Focused Traffic Impact Study

For The Proposed

Palizada KB Homes Development

On Monroe Street

Prepared for Submittal to

City of La Quinta

June 2, 2006

Prepared by

ALBERT GROVER & ASSOCIATES

TRANSPORTATION CONSULTING ENGINEERS

ALBERT GROVER & ASSOCIATES

June 2, 2006

Gary H. Werner, Project Manager
KB Home – Desert Division
77-933 Las Mantanas Road, Suite 101
Palm Desert, California 92211

RE: Focused Traffic Impact Study for the Proposed Palizada KB Homes Development on Monroe Street

Dear Mr. Werner:

Pursuant to your request, Albert Grover & Associates (AGA) has conducted a focused traffic study relative to the proposed build-out of 320 single-family detached homes located on the east side of Monroe Street between 60th Avenue and 61st Avenue in the City of La Quinta (see Attachment A).

The purpose of the study was to evaluate the traffic and circulation to determine what, if any, improvements/modifications will be required due to anticipated increase in traffic in the immediate vicinity of the project's main entrance on Monroe Street at Split Rock Drive (Ortega Hills Way). The intersections analyzed in this study are: (1) Monroe Street at 60th Avenue, and (2) Monroe Street at Split Rock Drive (Ortega Hills Way). Both intersections are unsignalized. Monroe Street at 60th Avenue is a four-way stop-controlled intersection, and Monroe Street at Split Rock Drive (Ortega Hills Way) only has stop-control on Split Rock Drive. The study was conducted for Existing Year 2006 traffic conditions and Opening Day Year 2008 traffic conditions both "with" and "without" the proposed project.

This study is based on the site plans provided; the Riverside County Transportation Department Traffic Impact Analysis Preparation Guide, which is utilized by the City of La Quinta to detail requirements of traffic studies; the La Quinta General Plan Circulation Element; and the Northeast Corner (NEC) Monroe Street at 60th Avenue Focused Traffic Review (for details required for the cumulative project analyses). As part of this study, the following tasks were conducted:

- Weekday turning movement counts were collected for the AM peak hour (6:45-8:45 AM) and PM peak hour (4:00-6:00 PM) at the intersection of Monroe Street at 60th Avenue. They show the weekday PM peak hour to be the highest volume time period. The turning movement counts (see Attachment B) were used in determining the Existing Year 2006 Conditions Level of Service (LOS) Analysis for Monroe Street at 60th Avenue.

- Weekday 24-hour traffic count data was collected on Monroe Street, between 60th Avenue and 61st Avenue near the project site (see Attachment C). The count data for Monroe Street shows that the southbound traffic peaks during both the AM and PM peak hours, and that the northbound direction peaks during the PM peak hour. Both directions peaking during the PM peak hour also shows that the weekday PM peak hour is the most significant peak period.

Project Description

The proposed project (Palizada KB Homes Development) consists of 320 single-family detached homes located on the east side of Monroe Street between 60th Avenue and 61st Avenue in the City of La Quinta (see Attachment A). The project site shows three access points with primary access provided at Monroe Street via Split Rock Drive (Ortega Hills Way), and secondary accesses provided on both 60th Avenue and 61st Avenue. Project trip generation was developed using the Institute of Transportation Engineers (ITE) 7th Edition trip generation rates. Trips attributable to the proposed 320 single-family detached homes are shown below in Table 1:

Table 1. Project Trip Generation

Land Use	Quantity	CODE	AM Peak Hour		PM Peak Hour	
			IN	OUT	IN	OUT
Single-Family Detached Housing	320 DU	ITE 210	60	180	204	120

Project trip distribution is based on existing traffic patterns along Monroe Street and also reflects the City-anticipated increase in usage of 60th Avenue and Madison Street to the west of Monroe Street due to new development already in-place in these areas (see Attachment D). Projected AM and PM peak hour project trips relative to the project site are shown in Attachment E.

Analysis Methodology

As stated earlier, the study evaluated three scenarios: (1) Existing Year 2006 conditions, (2) Opening Day Year 2008 Without Project Conditions, and (3) Opening Day Year 2008 With Project Conditions for the weekday AM and PM peak hours.

Existing Year 2006 Conditions

The Monroe Street/60th Avenue intersection is four-way stop-controlled with single-lane approaches for all except for the west leg (eastbound approach), which is striped for two lanes: one shared left-turn/through lane and one exclusive right-turn lane (see Attachment F). The Monroe Street/Split Rock Drive intersection is currently a T-intersection with stop-control on the minor eastbound approach (Split Rock Drive) with single-lane approaches on all three legs. Split Rock Drive is a private gated driveway into the Shea Homes Residential Community and is only accessible to residents with transponders. Existing AM and PM peak hour traffic volumes are provided in Attachment G.

Opening Day Year 2008 Conditions

The City has planned improvements to elevate the status of both Monroe Street and 60th Avenue (west of Monroe Street) to Secondary arterials (four lanes-undivided), and to widen and restripe both streets to provide two through lanes in each direction and a median with left-turn pockets. These improvements were assumed based on City input, to be in place by Opening Day Year 2008 and reflected in Opening Day Year 2008 lane geometries at both intersections (see Attachment H). To determine the future ambient traffic growth, background traffic volumes were assumed to increase 5% per year for Opening Day Year 2008 scenarios.

Cumulative Projects

The Northeast Corner (NEC) Commercial and Residential Development located at the northeast corner of Monroe Street and 60th Avenue, is the only cumulative project that was reflected in the Opening Day Year 2008 conditions both "with" and "without project" scenarios of this traffic study (see Attachment I). Cumulative project trip volumes that access Monroe Street and 60th Avenue assume full build-out of both the commercial and residential uses as the worst-case scenario.

Opening Day Year 2008 Without Project

Opening Day Year 2008 Without Project scenario assumes the future ambient traffic growth of 5% per year, the City-planned widening and striping improvements on 60th Avenue and Monroe Street, and the Northeast Corner (NEC) Commercial and Residential Development at full build-out. Projected AM and PM peak hour volumes for Opening Day Year 2008 Without Project are provided in Attachment J.

Opening Day Year 2008 With Project

Opening Day Year 2008 With Project scenario assumes the ambient growth of 5% per year, the City-planned street improvements at 60th Avenue and Monroe Street, and the Northeast Corner (NEC) Commercial and Residential Development at full build-out with the proposed project traffic added on. Projected AM and PM peak hour volumes for Opening Day Year 2008 With Project are provided in Attachment K.

Level of Service Methodology

Intersection Level of Service (LOS) analysis was conducted per procedures defined in the 2000 Highway Capacity Manual (HCM) for unsignalized intersections.

LOS Analysis

The intersections of Monroe Street at 60th Avenue and Monroe Street at Split Rock Drive (Ortega Hills Way) both operate at Level of Service B or better during the Existing (Year 2006), Opening Day (Year 2008) Without Project, and Opening Day (Year 2008) With Project scenarios, and are listed below in Table 2.

Table 2. Intersection Level of Service (LOS)

INTERSECTION	Existing Year 2006 Conditions	Opening Day Year 2008 Without Project Conditions	Opening Day Year 2008 With Project Conditions
Weekday AM Peak Hour			
1. Monroe Street at 60th Avenue	A	A	A
2. Monroe Street at Split Rock Drive-Ortega Hills Way	A	A	B
Weekday PM Peak Hour			
1. Monroe Street at 60th Avenue	A	B	B
2. Monroe Street at Split Rock Drive-Ortega Hills Way	A	A	B

As shown above, both intersections operate at acceptable levels of service (LOS) of A or B for all Existing 2006 and Opening Day 2008 scenarios both "with" and "without" the project. Level of Service Analysis worksheets are provided in Attachment L.

Deceleration Lane Analysis

Per City requirements, we conducted right-turn and left-turn deceleration lane analyses at the project's three driveway access points. As shown previously in Attachment E, the project trip volumes making right-turns into the project site are relatively small

during both the AM and PM Peak hours and fall short of the City criteria of 50 vehicles per hour (vph) or more making a right-turn into the project at a particular driveway to require a right-turn deceleration lane.

The southbound left-turn volumes turning into the project site at the Monroe Street/Split Rock Drive (Ortega Hills Way) intersection exceed the City's criteria of 25 vph or more, with the highest volume being 184 vph during the PM peak hour, and would therefore require a left-turn deceleration lane. With a future speed limit of 50 mph (per the City), the required left-turn deceleration lane's length is 248 ft plus 150 ft of transition length. However, the City planned improvements along Monroe Street already provide a median with left-turn pockets, which should more than accommodate the southbound left-turn traffic on opening day.

Signal Warrant Analyses

Signal Warrant Analyses, based on the Peak Hour Volume Warrant were conducted for both the Monroe Street/60th Avenue intersection and the Monroe Street/Split Rock Drive (Ortega Hills Way) intersection to determine if traffic signals are warranted by opening day (see Attachment M). Analysis results show that neither intersection warrants a traffic signal for opening day either "with" or "without" the project.

Summary and Conclusions

- Level of Service analyses show that both intersections operate at an acceptable Level of Service (LOS) of A or B during Existing Year 2006, Opening Day 2008 Without Project, and Opening Day 2008 With Project scenarios for the AM and PM peak hours.

- Right-turn deceleration lanes are not required at any of the project's three driveway access points because the AM and PM peak hour project-related traffic volumes both fall short of the City's criteria of 50 vph or more making a right-turn into the project at a given driveway access point.

- A left-turn deceleration lane is required at the primary access on Monroe Street at Split Rock Drive (Ortega Hills Way) because AM and PM peak hour project-related traffic volumes exceed the City's criteria of 25 vph or more. However, the City's planned improvements to upgrade Monroe Street to a secondary arterial (four lanes-undivided) and to provide a median with left-turn pockets for this left-turn traffic on opening day.

- Both the Monroe Street/60th Avenue and Monroe Street/Split Rock Drive (Ortega Hills Way) intersections do not warrant a traffic signal during opening day conditions either "with" or "without" the project.

Please contact me, or Rob Kuehn if you have any questions.

Respectfully submitted,

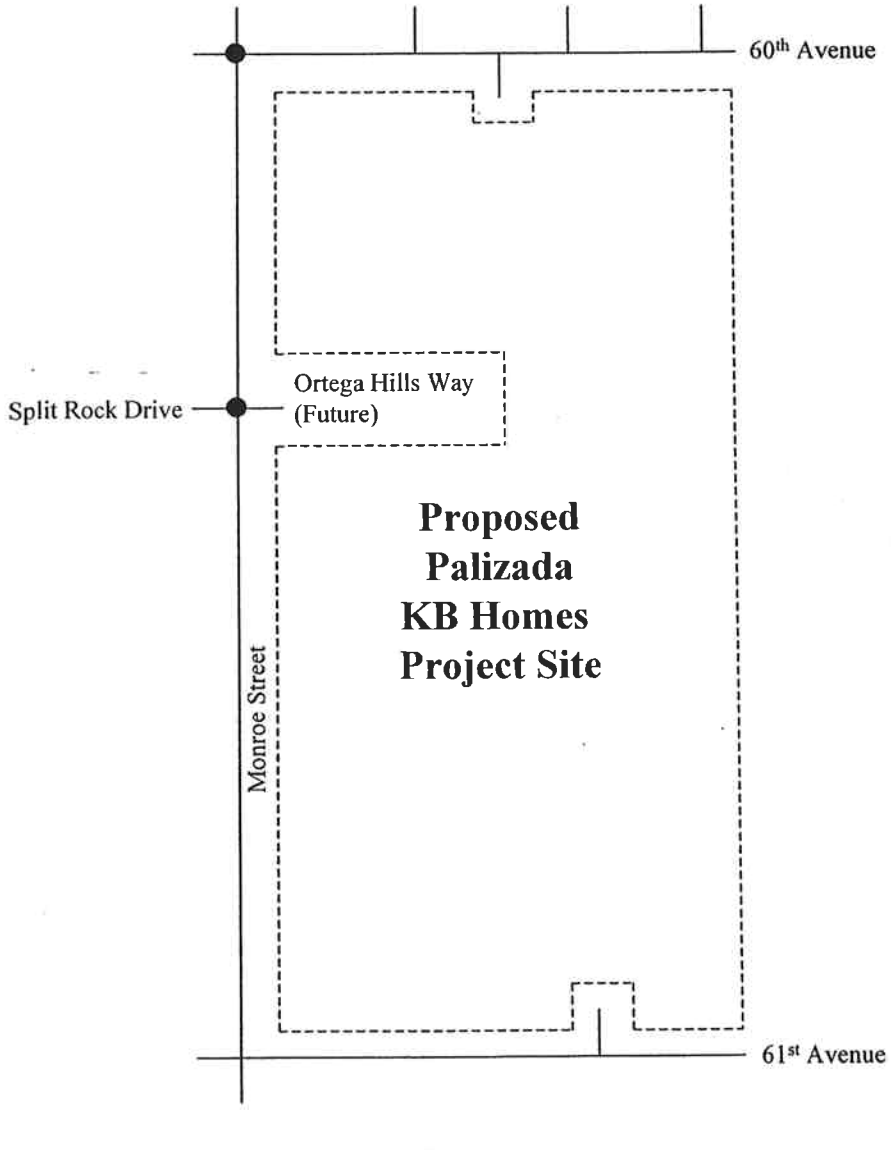
ALBERT GROVER & ASSOCIATES

David Chen
Associate Transportation Engineer

Report/PalizadaKBHomes.rpt.doc

LIST OF ATTACHMENTS

ATTACHMENTS



LEGEND:

● Intersection Analysis Locations

ALBERT GROVER & ASSOCIATES	**Project Site Location and Intersection Analysis Locations**	**ATTACHMENT A**

ATTACHMENT B

Weekday Turning Movement Counts For Monroe Street at 60th Avenue

COUNTS UNLIMITED INC.
25424 JACLYN AVENUE
MORENO VALLEY CA. 92557
951-247-6716

CITY OF LA QUINTA
N/S: MONROE STREET
E/W: 60TH AVENUE
WEATHER: SUNNY

File Name : LQMO60AM
Site Code : 0305271
Start Date : 5/18/2006
Page No : 1

Groups Printed- TOTAL VOLUME

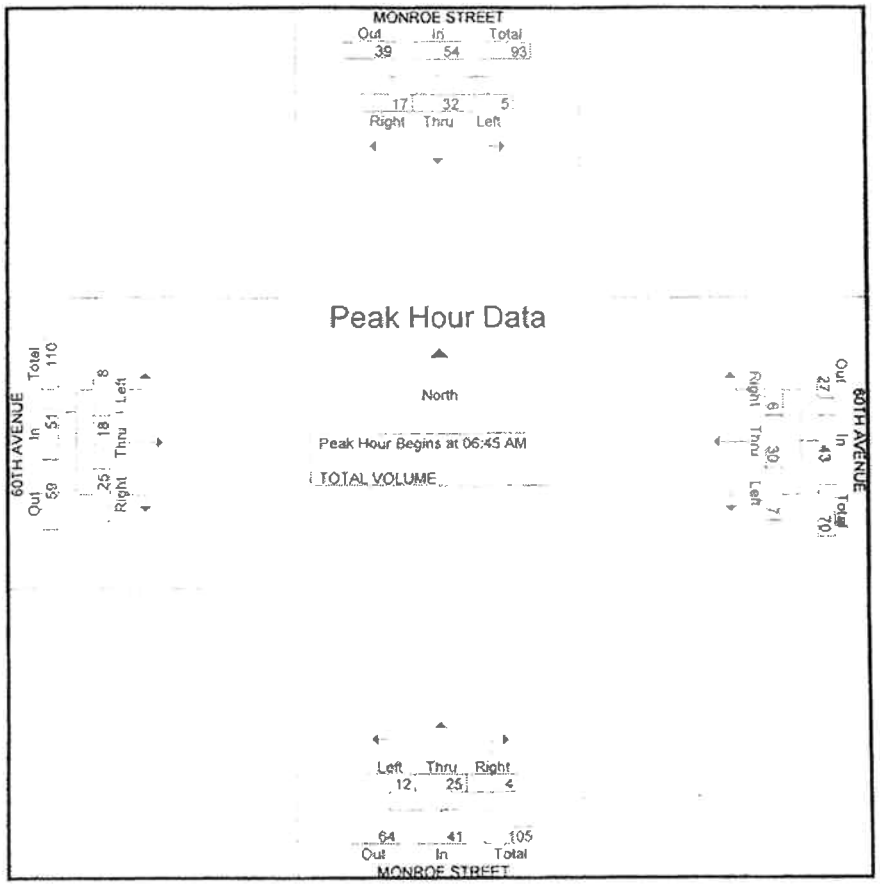
	MONROE STREET Southbound				60TH AVENUE Westbound				MONROE STREET Northbound				60TH AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45 AM	1	16	4	21	3	9	3	15	3	7	0	10	2	6	9	17	63
Total	1	16	4	21	3	9	3	15	3	7	0	10	2	6	9	17	63
07:00 AM	1	5	5	11	2	6	1	9	2	7	0	9	1	1	8	10	39
07:15 AM	2	3	5	10	1	7	1	9	3	8	0	11	3	7	6	16	46
07:30 AM	1	8	3	12	1	8	1	10	4	3	4	11	2	4	2	8	41
07:45 AM	0	8	3	11	0	10	0	10	5	5	1	11	1	5	6	12	44
Total	4	24	16	44	4	31	3	38	14	23	5	42	7	17	22	46	170
08:00 AM	1	7	2	10	0	5	3	8	2	7	1	10	0	5	5	10	38
08:15 AM	2	3	5	10	1	8	2	11	8	4	1	13	2	6	4	12	46
08:30 AM	2	7	2	11	1	5	1	7	6	5	1	12	0	0	5	5	35
Grand Total	10	57	29	96	9	58	12	79	33	46	8	87	11	34	45	90	352
Apprch %	10.4	59.4	30.2		11.4	73.4	15.2		37.9	52.9	9.2		12.2	37.8	50		
Total %	2.8	16.2	8.2	27.3	2.6	16.5	3.4	22.4	9.4	13.1	2.3	24.7	3.1	9.7	12.8	25.6	

	MONROE STREET Southbound				60TH AVENUE Westbound				MONROE STREET Northbound				60TH AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:45 AM																	
06:45 AM	1	16	4	21	3	9	3	15	3	7	0	10	2	6	9	17	63
07:00 AM	1	5	5	11	2	6	1	9	2	7	0	9	1	1	8	10	39
07:15 AM	2	3	5	10	1	7	1	9	3	8	0	11	3	7	6	16	46
07:30 AM	1	8	3	12	1	8	1	10	4	3	4	11	2	4	2	8	41
Total Volume	5	32	17	54	7	30	6	43	12	25	4	41	8	18	25	51	189
% App. Total	9.3	59.3	31.5		16.3	69.8	14		29.3	61	9.8		15.7	35.3	49		
PHF	.625	.500	.850	.643	.583	.833	.500	.717	.750	.781	.250	.932	.667	.643	.694	.750	.750

COUNTS UNLIMITED INC.
25424 JACLYN AVENUE
MORENO VALLEY CA. 92557
951-247-6716

CITY OF LA QUINTA
N/S: MONROE STREET
E/W: 60TH AVENUE
WEATHER: SUNNY

File Name : LQMO60AM
Site Code : 0305271
Start Date : 5/18/2006
Page No : 2



Peak Hour Analysis From 06:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	06:45 AM				06:45 AM				06:45 AM				06:45 AM			
+0 mins.	1	16	4	21	3	9	3	15	5	5	1	11	2	6	9	17
+15 mins.	1	5	5	11	2	6	1	9	2	7	1	10	1	1	8	10
+30 mins.	2	3	5	10	1	7	1	9	8	4	1	13	3	7	6	16
+45 mins.	1	8	3	12	1	8	1	10	6	5	1	12	2	4	2	8
Total Volume	5	32	17	54	7	30	6	43	21	21	4	46	8	18	25	51
% App. Total	9.3	59.3	31.5		16.3	69.8	14		45.7	45.7	8.7		15.7	35.3	49	
PHF	.625	.500	.850	.643	.583	.833	.500	.717	.656	.750	1.000	.885	.667	.643	.694	.750

COUNTS UNLIMITED INC.
25424 JACLYN AVENUE
MORENO VALLEY CA. 92557
951-247-6716

CITY OF LA QUINTA
N/S: MONROE STREET
E/W: 60TH AVENUE
WEATHER: SUNNY

File Name : LQMO60PM
Site Code : 0305271
Start Date : 5/18/2006
Page No : 1

Groups Printed- TOTAL VOLUME

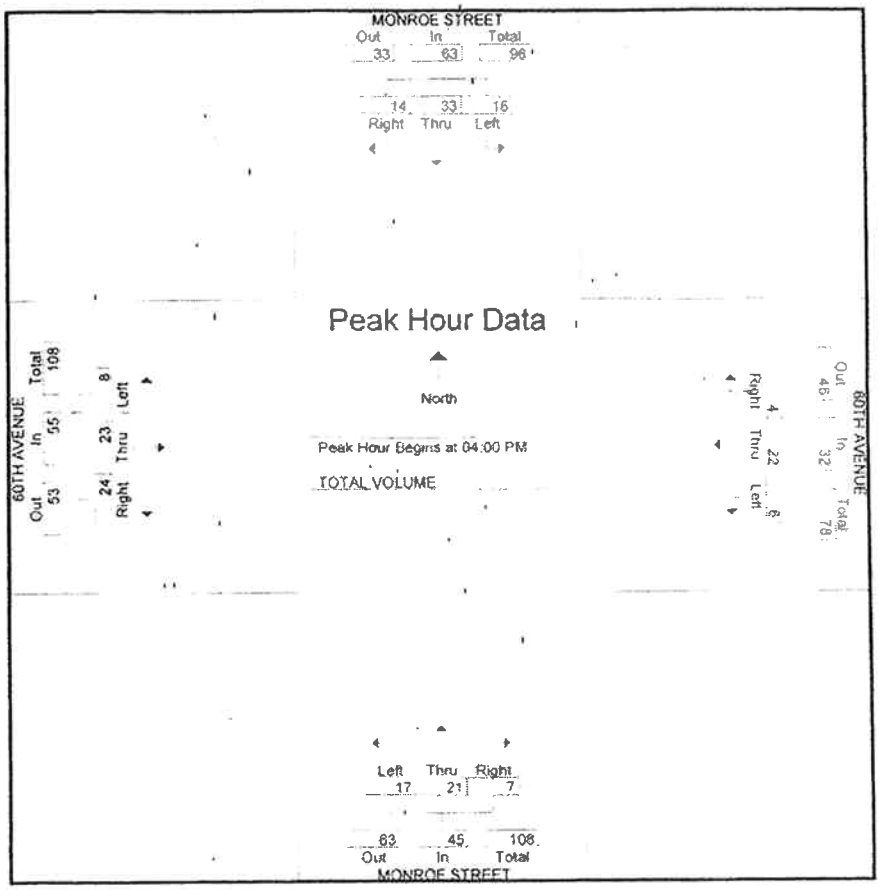
	MONROE STREET Southbound				60TH AVENUE Westbound				MONROE STREET Northbound				60TH AVENUE Eastbound				
Start Time	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Int. Total
04:00 PM	5	11	4	20	1	7	0	8	6	6	2	14	1	4	10	15	57
04:15 PM	3	9	3	15	0	4	0	4	5	4	0	9	2	8	5	15	43
04:30 PM	6	3	5	14	0	5	2	7	3	7	1	11	4	3	7	14	46
04:45 PM	2	10	2	14	5	6	2	13	3	4	4	11	1	8	2	11	49
Total	16	33	14	63	6	22	4	32	17	21	7	45	8	23	24	55	195
05:00 PM	5	6	1	12	3	9	3	15	3	3	2	8	0	6	0	6	41
05:15 PM	6	6	2	14	4	2	5	11	0	7	4	11	0	2	0	2	38
05:30 PM	1	5	1	7	2	0	0	2	1	2	5	8	2	8	0	10	27
05:45 PM	1	7	0	8	2	5	0	7	2	4	3	9	0	11	0	11	35
Total	13	24	4	41	11	16	8	35	6	16	14	36	2	27	0	29	141
Grand Total	29	57	18	104	17	38	12	67	23	37	21	81	10	50	24	84	336
Approch %	27.9	54.8	17.3		25.4	56.7	17.9		28.4	45.7	25.9		11.9	59.5	28.6		
Total %	8.6	17	5.4	31	5.1	11.3	3.6	19.9	6.8	11	6.2	24.1	3	14.9	7.1	25	

	MONROE STREET Southbound				60TH AVENUE Westbound				MONROE STREET Northbound				60TH AVENUE Eastbound				
Start Time	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Left	Thru	Right	App Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	5	11	4	20	1	7	0	8	6	6	2	14	1	4	10	15	57
04:15 PM	3	9	3	15	0	4	0	4	5	4	0	9	2	8	5	15	43
04:30 PM	6	3	5	14	0	5	2	7	3	7	1	11	4	3	7	14	46
04:45 PM	2	10	2	14	5	6	2	13	3	4	4	11	1	8	2	11	49
Total Volume	16	33	14	63	6	22	4	32	17	21	7	45	8	23	24	55	195
% App. Total	25.4	52.4	22.2		18.8	68.8	12.5		37.8	46.7	15.6		14.5	41.8	43.6		
PHF	.667	.750	.700	.788	.300	.786	.500	.615	.708	.750	.438	.804	.500	.719	.600	.917	.855

COUNTS UNLIMITED INC.
25424 JACLYN AVENUE
MORENO VALLEY CA. 92557
951-247-6716

CITY OF LA QUINTA
N/S: MONROE STREET
E/W: 60TH AVENUE
WEATHER: SUNNY

File Name : LQMO60PM
Site Code : 0305271
Start Date : 5/18/2006
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:00 PM			
+0 mins.	5	11	4	20	0	5	2	7	6	6	2	14	1	4	10	15
+15 mins.	3	9	3	15	5	6	2	13	5	4	0	9	2	8	5	15
+30 mins.	6	3	5	14	3	9	3	15	3	7	1	11	4	3	7	14
+45 mins.	2	10	2	14	4	2	5	11	3	4	4	11	1	8	2	11
Total Volume	16	33	14	63	12	22	12	46	17	21	7	45	8	23	24	55
% App. Total	25.4	52.4	22.2		26.1	47.8	26.1		37.8	46.7	15.6		14.5	41.8	43.6	
PHF	.667	.750	.700	.788	.600	.611	.600	.767	.708	.750	.438	.804	.500	.719	.600	.917

ATTACHMENT C

Weekday 24-Hour ADT Counts For Monroe Street

COUNTS UNLIMITED INC.
25424 JACLYN AVENUE
MORENO VALLEY CA. 92557
951-247-6716

LQMOSO60
Site Code: 0305235
Date Start: 18-May-06
Date End: 18-May-06

CITY OF LA QUINTA
MONROE STREET
S/O 60TH AVENUE
24 HR DIRECTIONAL VOLUME COUNT

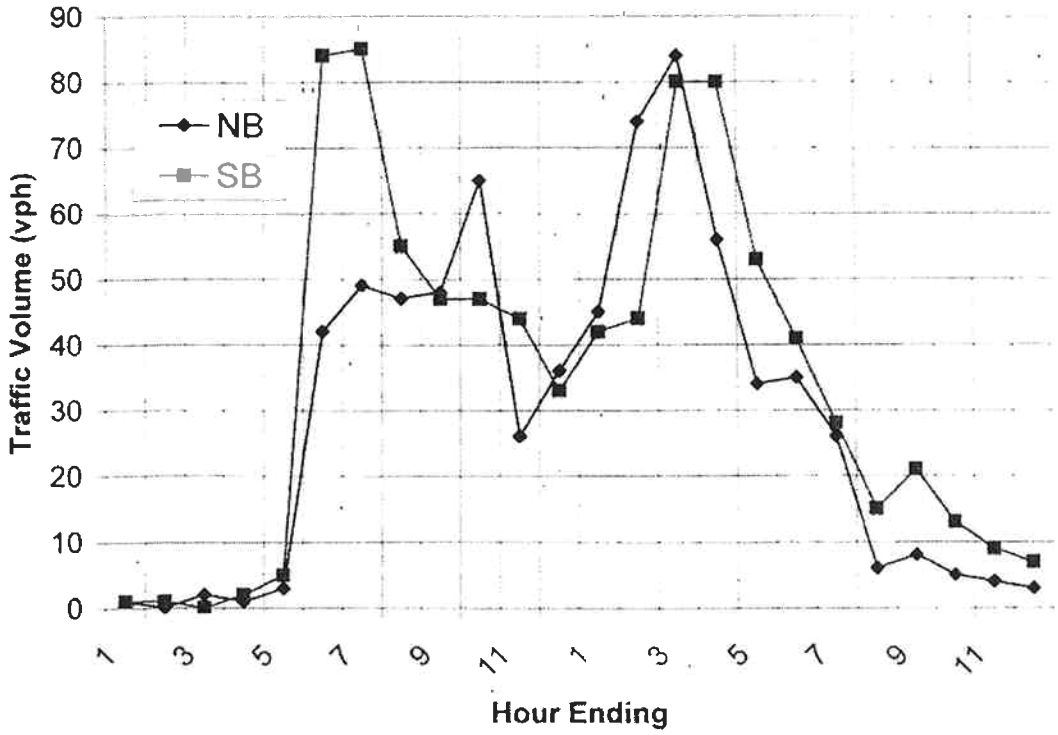
Start Time	18-May-06 Thu	NORTHBOUND Morning	NORTHBOUND Afternoon	Hour Totals Morning	Hour Totals Afternoon	SOUTHBOUND Morning	SOUTHBOUND Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		1	13			0	11				
12:15		0	12			0	10				
12:30		0	8			0	10				
12:45		0	12	1	45	1	11	1	42	2	87
01:00		0	12			1	11				
01:15		0	10			0	9				
01:30		0	19			0	8				
01:45		0	33	0	74	0	16	1	44	1	118
02:00		1	20			0	17				
02:15		1	28			0	21				
02:30		0	24			0	24				
02:45		0	12	2	84	0	18	0	80	2	164
03:00		0	11			0	28				
03:15		0	12			2	14				
03:30		1	18			0	14				
03:45		0	15	1	56	0	24	2	80	3	136
04:00		0	6			0	16				
04:15		1	14			1	9				
04:30		2	9			3	17				
04:45		0	5	3	34	1	11	5	53	8	87
05:00		10	15			6	9				
05:15		3	4			13	10				
05:30		17	8			33	9				
05:45		12	8	42	35	32	13	84	41	126	76
06:00		14	10			14	11				
06:15		13	7			27	8				
06:30		14	5			15	3				
06:45		8	4	49	26	29	6	85	28	134	54
07:00		11	3			15	4				
07:15		12	1			15	3				
07:30		12	0			11	1				
07:45		12	2	47	6	14	7	55	15	102	21
08:00		10	5			12	5				
08:15		15	1			12	10				
08:30		12	0			11	1				
08:45		11	2	48	8	12	5	47	21	95	29
09:00		13	3			12	1				
09:15		7	0			12	2				
09:30		18	2			10	6				
09:45		27	0	65	5	13	4	47	13	112	18
10:00		6	0			11	3				
10:15		7	0			8	1				
10:30		10	1			15	0				
10:45		3	3	26	4	10	5	44	9	70	13
11:00		13	1			4	1				
11:15		9	0			7	1				
11:30		5	1			11	3				
11:45		9	1	36	3	11	2	33	7	69	10
Total		320	380	320	380	404	433	404	433	724	813
Combined Total		700		700		837		837		1537	
AM Peak		09:00				05:30					
Vol.		65				106					
P.H.F.		0.602				0.803					
PM Peak			01:45				02:15				
Vol.			105				91				
P.H.F.			0.795				0.813				
Percentage		45.7%	54.3%			48.3%	51.7%				
ADT/AADT		ADT 1,537		AADT 1,537							

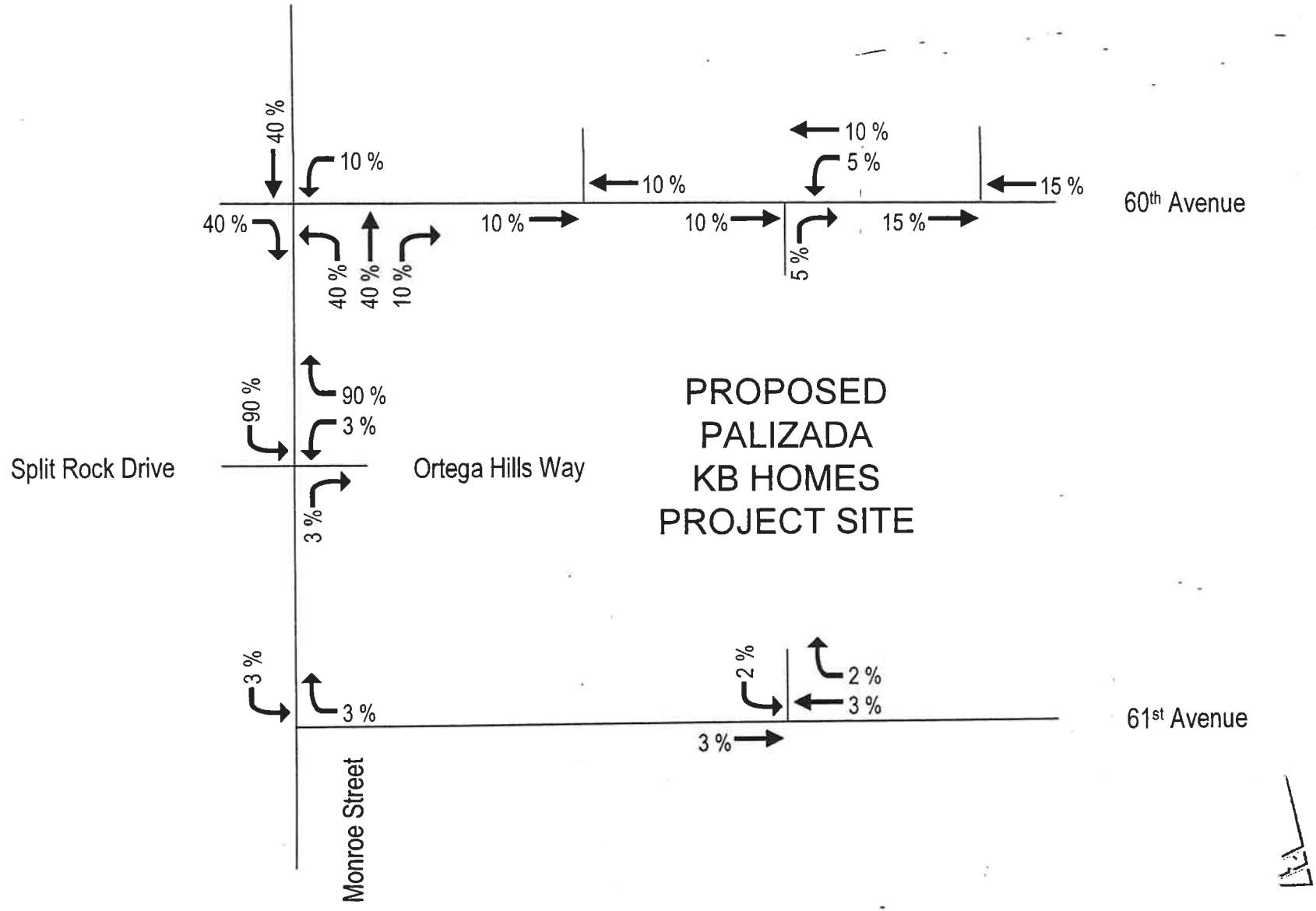
24-Hour Traffic Count Summary
MONROE STREET (SOUTH OF 60TH AVENUE)
5/18/2006

Northbound (vph)												
Hour Ending	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
AM	1	0	2	1	3	42	49	47	48	65	26	36
PM	45	74	84	56	34	35	26	6	8	5	4	3

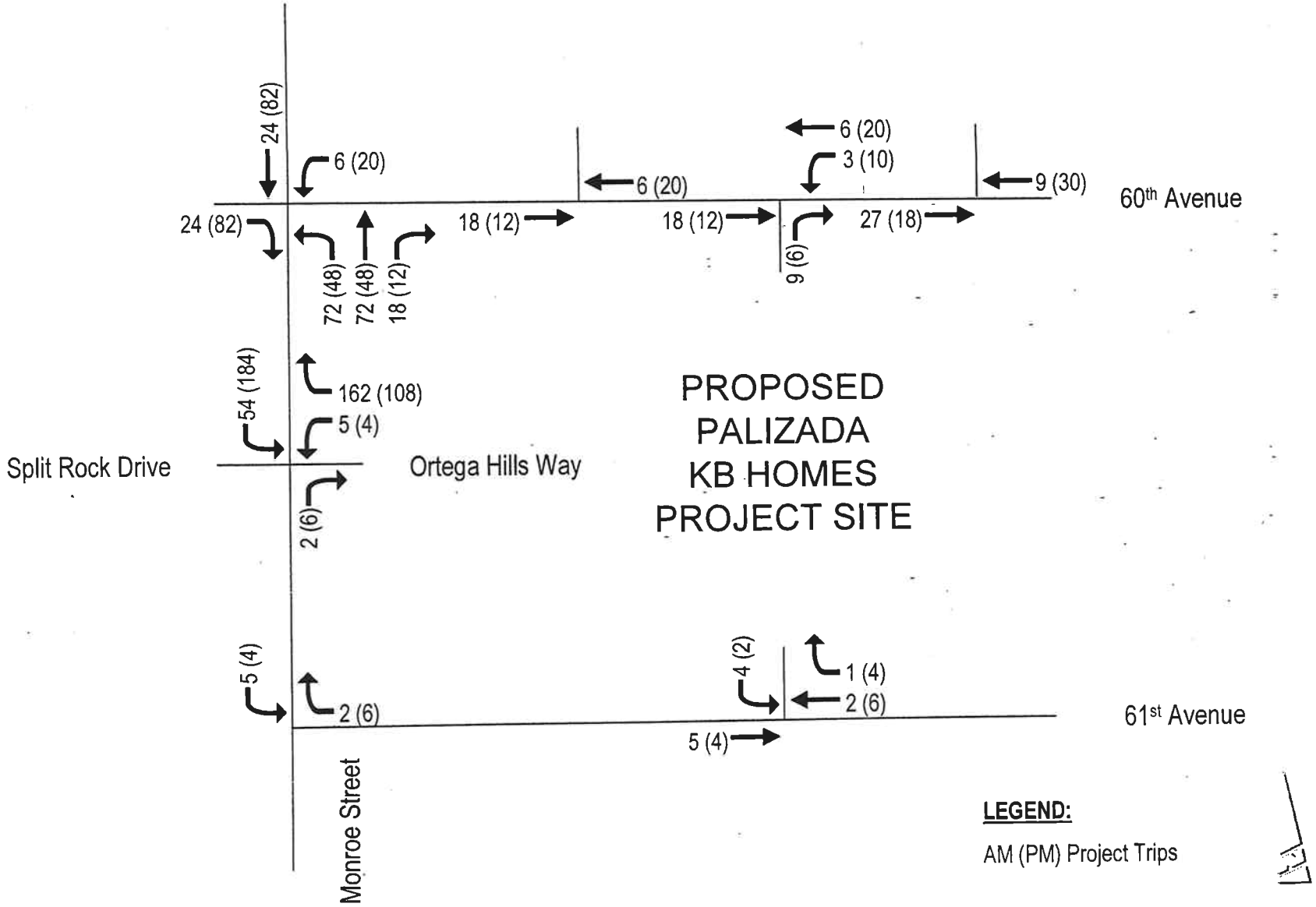
Southbound (vph)												
Hour Ending	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00
AM	1	1	0	2	5	84	85	55	47	47	44	33
PM	42	44	80	80	53	41	28	15	21	13	9	7

Northbound Volume=	700
Southbound Volume=	837
TOTAL 24 Hour Volume:	**1,537**

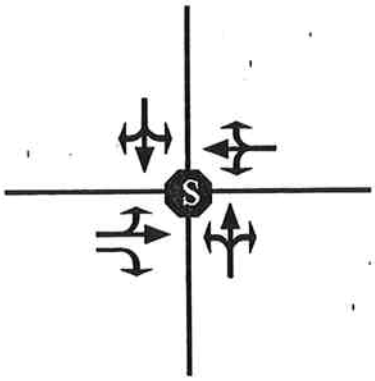




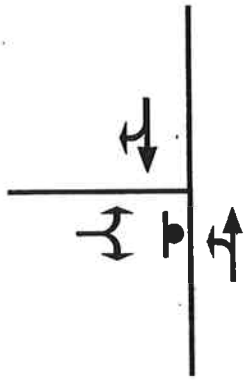
ALBERT GROVER & ASSOCIATES	**Palizada KB Homes Project Trip Distribution**	**ATTACHMENT D**



ALBERT GROVER & ASSOCIATES	**Palizada KB Homes Project Trips**	**ATTACHMENT E**



1. Monroe St at 60th Ave



2. Monroe St at Split Rock Dr-Ortega Hills Way

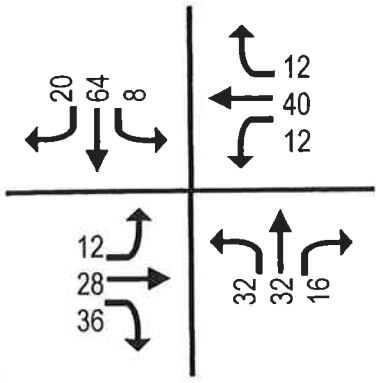
LEGEND:

Single Direction Stop

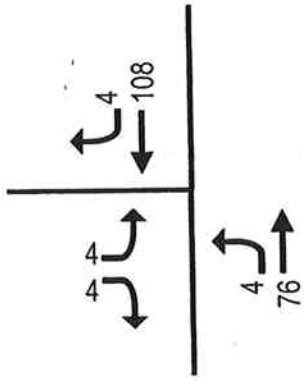
S 4-Way Stop

ALBERT GROVER & ASSOCIATES	**Existing Year 2006 Intersection Geometrics and Controls**	**ATTACHMENT F**

AM Peak Hour Volumes

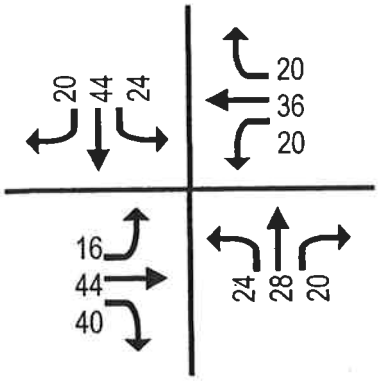


1. Monroe St at 60th Ave

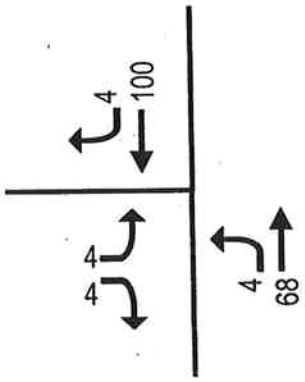


2. Monroe St at Split Rock Dr

PM Peak Hour Volumes

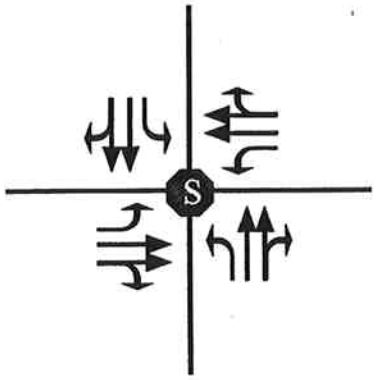


1. Monroe St at 60th Ave

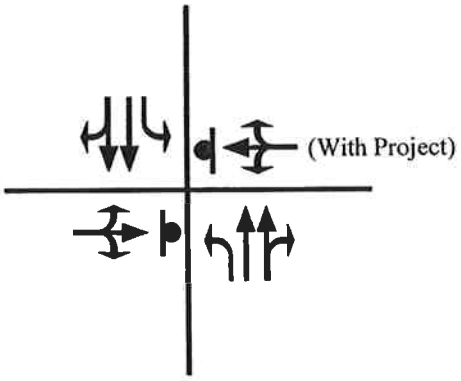


2. Monroe St at Split Rock Dr

Albert Grover & Associates	**Existing Year 2006 Traffic Volumes**	**ATTACHMENT G**



1. Monroe St at 60th Ave



2. Monroe St at Split Rock Dr-Ortega Hills Way

LEGEND:

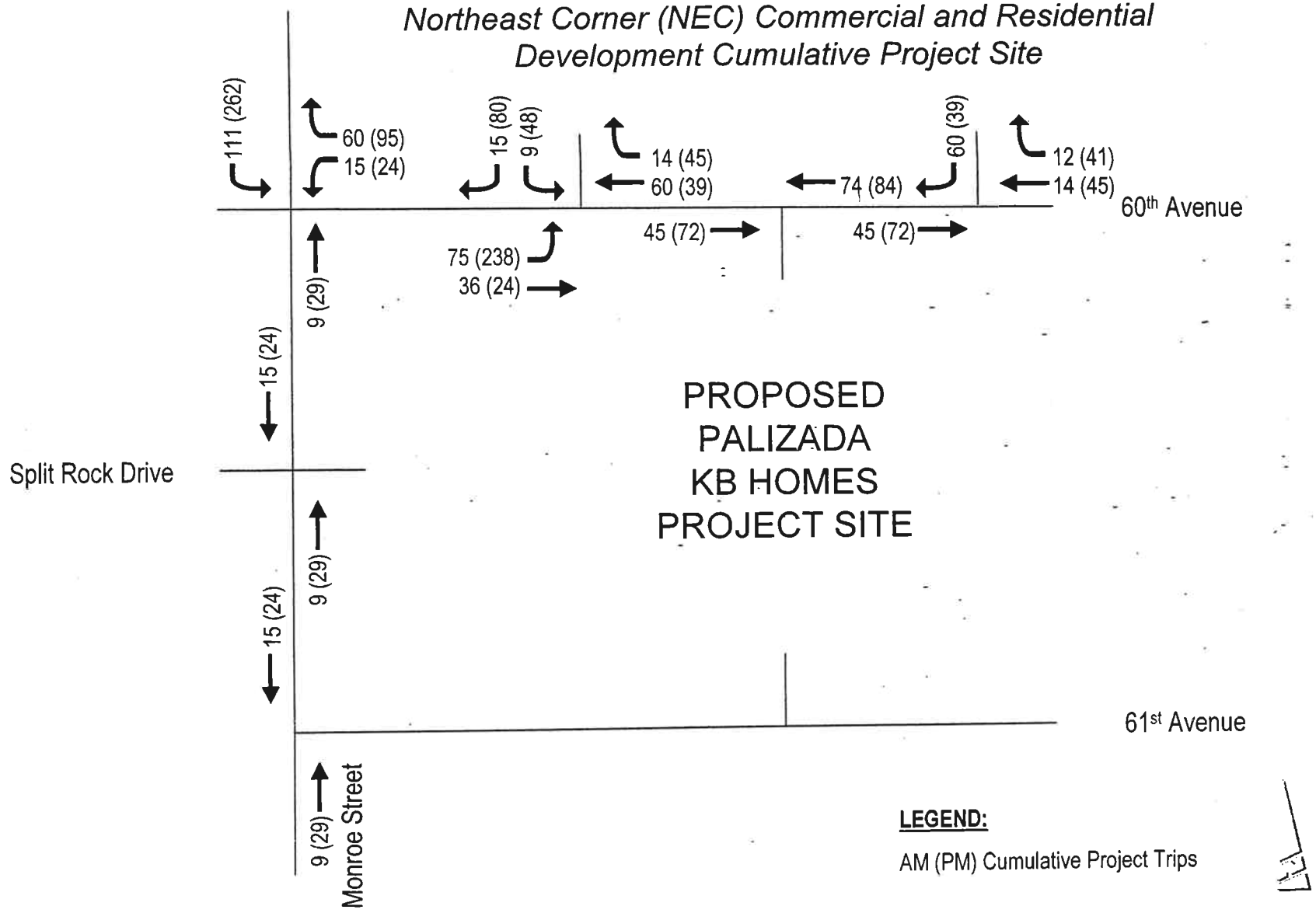
Single Direction Stop

S 4-Way Stop

ALBERT GROVER & ASSOCIATES

Opening Day Year 2008
Intersection Geometrics and Controls

ATTACHMENT H

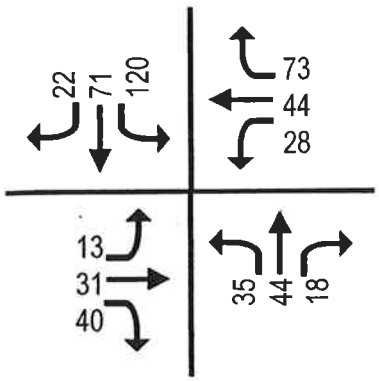


ALBERT GROVER & ASSOCIATES

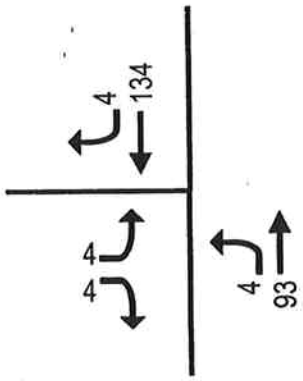
Cumulative Project Trips

ATTACHMENT I

AM Peak Hour Volumes

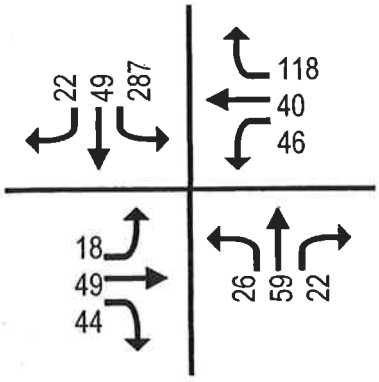


1. Monroe St at 60th Ave

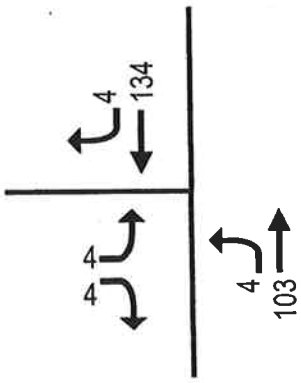


2. Monroe St at Split Rock Dr

PM Peak Hour Volumes



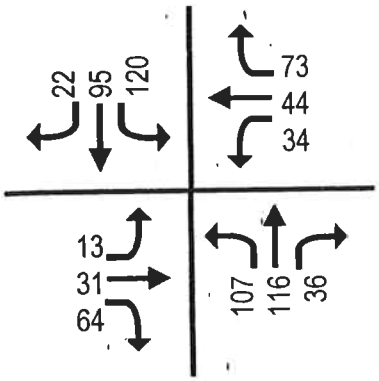
1. Monroe St at 60th Ave



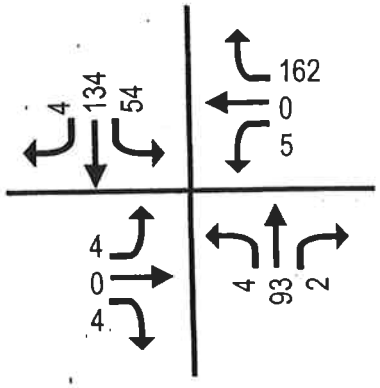
2. Monroe St at Split Rock Dr

ALBERT GROVER & ASSOCIATES	**Opening Day Year 2008** **Without Project Traffic Volumes**	**ATTACHMENT J**

AM Peak Hour Volumes

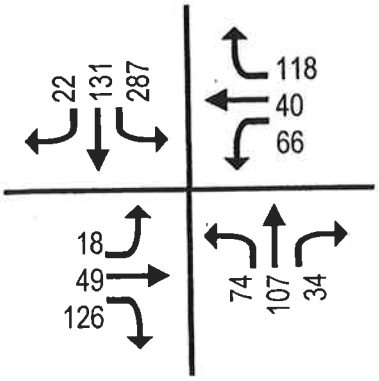


1. Monroe St at 60th Ave

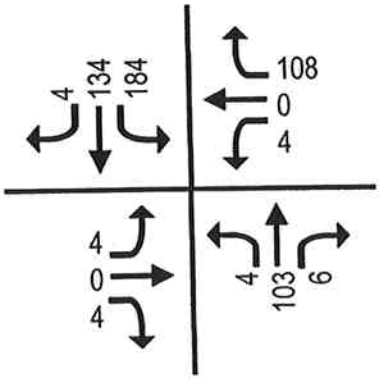


2. Monroe St at Split Rock Dr

PM Peak Hour Volumes



1. Monroe St at 60th Ave



2. Monroe St at Split Rock Dr

ALBERT GROVER & ASSOCIATES	**Opening Day Year 2008 With Project Traffic Volumes**	**ATTACHMENT K**

ATTACHMENT L

Intersection Level of Service Analysis Worksheets

- Existing Year 2006 Conditions
- Opening Day Year 2008 Without Project Conditions
- Opening Day Year 2008 With Project Conditions

Existing Conditions Year 2006

- Monroe Street at 60th Avenue
- Monroe Street at Split Rock Drive (Ortega Hills Way)

Monroe Street at 60th Avenue

Existing Conditions 2006
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 MONROE ST/60TH AVE

Cycle (sec):	100	Critical Vol./Cap.(X):	0.110
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	7.7
Optimal Cycle:	0	Level Of Service:	A

Street Name:	MONROE ST						60TH AVE					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1!	0 0	0 0	1!	0 0	0 1	0	0 1	0 0	1!	0 0
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour												
Base Vol:	32	32	16	8	64	20	12	28	36	12	40	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	32	16	8	64	20	12	28	36	12	40	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	32	16	8	64	20	12	28	36	12	40	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	32	16	8	64	20	12	28	36	12	40	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	32	32	16	8	64	20	12	28	36	12	40	12
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.40	0.40	0.20	0.09	0.69	0.22	0.30	0.70	1.00	0.19	0.62	0.19
Final Sat.:	327	327	163	72	580	181	207	482	823	149	496	149
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.10	0.11	0.11	0.11	0.06	0.06	0.04	0.08	0.08	0.08
Crit Moves:		****				****		****			****	
Delay/Veh:	7.7	7.7	7.7	7.7	7.7	7.7	8.1	8.1	7.1	7.7	7.7	7.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.7	7.7	7.7	7.7	7.7	7.7	8.1	8.1	7.1	7.7	7.7	7.7
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.7			7.7			7.6			7.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.7			7.7			7.6			7.7	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Existing Conditions 2006
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #5 MONROE ST/60TH AVE

Cycle (sec):	100	Critical Vol./Cap.(X):	0.109
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	7.8
Optimal Cycle:	0	Level Of Service:	A

Street Name:	MONROE ST						60TH AVE					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 1	0 0	1	0 0	1! 0	0
Volume Module: >> Count Date: 18 May 2006 << PM Peak Hour												
Base Vol:	24	28	20	24	44	20	16	44	40	20	36	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	24	28	20	24	44	20	16	44	40	20	36	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	28	20	24	44	20	16	44	40	20	36	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	28	20	24	44	20	16	44	40	20	36	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	24	28	20	24	44	20	16	44	40	20	36	20
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.33	0.39	0.28	0.27	0.50	0.23	0.27	0.73	1.00	0.26	0.48	0.26
Final Sat.:	269	314	225	221	404	184	185	509	828	210	379	210
Capacity Analysis Module:												
Vol/Sat:	0.09	0.09	0.09	0.11	0.11	0.11	0.09	0.09	0.05	0.10	0.10	0.10
Crit Moves:		****		****			****			****		
Delay/Veh:	7.7	7.7	7.7	7.8	7.8	7.8	8.2	8.2	7.1	7.8	7.8	7.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.7	7.7	7.7	7.8	7.8	7.8	8.2	8.2	7.1	7.8	7.8	7.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		7.7			7.8			7.8			7.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		7.7			7.8			7.8			7.8	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Monroe Street at Split Rock Drive (Ortega Hills Way)

Existing Conditions 2006
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 MONROE ST/SPLIT ROCK DR-ORTEGA HILLS WY

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.2]

Street Name:	MONROE ST						SPLIT ROCK DR-ORTEGA HILLS WY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0 0	0	0 0	0 1	0	0 0	1! 0	0	0 0	0 0	0
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour Estimated												
Base Vol:	4	76	0	0	108	4	4	0	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	76	0	0	108	4	4	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	76	0	0	108	4	4	0	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	76	0	0	108	4	4	0	4	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	112	xxxx	xxxxx	xxxx	xxxx	xxxxx	194	xxxx	110	xxxx	xxxx	xxxxx
Potent Cap.:	1490	xxxx	xxxxx	xxxx	xxxx	xxxxx	799	xxxx	949	xxxx	xxxx	xxxxx
Move Cap.:	1490	xxxx	xxxxx	xxxx	xxxx	xxxxx	798	xxxx	949	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	867	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			9.2			xxxxxx		
ApproachLOS:	*			*			A			*		

Note: Queue reported is the number of cars per lane.

Existing Conditions 2006
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 MONROE ST/SPLIT ROCK DR-ORTEGA HILLS WY

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A[9.1]

Street Name:	MONROE ST						SPLIT ROCK DR-ORTEGA HILLS WY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 0	0	0	0 1 0	0	0	1! 0 0	0	0	0 0 0
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour Estimated												
Base Vol:	4	68	0	0	100	4	4	0	4	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	68	0	0	100	4	4	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	68	0	0	100	4	4	0	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	68	0	0	100	4	4	0	4	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	104	xxxx	xxxxx	xxxx	xxxx	xxxxx	178	xxxx	102	xxxx	xxxx	xxxxx
Potent Cap.:	1500	xxxx	xxxxx	xxxx	xxxx	xxxxx	816	xxxx	959	xxxx	xxxx	xxxxx
Move Cap.:	1500	xxxx	xxxxx	xxxx	xxxx	xxxxx	815	xxxx	959	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	xxxx	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	881	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.1	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			9.1			xxxxxx		
ApproachLOS:	*			*			A			*		

Note: Queue reported is the number of cars per lane.

Opening Day Year 2008 Without Project

- Monroe Street at 60th Avenue
- Monroe Street at Split Rock Drive (Ortega Hills Way)

Monroe Street at 60th Avenue

Opening Day Without Project 2008
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 MONROE ST/60TH AVE

Cycle (sec):	100	Critical Vol./Cap.(X):	0.203
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	8.8
Optimal Cycle:	0	Level Of Service:	A

Street Name:	MONROE ST						60TH AVE					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour												
Base Vol:	32	32	16	8	64	20	12	28	36	12	40	12
Growth Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Initial Bse:	35	35	18	9	71	22	13	31	40	13	44	13
Added Vol:	0	9	0	111	0	0	0	0	0	15	0	60
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	35	44	18	120	71	22	13	31	40	28	44	73
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	44	18	120	71	22	13	31	40	28	44	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	44	18	120	71	22	13	31	40	28	44	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	35	44	18	120	71	22	13	31	40	28	44	73
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.43	0.57	1.00	1.52	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	561	888	371	591	1000	325	550	595	673	564	612	696
Capacity Analysis Module:												
Vol/Sat:	0.06	0.05	0.05	0.20	0.07	0.07	0.02	0.05	0.06	0.05	0.07	0.11
Crit Moves:	****			****					****			****
Delay/Veh:	9.2	8.5	8.2	10.0	8.3	8.1	9.0	8.7	8.0	9.1	8.7	8.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.2	8.5	8.2	10.0	8.3	8.1	9.0	8.7	8.0	9.1	8.7	8.1
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:		8.7			9.2			8.4			8.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		8.7			9.2			8.4			8.5	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.1

Note: Queue reported is the number of cars per lane.

Opening Day Without Project 2008
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 MONROE ST/60TH AVE

Cycle (sec): 100 Critical Vol./Cap.(X): 0.512
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 11.4
Optimal Cycle: 0 Level Of Service: B

Street Name:	MONROE ST						60TH AVE					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module: >> Count Date: 18 May 2006 << PM Peak Hour												
Base Vol:	24	28	20	24	44	20	16	44	40	20	36	20
Growth Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Initial Bse:	26	31	22	26	49	22	18	49	44	22	40	22
Added Vol:	0	28	0	261	0	0	0	0	0	24	0	96
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	59	22	287	49	22	18	49	44	46	40	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	59	22	287	49	22	18	49	44	46	40	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	59	22	287	49	22	18	49	44	46	40	118
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	26	59	22	287	49	22	18	49	44	46	40	118
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.46	0.54	1.00	1.37	0.63	1.00	1.05	0.95	1.00	1.00	1.00
Final Sat.:	497	792	308	562	846	407	486	550	551	505	543	611
Capacity Analysis Module:												
Vol/Sat:	0.05	0.07	0.07	0.51	0.06	0.05	0.04	0.09	0.08	0.09	0.07	0.19
Crit Moves:		****		****				****				****
Delay/Veh:	9.9	9.3	9.0	15.0	8.6	8.3	9.9	9.6	8.9	10.1	9.4	9.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.9	9.3	9.0	15.0	8.6	8.3	9.9	9.6	8.9	10.1	9.4	9.4
LOS by Move:	A	A	A	B	A	A	A	A	A	B	A	A
ApproachDel:		9.4			13.7			9.4			9.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.4			13.7			9.4			9.6	
LOS by Appr:		A			B			A			A	
AllWayAvgQ:	0.0	0.1	0.1	0.9	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2

Note: Queue reported is the number of cars per lane.

Monroe Street at Split Rock Drive (Ortega Hills Way)

Opening Day Without Project 2008
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 MONROE ST/SPLIT ROCK DR-ORTEGA HILLS WY

Average Delay (sec/veh): 0.5 Worst Case Level Of Service: A[9.2]

Street Name:	MONROE ST						SPLIT ROCK DR-ORTEGA HILLS WY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 0 1!	0 0		0 0 1!	0 0	
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour Estimated												
Base Vol:	4	76	0	0	108	4	4	0	4	0	0	0
Growth Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Initial Bse:	4	84	0	0	119	4	4	0	4	0	0	0
Added Vol:	0	9	0	0	15	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	93	0	0	134	4	4	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	93	0	0	134	4	4	0	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	93	0	0	134	4	4	0	4	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	138	xxxx	xxxxx	xxxx	xxxx	xxxxx	191	xxxx	69	xxxx	xxxx	xxxxx
Potent Cap.:	1458	xxxx	xxxxx	xxxx	xxxx	xxxxx	785	xxxx	986	xxxx	xxxx	xxxxx
Move Cap.:	1458	xxxx	xxxxx	xxxx	xxxx	xxxxx	783	xxxx	986	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	873	xxxxx	xxxx	0	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			9.2			xxxxxx		
ApproachLOS:	*			*			A			*		

Note: Queue reported is the number of cars per lane.

Opening Day Without Project 2008
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #6 MONROE ST/SPLIT ROCK DR-ORTEGA HILLS WY

****

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A[9.2]

****

Street Name:	MONROE ST						SPLIT ROCK DR-ORTEGA HILLS WY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour Estimated												
Base Vol:	4	68	0	0	100	4	4	0	4	0	0	0
Growth Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Initial Bse:	4	75	0	0	110	4	4	0	4	0	0	0
Added Vol:	0	28	0	0	24	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	103	0	0	134	4	4	0	4	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	103	0	0	134	4	4	0	4	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	103	0	0	134	4	4	0	4	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	139	xxxx	xxxxx	xxxx	xxxx	xxxxx	197	xxxx	69	xxxx	xxxx	xxxxx
Potent Cap.:	1457	xxxx	xxxxx	xxxx	xxxx	xxxxx	779	xxxx	986	xxxx	xxxx	xxxxx
Move Cap.:	1457	xxxx	xxxxx	xxxx	xxxx	xxxxx	777	xxxx	986	xxxx	xxxx	xxxxx
Volume/Cap:	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	0.00	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	869	xxxxx	xxxx	0	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	9.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			9.2			xxxxxx		
ApproachLOS:	*			*			A			*		

****

Note: Queue reported is the number of cars per lane.

Opening Day Year 2008 With Project

- Monroe Street at 60th Avenue
- Monroe Street at Split Rock Drive (Ortega Hills Way)

Monroe Street at 60th Avenue

Opening Day With Project 2008
AM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #5 MONROE ST/60TH AVE

Cycle (sec):	100	Critical Vol./Cap.(X):	0.222
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	9.6
Optimal Cycle:	0	Level Of Service:	A

Street Name:	MONROE ST						60TH AVE					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour												
Base Vol:	32	32	16	8	64	20	12	28	36	12	40	12
Growth Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Initial Bse:	35	35	18	9	71	22	13	31	40	13	44	13
Added Vol:	72	81	18	111	24	0	0	0	24	21	0	60
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	116	36	120	95	22	13	31	64	34	44	73
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	116	36	120	95	22	13	31	64	34	44	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	116	36	120	95	22	13	31	64	34	44	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	107	116	36	120	95	22	13	31	64	34	44	73
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.53	0.47	1.00	1.62	0.38	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	544	916	291	539	959	230	495	531	594	505	544	609
Capacity Analysis Module:												
Vol/Sat:	0.20	0.13	0.12	0.22	0.10	0.10	0.03	0.06	0.11	0.07	0.08	0.12
Crit Moves:	****			****					****			****
Delay/Veh:	10.5	9.2	8.9	10.8	9.1	8.9	9.7	9.4	8.9	9.9	9.4	8.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.5	9.2	8.9	10.8	9.1	8.9	9.7	9.4	8.9	9.9	9.4	8.9
LOS by Move:	B	A	A	B	A	A	A	A	A	A	A	A
ApproachDel:		9.7			9.9			9.1			9.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		9.7			9.9			9.1			9.3	
LOS by Appr:		A			A			A			A	
AllWayAvgQ:	0.2	0.1	0.1	0.3	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

Opening Day With Project 2008
PM Peak Hour

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

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Intersection #5 MONROE ST/60TH AVE

****

Cycle (sec):	100	Critical Vol./Cap.(X):	0.572
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	12.7
Optimal Cycle:	0	Level Of Service:	B

****

Street Name:	MONROE ST						60TH AVE					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module: >> Count Date: 18 May 2006 << PM Peak Hour												
Base Vol:	24	28	20	24	44	20	16	44	40	20	36	20
Growth Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Initial Bse:	26	31	22	26	49	22	18	49	44	22	40	22
Added Vol:	48	76	12	261	82	0	0	0	82	44	0	96
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	74	107	34	287	131	22	18	49	126	66	40	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	74	107	34	287	131	22	18	49	126	66	40	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	74	107	34	287	131	22	18	49	126	66	40	118
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	74	107	34	287	131	22	18	49	126	66	40	118
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.52	0.48	1.00	1.71	0.29	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	454	746	245	503	924	159	438	468	518	447	474	526
Capacity Analysis Module:												
Vol/Sat:	0.16	0.14	0.14	0.57	0.14	0.14	0.04	0.10	0.24	0.15	0.08	0.22
Crit Moves:	****			****					****			****
Delay/Veh:	11.5	10.6	10.3	18.0	10.1	9.9	10.7	10.6	11.0	11.5	10.4	10.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.5	10.6	10.3	18.0	10.1	9.9	10.7	10.6	11.0	11.5	10.4	10.7
LOS by Move:	B	B	B	C	B	A	B	B	B	B	B	B
ApproachDel:		10.9			15.3			10.9			10.9	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		10.9			15.3			10.9			10.9	
LOS by Appr:		B			C			B			B	
AllWayAvgQ:	0.2	0.1	0.1	1.2	0.2	0.1	0.0	0.1	0.3	0.2	0.1	0.2

****

Note: Queue reported is the number of cars per lane.

Monroe Street at Split Rock Drive (Ortega Hills Way)

Opening Day With Project 2008
AM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #6 MONROE ST/SPLIT ROCK DR-ORTEGA HILLS WY

****

Average Delay (sec/veh): 4.5 Worst Case Level Of Service: B[10.4]

****

Street Name:	MONROE ST						SPLIT ROCK DR-ORTEGA HILLS WY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 1	1 0		1 0 1	1 0		0 0 1!	0 0		0 0 1!	0 0	
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour Estimated												
Base Vol:	4	76	0	0	108	4	4	0	4	0	0	0
Growth Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Initial Bse:	4	84	0	0	119	4	4	0	4	0	0	0
Added Vol:	0	9	2	54	15	0	0	0	0	5	0	162
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	93	2	54	134	4	4	0	4	5	0	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	93	2	54	134	4	4	0	4	5	0	162
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	93	2	54	134	4	4	0	4	5	0	162
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	xxxx	6.9	7.5	xxxx	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	xxxx	3.3	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	138	xxxx	xxxxx	95	xxxx	xxxxx	299	xxxx	69	278	xxxx	47
Potent Cap.:	1458	xxxx	xxxxx	1512	xxxx	xxxxx	635	xxxx	986	658	xxxx	1018
Move Cap.:	1458	xxxx	xxxxx	1512	xxxx	xxxxx	518	xxxx	986	636	xxxx	1018
Volume/Cap:	0.00	xxxx	xxxx	0.04	xxxx	xxxx	0.01	xxxx	0.00	0.01	xxxx	0.16
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	680	xxxxx	xxxx	1000	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.4	xxxxx	xxxxx	9.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			10.4			9.3		
ApproachLOS:	*			*			B			A		

****

Note: Queue reported is the number of cars per lane.

Opening Day With Project 2008
PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #6 MONROE ST/SPLIT ROCK DR-ORTEGA HILLS WY

****

Average Delay (sec/veh): 4.7 Worst Case Level Of Service: B[12.4]

****

Street Name:	MONROE ST						SPLIT ROCK DR-ORTEGA HILLS WY					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0	1	1 0	1 0	1	1 0	0 0	1!	0 0	0 0	1!	0 0
Volume Module: >> Count Date: 18 May 2006 << AM Peak Hour Estimated												
Base Vol:	4	68	0	0	100	4	4	0	4	0	0	0
Growth Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Initial Bse:	4	75	0	0	110	4	4	0	4	0	0	0
Added Vol:	0	28	6	184	24	0	0	0	0	4	0	108
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	103	6	184	134	4	4	0	4	4	0	108
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	103	6	184	134	4	4	0	4	4	0	108
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	103	6	184	134	4	4	0	4	4	0	108
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	xxxx	6.9	7.5	xxxx	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	xxxx	3.3	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	139	xxxx	xxxxx	109	xxxx	xxxxx	565	xxxx	69	550	xxxx	54
Potent Cap.:	1457	xxxx	xxxxx	1494	xxxx	xxxxx	412	xxxx	986	422	xxxx	1007
Move Cap.:	1457	xxxx	xxxxx	1494	xxxx	xxxxx	332	xxxx	986	380	xxxx	1007
Volume/Cap:	0.00	xxxx	xxxx	0.12	xxxx	xxxx	0.01	xxxx	0.00	0.01	xxxx	0.11
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	497	xxxxx	xxxx	951	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	0.4	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.4	xxxxx	xxxxx	9.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx			12.4			9.3		
ApproachLOS:	*			*			B			A		

****

Note: Queue reported is the number of cars per lane.

ATTACHMENT M

Signal Warrant Analysis – Peak Hour Volume Warrant

- Opening Day Year 2008 Without Project Conditions
- Opening Day Year 2008 With Project Conditions

Opening Day Year 2008 Without Project

- Monroe Street at 60th Avenue
- Monroe Street at Split Rock Drive (Ortega Hills Way)

Monroe Street at 60th Avenue

Albert Grover and Associates

Opening Day 2008 Without Project

Monroe Street at 60th Avenue

Study Name : ODWOP2008-Monroe St at 60th Ave
Study Date : 06/01/06
Page No : 1

Signal Warrants - Summary

Major Street Approaches

Northbound: **Monroe Street**
Number of Lanes: 2
Approach Speed: 50
Total Approach Volume: 204

Southbound: **Monroe Street**
Number of Lanes: 2
Approach Speed: 50
Total Approach Volume: 571

Minor Street Approaches

Eastbound: **60th Avenue**
Number of Lanes: 2
Total Approach Volume: 195

Westbound: **60th Avenue**
Number of Lanes: 2
Total Approach Volume: 349

Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes ..... Not Evaluated

Warrant 1A - Minimum Vehicular Volume ..... Not Evaluated

Warrant 1B - Interruption of Continuous Traffic ..... Not Evaluated

Warrant 1 A&B - Combination of Warrants ..... Not Evaluated

Warrant 2 - Four Hour Volumes ..... Not Evaluated

Warrant 3 - Peak Hour ..... **Not Satisfied**

Warrant 3A - Peak Hour Delay ..... **Not Satisfied**
Total approach volumes and delays on minor street do not exceed minimums for any hour.

Warrant 3B - Peak Hour Volumes ..... **Not Satisfied**
Volumes do not exceed minimums for any hour

Warrant 4 - Pedestrian Volumes ..... Not Evaluated

Warrant 5 - School Crossing ..... Not Evaluated

Warrant 6 - Coordinated Signal System ..... Not Evaluated

Warrant 7 - Crash Experience ..... Not Evaluated

Warrant 8 - Roadway Network ..... Not Evaluated

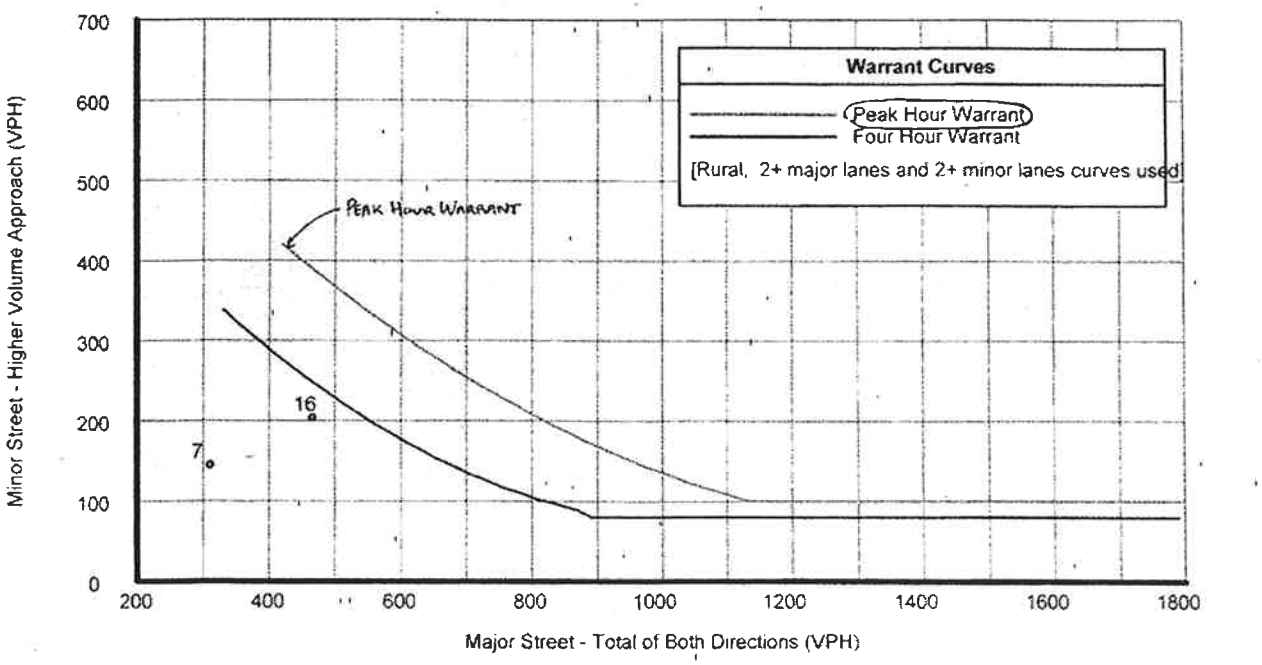
Albert Grover and Associates

Opening Day 2008 Without Project

Monroe Street at 60th Avenue

Study Name : ODWOP2008-Monroe St at 60th Ave
Study Date : 06/01/06
Page No. : 2

Signal Warrants - Summary



Hour	Major	Higher Minor		War-1A			War-1B			War-1A&B		
Begin	Total	Vol	Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
01:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
02:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
03:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
04:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
05:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
06:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
07:00	310	145	WB	420-No	140-Yes	Minor	630-No	70-Yes	Minor	504-No	112-Yes	Minor
08:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
09:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
10:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
11:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
12:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
13:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
14:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
15:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
16:00	465	204	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
17:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
18:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
19:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
20:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
21:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
22:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
23:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---

Monroe Street at Split Rock Drive (Ortega Hills Way)

Albert Grover and Associates

Opening Day 2008 Without Project

Monroe Street at Split Rock Drive (Ortega Hills Way)

Study Name : **ODWOP2008-Monroe St at Split Rock Dr**
Study Date : **05/30/06**
Page No. : **1**

Signal Warrants - Summary

Major Street Approaches

Northbound: **Monroe Street**
Number of Lanes: **2**
Approach Speed: **50**
Total Approach Volume: **204**

Southbound: **Monroe Street**
Number of Lanes: **2**
Approach Speed: **50**
Total Approach Volume: **276**

Minor Street Approaches

Eastbound: **Split Rock Drive**
Number of Lanes: **1**
Total Approach Volume: **16**

Westbound:
Number of Lanes: **1**
Total Approach Volume: **0**

Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes ..... Not Evaluated

Warrant 1A - Minimum Vehicular Volume ..... Not Evaluated

Warrant 1B - Interruption of Continuous Traffic ..... Not Evaluated

Warrant 1 A&B - Combination of Warrants ..... Not Evaluated

Warrant 2 - Four Hour Volumes ..... Not Evaluated

Warrant 3 - Peak Hour ..... **Not Satisfied**

Warrant 3A - Peak Hour Delay ..... **Not Satisfied**
Total approach volumes and delays on minor street do not exceed minimums for any hour.

Warrant 3B - Peak Hour Volumes ..... **Not Satisfied**
Volumes do not exceed minimums for any hour.

Warrant 4 - Pedestrian Volumes ..... Not Evaluated

Warrant 5 - School Crossing ..... Not Evaluated

Warrant 6 - Coordinated Signal System ..... Not Evaluated

Warrant 7 - Crash Experience ..... Not Evaluated

Warrant 8 - Roadway Network ..... Not Evaluated

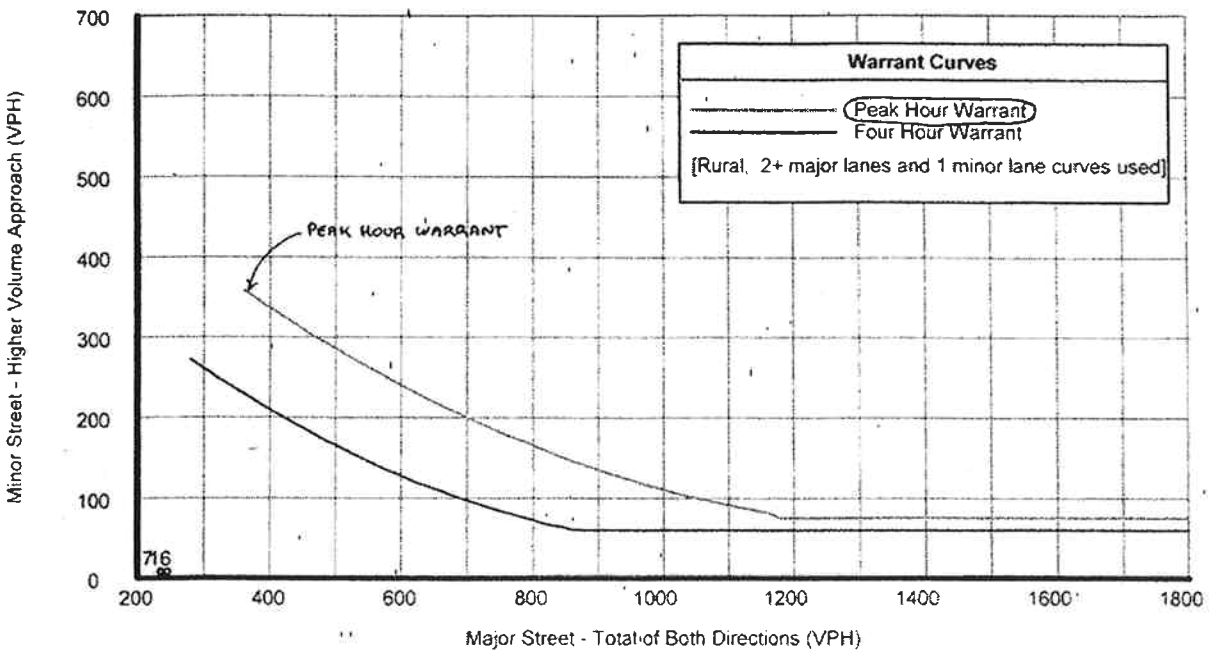
Albert Grover and Associates

Opening Day 2008 Without Project

Monroe Street at Split Rock Drive (Ortega Hills Way)

Study Name : ODWOP2008-Monroe St at Split Rock Dr
Study Date : 05/30/06
Page No. : 2

Signal Warrants - Summary



Hour	Major	Higher Minor		War-1A			War-1B			War-1A&B		
Begin	Total	Vol	Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
01:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
02:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
03:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
04:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
05:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
06:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
07:00	235	8	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
08:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
09:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
10:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
11:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
12:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
13:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
14:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
15:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
16:00	245	8	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
17:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
18:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
19:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
20:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
21:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
22:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
23:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---

Opening Day Year 2008 With Project

- Monroe Street at 60th Avenue
- Monroe Street at Split Rock Drive (Ortega Hills Way)

Monroe Street at 60th Avenue

Albert Grover and Associates

Opening Day 2008 With Project

Monroe Street at 60th Avenue

Study Name : **ODWP2008-Monroe St at 60th Ave**
Study Date : **05/30/06**
Page No : **1**

Signal Warrants - Summary

Major Street Approaches

Northbound: **Monroe Street**
Number of Lanes: **2**
Approach Speed: **50**
Total Approach Volume: **474**

Southbound: **Monroe Street**
Number of Lanes: **2**
Approach Speed: **50**
Total Approach Volume: **677**

Minor Street Approaches

Eastbound: **60th Avenue**
Number of Lanes: **2**
Total Approach Volume: **301**

Westbound: **60th Avenue**
Number of Lanes: **2**
Total Approach Volume: **375**

Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes ..... Not Evaluated

Warrant 1A - Minimum Vehicular Volume ..... Not Evaluated

Warrant 1B - Interruption of Continuous Traffic ..... Not Evaluated

Warrant 1 A&B - Combination of Warrants ..... Not Evaluated

Warrant 2 - Four Hour Volumes ..... Not Evaluated

Warrant 3 - Peak Hour ..... **Not Satisfied**

Warrant 3A - Peak Hour Delay ..... **Not Satisfied**
Total approach volumes and delays on minor street do not exceed minimums for any hour.

Warrant 3B - Peak Hour Volumes ..... **Not Satisfied**
Volumes do not exceed minimums for any hour.

Warrant 4 - Pedestrian Volumes ..... Not Evaluated

Warrant 5 - School Crossing ..... Not Evaluated

Warrant 6 - Coordinated Signal System ..... Not Evaluated

Warrant 7 - Crash Experience ..... Not Evaluated

Warrant 8 - Roadway Network ..... Not Evaluated

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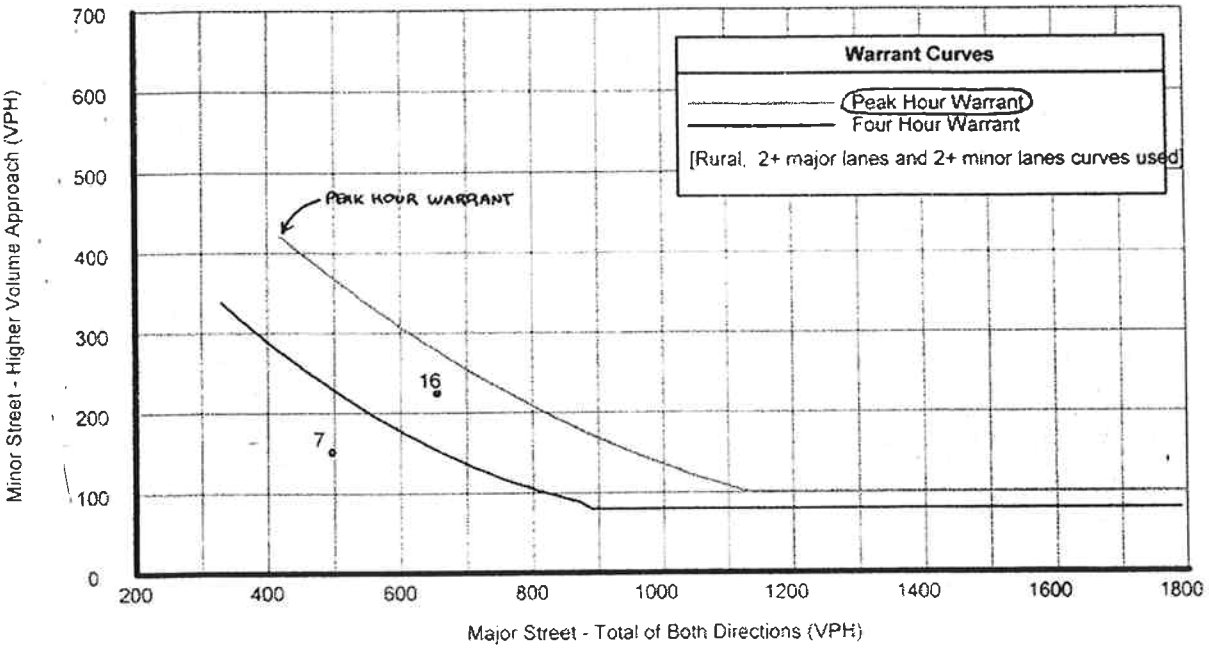
Opening Day 2008 With Project

Monroe Street at 60th Avenue

Study Name : **ODWP2008-Monroe St at 60th Ave**
Study Date : **05/30/06**
Page No. : **2**

Signal Warrants - Summary



Hour Begin	Major Total	Higher Minor Vol	Higher Minor Dir	War-1A Major Crit	War-1A Minor Crit	War-1A Meets?	War-1B Major Crit	War-1B Minor Crit	War-1B Meets?	War-1A&B Major Crit	War-1A&B Minor Crit	War-1A&B Meets?
00:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
01:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
02:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
03:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
04:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
05:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
06:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
07:00	496	151	WB	420-Yes	140-Yes	Both	630-No	70-Yes	Minor	504-No	112-Yes	Minor
08:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
09:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
10:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
11:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
12:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
13:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
14:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
15:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
16:00	655	224	WB	420-Yes	140-Yes	Both	630-Yes	70-Yes	Both	504-Yes	112-Yes	Both
17:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
18:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
19:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
20:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
21:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
22:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---
23:00	0	0	EB	420-No	140-No	---	630-No	70-No	---	504-No	112-No	---

Monroe Street at Split Rock Drive (Ortega Hills Way)

Albert Grover and Associates

Opening Day 2008 With Project

Monroe Street at Split Rock Drive (Ortega Hills Way)

Study Name : **ODWP2008-Monroe St at Split Rock Dr-Ortega Hills**

Wy

Signal Warrants - Summary

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Major Street Approaches

Northbound: **Monroe Street**
Number of Lanes: **2**
Approach Speed: **50**
Total Approach Volume: **212**

Southbound: **Monroe Street**
Number of Lanes: **2**
Approach Speed: **50**
Total Approach Volume: **514**

Minor Street Approaches

Eastbound: **Split Rock Drive**
Number of Lanes: **1**
Total Approach Volume: **16**

Westbound: **Ortega Hills Way**
Number of Lanes: **1**
Total Approach Volume: **279**

Warrant Summary (Rural values apply.)

Warrant 1 - Eight Hour Vehicular Volumes ..... Not Evaluated

Warrant 1A - Minimum Vehicular Volume ..... Not Evaluated

Warrant 1B - Interruption of Continuous Traffic ..... Not Evaluated

Warrant 1 A&B - Combination of Warrants ..... Not Evaluated

Warrant 2 - Four Hour Volumes ..... Not Evaluated

Warrant 3 - Peak Hour ..... **Not Satisfied**

Warrant 3A - Peak Hour Delay ..... **Not Satisfied**
Total approach volumes and delays on minor street do not exceed minimums for any hour.

Warrant 3B - Peak Hour Volumes ..... **Not Satisfied**
Volumes do not exceed minimums for any hour.

Warrant 4 - Pedestrian Volumes ..... Not Evaluated

Warrant 5 - School Crossing ..... Not Evaluated

Warrant 6 - Coordinated Signal System ..... Not Evaluated

Warrant 7 - Crash Experience ..... Not Evaluated

Warrant 8 - Roadway Network ..... Not Evaluated

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Wy

Signal Warrants - Summary

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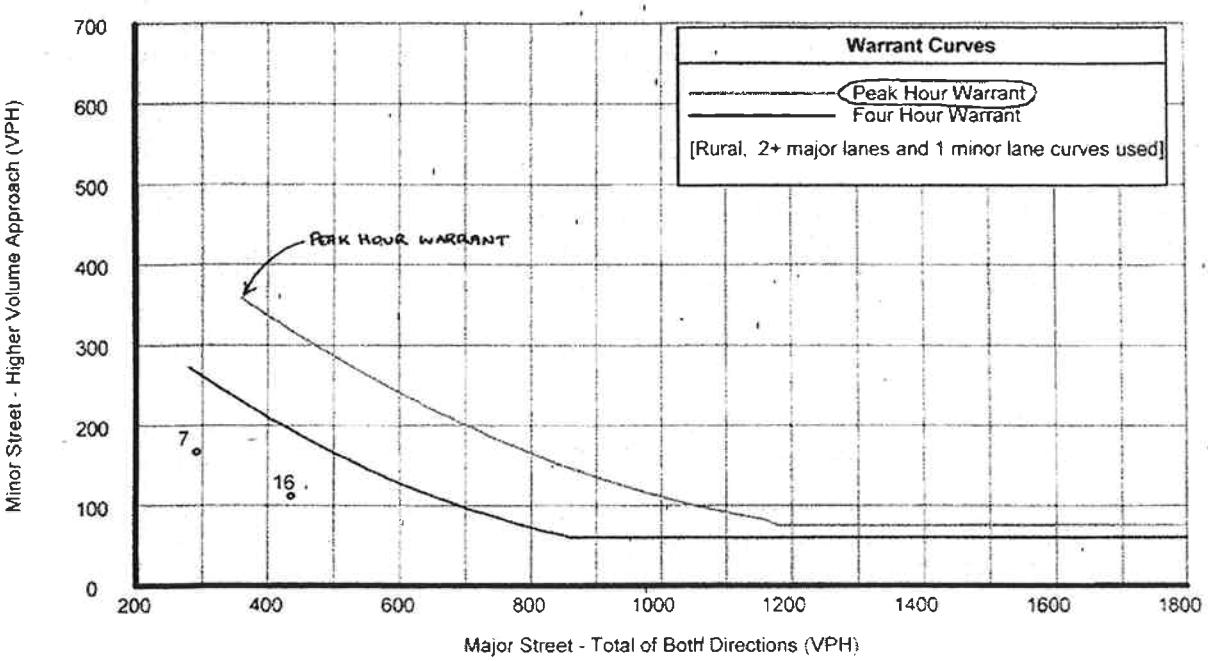

Hour	Major	Higher Minor		War-1A			War-1B			War-1A&B		
Begin	Total	Vol	Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
01:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
02:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
03:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
04:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
05:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
06:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
07:00	291	167	WB	420-No	105-Yes	Minor	630-No	52-Yes	Minor	504-No	84-Yes	Minor
08:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
09:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
10:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
11:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
12:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
13:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
14:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
15:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
16:00	435	112	WB	420-Yes	105-Yes	Both	630-No	52-Yes	Minor	504-No	84-Yes	Minor
17:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
18:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
19:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
20:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
21:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
22:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---
23:00	0	0	EB	420-No	105-No	---	630-No	52-No	---	504-No	84-No	---