273 -
Stage 1	795	-	- - - -
Stage 2	898	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	624	786	- - 1270 -
Mov Cap-2 Maneuver	665	-	- - - -
Stage 1	793	-	- - - -
Stage 2	896	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 671	1270	-
HCM Lane V/C Ratio	-	- 0.03	-	-
HCM Control Delay (s)	-	- 10.5	0	-
HCM Lane LOS	-	- B	A	-
HCM 95th %tile Q(veh)	-	- 0.1	0	-

Intersection

Int Delay, s/veh 0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	19	0	0	47	0	0
Future Vol, veh/h	19	0	130	47	0	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	0	148	53	0	107

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	281	174	0
Stage 1	174	-	-
Stage 2	107	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	709	869	1371
Stage 1	856	-	-
Stage 2	917	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	709	869	1371
Mov Cap-2 Maneuver	726	-	-
Stage 1	856	-	-
Stage 2	917	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	726	1371
HCM Lane V/C Ratio	-	-	0.03	-
HCM Control Delay (s)	-	-	10.1	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh 47.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	1	17	10	1	32	52	1501	66	17	890	11
Future Vol, veh/h	3	1	17	11	1	186	52	1501	77	130	890	11
Conflicting Peds, #/hr	1	0	1	1	0	1	4	0	3	3	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	19	13	1	211	59	1706	88	148	1011	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2287	3226	517	2672	3189	902	1025	0	0	1794	0	0
Stage 1	1314	1314	-	1869	1869	-	-	-	-	-	-	-
Stage 2	973	1912	-	803	1320	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	21	9	503	~ 11	10	281	673	-	-	341	-	-
Stage 1	167	226	-	75	120	-	-	-	-	-	-	-
Stage 2	271	114	-	343	225	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	5	9	501	~ 10	10	280	671	-	-	340	-	-
Mov Cap-2 Maneuver	5	9	-	~ 10	10	-	-	-	-	-	-	-
Stage 1	167	226	-	75	120	-	-	-	-	-	-	-
Stage 2	66	114	-	327	225	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	\$ 324.9	\$ 601.8	0.3	10.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	671	-	-	28	106	340	-	-
HCM Lane V/C Ratio	0.088	-	-	0.852	2.123	0.434	-	-
HCM Control Delay (s)	10.9	0	-	\$ 324.9	\$ 601.8	23.5	9.1	-
HCM Lane LOS	B	A	-	F	F	C	A	-
HCM 95th %tile Q(veh)	0.3	-	-	2.7	19.3	2.1	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	0	77	31	111	102	0
Future Vol, veh/h	0	223	196	111	102	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	253	223	126	116	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	349	0	286
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1210	-	753
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1210	-	753
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1210	-	-	-	503
HCM Lane V/C Ratio	-	-	-	-	0.23
HCM Control Delay (s)	0	-	-	-	14.3
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	63	4	3	105	1	22	31	4	0	14	4
Future Vol, veh/h	1	63	4	3	106	1	22	31	4	0	14	4
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	4	4	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	72	5	3	120	1	25	35	5	0	16	5












Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	126	0	0	80	0	0	222	212	79	232	214	126
Stage 1	-	-	-	-	-	-	80	80	-	132	132	-
Stage 2	-	-	-	-	-	-	142	132	-	100	82	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1460	-	-	1518	-	-	734	685	981	723	684	924
Stage 1	-	-	-	-	-	-	929	828	-	871	787	-
Stage 2	-	-	-	-	-	-	861	787	-	906	827	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1459	-	-	1517	-	-	713	678	977	687	677	920
Mov Cap-2 Maneuver	-	-	-	-	-	-	713	678	-	687	677	-
Stage 1	-	-	-	-	-	-	925	824	-	867	783	-
Stage 2	-	-	-	-	-	-	837	783	-	862	823	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	10.6	10.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	707	1459	-	-	1517	-	-	719
HCM Lane V/C Ratio	0.092	0.001	-	-	0.002	-	-	0.028
HCM Control Delay (s)	10.6	7.5	0	-	7.4	0	-	10.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.1

HCM 2010 Signalized Intersection Summary
 1: SR-75 & Fox Acres

6/8/2017

								
Movement	SEL	SET	NWT	NWR	SWL	SWR		
Lane Configurations								
Traffic Volume (veh/h)	607	1469	550	86	67	308		
Future Volume (veh/h)	665	1469	550	94	78	357		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	756	1669	625	107	89	406		
Adj No. of Lanes	1	2	2	0	1	1		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	795	2407	785	134	378	338		
Arrive On Green	0.37	0.68	0.26	0.26	0.21	0.21		
Sat Flow, veh/h	1774	3632	3117	517	1774	1583		
Grp Volume(v), veh/h	756	1669	365	367	89	406		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1772	1774	1583		
Q Serve(g_s), s	24.7	21.4	14.4	14.5	3.1	16.0		
Cycle Q Clear(g_c), s	24.7	21.4	14.4	14.5	3.1	16.0		
Prop In Lane	1.00			0.29	1.00	1.00		
Lane Grp Cap(c), veh/h	795	2407	459	460	378	338		
V/C Ratio(X)	0.95	0.69	0.80	0.80	0.24	1.20		
Avail Cap(c_a), veh/h	830	2407	459	460	378	338		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.4	7.3	25.9	25.9	24.4	29.5		
Incr Delay (d2), s/veh	19.8	1.7	13.3	13.5	0.3	115.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	19.3	10.8	8.7	8.7	1.6	17.8		
LnGrp Delay(d),s/veh	35.2	8.9	39.2	39.4	24.7	145.3		
LnGrp LOS	D	A	D	D	C	F		
Approach Vol, veh/h		2425	732		495			
Approach Delay, s/veh		17.1	39.3		123.6			
Approach LOS		B	D		F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	31.5	23.5				55.0		20.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	29.0	18.0				51.0		16.0
Max Q Clear Time (g_c+I1), s	26.7	16.5				23.4		18.0
Green Ext Time (p_c), s	0.9	1.3				14.6		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			36.0					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary
 11: SH-75 & Bullion

6/8/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	88	105	241	80	56	112	902	59	66	1455	56
Future Volume (veh/h)	101	88	115	241	80	56	130	1044	59	66	1594	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	0.99		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1676	1676	1676	1676	1676	1676	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	115	100	131	274	91	64	148	1186	67	75	1811	64
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	2	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	178	148	280	245	206	167	1971	111	262	1907	67
Arrive On Green	0.07	0.11	0.11	0.11	0.15	0.15	0.07	0.64	0.64	0.03	0.61	0.61
Sat Flow, veh/h	1597	1676	1397	1597	1676	1405	1597	3064	173	1597	3138	110
Grp Volume(v), veh/h	115	100	131	274	91	64	148	616	637	75	914	961
Grp Sat Flow(s),veh/h/ln	1597	1676	1397	1597	1676	1405	1597	1593	1644	1597	1593	1656
Q Serve(g_s), s	9.5	8.5	13.9	17.0	7.3	6.1	7.8	33.7	33.8	2.7	79.2	81.2
Cycle Q Clear(g_c), s	9.5	8.5	13.9	17.0	7.3	6.1	7.8	33.7	33.8	2.7	79.2	81.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		0.07
Lane Grp Cap(c), veh/h	271	178	148	280	245	206	167	1025	1058	262	968	1006
V/C Ratio(X)	0.42	0.56	0.88	0.98	0.37	0.31	0.89	0.60	0.60	0.29	0.94	0.95
Avail Cap(c_a), veh/h	271	179	149	280	246	206	169	1025	1058	278	968	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.3	63.6	66.0	56.7	57.7	57.2	47.1	15.5	15.5	13.6	27.1	27.4
Incr Delay (d2), s/veh	1.1	3.9	41.3	47.7	0.9	0.9	38.4	2.6	2.5	0.6	18.3	19.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	4.1	7.0	13.6	3.5	2.4	7.8	15.5	16.0	1.2	39.5	42.2
LnGrp Delay(d),s/veh	55.3	67.5	107.3	104.4	58.6	58.0	85.5	18.1	18.1	14.2	45.3	46.8
LnGrp LOS	E	E	F	F	E	E	F	B	B	B	D	D
Approach Vol, veh/h		346			429			1401			1950	
Approach Delay, s/veh		78.5			87.8			25.2			44.9	
Approach LOS		E			F			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	100.3	21.0	19.9	13.8	95.0	15.0	25.9				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	6.0	95.0	17.0	16.0	10.0	91.0	11.0	22.0				
Max Q Clear Time (g_c+I1), s	4.7	35.8	19.0	15.9	9.8	83.2	11.5	9.3				
Green Ext Time (p_c), s	0.0	48.0	0.0	0.0	0.0	7.5	0.0	1.4				
Intersection Summary												
HCM 2010 Ctrl Delay			45.5									
HCM 2010 LOS			D									

HCM 2010 Roundabout
4: Fox Acres & Woodside

6/8/2017

Intersection			
Intersection Delay, s/veh	18.5		
Intersection LOS	C		
Approach	WB	NE	SW
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	282	829	421
Demand Flow Rate, veh/h	288	845	430
Vehicles Circulating, veh/h	419	138	196
Vehicles Exiting, veh/h	564	488	511
Follow-Up Headway, s	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	15	7
Ped Cap Adj	1.000	0.998	0.999
Approach Delay, s/veh	10.0	25.9	9.6
Approach LOS	A	D	A
Lane	Left	Left	Left
Designated Moves	LR	TR	LT
Assumed Moves	LR	TR	LT
RT Channelized			
Lane Util	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193
Entry Flow, veh/h	288	845	430
Cap Entry Lane, veh/h	743	984	929
Entry HV Adj Factor	0.979	0.981	0.980
Flow Entry, veh/h	282	829	421
Cap Entry, veh/h	728	963	909
V/C Ratio	0.388	0.860	0.463
Control Delay, s/veh	10.0	25.9	9.6
LOS	A	D	A
95th %tile Queue, veh	2	11	2

Intersection												
Intersection Delay, s/veh	10.5											
Intersection LOS	B											
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	6	98	21	0	3	41	7	0	6	74	14
Future Vol, veh/h	0	6	259	21	0	3	208	8	0	6	74	15
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	294	24	0	3	236	9	0	7	84	17
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0
Approach	EB				WB				NB			
Opposing Approach	WB				EB				SB			
Opposing Lanes	1				1				1			
Conflicting Approach Left	SB				NB				EB			
Conflicting Lanes Left	1				1				1			
Conflicting Approach Right	NB				SB				WB			
Conflicting Lanes Right	1				1				1			
HCM Control Delay	11.3				10.3				9.4			
HCM LOS	B				B				A			
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	6%	2%	1%	20%								
Vol Thru, %	78%	91%	95%	78%								
Vol Right, %	16%	7%	4%	1%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	95	286	219	79								
LT Vol	6	6	3	16								
Through Vol	74	259	208	62								
RT Vol	15	21	8	1								
Lane Flow Rate	108	325	249	90								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.159	0.426	0.333	0.139								
Departure Headway (Hd)	5.422	4.717	4.823	5.564								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	666	757	739	648								
Service Time	3.422	2.791	2.903	3.564								
HCM Lane V/C Ratio	0.162	0.429	0.337	0.139								
HCM Control Delay	9.4	11.3	10.3	9.5								
HCM Lane LOS	A	B	B	A								
HCM 95th-tile Q	0.6	2.1	1.5	0.5								

Intersection

Intersection Delay, s/veh
 Intersection LOS

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	15	62	1
Future Vol, veh/h	0	16	62	1
Peak Hour Factor	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	18	70	1
Number of Lanes	0	0	1	0

Approach SB

Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	9.5
HCM LOS	A

Lane

Intersection

Int Delay, s/veh 0.6

Movement	NBL	NBR	NET	NER	SWL	SWT
Traffic Vol, veh/h	23	1	669	60	0	352
Future Vol, veh/h	23	1	735	60	0	412
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	1	835	68	0	468

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1337	869	0	0	903	0
Stage 1	869	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	169	351	-	-	753	-
Stage 1	410	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	169	351	-	-	753	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	630	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	29.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	173	753	-
HCM Lane V/C Ratio	-	-	0.158	-	-
HCM Control Delay (s)	-	-	29.7	0	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	63	279	186	4	6	89
Future Vol, veh/h	63	352	262	5	7	89
Conflicting Peds, #/hr	10	0	0	10	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	400	298	6	8	101

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	304	0	845
Stage 1	-	-	302
Stage 2	-	-	543
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1257	-	728
Stage 1	-	-	750
Stage 2	-	-	582
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1247	-	721
Mov Cap-2 Maneuver	-	-	308
Stage 1	-	-	749
Stage 2	-	-	538

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1247	-	-	-	657
HCM Lane V/C Ratio	0.057	-	-	-	0.166
HCM Control Delay (s)	8.1	0	-	-	11.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection

Int Delay, s/veh 6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	6	49	57	3	56	162
Future Vol, veh/h	7	219	57	3	226	162
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	249	65	3	257	184

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	764	67	0
Stage 1	66	-	-
Stage 2	698	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	372	997	1533
Stage 1	957	-	-
Stage 2	494	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	302	996	1532
Mov Cap-2 Maneuver	302	-	-
Stage 1	957	-	-
Stage 2	401	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	4.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	930	1532
HCM Lane V/C Ratio	-	-	0.276	0.168
HCM Control Delay (s)	-	-	10.3	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	1.1	0.6

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SEL	SER
Traffic Vol, veh/h	1	226	192	47	79	3
Future Vol, veh/h	1	300	269	54	87	3
Conflicting Peds, #/hr	6	0	0	3	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	341	306	61	99	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	368	0	680
Stage 1	-	-	337
Stage 2	-	-	343
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1191	-	417
Stage 1	-	-	723
Stage 2	-	-	719
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1185	-	416
Mov Cap-2 Maneuver	-	-	518
Stage 1	-	-	722
Stage 2	-	-	718

Approach	EB	WB	SE
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1185	-	-	-	522
HCM Lane V/C Ratio	0.001	-	-	-	0.196
HCM Control Delay (s)	8	-	-	-	13.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Intersection

Int Delay, s/veh 5.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	26	226	4	176	261	1
Future Vol, veh/h	108	226	5	260	261	1
Conflicting Peds, #/hr	0	36	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	50
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	257	6	295	297	1

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	381
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1177
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1177
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	558	786	-	-	1177	-
HCM Lane V/C Ratio	0.532	0.001	-	-	0.005	-
HCM Control Delay (s)	18.5	9.6	-	-	8.1	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	3.1	0	-	-	0	-

Intersection

Int Delay, s/veh 3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	109	0	19	9	1	72
Future Vol, veh/h	109	0	101	9	1	157
Conflicting Peds, #/hr	0	0	0	1	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	0	115	10	1	178

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	301	120	0	0	125	0
Stage 1	120	-	-	-	-	-
Stage 2	181	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	691	931	-	-	1462	-
Stage 1	905	-	-	-	-	-
Stage 2	850	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	690	931	-	-	1462	-
Mov Cap-2 Maneuver	713	-	-	-	-	-
Stage 1	905	-	-	-	-	-
Stage 2	849	-	-	-	-	-

Approach	WB		NB		SB
HCM Control Delay, s	11.1		0		0
HCM LOS	B				

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	713	1462
HCM Lane V/C Ratio	-	-	0.174	0.001
HCM Control Delay (s)	-	-	11.1	7.5
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0

Intersection

Int Delay, s/veh 2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	74	0	0	19	0	0
Future Vol, veh/h	74	0	82	19	0	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	0	93	22	0	97

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	201	104	0 0 115 0
Stage 1	104	-	- - - -
Stage 2	97	-	- - - -
Critical Hdwy	6.42	6.22	- - 4.12 -
Critical Hdwy Stg 1	5.42	-	- - - -
Critical Hdwy Stg 2	5.42	-	- - - -
Follow-up Hdwy	3.518	3.318	- - 2.218 -
Pot Cap-1 Maneuver	788	951	- - 1474 -
Stage 1	920	-	- - - -
Stage 2	927	-	- - - -
Platoon blocked, %			- - - -
Mov Cap-1 Maneuver	788	951	- - 1474 -
Mov Cap-2 Maneuver	781	-	- - - -
Stage 1	920	-	- - - -
Stage 2	927	-	- - - -

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 781	1474	-
HCM Lane V/C Ratio	-	- 0.108	-	-
HCM Control Delay (s)	-	- 10.2	0	-
HCM Lane LOS	-	- B	A	-
HCM 95th %tile Q(veh)	-	- 0.4	0	-

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	7	62	36	6	59	48	969	115	56	1740	34
Future Vol, veh/h	1	8	62	42	7	219	48	969	126	205	1740	34
Conflicting Peds, #/hr	6	0	8	8	0	6	15	0	3	3	0	15
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	9	70	48	8	249	55	1101	143	233	1977	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3143	3832	1031	2757	3780	645	2024	0	0	1252	0	0
Stage 1	2471	2471	-	1290	1290	-	-	-	-	-	-	-
Stage 2	672	1361	-	1467	2490	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	5	~ 4	230	~ 9	~ 4	415	277	-	-	552	-	-
Stage 1	30	59	-	173	232	-	-	-	-	-	-	-
Stage 2	412	215	-	134	58	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	~ 1	226	-	~ 1	407	274	-	-	545	-	-
Mov Cap-2 Maneuver	-	~ 1	-	-	~ 1	-	-	-	-	-	-	-
Stage 1	9	59	-	54	72	-	-	-	-	-	-	-
Stage 2	44	67	-	77	58	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			6.6	1.7
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	274	-	-	-	545	-	-
HCM Lane V/C Ratio	0.199	-	-	-	0.427	-	-
HCM Control Delay (s)	21.4	6.7	-	-	16.4	0	-
HCM Lane LOS	C	A	-	-	C	A	-
HCM 95th %tile Q(veh)	0.7	-	-	-	2.1	-	-

Notes
 -: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Vol, veh/h	3	125	32	69	106	1
Future Vol, veh/h	3	295	202	69	106	1
Conflicting Peds, #/hr	0	0	0	1	1	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	335	230	78	120	1

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	309	0	270
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	6.22
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	3.318
Pot Cap-1 Maneuver	1252	-	769
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1252	-	768
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1252	-	-	-	456
HCM Lane V/C Ratio	0.003	-	-	-	0.267
HCM Control Delay (s)	7.9	0	-	-	15.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.1

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	98	17	4	87	0	10	25	11	7	17	6
Future Vol, veh/h	3	98	17	5	87	0	10	25	12	8	17	6
Conflicting Peds, #/hr	1	0	10	10	0	1	3	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	111	19	6	99	0	11	28	14	9	19	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	102	0	0	134	0	0	257	244	134	265	254	112
Stage 1	-	-	-	-	-	-	131	131	-	113	113	-
Stage 2	-	-	-	-	-	-	126	113	-	152	141	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1490	-	-	1451	-	-	696	658	915	688	650	941
Stage 1	-	-	-	-	-	-	873	788	-	892	802	-
Stage 2	-	-	-	-	-	-	878	802	-	850	780	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1478	-	-	1439	-	-	665	651	905	645	643	931
Mov Cap-2 Maneuver	-	-	-	-	-	-	665	651	-	645	643	-
Stage 1	-	-	-	-	-	-	869	784	-	888	797	-
Stage 2	-	-	-	-	-	-	840	797	-	799	776	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	10.5	10.5
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	705	1478	-	-	1439	-	-	685
HCM Lane V/C Ratio	0.076	0.002	-	-	0.004	-	-	0.051
HCM Control Delay (s)	10.5	7.4	0	-	7.5	0	-	10.5
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

APPENDIX E – IMPROVEMENT ANALYSIS RESULTS

HCM 2010 Signalized Intersection Summary
 1: SR-75 & Fox Acres

6/8/2017

Movement	SEL	SET	NWT	NWR	SWL	SWR		
Lane Configurations								
Traffic Volume (veh/h)	315	550	1389	145	87	665		
Future Volume (veh/h)	365	550	1389	168	96	735		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	415	625	1578	191	109	835		
Adj No. of Lanes	1	2	2	0	1	2		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	415	2595	1592	190	315	1022		
Arrive On Green	0.19	0.73	0.50	0.50	0.18	0.18		
Sat Flow, veh/h	1774	3632	3278	380	1774	2787		
Grp Volume(v), veh/h	415	625	867	902	109	835		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1796	1774	1393		
Q Serve(g_s), s	17.0	5.1	43.2	45.0	4.8	16.0		
Cycle Q Clear(g_c), s	17.0	5.1	43.2	45.0	4.8	16.0		
Prop In Lane	1.00			0.21	1.00	1.00		
Lane Grp Cap(c), veh/h	415	2595	885	898	315	1022		
V/C Ratio(X)	1.00	0.24	0.98	1.00	0.35	0.82		
Avail Cap(c_a), veh/h	415	2595	885	898	315	1022		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.8	3.9	22.1	22.5	32.4	25.8		
Incr Delay (d2), s/veh	44.1	0.2	25.8	31.1	0.6	5.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	15.3	2.5	27.3	29.7	2.4	10.0		
LnGrp Delay(d),s/veh	74.0	4.1	47.9	53.6	33.1	31.1		
LnGrp LOS	E	A	D	F	C	C		
Approach Vol, veh/h		1040	1769		944			
Approach Delay, s/veh		32.0	50.8		31.3			
Approach LOS		C	D		C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	21.0	49.0				70.0		20.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	17.0	45.0				66.0		16.0
Max Q Clear Time (g_c+I1), s	19.0	47.0				7.1		18.0
Green Ext Time (p_c), s	0.0	0.0				18.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			40.7					
HCM 2010 LOS			D					

Intersection

Int Delay, s/veh 0.9

Movement	NBL	NBR	NET	NER	SWL	SWT
Traffic Vol, veh/h	49	7	454	6	3	703
Future Vol, veh/h	49	8	527	6	3	782
Conflicting Peds, #/hr	1	1	0	1	1	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	9	599	7	3	889

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1498	604	0	0	607	0
Stage 1	603	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	135	498	-	-	971	-
Stage 1	546	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	134	497	-	-	970	-
Mov Cap-2 Maneuver	269	-	-	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	396	-	-	-	-	-

Approach	NB		NE		SW
HCM Control Delay, s	21.1		0		0
HCM LOS	C				

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	288	970	-
HCM Lane V/C Ratio	-	-	0.225	0.004	-
HCM Control Delay (s)	-	-	21.1	8.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0	-

HCM 2010 Signalized Intersection Summary
 1: SR-75 & Fox Acres

6/8/2017



Movement	SEL	SET	NWT	NWR	SWL	SWR		
Lane Configurations								
Traffic Volume (veh/h)	607	1469	550	86	67	308		
Future Volume (veh/h)	665	1469	550	94	78	357		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	756	1669	625	107	89	406		
Adj No. of Lanes	1	2	2	0	1	2		
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	810	2551	984	168	313	491		
Arrive On Green	0.34	0.72	0.33	0.33	0.18	0.18		
Sat Flow, veh/h	1774	3632	3117	517	1774	2787		
Grp Volume(v), veh/h	756	1669	365	367	89	406		
Grp Sat Flow(s),veh/h/ln	1774	1770	1770	1772	1774	1393		
Q Serve(g_s), s	22.6	19.4	13.6	13.7	3.4	10.9		
Cycle Q Clear(g_c), s	22.6	19.4	13.6	13.7	3.4	10.9		
Prop In Lane	1.00			0.29	1.00	1.00		
Lane Grp Cap(c), veh/h	810	2551	576	577	313	491		
V/C Ratio(X)	0.93	0.65	0.63	0.64	0.28	0.83		
Avail Cap(c_a), veh/h	931	2551	576	577	365	574		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.0	5.7	22.3	22.3	27.8	30.9		
Incr Delay (d2), s/veh	14.7	1.3	5.2	5.3	0.5	8.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	18.4	9.7	7.4	7.5	1.7	4.8		
LnGrp Delay(d),s/veh	28.7	7.1	27.5	27.6	28.2	39.4		
LnGrp LOS	C	A	C	C	C	D		
Approach Vol, veh/h		2425	732		495			
Approach Delay, s/veh		13.8	27.5		37.4			
Approach LOS		B	C		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	30.7	29.3				60.0		17.7
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	32.0	20.0				56.0		16.0
Max Q Clear Time (g_c+I1), s	24.6	15.7				21.4		12.9
Green Ext Time (p_c), s	2.2	3.6				16.3		0.8
Intersection Summary								
HCM 2010 Ctrl Delay			19.7					
HCM 2010 LOS			B					

Intersection

Int Delay, s/veh 0.4

Movement	NBL	NBR	NET	NER	SWL	SWT
Traffic Vol, veh/h	23	1	669	60	0	352
Future Vol, veh/h	23	1	735	60	0	412
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	1	835	68	0	468

Major/Minor	Minor1	Minor2	Major1	Major2	Major3	Major4
Conflicting Flow All	1337	869	0	0	903	0
Stage 1	869	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	169	351	-	-	753	-
Stage 1	410	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	169	351	-	-	753	-
Mov Cap-2 Maneuver	299	-	-	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	630	-	-	-	-	-

Approach	NB	NE	SW
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NET	NER	NBLn1	SWL	SWT
Capacity (veh/h)	-	-	301	753	-
HCM Lane V/C Ratio	-	-	0.091	-	-
HCM Control Delay (s)	-	-	18.1	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-