

# **Final *Draft* Traffic Impact Study**

**Quigley Canyon Development**

**Prepared for  
Hennessey Company**

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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 Canyon 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 three horizon years have been analyzed for this study. Phase I of the project is scheduled to be complete in 2013. In 2024, the Quigley Canyon Development is scheduled to be completed. Additionally, traffic in the horizon year of 2029 was analyzed to evaluate anticipated conditions five years after completion of the development.

### ***B. Executive Summary***

#### *Location and Study Area*

The Quigley Canyon Development is located on approximately 912 acres on the eastern edge of Hailey, Idaho. The project will use Fox Acres Road as a primary access to the proposed development. A secondary access will be constructed on Quigley Drive for local residential access. The following off-site intersections along Fox Acres Road have been analyzed as part of this study:

- Main Street (SH-75)
- Creekside Drive
- Woodside Blvd.
- Eastridge Drive
- Foxmoor Drive
- Wood River High School Driveways (South, Middle, and North)

Additionally, the intersection of Eastridge Drive, 8<sup>th</sup> Avenue and Croy Street was analyzed to evaluate impacts of the Quigley Drive access to the proposed development. The traffic distribution was assumed to be 75% using the Fox Acres Road access and 25% using the Quigley Drive Access.

#### *Development Description*

The proposed Quigley Canyon Development includes 417 detached homes and 27 town homes. The total area of the development is approximately 912 acres.

#### *Principal Findings*

The results of this traffic analysis indicate Fox Acres Road and Quigley Drive would provide sufficient access to the development. Phase I of the project will not have any significant impacts to the intersections in the study area. As traffic volumes increase in the study area and the project is completed, the anticipated Level of service (LOS) will deteriorate to an “E” or “F” at some of the intersections along Fox Acres Road during peak hours in 2024. The largest increases in delay will occur at the minor legs of the Foxmoor, Creekside and the south high school access intersections. The Eastridge/8<sup>th</sup>/Croy intersection will maintain an LOS of A through the year 2024.

The findings of this study are similar to the previous study submitted in June 2008. However, with new traffic counts and the revised site plan, the overall effect on the traffic operations in the study

area is less significant. The updated site plan generates nearly 500 fewer trips per day. Along with the planned improvement of the Woodside and Fox Acres intersection, the LOS and overall delay within the study area is improved compared to the previous study.

#### Study Area Improvements

A roundabout is scheduled to be constructed in 2012 at the Woodside and Fox Acres intersection. This improvement will greatly improve the intersection and eliminates an area of concern from the earlier study. To accommodate additional traffic generated by the Quigley Canyon Development, a northbound right turn lane could be added to SH-75, acceptance lanes can be added for turning movements at Creekside and Eastridge, and a right turn lane at the south Wood River high access. All of these improvements can be constructed inside existing right-of-way, with exception of possible minor impacts to private property at intersection corners. 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 Canyon Development will result in a peak hour LOS of "E" or worse for the Foxmoor, Creekside, and Wood River High south access on Fox Acres Road by the year 2029. The most significant impact to traffic will be at the minor legs of the 2-way stop controlled intersections. 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 a similar LOS with development traffic to no improvements with background traffic. Additionally, the LOS would improve for the minor approaches at the Creekside, Eastridge, and Foxmoor intersections. No capacity improvements are needed at the Eastridge/8<sup>th</sup>/Croy; however, the recommended improvements in this study include modifying the control at this intersection to an all-way stop. This will mitigate for the curved approach angle of the south leg.

## 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 Canyon Development is located on approximately 912 acres of land. It includes the following proposed improvements:

**Residential** - 417 individual home building lots ranging from 1/10<sup>th</sup> to 4+ acres in size and 27 townhomes on 225 acres.

#### Location

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

Site Plan

See Figure 2 for a site plan of the proposed development.

Zoning

The proposed property is currently zoned R-5 and A-10. The requested zoning for the project will be RGB for the golf course and open space, GR for the live/work units and town homes, and LR for the remaining residential blocks.

Project Phasing and Timing

Table 1 includes a summary of proposed phasing and corresponding development years for the Quigley Canyon Development.

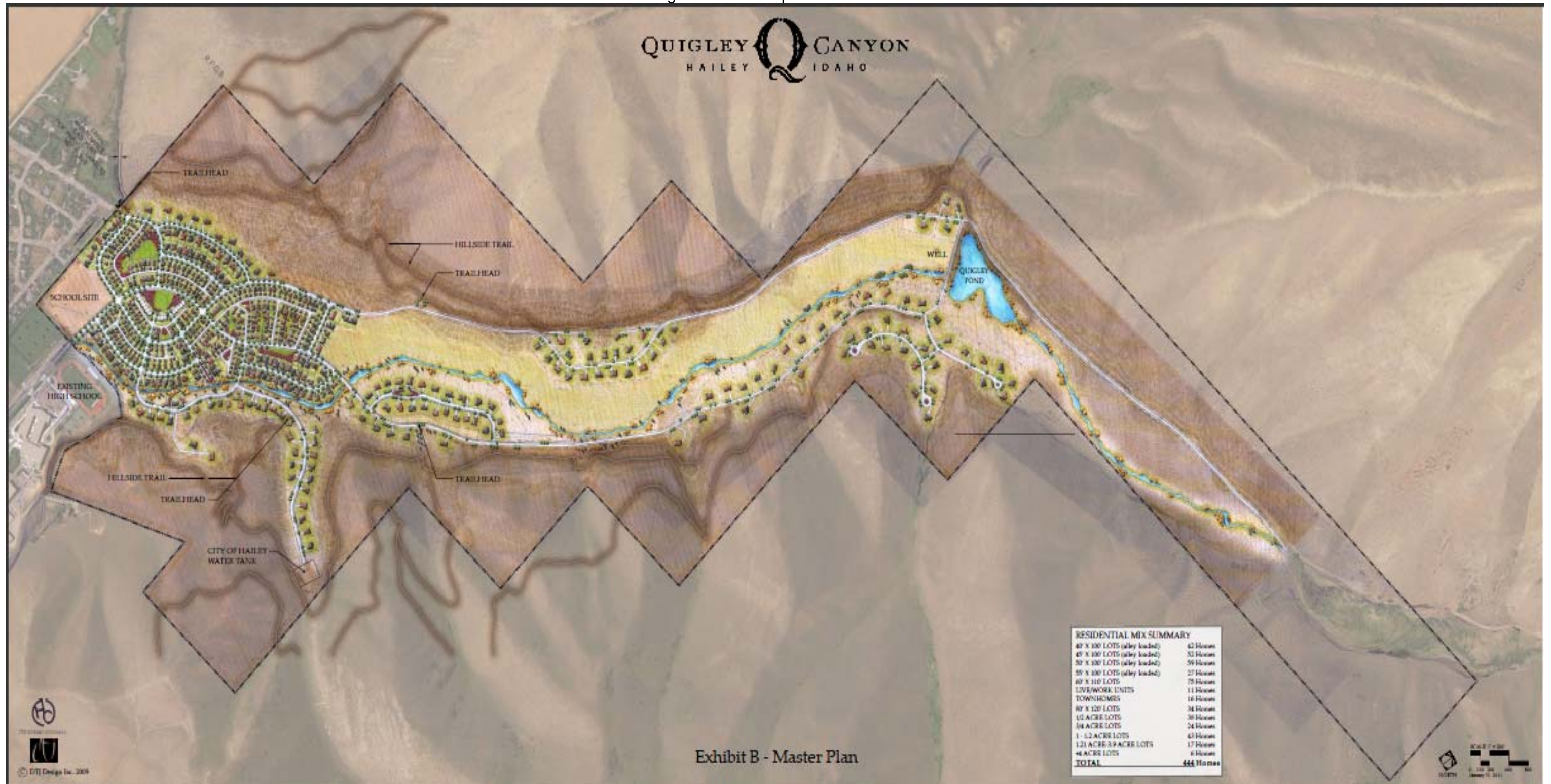
**Table 1 – Development Phasing**

<b>Phase</b>	<b>Year</b>	<b>Houses</b>	<b>Town Houses/ Live-work Units</b>
1	2013	115	8
2	2015	75	16
3	2017	91	3
4	2019	55	-
5	2021	40	-
6	2022	19	
7	2024	22	
<b>Total</b>		<b>417</b>	<b>27</b>

Figure 1 – Location Map



Figure 2 – Development Site Plan



### III. AREA CONDITIONS

#### **A. Study Area**

The proposed project will use Fox Acres Road as a primary access to the proposed development. A secondary access will be constructed on Quigley Drive for local residential access. The study area includes all of the intersections along Fox Acres Road between SH-75 and Quigley Canyon. These intersections are located at the following locations:

- Main Street (SH-75)
- Creekside Drive
- Woodside Blvd.
- Eastridge Drive
- Foxmoor Drive
- Wood River High School Driveways (West, Middle, and East)

Additionally, the intersection of Eastridge Drive, 8<sup>th</sup> Avenue and Croy Street was analyzed to evaluate impacts of the Quigley Drive access to the proposed development (see Figure 3).

#### **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. The speed limit for the entire length is 25 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.

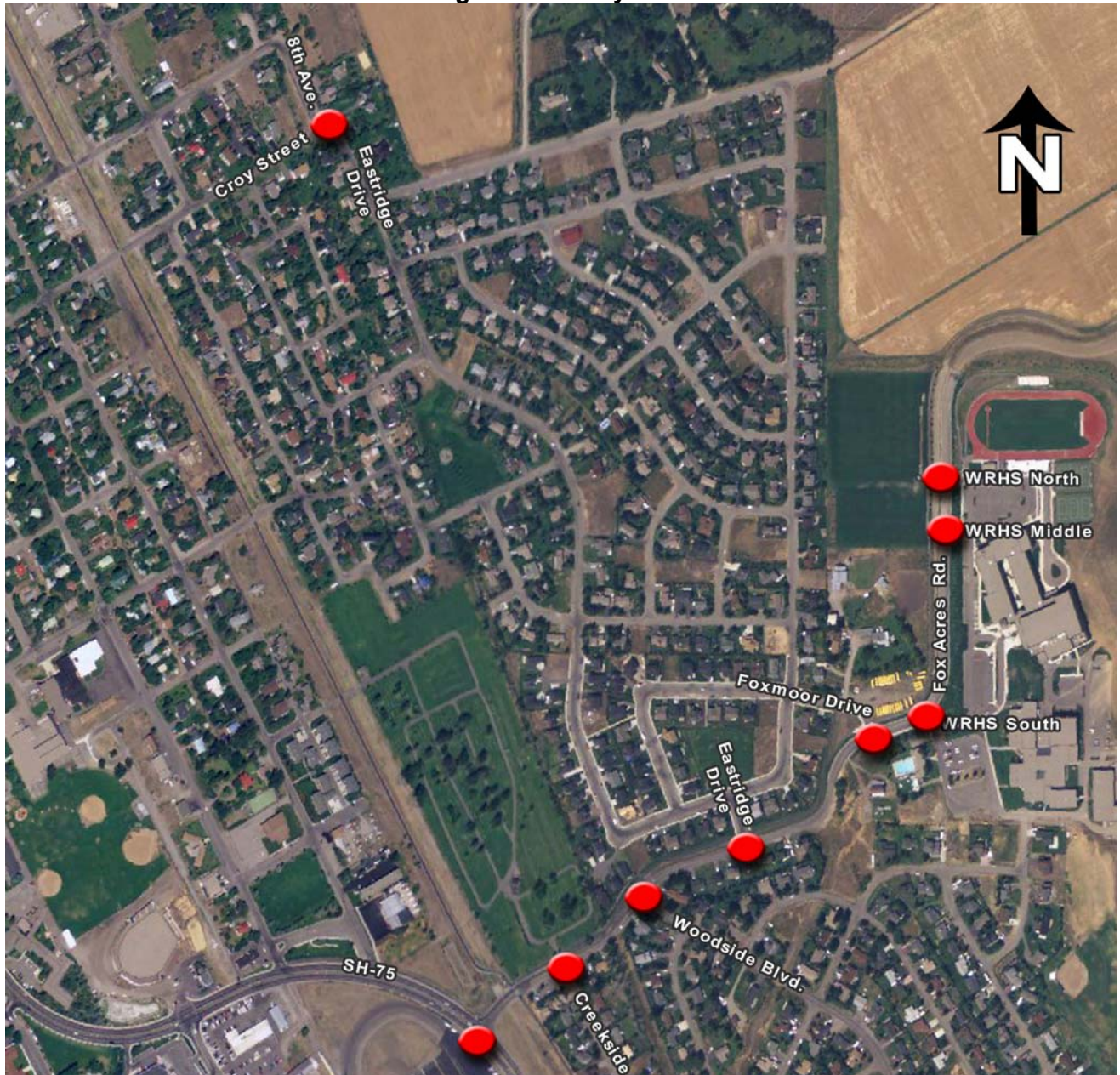
##### State Highway 75

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.

##### 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.

Figure 3 – Study Area



Woodside Boulevard

Woodside Blvd is a two-lane collector in the City of Hailey. Woodside Blvd provides north/south access through residential neighborhoods with a speed limit of 25 mph. Woodside Blvd. 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 all-way stop controlled.

Foxmoor Drive

Foxmoor Drive 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.

Eastridge Drive

Eastridge Drive is a two-lane local roadway that provides north/south access from Fox Acres Road to Croy Street, and 8<sup>th</sup> 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. The approach to the intersection with 8<sup>th</sup> Avenue and Croy Street is curved with a skew towards northwest. Eastridge Drive is not stop controlled at this intersection.

8<sup>th</sup> Avenue

8<sup>th</sup> Avenue is a two-lane local roadway that is only one block in length. It provides a north-south connection between Eastridge Drive and Bullion Street. 8<sup>th</sup> Avenue has a pavement width of approximately 30 feet and a speed limit of 25 mph. It is bordered by low-density residential development. 8<sup>th</sup> Avenue is stop controlled at the intersection with Croy Street and Eastridge Drive.

Croy Street

Croy Street is a two-lane local roadway that provides an east-west connection between residential neighborhoods and the central business district of Hailey. It has a pavement width of approximately 30 feet and a speed limit of 25 mph. It is bordered by low-density residential development. Croy Street is not stop controlled at the intersection with 8<sup>th</sup> Avenue and Eastridge.

Wood River High School/Blaine County Aquatic Center

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

Existing Traffic volumes

AM and PM peak hour traffic data was collected for the intersections on Fox Acres Road and the Eastridge, 8<sup>th</sup> and Croy intersection. Volumes were collected for each turning movement during the hours of 7:00 am to 8:45 am and 3:30 pm to 5:45 pm on Tuesday, September 20, 2011 and Wednesday, September 21, 2011. The AM peak hour generally occurred from 7:30 am to 8:30 am. The PM peak hour varied by intersection. At the SH-75, Creekside, and Eastridge intersections the PM peak hour began at 4:30. The High School driveways, Foxmoor, and Woodside intersection PM peek began at 3:30. For a conservative analysis approach, the PM peak hour for all of the intersections was assumed to occur at the same time. 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 is a stop located at the intersection of Fox Acres Road and Woodside Blvd.

## IV. PROJECTED TRAFFIC

### A. Site Traffic

Trip generation for the Quigley Canyon Development was estimated using data published in *Trip Generation, Seventh Edition, Institute of Transportation Engineers (ITE), 2003*. Land Use Code 210, *Single-Family Detached Housing* was utilized to calculate trip generation for individual home sites. Code 231, *Low-Rise Residential Condominium /Townhouse* was used for townhouse. 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 Canyon Development will be constructed in seven phases. Phase 1 is scheduled to be completed in 2013 and Phase 7 is scheduled to be completed in 2024. Table 3 includes trip generation data for each phase of the development including AM peak, PM peak, average weekday, and directional distribution volumes.

**Table 2 – Development Category Traffic Volumes**

Traffic Generator	Houses	Town Houses	Total Traffic
Quantity	417	27	-
AM Peak Hour Traffic	313	18	331
In	78	5	83
Out	235	14	248
PM Peak Hour Traffic	421	21	442
In	265	12	278
Out	156	9	165
Average Weekday Traffic	3991	158	4149

**Table 3 – Development Phase Traffic Volumes**

Phase	Year	Traffic Generators (Cumulative)		Weekday Peak Hour Traffic						Average Weekday Traffic
				AM			PM			
		Houses	Town Houses	In	Out	Total	In	Out	Total	
1	2013	115	8	23	69	92	77	46	122	1147
2	2015	190	24	40	119	159	132	79	211	1959
3	2017	281	27	57	172	229	191	114	305	2847
4	2019	336	27	68	203	270	226	134	360	3374
5	2021	376	27	75	225	300	251	149	401	3757
6	2022	395	27	79	236	314	264	156	420	3938
7	2024	417	27	83	248	331	278	165	442	4149

### B. Background Traffic Forecast

Background traffic in the study area was divided into two categories: regional traffic traveling through the study area on SH-75, and traffic using Fox Acres Road. These two categories were used to project future background traffic based on existing growth patterns.

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 1996 and 2008 resulted in an average growth rate of 1.2% per year. This rate was used to forecast future background traffic volumes for each horizon year. See the Technical Appendix for historical traffic data on SH-75.

The predominant existing traffic generators on Fox Acres Road are residential neighborhoods and Wood River High School. With the limited amount of developable land near the study area, background residential traffic should not increase dramatically in the future. The high school will draw additional traffic as attendance increases. Between 1990 and 2000 the portion of Blaine County residents under 18 years old has remained the same at approximately 25%. This indicates that attendance at the high school will increase at the same rate as the population. The population in Blaine County has been increasing by approximately 3.5% annually. This rate was used for future traffic projections of background traffic on Fox Acres Road.

**C. Trip Distribution**

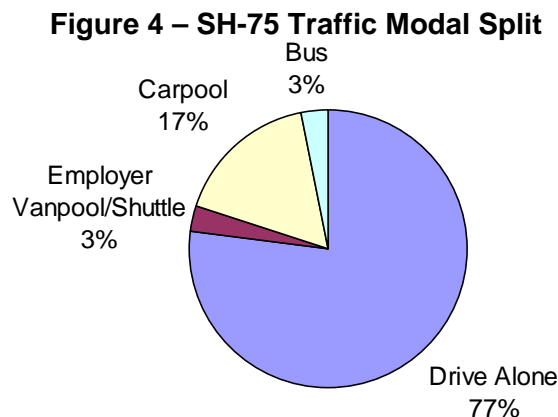
Forecast traffic volumes from the Quigley Canyon development were distributed between the two accesses based on the following factors:

- Approximately ¾ of current traffic generators are located north of the development.
- Traffic calming will discourage vehicles from cutting through minor residential streets to use the Quigley Drive access. Only residents adjacent to the Quigley Drive access (approximately 1/3) will tend to use it when traveling north.

Using these factors for the distribution, 75% of the generated traffic was distributed to the Fox Acres Road access and the remaining 25% will use the Quigley Road access. 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 future volumes were dispersed using the observed existing lane distribution. See the Appendix A for traffic volumes and lane distributions for each intersection and study horizon year.

**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:



Quigley Canyon 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 Canyon Development were analyzed using the methodologies presented in *Highway Capacity Manual 2000* edition. It provides a systematic and consistent basis for assessing the capacity and level of service of transportation facilities. Synchro v7 software was used to apply this methodology. Traffic models were developed and analyzed for AM and PM peak hours during existing conditions, Horizon Year (2013) with the project, Horizon Year (2024) without the project, Horizon Year (2024) with the project, Horizon Year (2029) without the project, and Horizon Year (2029) with the project.

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) for stop and signal controlled intersections. Volume capacity ratio(v/c) and Intersection Utilization was used for the planned roundabout at Woodside and Fox Acres. Volume capacity ratio is a simple measure of the peak hour flow rate and the overall capacity of the movement at the intersection. The Intersection Capacity Utilization is a measure developed by Synchro that assigns a percentage of the capacity that is being used based on all movements at an intersection. LOS is a simplistic approach to describe the effectiveness of a transportation facility by grouping levels of performance to a letter "grade". The three types of controlled intersections within the study area, signalized, 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 2000 to determine LOS for signalized intersections. Table 5 shows average vehicle delay 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, 2000)

**Table 5 – Unsignalized Intersection LOS Criteria**

<b>LOS</b>	<b>Average Delay (seconds/veh.)</b>
A	≤ 10
B	> 10 to 15
C	> 15 to 25
D	> 25 to 35
E	> 35 to 50
F	> 50
Source: <i>Highway Capacity Manual</i> (Transportation Research Board, 2000)	

**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 and movements currently operate at a LOS “C” or better under the existing traffic conditions. With addition of Phase 1 of Quigley Canyon to the background traffic in horizon year 2013, the LOS at each intersection remains at LOS “C” or better.

With completion of the Quigley Canyon Development in addition to the background traffic in horizon year 2024, delay increases at most of the study intersections. The SR-75, Creekside, Foxmoor, and the south high school access intersections reduce to an LOS of “E” or worse for at least one movement.

During horizon year 2029, five years following completion of the Quigley Canyon Development, the SH-75, Creekside, Woodside, and Foxmoor intersections will have at least one approach that will deteriorate to an LOS of “E “ or worse during peak hours. The highest delay would occur for the SB left movement at the Foxmoor intersection. During peak hours, the congestion on Fox Acres provides very few gaps and excessive delay for Foxmoor traffic.

**Table 6 – AM Peak Traffic Analysis Results**

Intersection	Approach	Traffic Control	2011		2013		2024				2029			
			Existing		W/ Phase 1		W/ Phase 7		W/out Dev.		W/ Phase 7		W/out Dev.	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
SR-75/ Fox Acres	SB	Signal	A	3.5	A	6.1	C	22.9	B	12.4	C	24.7	B	17.4
	NB	Signal	B	10.2	B	14.0	C	27.7	C	20.0	C	34.1	C	25.9
	WB	Signal	C	33.2	D	36.5	E	57.4	D	46.9	E	75.6	D	54.6
	Intersection		B	13.0	B	17.2	C	34.1	C	24.4	D	42.8	C	30.8
Creekside/ Fox Acres	NB	Stop	B	14.9	C	16.5	D	26.1	C	20.3	D	30.2	C	23.2
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1
	Intersection		N/A	0.7	N/A	0.9	N/A	1.3	N/A	1.2	N/A	1.6	N/A	1.4
Woodside/ Fox Acres	NB	Stop*	B	12.2	*	*	*	*	*	*	*	*	*	*
	SB	Stop*	B	9.9	*	*	*	*	*	*	*	*	*	*
	WB	Stop*	B	10.2	*	*	*	*	*	*	*	*	*	*
	Intersection		B	10.9	*	*	*	*	*	*	*	*	*	*
Eastridge/ Fox Acres	SB	Stop	B	10.2	B	10.9	B	13.5	B	11.7	B	14.4	B	12.3
	EB	Free	A	1.3	A	1.3	A	1.6	A	1.4	A	1.6	A	1.4
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	2.0	N/A	2.1	N/A	2.3	N/A	2.4	N/A	2.5	N/A	2.6
Foxmoor/ Fox Acres	SB	Stop	C	15.5	C	18.9	F	53.3	C	21.9	F	90.0	D	27.3
	EB	Free	A	0.1	A	0.2	A	0.2	A	0.2	A	0.2	A	0.2
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	3.5	N/A	4.4	N/A	11.3	N/A	4.8	N/A	19.7	N/A	6.2
WRHS 1/ Fox Acres	NB	Stop	B	13.0	C	15.2	D	29.6	C	15.5	E	39.2	C	19.4
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	A	0.4	A	0.9	N/A	N/A	A	1.1	N/A	N/A
	Intersection		N/A	2.0	N/A	2.5	N/A	4.7	N/A	3.0	N/A	6.3	N/A	3.8
WRHS 2/ Fox Acres	SB	Free	N/A	N/A	A	0.3	A	0.4	N/A	N/A	A	0.4	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	B	10.3	B	11.5	C	15.4	B	10.9	C	16.3	B	11.5
	Intersection		N/A	1.6	N/A	1.7	N/A	2.0	N/A	2.1	N/A	2.2	N/A	2.3
WRHS 3/ Fox Acres	SB	Free	N/A	N/A	A	0.5	A	0.6	N/A	N/A	A	0.6	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	9.2	B	10.1	B	12.4	A	9.4	B	12.8	A	9.6
	Intersection		N/A	2.9	N/A	2.1	N/A	2.0	N/A	2.7	N/A	2.2	N/A	2.9
8th/ Eastridge/ Croy	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	A	2.3	A	2.4	A	2.7	A	2.4	A	2.7	A	2.5
	EB	Stop	A	8.9	A	9.2	A	9.6	A	9.5	A	9.8	A	9.6
	Intersection		N/A	3.8	N/A	3.7	N/A	3.8	N/A	4.0	N/A	3.9	N/A	4.1

\* The Woodside/Fox Acres Intersection is analyzed as a Roundabout after 2011

			2013	2024	2024	2029	2029
			W/ Phase 1	W/ Phase 7	W/out Dev.	W/ Phase 7	W/out Dev.
			v/c Ratio	v/c Ratio	v/c Ratio	v/c Ratio	v/c Ratio
Woodside/ Fox Acres	NB	Roundabout	0.23	0.30	0.24	0.31	0.24
	SB	Roundabout	0.27	0.45	0.33	0.49	0.37
	WB	Roundabout	0.27	0.38	0.36	0.42	0.40
	Int. Capacity Utilization			54.5%	72.0%	62.5%	76.5%

**Table 7 – PM Peak Traffic Analysis Results**

Intersection	Approach	Traffic Control	2011		2013		2024				2029			
			Existing		W/ Phase 1		W/ Phase 7		W/out Dev.		W/ Phase 7		W/out Dev.	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
SR-75/ Fox Acres	SB	Signal	A	3.2	A	4.9	C	24.7	A	6.5	D	44.4	A	8.7
	NB	Signal	A	7.9	B	11.3	B	14.5	B	12.7	B	17	B	15.1
	WB	Signal	C	31.9	C	31.8	D	40.3	D	35.8	D	47.0	D	42.5
	Intersection		A	8.2	B	11.2	C	25.6	B	13.9	D	39	B	17.4
Creekside/ Fox Acres	NB	Stop	B	14.8	C	20.5	E	35.3	C	24.0	E	42.6	D	27.9
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	A	0.1	A	0.2	A	0.3	A	0.2	A	0.3	A	0.2
	Intersection		N/A	0.3	N	0.4	N/A	0.7	N/A	0.6	N/A	0.8	N/A	0.7
Woodside/ Fox Acres	NB	Stop*	B	14.5	*	*	*	*	*	*	*	*	*	*
	SB	Stop*	B	11.2	*	*	*	*	*	*	*	*	*	*
	WB	Stop*	B	10.0	*	*	*	*	*	*	*	*	*	*
	Intersection		B	12.5	*	*	*	*	*	*	*	*	*	*
Eastridge/ Fox Acres	SB	Stop	A	9.5	B	11.5	B	14.3	B	12.6	C	16.0	B	13.5
	EB	Free	A	2.8	A	3.4	A	4.2	A	3.6	A	4.5	A	3.7
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	3.3	N/A	3.0	N/A	3.6	N/A	3.3	N/A	3.8	N/A	3.5
Foxmoor/ Fox Acres	SB	Stop	B	11.9	B	14.1	C	19.9	C	16.2	C	23.4	C	17.6
	EB	Free	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	1.3	N/A	1.3	N/A	1.8	N/A	2.0	N/A	2.1	N/A	2.0
WRHS 1/ Fox Acres	NB	Stop	B	11.7	C	16.2	E	42.0	C	16.0	F	75.9	D	27.2
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	N/A	N/A	A	0.2	A	0.6	N/A	N/A	A	0.5	N/A	N/A
	Intersection		N/A	3.6	N/A	4.9	N/A	11.5	N/A	5.1	N/A	20.5	N/A	8.7
WRHS 2/ Fox Acres	SB	Free	N/A	N/A	A	0.2	A	0.4	N/A	N/A	A	0.3	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	9.7	B	12.3	C	17.3	B	10.7	C	19.8	B	11.6
	Intersection		N/A	3.0	N/A	2.8	N/A	3.5	N/A	2.7	N/A	4	N/A	3.1
WRHS 3/ Fox Acres	SB	Free	N/A	N/A	A	0.5	A	0.5	N/A	N/A	A	0.5	N/A	N/A
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	A	8.9	B	10.7	B	14.0	A	9.3	C	15.4	A	9.7
	Intersection		N/A	5.4	N/A	3.5	N/A	2.8	N/A	4.8	N/A	3.9	N/A	5.1
8th/ Eastridge/ Croy	SB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	NB	Free	A	3.7	A	3.9	A	4.2	A	3.9	A	4.3	A	3.9
	EB	Stop	A	9.0	A	9.4	B	10.2	A	9.6	B	10.4	A	9.8
	Intersection		N/A	4.4	N	4.4	N/A	4.7	N/A	4.5	N/A	4.8	N/A	4.6

\* The Woodside/Fox Acres Intersection is analyzed as a Roundabout after 2011

			2013	2024	2024	2029	2029
			W/ Phase 1	W/ Phase 7	W/out Dev.	W/ Phase 7	W/out Dev.
			v/c Ratio	v/c Ratio	v/c Ratio	v/c Ratio	v/c Ratio
Woodside/ Fox Acres	NB	Roundabout	0.20	0.55	0.38	0.58	0.40
	SB	Roundabout	0.38	0.48	0.41	0.56	0.47
	WB	Roundabout	0.33	0.3	0.27	0.34	0.30
	Int. Capacity Utilization			66.1%	84.6%	70.7%	90.9%

### **C. Traffic Safety**

Current traffic conditions on Fox Acres Road operate acceptably, at an LOS of “C” or better. As volumes increase improvements should be constructed to continually provide a safe facility. The anticipated increase in delay may not drastically reduce safety at the SH-75 or Woodside intersections because of the higher level of traffic control at these locations. However, as delay increases at the two-way stop controlled intersections, drivers may tend to become frustrated and attempt to enter free-flowing traffic with smaller gaps than they normally would, potentially causing accidents.

The skewed approach of the south leg and unusual stop control at the Eastridge Drive, 8<sup>th</sup> Avenue and Croy Street intersection does not meet current intersection desirable standards. All-way stop control at this intersection could mitigate the adverse effects of the current skewed geometry and potential confusion of right-of-way between approaches.

## **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 2024. The largest increases in delay will occur at the minor legs of the Foxmoor and Creekside intersections and all three legs of the SH-75 intersection. To accommodate additional traffic generated by the Quigley Canyon Development, capacity improvements could be constructed on Fox Acres Road and SH-75. The following capacity and safety improvements were added to the study traffic model and analyzed for the 2024 and 2029 horizon years:

- Northbound right turn lane on SR-75 at the Fox Acres Road intersection.
- Northbound to westbound acceptance lane at the Creekside intersection.
- Westbound left turn lane at the Creekside intersection.
- Southbound to eastbound acceptance lane at the Eastridge intersection.
- Eastbound left turn lane at the Eastridge intersection.
- Eastbound right turn lane at the Wood River High School South driveway.
- All-way stop control at the Foxmoor and Fox Acres intersection.
- All-way stop control at the Eastridge Drive, 8<sup>th</sup> Avenue and Croy Street intersection.

All of these improvements can be constructed inside existing right-of-way, with exception possible minor impacts to private property at intersection corners. The additional right turn lane could fit between the existing signal poles at SR-75. The existing right-of-way for Fox Acres Road and Woodside Blvd. is 80 feet wide, ample room for the necessary three traffic lanes to accommodate the improvements listed above.

### **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. At every intersection, 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 Canyon Development and the improvements listed above provide a similar LOS as the scenario of no development on the existing transportation network. The LOS at Eastridge Drive, 8<sup>th</sup> Avenue and Croy Street intersection remains an A with addition of stop control to all of the legs.

**Table 8 – AM/PM Improvement Traffic Analysis Results**

Intersection	Approach	Traffic Control	2024 AM		2024 PM		2029 AM		2029 PM	
			W/ Phase 7		W/ Phase 7		W/ Phase 7		W/ Phase 7	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
SR-75/ Fox Acres	SB	Signal	C	21.5	C	27.6	C	24.8	D	49
	NB	Signal	C	29.7	B	15.6	D	42.9	B	18.2
	WB	Signal	D	48.0	D	35.9	E	55.2	D	41.0
	Intersection		C	32.3	C	26.7	D	41.5	D	40.5
Creekside/ Fox Acres	NB	Stop	B	14.6	C	17.0	C	15.5	C	17.5
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	A	0.1	A	0.1	A	0.1	A	0.1
	Intersection		N/A	0.7	N/A	0.3	N/A	0.8	N/A	0.4
Eastridge/ Fox Acres	SB	Stop	B	12.8	B	13.4	B	13.4	B	14.7
	EB	Free	A	1.1	A	3.0	A	1.1	A	3.2
	WB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Intersection		N/A	2.0	N/A	2.9	N/A	2.1	N/A	3.1
Foxmoor/ Fox Acres	SB	Stop	B	13.8	B	10.1	C	15.5	B	10.6
	EB	Stop	C	17.6	B	11.7	C	20.7	B	12.6
	WB	Stop	C	20.7	C	18.5	D	26.1	D	26.8
	Intersection		C	18.1	C	15.5	C	21.9	C	20.9
WRHS 1/ Fox Acres	NB	Stop	C	22.4	E	36.2	D	27.0	F	61.0
	EB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Free	A	0.9	A	0.6	A	1.1	A	0.5
	Intersection		N/A	3.6	N/A	9.9	N/A	4.5	N/A	16.5
WRHS 2/ Fox Acres	SB	Free	A	0.4	A	0.3	A	0.4	A	1.8
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	C	15.4	C	19.3	C	16.3	C	19.8
	Intersection		N/A	2.0	N/A	3.9	N/A	2.2	N/A	4
WRHS 3/ Fox Acres	SB	Free	A	0.6	A	0.5	A	0.6	A	0.5
	NB	Free	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	WB	Stop	B	12.4	B	14.0	B	12.8	C	15.4
	Intersection		N/A	2.0	N/A	2.8	N/A	2.2	N/A	3.9
8th/ Eastridge/ Croy	SB	Stop	A	8.5	A	9.1	A	8.7	A	9.4
	NB	Stop	B	10.2	B	10.6	B	10.7	B	11.3
	EB	Stop	A	8.2	A	8.7	A	8.5	A	9.0
	Intersection		A	9.4	A	9.7	A	9.7	B	10.2

**C. Planned Improvements**

The intersection of Woodside and Fox Acres is scheduled to have a roundabout constructed in 2012. This improvement was used in all the analysis beyond existing 2011 traffic. The roundabout will provide adequate capacity throughout the horizon years.

The ITD *Timmerman to Ketchum* Project includes improvements to SH-75 that would improve traffic flow in the study area. Thru-traffic flow on SR-75 will be improved with a consistent five lane typical section. The Country Side Road intersection will be widened and signalized to improve access to SH-75. These improvements to Country Side Road will draw traffic that is currently accessing SH-75 via the traffic signal at Fox Acres Road. These improvements proposed by ITD were not accounted

for in this study as the project is delayed. They should provide benefits to all of the traffic scenarios analyzed.

## **VII. CONCLUSIONS/RECOMENDATIONS**

### ***A. Site Accessibility***

The Quigley Canyon Development is proposing to utilize Fox Acres Road as the primary access to the project. Fox Acres Road and the connection to State Highway 75 are appropriate facilities for this development. The project will also construct a connection to Quigley Drive for local residential access.

### ***B. Traffic Impacts***

The combination of the background traffic growth and traffic from the proposed Quigley Canyon Development will result in a peak hour LOS of "E" or worse for a few intersections by the year 2029. The most significant impact to traffic will be at the minor legs of the 2-way stop controlled intersections. As the gaps in traffic are reduced with an increase in congestion, few cars are able to access Fox Acres Road. The Eastridge Drive, 8<sup>th</sup> Avenue and Croy Street intersection performs at an LOS of A through the year 2029 with or without the additional development traffic.

### ***C. Need for Improvements***

The planned improvements by ITD on SH-75 will reduce traffic volumes on Fox Acres Road and improve flow on SH-75. 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 a similar LOS to conditions without the development. The proposed improvements would provide a better LOS for the minor approaches at the Creekside, Eastridge, and Foxmoor intersections.

**TECHNICAL APPENDIX**

**APPENDIX A – EXISTING TRAFFIC/POPULATION DATA & FORECAST VOLUMES**

**APPENDIX B – EXISTING ANALYSIS RESULTS**

**APPENDIX C – 2013 ANALYSIS RESULTS**

**APPENDIX D – 2024 ANALYSIS RESULTS**

**APPENDIX E – 2029 ANALYSIS RESULTS**

**APPENDIX F – IMPROVEMENT ANALYSIS RESULTS**

**APPENDIX A – EXISTING TRAFFIC/POPULATION DATA &  
FORECAST VOLUME DATA**

# SR-75 & Fox Acres

## AM Peak Hour

AM Peak Hour				Build Traffic Volumes						No-Build Traffic Volumes					
Movement	Existing Traffic	Existing Peds	Lane Dist.	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL			0.0%												
NBT	927	0	93.2%	994	0	1116	0	1172	0	994	0	1116	0	1172	0
NBR	68		6.8%	78		99		103		73		82		86	
SBL	172		33.3%	196		255		261		184		207		217	
SBT	345	0	66.7%	370	0	415	0	436	0	370	0	415	0	436	0
SBR			0.0%												
EBL															
EBT		0			0		0		0		0		0		0
EBR															
WBL	45		12.0%	55		79		86		51		68		75	
WBT		0	0.0%												
WBR	331		88.0%	401		581		635		379		498		553	

## PM Peak Hour

PM Peak Hour				Build Traffic Volumes						No-Build Traffic Volumes					
Movement	Existing Traffic	Existing Peds	Lane Dist.	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL			0.0%												
NBT	475	0	90.0%	509	0	572	0	600	0	509	0	572	0	600	0
NBR	53		10.0%	64		91		95		57		64		67	
SBL	341		26.8%	414		588		609		366		411		431	
SBT	933	0	73.2%	1000	0	1123	0	1179	0	1000	0	1123	0	1179	0
SBR			0.0%												
EBL															
EBT		0			0		0		0		0		0		0
EBR															
WBL	57		21.0%	94		129		145		91		117		130	
WBT		1	0.0%		1		1				1		1		1
WBR	215		79.0%	356		485		546		344		442		492	

SR-75 Growth Rate (%/Yr) = 1.2

## Creekside & Fox Acres

### AM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL	30		96.8%	36		48		53		36		48		53	
NBT		0	0.0%		0		0		0		0		0		0
NBR	1		3.2%	1		1		1		1		1		1	
SBL															
SBT		0			0		0		0		0		0		0
SBR															
EBL			0.0%												
EBT	268	13	96.4%	264	16	342	21	351	23	248	16	279	21	292	23
EBR	10		3.6%	10		13		13		9		10		11	
WBL	2		0.6%	2		4		4		2		3		3	
WBT	341	8	99.4%	420	10	612	13	668	14	394	10	518	13	575	14
WBR			0.0%												

### PM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL	13		100.0%	16		21		23		16		21		23	
NBT		1	0.0%		1		1		1		1		1		1
NBR	0		0.0%	0		0		0		0		0		0	
SBL															
SBT		0			0		0		0		0		0		0
SBR															
EBL	0		0.0%												
EBT	351	13	90.2%	432	16	613	16	635	23	381	16	428	16	449	23
EBR	38		9.8%	47		66		69		41		46		49	
WBL	3		1.2%	5		7		8		5		6		7	
WBT	254	13	98.8%	434	16	593	16	667	23	419	16	539	16	600	23
WBR			0.0%												

Growth Rate (%/Yr.) = 3.5

# Eastridge & Fox Acres

## AM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL															
NBT		0			0		0		0		0		0		0
NBR															
SBL	7		11.3%	8		11		12		8		11		12	
SBT		0	0.0%		0		0		0		0		0		0
SBR	55		88.7%	67		88		97		67		88		97	
EBL	39		12.9%	39		50		52		37		43		45	
EBT	263	22	87.1%	260	27	337	35	354	39	248	27	291	35	301	39
EBR			0.0%												
WBL			0.0%												
WBT	146	2	98.6%	207	2	345	3	369	4	176	2	231	3	257	4
WBR	2		1.4%	3		5		5		2		3		4	

## PM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL															
NBT		0			0		0		0		0		0		0
NBR															
SBL	5		7.6%	6		8		9		6		8		9	
SBT		0	0.0%		0		0		0		0		0		0
SBR	61		92.4%	74		97		108		74		97		108	
EBL	52	15	34.0%	103	18	145	24	151	27	92	18	105	24	111	27
EBT	101		66.0%	200		282		293		178		204		215	
EBR			0.0%												
WBL			0.0%												
WBT	99	12	98.0%	270	15	383	19	437	21	251	15	314	19	350	21
WBR	2		2.0%	5		8		9		5		6		7	

Growth Rate (%/Yr.) : 3.5

## Foxmoor & Fox Acres

### AM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL															
NBT		0			0		0		0		0		0		0
NBR															
SBL	124		96.1%	150		198		219		137		154		176	
SBT		4	0.0%		5		6		7		4		5		6
SBR	5		3.9%	6		8		9		6		6		7	
EBL	5		1.8%	5		6		7		5		6		6	
EBT	266	41	98.2%	263	50	342	65	360	73	252	45	297	51	307	58
EBR			0.0%												
WBL			0.0%												
WBT	143	7	81.3%	204	8	342	11	365	12	173	8	228	9	253	10
WBR	33		18.8%	47		79		84		40		53		58	

### PM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL															
NBT		0					0		0				0		0
NBR															
SBL	40		85.1%	48		64		71		48		64		71	
SBT		13	0.0%		16		21		23		16		21		23
SBR	7		14.9%	8		11		12		8		11		12	
EBL	2		1.5%	3		4		4		3		3		3	
EBT	133	1	98.5%	203	1	286	2	298	2	182	1	209	2	221	2
EBR			0.0%												
WBL			0.0%												
WBT	205	13	76.2%	267	16	380	21	434	23	248	16	309	21	345	23
WBR	64		23.8%	84		119		135		77		96		108	

Growth Rate (%/Yr.) : 3.5

## Woodside & Fox Acres

### AM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL	161		72.2%	195		257		285		195		257		285	
NBT		4	0.0%		5		6		7		5		5		6
NBR	62		27.8%	75		99		110		75		99		110	
SBL															
SBT					0		0		0		0		0		0
SBR															
EBL			0.0%												
EBT	245	5	84.2%	223	6	288	6	297	7	210	6	235	6	235	9
EBR	46		15.8%	42		54		56		39		44		44	
WBL	33		17.0%	47		74		79		41		54		60	
WBT	161	2	83.0%	227	2	359	2	387	3	201	2	265	2	294	4
WBR			0.0%												

### PM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL	139		86.3%	168		222		246		168		222		246	
NBT		7	0.0%		8		11		12		8		11		12
NBR	22		13.7%	27		35		39		27		35		39	
SBL															
SBT					0		0		0		0		0		0
SBR															
EBL			0.0%												
EBT	225	7	63.9%	276	8	392	11	406	12	244	8	274	11	287	12
EBR	127		36.1%	156		221		229		138		154		162	
WBL	53		21.3%	73		102		116		69		88		98	
WBT	196	7	78.7%	271	8	378	11	429		256	8	324	11	361	12
WBR			0.0%												

Growth Rate (%/Yr.) : 3.5

# WRHS Driveway 1 & Fox Acres

## AM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL	88		100.0%	106		140		156		106		140		156	
NBT		13	0.0%		16		21		23		16		21		23
NBR			0.0%	2		7		7		0		0		0	
SBL															
SBT															
SBR															
EBL			0.0%												
EBT	195	13	50.0%	215	16	299	21	318	23	194	16	226	21	242	23
EBR	195		50.0%	199		241		261		194		226		242	
WBL			0.0%	6		22		25		0		0		0	
WBT	88		100.0%	145	0	280		293		106	0	140		156	
WBR			0.0%												

## PM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL	135		100.0%	163		215		238		163		215		238	
NBT		30	0.0%		36		48		53		36		48		53
NBR			0.0%	23		23		23		0		0		0	
SBL															
SBT															
SBR															
EBL			0.0%												
EBT	87	30	50.0%	152	36	271	48	281	53	115	36	136	48	146	53
EBR	87		50.0%	99		78		88		115		136		146	
WBL			0.0%	4		15		15		0		0		0	
WBT	135		100.0%	188	0	284		331		163		191		215	
WBR			0.0%												

Growth Rate (%/Yr.) : 3.5

## WRHS Driveway 2 & Fox Acres

### AM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL			0.0%												
NBT	98	13	50.0%	166	16	244	21	258	23	146	7	169	8	181	8
NBR	98		50.0%	50		62		67		49		56		60	
SBL			0.0%	3		10		10		0		0		0	
SBT	44		100.0%	98		232		240		53		70		78	
SBR			0.0%												
EBL															
EBT															
EBR															
WBL	44		100.0%	53		70		78		53		70		78	
WBT		13	0.0%		16		21		23		7		8		8
WBR			0.0%	1		3		3		0		0		0	

### PM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL			0.0%												
NBT	43	30	50.0%	145	36	269	48	276	53	86	16	102	18	109	19
NBR	43		50.0%	31		25		28		29		34		36	
SBL			0.0%	2		7		7		0		0		0	
SBT	67		100.0%	111		191		227		81		107		119	
SBR			0.0%												
EBL															
EBT															
EBR															
WBL	67		100.0%	81		107		119		81		84		95	
WBT		30	0.0%		36		48		53		16		18		19
WBR			0.0%	3		12		12		0		0		0	

Growth Rate (%/Yr.) : 3.5

## WRHS Driveway 3 & Fox Acres

### AM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL			0.0%												
NBT		13	0.0%	16	16	57	21	57	23	0	3	0	4	0	5
NBR	98		100.0%	152		190		204		146		169		181	
SBL				3		11		11		0		0		0	
SBT				47		172		172		0		0		0	
SBR															
EBL															
EBT															
EBR															
WBL	44		100.0%	53		70		78		53		70		78	
WBT		13	0.0%		16		21		23		3		4		5
WBR			0.0%	1		4		4		0		0		0	

### PM Peak Hour

Movement	Existing Traffic	Existing Peds	Lane Dist.	Build Traffic Volumes						No-Build Traffic Volumes					
				2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds	2013 Traffic	2013 Peds	2024 Traffic	2024 Peds	2029 Traffic	2029 Peds
NBL			0.0%												
NBT		30	0.0%	53	36	193	48	193	53	0	8	0	9	0	11
NBR	43		100.0%	95		88		95		86		102		109	
SBL				2		7		7		0		0		0	
SBT				31		114		114		0		0		0	
SBR															
EBL															
EBT															
EBR															
WBL	67		100.0%	81		84		119		81		107		119	
WBT		30	0.0%		36		48		53		8		9		11
WBR			0.0%	3		12		12		0		0		0	

Growth Rate (%/Yr.) : 3.5

## Eastridge & Croy & 8th

AM Peak Hour			Build Traffic Volumes			No-Build Traffic Volumes		
Movement	Existing Traffic	Lane Dist.	2013 Traffic	2024 Traffic	2029 Traffic	2013 Traffic	2024 Traffic	2029 Traffic
NBL	27	30.0%	50	82	88	34	44	49
NBT	63	70.0%	118	192	206	78	103	114
NBR		0.0%	0	0	0	0	0	0
SBL		0.0%	0	0	0	0	0	0
SBT	60	100.0%	77	107	117	75	98	108
SBR	0	0.0%	0	0	0	0	0	0
EBL	1	1.4%	1	2	2	1	2	2
EBT		0.0%	0	0	0	0	0	0
EBR	68	98.6%	88	121	133	85	111	123
WBL			0	0	0	0	0	0
WBT			0	0	0	0	0	0
WBR			0	0	0	0	0	0

	2013	2024	2029
School Traffic PM =	251	421	449
15% School Traffic =	38	63	67

PM Peak Hour			Build Traffic Volumes			No-Build Traffic Volumes		
Movement	Existing Traffic	Lane Dist.	2013 Traffic	2024 Traffic	2029 Traffic	2013 Traffic	2024 Traffic	2029 Traffic
NBL	43	47.8%	85	126	139	54	70	78
NBT	47	52.2%	92	138	152	59	77	85
NBR		0.0%	0	0	0	0	0	0
SBL		0.0%	0	0	0	0	0	0
SBT	68	94.4%	94	145	157	85	111	123
SBR	4	5.6%	5	7	7	5	7	7
EBL	0	0.0%	0	0	0	0	0	0
EBT		0.0%	0	0	0	0	0	0
EBR	74	100.0%	103	158	171	92	121	134
WBL			0	0	0	0	0	0
WBT			0	0	0	0	0	0
WBR			0	0	0	0	0	0

### Assumptions:

\* Growth Rate (%/Yr.) = 3.5

\* NB build traffic was increased by 15% of high school traffic to account for traffic cutting through the development.

	2013	2024	2029
School Traffic PM =	351	498	569
15% School Traffic =	53	75	85

## **APPENDIX B – EXISTING ANALYSIS RESULTS**

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	172	345	927	68	45	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3503		1770	1583
Flt Permitted	0.18	1.00	1.00		0.95	1.00
Satd. Flow (perm)	328	3539	3503		1770	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	195	392	1053	77	51	376
RTOR Reduction (vph)	0	0	4	0	0	289
Lane Group Flow (vph)	195	392	1126	0	51	87
Turn Type	pm+pt					Perm
Protected Phases	1	6	2		8	
Permitted Phases	6					8
Actuated Green, G (s)	61.2	61.2	47.8		10.1	10.1
Effective Green, g (s)	61.2	61.2	47.8		10.1	10.1
Actuated g/C Ratio	0.77	0.77	0.60		0.13	0.13
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	424	2731	2112		225	202
v/s Ratio Prot	c0.05	0.11	c0.32		0.03	
v/s Ratio Perm	0.30					c0.06
v/c Ratio	0.46	0.14	0.53		0.23	0.43
Uniform Delay, d1	4.9	2.3	9.2		31.1	31.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.8	0.1	1.0		0.5	1.5
Delay (s)	5.7	2.4	10.2		31.6	33.4
Level of Service	A	A	B		C	C
Approach Delay (s)		3.5	10.2		33.2	
Approach LOS		A	B		C	

### Intersection Summary

HCM Average Control Delay	13.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	79.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	30	1	268	10	2	341
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	34	1	305	11	2	388
Pedestrians	13					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	715	323			329	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	715	323			329	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	100			100	
cM capacity (veh/h)	392	710			1217	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	35	316	390
Volume Left	34	0	2
Volume Right	1	11	0
cSH	398	1700	1217
Volume to Capacity	0.09	0.19	0.00
Queue Length 95th (ft)	7	0	0
Control Delay (s)	14.9	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	14.9	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		29.5%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	161	62	245	46	33	161
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	183	70	278	52	38	183

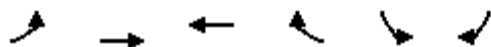
Direction, Lane #	WB 1	NE 1	SW 1
Volume Total (vph)	253	331	220
Volume Left (vph)	0	278	38
Volume Right (vph)	70	0	183
Hadj (s)	-0.13	0.20	-0.43
Departure Headway (s)	4.8	5.0	4.9
Degree Utilization, x	0.34	0.46	0.30
Capacity (veh/h)	712	687	667
Control Delay (s)	10.2	12.2	9.9
Approach Delay (s)	10.2	12.2	9.9
Approach LOS	B	B	A

Intersection Summary			
Delay		10.9	
HCM Level of Service		B	
Intersection Capacity Utilization	49.0%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



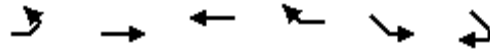
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	39	263	146	2	7	55
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	44	299	166	2	8	62
Pedestrians					22	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	190				577	189
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	190				577	189
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				98	93
cM capacity (veh/h)	1358				455	837

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	343	168	70
Volume Left	44	0	8
Volume Right	0	2	62
cSH	1358	1700	765
Volume to Capacity	0.03	0.10	0.09
Queue Length 95th (ft)	3	0	8
Control Delay (s)	1.3	0.0	10.2
Lane LOS	A		B
Approach Delay (s)	1.3	0.0	10.2
Approach LOS			B

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		37.9%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↶	↑	↷		↷	↶
Volume (veh/h)	5	266	143	33	124	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	6	302	162	38	141	6
Pedestrians		4	4		41	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	241				540	226
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	241				540	226
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				71	99
cM capacity (veh/h)	1280				482	783

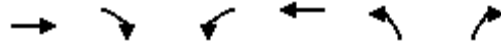
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	6	302	200	147
Volume Left	6	0	0	141
Volume Right	0	0	38	6
cSH	1280	1700	1700	489
Volume to Capacity	0.00	0.18	0.12	0.30
Queue Length 95th (ft)	0	0	0	31
Control Delay (s)	7.8	0.0	0.0	15.5
Lane LOS	A			C
Approach Delay (s)	0.1		0.0	15.5
Approach LOS				C

Intersection Summary			
Average Delay		3.5	
Intersection Capacity Utilization	28.6%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/27/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	↩
Volume (veh/h)	195	195	0	88	88	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	222	222	0	100	100	0
Pedestrians	13			13	13	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			456		458	358
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			456		458	358
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		82	100
cM capacity (veh/h)			1093		548	671

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	443	100	100	0
Volume Left	0	0	100	0
Volume Right	222	0	0	0
cSH	1700	1093	548	1700
Volume to Capacity	0.26	0.00	0.18	0.00
Queue Length 95th (ft)	0	0	17	0
Control Delay (s)	0.0	0.0	13.0	0.0
Lane LOS			B	A
Approach Delay (s)	0.0	0.0	13.0	
Approach LOS			B	

Intersection Summary			
Average Delay			2.0
Intersection Capacity Utilization	37.4%		ICU Level of Service
Analysis Period (min)	15		A

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	44	0	98	98	0	44
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	50	0	111	111	0	50
Pedestrians	13		13			13
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	243	193			236	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	243	193			236	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			100	
cM capacity (veh/h)	729	830			1317	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	50	0	223	50
Volume Left	50	0	0	0
Volume Right	0	0	111	0
cSH	729	1700	1700	1317
Volume to Capacity	0.07	0.00	0.13	0.00
Queue Length 95th (ft)	6	0	0	0
Control Delay (s)	10.3	0.0	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.3		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay		1.6	
Intersection Capacity Utilization	25.9%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	44	0	0	98	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	50	0	0	111	0	0
Pedestrians	13		13			13
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	82	82			124	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	82	82			124	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	100			100	
cM capacity (veh/h)	901	957			1447	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	50	0	111	0
Volume Left	50	0	0	0
Volume Right	0	0	111	0
cSH	901	1700	1700	1700
Volume to Capacity	0.06	0.00	0.07	0.00
Queue Length 95th (ft)	4	0	0	0
Control Delay (s)	9.2	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.2		0.0	0.0
Approach LOS	A			

Intersection Summary			
Average Delay		2.9	
Intersection Capacity Utilization		23.0%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	1	68	27	63	60	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	77	31	72	68	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	201	68	68			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	201	68	68			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	98			
cM capacity (veh/h)	772	995	1533			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	78	102	68			
Volume Left	1	31	0			
Volume Right	77	0	0			
cSH	991	1533	1700			
Volume to Capacity	0.08	0.02	0.04			
Queue Length 95th (ft)	6	2	0			
Control Delay (s)	8.9	2.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.9	2.3	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization			22.4%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	341	933	475	53	57	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3478		1770	1562
Flt Permitted	0.37	1.00	1.00		0.95	1.00
Satd. Flow (perm)	688	3539	3478		1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	388	1060	540	60	65	244
RTOR Reduction (vph)	0	0	6	0	0	217
Lane Group Flow (vph)	388	1060	594	0	65	27
Confl. Peds. (#/hr)				1	1	1
Turn Type	pm+pt					Perm
Protected Phases	1	6	2		8	
Permitted Phases	6					8
Actuated Green, G (s)	61.1	61.1	46.6		8.7	8.7
Effective Green, g (s)	61.1	61.1	46.6		8.7	8.7
Actuated g/C Ratio	0.79	0.79	0.60		0.11	0.11
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	686	2779	2083		198	175
v/s Ratio Prot	c0.08	0.30	0.17		c0.04	
v/s Ratio Perm	c0.37					0.02
v/c Ratio	0.57	0.38	0.29		0.33	0.16
Uniform Delay, d1	2.9	2.6	7.5		31.9	31.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.1	0.4	0.3		1.0	0.4
Delay (s)	3.9	3.0	7.9		32.8	31.6
Level of Service	A	A	A		C	C
Approach Delay (s)		3.2	7.9		31.9	
Approach LOS		A	A		C	

### Intersection Summary

HCM Average Control Delay	8.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	13	0	351	38	3	254
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	15	0	399	43	3	289
Pedestrians	13		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	730	434			455	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	730	434			455	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	100			100	
cM capacity (veh/h)	384	614			1094	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	15	442	292
Volume Left	15	0	3
Volume Right	0	43	0
cSH	384	1700	1094
Volume to Capacity	0.04	0.26	0.00
Queue Length 95th (ft)	3	0	0
Control Delay (s)	14.8	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	14.8	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		31.2%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011



Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Sign Control	Stop		Stop			Stop
Volume (vph)	139	22	225	127	53	196
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	158	25	256	144	60	223

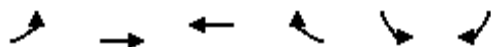
Direction, Lane #	WB 1	NE 1	SW 1
Volume Total (vph)	183	400	283
Volume Left (vph)	0	256	60
Volume Right (vph)	25	0	223
Hadj (s)	-0.05	0.16	-0.40
Departure Headway (s)	5.2	5.1	5.0
Degree Utilization, x	0.26	0.57	0.39
Capacity (veh/h)	650	680	663
Control Delay (s)	10.0	14.5	11.2
Approach Delay (s)	10.0	14.5	11.2
Approach LOS	B	B	B

Intersection Summary			
Delay		12.5	
HCM Level of Service		B	
Intersection Capacity Utilization		53.1%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	52	101	99	2	5	61
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	59	115	112	2	6	69
Pedestrians					15	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	130				362	129
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	130				362	129
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				99	92
cM capacity (veh/h)	1438				604	910

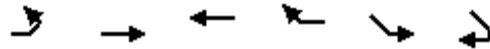
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	174	115	75
Volume Left	59	0	6
Volume Right	0	2	69
cSH	1438	1700	876
Volume to Capacity	0.04	0.07	0.09
Queue Length 95th (ft)	3	0	7
Control Delay (s)	2.8	0.0	9.5
Lane LOS	A		A
Approach Delay (s)	2.8	0.0	9.5
Approach LOS			A

Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization	25.6%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	2	133	205	64	40	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	151	233	73	45	8
Pedestrians		13	13		13	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	319				451	295
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	319				451	295
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				92	99
cM capacity (veh/h)	1228				553	728

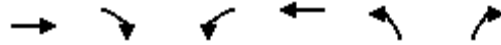
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	2	151	306	53
Volume Left	2	0	0	45
Volume Right	0	0	73	8
cSH	1228	1700	1700	573
Volume to Capacity	0.00	0.09	0.18	0.09
Queue Length 95th (ft)	0	0	0	8
Control Delay (s)	7.9	0.0	0.0	11.9
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	11.9
Approach LOS				B

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization		28.5%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	→
Volume (veh/h)	87	87	0	135	135	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	99	99	0	153	153	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			198	302	148	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			198	302	148	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	78	100	
cM capacity (veh/h)			1375	690	898	

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	198	153	153	0
Volume Left	0	0	153	0
Volume Right	99	0	0	0
cSH	1700	1375	690	1700
Volume to Capacity	0.12	0.00	0.22	0.00
Queue Length 95th (ft)	0	0	21	0
Control Delay (s)	0.0	0.0	11.7	0.0
Lane LOS			B	A
Approach Delay (s)	0.0	0.0	11.7	
Approach LOS			B	

Intersection Summary			
Average Delay		3.6	
Intersection Capacity Utilization	24.0%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	67	0	43	43	0	67
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	76	0	49	49	0	76
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	149	73			98	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	149	73			98	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	100			100	
cM capacity (veh/h)	843	989			1495	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	76	0	98	76
Volume Left	76	0	0	0
Volume Right	0	0	49	0
cSH	843	1700	1700	1495
Volume to Capacity	0.09	0.00	0.06	0.00
Queue Length 95th (ft)	7	0	0	0
Control Delay (s)	9.7	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.7		0.0	0.0
Approach LOS	A			

Intersection Summary			
Average Delay		3.0	
Intersection Capacity Utilization		15.3%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	67	0	0	43	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	76	0	0	49	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	24	24			49	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	24	24			49	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	991	1052			1558	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	76	0	49	0
Volume Left	76	0	0	0
Volume Right	0	0	49	0
cSH	991	1700	1700	1700
Volume to Capacity	0.08	0.00	0.03	0.00
Queue Length 95th (ft)	6	0	0	0
Control Delay (s)	8.9	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	8.9		0.0	0.0
Approach LOS	A			

Intersection Summary			
Average Delay		5.4	
Intersection Capacity Utilization		13.7%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	74	43	47	58	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	84	49	53	66	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	219	68	70			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	219	68	70			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	92	97			
cM capacity (veh/h)	744	995	1530			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	84	102	70
Volume Left	0	49	0
Volume Right	84	0	5
cSH	995	1530	1700
Volume to Capacity	0.08	0.03	0.04
Queue Length 95th (ft)	7	2	0
Control Delay (s)	9.0	3.7	0.0
Lane LOS	A	A	
Approach Delay (s)	9.0	3.7	0.0
Approach LOS	A		

Intersection Summary			
Average Delay		4.4	
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		

## **APPENDIX C – 2013 ANALYSIS RESULTS**

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	196	370	994	78	55	401
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3500		1770	1583
Flt Permitted	0.14	1.00	1.00		0.95	1.00
Satd. Flow (perm)	256	3539	3500		1770	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	223	420	1130	89	62	456
RTOR Reduction (vph)	0	0	4	0	0	269
Lane Group Flow (vph)	223	420	1215	0	62	187
Turn Type	pm+pt					Perm
Protected Phases	1	6	2		8	
Permitted Phases	6					8
Actuated Green, G (s)	61.5	61.5	46.9		14.4	14.4
Effective Green, g (s)	61.5	61.5	46.9		14.4	14.4
Actuated g/C Ratio	0.73	0.73	0.56		0.17	0.17
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	379	2594	1956		304	272
v/s Ratio Prot	c0.07	0.12	c0.35		0.04	
v/s Ratio Perm	0.36					c0.12
v/c Ratio	0.59	0.16	0.62		0.20	0.69
Uniform Delay, d1	8.6	3.4	12.5		29.8	32.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	2.3	0.1	1.5		0.3	7.0
Delay (s)	11.0	3.5	14.0		30.2	39.7
Level of Service	B	A	B		C	D
Approach Delay (s)		6.1	14.0		38.5	
Approach LOS		A	B		D	

### Intersection Summary

HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	83.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	36	1	264	10	2	420
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	41	1	300	11	2	477
Pedestrians	13					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	1					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	800	319			324	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	800	319			324	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	100			100	
cM capacity (veh/h)	349	714			1222	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	42	311	480
Volume Left	41	0	2
Volume Right	1	11	0
cSH	354	1700	1222
Volume to Capacity	0.12	0.18	0.00
Queue Length 95th (ft)	10	0	0
Control Delay (s)	16.5	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	16.5	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay		0.9	
Intersection Capacity Utilization		33.7%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 4: Woodside & Fox Acres

9/26/2011

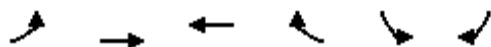


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	195	75	223	42	47	227
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	222	85	253	48	53	258
Approach Volume (veh/h)	307		301			311
Crossing Volume (veh/h)	253		53			222
High Capacity (veh/h)	1135		1328			1164
High v/c (veh/h)	0.27		0.23			0.27
Low Capacity (veh/h)	935		1110			961
Low v/c (veh/h)	0.33		0.27			0.32
<b>Intersection Summary</b>						
Maximum v/c High			0.27			
Maximum v/c Low			0.33			
Intersection Capacity Utilization			54.5%		ICU Level of Service	A

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



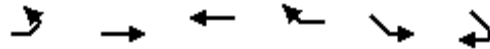
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Volume (veh/h)	39	260	207	3	8	67
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	44	295	235	3	9	76
Pedestrians					27	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	266				648	264
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	266				648	264
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				98	90
cM capacity (veh/h)	1269				410	757

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	340	239	85
Volume Left	44	0	9
Volume Right	0	3	76
cSH	1269	1700	695
Volume to Capacity	0.03	0.14	0.12
Queue Length 95th (ft)	3	0	10
Control Delay (s)	1.3	0.0	10.9
Lane LOS	A		B
Approach Delay (s)	1.3	0.0	10.9
Approach LOS			B

Intersection Summary			
Average Delay		2.1	
Intersection Capacity Utilization		41.6%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↶	↷	↷		↶	
Volume (veh/h)	5	263	204	47	150	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	6	299	232	53	170	7
Pedestrians		5	5		50	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		4	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	335				624	314
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	335				624	314
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				60	99
cM capacity (veh/h)	1173				427	694

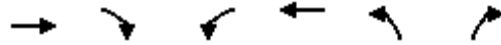
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	6	299	285	177
Volume Left	6	0	0	170
Volume Right	0	0	53	7
cSH	1173	1700	1700	433
Volume to Capacity	0.00	0.18	0.17	0.41
Queue Length 95th (ft)	0	0	0	49
Control Delay (s)	8.1	0.0	0.0	18.9
Lane LOS	A			C
Approach Delay (s)	0.2		0.0	18.9
Approach LOS				C

Intersection Summary			
Average Delay		4.4	
Intersection Capacity Utilization		29.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	→
Volume (veh/h)	215	199	6	145	106	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	244	226	7	165	120	2
Pedestrians	16			16	16	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			486		568	389
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			486		568	389
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		74	100
cM capacity (veh/h)			1062		469	641

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	470	172	120	2
Volume Left	0	7	120	0
Volume Right	226	0	0	2
cSH	1700	1062	469	641
Volume to Capacity	0.28	0.01	0.26	0.00
Queue Length 95th (ft)	0	0	25	0
Control Delay (s)	0.0	0.4	15.3	10.6
Lane LOS		A	C	B
Approach Delay (s)	0.0	0.4	15.2	
Approach LOS			C	

Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization		39.9%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	53	1	166	50	3	98
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	60	1	189	57	3	111
Pedestrians	16		16			16
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	367	249			261	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	367	249			261	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	100			100	
cM capacity (veh/h)	614	769			1285	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	60	1	245	115
Volume Left	60	0	0	3
Volume Right	0	1	57	0
cSH	614	769	1700	1285
Volume to Capacity	0.10	0.00	0.14	0.00
Queue Length 95th (ft)	8	0	0	0
Control Delay (s)	11.5	9.7	0.0	0.3
Lane LOS	B	A		A
Approach Delay (s)	11.5		0.0	0.3
Approach LOS	B			

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization	26.8%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	53	1	16	152	3	47
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	60	1	18	173	3	53
Pedestrians	16		16			16
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	197	137			207	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	197	137			207	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	769	888			1346	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	60	1	191	57
Volume Left	60	0	0	3
Volume Right	0	1	173	0
cSH	769	888	1700	1346
Volume to Capacity	0.08	0.00	0.11	0.00
Queue Length 95th (ft)	6	0	0	0
Control Delay (s)	10.1	9.1	0.0	0.5
Lane LOS	B	A		A
Approach Delay (s)	10.1		0.0	0.5
Approach LOS	B			

Intersection Summary			
Average Delay		2.1	
Intersection Capacity Utilization		26.5%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	414	1000	509	64	94	336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00		1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3480		1770	1562
Flt Permitted	0.33	1.00	1.00		0.95	1.00
Satd. Flow (perm)	610	3539	3480		1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	470	1136	578	73	107	382
RTOR Reduction (vph)	0	0	8	0	0	330
Lane Group Flow (vph)	470	1136	643	0	107	52
Confl. Peds. (#/hr)					1	1
Turn Type	pm+pt					Perm
Protected Phases	1	6	2		8	
Permitted Phases	6					8
Actuated Green, G (s)	61.2	61.2	42.6		11.0	11.0
Effective Green, g (s)	61.2	61.2	42.6		11.0	11.0
Actuated g/C Ratio	0.76	0.76	0.53		0.14	0.14
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	677	2701	1848		243	214
v/s Ratio Prot	c0.13	0.32	0.18		c0.06	
v/s Ratio Perm	c0.40					0.03
v/c Ratio	0.69	0.42	0.35		0.44	0.24
Uniform Delay, d1	4.4	3.3	10.8		31.8	30.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.1	0.5	0.5		1.3	0.6
Delay (s)	7.5	3.8	11.3		33.0	31.5
Level of Service	A	A	B		C	C
Approach Delay (s)		4.9	11.3		31.8	
Approach LOS		A	B		C	

### Intersection Summary

HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	16	0	432	47	5	434
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	18	0	491	53	6	493
Pedestrians	16		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1039	535			560	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1039	535			560	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			99	
cM capacity (veh/h)	250	538			997	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	18	544	499
Volume Left	18	0	6
Volume Right	0	53	0
cSH	250	1700	997
Volume to Capacity	0.07	0.32	0.01
Queue Length 95th (ft)	6	0	0
Control Delay (s)	20.5	0.0	0.2
Lane LOS	C		A
Approach Delay (s)	20.5	0.0	0.2
Approach LOS	C		

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		37.2%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011

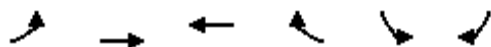


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	73	271	168	27	276	156
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	83	308	191	31	314	177
Approach Volume (veh/h)	391		222			491
Crossing Volume (veh/h)	191		314			83
High Capacity (veh/h)	1193		1083			1298
High v/c (veh/h)	0.33		0.20			0.38
Low Capacity (veh/h)	987		888			1082
Low v/c (veh/h)	0.40		0.25			0.45
<b>Intersection Summary</b>						
Maximum v/c High			0.38			
Maximum v/c Low			0.45			
Intersection Capacity Utilization			66.1%		ICU Level of Service	C

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011

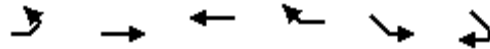


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	103	200	270	5	6	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	117	227	307	6	7	84
Pedestrians					18	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	330				789	328
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	330				789	328
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				98	88
cM capacity (veh/h)	1211				320	703
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	344	312	91			
Volume Left	117	0	7			
Volume Right	0	6	84			
cSH	1211	1700	645			
Volume to Capacity	0.10	0.18	0.14			
Queue Length 95th (ft)	8	0	12			
Control Delay (s)	3.4	0.0	11.5			
Lane LOS	A		B			
Approach Delay (s)	3.4	0.0	11.5			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.0			
Intersection Capacity Utilization			45.7%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	3	203	267	84	48	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	3	231	303	95	55	9
Pedestrians		16	16		16	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	415				621	383
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	415				621	383
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				88	99
cM capacity (veh/h)	1129				438	647

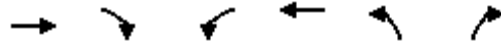
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	3	231	399	64
Volume Left	3	0	0	55
Volume Right	0	0	95	9
cSH	1129	1700	1700	459
Volume to Capacity	0.00	0.14	0.23	0.14
Queue Length 95th (ft)	0	0	0	12
Control Delay (s)	8.2	0.0	0.0	14.1
Lane LOS	A			B
Approach Delay (s)	0.1		0.0	14.1
Approach LOS				B

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization		33.7%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	↻
Volume (veh/h)	152	99	4	188	163	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	173	112	5	214	185	26
Pedestrians	36			36	36	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	3			3	3	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			321		524	301
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			321		524	301
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		62	96
cM capacity (veh/h)			1201		482	695

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	285	218	185	26
Volume Left	0	5	185	0
Volume Right	112	0	0	26
cSH	1700	1201	482	695
Volume to Capacity	0.17	0.00	0.38	0.04
Queue Length 95th (ft)	0	0	45	3
Control Delay (s)	0.0	0.2	17.1	10.4
Lane LOS		A	C	B
Approach Delay (s)	0.0	0.2	16.2	
Approach LOS			C	

Intersection Summary			
Average Delay		4.9	
Intersection Capacity Utilization		34.0%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	81	3	145	31	2	111
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	92	3	165	35	2	126
Pedestrians	36		36			36
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	3		3			3
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	385	254			236	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	385	254			236	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	100			100	
cM capacity (veh/h)	580	738			1291	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	92	3	200	128
Volume Left	92	0	0	2
Volume Right	0	3	35	0
cSH	580	738	1700	1291
Volume to Capacity	0.16	0.00	0.12	0.00
Queue Length 95th (ft)	14	0	0	0
Control Delay (s)	12.4	9.9	0.0	0.2
Lane LOS	B	A		A
Approach Delay (s)	12.3		0.0	0.2
Approach LOS	B			

Intersection Summary			
Average Delay		2.8	
Intersection Capacity Utilization		29.7%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	81	3	53	95	2	31
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	92	3	60	108	2	35
Pedestrians	36		36			36
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	3		3			3
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	226	186			204	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226	186			204	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	100			100	
cM capacity (veh/h)	716	805			1326	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	92	3	168	38
Volume Left	92	0	0	2
Volume Right	0	3	108	0
cSH	716	805	1700	1326
Volume to Capacity	0.13	0.00	0.10	0.00
Queue Length 95th (ft)	11	0	0	0
Control Delay (s)	10.8	9.5	0.0	0.5
Lane LOS	B	A		A
Approach Delay (s)	10.7		0.0	0.5
Approach LOS	B			

Intersection Summary			
Average Delay		3.5	
Intersection Capacity Utilization		29.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	1	88	50	118	77	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	1	100	57	134	88	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	335	88	88			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	335	88	88			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	90	96			
cM capacity (veh/h)	635	971	1508			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	101	191	88			
Volume Left	1	57	0			
Volume Right	100	0	0			
cSH	965	1508	1700			
Volume to Capacity	0.10	0.04	0.05			
Queue Length 95th (ft)	9	3	0			
Control Delay (s)	9.2	2.4	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.2	2.4	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.7			
Intersection Capacity Utilization		27.8%		ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	103	85	92	94	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	117	97	105	107	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	407	110	112			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	407	110	112			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	88	93			
cM capacity (veh/h)	561	944	1477			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	117	201	112			
Volume Left	0	97	0			
Volume Right	117	0	6			
cSH	944	1477	1700			
Volume to Capacity	0.12	0.07	0.07			
Queue Length 95th (ft)	11	5	0			
Control Delay (s)	9.4	3.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.4	3.9	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			4.4			
Intersection Capacity Utilization			29.3%		ICU Level of Service	A
Analysis Period (min)			15			

## **APPENDIX D – 2024 ANALYSIS RESULTS**

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	207	415	1116	82	68	498
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.10	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	185	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	235	472	1268	93	77	566
RTOR Reduction (vph)	0	0	0	47	0	241
Lane Group Flow (vph)	235	472	1268	46	77	325
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	61.5	61.5	45.6	45.6	22.1	22.1
Effective Green, g (s)	61.5	61.5	45.6	45.6	22.1	22.1
Actuated g/C Ratio	0.67	0.67	0.50	0.50	0.24	0.24
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	330	2376	1762	788	427	382
v/s Ratio Prot	c0.09	0.13	0.36		0.04	
v/s Ratio Perm	c0.39			0.03		c0.21
v/c Ratio	0.71	0.20	0.72	0.06	0.18	0.85
Uniform Delay, d1	18.4	5.7	18.0	11.9	27.6	33.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	0.2	2.6	0.1	0.2	16.3
Delay (s)	25.5	5.9	20.6	12.0	27.8	49.5
Level of Service	C	A	C	B	C	D
Approach Delay (s)		12.4	20.0		46.9	
Approach LOS		B	B		D	

### Intersection Summary

HCM Average Control Delay	24.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	91.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	48	1	279	10	3	518
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	55	1	317	11	3	589
Pedestrians	21					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	939	344			349	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	939	344			349	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	100			100	
cM capacity (veh/h)	287	687			1188	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	56	328	592
Volume Left	55	0	3
Volume Right	1	11	0
cSH	290	1700	1188
Volume to Capacity	0.19	0.19	0.00
Queue Length 95th (ft)	17	0	0
Control Delay (s)	20.3	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	20.3	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization		39.6%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011

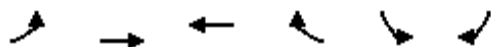


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	257	99	235	44	54	265
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	292	113	267	50	61	301
Approach Volume (veh/h)	405		317			363
Crossing Volume (veh/h)	267		61			292
High Capacity (veh/h)	1123		1320			1101
High v/c (veh/h)	0.36		0.24			0.33
Low Capacity (veh/h)	924		1102			904
Low v/c (veh/h)	0.44		0.29			0.40
<b>Intersection Summary</b>						
Maximum v/c High			0.36			
Maximum v/c Low			0.44			
Intersection Capacity Utilization			62.5%		ICU Level of Service	B

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	43	291	231	3	11	88
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	49	331	262	3	12	100
Pedestrians					35	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	301				728	299
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	301				728	299
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				97	86
cM capacity (veh/h)	1223				364	719

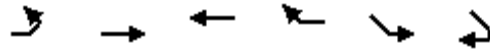
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	380	266	112
Volume Left	49	0	12
Volume Right	0	3	100
cSH	1223	1700	649
Volume to Capacity	0.04	0.16	0.17
Queue Length 95th (ft)	3	0	16
Control Delay (s)	1.4	0.0	11.7
Lane LOS	A		B
Approach Delay (s)	1.4	0.0	11.7
Approach LOS			B

Intersection Summary			
Average Delay		2.4	
Intersection Capacity Utilization	46.2%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↶	↷	↷		↷	
Volume (veh/h)	6	297	228	53	154	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	338	259	60	175	7
Pedestrians		5	5		51	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		0	0		4	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	370				696	345
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	370				696	345
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				55	99
cM capacity (veh/h)	1138				386	665

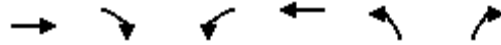
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	7	338	319	182
Volume Left	7	0	0	175
Volume Right	0	0	60	7
cSH	1138	1700	1700	392
Volume to Capacity	0.01	0.20	0.19	0.46
Queue Length 95th (ft)	0	0	0	59
Control Delay (s)	8.2	0.0	0.0	21.9
Lane LOS	A			C
Approach Delay (s)	0.2		0.0	21.9
Approach LOS				C

Intersection Summary			
Average Delay		4.8	
Intersection Capacity Utilization		31.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	↩
Volume (veh/h)	226	226	0	140	140	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	257	257	0	159	159	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			514		544	385
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			514		544	385
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		68	100
cM capacity (veh/h)			1052		500	662

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	514	159	159	0
Volume Left	0	0	159	0
Volume Right	257	0	0	0
cSH	1700	1052	500	1700
Volume to Capacity	0.30	0.00	0.32	0.00
Queue Length 95th (ft)	0	0	34	0
Control Delay (s)	0.0	0.0	15.5	0.0
Lane LOS			C	A
Approach Delay (s)	0.0	0.0	15.5	
Approach LOS			C	

Intersection Summary				
Average Delay			3.0	
Intersection Capacity Utilization		40.1%	ICU Level of Service	A
Analysis Period (min)		15		

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	70	0	169	56	0	70
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	0	192	64	0	80
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	303	224			256	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	303	224			256	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	100			100	
cM capacity (veh/h)	688	816			1309	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	80	0	256	80
Volume Left	80	0	0	0
Volume Right	0	0	64	0
cSH	688	1700	1700	1309
Volume to Capacity	0.12	0.00	0.15	0.00
Queue Length 95th (ft)	10	0	0	0
Control Delay (s)	10.9	0.0	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.9		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay		2.1	
Intersection Capacity Utilization		22.8%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	70	0	0	169	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	0	0	192	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	96	96			192	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	96	96			192	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	100			100	
cM capacity (veh/h)	903	960			1381	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	80	0	192	0
Volume Left	80	0	0	0
Volume Right	0	0	192	0
cSH	903	1700	1700	1700
Volume to Capacity	0.09	0.00	0.11	0.00
Queue Length 95th (ft)	7	0	0	0
Control Delay (s)	9.4	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.4		0.0	0.0
Approach LOS	A			

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		21.0%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	411	1123	572	64	117	442
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1562
Flt Permitted	0.32	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	598	3539	3539	1583	1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	467	1276	650	73	133	502
RTOR Reduction (vph)	0	0	0	36	0	334
Lane Group Flow (vph)	467	1276	650	37	133	168
Confl. Peds. (#/hr)					1	1
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	61.4	61.4	42.7	42.7	14.4	14.4
Effective Green, g (s)	61.4	61.4	42.7	42.7	14.4	14.4
Actuated g/C Ratio	0.73	0.73	0.51	0.51	0.17	0.17
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	644	2593	1803	807	304	268
v/s Ratio Prot	c0.13	0.36	0.18		0.08	
v/s Ratio Perm	c0.40			0.02		c0.11
v/c Ratio	0.73	0.49	0.36	0.05	0.44	0.63
Uniform Delay, d1	5.5	4.7	12.3	10.3	31.1	32.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	0.7	0.6	0.1	1.0	4.5
Delay (s)	9.6	5.4	12.9	10.4	32.1	36.8
Level of Service	A	A	B	B	C	D
Approach Delay (s)		6.5	12.7		35.8	
Approach LOS		A	B		D	

### Intersection Summary

HCM Average Control Delay	13.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	83.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	21	0	428	46	6	539
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	24	0	486	52	7	612
Pedestrians	16		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1156	530			555	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1156	530			555	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	100			99	
cM capacity (veh/h)	213	541			1002	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	24	539	619
Volume Left	24	0	7
Volume Right	0	52	0
cSH	213	1700	1002
Volume to Capacity	0.11	0.32	0.01
Queue Length 95th (ft)	9	0	1
Control Delay (s)	24.0	0.0	0.2
Lane LOS	C		A
Approach Delay (s)	24.0	0.0	0.2
Approach LOS	C		

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization		43.5%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011

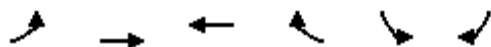


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	222	35	274	154	88	324
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	252	40	311	175	100	368
Approach Volume (veh/h)	292		486			468
Crossing Volume (veh/h)	311		100			252
High Capacity (veh/h)	1085		1281			1136
High v/c (veh/h)	0.27		0.38			0.41
Low Capacity (veh/h)	889		1067			936
Low v/c (veh/h)	0.33		0.46			0.50
<b>Intersection Summary</b>						
Maximum v/c High			0.41			
Maximum v/c Low			0.50			
Intersection Capacity Utilization			70.7%		ICU Level of Service	C

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



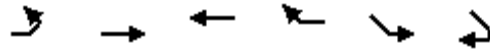
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	105	204	314	6	8	97
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	119	232	357	7	9	110
Pedestrians					24	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	388				855	384
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	388				855	384
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				97	83
cM capacity (veh/h)	1147				289	650

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	351	364	119
Volume Left	119	0	9
Volume Right	0	7	110
cSH	1147	1700	593
Volume to Capacity	0.10	0.21	0.20
Queue Length 95th (ft)	9	0	19
Control Delay (s)	3.6	0.0	12.6
Lane LOS	A		B
Approach Delay (s)	3.6	0.0	12.6
Approach LOS			B

Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization	49.9%		ICU Level of Service A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	3	209	309	96	71	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	3	238	351	109	81	14
Pedestrians		21	21		21	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	2		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	481				692	448
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	481				692	448
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				80	98
cM capacity (veh/h)	1062				394	590

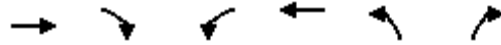
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	3	238	460	94
Volume Left	3	0	0	81
Volume Right	0	0	109	14
cSH	1062	1700	1700	414
Volume to Capacity	0.00	0.14	0.27	0.23
Queue Length 95th (ft)	0	0	0	22
Control Delay (s)	8.4	0.0	0.0	16.2
Lane LOS	A			C
Approach Delay (s)	0.1		0.0	16.2
Approach LOS				C

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		38.4%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→	↘	↙	←	↖	↗
Volume (veh/h)	136	136	0	191	215	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	155	155	0	217	244	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			309		449	232
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			309		449	232
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		57	100
cM capacity (veh/h)			1251		568	807

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	309	217	244	0
Volume Left	0	0	244	0
Volume Right	155	0	0	0
cSH	1700	1251	568	1700
Volume to Capacity	0.18	0.00	0.43	0.00
Queue Length 95th (ft)	0	0	54	0
Control Delay (s)	0.0	0.0	16.0	0.0
Lane LOS			C	A
Approach Delay (s)	0.0	0.0	16.0	
Approach LOS			C	

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization		34.1%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	84	0	102	34	0	107
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	95	0	116	39	0	122
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	257	135			155	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	257	135			155	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	100			100	
cM capacity (veh/h)	732	914			1426	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	95	0	155	122
Volume Left	95	0	0	0
Volume Right	0	0	39	0
cSH	732	1700	1700	1426
Volume to Capacity	0.13	0.00	0.09	0.00
Queue Length 95th (ft)	11	0	0	0
Control Delay (s)	10.7	0.0	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.7		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay		2.7	
Intersection Capacity Utilization		18.8%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↷			↷
Volume (veh/h)	107	0	0	102	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	122	0	0	116	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	58	58			116	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	58	58			116	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	100			100	
cM capacity (veh/h)	949	1008			1473	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	122	0	116	0
Volume Left	122	0	0	0
Volume Right	0	0	116	0
cSH	949	1700	1700	1700
Volume to Capacity	0.13	0.00	0.07	0.00
Queue Length 95th (ft)	11	0	0	0
Control Delay (s)	9.3	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.3		0.0	0.0
Approach LOS	A			

Intersection Summary			
Average Delay		4.8	
Intersection Capacity Utilization		18.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	2	111	44	103	98	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	126	50	117	111	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	328	111	111			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	328	111	111			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	87	97			
cM capacity (veh/h)	643	942	1478			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	128	167	111			
Volume Left	2	50	0			
Volume Right	126	0	0			
cSH	934	1478	1700			
Volume to Capacity	0.14	0.03	0.07			
Queue Length 95th (ft)	12	3	0			
Control Delay (s)	9.5	2.4	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.5	2.4	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			4.0			
Intersection Capacity Utilization			28.2%	ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	121	70	77	111	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	138	80	88	126	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	377	130	134			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	377	130	134			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	85	95			
cM capacity (veh/h)	591	920	1450			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	138	167	134			
Volume Left	0	80	0			
Volume Right	138	0	8			
cSH	920	1450	1700			
Volume to Capacity	0.15	0.05	0.08			
Queue Length 95th (ft)	13	4	0			
Control Delay (s)	9.6	3.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.6	3.9	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			4.5			
Intersection Capacity Utilization		28.8%		ICU Level of Service		A
Analysis Period (min)			15			

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	255	415	1116	99	79	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.09	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	159	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	290	472	1268	112	90	660
RTOR Reduction (vph)	0	0	0	63	0	225
Lane Group Flow (vph)	290	472	1268	49	90	435
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	61.2	61.2	42.9	42.9	28.4	28.4
Effective Green, g (s)	61.2	61.2	42.9	42.9	28.4	28.4
Actuated g/C Ratio	0.63	0.63	0.44	0.44	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	336	2219	1556	696	515	461
v/s Ratio Prot	c0.13	0.13	0.36		0.05	
v/s Ratio Perm	c0.42			0.03		c0.27
v/c Ratio	0.86	0.21	0.81	0.07	0.17	0.94
Uniform Delay, d1	27.4	7.8	23.9	15.8	25.8	33.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	19.8	0.2	4.8	0.2	0.2	27.9
Delay (s)	47.2	8.1	28.7	16.0	26.0	61.7
Level of Service	D	A	C	B	C	E
Approach Delay (s)		22.9	27.7		57.4	
Approach LOS		C	C		E	

### Intersection Summary

HCM Average Control Delay	34.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	97.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	48	1	342	13	4	612
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	55	1	389	15	5	695
Pedestrians	21					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1122	417			424	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1122	417			424	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	100			100	
cM capacity (veh/h)	223	625			1115	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	56	403	700
Volume Left	55	0	5
Volume Right	1	15	0
cSH	226	1700	1115
Volume to Capacity	0.25	0.24	0.00
Queue Length 95th (ft)	23	0	0
Control Delay (s)	26.1	0.0	0.1
Lane LOS	D		A
Approach Delay (s)	26.1	0.0	0.1
Approach LOS	D		

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization	45.4%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011

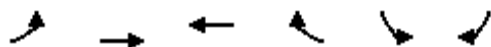


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	257	99	288	54	74	359
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	292	113	327	61	84	408
Approach Volume (veh/h)	405		389			492
Crossing Volume (veh/h)	327		84			292
High Capacity (veh/h)	1071		1297			1101
High v/c (veh/h)	0.38		0.30			0.45
Low Capacity (veh/h)	877		1081			904
Low v/c (veh/h)	0.46		0.36			0.54
<b>Intersection Summary</b>						
Maximum v/c High			0.45			
Maximum v/c Low			0.54			
Intersection Capacity Utilization			72.0%		ICU Level of Service	C

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



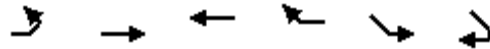
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	50	337	345	5	11	88
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	383	392	6	12	100
Pedestrians					35	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	433				926	430
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	433				926	430
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				95	84
cM capacity (veh/h)	1094				274	607

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	440	398	112
Volume Left	57	0	12
Volume Right	0	6	100
cSH	1094	1700	535
Volume to Capacity	0.05	0.23	0.21
Queue Length 95th (ft)	4	0	20
Control Delay (s)	1.6	0.0	13.5
Lane LOS	A		B
Approach Delay (s)	1.6	0.0	13.5
Approach LOS			B

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization		55.0%	ICU Level of Service B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/26/2011



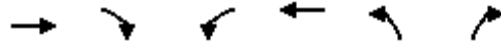
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↶	↑	↷		↷	
Volume (veh/h)	6	342	342	79	198	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	389	389	90	225	9
Pedestrians		6	6		65	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		5	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	543				907	505
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	543				907	505
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				21	98
cM capacity (veh/h)	970				286	534

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	7	389	478	234
Volume Left	7	0	0	225
Volume Right	0	0	90	9
cSH	970	1700	1700	291
Volume to Capacity	0.01	0.23	0.28	0.80
Queue Length 95th (ft)	1	0	0	161
Control Delay (s)	8.7	0.0	0.0	53.3
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	53.3
Approach LOS				F

Intersection Summary			
Average Delay		11.3	
Intersection Capacity Utilization		41.5%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	←
Volume (veh/h)	299	241	22	280	140	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	340	274	25	318	159	8
Pedestrians	21			21	21	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			2	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			635		887	519
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			635		887	519
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		46	99
cM capacity (veh/h)			932		296	538

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	614	343	159	8
Volume Left	0	25	159	0
Volume Right	274	0	0	8
cSH	1700	932	296	538
Volume to Capacity	0.36	0.03	0.54	0.01
Queue Length 95th (ft)	0	2	74	1
Control Delay (s)	0.0	0.9	30.5	11.8
Lane LOS		A	D	B
Approach Delay (s)	0.0	0.9	29.6	
Approach LOS			D	

Intersection Summary			
Average Delay		4.7	
Intersection Capacity Utilization		50.1%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	70	3	244	62	10	232
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	3	277	70	11	264
Pedestrians	21		21			21
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	641	354			369	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	641	354			369	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	99			99	
cM capacity (veh/h)	420	665			1169	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	80	3	348	275
Volume Left	80	0	0	11
Volume Right	0	3	70	0
cSH	420	665	1700	1169
Volume to Capacity	0.19	0.01	0.20	0.01
Queue Length 95th (ft)	17	0	0	1
Control Delay (s)	15.6	10.4	0.0	0.4
Lane LOS	C	B		A
Approach Delay (s)	15.4		0.0	0.4
Approach LOS	C			

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		35.6%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	70	4	57	190	11	172
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	5	65	216	12	195
Pedestrians	21		21			21
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	435	215			302	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	435	215			302	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	99			99	
cM capacity (veh/h)	552	797			1237	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	80	5	281	208
Volume Left	80	0	0	12
Volume Right	0	5	216	0
cSH	552	797	1700	1237
Volume to Capacity	0.14	0.01	0.17	0.01
Queue Length 95th (ft)	13	0	0	1
Control Delay (s)	12.6	9.5	0.0	0.6
Lane LOS	B	A		A
Approach Delay (s)	12.4		0.0	0.6
Approach LOS	B			

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		33.4%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations	↶	↷	↷	↷	↶	↷
Volume (vph)	588	1123	572	91	129	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1562
Flt Permitted	0.31	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	580	3539	3539	1583	1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	668	1276	650	103	147	551
RTOR Reduction (vph)	0	0	0	53	0	325
Lane Group Flow (vph)	668	1276	650	50	147	226
Confl. Peds. (#/hr)					1	1
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	61.6	61.6	41.5	41.5	16.6	16.6
Effective Green, g (s)	61.6	61.6	41.5	41.5	16.6	16.6
Actuated g/C Ratio	0.71	0.71	0.48	0.48	0.19	0.19
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	637	2529	1704	762	341	301
v/s Ratio Prot	c0.20	0.36	0.18		0.08	
v/s Ratio Perm	c0.55			0.03		c0.14
v/c Ratio	1.05	0.50	0.38	0.07	0.43	0.75
Uniform Delay, d1	10.9	5.5	14.2	12.0	30.6	32.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	49.1	0.7	0.6	0.2	0.9	9.8
Delay (s)	60.0	6.2	14.8	12.1	31.5	42.6
Level of Service	E	A	B	B	C	D
Approach Delay (s)		24.7	14.5		40.3	
Approach LOS		C	B		D	

### Intersection Summary

HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	86.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	21	0	613	66	7	593
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	24	0	697	75	8	674
Pedestrians	16		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1441	751			788	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1441	751			788	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	100			99	
cM capacity (veh/h)	143	405			821	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	24	772	682
Volume Left	24	0	8
Volume Right	0	75	0
cSH	143	1700	821
Volume to Capacity	0.17	0.45	0.01
Queue Length 95th (ft)	15	0	1
Control Delay (s)	35.3	0.0	0.3
Lane LOS	E		A
Approach Delay (s)	35.3	0.0	0.3
Approach LOS	E		

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		47.1%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/27/2011

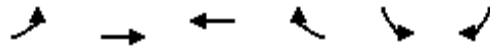


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	222	35	392	221	102	378
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	252	40	445	251	116	430
Approach Volume (veh/h)	292		697			545
Crossing Volume (veh/h)	445		116			252
High Capacity (veh/h)	975		1265			1136
High v/c (veh/h)	0.30		0.55			0.48
Low Capacity (veh/h)	791		1052			936
Low v/c (veh/h)	0.37		0.66			0.58
<b>Intersection Summary</b>						
Maximum v/c High			0.55			
Maximum v/c Low			0.66			
Intersection Capacity Utilization			84.6%		ICU Level of Service	E

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



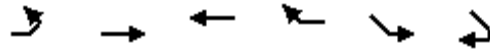
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	145	282	383	8	8	97
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	165	320	435	9	9	110
Pedestrians					24	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	468				1114	464
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	468				1114	464
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				95	81
cM capacity (veh/h)	1071				191	586

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	485	444	119
Volume Left	165	0	9
Volume Right	0	9	110
cSH	1071	1700	507
Volume to Capacity	0.15	0.26	0.24
Queue Length 95th (ft)	14	0	23
Control Delay (s)	4.2	0.0	14.3
Lane LOS	A		B
Approach Delay (s)	4.2	0.0	14.3
Approach LOS			B

Intersection Summary			
Average Delay		3.6	
Intersection Capacity Utilization	60.0%		ICU Level of Service B
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	4	286	380	119	64	11
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	325	432	135	73	12
Pedestrians		21	21		21	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	2		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	588				876	541
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	588				876	541
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				76	98
cM capacity (veh/h)	970				307	522

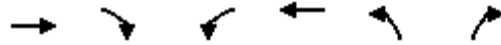
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	5	325	567	85
Volume Left	5	0	0	73
Volume Right	0	0	135	12
cSH	970	1700	1700	327
Volume to Capacity	0.00	0.19	0.33	0.26
Queue Length 95th (ft)	0	0	0	26
Control Delay (s)	8.7	0.0	0.0	19.9
Lane LOS	A			C
Approach Delay (s)	0.1		0.0	19.9
Approach LOS				C

Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization		42.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Volume (veh/h)	271	78	15	284	215	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	308	89	17	323	244	26
Pedestrians	48			48	48	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	4			4	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			445		805	448
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			445		805	448
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		23	95
cM capacity (veh/h)			1071		319	563

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	397	340	244	26
Volume Left	0	17	244	0
Volume Right	89	0	0	26
cSH	1700	1071	319	563
Volume to Capacity	0.23	0.02	0.77	0.05
Queue Length 95th (ft)	0	1	150	4
Control Delay (s)	0.0	0.6	45.3	11.7
Lane LOS		A	E	B
Approach Delay (s)	0.0	0.6	42.0	
Approach LOS			E	

Intersection Summary			
Average Delay		11.5	
Intersection Capacity Utilization		46.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	107	12	269	25	7	191
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	122	14	306	28	8	217
Pedestrians	48		48			48
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	4		4			4
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	649	416			382	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	649	416			382	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	69	98			99	
cM capacity (veh/h)	398	587			1129	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	122	14	334	225
Volume Left	122	0	0	8
Volume Right	0	14	28	0
cSH	398	587	1700	1129
Volume to Capacity	0.31	0.02	0.20	0.01
Queue Length 95th (ft)	32	2	0	1
Control Delay (s)	18.0	11.3	0.0	0.4
Lane LOS	C	B		A
Approach Delay (s)	17.3		0.0	0.4
Approach LOS	C			

Intersection Summary			
Average Delay		3.5	
Intersection Capacity Utilization		34.5%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	84	12	193	88	7	114
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	95	14	219	100	8	130
Pedestrians	48		48			48
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	4		4			4
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	511	365			367	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	511	365			367	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	98			99	
cM capacity (veh/h)	478	626			1144	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	95	14	319	138
Volume Left	95	0	0	8
Volume Right	0	14	100	0
cSH	478	626	1700	1144
Volume to Capacity	0.20	0.02	0.19	0.01
Queue Length 95th (ft)	18	2	0	1
Control Delay (s)	14.4	10.9	0.0	0.5
Lane LOS	B	B		A
Approach Delay (s)	14.0		0.0	0.5
Approach LOS	B			

Intersection Summary			
Average Delay		2.8	
Intersection Capacity Utilization		35.0%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	2	121	82	192	107	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	138	93	218	122	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	526	122	122			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	526	122	122			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	85	94			
cM capacity (veh/h)	480	930	1466			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	140	311	122			
Volume Left	2	93	0			
Volume Right	138	0	0			
cSH	916	1466	1700			
Volume to Capacity	0.15	0.06	0.07			
Queue Length 95th (ft)	13	5	0			
Control Delay (s)	9.6	2.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.6	2.7	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.8			
Intersection Capacity Utilization			35.6%	ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	158	126	138	145	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	180	143	157	165	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	612	169	173			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	612	169	173			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	79	90			
cM capacity (veh/h)	410	875	1404			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	180	300	173			
Volume Left	0	143	0			
Volume Right	180	0	8			
cSH	875	1404	1700			
Volume to Capacity	0.21	0.10	0.10			
Queue Length 95th (ft)	19	8	0			
Control Delay (s)	10.2	4.2	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.2	4.2	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			4.7			
Intersection Capacity Utilization		42.1%		ICU Level of Service		A
Analysis Period (min)		15				

## **APPENDIX E – 2029 ANALYSIS RESULTS**

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	217	436	1172	86	75	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1562
Flt Permitted	0.08	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	154	3539	3539	1583	1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	247	495	1332	98	85	628
RTOR Reduction (vph)	0	0	0	50	0	227
Lane Group Flow (vph)	247	495	1332	48	85	401
Confl. Peds. (#/hr)					1	1
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	61.2	61.2	44.4	44.4	26.7	26.7
Effective Green, g (s)	61.2	61.2	44.4	44.4	26.7	26.7
Actuated g/C Ratio	0.64	0.64	0.46	0.46	0.28	0.28
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	314	2258	1638	733	493	435
v/s Ratio Prot	c0.11	0.14	0.38		0.05	
v/s Ratio Perm	c0.40			0.03		c0.26
v/c Ratio	0.79	0.22	0.81	0.06	0.17	0.92
Uniform Delay, d1	25.0	7.3	22.2	14.3	26.2	33.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.2	0.2	4.5	0.2	0.2	24.8
Delay (s)	37.2	7.5	26.7	14.4	26.4	58.4
Level of Service	D	A	C	B	C	E
Approach Delay (s)		17.4	25.9		54.6	
Approach LOS		B	C		D	

### Intersection Summary

HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	95.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	53	1	292	11	3	575
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	60	1	332	12	3	653
Pedestrians	23					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1021	361			367	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1021	361			367	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	76	100			100	
cM capacity (veh/h)	256	670			1168	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	61	344	657
Volume Left	60	0	3
Volume Right	1	12	0
cSH	259	1700	1168
Volume to Capacity	0.24	0.20	0.00
Queue Length 95th (ft)	22	0	0
Control Delay (s)	23.2	0.0	0.1
Lane LOS	C		A
Approach Delay (s)	23.2	0.0	0.1
Approach LOS	C		

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization	42.6%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011

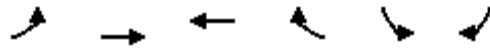


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	285	110	235	44	60	294
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	324	125	267	50	68	334
Approach Volume (veh/h)	449		317			402
Crossing Volume (veh/h)	267		68			324
High Capacity (veh/h)	1123		1313			1074
High v/c (veh/h)	0.40		0.24			0.37
Low Capacity (veh/h)	924		1096			880
Low v/c (veh/h)	0.49		0.29			0.46
<b>Intersection Summary</b>						
Maximum v/c High			0.40			
Maximum v/c Low			0.49			
Intersection Capacity Utilization			66.7%		ICU Level of Service	C

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	45	301	257	4	12	97
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	51	342	292	5	14	110
Pedestrians					39	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	336				778	333
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	336				778	333
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				96	84
cM capacity (veh/h)	1184				338	685

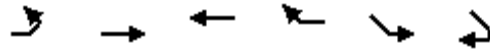
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	393	297	124
Volume Left	51	0	14
Volume Right	0	5	110
cSH	1184	1700	616
Volume to Capacity	0.04	0.17	0.20
Queue Length 95th (ft)	3	0	19
Control Delay (s)	1.4	0.0	12.3
Lane LOS	A		B
Approach Delay (s)	1.4	0.0	12.3
Approach LOS			B

Intersection Summary			
Average Delay		2.6	
Intersection Capacity Utilization	48.8%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 15: Fox Acres & Foxmoor

9/26/2011



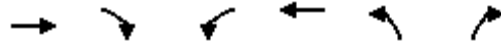
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↶	↷	↶		↶	↷
Volume (veh/h)	6	307	253	58	176	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	349	288	66	200	8
Pedestrians		6	6		58	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		5	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	411				747	384
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	411				747	384
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				44	99
cM capacity (veh/h)	1092				358	628

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	7	349	353	208
Volume Left	7	0	0	200
Volume Right	0	0	66	8
cSH	1092	1700	1700	364
Volume to Capacity	0.01	0.21	0.21	0.57
Queue Length 95th (ft)	0	0	0	85
Control Delay (s)	8.3	0.0	0.0	27.3
Lane LOS	A			D
Approach Delay (s)	0.2		0.0	27.3
Approach LOS				D

Intersection Summary			
Average Delay		6.2	
Intersection Capacity Utilization		34.5%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	→
Volume (veh/h)	242	242	0	156	156	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	275	275	0	177	177	0
Pedestrians	23			23	23	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			2	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			573		636	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			573		636	458
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		58	100
cM capacity (veh/h)			981		425	580

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	550	177	177	0
Volume Left	0	0	177	0
Volume Right	275	0	0	0
cSH	1700	981	425	1700
Volume to Capacity	0.32	0.00	0.42	0.00
Queue Length 95th (ft)	0	0	50	0
Control Delay (s)	0.0	0.0	19.4	0.0
Lane LOS			C	A
Approach Delay (s)	0.0	0.0	19.4	
Approach LOS			C	

Intersection Summary			
Average Delay			3.8
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)			15

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	78	0	181	60	0	78
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	89	0	206	68	0	89
Pedestrians	8		8			8
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	344	256			282	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	344	256			282	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	100			100	
cM capacity (veh/h)	643	772			1272	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	89	0	274	89
Volume Left	89	0	0	0
Volume Right	0	0	68	0
cSH	643	1700	1700	1272
Volume to Capacity	0.14	0.00	0.16	0.00
Queue Length 95th (ft)	12	0	0	0
Control Delay (s)	11.5	0.0	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	11.5		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay		2.3	
Intersection Capacity Utilization		26.5%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	78	0	0	181	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	89	0	0	206	0	0
Pedestrians	5		5			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	113	113			211	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	113	113			211	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	100			100	
cM capacity (veh/h)	876	932			1354	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	89	0	206	0
Volume Left	89	0	0	0
Volume Right	0	0	206	0
cSH	876	1700	1700	1700
Volume to Capacity	0.10	0.00	0.12	0.00
Queue Length 95th (ft)	8	0	0	0
Control Delay (s)	9.6	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.6		0.0	0.0
Approach LOS	A			

Intersection Summary			
Average Delay		2.9	
Intersection Capacity Utilization	24.4%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	431	1179	600	67	130	492
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1562
Flt Permitted	0.29	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	549	3539	3539	1583	1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	490	1340	682	76	148	559
RTOR Reduction (vph)	0	0	0	40	0	315
Lane Group Flow (vph)	490	1340	682	36	148	244
Confl. Peds. (#/hr)					1	1
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	61.6	61.6	41.4	41.4	17.2	17.2
Effective Green, g (s)	61.6	61.6	41.4	41.4	17.2	17.2
Actuated g/C Ratio	0.71	0.71	0.48	0.48	0.20	0.20
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	617	2512	1688	755	351	310
v/s Ratio Prot	c0.15	0.38	0.19		0.08	
v/s Ratio Perm	c0.42			0.02		c0.16
v/c Ratio	0.79	0.53	0.40	0.05	0.42	0.79
Uniform Delay, d1	7.3	5.9	14.7	12.2	30.4	33.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.0	0.8	0.7	0.1	0.8	12.4
Delay (s)	14.3	6.7	15.4	12.3	31.3	45.4
Level of Service	B	A	B	B	C	D
Approach Delay (s)		8.7	15.1		42.5	
Approach LOS		A	B		D	

### Intersection Summary

HCM Average Control Delay	17.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	86.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	23	0	449	49	7	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	26	0	510	56	8	682
Pedestrians	23		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1260	562			589	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1260	562			589	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	100			99	
cM capacity (veh/h)	183	516			967	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	26	566	690
Volume Left	26	0	8
Volume Right	0	56	0
cSH	183	1700	967
Volume to Capacity	0.14	0.33	0.01
Queue Length 95th (ft)	12	0	1
Control Delay (s)	27.9	0.0	0.2
Lane LOS	D		A
Approach Delay (s)	27.9	0.0	0.2
Approach LOS	D		

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		47.5%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011

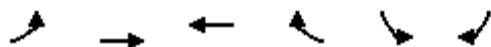


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	246	39	287	162	98	361
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	280	44	326	184	111	410
Approach Volume (veh/h)	324		510			522
Crossing Volume (veh/h)	326		111			280
High Capacity (veh/h)	1072		1269			1112
High v/c (veh/h)	0.30		0.40			0.47
Low Capacity (veh/h)	878		1056			914
Low v/c (veh/h)	0.37		0.48			0.57
<b>Intersection Summary</b>						
Maximum v/c High			0.47			
Maximum v/c Low			0.57			
Intersection Capacity Utilization			76.0%		ICU Level of Service	D

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



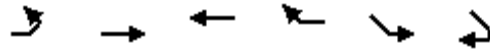
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	111	215	350	7	9	108
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	126	244	398	8	10	123
Pedestrians					27	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	433				925	429
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	433				925	429
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				96	80
cM capacity (veh/h)	1102				258	612

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	370	406	133
Volume Left	126	0	10
Volume Right	0	8	123
cSH	1102	1700	554
Volume to Capacity	0.11	0.24	0.24
Queue Length 95th (ft)	10	0	23
Control Delay (s)	3.7	0.0	13.5
Lane LOS	A		B
Approach Delay (s)	3.7	0.0	13.5
Approach LOS			B

Intersection Summary			
Average Delay		3.5	
Intersection Capacity Utilization		53.5%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/26/2011



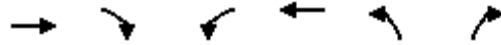
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↙	↑	↘		↘	
Volume (veh/h)	3	221	345	108	71	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	3	251	392	123	81	14
Pedestrians		23	23		23	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	2		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	538				757	499
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	538				757	499
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				78	98
cM capacity (veh/h)	1011				360	550

Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	3	251	515	94
Volume Left	3	0	0	81
Volume Right	0	0	123	14
cSH	1011	1700	1700	379
Volume to Capacity	0.00	0.15	0.30	0.25
Queue Length 95th (ft)	0	0	0	24
Control Delay (s)	8.6	0.0	0.0	17.6
Lane LOS	A			C
Approach Delay (s)	0.1		0.0	17.6
Approach LOS				C

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		41.4%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	↩
Volume (veh/h)	146	146	0	215	238	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	166	166	0	244	270	0
Pedestrians	53			53	53	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	4			4	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			385		599	355
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			385		599	355
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		36	100
cM capacity (veh/h)			1122		424	630

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	332	244	270	0
Volume Left	0	0	270	0
Volume Right	166	0	0	0
cSH	1700	1122	424	1700
Volume to Capacity	0.20	0.00	0.64	0.00
Queue Length 95th (ft)	0	0	108	0
Control Delay (s)	0.0	0.0	27.2	0.0
Lane LOS			D	A
Approach Delay (s)	0.0	0.0	27.2	
Approach LOS			D	

Intersection Summary			
Average Delay			8.7
Intersection Capacity Utilization	38.7%		ICU Level of Service
Analysis Period (min)	15		A

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	95	0	109	36	0	119
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	108	0	124	41	0	135
Pedestrians	19		19			19
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	318	182			184	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	318	182			184	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	100			100	
cM capacity (veh/h)	654	833			1369	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	108	0	165	135
Volume Left	108	0	0	0
Volume Right	0	0	41	0
cSH	654	1700	1700	1369
Volume to Capacity	0.16	0.00	0.10	0.00
Queue Length 95th (ft)	15	0	0	0
Control Delay (s)	11.6	0.0	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	11.6		0.0	0.0
Approach LOS	B			

Intersection Summary			
Average Delay		3.1	
Intersection Capacity Utilization		26.4%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	119	0	0	109	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	135	0	0	124	0	0
Pedestrians	11		11			11
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		1			1
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	84	84			135	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	84	84			135	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	100			100	
cM capacity (veh/h)	901	957			1436	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	135	0	124	0
Volume Left	135	0	0	0
Volume Right	0	0	124	0
cSH	901	1700	1700	1700
Volume to Capacity	0.15	0.00	0.07	0.00
Queue Length 95th (ft)	13	0	0	0
Control Delay (s)	9.7	0.0	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.7		0.0	0.0
Approach LOS	A			

Intersection Summary			
Average Delay		5.1	
Intersection Capacity Utilization	24.9%		ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	2	123	49	114	108	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	140	56	130	123	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	364	123	123			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	364	123	123			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	85	96			
cM capacity (veh/h)	612	928	1464			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	142	185	123			
Volume Left	2	56	0			
Volume Right	140	0	0			
cSH	921	1464	1700			
Volume to Capacity	0.15	0.04	0.07			
Queue Length 95th (ft)	14	3	0			
Control Delay (s)	9.6	2.5	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.6	2.5	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			4.1			
Intersection Capacity Utilization			29.8%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	134	78	85	123	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	152	89	97	140	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418	144	148			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418	144	148			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	83	94			
cM capacity (veh/h)	555	904	1434			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	152	185	148			
Volume Left	0	89	0			
Volume Right	152	0	8			
cSH	904	1434	1700			
Volume to Capacity	0.17	0.06	0.09			
Queue Length 95th (ft)	15	5	0			
Control Delay (s)	9.8	3.9	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.8	3.9	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			34.0%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	261	436	1172	103	86	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.09	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	162	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	297	495	1332	117	98	722
RTOR Reduction (vph)	0	0	0	65	0	217
Lane Group Flow (vph)	297	495	1332	52	98	505
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	61.0	61.0	42.1	42.1	31.0	31.0
Effective Green, g (s)	61.0	61.0	42.1	42.1	31.0	31.0
Actuated g/C Ratio	0.61	0.61	0.42	0.42	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	338	2159	1490	666	549	491
v/s Ratio Prot	c0.13	0.14	0.38		0.06	
v/s Ratio Perm	c0.41			0.03		c0.32
v/c Ratio	0.88	0.23	0.89	0.08	0.18	1.03
Uniform Delay, d1	28.9	8.8	26.9	17.3	25.2	34.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.8	0.2	8.6	0.2	0.2	47.9
Delay (s)	50.7	9.1	35.5	17.6	25.4	82.4
Level of Service	D	A	D	B	C	F
Approach Delay (s)		24.7	34.1		75.6	
Approach LOS		C	C		E	

### Intersection Summary

HCM Average Control Delay	42.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	53	1	351	13	4	668
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	60	1	399	15	5	759
Pedestrians	23					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1197	429			437	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1197	429			437	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	100			100	
cM capacity (veh/h)	200	614			1102	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	61	414	764
Volume Left	60	0	5
Volume Right	1	15	0
cSH	203	1700	1102
Volume to Capacity	0.30	0.24	0.00
Queue Length 95th (ft)	30	0	0
Control Delay (s)	30.2	0.0	0.1
Lane LOS	D		A
Approach Delay (s)	30.2	0.0	0.1
Approach LOS	D		

Intersection Summary			
Average Delay		1.6	
Intersection Capacity Utilization	48.3%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/26/2011

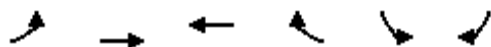


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	285	110	297	56	79	387
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	324	125	338	64	90	440
Approach Volume (veh/h)	449		401			530
Crossing Volume (veh/h)	338		90			324
High Capacity (veh/h)	1062		1291			1074
High v/c (veh/h)	0.42		0.31			0.49
Low Capacity (veh/h)	869		1076			880
Low v/c (veh/h)	0.52		0.37			0.60
<b>Intersection Summary</b>						
Maximum v/c High			0.49			
Maximum v/c Low			0.60			
Intersection Capacity Utilization			76.5%		ICU Level of Service	D

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/26/2011



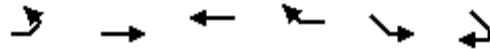
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	52	354	369	5	12	97
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	59	402	419	6	14	110
Pedestrians					39	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	464				982	461
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	464				982	461
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				95	81
cM capacity (veh/h)	1062				253	581

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	461	425	124
Volume Left	59	0	14
Volume Right	0	6	110
cSH	1062	1700	508
Volume to Capacity	0.06	0.25	0.24
Queue Length 95th (ft)	4	0	24
Control Delay (s)	1.6	0.0	14.4
Lane LOS	A		B
Approach Delay (s)	1.6	0.0	14.4
Approach LOS			B

Intersection Summary			
Average Delay		2.5	
Intersection Capacity Utilization		57.9%	ICU Level of Service
Analysis Period (min)		15	B

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Volume (veh/h)	7	360	365	84	219	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	8	409	415	95	249	10
Pedestrians		7	7		73	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		1	1		6	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	583				968	542
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	583				968	542
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				5	98
cM capacity (veh/h)	931				261	504

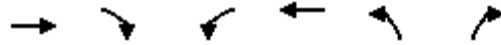
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	8	409	510	259
Volume Left	8	0	0	249
Volume Right	0	0	95	10
cSH	931	1700	1700	266
Volume to Capacity	0.01	0.24	0.30	0.97
Queue Length 95th (ft)	1	0	0	236
Control Delay (s)	8.9	0.0	0.0	90.0
Lane LOS	A			F
Approach Delay (s)	0.2		0.0	90.0
Approach LOS				F

Intersection Summary			
Average Delay		19.7	
Intersection Capacity Utilization		44.0%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	↩
Volume (veh/h)	318	261	25	293	156	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	361	297	28	333	177	8
Pedestrians	23			23	23	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			2	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			681		945	556
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			681		945	556
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		34	98
cM capacity (veh/h)			894		271	511

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	658	361	177	8
Volume Left	0	28	177	0
Volume Right	297	0	0	8
cSH	1700	894	271	511
Volume to Capacity	0.39	0.03	0.66	0.02
Queue Length 95th (ft)	0	2	105	1
Control Delay (s)	0.0	1.1	40.4	12.2
Lane LOS		A	E	B
Approach Delay (s)	0.0	1.1	39.2	
Approach LOS			E	

Intersection Summary			
Average Delay		6.3	
Intersection Capacity Utilization		53.9%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	78	3	258	67	10	240
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	89	3	293	76	11	273
Pedestrians	23		23			23
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	673	377			392	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	673	377			392	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	99			99	
cM capacity (veh/h)	401	644			1144	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	89	3	369	284
Volume Left	89	0	0	11
Volume Right	0	3	76	0
cSH	401	644	1700	1144
Volume to Capacity	0.22	0.01	0.22	0.01
Queue Length 95th (ft)	21	0	0	1
Control Delay (s)	16.5	10.6	0.0	0.4
Lane LOS	C	B		A
Approach Delay (s)	16.3		0.0	0.4
Approach LOS	C			

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization		36.6%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	78	4	57	204	11	172
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	89	5	65	232	12	195
Pedestrians	23		23			23
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	447	227			320	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	447	227			320	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	99			99	
cM capacity (veh/h)	542	782			1217	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	89	5	297	208
Volume Left	89	0	0	12
Volume Right	0	5	232	0
cSH	542	782	1700	1217
Volume to Capacity	0.16	0.01	0.17	0.01
Queue Length 95th (ft)	15	0	0	1
Control Delay (s)	12.9	9.6	0.0	0.6
Lane LOS	B	A		A
Approach Delay (s)	12.8		0.0	0.6
Approach LOS	B			

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization		33.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	609	1179	600	95	145	546
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.29	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	533	3539	3539	1583	1770	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	692	1340	682	108	165	620
RTOR Reduction (vph)	0	0	0	59	0	301
Lane Group Flow (vph)	692	1340	682	49	165	319
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	61.6	61.6	41.4	41.4	21.2	21.2
Effective Green, g (s)	61.6	61.6	41.4	41.4	21.2	21.2
Actuated g/C Ratio	0.68	0.68	0.46	0.46	0.23	0.23
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	582	2401	1614	722	413	370
v/s Ratio Prot	c0.21	0.38	0.19		0.09	
v/s Ratio Perm	c0.59			0.03		c0.20
v/c Ratio	1.19	0.56	0.42	0.07	0.40	0.86
Uniform Delay, d1	12.7	7.6	16.6	13.9	29.4	33.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	101.4	0.9	0.8	0.2	0.6	18.2
Delay (s)	114.0	8.5	17.5	14.1	30.1	51.6
Level of Service	F	A	B	B	C	D
Approach Delay (s)		44.4	17.0		47.0	
Approach LOS		D	B		D	

### Intersection Summary

HCM Average Control Delay	39.0	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	90.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/26/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	23	0	635	69	8	667
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	26	0	722	78	9	758
Pedestrians	16		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1554	778			816	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1554	778			816	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	100			99	
cM capacity (veh/h)	121	391			801	

Direction, Lane #	NB 1	NE 1	SW 1
Volume Total	26	800	767
Volume Left	26	0	9
Volume Right	0	78	0
cSH	121	1700	801
Volume to Capacity	0.22	0.47	0.01
Queue Length 95th (ft)	19	0	1
Control Delay (s)	42.6	0.0	0.3
Lane LOS	E		A
Approach Delay (s)	42.6	0.0	0.3
Approach LOS	E		

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization		51.8%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 4: Woodside & Fox Acres

9/26/2011

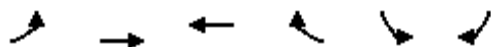


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	246	39	406	229	116	429
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	280	44	461	260	132	488
Approach Volume (veh/h)	324		722			619
Crossing Volume (veh/h)	461		132			280
High Capacity (veh/h)	963		1249			1112
High v/c (veh/h)	0.34		0.58			0.56
Low Capacity (veh/h)	780		1038			914
Low v/c (veh/h)	0.41		0.70			0.68
<b>Intersection Summary</b>						
Maximum v/c High			0.58			
Maximum v/c Low			0.70			
Intersection Capacity Utilization			90.9%		ICU Level of Service	E

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

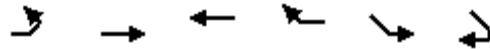
9/26/2011



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Volume (veh/h)	151	293	437	9	9	108
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	172	333	497	10	10	123
Pedestrians					27	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	534				1205	529
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	534				1205	529
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				94	77
cM capacity (veh/h)	1011				165	537
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	505	507	133			
Volume Left	172	0	10			
Volume Right	0	10	123			
cSH	1011	1700	458			
Volume to Capacity	0.17	0.30	0.29			
Queue Length 95th (ft)	15	0	30			
Control Delay (s)	4.5	0.0	16.0			
Lane LOS	A		C			
Approach Delay (s)	4.5	0.0	16.0			
Approach LOS			C			
<b>Intersection Summary</b>						
Average Delay			3.8			
Intersection Capacity Utilization			64.5%		ICU Level of Service	C
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/26/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↵	↑	↶		↷	
Volume (veh/h)	4	298	434	135	71	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	339	493	153	81	14
Pedestrians		23	23		23	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		2	2		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	670				964	616
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	670				964	616
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				70	97
cM capacity (veh/h)	903				271	472

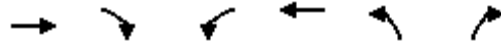
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total	5	339	647	94
Volume Left	5	0	0	81
Volume Right	0	0	153	14
cSH	903	1700	1700	289
Volume to Capacity	0.01	0.20	0.38	0.33
Queue Length 95th (ft)	0	0	0	34
Control Delay (s)	9.0	0.0	0.0	23.4
Lane LOS	A			C
Approach Delay (s)	0.1		0.0	23.4
Approach LOS				C

Intersection Summary			
Average Delay		2.1	
Intersection Capacity Utilization		47.7%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/26/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	↻
Volume (veh/h)	281	88	15	331	238	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	319	100	17	376	270	26
Pedestrians	53			53	53	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	4			4	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			472		886	475
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			472		886	475
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		5	95
cM capacity (veh/h)			1041		283	539

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	419	393	270	26
Volume Left	0	17	270	0
Volume Right	100	0	0	26
cSH	1700	1041	283	539
Volume to Capacity	0.25	0.02	0.95	0.05
Queue Length 95th (ft)	0	1	233	4
Control Delay (s)	0.0	0.5	82.1	12.0
Lane LOS		A	F	B
Approach Delay (s)	0.0	0.5	75.9	
Approach LOS			F	

Intersection Summary			
Average Delay		20.5	
Intersection Capacity Utilization		49.6%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	119	12	276	28	7	227
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	135	14	314	32	8	258
Pedestrians	53		53			53
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	4		4			4
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	709	436			398	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	709	436			398	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	63	98			99	
cM capacity (veh/h)	363	567			1109	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	135	14	345	266
Volume Left	135	0	0	8
Volume Right	0	14	32	0
cSH	363	567	1700	1109
Volume to Capacity	0.37	0.02	0.20	0.01
Queue Length 95th (ft)	42	2	0	1
Control Delay (s)	20.7	11.5	0.0	0.3
Lane LOS	C	B		A
Approach Delay (s)	19.8		0.0	0.3
Approach LOS	C			

Intersection Summary			
Average Delay		4.0	
Intersection Capacity Utilization		36.4%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis  
 11: WRHS3 & Fox Acres

9/26/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	119	12	193	95	7	114
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	135	14	219	108	8	130
Pedestrians	53		53			53
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	4		4			4
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	525	379			380	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	525	379			380	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	98			99	
cM capacity (veh/h)	465	610			1126	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	135	14	327	138
Volume Left	135	0	0	8
Volume Right	0	14	108	0
cSH	465	610	1700	1126
Volume to Capacity	0.29	0.02	0.19	0.01
Queue Length 95th (ft)	30	2	0	1
Control Delay (s)	15.9	11.0	0.0	0.5
Lane LOS	C	B		A
Approach Delay (s)	15.4		0.0	0.5
Approach LOS	C			

Intersection Summary			
Average Delay		3.9	
Intersection Capacity Utilization		36.2%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	2	133	88	206	117	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	151	100	234	133	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	567	133	133			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	567	133	133			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	84	93			
cM capacity (veh/h)	451	916	1452			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	153	334	133			
Volume Left	2	100	0			
Volume Right	151	0	0			
cSH	902	1452	1700			
Volume to Capacity	0.17	0.07	0.08			
Queue Length 95th (ft)	15	6	0			
Control Delay (s)	9.8	2.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.8	2.7	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.9			
Intersection Capacity Utilization			37.4%	ICU Level of Service		A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	171	139	152	157	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	194	158	173	178	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	671	182	186			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	671	182	186			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	77	89			
cM capacity (veh/h)	374	860	1388			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	194	331	186			
Volume Left	0	158	0			
Volume Right	194	0	8			
cSH	860	1388	1700			
Volume to Capacity	0.23	0.11	0.11			
Queue Length 95th (ft)	22	10	0			
Control Delay (s)	10.4	4.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.4	4.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			4.8			
Intersection Capacity Utilization		45.0%		ICU Level of Service		A
Analysis Period (min)			15			

## **APPENDIX F – IMPROVEMENT ANALYSIS RESULTS**

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	255	415	1116	99	79	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1547	1770	1562
Flt Permitted	0.09	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	171	3539	3539	1547	1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	290	472	1268	112	90	660
RTOR Reduction (vph)	0	0	0	50	0	234
Lane Group Flow (vph)	290	472	1268	62	90	426
Confl. Peds. (#/hr)	1			1	1	1
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	57.4	57.4	39.5	39.5	28.4	28.4
Effective Green, g (s)	57.4	57.4	39.5	39.5	28.4	28.4
Actuated g/C Ratio	0.61	0.61	0.42	0.42	0.30	0.30
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	342	2166	1490	651	536	473
v/s Ratio Prot	c0.13	0.13	0.36		0.05	
v/s Ratio Perm	c0.39			0.04		c0.27
v/c Ratio	0.85	0.22	0.85	0.10	0.17	0.90
Uniform Delay, d1	25.6	8.1	24.5	16.4	24.0	31.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.4	0.2	6.3	0.3	0.1	19.9
Delay (s)	43.0	8.4	30.8	16.7	24.2	51.3
Level of Service	D	A	C	B	C	D
Approach Delay (s)		21.5	29.7		48.0	
Approach LOS		C	C		D	

### Intersection Summary

HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	93.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/27/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	48	1	342	13	4	612
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	55	1	389	15	5	695
Pedestrians	21					
Lane Width (ft)	12.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	2					
Right turn flare (veh)		6				
Median type			TWLTL			None
Median storage (veh)			2			
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1122	417			424	
vC1, stage 1 conf vol	417					
vC2, stage 2 conf vol	705					
vCu, unblocked vol	1122	417			424	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	100			100	
cM capacity (veh/h)	427	625			1115	

Direction, Lane #	NB 1	NE 1	SW 1	SW 2
Volume Total	56	403	5	695
Volume Left	55	0	5	0
Volume Right	1	15	0	0
cSH	436	1700	1115	1700
Volume to Capacity	0.13	0.24	0.00	0.41
Queue Length 95th (ft)	11	0	0	0
Control Delay (s)	14.6	0.0	8.2	0.0
Lane LOS	B		A	
Approach Delay (s)	14.6	0.0	0.1	
Approach LOS	B			

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization	42.2%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/27/2011

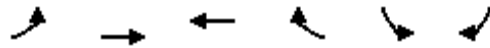


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	257	99	288	54	74	359
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	292	113	327	61	84	408
Approach Volume (veh/h)	405		389			492
Crossing Volume (veh/h)	327		84			292
High Capacity (veh/h)	1071		1297			1101
High v/c (veh/h)	0.38		0.30			0.45
Low Capacity (veh/h)	877		1081			904
Low v/c (veh/h)	0.46		0.36			0.54
<b>Intersection Summary</b>						
Maximum v/c High			0.45			
Maximum v/c Low			0.54			
Intersection Capacity Utilization			71.9%		ICU Level of Service	C

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/27/2011



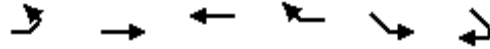
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	50	337	345	5	11	88
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	57	383	392	6	12	100
Pedestrians					35	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	433				924	427
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	433				924	427
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				95	84
cM capacity (veh/h)	1094				275	609

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	57	383	392	6	12	100
Volume Left	57	0	0	0	12	0
Volume Right	0	0	0	6	0	100
cSH	1094	1700	1700	1700	275	609
Volume to Capacity	0.05	0.23	0.23	0.00	0.05	0.16
Queue Length 95th (ft)	4	0	0	0	4	15
Control Delay (s)	8.5	0.0	0.0	0.0	18.7	12.1
Lane LOS	A				C	B
Approach Delay (s)	1.1		0.0		12.8	
Approach LOS					B	

Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			34.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/27/2011

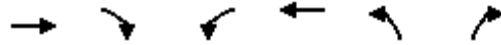


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	6	342	342	79	198	8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	7	389	389	90	225	9
Direction, Lane #	EB 1	EB 2	WB 1	SE 1		
Volume Total (vph)	7	389	478	234		
Volume Left (vph)	7	0	0	225		
Volume Right (vph)	0	0	90	9		
Hadj (s)	0.53	0.03	-0.08	0.20		
Departure Headway (s)	6.5	5.9	5.4	6.4		
Degree Utilization, x	0.01	0.64	0.71	0.42		
Capacity (veh/h)	533	582	654	513		
Control Delay (s)	8.3	17.8	20.7	13.8		
Approach Delay (s)	17.6		20.7	13.8		
Approach LOS	C		C	B		
Intersection Summary						
Delay			18.1			
HCM Level of Service			C			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/27/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	↑
Volume (veh/h)	299	241	22	280	140	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	340	274	25	318	159	8
Pedestrians	21			21	21	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			2	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			635		750	382
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			635		750	382
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		55	99
cM capacity (veh/h)			932		356	642

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2
Volume Total	340	274	343	159	8
Volume Left	0	0	25	159	0
Volume Right	0	274	0	0	8
cSH	1700	1700	932	356	642
Volume to Capacity	0.20	0.16	0.03	0.45	0.01
Queue Length 95th (ft)	0	0	2	56	1
Control Delay (s)	0.0	0.0	0.9	23.0	10.7
Lane LOS			A	C	B
Approach Delay (s)	0.0		0.9	22.4	
Approach LOS				C	

Intersection Summary					
Average Delay			3.6		
Intersection Capacity Utilization			50.1%	ICU Level of Service	A
Analysis Period (min)	15				

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/27/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	70	3	244	62	10	232
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	3	277	70	11	264
Pedestrians	21		21			21
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	641	354			369	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	641	354			369	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	99			99	
cM capacity (veh/h)	420	665			1169	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	80	3	348	275
Volume Left	80	0	0	11
Volume Right	0	3	70	0
cSH	420	665	1700	1169
Volume to Capacity	0.19	0.01	0.20	0.01
Queue Length 95th (ft)	17	0	0	1
Control Delay (s)	15.6	10.4	0.0	0.4
Lane LOS	C	B		A
Approach Delay (s)	15.4		0.0	0.4
Approach LOS	C			

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		35.6%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/27/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	70	4	57	190	11	172
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	5	65	216	12	195
Pedestrians	21		21			21
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	435	215			302	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	435	215			302	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	99			99	
cM capacity (veh/h)	552	797			1237	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	80	5	281	208
Volume Left	80	0	0	12
Volume Right	0	5	216	0
cSH	552	797	1700	1237
Volume to Capacity	0.14	0.01	0.17	0.01
Queue Length 95th (ft)	13	0	0	1
Control Delay (s)	12.6	9.5	0.0	0.6
Lane LOS	B	A		A
Approach Delay (s)	12.4		0.0	0.6
Approach LOS	B			

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		33.4%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	588	1123	572	91	129	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1769	3539	3539	1548	1770	1562
Flt Permitted	0.30	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	560	3539	3539	1548	1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	668	1276	650	103	147	551
RTOR Reduction (vph)	0	0	0	56	0	319
Lane Group Flow (vph)	668	1276	650	47	147	232
Confl. Peds. (#/hr)	1			1	1	1
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	57.7	57.7	37.5	37.5	17.3	17.3
Effective Green, g (s)	57.7	57.7	37.5	37.5	17.3	17.3
Actuated g/C Ratio	0.70	0.70	0.45	0.45	0.21	0.21
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	625	2460	1599	699	369	326
v/s Ratio Prot	c0.21	0.36	0.18		0.08	
v/s Ratio Perm	c0.53			0.03		c0.15
v/c Ratio	1.07	0.52	0.41	0.07	0.40	0.71
Uniform Delay, d1	11.5	6.0	15.3	12.9	28.4	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	55.8	0.8	0.8	0.2	0.7	7.2
Delay (s)	67.3	6.8	16.0	13.0	29.1	37.7
Level of Service	E	A	B	B	C	D
Approach Delay (s)		27.6	15.6		35.9	
Approach LOS		C	B		D	

### Intersection Summary

HCM Average Control Delay	26.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	83.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/27/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	21	0	613	66	7	593
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	24	0	697	75	8	674
Pedestrians	16		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	1		0			0
Right turn flare (veh)		6				
Median type			TWLTL			None
Median storage (veh)			2			
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1441	751			788	
vC1, stage 1 conf vol	750					
vC2, stage 2 conf vol	691					
vCu, unblocked vol	1441	751			788	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			99	
cM capacity (veh/h)	356	405			821	

Direction, Lane #	NB 1	NE 1	SW 1	SW 2
Volume Total	24	772	8	674
Volume Left	24	0	8	0
Volume Right	0	75	0	0
cSH	324	1700	821	1700
Volume to Capacity	0.07	0.45	0.01	0.40
Queue Length 95th (ft)	6	0	1	0
Control Delay (s)	17.0	0.0	9.4	0.0
Lane LOS	C		A	
Approach Delay (s)	17.0	0.0	0.1	
Approach LOS	C			

Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization	46.7%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/27/2011

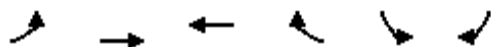


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	222	35	392	221	102	378
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	252	40	445	251	116	430
Approach Volume (veh/h)	292		697			545
Crossing Volume (veh/h)	445		116			252
High Capacity (veh/h)	975		1265			1136
High v/c (veh/h)	0.30		0.55			0.48
Low Capacity (veh/h)	791		1052			936
Low v/c (veh/h)	0.37		0.66			0.58
<b>Intersection Summary</b>						
Maximum v/c High			0.55			
Maximum v/c Low			0.66			
Intersection Capacity Utilization			84.6%		ICU Level of Service	E

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/27/2011



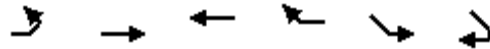
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	145	282	383	8	8	97
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	165	320	435	9	9	110
Pedestrians					24	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	468				1109	459
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	468				1109	459
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				95	81
cM capacity (veh/h)	1071				192	590

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	165	320	435	9	9	110
Volume Left	165	0	0	0	9	0
Volume Right	0	0	0	9	0	110
cSH	1071	1700	1700	1700	192	590
Volume to Capacity	0.15	0.19	0.26	0.01	0.05	0.19
Queue Length 95th (ft)	14	0	0	0	4	17
Control Delay (s)	9.0	0.0	0.0	0.0	24.6	12.5
Lane LOS	A				C	B
Approach Delay (s)	3.0		0.0		13.4	
Approach LOS					B	

Intersection Summary						
Average Delay			2.9			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis  
 15: Fox Acres & Foxmoor

9/27/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↶	↷	↷		↷	↶
Sign Control		Stop	Stop		Stop	
Volume (vph)	4	286	380	119	64	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	325	432	135	73	12

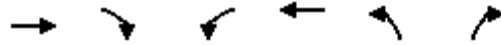
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total (vph)	5	325	567	85
Volume Left (vph)	5	0	0	73
Volume Right (vph)	0	0	135	13
Hadj (s)	0.53	0.03	-0.11	0.12
Departure Headway (s)	5.8	5.3	4.6	6.1
Degree Utilization, x	0.01	0.48	0.72	0.14
Capacity (veh/h)	608	665	772	533
Control Delay (s)	7.6	11.7	18.5	10.1
Approach Delay (s)	11.7		18.5	10.1
Approach LOS	B		C	B

Intersection Summary			
Delay		15.5	
HCM Level of Service		C	
Intersection Capacity Utilization		43.3%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/27/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	↗
Volume (veh/h)	271	78	15	284	215	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	308	89	17	323	244	26
Pedestrians	48			48	48	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	4			4	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			445		761	404
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			445		761	404
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		28	96
cM capacity (veh/h)			1071		339	596

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2
Volume Total	308	89	340	244	26
Volume Left	0	0	17	244	0
Volume Right	0	89	0	0	26
cSH	1700	1700	1071	339	596
Volume to Capacity	0.18	0.05	0.02	0.72	0.04
Queue Length 95th (ft)	0	0	1	134	3
Control Delay (s)	0.0	0.0	0.6	38.8	11.3
Lane LOS			A	E	B
Approach Delay (s)	0.0		0.6	36.2	
Approach LOS				E	

Intersection Summary					
Average Delay			9.9		
Intersection Capacity Utilization			46.9%	ICU Level of Service	A
Analysis Period (min)	15				

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/27/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	119	12	276	28	7	227
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	135	14	314	32	8	258
Pedestrians	48		48			48
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	4		4			4
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	699	426			393	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	699	426			393	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	64	98			99	
cM capacity (veh/h)	371	579			1118	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	135	14	345	266
Volume Left	135	0	0	8
Volume Right	0	14	32	0
cSH	371	579	1700	1118
Volume to Capacity	0.36	0.02	0.20	0.01
Queue Length 95th (ft)	41	2	0	1
Control Delay (s)	20.1	11.4	0.0	0.3
Lane LOS	C	B		A
Approach Delay (s)	19.3		0.0	0.3
Approach LOS	C			

Intersection Summary			
Average Delay		3.9	
Intersection Capacity Utilization		36.2%	ICU Level of Service
Analysis Period (min)		15	A

HCM Unsignalized Intersection Capacity Analysis  
 11: WRHS3 & Fox Acres

9/27/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	84	12	193	88	7	114
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	95	14	219	100	8	130
Pedestrians	48		48			48
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	4		4			4
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	511	365			367	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	511	365			367	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	98			99	
cM capacity (veh/h)	478	626			1144	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	95	14	319	138
Volume Left	95	0	0	8
Volume Right	0	14	100	0
cSH	478	626	1700	1144
Volume to Capacity	0.20	0.02	0.19	0.01
Queue Length 95th (ft)	18	2	0	1
Control Delay (s)	14.4	10.9	0.0	0.5
Lane LOS	B	B		A
Approach Delay (s)	14.0		0.0	0.5
Approach LOS	B			

Intersection Summary			
Average Delay		2.8	
Intersection Capacity Utilization		35.0%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	2	121	82	192	107	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	138	93	218	122	0
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	140	311	122			
Volume Left (vph)	2	93	0			
Volume Right (vph)	138	0	0			
Hadj (s)	-0.55	0.09	0.03			
Departure Headway (s)	4.3	4.5	4.6			
Degree Utilization, x	0.17	0.39	0.16			
Capacity (veh/h)	756	783	740			
Control Delay (s)	8.2	10.2	8.5			
Approach Delay (s)	8.2	10.2	8.5			
Approach LOS	A	B	A			
Intersection Summary						
Delay			9.4			
HCM Level of Service			A			
Intersection Capacity Utilization			35.6%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	0	158	126	138	145	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	180	143	157	165	8
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	180	300	173			
Volume Left (vph)	0	143	0			
Volume Right (vph)	180	0	8			
Hadj (s)	-0.57	0.13	0.01			
Departure Headway (s)	4.4	4.7	4.7			
Degree Utilization, x	0.22	0.39	0.23			
Capacity (veh/h)	739	743	725			
Control Delay (s)	8.7	10.6	9.1			
Approach Delay (s)	8.7	10.6	9.1			
Approach LOS	A	B	A			
Intersection Summary						
Delay			9.7			
HCM Level of Service			A			
Intersection Capacity Utilization			42.1%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	261	436	1172	103	86	635
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1547	1770	1561
Flt Permitted	0.09	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	175	3539	3539	1547	1770	1561
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	297	495	1332	117	98	722
RTOR Reduction (vph)	0	0	0	52	0	223
Lane Group Flow (vph)	297	495	1332	65	98	499
Confl. Peds. (#/hr)	1			1	1	1
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	57.1	57.1	38.5	38.5	32.9	32.9
Effective Green, g (s)	57.1	57.1	38.5	38.5	32.9	32.9
Actuated g/C Ratio	0.58	0.58	0.39	0.39	0.34	0.34
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	340	2062	1390	608	594	524
v/s Ratio Prot	c0.13	0.14	c0.38		0.06	
v/s Ratio Perm	0.38			0.04		c0.32
v/c Ratio	0.87	0.24	0.96	0.11	0.16	0.95
Uniform Delay, d1	27.9	9.9	29.0	18.9	22.9	31.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.1	0.3	16.0	0.4	0.1	27.8
Delay (s)	49.1	10.2	45.0	19.2	23.0	59.6
Level of Service	D	B	D	B	C	E
Approach Delay (s)		24.8	42.9		55.2	
Approach LOS		C	D		E	

### Intersection Summary

HCM Average Control Delay	41.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	98.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/27/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	53	1	351	13	4	668
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	60	1	399	15	5	759
Pedestrians	23		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		0			0
Right turn flare (veh)		6				
Median type			TWLTL			None
Median storage (veh)			2			
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1198	430			437	
vC1, stage 1 conf vol	429					
vC2, stage 2 conf vol	769					
vCu, unblocked vol	1198	430			437	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	100			100	
cM capacity (veh/h)	401	612			1102	

Direction, Lane #	NB 1	NE 1	SW 1	SW 2
Volume Total	61	414	5	759
Volume Left	60	0	5	0
Volume Right	1	15	0	0
cSH	409	1700	1102	1700
Volume to Capacity	0.15	0.24	0.00	0.45
Queue Length 95th (ft)	13	0	0	0
Control Delay (s)	15.5	0.0	8.3	0.0
Lane LOS	C		A	
Approach Delay (s)	15.5	0.0	0.0	
Approach LOS	C			

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization	45.5%		ICU Level of Service A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis  
 4: Woodside & Fox Acres

9/27/2011

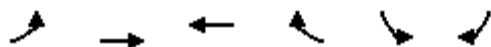


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	285	110	297	56	79	387
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	324	125	338	64	90	440
Approach Volume (veh/h)	449		401			530
Crossing Volume (veh/h)	338		90			324
High Capacity (veh/h)	1062		1291			1074
High v/c (veh/h)	0.42		0.31			0.49
Low Capacity (veh/h)	869		1076			880
Low v/c (veh/h)	0.52		0.37			0.60
<b>Intersection Summary</b>						
Maximum v/c High			0.49			
Maximum v/c Low			0.60			
Intersection Capacity Utilization			76.6%		ICU Level of Service	D

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/27/2011

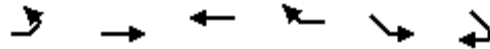


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	52	354	369	5	12	97
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	59	402	419	6	14	110
Pedestrians					39	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	464				979	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	464				979	458
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				95	81
cM capacity (veh/h)	1062				254	583
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	59	402	419	6	14	110
Volume Left	59	0	0	0	14	0
Volume Right	0	0	0	6	0	110
cSH	1062	1700	1700	1700	254	583
Volume to Capacity	0.06	0.24	0.25	0.00	0.05	0.19
Queue Length 95th (ft)	4	0	0	0	4	17
Control Delay (s)	8.6	0.0	0.0	0.0	20.0	12.6
Lane LOS	A				C	B
Approach Delay (s)	1.1		0.0		13.4	
Approach LOS					B	
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			36.1%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 15: Fox Acres & Foxmoor

9/27/2011

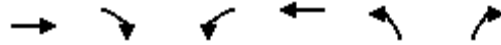


Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	7	360	365	84	219	9
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	8	409	415	95	249	10
Direction, Lane #	EB 1	EB 2	WB 1	SE 1		
Volume Total (vph)	8	409	510	259		
Volume Left (vph)	8	0	0	249		
Volume Right (vph)	0	0	95	10		
Hadj (s)	0.53	0.03	-0.08	0.20		
Departure Headway (s)	6.7	6.1	5.6	6.6		
Degree Utilization, x	0.01	0.70	0.79	0.47		
Capacity (veh/h)	518	565	627	502		
Control Delay (s)	8.6	20.9	26.1	15.3		
Approach Delay (s)	20.7		26.1	15.3		
Approach LOS	C		D	C		
Intersection Summary						
Delay			21.9			
HCM Level of Service			C			
Intersection Capacity Utilization			44.0%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/27/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↖	↗
Volume (veh/h)	318	261	25	293	156	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	361	297	28	333	177	8
Pedestrians	23			23	23	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	2			2	2	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			681		797	407
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			681		797	407
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		46	99
cM capacity (veh/h)			894		331	619

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2
Volume Total	361	297	361	177	8
Volume Left	0	0	28	177	0
Volume Right	0	297	0	0	8
cSH	1700	1700	894	331	619
Volume to Capacity	0.21	0.17	0.03	0.54	0.01
Queue Length 95th (ft)	0	0	2	75	1
Control Delay (s)	0.0	0.0	1.1	27.7	10.9
Lane LOS			A	D	B
Approach Delay (s)	0.0		1.1	27.0	
Approach LOS				D	

Intersection Summary					
Average Delay			4.5		
Intersection Capacity Utilization			53.9%	ICU Level of Service	A
Analysis Period (min)	15				

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/27/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	78	3	258	67	10	240
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	89	3	293	76	11	273
Pedestrians	23		23			23
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	673	377			392	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	673	377			392	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	78	99			99	
cM capacity (veh/h)	401	644			1144	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	89	3	369	284
Volume Left	89	0	0	11
Volume Right	0	3	76	0
cSH	401	644	1700	1144
Volume to Capacity	0.22	0.01	0.22	0.01
Queue Length 95th (ft)	21	0	0	1
Control Delay (s)	16.5	10.6	0.0	0.4
Lane LOS	C	B		A
Approach Delay (s)	16.3		0.0	0.4
Approach LOS	C			

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization		36.6%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/27/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	78	4	57	204	11	172
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	89	5	65	232	12	195
Pedestrians	23		23			23
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		2			2
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	447	227			320	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	447	227			320	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	99			99	
cM capacity (veh/h)	542	782			1217	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	89	5	297	208
Volume Left	89	0	0	12
Volume Right	0	5	232	0
cSH	542	782	1700	1217
Volume to Capacity	0.16	0.01	0.17	0.01
Queue Length 95th (ft)	15	0	0	1
Control Delay (s)	12.9	9.6	0.0	0.6
Lane LOS	B	A		A
Approach Delay (s)	12.8		0.0	0.6
Approach LOS	B			

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization		33.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Signalized Intersection Capacity Analysis

## 1: SR-75 & Fox Acres

9/26/2011



Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Volume (vph)	609	1179	600	95	145	546
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1769	3539	3539	1547	1770	1562
Flt Permitted	0.27	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	511	3539	3539	1547	1770	1562
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	692	1340	682	108	165	620
RTOR Reduction (vph)	0	0	0	62	0	296
Lane Group Flow (vph)	692	1340	682	46	165	324
Confl. Peds. (#/hr)	1			1	1	1
Turn Type	pm+pt			Perm		Perm
Protected Phases	1	6	2		8	
Permitted Phases	6			2		8
Actuated Green, G (s)	57.7	57.7	37.5	37.5	21.9	21.9
Effective Green, g (s)	57.7	57.7	37.5	37.5	21.9	21.9
Actuated g/C Ratio	0.66	0.66	0.43	0.43	0.25	0.25
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	569	2331	1515	662	443	391
v/s Ratio Prot	c0.22	0.38	0.19		0.09	
v/s Ratio Perm	c0.58			0.03		c0.21
v/c Ratio	1.22	0.57	0.45	0.07	0.37	0.83
Uniform Delay, d1	13.4	8.2	17.7	14.8	27.2	31.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	112.6	1.0	1.0	0.2	0.5	13.4
Delay (s)	126.0	9.3	18.7	15.0	27.7	44.5
Level of Service	F	A	B	B	C	D
Approach Delay (s)		49.0	18.2		41.0	
Approach LOS		D	B		D	

### Intersection Summary

HCM Average Control Delay	40.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	87.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 3: Creekside & Fox Acres

9/27/2011



Movement	NBL	NBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (veh/h)	23	0	635	69	8	607
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	26	0	722	78	9	690
Pedestrians	23		1			1
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	2		0			0
Right turn flare (veh)		6				
Median type			TWLTL			None
Median storage (veh)			2			
Upstream signal (ft)			464			
pX, platoon unblocked						
vC, conflicting volume	1493	785			823	
vC1, stage 1 conf vol	784					
vC2, stage 2 conf vol	709					
vCu, unblocked vol	1493	785			823	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			99	
cM capacity (veh/h)	342	385			791	

Direction, Lane #	NB 1	NE 1	SW 1	SW 2
Volume Total	26	800	9	690
Volume Left	26	0	9	0
Volume Right	0	78	0	0
cSH	314	1700	791	1700
Volume to Capacity	0.08	0.47	0.01	0.41
Queue Length 95th (ft)	7	0	1	0
Control Delay (s)	17.5	0.0	9.6	0.0
Lane LOS	C		A	
Approach Delay (s)	17.5	0.0	0.1	
Approach LOS	C			

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization	48.1%		ICU Level of Service A
Analysis Period (min)	15		

# HCM Unsignalized Intersection Capacity Analysis

## 4: Woodside & Fox Acres

9/27/2011

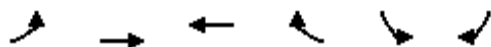


Movement	WBL	WBR	NET	NER	SWL	SWT
Right Turn Channelized						
Volume (veh/h)	246	39	406	229	116	429
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	280	44	461	260	132	488
Approach Volume (veh/h)	324		722			619
Crossing Volume (veh/h)	461		132			280
High Capacity (veh/h)	963		1249			1112
High v/c (veh/h)	0.34		0.58			0.56
Low Capacity (veh/h)	780		1038			914
Low v/c (veh/h)	0.41		0.70			0.68
<b>Intersection Summary</b>						
Maximum v/c High			0.58			
Maximum v/c Low			0.70			
Intersection Capacity Utilization			90.9%		ICU Level of Service	E

# HCM Unsignalized Intersection Capacity Analysis

## 5: Fox Acres & Eastridge

9/27/2011

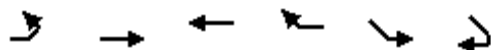


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	151	293	437	9	9	108
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	172	333	497	10	10	123
Pedestrians					27	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	534				1200	524
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	534				1200	524
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				94	77
cM capacity (veh/h)	1011				166	541
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1	SB 2
Volume Total	172	333	497	10	10	123
Volume Left	172	0	0	0	10	0
Volume Right	0	0	0	10	0	123
cSH	1011	1700	1700	1700	166	541
Volume to Capacity	0.17	0.20	0.29	0.01	0.06	0.23
Queue Length 95th (ft)	15	0	0	0	5	22
Control Delay (s)	9.3	0.0	0.0	0.0	28.1	13.6
Lane LOS	A				D	B
Approach Delay (s)	3.2		0.0		14.7	
Approach LOS					B	
Intersection Summary						
Average Delay			3.1			
Intersection Capacity Utilization			44.7%		ICU Level of Service	A
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 15: Fox Acres & Foxmoor

9/27/2011



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↶	↷	↷		↷	↶
Sign Control		Stop	Stop		Stop	
Volume (vph)	4	298	434	135	71	12
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	339	493	153	81	14

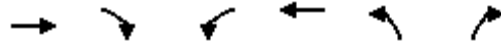
Direction, Lane #	EB 1	EB 2	WB 1	SE 1
Volume Total (vph)	5	339	647	94
Volume Left (vph)	5	0	0	81
Volume Right (vph)	0	0	153	14
Hadj (s)	0.53	0.03	-0.11	0.12
Departure Headway (s)	5.9	5.4	4.7	6.3
Degree Utilization, x	0.01	0.51	0.84	0.17
Capacity (veh/h)	594	649	763	530
Control Delay (s)	7.8	12.7	26.8	10.6
Approach Delay (s)	12.6		26.8	10.6
Approach LOS	B		D	B

Intersection Summary			
Delay		20.9	
HCM Level of Service		C	
Intersection Capacity Utilization		47.7%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Unsignalized Intersection Capacity Analysis

## 17: Fox Acres & WRHS1

9/27/2011



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↖	↗
Volume (veh/h)	281	88	15	331	238	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	319	100	17	376	270	26
Pedestrians	53			53	53	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	4			4	4	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			472		836	425
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			472		836	425
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		11	95
cM capacity (veh/h)			1041		303	575

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2
Volume Total	319	100	393	270	26
Volume Left	0	0	17	270	0
Volume Right	0	100	0	0	26
cSH	1700	1700	1041	303	575
Volume to Capacity	0.19	0.06	0.02	0.89	0.05
Queue Length 95th (ft)	0	0	1	206	4
Control Delay (s)	0.0	0.0	0.5	65.7	11.6
Lane LOS			A	F	B
Approach Delay (s)	0.0		0.5	61.0	
Approach LOS				F	

Intersection Summary					
Average Delay			16.5		
Intersection Capacity Utilization			49.6%	ICU Level of Service	A
Analysis Period (min)	15				

# HCM Unsignalized Intersection Capacity Analysis

## 7: WRHS2 & Fox Acres

9/27/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	119	12	276	28	7	227
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	135	14	314	32	8	258
Pedestrians	53		53			53
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	4		4			4
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	709	436			398	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	709	436			398	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	63	98			99	
cM capacity (veh/h)	363	567			1109	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	135	14	345	266
Volume Left	135	0	0	8
Volume Right	0	14	32	0
cSH	363	567	1700	1109
Volume to Capacity	0.37	0.02	0.20	0.01
Queue Length 95th (ft)	42	2	0	1
Control Delay (s)	20.7	11.5	0.0	0.3
Lane LOS	C	B		A
Approach Delay (s)	19.8		0.0	0.3
Approach LOS	C			

Intersection Summary				
Average Delay			4.0	
Intersection Capacity Utilization		36.4%	ICU Level of Service	A
Analysis Period (min)		15		

# HCM Unsignalized Intersection Capacity Analysis

## 11: WRHS3 & Fox Acres

9/27/2011



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	119	12	193	95	7	114
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	135	14	219	108	8	130
Pedestrians	53		53			53
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	4		4			4
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	525	379			380	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	525	379			380	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	71	98			99	
cM capacity (veh/h)	465	610			1126	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	135	14	327	138
Volume Left	135	0	0	8
Volume Right	0	14	108	0
cSH	465	610	1700	1126
Volume to Capacity	0.29	0.02	0.19	0.01
Queue Length 95th (ft)	30	2	0	1
Control Delay (s)	15.9	11.0	0.0	0.5
Lane LOS	C	B		A
Approach Delay (s)	15.4		0.0	0.5
Approach LOS	C			

Intersection Summary			
Average Delay		3.9	
Intersection Capacity Utilization		36.2%	ICU Level of Service
Analysis Period (min)		15	A

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	2	133	88	206	117	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	2	151	100	234	133	0
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	153	334	133			
Volume Left (vph)	2	100	0			
Volume Right (vph)	151	0	0			
Hadj (s)	-0.55	0.09	0.03			
Departure Headway (s)	4.4	4.5	4.7			
Degree Utilization, x	0.19	0.42	0.17			
Capacity (veh/h)	740	774	727			
Control Delay (s)	8.5	10.7	8.7			
Approach Delay (s)	8.5	10.7	8.7			
Approach LOS	A	B	A			
Intersection Summary						
Delay			9.7			
HCM Level of Service			A			
Intersection Capacity Utilization			37.4%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 2: Croy & 8th

9/26/2011



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Volume (vph)	0	171	139	152	157	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	194	158	173	178	8
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total (vph)	194	331	186			
Volume Left (vph)	0	158	0			
Volume Right (vph)	194	0	8			
Hadj (s)	-0.57	0.13	0.01			
Departure Headway (s)	4.6	4.7	4.8			
Degree Utilization, x	0.25	0.44	0.25			
Capacity (veh/h)	719	733	710			
Control Delay (s)	9.0	11.3	9.4			
Approach Delay (s)	9.0	11.3	9.4			
Approach LOS	A	B	A			
Intersection Summary						
Delay			10.2			
HCM Level of Service			B			
Intersection Capacity Utilization			45.0%	ICU Level of Service	A	
Analysis Period (min)			15			