

Sanctuary Pointe Phase 1

Major Amendment

Traffic Impact and Access Analysis

Prepared for:
Classic Homes
6385 Corporate Drive
Colorado Springs, CO 80919

Contact: Mr. Loren J. Moreland

FEBRUARY 19, 2021

LSC Transportation Consultants
Prepared by: Colleen Guillotte, P.E., PTOE, RSP
Reviewed by: Jeffrey C. Hodsdon, P.E.

LSC #204750



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February 19, 2021

Loren J. Moreland
Vice President/Project Manager
Classic Homes
6385 Corporate Drive
Colorado Springs, CO 80919

RE: Sanctuary Pointe Phase 1 Major Amendment
Traffic Impact and Access Analysis
Monument, Colorado
LSC #204750

Dear Mr. Moreland:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact study (TIS) for Sanctuary Pointe Update. As shown in Figure 1, the site is located generally north of the Baptist Road/Sanctuary Rim Drive intersection in the Town of Monument, Colorado. The master plan-level traffic impact analysis for the entire Sanctuary Pointe development was dated December 12, 2005. The traffic impact analysis for the first phase of Sanctuary Pointe was dated August 14, 2014. The traffic impact analysis for the second phase of Sanctuary Pointe was dated October 10, 2017. The traffic impact analysis for the third phase of Sanctuary Pointe was dated November 21, 2019.

This report addresses a proposed change in land use for approximately 5.1 acres that was previously planned to be a church. This location is now proposed to have 12 single-family homes.

This report identifies:

- The proposed land use
- The planned access points
- The projected vehicle-trip generation
- The estimated directional distribution of trips
- An assignment of the site-generated traffic volumes to the area transportation network
- Estimates of short-term background traffic
- An assessment of the project's traffic impacts
- Findings and recommendations

SITE DEVELOPMENT AND LAND USE

Proposed Land Use

The site is located just north of the intersection of Baptist Road and Sanctuary Rim Drive. Figure 2 provides a context map showing the locations of the previous phases in addition to the location of the site. The site plan is shown in Figure 3. The site is planned to have 12 single-family homes.

This site has been shown as a church site on the Master Plan but is now proposed for single-family residential with this Sanctuary Pointe Phase 1 Major PD Site Plan Amendment No. 4 application.

Sanctuary Pointe Master Plan

The December 12, 2005 Sanctuary Pointe master plan-level traffic impact and access analysis report by LSC assumed a maximum of 650 single-family homes within all of Sanctuary Pointe. The planned development for all three previous phases totals 560 single-family homes and 40 attached multi-family homes. This results in a total of 600 dwelling units. The additional of these 12 proposed homes brings the total to 612, which will result in a total number of dwelling units below the initial 650 assumed in the initial/master TIS report.

Prior Phases

Sanctuary Pointe Phase 1 is the east portion of the overall development and was originally planned to contain 215 lots for single-family homes and 40 attached multi-family "carriage units." Phase 2 is located just east of Phase 1. Phase 2, once built out, will contain 273 single-family homes. Phase 3 comprises the west portion of the overall development. Sanctuary Point Phase 3 is planned to contain 72 single family lots.

Phase 1 has been completed, although there are a few platted lots with homes yet to be completed. Phase 2 is partially developed with many homes currently under construction. Phase 3 home construction has not begun.

Access and Street Connections

Access to the site will be via a proposed new full movement stop-sign-controlled intersection with Sanctuary Rim Drive. The access will be located approximately 325 feet west of the intersection with Baptist Road (centerline to centerline).

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

Figure 1 shows the roadways in the vicinity of the site. The major roadways are identified below, followed by a brief description of each.

- **Baptist Road** is a Principal Arterial that extends east of Hay Creek Road to the intersection of Roller Coaster Road and Hogden Road. Baptist Road has a median-divided four-lane cross section from Interstate 25 to just east of Kingswood Drive. The posted speed limit on Baptist Road is 45 miles per hour (mph) through this segment. In the vicinity of the Phase 1 site, Baptist Road is currently built with a Minor Arterial cross section with one through lane in each direction and a posted speed limit of 40 miles per hour. Left- and right-turn lanes exist at the Gleneagle and Sanctuary Rim intersections.
- **Sanctuary Rim Drive** is a two-lane Major Collector (residential) with a posted speed limit of 35 mph. The roadway extends through the Sanctuary Pointe development from Baptist Road to Gleneagle Drive. The intersection with Baptist Road is unsignalized. Note: At the present time (prior to Home Place Ranch development) the junction of Gleneagle Drive & Sanctuary Rim Drive is currently not yet an intersection, rather a continuous curve connects the two roadways.

Figure 4 shows the existing traffic controls and lane geometry for the Sanctuary Rim/Baptist intersection.

Existing Traffic Conditions

Morning and evening peak hour counts were recorded in November 2020. Figure 4 provides the existing peak-hour traffic volumes at the intersection of Sanctuary Rim/Baptist. It should be noted that due to the construction occurring in Sanctuary Rim, a significant volume of vehicles entering the site during the AM peak hour and exiting the site during the PM peak hour were related to construction or landscaping. Background traffic volumes have been modified to remove this traffic. The traffic count reports are attached.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents an average control delay of more than 50 seconds per vehicle for unsignalized intersections and more than 80 seconds per vehicle for signalized intersections. Table 1 shows the level of service delay ranges.

Table 1: Level of Service Delay Ranges

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (Seconds per Vehicle)	Average Control Delay (Seconds per Vehicle) ¹
A	≤ 10.0	≤ 10.0
B	10.1 - 20.0	10.1 - 15.0
C	20.1 - 35.0	15.1 - 25.0
D	35.1 - 55.0	25.1 - 35.0
E	55.1 - 80.0	35.1 - 50.0
F	≥ 80.1	≥ 50.1
¹ For unsignalized intersections, if v/c is > 1.00, then LOS is LOS F, regardless of the projected average control delay per vehicle		

The intersection of Sanctuary Rim/Baptist has been analyzed using Synchro. Figure 4 shows the level of service analysis results. As shown in the figure, all of the movements at the intersection of Sanctuary Rim/Baptist are currently operating at LOS B or better during the peak hours. The level of service reports are attached.

SHORT-TERM BACKGROUND TRAFFIC

Figure 5 shows the short-term background traffic volumes at the study area intersections. The background traffic volumes shown in Figure 5 assume Gleneagle Drive not extended north to Higby Road. The volumes shown in Figure 5 are based on the existing traffic volumes shown in Figure 4, plus estimates of traffic from currently planned developments in the general area, including Homeplace Ranch, Jackson Creek North, Academy Gateway, and partial buildout of Monument Ridge and Monument Marketplace North. Background traffic is exclusive of any traffic to be added by the proposed homes in the site.

In addition to existing traffic and other planned developments, Sanctuary Pointe Phases 1, 2, and 3 were added to the background. For additional information on the trip distributions assumed for these Phases, see the Sanctuary Pointe Phase 3 Traffic Impact Study, November 21, 2019. Figure 5 shows the lane geometry, traffic control, and level of service at the key intersections based on the short-term background volumes.

TRIP GENERATION

The estimates of vehicle-trips expected to be generated by the Sanctuary Pointe Update have been made using the nationally published trip generation rates found in *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 2 shows the results of the trip generation estimates.

As shown in Table 2, this development could be expected to generate about 148 new vehicle trips on the average weekday, with about one-half entering and one-half exiting the site in a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., approximately 3 vehicles would enter, and 10 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., approximately 8 vehicles would enter, and 5 vehicles would exit the site.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the area street and roadway system is one of the most important factors in determining the site's traffic impacts. The specific distribution estimates for this addition to Sanctuary Pointe are shown in Figure 6. The directional distribution estimates have been based on the following factors: the location of the site with respect to the nearby employment, commercial, schools, and activity centers; the land use proposed for the site; the proposed access system for the site; the roadway system serving the site, and the traffic counts.

When the distribution percentages (from Figure 6) are applied to the trip generation estimates (from Table 2), the resulting short-term site-generated traffic volumes can be determined. Figure 7 shows the short-term site-generated traffic volume estimates following construction of the development. These volumes shown in Figure 7 assume Gleneagle Drive has not been extended north to Higby Road.

SHORT-TERM TOTAL TRAFFIC

Figure 8 provides the short-term total traffic volumes at the site access point and the Sanctuary Rim/Baptist intersection following the construction of the development. The short-term total traffic volumes shown in Figure 8 are the sum of the short-term background traffic volumes (from Figure 5) plus the site-generated traffic volumes (from Figure 7).

Figure 8 also shows the lane geometry, traffic control, and level of service at the study intersections based on the short-term total volumes.

LONG-TERM TOTAL TRAFFIC

A master-level traffic report was prepared for Sanctuary pointe in 2005. The *Sanctuary Pointe Master Plan-Level Traffic Impact Analysis* by LSC dated December 12, 2005 included long-term traffic volume projections, level of service analysis, and recommended roadway functional classifications. Note: as indicated above, the overall number of residential dwelling units is lower than the number originally anticipated and studied in the original/master TIS.

PROJECTED LEVELS OF SERVICE

The intersections of Sanctuary Rim/Baptist and the Sanctuary Rim with the site access have been analyzed to determine the projected levels of service for the short-term background and total traffic volumes using Synchro. Figure 5 shows the level of service analysis results based on the short-term background traffic volumes and Figure 8 shows the results based on the short-term total traffic volumes.

Table 3 shows a summary of the level of service analysis for the existing and short-term scenarios. Table 3 also shows the projected volume to capacity for all movements at the analyzed intersections for these scenarios. The level of service reports are attached.

All movements at the intersection of Sanctuary Rim/Baptist Road are projected to operate at level of service D or better during the peak hours as a two-way stop-controlled intersection based on the projected short-term total traffic volumes. The intersection of the site access with Sanctuary Rim Drive is expected to have all movements operate at LOS B or better.

QUEUE LENGTHS

The 95th percentile queue lengths have been calculated for the intersections of Sanctuary Rim/Baptist and the Sanctuary Rim using Synchro. Table 3 provides the 95th percentile queue lengths for all the yielding turning movements.

As shown, the projected 95th percentile queue lengths do not exceed 2 vehicles (50 feet) for any of the turn movements at the study intersections. This indicates that there will not be an issue with the queue at the Sanctuary Rim/Baptist intersection extending to impact the proposed site access intersection on Sanctuary Rim Drive.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- LSC projects the proposed Sanctuary Pointe development will generate 148 new vehicle trips on the average weekday, with about one-half entering and one-half exiting the site in a

24-hour period. During the morning peak hour, approximately 3 vehicles would enter, and 10 vehicles would exit the site. During the afternoon peak hour, approximately 8 vehicles would enter, and 8 vehicles would exit the site.

Site Access

- Site access is currently provided via an intersection with Sanctuary Rim Drive located approximately 325 feet west of the intersection with Baptist Road (centerline to centerline).

Projected Levels of Service

- All movements at the intersection of Sanctuary Rim/Baptist Road are projected to operate at level of service D or better during the peak hours as a two-way stop-controlled intersection based on the projected short-term total traffic volumes.
- All movements at the site access are projected to operate at LOS B or better during the peak hours based on the projected short-term total traffic volumes.

Auxiliary Turn Lane Recommendations

Sanctuary Rim Drive/Baptist Road

- This intersection provides left- and right-turn bays for traffic exiting Sanctuary Pointe and turning onto Baptist Road. Also, eastbound left-turn and westbound right-turn deceleration lanes exist on Baptist Road approaching Sanctuary Rim Drive meet the criteria contained in the ECM. No other auxiliary turn lane improvements would be required at this intersection.

Sanctuary Rim Drive/Site Access

- The projected turning volumes are light, so no auxiliary turn lanes would be needed at this intersection.

* * * * *

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Please contact me if you have any questions regarding this report.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.



By _____
Colleen Guillotte, P.E., PTOE, RSP
Project Manager

CRG:JCH:jas

Enclosures: Tables 2-3
Figures 1-8
Traffic Count Reports
Level of Service Reports
Sanctuary Pointe Master Plan

Tables

ITE		Value	Units	Trip Generation Rates ⁽¹⁾					Total Trips Generated				
				Average	A.M.		P.M.		Average	A.M.		P.M.	
Code	Description			Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
210	Single-Family Detached Housing		12 DU ⁽²⁾	12.32	0.28	0.83	0.70	0.41	148	3	10	8	5
Notes: (1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE) (2) DU = dwelling unit													
Source: LSC Transportation Consultants, Inc.													

ITE		Value	Units	Trip Generation Rates ⁽¹⁾					Total Trips Generated				
				Average	A.M.		P.M.		Average	A.M.		P.M.	
Code	Description			Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
210	Single-Family Detached Housing		12 DU ⁽²⁾	12.32	0.28	0.83	0.70	0.41	148	3	10	8	5
Notes: (1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE) (2) DU = dwelling unit													
Source: LSC Transportation Consultants, Inc.													

Table 3: Intersection Operations Summary

Intersection	Traffic Control	Existing								Short-Term Background								Short-Term Total							
		AM				PM				AM				PM				AM				PM			
		Level of Service	Control Delay (sec)	V/C	95th Percentile Queue Length	Level of Service	Control Delay (sec)	V/C	95th Percentile Queue Length	Level of Service	Control Delay (sec)	V/C	95th Percentile Queue Length	Level of Service	Control Delay (sec)	V/C	95th Percentile Queue Length	Level of Service	Control Delay (sec)	V/C	95th Percentile Queue Length				
					(veh)				(veh)				(veh)				(veh)								
Sanctuary Rim/Site Access	TWSC																								
EB Left		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	A	0.0	0.00	0.0	A	0.0	0.00	0.0
SB Left/Right		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	B	10.3	0.02	0.0	B	11.2	0.01	0.0
Sanctuary Rim/Baptist Road	TWSC																								
EB Left		A	7.8	0.03	0.1	A	8.0	0.03	0.1	A	7.8	0.03	0.1	A	8.7	0.13	0.5	A	7.8	0.03	0.1	A	8.8	0.14	0.5
SB Left		B	12.0	0.11	0.4	B	14.4	0.14	0.5	B	13.8	0.25	1.0	C	24.4	0.29	1.2	B	14.0	0.26	1.0	D	25.3	0.31	1.3
SB Right		A	9.5	0.07	0.2	B	10.0	0.07	0.2	B	10.2	0.19	0.7	B	10.5	0.11	0.4	B	10.3	0.20	0.8	B	10.6	0.12	0.4
Notes: TWSC = two-way stop-sign control																									

Figures

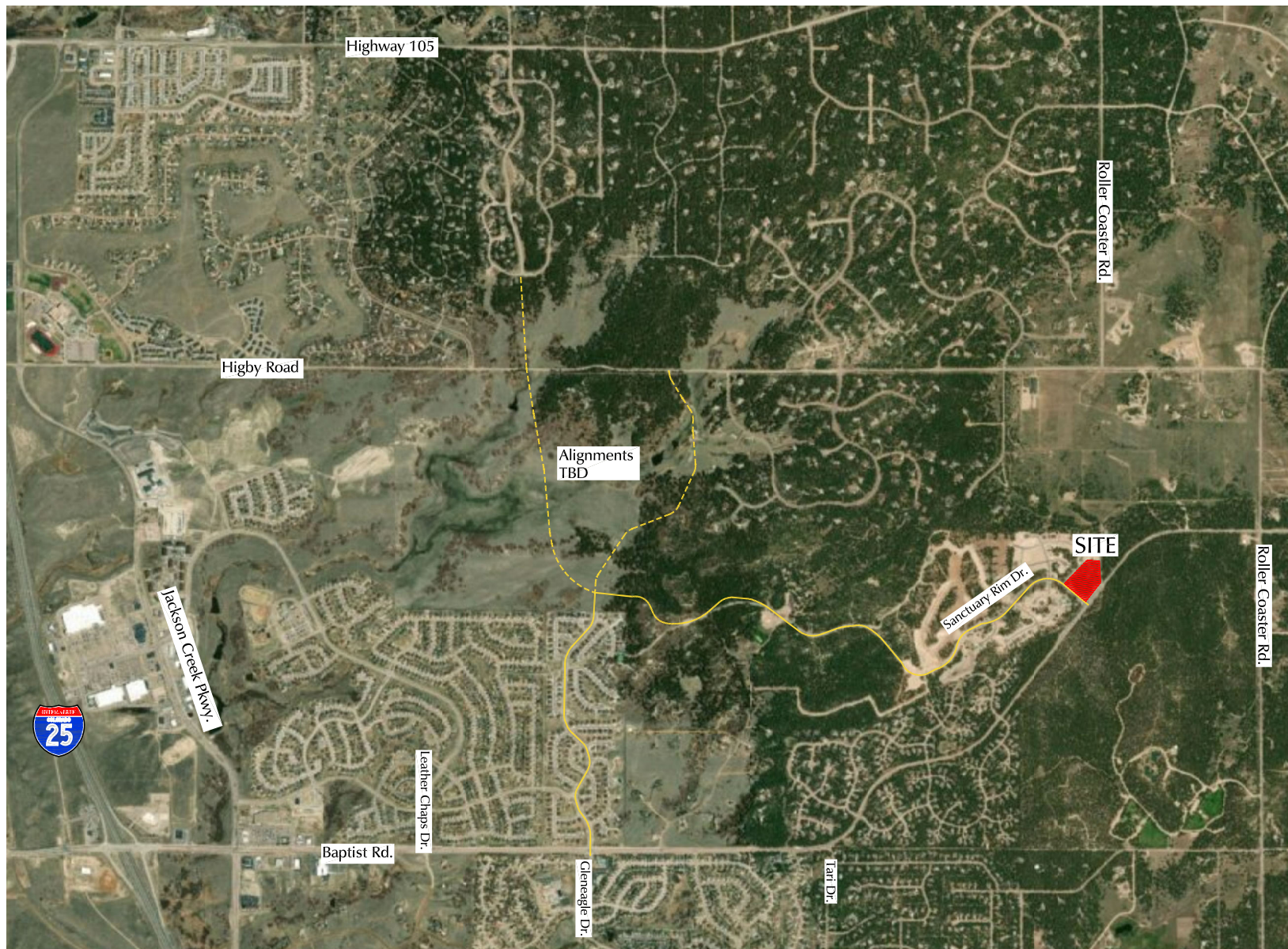


Figure 1

Vicinity Map

Sanctuary Pointe Phase 1 Minor Amendment (LSC #204750)

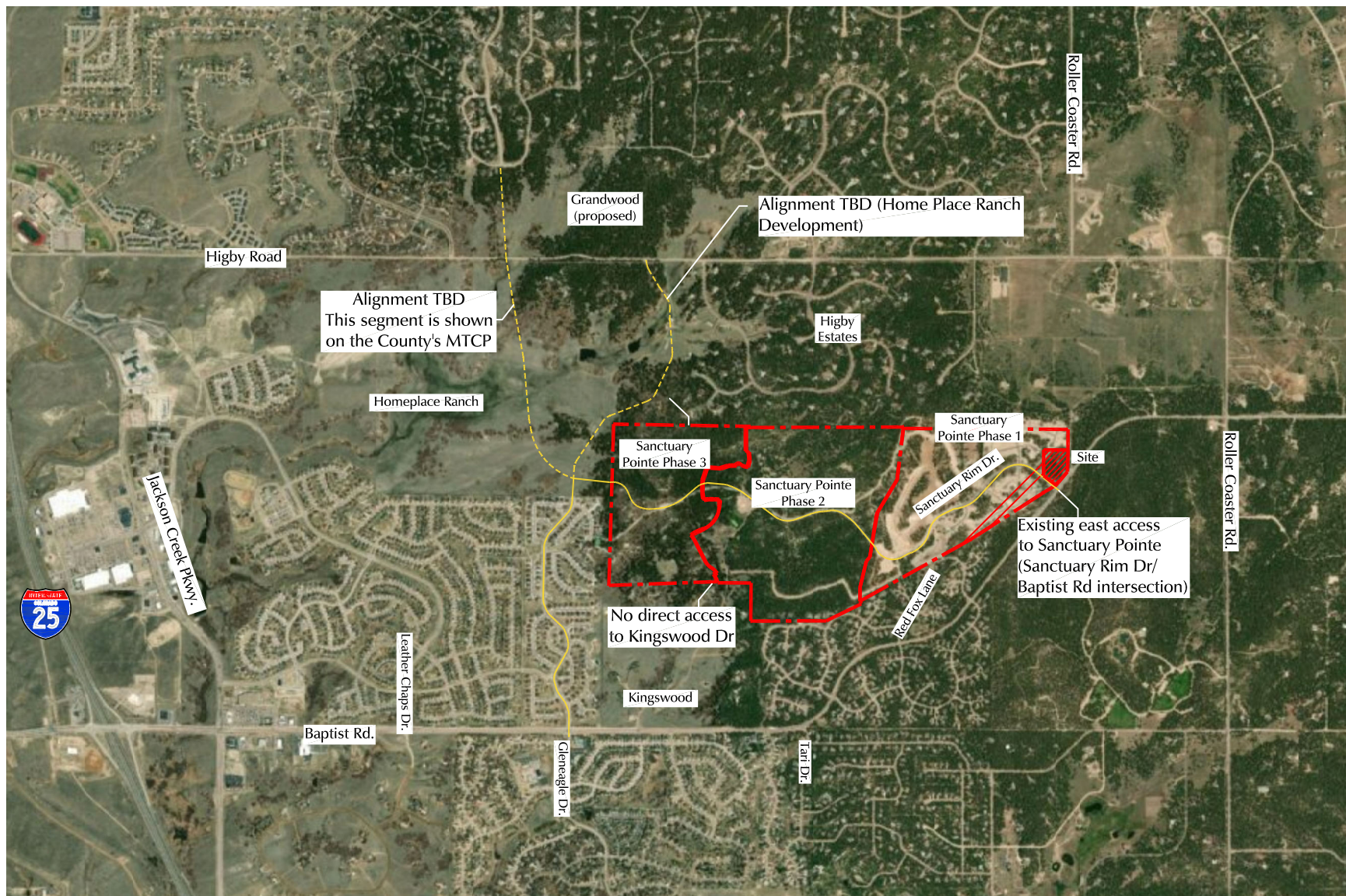


Figure 2

Context Map

Sanctuary Pointe Phase 1 Minor Amendment (LSC #204750)

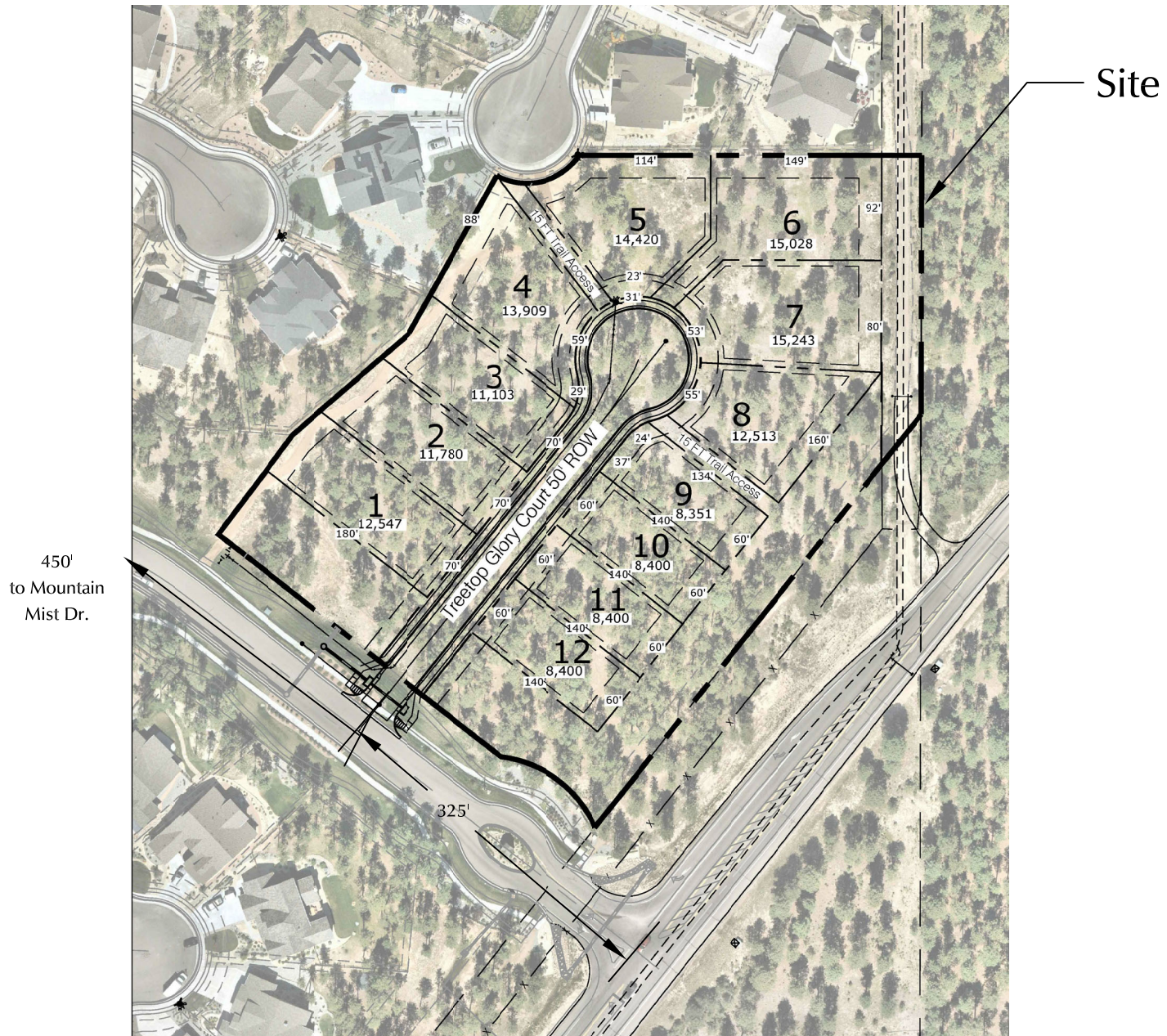
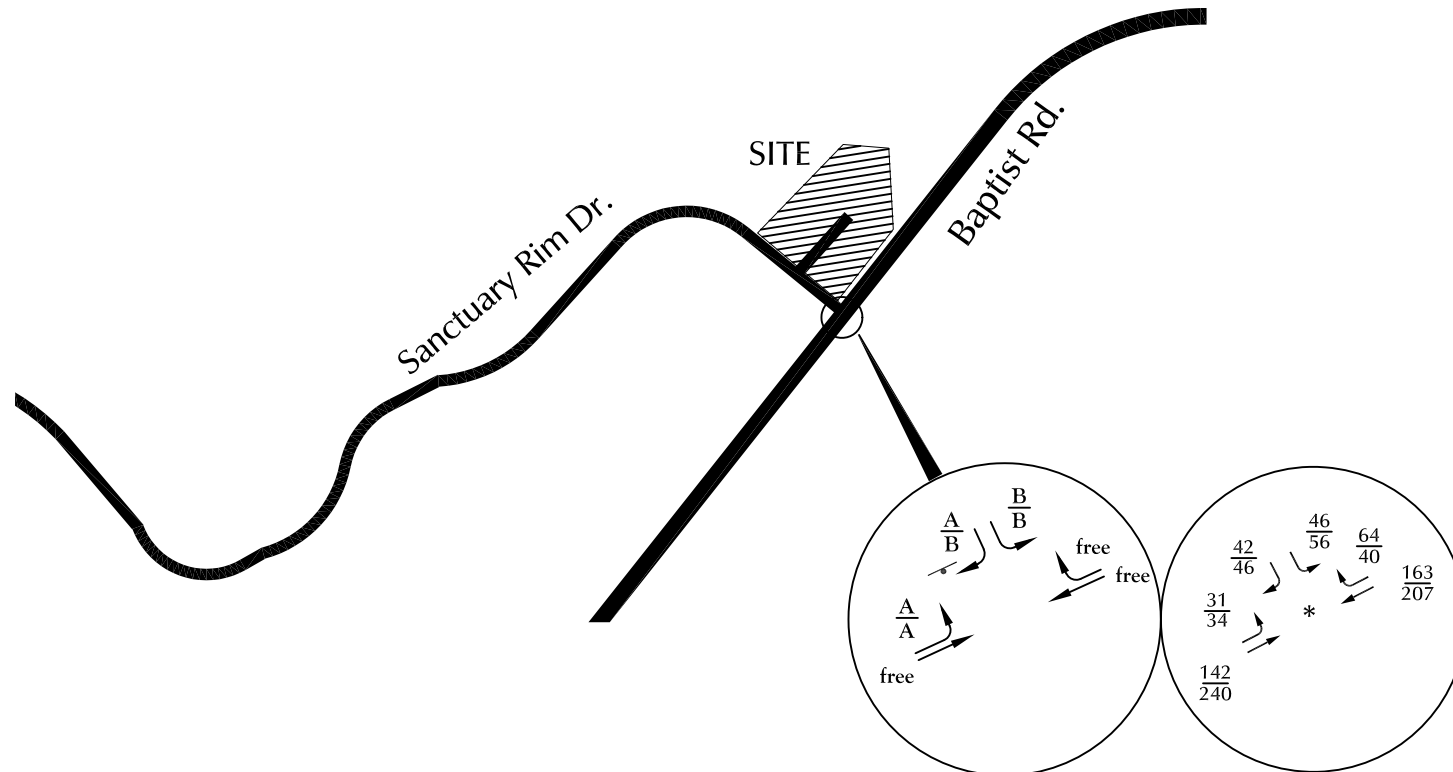


Figure 3
Site Plan

Sanctuary Pointe Phase 1 Minor Amendment (LSC #204750)



LEGEND:

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)

$\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)

X,XXX= Average Daily Traffic (vehicles per day)

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service

PM Individual Movement Peak-Hour Level of Service

$\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service

PM Entire Intersection Peak-Hour Level of Service



= Traffic Signal



= Stop Sign

* Counts included a significant number of home construction vehicles that will not be present at buildout. These counts may have been impacted by COVID-19 pandemic related restrictions.

(Counts conducted by LSC - November 2020)

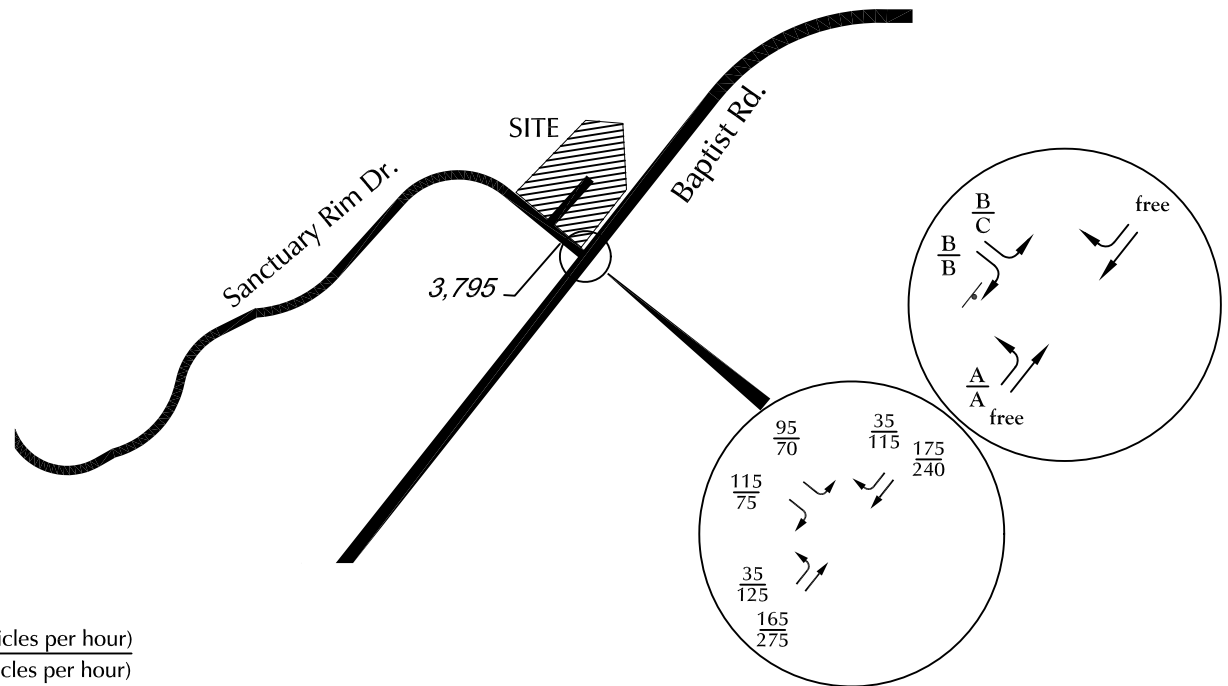
Figure 4

Existing Traffic, Lane Geometry, Traffic Control and Level of Service

Sanctuary Pointe Phase 1 Minor Amendment (LSC #204750)

Notes:

- Includes buildout of Sanctuary Pointe (Phases 1, 2 & 3 but not including site generated traffic) and Homeplace Ranch (Phase 1). Other planned developments have been included, as well. Please refer to the report narrative for details.
- As per the Homeplace Ranch Phase 1 traffic impact study, assumes no short-term connection north to Higby Road (except for an emergency-only connection).



LEGEND:

$\frac{XX}{XX} = \frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

$\frac{XX}{XX} = \frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

X,XXX= Average Daily Traffic (vehicles per day)

$\frac{A}{B} = \frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

$\frac{C}{C} = \frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

= Traffic Signal

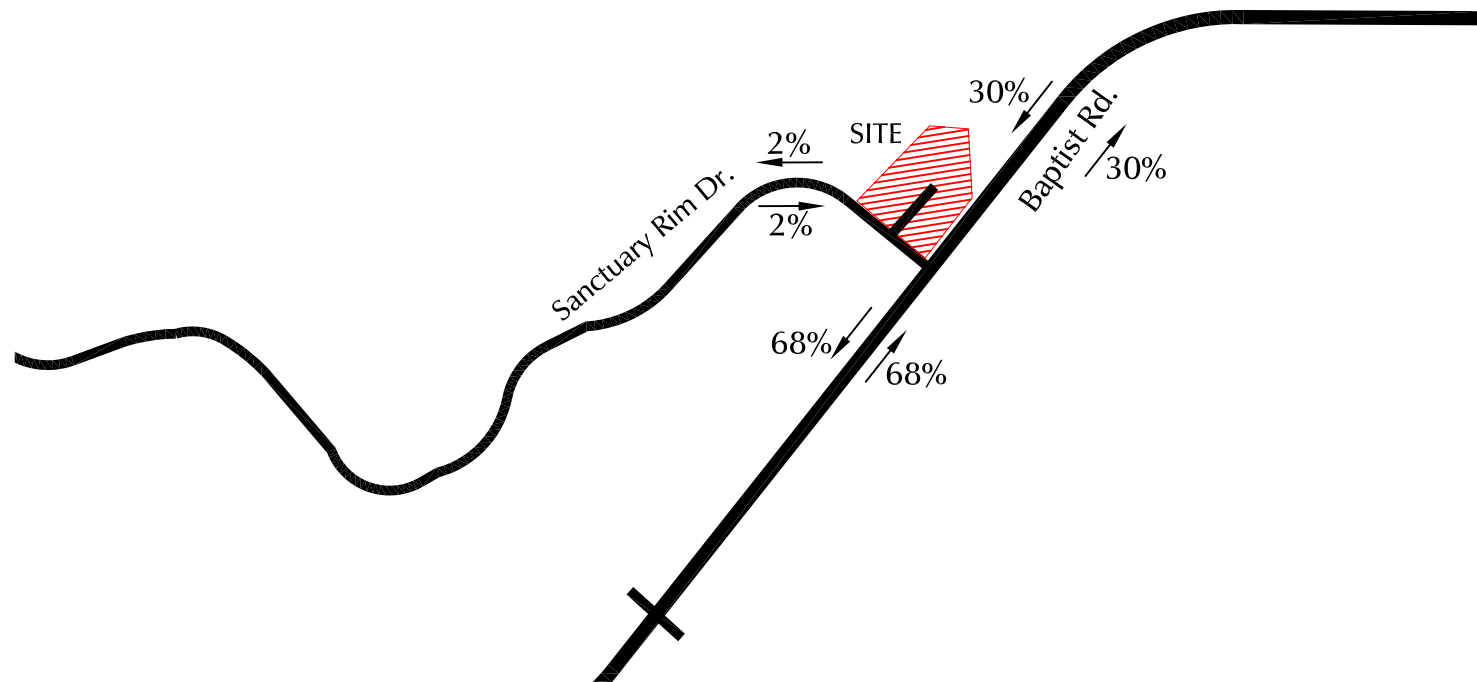
= Stop Sign



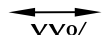
Short-Term Background Traffic, Lane Geometry, Traffic Control and Level of Service

Figure 5

Sanctuary Pointe Phase 1 Minor Amendment (LSC #204750)



LEGEND:



XX% = Percent Directional Distribution

Directional Distribution of Site-Generated Traffic

Sanctuary Pointe Phase 1 Minor Amendment (LSC #204750)

Figure 6

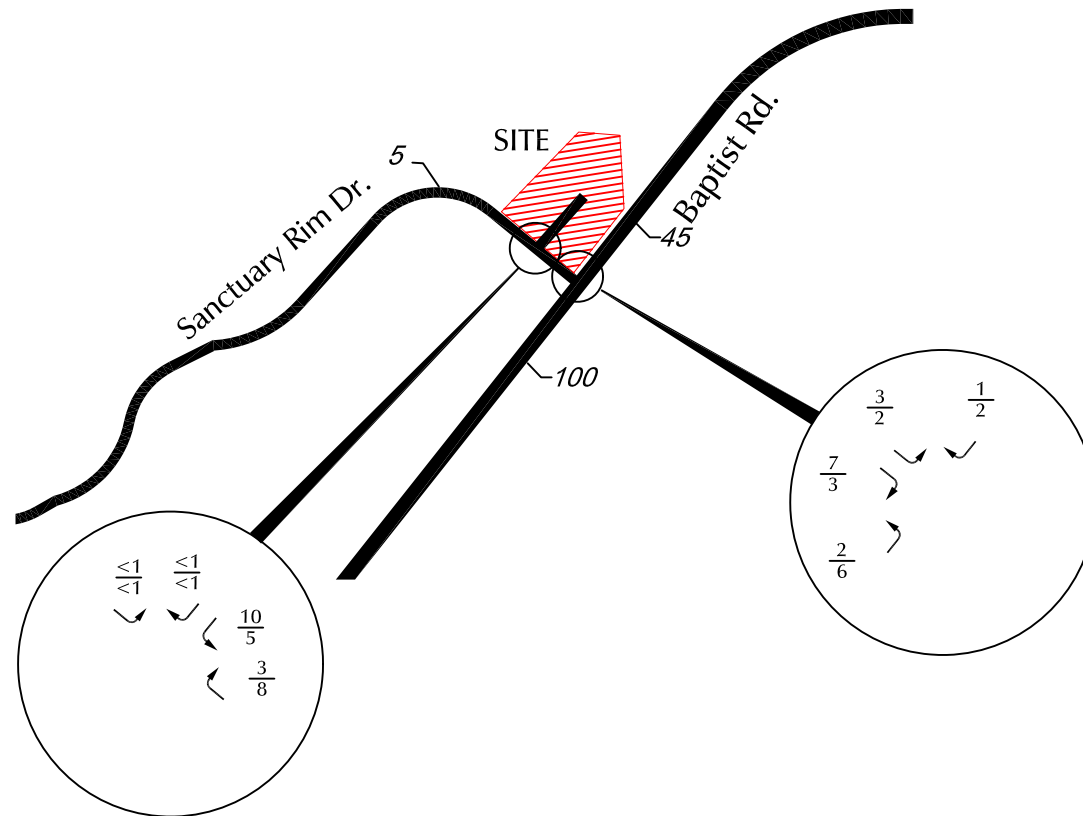


Figure 7

Assignment of Site-Generated Traffic

Sanctuary Pointe Phase 1 Minor Amendment (LSC #204750)

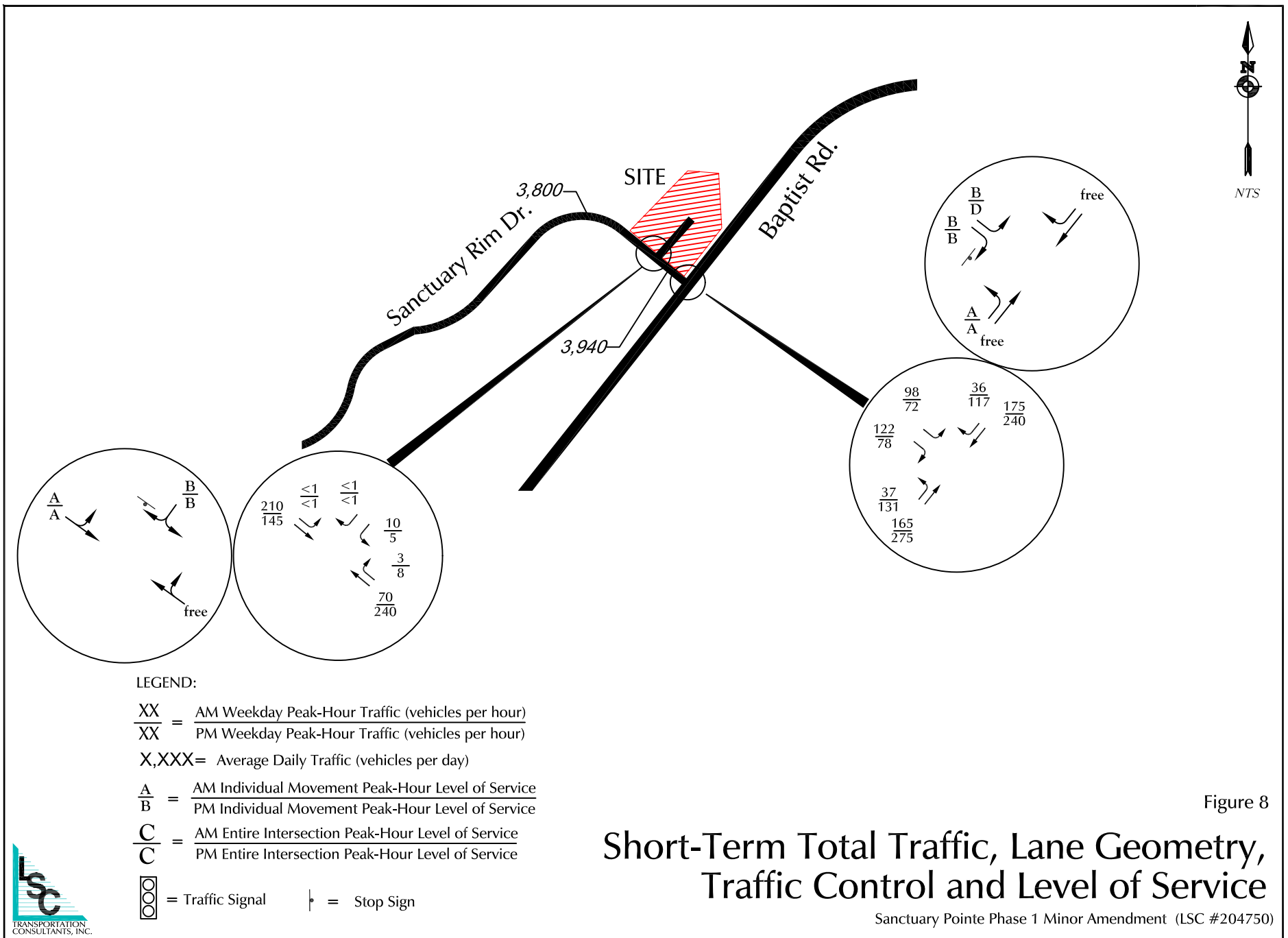


LEGEND:

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)

$\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)

X,XXX= Average Daily Traffic (vehicles per day)



Traffic Counts

LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Sanctuary Rim - Baptist Rd AM
Site Code : 00204750
Start Date : 11/4/2020
Page No : 1

Groups Printed- Unshifted

Start Time	Sanctuary Rim Southbound					Baptist Rd Westbound					Northbound					Baptist Rd Eastbound					Int. Total
	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	
07:00 AM	4	0	12	0	16	0	45	16	0	61	0	0	0	0	0	4	13	0	0	17	94
07:15 AM	17	0	12	0	29	0	39	16	0	55	0	0	0	0	0	6	26	0	0	32	116
07:30 AM	5	0	12	0	17	0	44	15	0	59	0	0	0	0	0	3	19	0	0	22	98
07:45 AM	14	0	7	0	21	0	43	15	0	58	0	0	0	0	0	10	40	0	0	50	129
Total	40	0	43	0	83	0	171	62	0	233	0	0	0	0	0	23	98	0	0	121	437
08:00 AM	6	0	8	0	14	0	42	16	0	58	0	0	0	0	0	7	35	0	0	42	114
08:15 AM	12	0	10	0	22	0	36	15	0	51	0	0	0	0	0	10	30	0	0	40	113
08:30 AM	14	0	17	0	31	0	42	18	0	60	0	0	0	0	0	4	37	0	0	41	132
08:45 AM	12	0	4	0	16	0	47	23	0	70	0	0	0	0	0	4	37	0	0	41	127
Total	44	0	39	0	83	0	167	72	0	239	0	0	0	0	0	25	139	0	0	164	486
Grand Total	84	0	82	0	166	0	338	134	0	472	0	0	0	0	0	48	237	0	0	285	923
Apprch %	50.6	0	49.4	0		0	71.6	28.4	0		0	0	0	0	0	16.8	83.2	0	0		
Total %	9.1	0	8.9	0	18	0	36.6	14.5	0	51.1	0	0	0	0	0	5.2	25.7	0	0	30.9	

LSC Transportation Consultants, Inc.

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File Name : Sanctuary Rim - Baptist Rd AM
Site Code : 00204750
Start Date : 11/4/2020
Page No : 2

	Sanctuary Rim Southbound					Baptist Rd Westbound					Northbound					Baptist Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 7:00:00 AM to 8:45:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 7:45:00 AM																					
7:45:00 AM	14	0	7	0	21	0	43	15	0	58	0	0	0	0	0	10	40	0	0	50	129
8:00:00 AM	6	0	8	0	14	0	42	16	0	58	0	0	0	0	0	7	35	0	0	42	114
8:15:00 AM	12	0	10	0	22	0	36	15	0	51	0	0	0	0	0	10	30	0	0	40	113
8:30:00 AM	14	0	17	0	31	0	42	18	0	60	0	0	0	0	0	4	37	0	0	41	132
Total Volume	46	0	42	0	88	0	163	64	0	227	0	0	0	0	0	31	142	0	0	173	488
% App. Total	52.3	0	47.7	0		0	71.8	28.2	0		0	0	0	0		17.9	82.1	0	0		
PHF	.821	.000	.618	.000	.710	.000	.948	.889	.000	.946	.000	.000	.000	.000	.000	.775	.888	.000	.000	.865	.924

LSC Transportation Consultants, Inc.

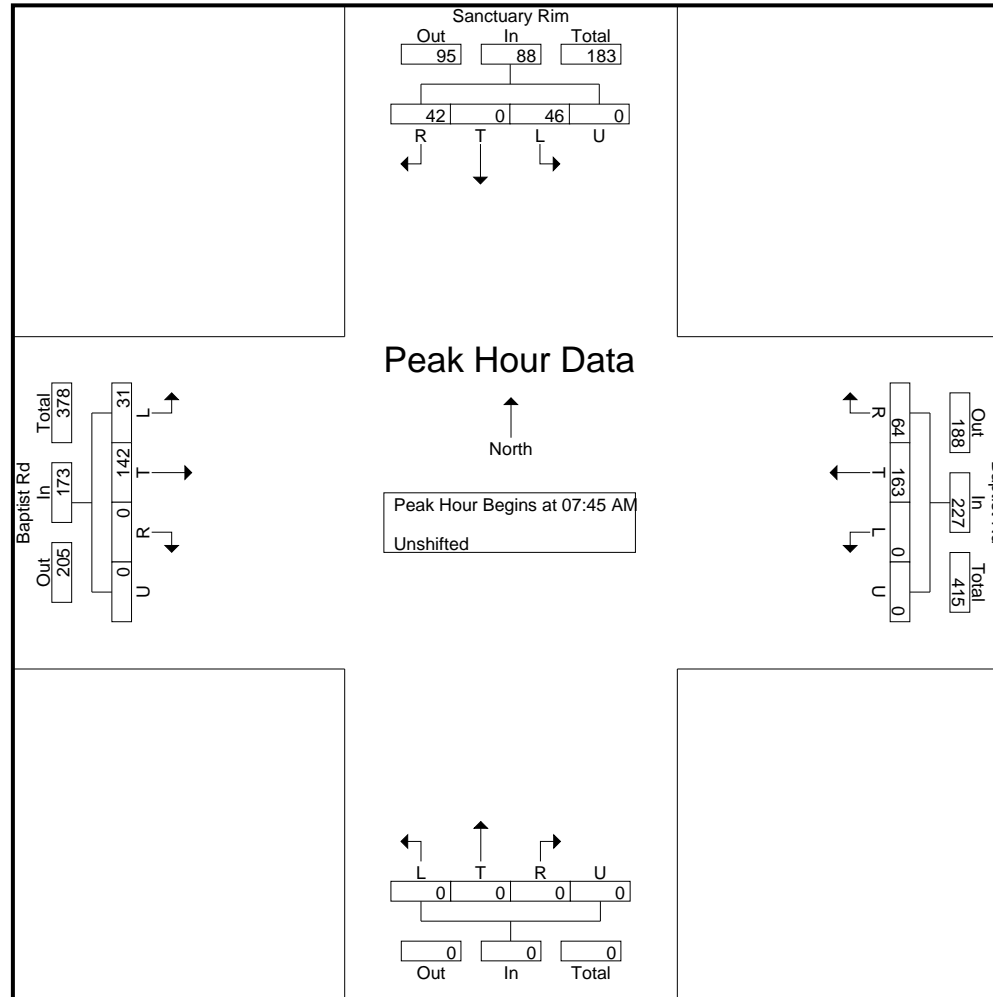
545 E Pikes Peak Ave, Suite 210
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719-633-2868

File Name : Sanctuary Rim - Baptist Rd AM

Site Code : 00204750

Start Date : 11/4/2020

Page No : 3



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File Name : Sanctuary Rim - Baptist Rd AM
Site Code : 00204750
Start Date : 11/4/2020
Page No : 4

	Sanctuary Rim Southbound					Baptist Rd Westbound					Northbound					Baptist Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 7:00:00 AM to 8:45:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	7:45:00 AM					8:00:00 AM					7:00:00 AM					7:45:00 AM					
+0 mins.	14	0	7	0	21	0	42	16	0	58	0	0	0	0	0	10	40	0	0	50	
+5 mins.	6	0	8	0	14	0	36	15	0	51	0	0	0	0	0	7	35	0	0	42	
+10 mins.	12	0	10	0	22	0	42	18	0	60	0	0	0	0	0	10	30	0	0	40	
+15 mins.	14	0	17	0	31	0	47	23	0	70	0	0	0	0	0	4	37	0	0	41	
Total Volume	46	0	42	0	88	0	167	72	0	239	0	0	0	0	0	31	142	0	0	173	
% App. Total	52.3	0	47.7	0		0	69.9	30.1	0		0	0	0	0		17.9	82.1	0	0		
PHF	.821	.000	.618	.000	.710	.000	.888	.783	.000	.854	.000	.000	.000	.000	.000	.775	.888	.000	.000	.865	

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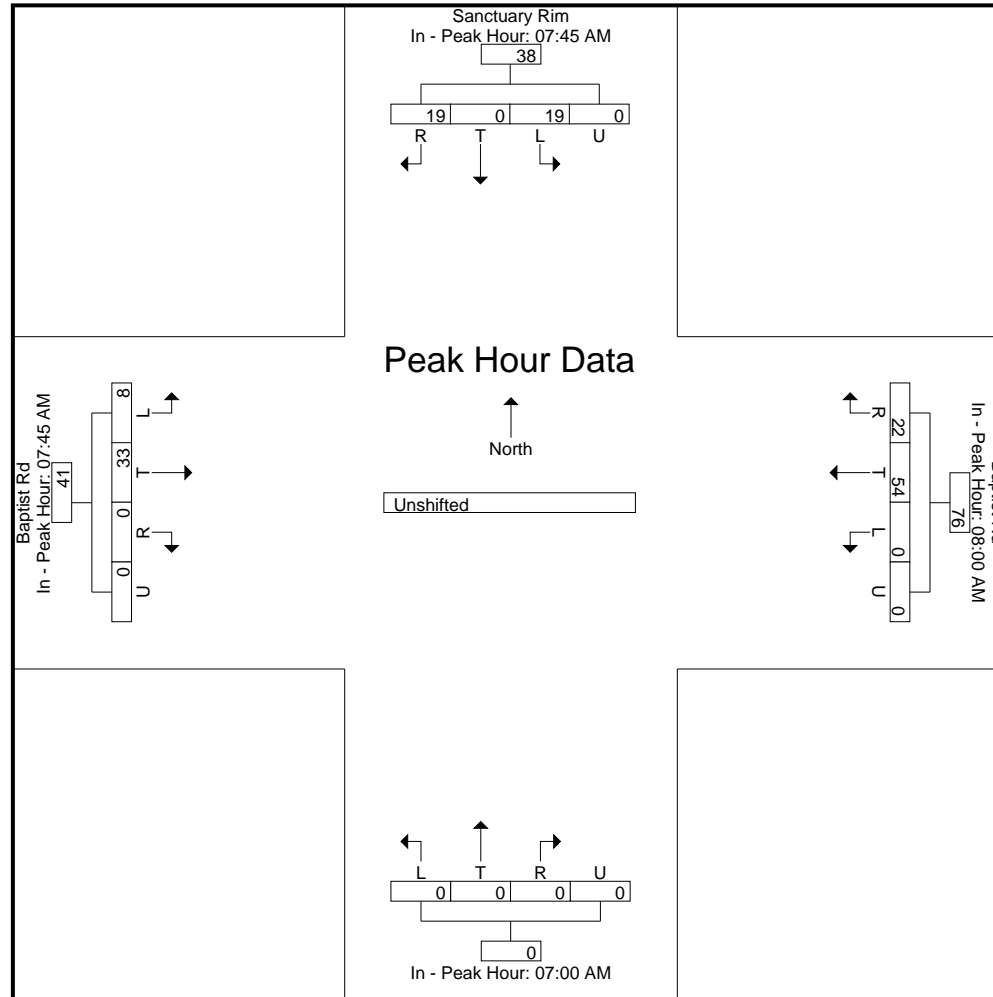
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719-633-2868

File Name : Sanctuary Rim - Baptist Rd AM

Site Code : 00204750

Start Date : 11/4/2020

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719-633-2868

File Name : Sanctuary Rim - Baptist Rd PM
Site Code : 00204750
Start Date : 11/4/2020
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Groups Printed- Unshifted

Start Time	Sanctuary Rim Southbound					Baptist Rd Westbound					Northbound					Baptist Rd Eastbound					Int. Total
	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	
04:00 PM	15	0	12	0	27	0	48	17	0	65	0	0	0	0	0	10	54	0	0	64	156
04:15 PM	12	0	12	0	24	0	69	10	0	79	0	0	0	0	0	7	63	0	0	70	173
04:30 PM	14	0	9	0	23	0	41	5	0	46	0	0	0	0	0	12	63	0	0	75	144
04:45 PM	15	0	13	0	28	0	49	8	0	57	0	0	0	0	0	5	45	0	0	50	135
Total	56	0	46	0	102	0	207	40	0	247	0	0	0	0	0	34	225	0	0	259	608
05:00 PM	13	0	4	0	17	0	47	7	0	54	0	0	0	0	0	11	57	0	0	68	139
05:15 PM	13	0	10	0	23	0	37	14	0	51	0	0	0	0	0	6	55	0	0	61	135
05:30 PM	21	0	6	0	27	0	27	14	0	41	0	0	0	0	0	9	48	0	0	57	125
05:45 PM	17	0	10	0	27	0	28	16	0	44	0	0	0	0	0	17	33	0	0	50	121
Total	64	0	30	0	94	0	139	51	0	190	0	0	0	0	0	43	193	0	0	236	520
Grand Total	120	0	76	0	196	0	346	91	0	437	0	0	0	0	0	77	418	0	0	495	1128
Apprch %	61.2	0	38.8	0		0	79.2	20.8	0		0	0	0	0	0	15.6	84.4	0	0		
Total %	10.6	0	6.7	0	17.4	0	30.7	8.1	0	38.7	0	0	0	0	0	6.8	37.1	0	0	43.9	

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719-633-2868

File Name : Sanctuary Rim - Baptist Rd PM
Site Code : 00204750
Start Date : 11/4/2020
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	Sanctuary Rim Southbound					Baptist Rd Westbound					Northbound					Baptist Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:00:00 PM																					
4:00:00 PM	15	0	12	0	27	0	48	17	0	65	0	0	0	0	0	10	54	0	0	64	156
4:15:00 PM	12	0	12	0	24	0	69	10	0	79	0	0	0	0	0	7	63	0	0	70	173
4:30:00 PM	14	0	9	0	23	0	41	5	0	46	0	0	0	0	0	12	63	0	0	75	144
4:45:00 PM	15	0	13	0	28	0	49	8	0	57	0	0	0	0	0	5	45	0	0	50	135
Total Volume	56	0	46	0	102	0	207	40	0	247	0	0	0	0	0	34	225	0	0	259	608
% App. Total	54.9	0	45.1	0		0	83.8	16.2	0		0	0	0	0		13.1	86.9	0	0		
PHF	.933	.000	.885	.000	.911	.000	.750	.588	.000	.782	.000	.000	.000	.000	.000	.708	.893	.000	.000	.863	.879

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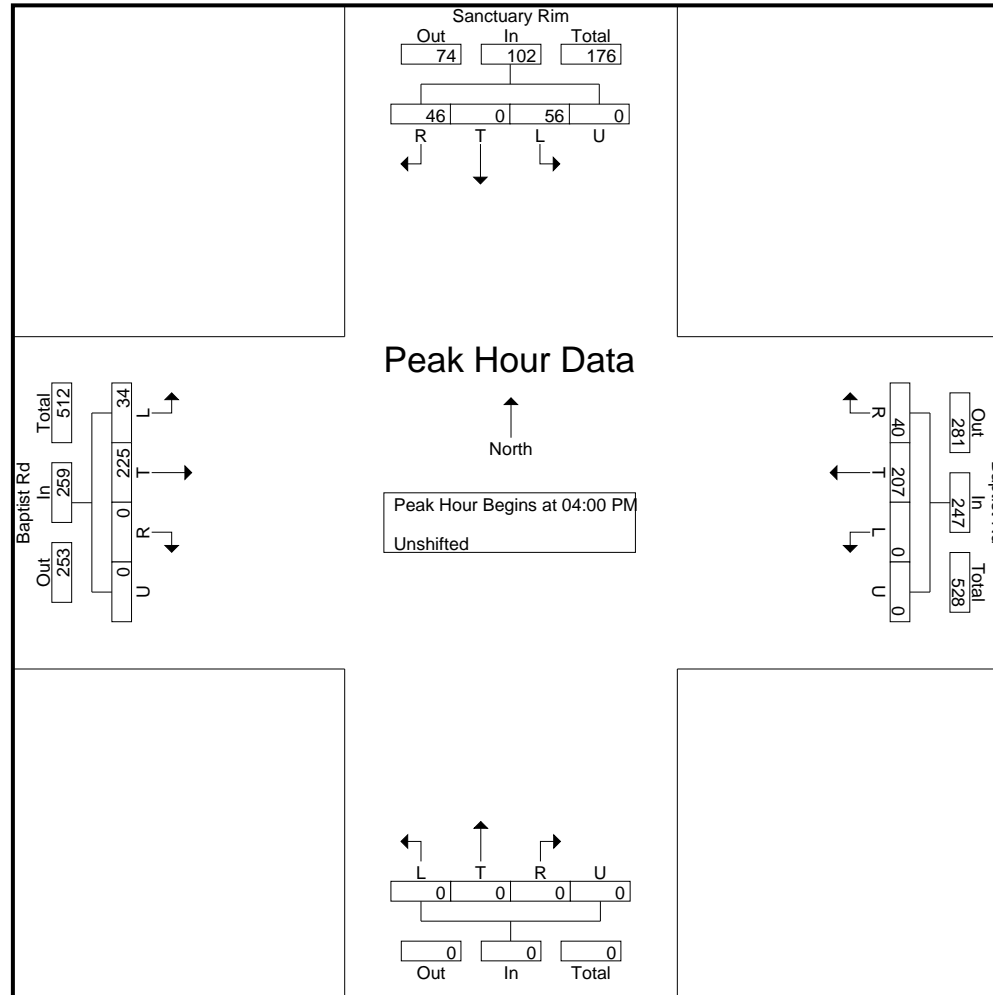
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	Sanctuary Rim Southbound					Baptist Rd Westbound					Northbound					Baptist Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	4:00:00 PM					4:00:00 PM					4:00:00 PM					4:15:00 PM					
+0 mins.	15	0	12	0	27	0	48	17	0	65	0	0	0	0	0	7	63	0	0	70	
+5 mins.	12	0	12	0	24	0	69	10	0	79	0	0	0	0	0	12	63	0	0	75	
+10 mins.	14	0	9	0	23	0	41	5	0	46	0	0	0	0	0	5	45	0	0	50	
+15 mins.	15	0	13	0	28	0	49	8	0	57	0	0	0	0	0	11	57	0	0	68	
Total Volume	56	0	46	0	102	0	207	40	0	247	0	0	0	0	0	35	228	0	0	263	
% App. Total	54.9	0	45.1	0		0	83.8	16.2	0		0	0	0	0		13.3	86.7	0	0		
PHF	.933	.000	.885	.000	.911	.000	.750	.588	.000	.782	.000	.000	.000	.000	.000	.729	.905	.000	.000	.877	

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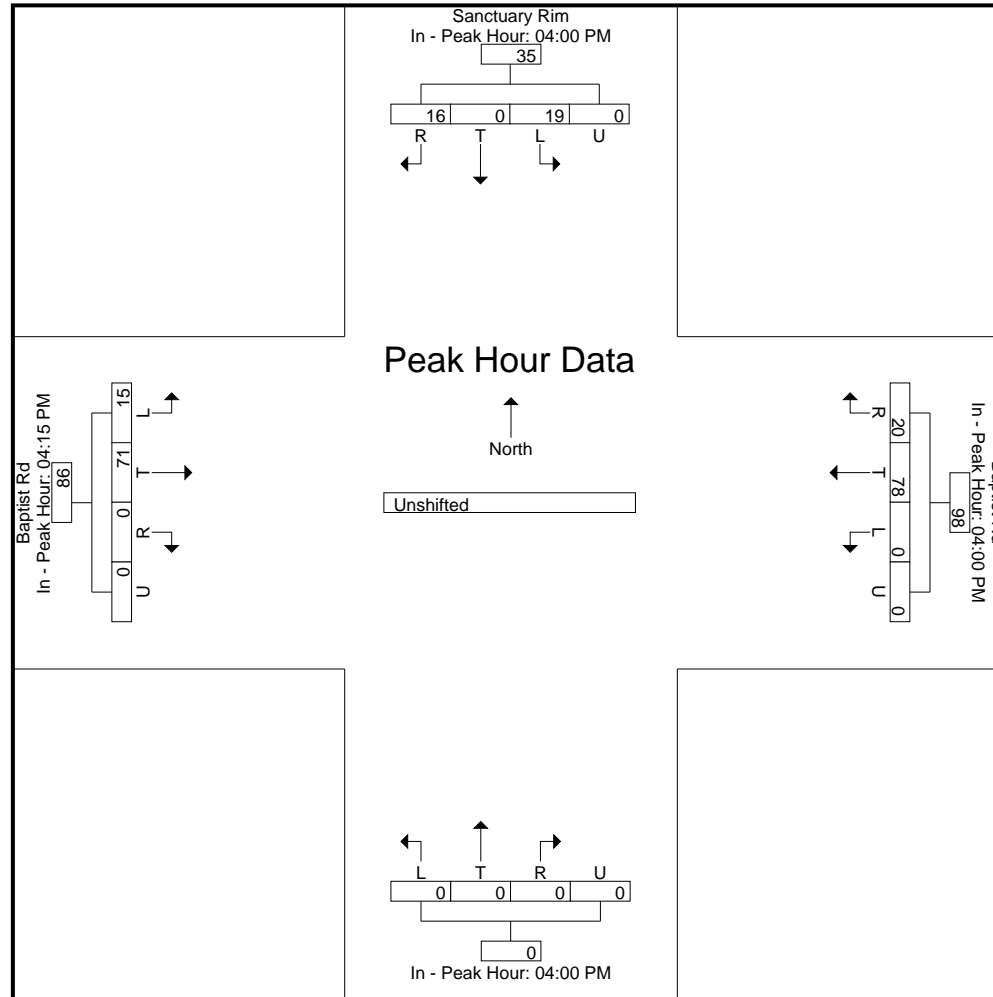
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File Name : Sanctuary Rim - Baptist Rd PM

Site Code : 00204750

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Levels of Service

HCM 6th TWSC
4: Baptist Rd & Sanctuary Rim

Existing Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑	↱	↰	↱
Traffic Vol, veh/h	31	142	163	64	46	42
Future Vol, veh/h	31	142	163	64	46	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	50	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	92	92	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	163	177	70	65	59







Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	247	0	0 412 177
Stage 1	-	-	- 177 -
Stage 2	-	-	- 235 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1319	-	- 596 866
Stage 1	-	-	- 854 -
Stage 2	-	-	- 804 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1319	-	- 580 866
Mov Cap-2 Maneuver	-	-	- 580 -
Stage 1	-	-	- 831 -
Stage 2	-	-	- 804 -

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1319	-	-	-	580	866
HCM Lane V/C Ratio	0.027	-	-	-	0.112	0.068
HCM Control Delay (s)	7.8	-	-	-	12	9.5
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	0.2

HCM 6th TWSC
4: Baptist Rd & Sanctuary Rim

Existing Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	225	207	40	56	46
Future Vol, veh/h	34	225	207	40	56	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	50	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	262	265	51	62	51
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	316	0	-	0	607	265
Stage 1	-	-	-	-	265	-
Stage 2	-	-	-	-	342	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1244	-	-	-	460	774
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1244	-	-	-	445	774
Mov Cap-2 Maneuver	-	-	-	-	445	-
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	719	-
Approach	EB	WB		SB		
HCM Control Delay, s	1	0		12.4		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1244	-	-	-	445	774
HCM Lane V/C Ratio	0.032	-	-	-	0.138	0.065
HCM Control Delay (s)	8	-	-	-	14.4	10
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	0.2

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑	↑	↗	↘	↗
Traffic Vol, veh/h	35	165	175	35	95	115
Future Vol, veh/h	35	165	175	35	95	115
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	50	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	92	92	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	190	190	38	134	162

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	228	0	0 460 190
Stage 1	-	-	- 190 -
Stage 2	-	-	- 270 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1340	-	- 559 852
Stage 1	-	-	- 842 -
Stage 2	-	-	- 775 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1340	-	- 542 852
Mov Cap-2 Maneuver	-	-	- 542 -
Stage 1	-	-	- 817 -
Stage 2	-	-	- 775 -

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1340	-	-	-	542	852
HCM Lane V/C Ratio	0.03	-	-	-	0.247	0.19
HCM Control Delay (s)	7.8	-	-	-	13.8	10.2
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1	0.7

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↑	↱	↰	↱
Traffic Vol, veh/h	125	275	240	115	70	75
Future Vol, veh/h	125	275	240	115	70	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	50	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	145	320	308	147	77	82

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	455	0	0 918 308
Stage 1	-	-	- 308 -
Stage 2	-	-	- 610 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1106	-	- 302 732
Stage 1	-	-	- 745 -
Stage 2	-	-	- 542 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1106	-	- 262 732
Mov Cap-2 Maneuver	-	-	- 262 -
Stage 1	-	-	- 647 -
Stage 2	-	-	- 542 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	17.2
HCM LOS			C







Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1106	-	-	-	262	732
HCM Lane V/C Ratio	0.131	-	-	-	0.294	0.113
HCM Control Delay (s)	8.7	-	-	-	24.4	10.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.2	0.4

HCM 6th TWSC
4: Baptist Rd & Sanctuary Rim

Short Term Total
AM Peak Hour

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	37	165	175	36	98	122
Future Vol, veh/h	37	165	175	36	98	122
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	50	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	92	92	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	190	190	39	138	172

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	229	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1339	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1339	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1339	-	-	-	537	852
HCM Lane V/C Ratio	0.032	-	-	-	0.257	0.202
HCM Control Delay (s)	7.8	-	-	-	14	10.3
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1	0.8

HCM 6th TWSC
17: Sanctuary Rim & Site Access

Short Term Total
AM Peak Hour

Intersection

Int Delay, s/veh 0.4

Movement SEL SET NWT NWR SWL SWR

Lane Configurations

Traffic Vol, veh/h 0 210 70 3 10 0

Future Vol, veh/h 0 210 70 3 10 0

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 92 92 92 92 92 92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 0 228 76 3 11 0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 79 0 - 0 306 78

Stage 1 - - - - 78 -

Stage 2 - - - - 228 -

Critical Hdwy 4.12 - - - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy 2.218 - - - 3.518 3.318

Pot Cap-1 Maneuver 1519 - - - 686 983

Stage 1 - - - - 945 -

Stage 2 - - - - 810 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1519 - - - 686 983

Mov Cap-2 Maneuver - - - - 686 -

Stage 1 - - - - 945 -

Stage 2 - - - - 810 -

Approach SE NW SW

HCM Control Delay, s 0 0 10.3

HCM LOS B

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

Capacity (veh/h) - - 1519 - 686

HCM Lane V/C Ratio - - - - 0.016

HCM Control Delay (s) - - 0 - 10.3

HCM Lane LOS - - A - B







HCM 95th %tile Q(veh) - - 0 - 0

HCM 6th TWSC
4: Baptist Rd & Sanctuary Rim

Short Term Total
PM Peak Hour

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	131	275	240	117	72	78
Future Vol, veh/h	131	275	240	117	72	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	300	50	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	152	320	308	150	79	86

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	458	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1103	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1103	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.8	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1103	-	-	-	255	732
HCM Lane V/C Ratio	0.138	-	-	-	0.31	0.117
HCM Control Delay (s)	8.8	-	-	-	25.3	10.6
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.5	-	-	-	1.3	0.4

HCM 6th TWSC
17: Sanctuary Rim & Site Access

Short Term Total
PM Peak Hour

Intersection

Int Delay, s/veh 0.1

Movement SEL SET NWT NWR SWL SWR

Lane Configurations

Traffic Vol, veh/h 0 145 240 8 5 0

Future Vol, veh/h 0 145 240 8 5 0

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 92 92 92 92 92 92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 0 158 261 9 5 0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 270 0 - 0 424 266

Stage 1 - - - - 266 -

Stage 2 - - - - 158 -

Critical Hdwy 4.12 - - - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy 2.218 - - - 3.518 3.318

Pot Cap-1 Maneuver 1293 - - - 587 773

Stage 1 - - - - 779 -

Stage 2 - - - - 871 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1293 - - - 587 773

Mov Cap-2 Maneuver - - - - 587 -

Stage 1 - - - - 779 -

Stage 2 - - - - 871 -

Approach SE NW SW

HCM Control Delay, s 0 0 11.2

HCM LOS B

Minor Lane/Major Mvmt NWT NWR SEL SETSWLn1

Capacity (veh/h) - - 1293 - 587

HCM Lane V/C Ratio - - - - 0.009

HCM Control Delay (s) - - 0 - 11.2

HCM Lane LOS - - A - B

HCM 95th %tile Q(veh) - - 0 - 0

Sanctuary Pointe Master Plan





LSC TRANSPORTATION CONSULTANTS, INC.

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December 12, 2005

Mr. Jerry Novak
Classic Communities
6385 Corporate Drive
Colorado Springs, CO 80919

RE: Sanctuary Pointe
El Paso County, Colorado
LSC #055800

Dear Mr. Novak:

In response to your request, LSC Transportation Consultants, Inc. has prepared this Master Plan-level traffic impact and access analysis report for the proposed Sanctuary Pointe Master Plan. The site is currently located in unincorporated El Paso County, Colorado generally north of Baptist Road and west of Roller Coaster Road. Plans are to petition for annexation into the Town of Monument and Triview Metropolitan District. The site location is shown in Figure 1. Access would be to Baptist Road directly, Baptist Road via Kingswood Drive, and the future extension of Gleneagle Drive. There are also proposed minor accesses through the parcels north and south of the site.

This report identifies: the proposed land use, the planned access points and street connections, the projected vehicle-trip generation, an assignment of the site-generated traffic volumes to the planned future area transportation network, an assessment of the site's traffic impacts, and the recommendations for internal street classifications and transportation system improvements.

SITE DEVELOPMENT AND LAND USE

Land Use

The 460-acre site is planned to contain about 650 single-family homes. A five-acre parcel on the east side of the site is planned for a church. The land use Master Plan is shown in Figure 2. Figure 3 shows the site in the context of the adjacent subdivisions and planned transportation corridors.

Access and Street Connections

Access to Baptist Road

Full-movement access directly to the site is proposed to Baptist Road about one-half mile northeast of Red Fox Lane and 3,300 feet west of Roller Coaster Road. Additional access to Baptist Road is proposed via the existing Kingswood Drive, which is currently the legal access to the site.

Furrow Road/Gleneagle Drive North/South Collector Street

The *El Paso County Major Transportation Corridors Plan, 2004 Edition* and the *September 2002 Tri-Lakes Regional Transportation Plan* by SEH both show a north/south street connection between the Gleneagle Drive/Baptist Road intersection and the south terminus of Furrow Road (south of State Highway 105). This connection would create a continuous north/south street between the south side of Gleneagle Drive and County Line Road. The *Tri-Lakes Comprehensive Plan* also supports the connection. The *El Paso County Major Transportation Corridors Plan* classifies this street as a two-lane Collector.

The proposed Major Collector through Sanctuary Pointe is planned to extend west through the adjacent parcel and intersect Gleneagle Drive (about 3,500 feet south of Higby Road and about 4,500 feet north of Baptist Road). The exact details of where this connection occurs and its configuration would need to be worked out between the property owners, and should be addressed in the public agency approvals.

Street Connections to North Parcels

Additional street connections to the north are planned via Pettigrew Place (located on the west end of the site) and a future connection through the undeveloped parcel just east of Happy Landing Drive.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

Figure 1 shows the roadways in the vicinity of the site. The major roadways are identified below, followed by a brief description.

- **Higby Road** is a two-lane Minor Arterial that extends east from Struthers Road to Roller Coaster Road. In the vicinity of the site, Higby Road has a posted speed limit of 45 miles per hour (mph). Higby Road is shown as a two-lane Collector on the *El Paso County Major Transportation Corridors Plan*. The *Jackson Creek Master Plan* shows Higby Road realigned between Jackson Creek Parkway and Fairplay Drive about 1,250 feet to the south of its current alignment. The existing section of Higby Road between Jackson Creek Parkway and Fairplay Drive would then be downgraded to a Collector classification. Note that this realignment may not be implemented.
- **Baptist Road** is currently a two-lane Principal Arterial that extends east of Hay Creek Road to Roller Coaster Road. In the vicinity of Gleneagle Drive, Baptist Road has a posted speed limit of 45 mph. In the short term, Baptist Road is planned to be upgraded to a median-divided four-lane cross section. A connection to Hodgen Road is also planned

- **Gleneagle Drive** is a two-lane Collector that serves the Gleneagle neighborhood (in unincorporated El Paso County). Gleneagle Drive is a rural two-lane cross section with a multi-use outside lane for bicycles and pedestrians. In the vicinity of the site, Gleneagle Drive has a posted speed limit of 30 mph. Gleneagle Drive extends north from the Struthers Road/Northgate Road intersection to Baptist Road.
- **Kingswood Drive** is a rural two-lane county road that serves the Baptist Church parcel and the homes with lots fronting the roadway. The right-of-way is 60 feet. The paved width varies, but field measurements indicate about a 22-foot mat. The condition of the roadway has deteriorated over time.
- **Furrow Road** is a two-lane Collector extending south from County Line Road to its current terminus south of State Highway 105 within the Timberview Subdivision. The section between Minglewood Trail and the south terminus has been constructed to El Paso County Residential Collector standards. The section between State Highway 105 and County Line Road is a rural two-lane section.

Figure 3 also shows the existing traffic controls and lane geometry for the Baptist Road/Kingswood Drive and Gleneagle Drive/Baptist Road intersections.

Existing Traffic Conditions

Figure 3 also shows the existing morning and afternoon peak-hour traffic volumes on Higby Road and at the Baptist Road/Kingswood Drive, Gleneagle Drive/Baptist Road, and Baptist Road/Roller Coaster Road intersections. The traffic volumes are based on the traffic counts conducted by LSC in December 2003 and April, October, and November 2005. The traffic count reports are attached.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of very little congestion or delay. LOS F is indicative of a high level of congestion or delay.

The Gleneagle Drive/Baptist Road and Baptist Road/Kingswood Drive intersections have been analyzed to determine the existing levels of service, based on the unsignalized method of analysis procedures found in the *Highway Capacity Manual, 2000 Edition* by the Transportation Research Board. The level of service analysis results are shown in Figure 3. The level of service reports are attached.

The northbound left-turn movement at the two-way Stop-sign controlled **Gleneagle Drive/Baptist Road** intersection is currently operating at LOS C during the morning peak hour and LOS B during the afternoon peak hour.

The southbound approach at the two-way Stop-sign controlled **Baptist Road/Kingswood Drive** intersection is currently operating at LOS B during the peak hours.

TRIP GENERATION

The traffic volume estimates expected to be generated by the Sanctuary Pointe site have been made using the nationally published trip generation rates found in *Trip Generation, 7th Edition, 2003* by the Institute of Transportation Engineers (ITE). Table 1 shows the results of the trip generation estimates.

As shown in Table 1, the site is expected to generate about 6,816 vehicle-trips on the average weekday, with about 3,408 vehicles entering and 3,408 vehicles exiting in a 24-hour period. During the morning peak hour, which typically occurs for one hour between 6:30 and 8:30 a.m., about 145 vehicles would enter and 385 vehicles would exit the site. During the afternoon peak hour, which typically occurs for one hour between 4:30 and 6:30 p.m., about 435 vehicles would enter and 265 vehicles would exit the site.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the planned future area street and roadway system is one of the most important factors in determining the site's traffic impacts. The specific distribution estimates are shown in Figure 4. The directional distribution estimates are based on the anticipated future roadway connections, including the continuous north/south connection between the south side of Gleneagle Drive and County Line Road and the Baptist Road extension east to Hodgen Road.

When the distribution percentages (from Figure 4) are applied to the trip generation estimates (from Table 1), the resulting site-generated traffic volumes can be determined. Figure 5 shows the site-generated traffic volume estimates. This trip assignment has been estimated based on the available level of detail on the Master Plan, and is subject to change as the lot patterns and more exact roadway alignments are introduced.

2030 BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the adjacent roadways and planned roadways within Sanctuary Pointe without the proposed development's traffic being added to the streets and roads. Background traffic includes the through traffic and the traffic generated by existing and potential future adjacent developments, and assumes the planned future roadway connections to be built, but assumes zero trip generation by Sanctuary Pointe. The background traffic volumes for the year 2030 are shown in Figure 6. The 2030 background traffic volumes are based on the projections contained in the *Tri-Lakes Area Transportation Plan* by SEH, the Pikes Peak Area Council of Governments' projections, the *El Paso County Major Transportation Corridors Plan*, and LSC's estimates.

2030 TOTAL TRAFFIC

Figure 7 shows the total traffic volumes for the year 2030 at the intersections in the vicinity of the site and on key street and roadway segments. The 2030 total traffic volumes are the sum of the 2030 background traffic volumes (from Figure 6) plus the site-generated traffic volumes (from Figure 5).

PROJECTED LEVELS OF SERVICE

The, Gleneagle Drive/Baptist Road, Baptist Road/Kingswood Drive, Gleneagle Drive/proposed Sanctuary Pointe collector, Higby Road/Gleneagle Drive/Furrow Road, and Baptist Road/proposed Sanctuary Pointe collector intersections have been analyzed to determine the projected levels of service for the 2030 background and 2030 total traffic volumes, based on the signalized and unsignalized method of analysis procedures found in the *Highway Capacity Manual, 2000 Edition* by the Transportation Research Board. Figures 8 and 9 shows the level of service analysis results based on the 2030 background and 2030 total traffic volumes, respectively. The level of service reports are attached.

The **Gleneagle Drive/Baptist Road** intersection was assumed to be signalized by the year 2030. The intersection is projected to operate at LOS C or better during the peak hours in the year 2030.

The southbound approach at the Stop-sign controlled **Baptist Road/Kingswood Drive** intersection is projected to operate at LOS B during the morning peak hour and LOS D during the afternoon peak hour in the year 2030.

The **Gleneagle Drive/proposed Sanctuary Pointe collector** intersection was assumed to be a Stop-sign controlled "T" intersection. The westbound left-turn movement at the intersection is projected to operate at LOS C during the morning peak hour and LOS D during the afternoon peak hour based on the 2030 total traffic volumes.

The **Higby Road/Glenagle Drive/Furrow Road** intersection was assumed to be signalized by the year 2030. The intersection is projected to operate at LOS A during the peak hours in the year 2030. A roundabout intersection at this location may also be an option, depending on the roadway grades.

The southbound left-turn movement at the Stop-sign controlled **Baptist Road/proposed Sanctuary Pointe collector** intersection is projected to operate at LOS C during peak hours in the year 2030.

CONCLUSIONS AND RECOMMENDATIONS

Based on the preceding analysis, the following conclusions can be drawn regarding the traffic impacts of the proposed Sanctuary Pointe development. This section also presents recommendations for internal street classifications and street improvements that may be required to mitigate the traffic impacts, as well as guidelines and parameters for the design of the access points.

Trip Generation

1. The site is expected to generate about 6,816 vehicle-trips on the average weekday, with about 3,408 vehicles entering and 3,408 vehicles exiting in a 24-hour period. During the morning peak hour, about 145 vehicles would enter and 385 vehicles would exit the site. During the afternoon peak hour, about 435 vehicles would enter and 265 vehicles would exit the site.

Projected Levels of Service

2. The individual turning movement levels of service are shown in Figures 8 and 9.
3. The **Gleneagle Drive/proposed Sanctuary Pointe collector, Baptist Road/Kingswood Drive, and Baptist Road/proposed Sanctuary Pointe collector** intersections are projected to operate at satisfactory levels of service for all movements as Stop-sign controlled intersections based on the 2030 total traffic volumes.
4. The signalized **Gleneagle Drive/Baptist Road** intersection is projected to operate at LOS C or better during the peak hours in the year 2030.
5. The signalized **Higby Road/Gleneagle Drive/Furrow Road** intersection is projected to operate at LOS A during the peak hours in the year 2030.

Functional Classification Recommendations

6. Figure 10 shows the recommended street functional classifications.

Auxiliary Turn Lane Recommendations

7. Figure 9 also shows the recommended auxiliary turn lanes on Higby Road, Baptist Road, and Gleneagle Drive/Furrow Road. The turn lanes on Higby Road and Baptist Road should be designed to meet the El Paso County standards. The turn lanes on Gleneagle Drive/Furrow Road should be designed to meet the Town of Monument/Triview Metropolitan District standards. Grade adjustments for the turn lanes would likely be required in several of the locations indicated, most notably on Higby Road.

Baptist Road/Kingswood Drive

8. An eastbound left-turn lane and a westbound right-turn deceleration lane are planned to be constructed on Baptist Road approaching Kingswood Drive as part of an improvement project by the El Paso County Department of Transportation in the year 2006. This project is also planned to widen Baptist Road to two through lanes in each direction from Jackson Creek Parkway to just east of Kingswood Drive.

Baptist Road/Proposed Sanctuary Pointe Collector

9. An eastbound left-turn lane should be constructed on Baptist Road approaching the proposed Sanctuary Pointe collector. This lane should be 315 feet long plus a 160-foot taper. These lengths may need to be adjusted based on the grade of Baptist Road approaching the intersection.
10. A westbound right-turn deceleration lane should be constructed on Baptist Road approaching the proposed Sanctuary Pointe collector. This lane should be 275 feet long plus a 160-foot taper. These lengths may need to be adjusted based on the grade of Baptist Road approaching the intersection.

Access Recommendations

Access to the North to Higby Estates Streets

11. If established as a connection, the access to the north to Higby Estates streets would provide the Baptist Church parcel access to Higby Road (via the Higby Estates street system), and would provide the Higby Estates residents located to the north access to the south through the Baptist Church parcel. The latter is probably more significant as this could provide a connection for the Higby Estates residents to access the planned future north/south roadway (Gleneagle Drive/Furrow Road).
12. Overall, the street connections created should generally be designed to discourage the Sanctuary Pointe traffic, other than the lots in the immediate area of the connection, from using this connection to access Higby Road. The access via Gleneagle Drive/Furrow Road and the likely access through the parcel east of Higby Estates should be emphasized instead.

Access to Baptist Road Via Kingswood Drive

13. Kingswood Drive is currently the access to the Baptist Church parcel. LSC recommends that, at the next level of planning, the local street layout within Sanctuary Point be designed to encourage use of the Gleneagle Drive north/south collector as the primary connection to Baptist Road for residents who would reside in the western half of the site. This has been addressed at this Master Plan stage, as the Master Plan shows lower density in the area of this connection and no direct connection between Kingswood Drive and the east/west collector. The traffic volumes shown in this report are based on an assumption of limited use of Kingswood Drive and limited site-generated traffic circuitous connection.
14. Regarding the overall area circulation and parcel connectivity, this connection would improve area circulation for the properties along Kingswood Drive, as this would provide access to and from the northwest for the Kingswood Subdivision without having to use Baptist Road.

Mr. Jerry Novak
Sanctuary Pointe

Page 8

December 12, 2005

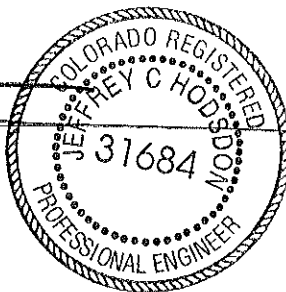
We trust that this Master Plan-level traffic impact and access analysis report will assist you in planning the Sanctuary Pointe development. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By

Jeffrey C. Hodsdon, P.E., PTOE
Principal



JCH:KF:rf

Enclosures: Table 1
Figures 1-10
Traffic Count Reports
Level of Service Reports

Table 1
Trip Generation Estimate
Sanctuary Pointe

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾						Total Trips Generated					
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour			
				In	Out	In	Out		In	Out	In	Out		
210	Single-Family Detached Housing	650 DU ⁽²⁾	9.57	0.19	0.56	0.64	0.37	6,221	122	366	414	243		
560	Church	65 KSF ⁽³⁾	9.11	0.39	0.33	0.34	0.32	595	25	22	22	21		
								6,816	147	387	436	264		

Notes:

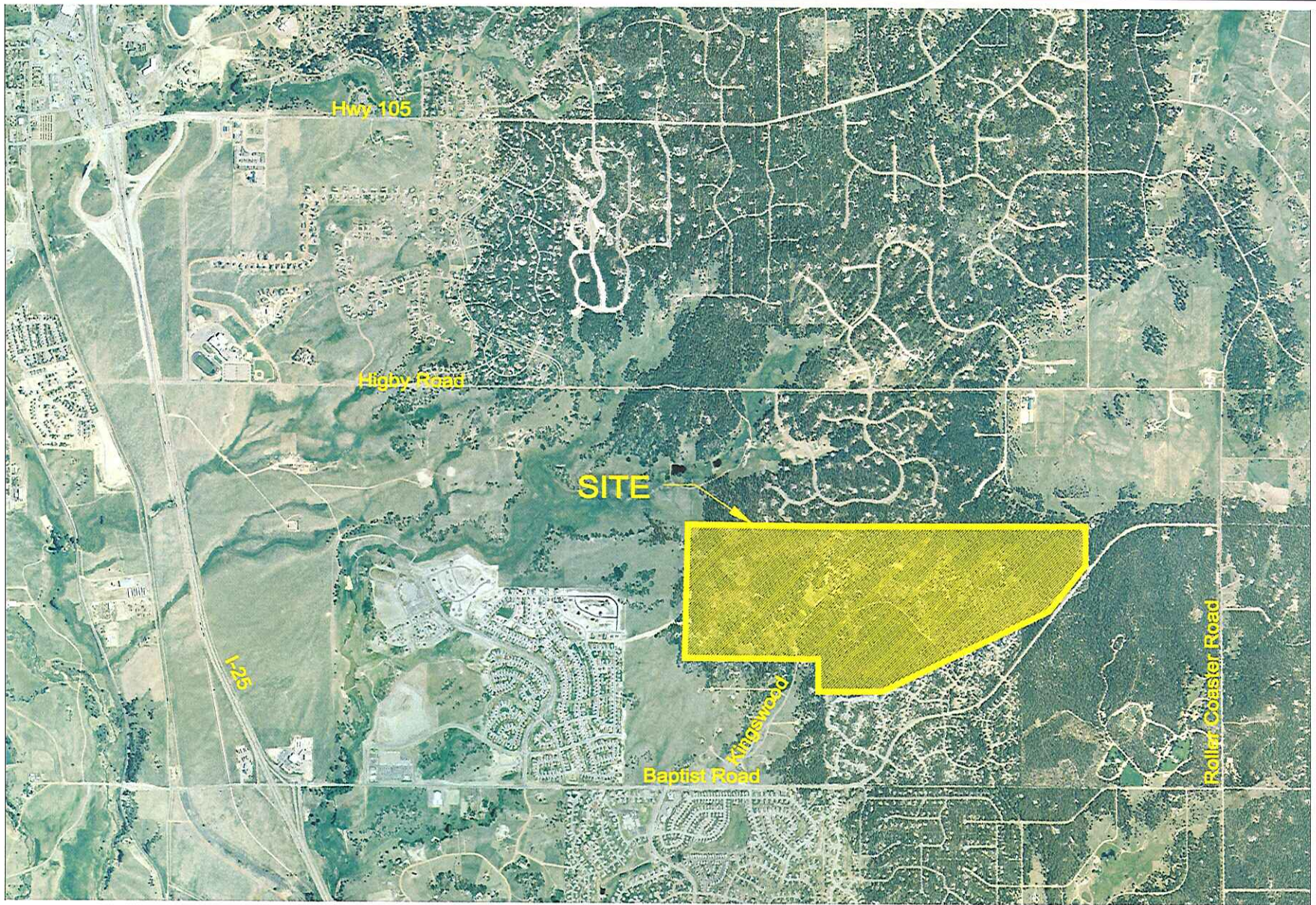
(1) Source: "Trip Generation," Institute of Transportation Engineers, 7th edition, 2003

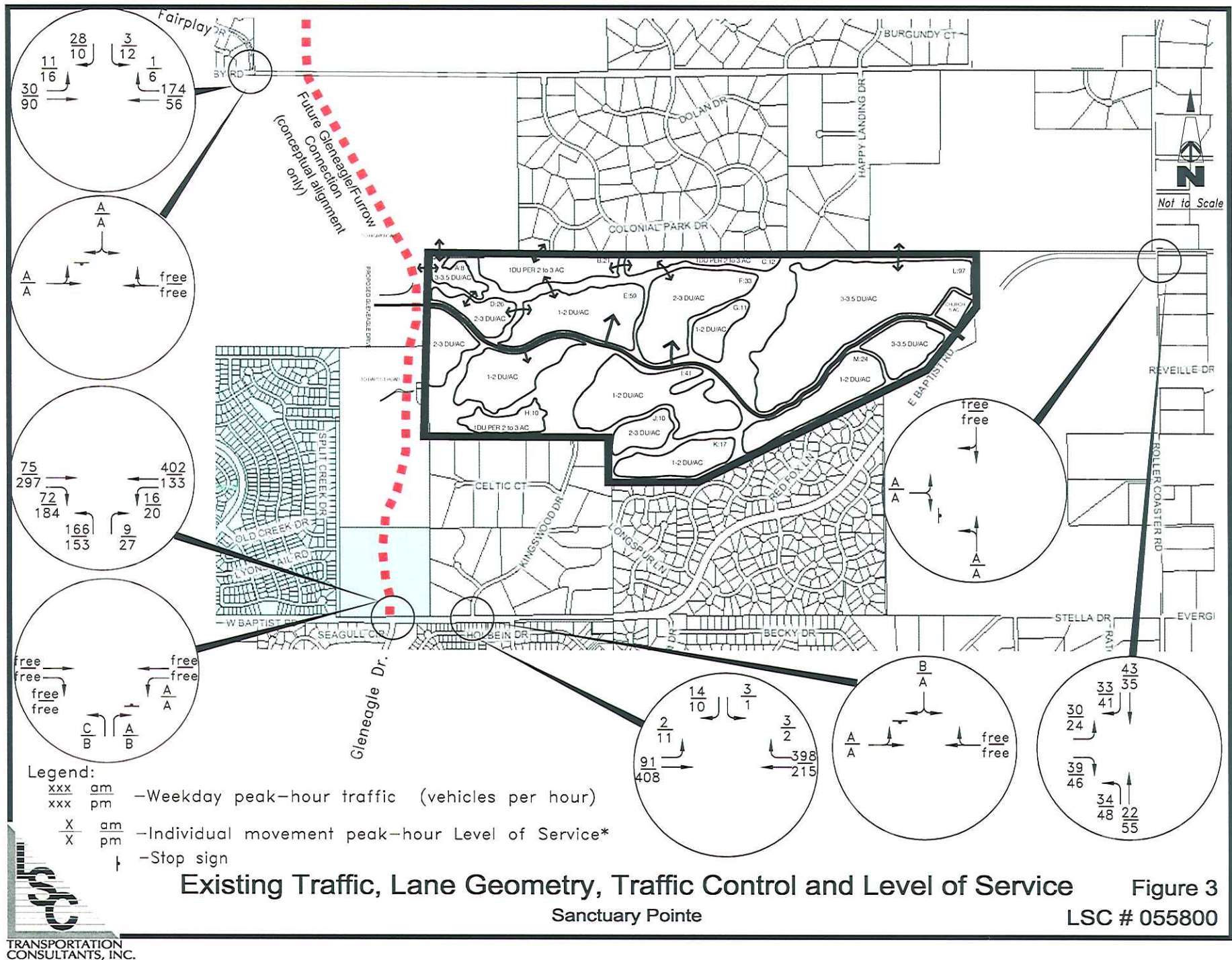
(2) DU = dwelling units

(3) KSF = thousand square-feet of floor space

Source: LSC Transportation Consultants, Inc.

Date: 12/12/05





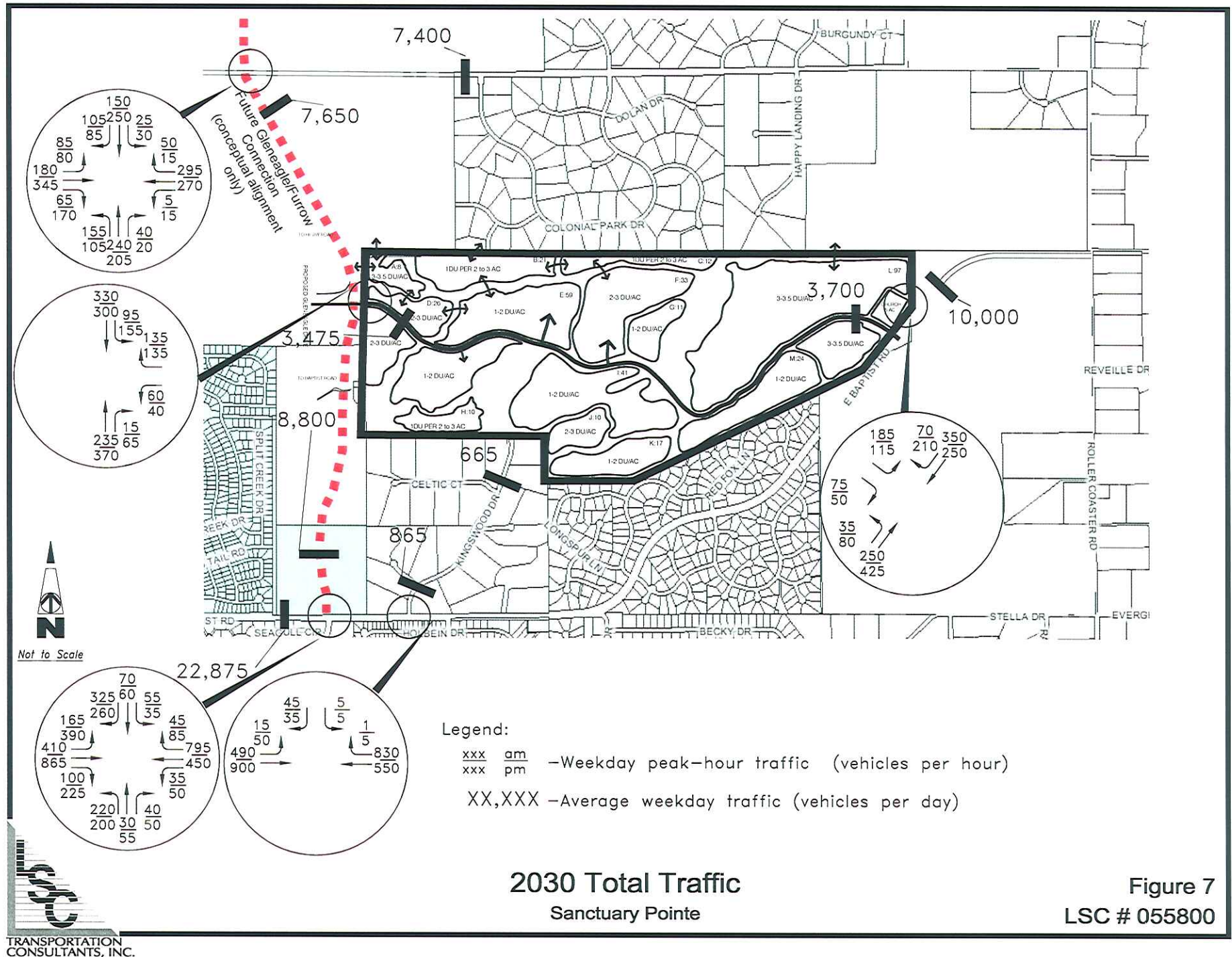


Figure 7
LSC # 055800

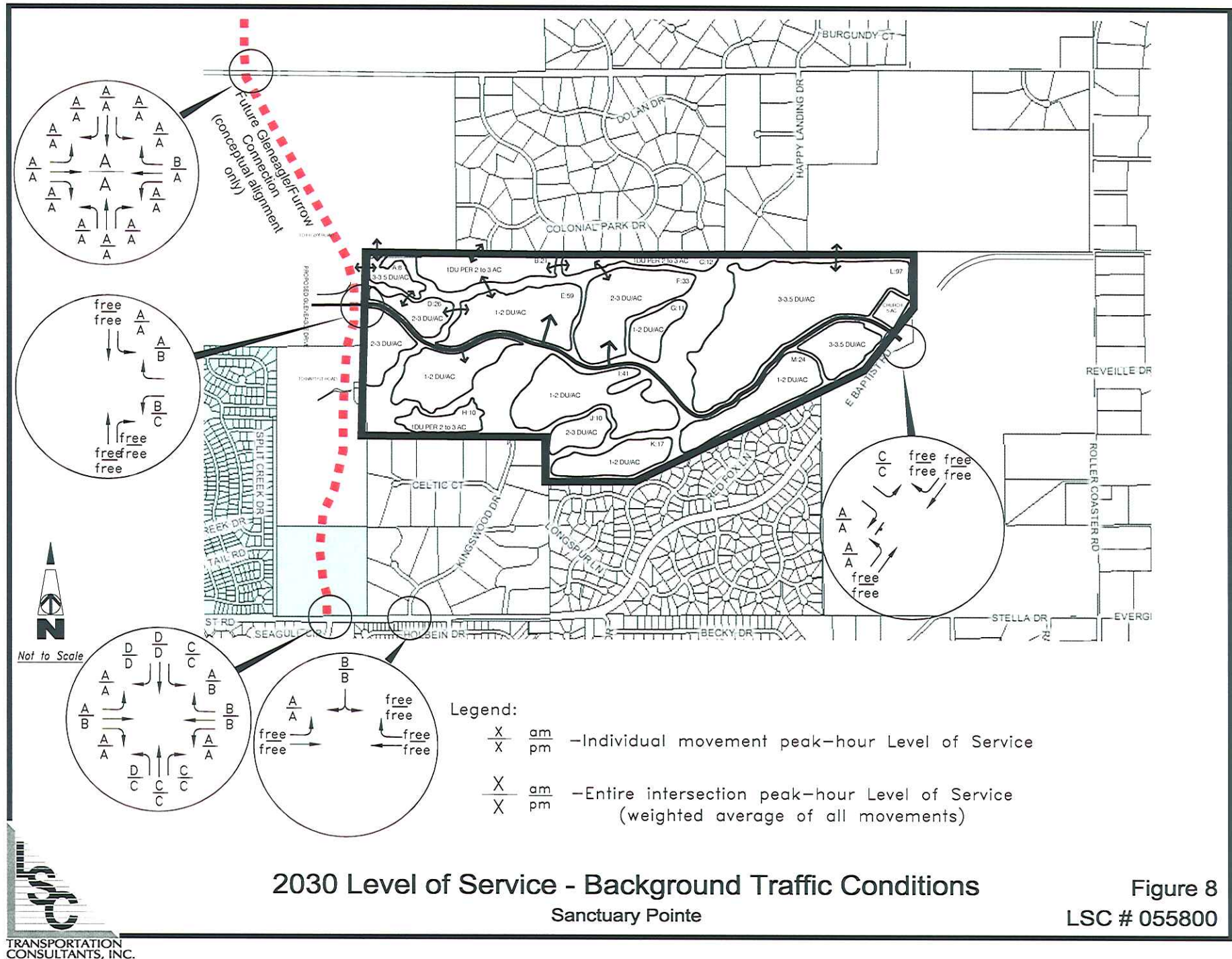


Figure 8
LSC # 055800

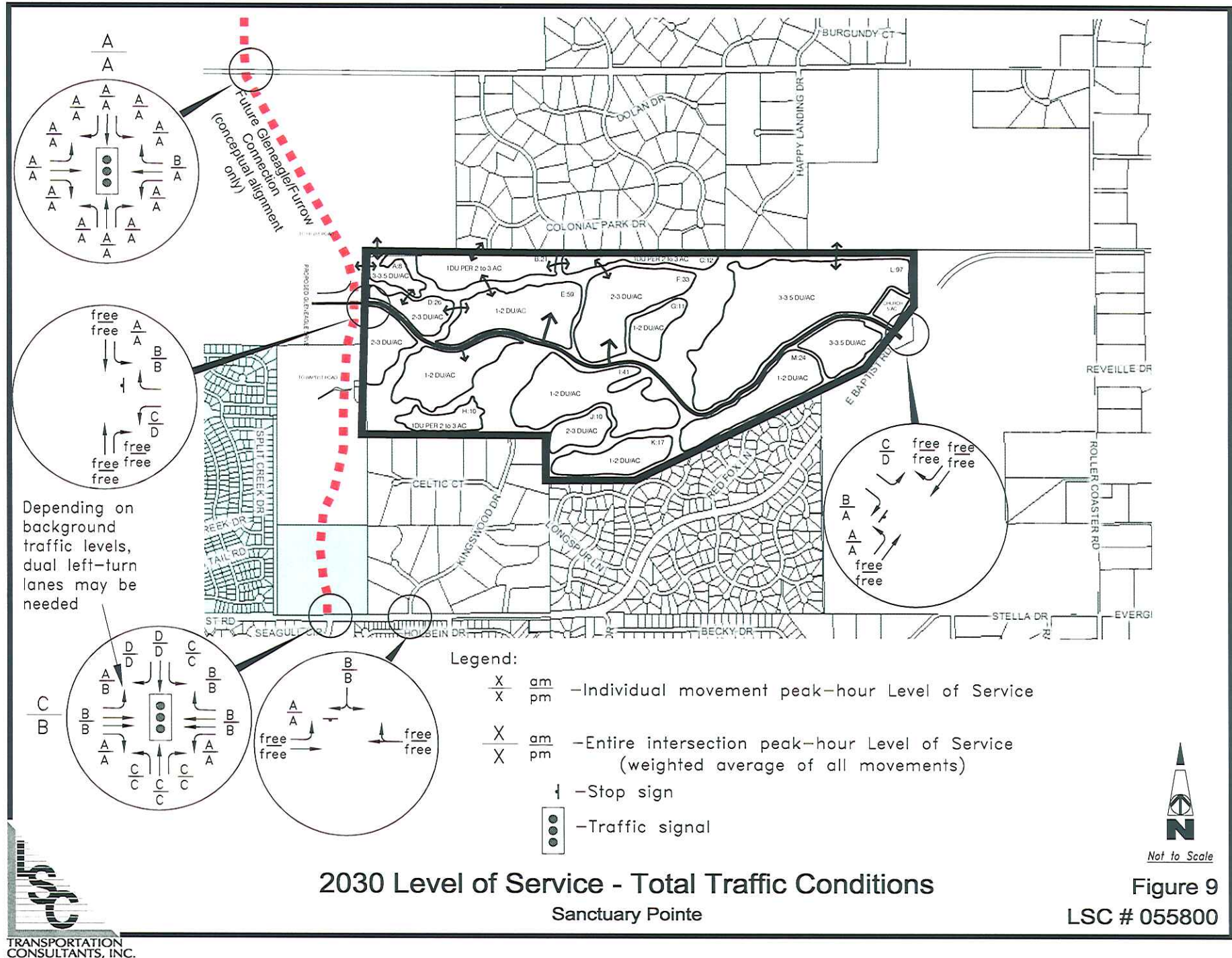
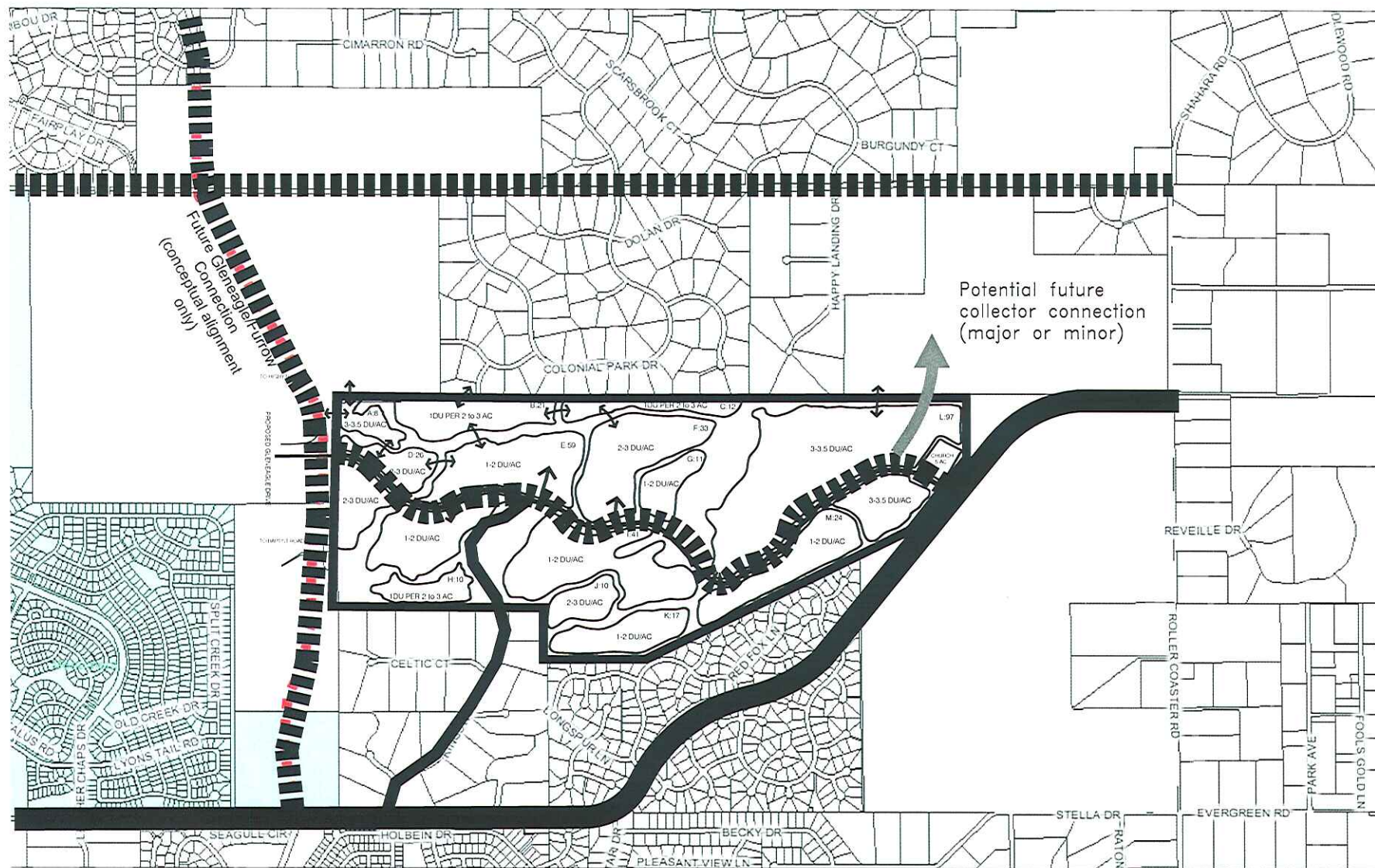


Figure 9
LSC # 055800



- Arterial
- Major Collector
- Minor Collector

Roadway Classification

Sanctuary Point

Figure 10
LSC # 055800

LSC Transportation Consultants Inc.
Intersection Counts

101 N Tejon St Suite 200
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lscs.com

File Name : 036540B
Site Code : 01201032
Start Date : 12/01/2003
Page No : 1

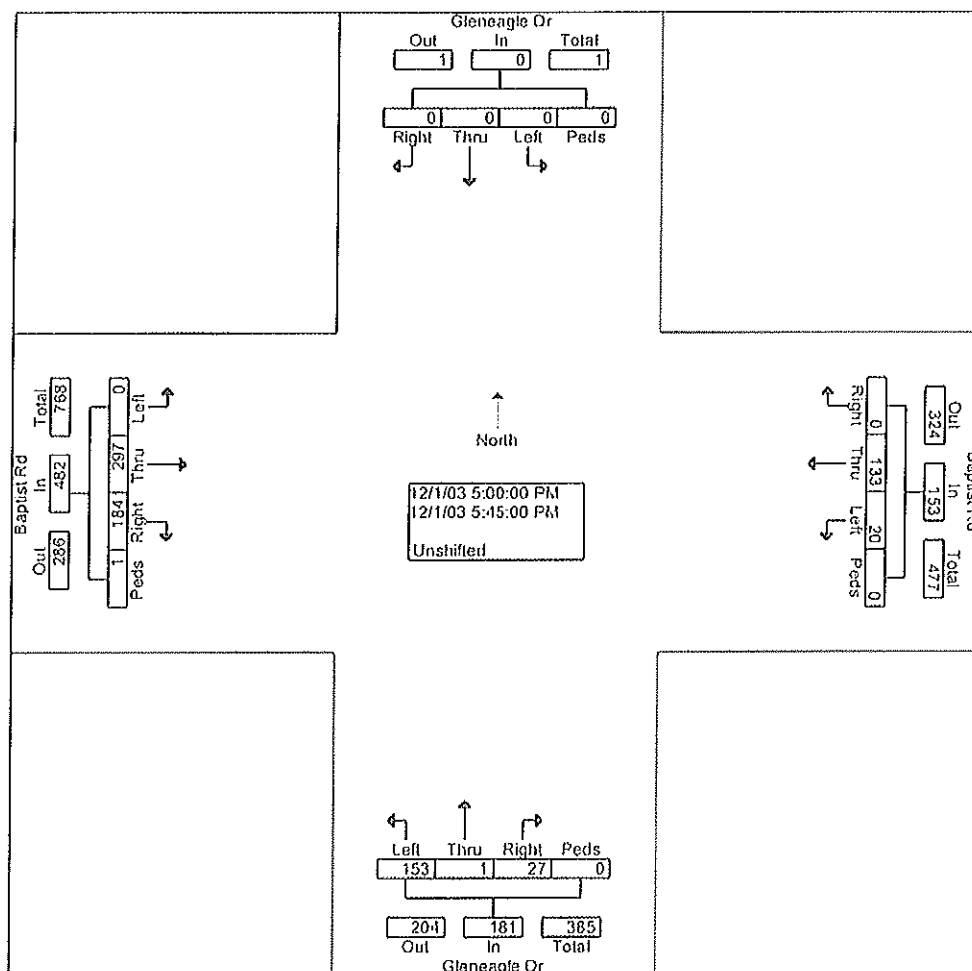
Groups Printed- Unshifted

	Gleneagle Dr North				Baptist Rd East				Gleneagle Dr South				Baptist Rd West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:30 PM	0	0	0	0	0	46	5	0	8	0	32	0	41	69	0	0	201
04:45 PM	0	0	0	0	2	24	3	0	5	0	25	0	51	64	0	0	174
Total	0	0	0	0	2	70	8	0	13	0	57	0	92	133	0	0	375
05:00 PM	0	0	0	0	0	34	6	0	6	1	38	0	51	68	0	1	205
05:15 PM	0	0	0	0	0	33	4	0	7	0	35	0	41	80	0	0	200
05:30 PM	0	0	0	0	0	34	3	0	11	0	48	0	42	81	0	0	219
05:45 PM	0	0	0	0	0	32	7	0	3	0	32	0	50	68	0	0	192
Total	0	0	0	0	0	133	20	0	27	1	153	0	184	297	0	1	816
06:00 PM	0	0	0	0	0	26	3	0	3	0	27	0	34	70	0	0	163
06:15 PM	0	0	0	0	0	25	4	0	2	0	19	0	34	75	0	0	159
Grand Total	0	0	0	0	2	254	35	0	45	1	256	0	344	575	0	1	1513
Approch %	0.0	0.0	0.0	0.0	0.7	87.3	12.0	0.0	14.9	0.3	84.8	0.0	37.4	62.5	0.0	0.1	
Total %	0.0	0.0	0.0	0.0	0.1	16.8	2.3	0.0	3.0	0.1	16.9	0.0	22.7	38.0	0.0	0.1	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : 036540B
Site Code : 01201032
Start Date : 12/01/2003
Page No : 2

	Gleneagle Dr North					Baptist Rd East					Gleneagle Dr South					Baptist Rd West					
Start Time	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Int. Total
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Intersection	05:00 PM																				
Volume	0	0	0	0	0	0	133	20	0	153	27	1	153	0	181	184	297	0	1	482	816
Percent	0.0	0.0	0.0	0.0		0.0	86.9	13.1	0.0		14.9	0.6	84.5	0.0		38.2	61.6	0.0	0.2		
05:30 Volume	0	0	0	0	0	0	34	3	0	37	11	0	48	0	59	42	81	0	0	123	219
Peak Factor																					0.932
High Int. Volume	4:15:00 PM					05:00 PM					05:30 PM					05:30 PM					
Peak Factor	0	0	0	0	0	0	34	6	0	40	11	0	48	0	59	42	81	0	0	123	
						0.95					0.76					0.98					0
						6					7										



LSC Transportation Consultants Inc.
Intersection Counts

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File Name : 036540A
Site Code : 01202031
Start Date : 12/02/2003
Page No : 1

Groups Printed- Unshifted

	North				Baptist Rd East				Gleneagle Dr South				Baptist Rd West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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06:30 AM	0	0	0	0	0	57	2	0	0	0	40	0	4	10	0	0	113
06:45 AM	0	0	0	0	0	102	3	0	3	0	37	0	11	18	0	0	174
Total	0	0	0	0	0	159	5	0	3	0	77	0	15	28	0	0	287
07:00 AM	0	0	0	0	0	156	2	0	1	0	42	0	12	21	0	0	234
07:15 AM	0	0	0	0	0	70	7	0	3	0	51	0	22	18	0	0	171
07:30 AM	0	0	0	0	0	74	4	0	2	0	36	0	27	18	0	0	161
07:45 AM	0	0	0	0	0	55	5	0	2	0	29	0	52	26	0	0	169
Total	0	0	0	0	0	355	18	0	8	0	158	0	113	83	0	0	735
08:00 AM	0	0	0	0	0	48	13	0	4	0	18	0	29	24	0	0	136
08:15 AM	0	0	0	0	0	62	17	0	9	0	48	0	19	28	0	0	183
Grand Total	0	0	0	0	0	624	53	0	24	0	301	0	176	163	0	0	1341
Apprch %	0.0	0.0	0.0	0.0	0.0	92.2	7.8	0.0	7.4	0.0	92.6	0.0	51.9	48.1	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	46.5	4.0	0.0	1.8	0.0	22.4	0.0	13.1	12.2	0.0	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : 036540A
Site Code : 01202031
Start Date : 12/02/2003
Page No : 2

	North					Baptist Rd East					Gleneagle Dr South					Baptist Rd West					
Start Time	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	0	0	0	0	0	0	402	16	0	418	9	0	166	0	175	72	75	0	0	147	740
Percent	0.0	0.0	0.0	0.0		0.0	96.2	3.8	0.0		5.1	0.0	94.9	0.0		49.0	51.0	0.0	0.0		
07:00 Volume	0	0	0	0	0	0	156	2	0	158	1	0	42	0	43	12	21	0	0	33	234
Peak Factor																					0.791
High Int.	6:15:00 AM					07:00 AM					07:15 AM					07:30 AM					
Volume	0	0	0	0	0	0	156	2	0	158	3	0	51	0	54	27	18	0	0	45	
Peak Factor																					

LSC Transportation Consultants Inc.
Intersection Counts

516 N. Tejon St.
Colorado Springs, CO 80903
Phone (719) 633-2868
E-mail: lsc@lscsccs.com

File Name : Fairplay 1
Site Code : 00420052
Start Date : 04/20/2005
Page No : 1

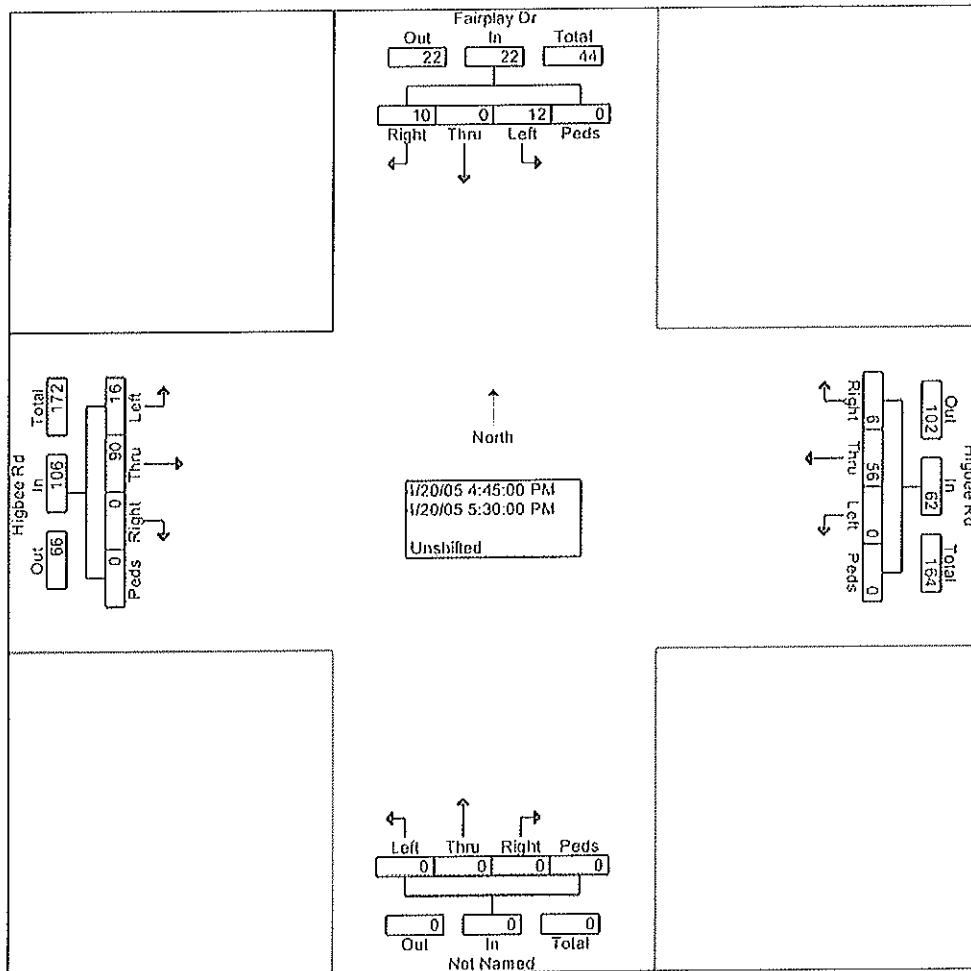
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04:30 PM	3	0	3	0	2	8	0	0	0	0	0	0	0	9	3	0	28
04:45 PM	4	0	5	0	4	11	0	0	0	0	0	0	0	23	1	0	48
Total	7	0	8	0	6	19	0	0	0	0	0	0	0	32	4	0	76
05:00 PM	4	0	1	0	1	21	0	0	0	0	0	0	0	21	5	0	53
05:15 PM	1	0	5	0	1	13	0	0	0	0	0	0	0	28	5	0	53
05:30 PM	1	0	1	0	0	11	0	0	0	0	0	0	0	18	5	0	36
05:45 PM	0	0	3	0	5	17	0	0	0	0	0	0	0	16	5	0	46
Total	6	0	10	0	7	62	0	0	0	0	0	0	0	83	20	0	188
06:00 PM	1	0	2	0	3	7	0	0	0	0	0	0	0	15	3	0	31
06:15 PM	3	0	1	0	1	18	0	0	0	0	0	0	0	18	4	0	45
Grand Total	17	0	21	0	17	106	0	0	0	0	0	0	0	148	31	0	340
Apprch %	44.7	0.0	55.3	0.0	13.8	86.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.7	17.3	0.0	
Total %	5.0	0.0	6.2	0.0	5.0	31.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.5	9.1	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Fairplay 1
Site Code : 00420052
Start Date : 04/20/2005
Page No : 2

	Fairplay Dr North					Higbee Rd East					South					Higbee Rd West					
Start Time	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Int. Total
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	10	0	12	0	22	6	56	0	0	62	0	0	0	0	0	0	90	16	0	106	190
Percent	45.5	0.0	54.5	0.0		9.7	90.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	84.9	15.1	0.0		
05:15 Volume	1	0	5	0	6	1	13	0	0	14	0	0	0	0	0	0	28	5	0	33	53
Peak Factor																					0.896
High Int. Volume	04:45 PM					05:00 PM					4:15:00 PM					05:15 PM					
Peak Factor	4	0	5	0	9	1	21	0	0	22	0	0	0	0	0	0	28	5	0	33	
	0.61					0.70					0.80					0.80					
	1					5					3					3					



LSC Transportation Consultants Inc.
Intersection Counts

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File Name : Fairplay 2
Site Code : 00421051
Start Date : 04/21/2005
Page No : 1

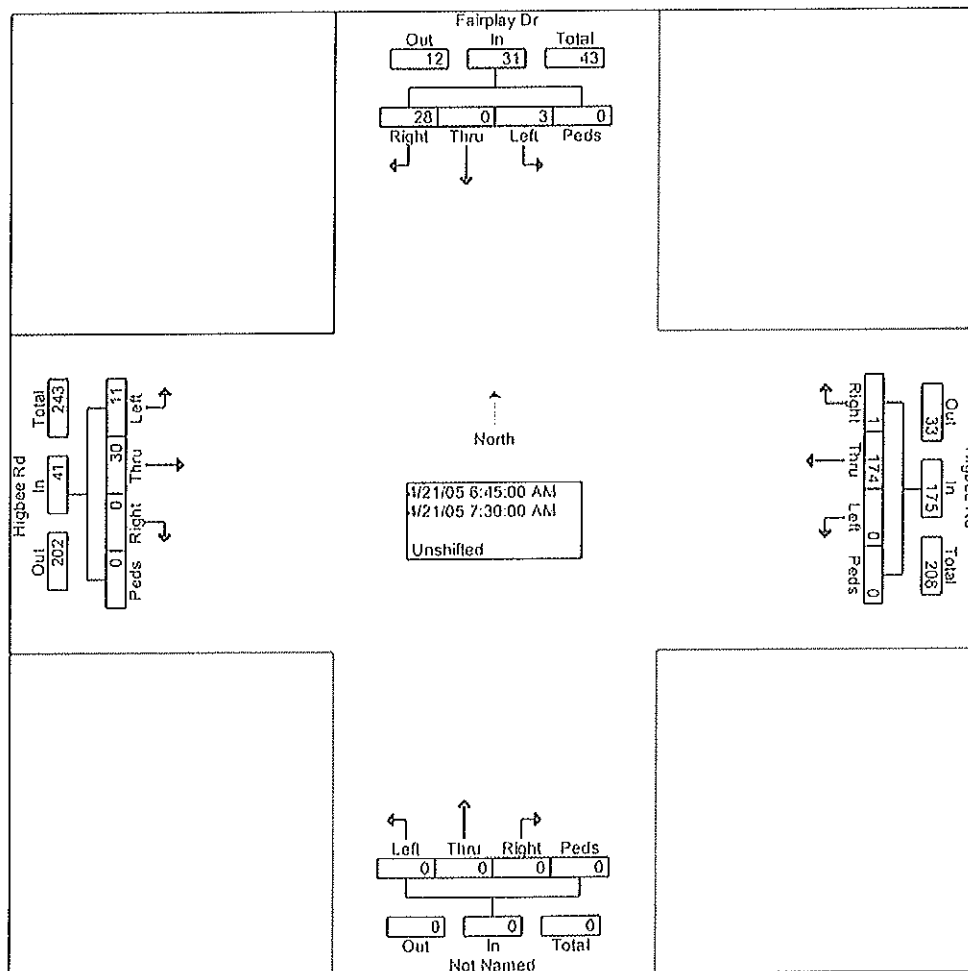
Groups Printed- Unshifted

	Fairplay Dr North				Higbee Rd East				South				Higbee Rd West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	3	0	1	0	0	6	0	0	0	0	0	0	0	2	0	0	12
06:45 AM	3	0	0	0	1	30	0	0	0	0	0	0	0	1	3	0	38
Total	6	0	1	0	1	36	0	0	0	0	0	0	0	3	3	0	50
07:00 AM	10	0	0	0	0	49	0	0	0	0	0	0	0	5	1	0	65
07:15 AM	5	0	1	0	0	53	0	0	0	0	0	0	0	10	6	0	75
07:30 AM	10	0	2	0	0	42	0	0	0	0	0	0	0	14	1	0	69
07:45 AM	2	0	0	0	0	15	0	0	0	0	0	0	0	8	1	0	26
Total	27	0	3	0	0	159	0	0	0	0	0	0	0	37	9	0	235
08:00 AM	3	0	1	0	1	7	0	0	0	0	0	0	0	5	2	0	19
08:15 AM	3	0	1	0	1	11	0	0	0	0	0	0	0	6	1	0	23
Grand Total	39	0	6	0	3	213	0	0	0	0	0	0	0	51	15	0	327
Apprch %	86.7	0.0	13.3	0.0	1.4	98.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.3	22.7	0.0	
Total %	11.9	0.0	1.8	0.0	0.9	65.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6	4.6	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Fairplay 2
Site Code : 00421051
Start Date : 04/21/2005
Page No : 2

	Fairplay Dr North					Higbee Rd East					South					Higbee Rd West					
Start Time	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	28	0	3	0	31	1	174	0	0	175	0	0	0	0	0	0	30	11	0	41	247
Percent	90.3	0.0	9.7	0.0		0.6	99.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	73.2	26.8	0.0		
07:15 Volume	5	0	1	0	6	0	53	0	0	53	0	0	0	0	0	0	10	6	0	16	75
Peak Factor																					0.823
High Int. Volume	07:30 AM	10	0	2	0	07:15 AM	0	53	0	0	6:15:00 AM	0	0	0	0	07:15 AM	0	10	6	0	16
Peak Factor					0.64					0.82											0.64
					6					5											1



LSC Transportation Consultants Inc.
Intersection Counts

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File Name : Kingswood 1
Site Code : 01031052
Start Date : 10/31/2005
Page No : 1

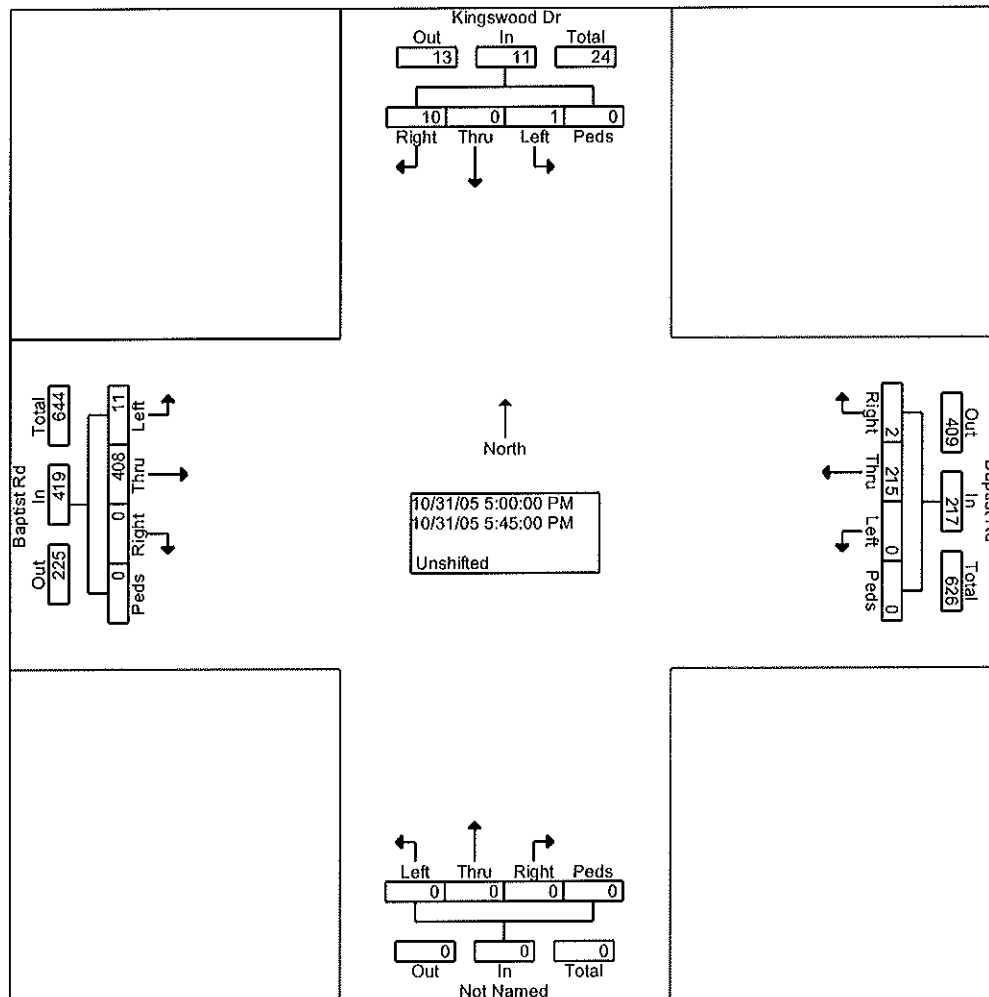
Groups Printed- Unshifted

	Kingswood Dr North				Baptist Rd East				South				Baptist Rd West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:30 PM	3	0	0	0	1	38	0	0	0	0	0	0	0	61	2	0	105
04:45 PM	0	0	0	0	0	59	0	0	0	0	0	0	0	95	1	0	155
Total	3	0	0	0	1	97	0	0	0	0	0	0	0	156	3	0	260
05:00 PM	2	0	1	0	1	45	0	0	0	0	0	0	0	114	0	0	163
05:15 PM	4	0	0	0	0	48	0	0	0	0	0	0	0	104	4	0	160
05:30 PM	1	0	0	0	0	56	0	0	0	0	0	0	0	102	5	0	164
05:45 PM	3	0	0	0	1	66	0	0	0	0	0	0	0	88	2	0	160
Total	10	0	1	0	2	215	0	0	0	0	0	0	0	408	11	0	647
06:00 PM	1	0	0	0	0	65	0	0	0	0	0	0	0	70	2	0	138
06:15 PM	1	0	0	0	0	39	0	0	0	0	0	0	0	50	4	0	94
Grand Total	15	0	1	0	3	416	0	0	0	0	0	0	0	684	20	0	1139
Apprch %	93.8	0.0	6.3	0.0	0.7	99.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.2	2.8	0.0	
Total %	1.3	0.0	0.1	0.0	0.3	36.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.1	1.8	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Kingswood 1
Site Code : 01031052
Start Date : 10/31/2005
Page No : 2

	Kingswood Dr North					Baptist Rd East					South					Baptist Rd West					
Start Time	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Int. Total
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Intersecti on	05:00 PM																				
Volume	10	0	1	0	11	2	215	0	0	217	0	0	0	0	0	0	408	11	0	419	647
Percent	90. 9	0.0	9.1	0.0		0.9	99. 1	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97. 4	2.6	0.0		
05:30 Volume	1	0	0	0	1	0	56	0	0	56	0	0	0	0	0	0	102	5	0	107	164
Peak Factor																					0.986
High Int. Volume	05:15 PM					05:45 PM					4:15:00 PM					05:00 PM					
Peak Factor	4	0	0	0	4 0.68 8	1	66	0	0	67 0.81 0	0	0	0	0	0	0	114	0	0	114 0.91 9	



LSC Transportation Consultants Inc.
Intersection Counts

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File Name : Kingswood 2
Site Code : 01101051
Start Date : 11/01/2005
Page No : 1

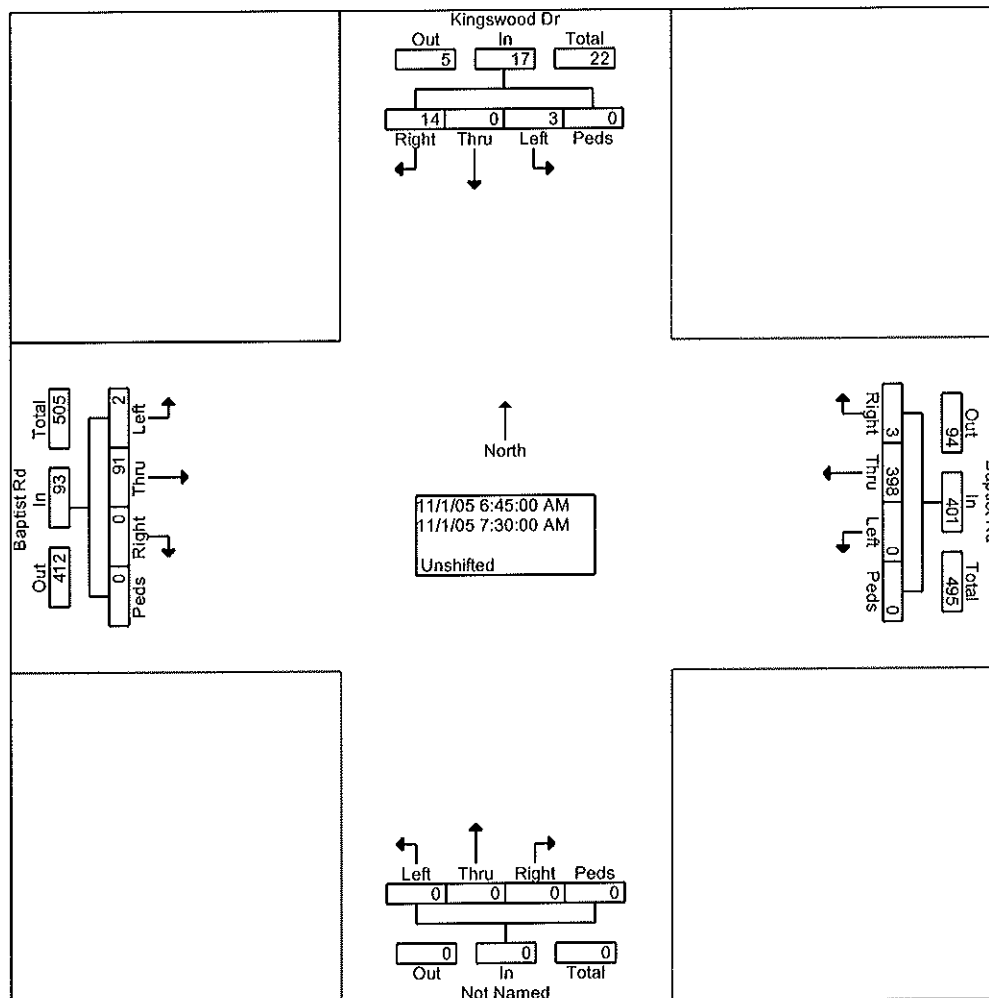
Groups Printed- Unshifted

	Kingswood Dr North				Baptist Rd East				South				Baptist Rd West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	1	0	0	0	1	75	0	0	0	0	0	0	0	11	0	0	88
06:45 AM	6	0	0	0	1	110	0	0	0	0	0	0	0	10	1	0	128
Total	7	0	0	0	2	185	0	0	0	0	0	0	0	21	1	0	216
07:00 AM	5	0	2	0	2	127	0	0	0	0	0	0	0	29	0	0	165
07:15 AM	2	0	0	0	0	79	0	0	0	0	0	0	0	35	1	0	117
07:30 AM	1	0	1	0	0	82	0	0	0	0	0	0	0	17	0	0	101
07:45 AM	0	0	0	0	0	74	0	0	0	0	0	0	0	13	1	0	88
Total	8	0	3	0	2	362	0	0	0	0	0	0	0	94	2	0	471
08:00 AM	1	0	0	0	0	53	0	0	0	0	0	0	0	18	0	0	72
08:15 AM	0	0	1	0	0	65	0	0	0	0	0	0	0	25	1	0	92
Grand Total	16	0	4	0	4	665	0	0	0	0	0	0	0	158	4	0	851
Apprch %	80.0	0.0	20.0	0.0	0.6	99.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	97.5	2.5	0.0	
Total %	1.9	0.0	0.5	0.0	0.5	78.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.6	0.5	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Kingswood 2
Site Code : 01101051
Start Date : 11/01/2005
Page No : 2

	Kingswood Dr North					Baptist Rd East					South					Baptist Rd West					
Start Time	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersecti on	06:45 AM																				
Volume	14	0	3	0	17	3	398	0	0	401	0	0	0	0	0	0	91	2	0	93	511
Percent	82.4	0.0	17.6	0.0		0.7	99.3	0.0	0.0		0.0	0.0	0.0	0.0		0.0	97.8	2.2	0.0		
07:00 Volume	5	0	2	0	7	2	127	0	0	129	0	0	0	0	0	0	29	0	0	29	165
Peak Factor																					0.774
High Int. Volume	07:00 AM					07:00 AM					6:15:00 AM					07:15 AM					
Peak Factor	5	0	2	0	7	2	127	0	0	129	0	0	0	0	0	0	35	1	0	36	0.646



LSC Transportation Consultants Inc.
Intersection Counts

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File Name : Roller Coaster 1
Site Code : 01101052
Start Date : 11/01/2005
Page No : 1

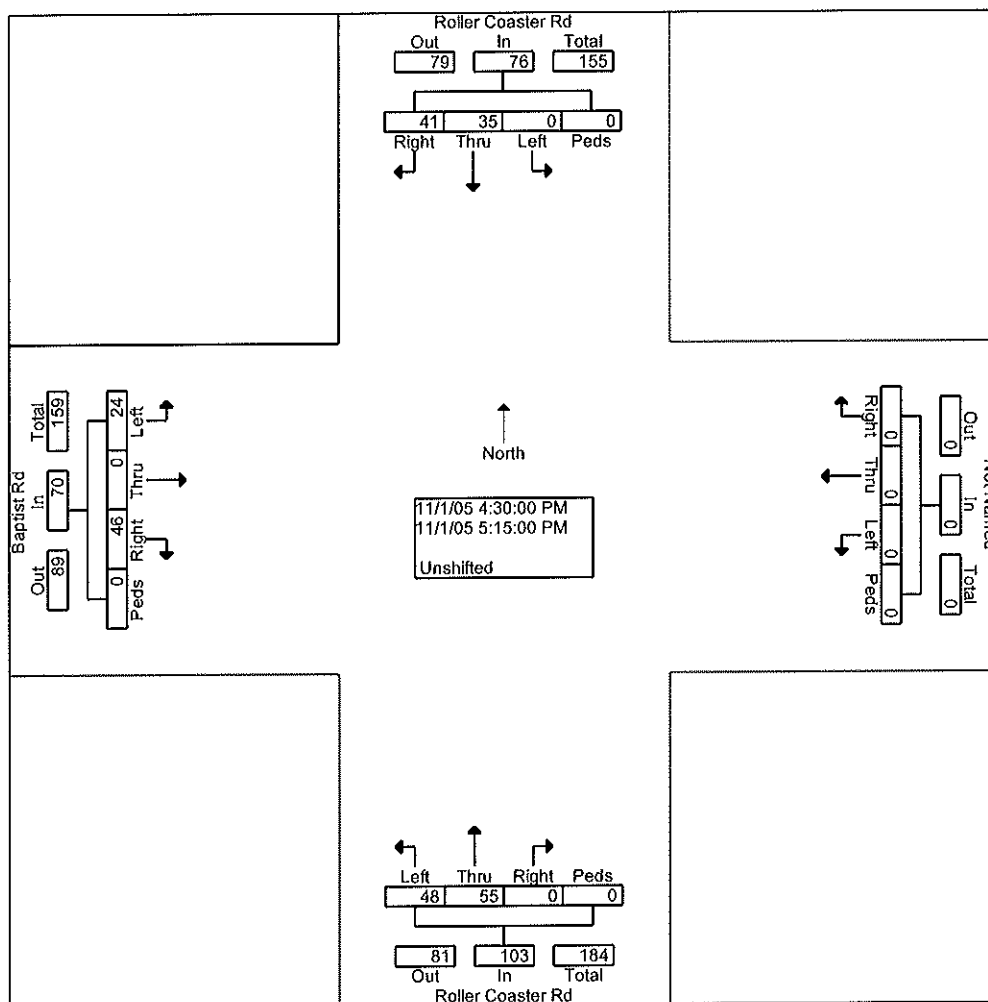
Groups Printed- Unshifted

	Roller Coaster Rd North				East				Roller Coaster Rd South				Baptist Rd West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
04:30 PM	11	11	0	0	0	0	0	0	0	14	9	0	12	0	5	0	62
04:45 PM	8	7	0	0	0	0	0	0	0	13	11	0	11	0	7	0	57
Total	19	18	0	0	0	0	0	0	0	27	20	0	23	0	12	0	119
05:00 PM	7	9	0	0	0	0	0	0	0	14	12	0	13	0	8	0	63
05:15 PM	15	8	0	0	0	0	0	0	0	14	16	0	10	0	4	0	67
05:30 PM	5	7	0	0	0	0	0	0	0	10	12	0	9	0	9	0	52
05:45 PM	4	5	0	0	0	0	0	0	0	6	10	0	13	0	7	0	45
Total	31	29	0	0	0	0	0	0	0	44	50	0	45	0	28	0	227
06:00 PM	4	7	0	0	0	0	0	0	0	7	6	0	6	0	5	0	35
06:15 PM	6	3	0	0	0	0	0	0	0	5	8	0	3	0	1	0	26
Grand Total	60	57	0	0	0	0	0	0	0	83	84	0	77	0	46	0	407
Apprch %	51.3	48.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	49.7	50.3	0.0	62.6	0.0	37.4	0.0	
Total %	14.7	14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.4	20.6	0.0	18.9	0.0	11.3	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

File Name : Roller Coaster 1
Site Code : 01101052
Start Date : 11/01/2005
Page No : 2

	Roller Coaster Rd North					East					Roller Coaster Rd South					Baptist Rd West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	41	35	0	0	76	0	0	0	0	0	0	55	48	0	103	46	0	24	0	70	249
Percent	53.9	46.1	0.0	0.0		0.0	0.0	0.0	0.0		0.0	53.4	46.6	0.0		65.7	0.0	34.3	0.0		
05:15 Volume	15	8	0	0	23	0	0	0	0	0	0	14	16	0	30	10	0	4	0	14	67
Peak Factor																					0.929
High Int. Volume	05:15 PM					4:15:00 PM					05:15 PM					05:00 PM					
Peak Factor	15	8	0	0	23	0	0	0	0	0	0	14	16	0	30	13	0	8	0	21	
					0.826										0.858					0.833	



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File Name : Roller Coaster 2
Site Code : 01102051
Start Date : 11/02/2005
Page No : 1

Groups Printed- Unshifted

	Roller Coaster Rd North				East				Roller Coaster Rd South				Baptist Rd West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	7	5	0	0	0	0	0	0	0	2	7	0	10	0	0	0	31
06:45 AM	9	4	0	0	0	0	0	0	0	1	7	0	8	0	1	0	30
Total	16	9	0	0	0	0	0	0	0	3	14	0	18	0	1	0	61
07:00 AM	21	13	0	0	0	0	0	0	0	2	6	0	10	0	6	0	58
07:15 AM	3	12	0	0	0	0	0	0	0	11	6	0	11	0	14	0	57
07:30 AM	5	14	0	0	0	0	0	0	0	6	11	0	10	0	2	0	48
07:45 AM	4	4	0	0	0	0	0	0	0	3	11	0	8	0	8	0	38
Total	33	43	0	0	0	0	0	0	0	22	34	0	39	0	30	0	201
08:00 AM	3	6	0	0	0	0	0	0	0	13	9	0	4	0	5	0	40
08:15 AM	3	6	0	0	0	0	0	0	0	11	5	0	10	0	10	0	45
Grand Total	55	64	0	0	0	0	0	0	0	49	62	0	71	0	46	0	347
Apprch %	46.2	53.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.1	55.9	0.0	60.7	0.0	39.3	0.0	
Total %	15.9	18.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.1	17.9	0.0	20.5	0.0	13.3	0.0	

LSC Transportation Consultants Inc.
Intersection Counts

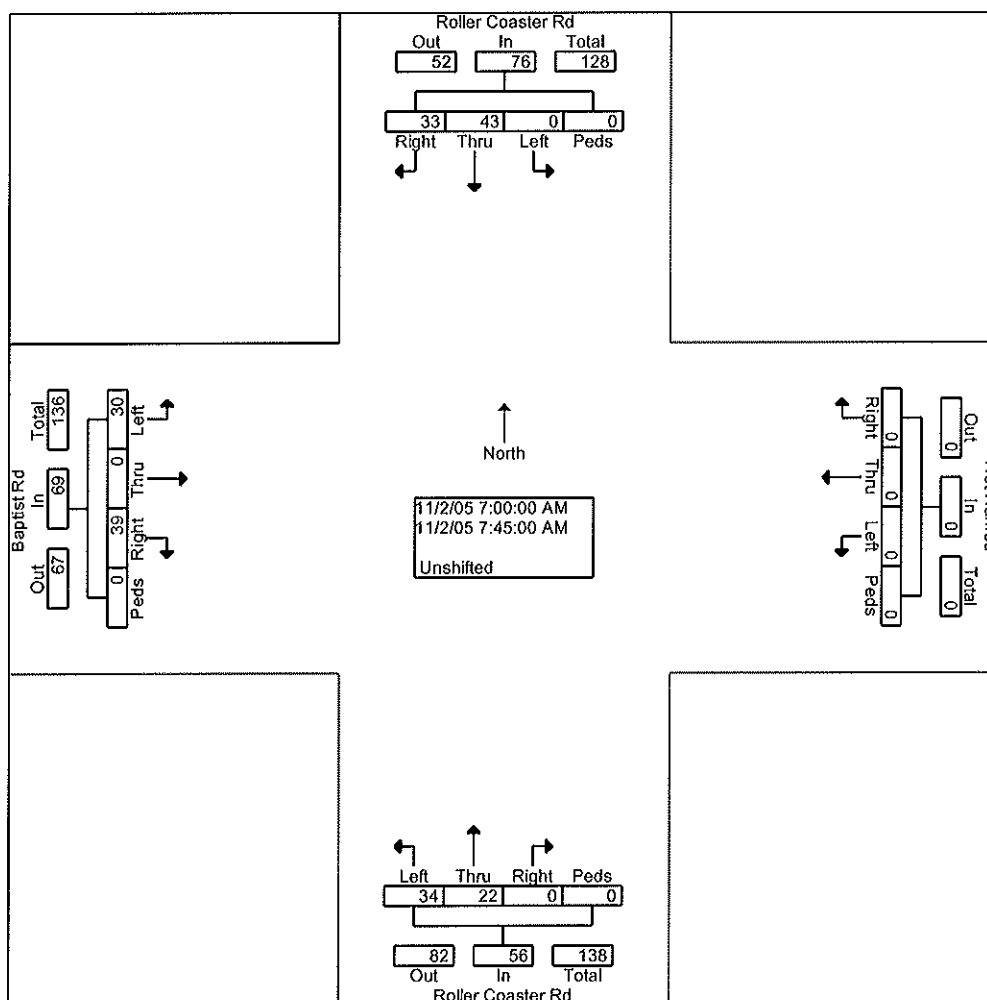
File Name : Roller Coaster 2

Site Code : 01102051

Start Date : 11/02/2005

Page No : 2

	Roller Coaster Rd North					East					Roller Coaster Rd South					Baptist Rd West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:00 AM																				
Volume	33	43	0	0	76	0	0	0	0	0	0	22	34	0	56	39	0	30	0	69	201
Percent	43.4	56.6	0.0	0.0		0.0	0.0	0.0	0.0		0.0	39.3	60.7	0.0		56.5	0.0	43.5	0.0		
07:00 Volume Peak Factor	21	13	0	0	34	0	0	0	0	0	0	2	6	0	8	10	0	6	0	16	58
High Int. Volume Peak Factor	21	13	0	0	34	0	0	0	0	0	0	11	6	0	17	11	0	14	0	25	0.866
					0.559										0.824					0.690	



HCM Unsignalized Intersection Capacity Analysis
4: Baptist Road & Gleneagles Drive

Sanctuary Pointe (LSC 055800)
Existing AM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	75	72	16	402	166	9
Peak Hour Factor	0.82	0.82	0.66	0.66	0.81	0.81
Hourly flow rate (vph)	91	88	24	609	205	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			179		749	91
vC1, stage 1 conf vol					91	
vC2, stage 2 conf vol					658	
vCu, unblocked vol			179		749	91
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		53	99
cM capacity (veh/h)			1396		439	966
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	91	88	24	609	205	11
Volume Left	0	0	24	0	205	0
Volume Right	0	88	0	0	0	11
cSH	1700	1700	1396	1700	439	966
Volume to Capacity	0.05	0.05	0.02	0.36	0.47	0.01
Queue Length 95th (ft)	0	0	1	0	61	1
Control Delay (s)	0.0	0.0	7.6	0.0	20.2	8.8
Lane LOS			A		C	A
Approach Delay (s)	0.0		0.3		19.6	
Approach LOS					C	
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			37.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
4: Baptist Road & Gleneagles Drive




























Sanctuary Pointe (LSC 055800)
Existing PM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	297	184	20	133	153	27
Peak Hour Factor	0.98	0.98	0.96	0.96	0.77	0.77
Hourly flow rate (vph)	303	188	21	139	199	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					Raised	
Median storage veh					1	
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			491		483	303
vC1, stage 1 conf vol					303	
vC2, stage 2 conf vol					180	
vCu, unblocked vol			491		483	303
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		67	95
cM capacity (veh/h)			1078		603	739
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	303	188	21	139	199	35
Volume Left	0	0	21	0	199	0
Volume Right	0	188	0	0	0	35
cSH	1700	1700	1078	1700	603	739
Volume to Capacity	0.18	0.11	0.02	0.08	0.33	0.05
Queue Length 95th (ft)	0	0	1	0	36	4
Control Delay (s)	0.0	0.0	8.4	0.0	13.9	10.1
Lane LOS			A		B	B
Approach Delay (s)	0.0		1.1		13.3	
Approach LOS					B	
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			31.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

4: Baptist Road & Gleneagle

Sancturay Point LSC 055800
2030 AM Peak Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.30	1.00	1.00	0.52	1.00	1.00	0.50	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	552	3539	1583	972	3539	1583	931	1863	1583	1372	1863	1583
Volume (vph)	150	370	100	30	700	45	220	30	40	55	65	280
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	158	389	105	32	737	47	232	32	42	58	68	295
RTOR Reduction (vph)	0	0	44	0	0	22	0	0	36	0	0	245
Lane Group Flow (vph)	158	389	61	32	737	25	232	32	6	58	68	50
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	58.8	51.9	51.9	52.4	48.7	48.7	22.4	13.6	13.6	14.2	9.4	9.4
Effective Green, g (s)	58.8	51.9	51.9	52.4	48.7	48.7	22.4	13.6	13.6	14.2	9.4	9.4
Actuated g/C Ratio	0.65	0.58	0.58	0.58	0.54	0.54	0.25	0.15	0.15	0.16	0.10	0.10
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	454	2041	913	599	1915	857	316	282	239	238	195	165
v/s Ratio Prot	c0.03	0.11		0.00	c0.21		c0.07	0.02		0.01	0.04	
v/s Ratio Perm	0.20		0.04	0.03		0.02	c0.11		0.00	0.03		0.03
v/c Ratio	0.35	0.19	0.07	0.05	0.38	0.03	0.73	0.11	0.03	0.24	0.35	0.30
Uniform Delay, d1	6.7	9.1	8.4	8.0	12.0	9.6	29.8	33.0	32.6	33.0	37.5	37.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.2	0.1	0.0	0.6	0.1	8.5	0.2	0.0	0.5	1.1	1.0
Delay (s)	7.2	9.3	8.5	8.0	12.6	9.7	38.3	33.2	32.6	33.5	38.5	38.3
Level of Service	A	A	A	A	B	A	D	C	C	C	D	D
Approach Delay (s)		8.6			12.2			37.0			37.7	
Approach LOS		A			B			D			D	

























Intersection Summary

HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

4: Baptist Road & Gleneagle

Sancturay Point LSC 055800
2030 PM Peak Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.46	1.00	1.00	0.32	1.00	1.00	0.51	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	848	3539	1583	605	3539	1583	951	1863	1583	1346	1863	1583
Volume (vph)	335	760	225	45	385	85	200	50	45	35	55	230
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	353	800	237	47	405	89	211	53	47	37	58	242
RTOR Reduction (vph)	0	0	102	0	0	43	0	0	39	0	0	216
Lane Group Flow (vph)	353	800	135	47	405	46	211	53	8	37	58	26
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	59.2	51.4	51.4	50.7	46.9	46.9	22.8	15.2	15.2	13.4	9.8	9.8
Effective Green, g (s)	59.2	51.4	51.4	50.7	46.9	46.9	22.8	15.2	15.2	13.4	9.8	9.8
Actuated g/C Ratio	0.66	0.57	0.57	0.56	0.52	0.52	0.25	0.17	0.17	0.15	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	643	2021	904	390	1844	825	323	315	267	217	203	172
v/s Ratio Prot	c0.05	0.23		0.01	0.11		c0.07	0.03		0.01	0.03	
v/s Ratio Perm	c0.31		0.09	0.06		0.03	c0.10		0.01	0.02		0.02
v/c Ratio	0.55	0.40	0.15	0.12	0.22	0.06	0.65	0.17	0.03	0.17	0.29	0.15
Uniform Delay, d1	6.9	10.7	9.1	8.9	11.7	10.6	28.6	32.0	31.2	33.3	36.9	36.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.6	0.4	0.1	0.3	0.1	4.7	0.3	0.0	0.4	0.8	0.4
Delay (s)	7.8	11.3	9.4	9.0	11.9	10.8	33.3	32.2	31.3	33.7	37.7	36.8
Level of Service	A	B	A	A	B	B	C	C	C	C	D	D
Approach Delay (s)		10.1			11.5			32.8			36.6	
Approach LOS		B			B			C			D	




























Intersection Summary

HCM Average Control Delay	16.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

4: Baptist Road & Gleneagle

Sancturay Point LSC 055800
2030 AM Peak Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr't	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.25	1.00	1.00	0.50	1.00	1.00	0.52	1.00	1.00	0.74	1.00	1.00
Satd. Flow (perm)	473	3539	1583	933	3539	1583	964	1863	1583	1372	1863	1583
Volume (vph)	165	410	100	35	795	45	220	30	40	55	70	325
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	174	432	105	37	837	47	232	32	42	58	74	342
RTOR Reduction (vph)	0	0	46	0	0	22	0	0	35	0	0	213
Lane Group Flow (vph)	174	432	59	37	837	25	232	32	7	58	74	129
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	57.0	50.6	50.6	51.4	47.8	47.8	23.8	15.0	15.0	15.6	10.8	10.8
Effective Green, g (s)	57.0	50.6	50.6	51.4	47.8	47.8	23.8	15.0	15.0	15.6	10.8	10.8
Actuated g/C Ratio	0.63	0.56	0.56	0.57	0.53	0.53	0.26	0.17	0.17	0.17	0.12	0.12
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	392	1990	890	566	1880	841	336	311	264	259	224	190
v/s Ratio Prot	c0.03	0.12		0.00	0.24		c0.07	0.02		0.01	0.04	
v/s Ratio Perm	c0.25		0.04	0.03		0.02	c0.11		0.00	0.03		0.08
v/c Ratio	0.44	0.22	0.07	0.07	0.45	0.03	0.69	0.10	0.03	0.22	0.33	0.68
Uniform Delay, d1	7.9	9.8	9.0	8.5	13.0	10.1	28.5	31.8	31.4	31.8	36.3	37.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.3	0.1	0.0	0.8	0.1	6.0	0.1	0.0	0.4	0.9	9.3
Delay (s)	8.7	10.1	9.1	8.5	13.7	10.1	34.5	31.9	31.4	32.2	37.2	47.2
Level of Service	A	B	A	A	B	B	C	C	C	C	D	D
Approach Delay (s)		9.6			13.3			33.8			43.8	
Approach LOS		A			B			C			D	

Intersection Summary

























HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

Sancturay Point LSC 055800

4: Baptist Road & Gleneagle

2030 PM Peak Total

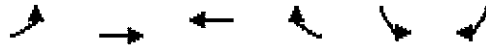
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.41	1.00	1.00	0.28	1.00	1.00	0.51	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	772	3539	1583	515	3539	1583	950	1863	1583	1340	1863	1583
Volume (vph)	390	865	225	50	450	85	200	55	50	35	60	260
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	411	911	237	53	474	89	211	58	53	37	63	274
RTOR Reduction (vph)	0	0	102	0	0	43	0	0	44	0	0	244
Lane Group Flow (vph)	411	911	135	53	474	46	211	58	9	37	63	30
Turn Type	pm+pt		Perm		pm+pt		Perm		pm+pt		Perm	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	59.1	51.3	51.3	50.5	46.7	46.7	22.9	15.3	15.3	13.5	9.9	9.9
Effective Green, g (s)	59.1	51.3	51.3	50.5	46.7	46.7	22.9	15.3	15.3	13.5	9.9	9.9
Actuated g/C Ratio	0.66	0.57	0.57	0.56	0.52	0.52	0.25	0.17	0.17	0.15	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	600	2017	902	342	1836	821	324	317	269	218	205	174
v/s Ratio Prot	c0.06	0.26		0.01	0.13		c0.07	0.03		0.01	0.03	
v/s Ratio Perm	c0.39		0.09	0.08		0.03	c0.10		0.01	0.02		0.02
v/c Ratio	0.68	0.45	0.15	0.15	0.26	0.06	0.65	0.18	0.03	0.17	0.31	0.17
Uniform Delay, d1	7.9	11.2	9.1	9.1	12.0	10.7	28.5	32.0	31.2	33.2	36.9	36.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	0.7	0.4	0.2	0.3	0.1	4.6	0.3	0.1	0.4	0.9	0.5
Delay (s)	11.1	11.9	9.4	9.3	12.4	10.9	33.2	32.3	31.2	33.6	37.7	36.8
Level of Service	B	B	A	A	B	B	C	C	C	C	D	D
Approach Delay (s)		11.3			11.9			32.7			36.7	
Approach LOS		B			B			C			D	

Intersection Summary

HCM Average Control Delay	17.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
3: Baptist Road & Kingswood

Sanctuary Pointe (LSC 055800)
Existing AM Peak



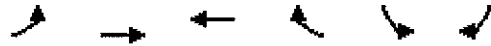
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	2	91	398	3	3	14
Peak Hour Factor	0.82	0.82	0.66	0.66	0.80	0.80
Hourly flow rate (vph)	2	111	603	5	4	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	608				721	605
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	608				721	605
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				99	97
cM capacity (veh/h)	981				396	501

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	113	608	21
Volume Left	2	0	4
Volume Right	0	5	18
cSH	981	1700	479
Volume to Capacity	0.00	0.36	0.04
Queue Length 95th (ft)	0	0	3
Control Delay (s)	0.2	0.0	12.9
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	12.9
Approach LOS			B

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		31.1%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
3: Baptist Road & Kingswood

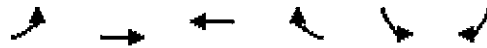
Sanctuary Pointe (LSC 055800)
Existing PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↰		↰	
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	11	408	215	2	1	10
Peak Hour Factor	0.98	0.98	0.96	0.96	0.80	0.80
Hourly flow rate (vph)	11	416	224	2	1	12
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	226				664	225
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	226				664	225
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				100	98
cM capacity (veh/h)	1354				425	819
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	428	226	14			
Volume Left	11	0	1			
Volume Right	0	2	12			
cSH	1354	1700	756			
Volume to Capacity	0.01	0.13	0.02			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	0.3	0.0	9.9			
Lane LOS	A		A			
Approach Delay (s)	0.3	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		40.3%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
15: Baptist Road & Kingswood Dr

Sancturay Point LSC 055800
2030 AM Peak Background



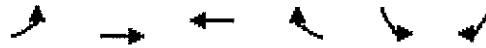
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑	↱	↰	↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	5	460	765	1	5	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	5	484	805	1	5	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		1261				
pX, platoon unblocked						
vC, conflicting volume	806				1058	403
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	806				1058	403
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	98
cM capacity (veh/h)	827				222	603

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	5	242	242	403	403	1	16
Volume Left	5	0	0	0	0	0	5
Volume Right	0	0	0	0	0	1	11
cSH	827	1700	1700	1700	1700	1700	383
Volume to Capacity	0.01	0.14	0.14	0.24	0.24	0.00	0.04
Queue Length 95th (ft)	0	0	0	0	0	0	3
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	0.0	14.8
Lane LOS	A						B
Approach Delay (s)	0.1			0.0			14.8
Approach LOS							B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
15: Baptist Road & Kingswood Dr

Sancturay Point LSC 055800
2030 PM Peak Background



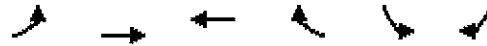
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑	↑↑	↰	↰	↰
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	10	830	505	5	5	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	11	874	532	5	5	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)		1261				
pX, platoon unblocked					0.90	
vC, conflicting volume	537				989	266
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	537				877	266
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1027				256	732

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	11	437	437	266	266	5	16
Volume Left	11	0	0	0	0	0	5
Volume Right	0	0	0	0	0	5	11
cSH	1027	1700	1700	1700	1700	1700	452
Volume to Capacity	0.01	0.26	0.26	0.16	0.16	0.00	0.04
Queue Length 95th (ft)	1	0	0	0	0	0	3
Control Delay (s)	8.5	0.0	0.0	0.0	0.0	0.0	13.3
Lane LOS	A						B
Approach Delay (s)	0.1			0.0			13.3
Approach LOS							B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
15: Baptist Road & Kingswood Dr

Sancturay Point LSC 055800
2030 AM Peak Total



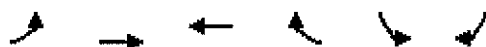
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↱↱	↱↱	↰	↰	↱↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	15	490	830	1	5	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	16	516	874	1	5	49
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)		1261				
pX, platoon unblocked						
vC, conflicting volume	875				1163	437
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	875				1163	437
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	91
cM capacity (veh/h)	780				187	573

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	16	258	258	437	437	1	54
Volume Left	16	0	0	0	0	0	5
Volume Right	0	0	0	0	0	1	49
cSH	780	1700	1700	1700	1700	1700	475
Volume to Capacity	0.02	0.15	0.15	0.26	0.26	0.00	0.11
Queue Length 95th (ft)	2	0	0	0	0	0	10
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	0.0	13.6
Lane LOS	A						B
Approach Delay (s)	0.3			0.0			13.6
Approach LOS							B

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization	32.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
15: Baptist Road & Kingswood Dr













Sancturay Point LSC 055800
2030 PM Peak Total



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↰	↱↱	↱↱	↰	↰↰		
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Volume (veh/h)	50	900	550	5	5	35	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.92	0.92	
Hourly flow rate (vph)	53	947	579	5	5	38	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		
Median storage veh							
Upstream signal (ft)		1261					
pX, platoon unblocked					0.88		
vC, conflicting volume	584				1158	289	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	584				1040	289	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)							
tF (s)	2.2				3.5	3.3	
p0 queue free %	95				97	95	
cM capacity (veh/h)	1000				191	713	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	53	474	474	289	289	5	43
Volume Left	53	0	0	0	0	0	5
Volume Right	0	0	0	0	0	5	38
cSH	1000	1700	1700	1700	1700	1700	531
Volume to Capacity	0.05	0.28	0.28	0.17	0.17	0.00	0.08
Queue Length 95th (ft)	4	0	0	0	0	0	7
Control Delay (s)	8.8	0.0	0.0	0.0	0.0	0.0	12.4
Lane LOS	A						B
Approach Delay (s)	0.5			0.0			12.4
Approach LOS							B
Intersection Summary							
Average Delay			0.6				
Intersection Capacity Utilization			34.9%		ICU Level of Service		A
Analysis Period (min)			15				













HCM Unsignalized Intersection Capacity Analysis
22: Gleneagle &

Sancturay Point LSC 055800
2030 AM Peak Background

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	10	25	235	2	55	330
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	11	26	247	2	58	347
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	711	247			249	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	711	247			249	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	97			96	
cM capacity (veh/h)	385	796			1328	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	11	26	247	2	58	347
Volume Left	11	0	0	0	58	0
Volume Right	0	26	0	2	0	0
cSH	385	796	1700	1700	1328	1700
Volume to Capacity	0.03	0.03	0.15	0.00	0.04	0.20
Queue Length 95th (ft)	2	3	0	0	3	0
Control Delay (s)	14.6	9.7	0.0	0.0	7.8	0.0
Lane LOS	B	A			A	
Approach Delay (s)	11.1		0.0		1.1	
Approach LOS	B					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			29.0%		ICU Level of Service	A
Analysis Period (min)			15			













HCM Unsignalized Intersection Capacity Analysis
23: Gleneagle &

Sancturay Point LSC 055800
2030 PM Peak Background

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	5	60	370	5	35	300
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	63	389	5	37	316
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	779	389			395	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	779	389			395	
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	90			97	
cM capacity (veh/h)	356	663			1175	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	5	63	389	5	37	316
Volume Left	5	0	0	0	37	0
Volume Right	0	63	0	5	0	0
cSH	356	663	1700	1700	1175	1700
Volume to Capacity	0.01	0.10	0.23	0.00	0.03	0.19
Queue Length 95th (ft)	1	8	0	0	2	0
Control Delay (s)	15.3	11.0	0.0	0.0	8.2	0.0
Lane LOS	C	B			A	
Approach Delay (s)	11.3		0.0		0.9	
Approach LOS	B					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			36.1%		ICU Level of Service	A
Analysis Period (min)			15			













HCM Unsignalized Intersection Capacity Analysis
22: Gleneagle &

Sancturay Point LSC 055800
2030 AM Peak Total

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	60	135	235	15	95	330
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.92
Hourly flow rate (vph)	63	142	247	16	100	359
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	806	247			263	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	806	247			263	
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	82			92	
cM capacity (veh/h)	327	796			1313	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	63	142	247	16	100	359
Volume Left	63	0	0	0	100	0
Volume Right	0	142	0	16	0	0
cSH	327	796	1700	1700	1313	1700
Volume to Capacity	0.19	0.18	0.15	0.01	0.08	0.21
Queue Length 95th (ft)	18	16	0	0	6	0
Control Delay (s)	18.6	10.5	0.0	0.0	8.0	0.0
Lane LOS	C	B			A	
Approach Delay (s)	13.0		0.0		1.7	
Approach LOS	B					
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			31.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
22: Collector & Gleneagle

























Sancturay Point LSC 055800
2030 PM Peak Total

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	40	135	370	65	155	300
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.92
Hourly flow rate (vph)	42	142	389	68	163	326
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1042	389			458	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1042	389			458	
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	79			85	
cM capacity (veh/h)	219	663			1114	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	42	142	389	68	163	326
Volume Left	42	0	0	0	163	0
Volume Right	0	142	0	68	0	0
cSH	219	663	1700	1700	1114	1700
Volume to Capacity	0.19	0.21	0.23	0.04	0.15	0.19
Queue Length 95th (ft)	17	20	0	0	13	0
Control Delay (s)	25.3	11.9	0.0	0.0	8.8	0.0
Lane LOS	D	B			A	
Approach Delay (s)	15.0		0.0		2.9	
Approach LOS	B					
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			41.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

2: Highby Road & Furrow Road

Sancturay Point LSC 055800
2030 AM Peak Background

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.54	1.00	1.00	0.64	1.00	1.00	0.67	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1007	1863	1583	1189	1863	1583	1247	1863	1583	1178	1863	1583
Volume (vph)	85	180	45	5	295	50	105	190	10	25	130	105
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	189	47	5	311	53	111	200	11	26	137	111
RTOR Reduction (vph)	0	0	34	0	0	38	0	0	6	0	0	61
Lane Group Flow (vph)	89	189	13	5	311	15	111	200	5	26	137	50
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	8.4	8.4	8.4	8.4	8.4	8.4	13.3	13.3	13.3	13.3	13.3	13.3
Effective Green, g (s)	8.4	8.4	8.4	8.4	8.4	8.4	13.3	13.3	13.3	13.3	13.3	13.3
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28	0.28	0.45	0.45	0.45	0.45	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	285	527	448	336	527	448	558	834	709	528	834	709
v/s Ratio Prot		0.10			c0.17			c0.11			0.07	
v/s Ratio Perm	0.09		0.01	0.00		0.01	0.09		0.00	0.02		0.03
v/c Ratio	0.31	0.36	0.03	0.01	0.59	0.03	0.20	0.24	0.01	0.05	0.16	0.07
Uniform Delay, d1	8.4	8.5	7.7	7.7	9.2	7.7	5.0	5.1	4.5	4.6	4.9	4.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.4	0.0	0.0	1.8	0.0	0.8	0.7	0.0	0.2	0.4	0.2
Delay (s)	9.0	8.9	7.7	7.7	10.9	7.7	5.8	5.8	4.6	4.8	5.3	4.9
Level of Service	A	A	A	A	B	A	A	A	A	A	A	A
Approach Delay (s)		8.8			10.4			5.7			5.1	
Approach LOS		A			B			A			A	

Intersection Summary

HCM Average Control Delay	7.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	29.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis 2: Highby Road & Furrow Road

Sancturay Point LSC 055800
2030 PM Peak Background

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.59	1.00	1.00	0.50	1.00	1.00	0.63	1.00	1.00	0.64	1.00	1.00
Satd. Flow (perm)	1091	1863	1583	938	1863	1583	1172	1863	1583	1200	1863	1583
Volume (vph)	80	345	120	5	270	15	70	170	5	30	195	85
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	363	126	5	284	16	74	179	5	32	205	89
RTOR Reduction (vph)	0	0	66	0	0	10	0	0	3	0	0	56
Lane Group Flow (vph)	84	363	60	5	284	6	74	179	2	32	205	33
Turn Type	Perm		Perm		Perm		Perm		Perm		Perm	
Protected Phases			4				8		2		6	
Permitted Phases	4		4		8		8		2		6	
Actuated Green, G (s)	11.3	11.3	11.3	11.3	11.3	11.3	11.2	11.2	11.2	11.2	11.2	11.2
Effective Green, g (s)	11.3	11.3	11.3	11.3	11.3	11.3	11.2	11.2	11.2	11.2	11.2	11.2
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	404	690	586	348	690	586	430	684	581	441	684	581
v/s Ratio Prot	c0.19				0.15				0.10		c0.11	
v/s Ratio Perm	0.08		0.04		0.01		0.00		0.06		0.00	
v/c Ratio	0.21	0.53	0.10	0.01	0.41	0.01	0.17	0.26	0.00	0.07	0.30	0.06
Uniform Delay, d1	6.5	7.5	6.3	6.1	7.1	6.1	6.5	6.8	6.1	6.3	6.9	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.7	0.1	0.0	0.4	0.0	0.9	0.9	0.0	0.3	1.1	0.2
Delay (s)	6.8	8.2	6.4	6.1	7.5	6.1	7.4	7.7	6.1	6.6	8.0	6.4
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)	7.6				7.4				7.6		7.4	
Approach LOS	A				A				A		A	

























Intersection Summary			
HCM Average Control Delay	7.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	30.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

2: Highby Road & Furrow Road

Sancturay Point LSC 055800

2030 AM Peak Total

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.54	1.00	1.00	0.64	1.00	1.00	0.66	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	1007	1863	1583	1189	1863	1583	1223	1863	1583	1122	1863	1583
Volume (vph)	85	180	65	5	295	50	155	240	40	25	150	105
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	89	189	68	5	311	53	163	253	42	26	158	111
RTOR Reduction (vph)	0	0	49	0	0	38	0	0	23	0	0	61
Lane Group Flow (vph)	89	189	19	5	311	15	163	253	19	26	158	50
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	8.4	8.4	8.4	8.4	8.4	8.4	13.3	13.3	13.3	13.3	13.3	13.3
Effective Green, g (s)	8.4	8.4	8.4	8.4	8.4	8.4	13.3	13.3	13.3	13.3	13.3	13.3
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28	0.28	0.45	0.45	0.45	0.45	0.45	0.45
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	285	527	448	336	527	448	548	834	709	502	834	709
v/s Ratio Prot		0.10			0.17			0.14			0.08	
v/s Ratio Perm	0.09		0.01	0.00		0.01	0.13		0.01	0.02		0.03
v/c Ratio	0.31	0.36	0.04	0.01	0.59	0.03	0.30	0.30	0.03	0.05	0.19	0.07
Uniform Delay, d1	8.4	8.5	7.7	7.7	9.2	7.7	5.2	5.2	4.6	4.6	4.9	4.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.4	0.0	0.0	1.8	0.0	1.4	0.9	0.1	0.2	0.5	0.2
Delay (s)	9.0	8.9	7.8	7.7	10.9	7.7	6.6	6.2	4.7	4.8	5.5	4.9
Level of Service	A	A	A	A	B	A	A	A	A	A	A	A
Approach Delay (s)		8.7			10.4			6.2			5.2	
Approach LOS		A			B			A			A	

























Intersection Summary

HCM Average Control Delay	7.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	29.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

2: Highby Road & Furrow Road

Sancturay Point LSC 055800
2030 PM Peak Total

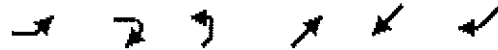
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.59	1.00	1.00	0.50	1.00	1.00	0.60	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	1091	1863	1583	940	1863	1583	1112	1863	1583	1161	1863	1583
Volume (vph)	80	345	175	15	270	15	105	205	20	30	250	85
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	84	363	184	16	284	16	111	216	21	32	263	89
RTOR Reduction (vph)	0	0	33	0	0	10	0	0	13	0	0	57
Lane Group Flow (vph)	84	363	151	16	284	6	111	216	8	32	263	32
Turn Type	Perm		Perm	Perm	Perm		Perm	Perm	Perm		Perm	Perm
Protected Phases	4				8				2			
Permitted Phases	4		4	8	8		2		2		6	6
Actuated Green, G (s)	11.5	11.5	11.5	11.5	11.5	11.5	11.2	11.2	11.2	11.2	11.2	11.2
Effective Green, g (s)	11.5	11.5	11.5	11.5	11.5	11.5	11.2	11.2	11.2	11.2	11.2	11.2
Actuated g/C Ratio	0.37	0.37	0.37	0.37	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	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	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	409	698	593	352	698	593	406	680	578	424	680	578
v/s Ratio Prot	c0.19				0.15				0.12			c0.14
v/s Ratio Perm	0.08		0.10	0.02		0.00	0.10		0.00	0.03		0.02
v/c Ratio	0.21	0.52	0.26	0.05	0.41	0.01	0.27	0.32	0.01	0.08	0.39	0.06
Uniform Delay, d1	6.5	7.5	6.6	6.1	7.1	6.0	6.9	7.0	6.2	6.4	7.2	6.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.7	0.2	0.1	0.4	0.0	1.7	1.2	0.0	0.3	1.7	0.2
Delay (s)	6.8	8.2	6.9	6.2	7.5	6.0	8.5	8.2	6.3	6.7	8.9	6.5
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)	7.6				7.3				8.2			8.1
Approach LOS	A				A				A			A

Intersection Summary

HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	30.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis
19: Collector & Baptist Road

Sancturay Point LSC 055800
2030 AM Peak Background



Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↰	↱	↰	↑	↑	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	5	250	350	20	55	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	5	263	368	21	58	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	816	58	68			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	816	58	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 %	98	74	76			
cM capacity (veh/h)	266	1014	1546			

Direction, Lane #	EB 1	EB 2	NE 1	NE 2	SW 1	SW 2
Volume Total	5	263	368	21	58	11
Volume Left	5	0	368	0	0	0
Volume Right	0	263	0	0	0	11
cSH	266	1014	1546	1700	1700	1700
Volume to Capacity	0.02	0.26	0.24	0.01	0.03	0.01
Queue Length 95th (ft)	2	26	23	0	0	0
Control Delay (s)	18.8	9.8	8.1	0.0	0.0	0.0
Lane LOS	C	A	A			
Approach Delay (s)	10.0		7.6		0.0	
Approach LOS	A					

Intersection Summary						
Average Delay		7.8				
Intersection Capacity Utilization		36.1%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
19: Collector & Baptist Road

Sancturay Point LSC 055800
2030 PM Peak Background



Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	←	→	←	↑	↑	→
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	35	5	10	425	250	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	37	5	11	447	263	68
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	732	263	332			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	732	263	332			
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	99	99			
cM capacity (veh/h)	388	780	1239			
Direction, Lane #	EB 1	EB 2	NE 1	NE 2	SW 1	SW 2
Volume Total	37	5	11	447	263	68
Volume Left	37	0	11	0	0	0
Volume Right	0	5	0	0	0	68
cSH	388	780	1239	1700	1700	1700
Volume to Capacity	0.09	0.01	0.01	0.26	0.15	0.04
Queue Length 95th (ft)	8	1	1	0	0	0
Control Delay (s)	15.2	9.6	7.9	0.0	0.0	0.0
Lane LOS	C	A	A			
Approach Delay (s)	14.5		0.2		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			32.4%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
19: Collector & Baptist Road

Sancturay Point LSC 055800
2030 AM Peak Total



Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↰	↱	↰	↱	↱	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	185	75	35	250	350	70
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	195	79	37	263	368	74
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	705	368	442			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	705	368	442			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	50	88	97			
cM capacity (veh/h)	392	682	1129			
Direction, Lane #	EB 1	EB 2	NE 1	NE 2	SW 1	SW 2
Volume Total	195	79	37	263	368	74
Volume Left	195	0	37	0	0	0
Volume Right	0	79	0	0	0	74
cSH	392	682	1129	1700	1700	1700
Volume to Capacity	0.50	0.12	0.03	0.15	0.22	0.04
Queue Length 95th (ft)	67	10	3	0	0	0
Control Delay (s)	22.9	11.0	8.3	0.0	0.0	0.0
Lane LOS	C	B	A			
Approach Delay (s)	19.4		1.0		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			5.5			
Intersection Capacity Utilization			42.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
19: Collector & Baptist Road

Sancturay Point LSC 055800
2030 PM Peak Total



Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↰	↱	↰	↱	↱	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	115	50	80	425	250	210
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.92
Hourly flow rate (vph)	125	54	87	447	263	228
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	884	263	491			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	884	263	491			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	57	93	92			
cM capacity (veh/h)	293	780	1082			
Direction, Lane #	EB 1	EB 2	NE 1	NE 2	SW 1	SW 2
Volume Total	125	54	87	447	263	228
Volume Left	125	0	87	0	0	0
Volume Right	0	54	0	0	0	228
cSH	293	780	1082	1700	1700	1700
Volume to Capacity	0.43	0.07	0.08	0.26	0.15	0.13
Queue Length 95th (ft)	51	6	7	0	0	0
Control Delay (s)	26.2	10.0	8.6	0.0	0.0	0.0
Lane LOS	D	A	A			
Approach Delay (s)	21.3		1.4		0.0	
Approach LOS	C					
Intersection Summary						
Average Delay			3.8			
Intersection Capacity Utilization			35.4%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
9: Baptist & Rollercoaster

Sanctuary Pointe (LSC 055800)
Existing AM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	30	39	34	22	43	33
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	40	52	45	29	57	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	199	79	101			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	199	79	101			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	95	97			
cM capacity (veh/h)	768	984	1497			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	92	75	101			
Volume Left	40	45	0			
Volume Right	52	0	44			
cSH	876	1497	1700			
Volume to Capacity	0.10	0.03	0.06			
Queue Length 95th (ft)	9	2	0			
Control Delay (s)	9.6	4.6	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.6	4.6	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			4.6			
Intersection Capacity Utilization			20.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
9: Baptist & Rollercoaster

Sanctuary Pointe (LSC 055800)
Existing PM Peak



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT			↑	↑	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	24	46	48	55	35	41
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	32	61	64	73	47	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	275	74	101			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275	74	101			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	95	94	96			
cM capacity (veh/h)	686	990	1497			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	93	137	101			
Volume Left	32	64	0			
Volume Right	61	0	55			
cSH	860	1497	1700			
Volume to Capacity	0.11	0.04	0.06			
Queue Length 95th (ft)	9	3	0			
Control Delay (s)	9.7	3.7	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.7	3.7	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		4.2				
Intersection Capacity Utilization		23.0%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
10: Highby Road & East Collector Road

Sancturay Point LSC 055800
2030 AM Peak Background

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	175	5	45	300	5	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	190	5	49	326	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			196		614	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		614	190
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	98
cM capacity (veh/h)			1377		439	852
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	190	5	49	326	5	16
Volume Left	0	0	49	0	5	0
Volume Right	0	5	0	0	0	16
cSH	1700	1700	1377	1700	439	852
Volume to Capacity	0.11	0.00	0.04	0.19	0.01	0.02
Queue Length 95th (ft)	0	0	3	0	1	1
Control Delay (s)	0.0	0.0	7.7	0.0	13.3	9.3
Lane LOS			A		B	A
Approach Delay (s)	0.0		1.0		10.3	
Approach LOS					B	
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			25.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
10: Highby Road & East Collector Road

Sancturay Point LSC 055800
2030 PM Peak Background

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	175	5	45	300	5	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	190	5	49	326	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			196		614	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		614	190
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	98
cM capacity (veh/h)			1377		439	852
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	190	5	49	326	5	16
Volume Left	0	0	49	0	5	0
Volume Right	0	5	0	0	0	16
cSH	1700	1700	1377	1700	439	852
Volume to Capacity	0.11	0.00	0.04	0.19	0.01	0.02
Queue Length 95th (ft)	0	0	3	0	1	1
Control Delay (s)	0.0	0.0	7.7	0.0	13.3	9.3
Lane LOS			A		B	A
Approach Delay (s)	0.0		1.0		10.3	
Approach LOS					B	
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			25.9%		ICU Level of Service	A
Analysis Period (min)			15			







HCM Unsignalized Intersection Capacity Analysis
10: Highby Road & East Collector Road

Sancturay Point LSC 055800
2030 AM Peak Total

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↙	↑	↙	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	175	5	45	300	5	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	190	5	49	326	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			196		614	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		614	190
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	98
cM capacity (veh/h)			1377		439	852
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	190	5	49	326	5	16
Volume Left	0	0	49	0	5	0
Volume Right	0	5	0	0	0	16
cSH	1700	1700	1377	1700	439	852
Volume to Capacity	0.11	0.00	0.04	0.19	0.01	0.02
Queue Length 95th (ft)	0	0	3	0	1	1
Control Delay (s)	0.0	0.0	7.7	0.0	13.3	9.3
Lane LOS			A		B	A
Approach Delay (s)	0.0		1.0		10.3	
Approach LOS					B	
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			25.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
10: Highby Road & East Collector Road

Sancturay Point LSC 055800
2030 PM Peak Total

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	175	5	45	300	5	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	190	5	49	326	5	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			196		614	190
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			196		614	190
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	98
cM capacity (veh/h)			1377		439	852
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	190	5	49	326	5	16
Volume Left	0	0	49	0	5	0
Volume Right	0	5	0	0	0	16
cSH	1700	1700	1377	1700	439	852
Volume to Capacity	0.11	0.00	0.04	0.19	0.01	0.02
Queue Length 95th (ft)	0	0	3	0	1	1
Control Delay (s)	0.0	0.0	7.7	0.0	13.3	9.3
Lane LOS			A		B	A
Approach Delay (s)	0.0		1.0		10.3	
Approach LOS					B	
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			25.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: Highby Road & Fairplay Drive

Sanctuary Pointe (LSC 055800)
Existing AM Peak



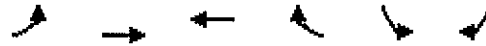
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	11	30	174	1	3	28
Peak Hour Factor	0.64	0.64	0.83	0.83	0.65	0.65
Hourly flow rate (vph)	17	47	210	1	5	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	211				291	210
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	211				291	210
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				99	95
cM capacity (veh/h)	1372				695	835

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	64	211	48
Volume Left	17	0	5
Volume Right	0	1	43
cSH	1372	1700	819
Volume to Capacity	0.01	0.12	0.06
Queue Length 95th (ft)	1	0	5
Control Delay (s)	2.1	0.0	9.7
Lane LOS	A		A
Approach Delay (s)	2.1	0.0	9.7
Approach LOS			A

Intersection Summary			
Average Delay		1.9	
Intersection Capacity Utilization		21.2%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
1: Highby Road & Fairplay Drive

Sanctuary Pointe (LSC 055800)
Existing PM Peak



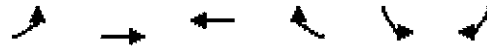
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	16	90	56	6	12	10
Peak Hour Factor	0.80	0.80	0.71	0.71	0.61	0.61
Hourly flow rate (vph)	20	112	79	8	20	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	87				236	83
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	87				236	83
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				97	98
cM capacity (veh/h)	1521				747	982

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	132	87	36
Volume Left	20	0	20
Volume Right	0	8	16
cSH	1521	1700	838
Volume to Capacity	0.01	0.05	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	1.2	0.0	9.5
Lane LOS	A		A
Approach Delay (s)	1.2	0.0	9.5
Approach LOS			A

Intersection Summary			
Average Delay		2.0	
Intersection Capacity Utilization		22.3%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
1: Highby Road & Fairplay Drive

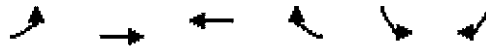
Sancturay Point LSC 055800
2030 AM Peak Background



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↰		↰	↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	290	430	10	10	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	315	467	11	11	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)			1205			
pX, platoon unblocked						
vC, conflicting volume	478				832	473
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	478				832	473
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				97	93
cM capacity (veh/h)	1084				332	591
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	22	315	478	11	43	
Volume Left	22	0	0	11	0	
Volume Right	0	0	11	0	43	
cSH	1084	1700	1700	332	591	
Volume to Capacity	0.02	0.19	0.28	0.03	0.07	
Queue Length 95th (ft)	2	0	0	3	6	
Control Delay (s)	8.4	0.0	0.0	16.2	11.6	
Lane LOS	A			C	B	
Approach Delay (s)	0.5		0.0	12.5		
Approach LOS				B		
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			33.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
1: Highby Road & Fairplay Drive

Sancturay Point LSC 055800
2030 PM Peak Background



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↰		↰	↱
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	290	430	10	10	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	315	467	11	11	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)			1205			
pX, platoon unblocked						
vC, conflicting volume	478				832	473
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	478				832	473
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				97	93
cM capacity (veh/h)	1084				332	591
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	22	315	478	11	43	
Volume Left	22	0	0	11	0	
Volume Right	0	0	11	0	43	
cSH	1084	1700	1700	332	591	
Volume to Capacity	0.02	0.19	0.28	0.03	0.07	
Queue Length 95th (ft)	2	0	0	3	6	
Control Delay (s)	8.4	0.0	0.0	16.2	11.6	
Lane LOS	A			C	B	
Approach Delay (s)	0.5		0.0	12.5		
Approach LOS				B		
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			33.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: Highby Road & Fairplay Drive

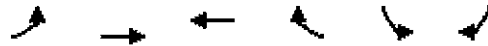
Sancturay Point LSC 055800
2030 AM Peak Total



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↰		↰	↰
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	290	430	10	10	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	315	467	11	11	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)			1205			
pX, platoon unblocked						
vC, conflicting volume	478				832	473
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	478				832	473
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				97	93
cM capacity (veh/h)	1084				332	591
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2	
Volume Total	22	315	478	11	43	
Volume Left	22	0	0	11	0	
Volume Right	0	0	11	0	43	
cSH	1084	1700	1700	332	591	
Volume to Capacity	0.02	0.19	0.28	0.03	0.07	
Queue Length 95th (ft)	2	0	0	3	6	
Control Delay (s)	8.4	0.0	0.0	16.2	11.6	
Lane LOS	A			C	B	
Approach Delay (s)	0.5		0.0	12.5		
Approach LOS				B		
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			33.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
1: Highby Road & Fairplay Drive

Sancturay Point LSC 055800
2030 PM Peak Total















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑	↰		↰	↰
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	20	290	430	10	10	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	315	467	11	11	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)			1205			
pX, platoon unblocked						
vC, conflicting volume	478				832	473
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	478				832	473
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				97	93
cM capacity (veh/h)	1084				332	591

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	22	315	478	11	43
Volume Left	22	0	0	11	0
Volume Right	0	0	11	0	43
cSH	1084	1700	1700	332	591
Volume to Capacity	0.02	0.19	0.28	0.03	0.07
Queue Length 95th (ft)	2	0	0	3	6
Control Delay (s)	8.4	0.0	0.0	16.2	11.6
Lane LOS	A			C	B
Approach Delay (s)	0.5		0.0	12.5	
Approach LOS				B	

Intersection Summary					
Average Delay		1.0			
Intersection Capacity Utilization		33.2%		ICU Level of Service	A
Analysis Period (min)		15			













HCM Unsignalized Intersection Capacity Analysis 3: East Collector Road & Furrow Road

Sancturay Point LSC 055800
2030 AM Peak Background

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	45	0	240	15	0	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	0	261	16	0	217
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	478	261			277	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	478	261			277	
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)	546	778			1286	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	49	0	261	16	0	217
Volume Left	49	0	0	0	0	0
Volume Right	0	0	0	16	0	0
cSH	546	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.00	0.15	0.01	0.00	0.13
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	12.2		0.0		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			22.6%		ICU Level of Service	A
Analysis Period (min)			15			













HCM Unsignalized Intersection Capacity Analysis
3: East Collector Road & Furrow Road

Sancturay Point LSC 055800
2030 PM Peak Background

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	45	0	240	15	0	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	0	261	16	0	217
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	478	261			277	
vC1, stage 1 conf vol						
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cSH	546	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.00	0.15	0.01	0.00	0.13
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	12.2		0.0		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			22.6%		ICU Level of Service	A
Analysis Period (min)			15			













HCM Unsignalized Intersection Capacity Analysis
3: East Collector Road & Furrow Road

Sancturay Point LSC 055800
2030 AM Peak Total

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	45	0	240	15	0	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	0	261	16	0	217
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	478	261			277	
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Volume Left	49	0	0	0	0	0
Volume Right	0	0	0	16	0	0
cSH	546	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.00	0.15	0.01	0.00	0.13
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	12.2		0.0		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			22.6%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
3: East Collector Road & Furrow Road

Sancturay Point LSC 055800
2030 PM Peak Total

						
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Lane Configurations						
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Volume (veh/h)	45	0	240	15	0	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	49	0	261	16	0	217
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	478	261			277	
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vC2, stage 2 conf vol						
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Volume Right	0	0	0	16	0	0
cSH	546	1700	1700	1700	1700	1700
Volume to Capacity	0.09	0.00	0.15	0.01	0.00	0.13
Queue Length 95th (ft)	7	0	0	0	0	0
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	12.2		0.0		0.0	
Approach LOS	B					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			22.6%		ICU Level of Service	A
Analysis Period (min)			15			