

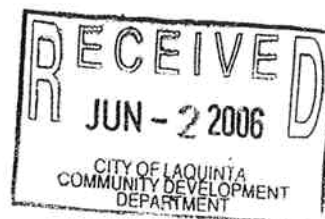
Focused Traffic Impact Study
For The Proposed
Palizada KB Homes Development
On Monroe Street

Prepared for Submittal to

City of La Quinta

June 2, 2006

Prepared by



**ALBERT
GROVER &
ASSOCIATES**

TRANSPORTATION CONSULTING ENGINEERS



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:

TRANSPORTATION CONSULTING ENGINEERS

211 E. Imperial Hwy., Suite 208, Fullerton, CA 92835
(714) 992-2990 FAX (714) 992-2883 E-Mail: aga@albertgrover.com

June 2, 2006

Mr. Gary H. Werner

Page 2

- ◆ 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
<i><u>Weekday AM Peak Hour</u></i>			
1. Monroe Street at 60 th Avenue	A	A	A
2. Monroe Street at Split Rock Drive-Ortega Hills Way	A	A	B
<i><u>Weekday PM Peak Hour</u></i>			
1. Monroe Street at 60 th 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

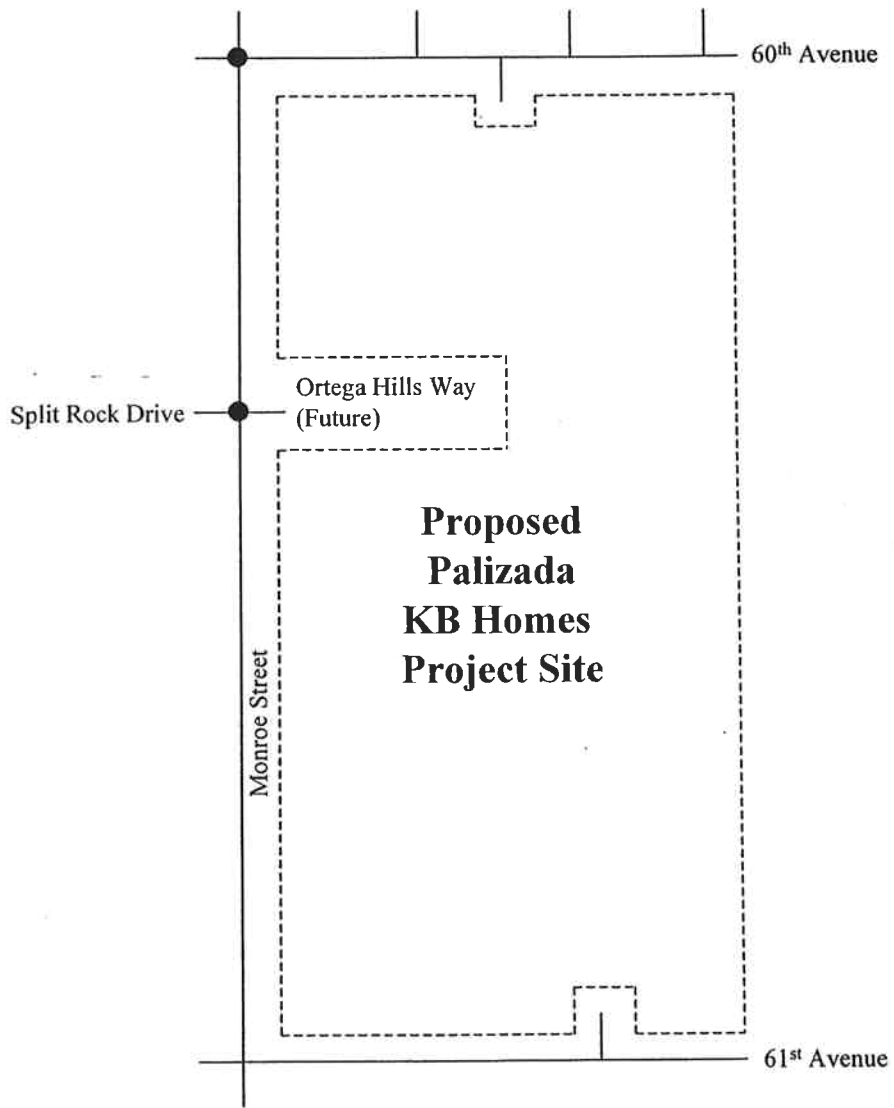
David Chen
Associate Transportation Engineer

Report/PalizadaKBHomes.rpt.doc

LIST OF ATTACHMENTS

ATTACHMENTS

- A Project Site Location and Intersection Analysis Locations
- B Weekday Turning Movement Counts for Monroe Street at 60th Avenue
- C Weekday Twenty-Four Hour ADT Counts for Monroe Street
- D Palizada KB Homes Project Trip Distribution
- E Palizada KB Homes Project Trips
- F Existing Year 2006 Intersection Geometrics and Controls
- G Existing Year 2006 Traffic Volumes
- H Opening Day Year 2008 Intersection Geometrics and Controls
- I Cumulative Project Trips
- J Opening Day Year 2008 Without Project Traffic Volumes
- K Opening Day Year 2008 With Project Traffic Volumes
- L Intersection Level of Service Analysis Worksheets:
 - ◆ Existing Year 2006 Conditions
 - *Monroe Street at 60th Avenue*
 - *Monroe Street at Split Rock Drive (Ortega Hills Way)*
 - ◆ Opening Day Year 2008 Without Project Conditions
 - *Monroe Street at 60th Avenue*
 - *Monroe Street at Split Rock Drive (Ortega Hills Way)*
 - ◆ Opening Day Year 2008 With Project Conditions
 - *Monroe Street at 60th Avenue*
 - *Monroe Street at Split Rock Drive (Ortega Hills Way)*
- M Signal Warrant Analysis – Peak Hour Volume Warrant:
 - ◆ Opening Day Year 2008 Without Project Conditions
 - *Monroe Street at 60th Avenue*
 - *Monroe Street at Split Rock Drive (Ortega Hills Way)*
 - ◆ Opening Day Year 2008 With Project Conditions
 - *Monroe Street at 60th Avenue*
 - *Monroe Street at Split Rock Drive (Ortega Hills Way)*



LEGEND:

- Intersection Analysis Locations

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B**

Weekday Turning Movement Counts
For Monroe Street at 60th Avenue

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

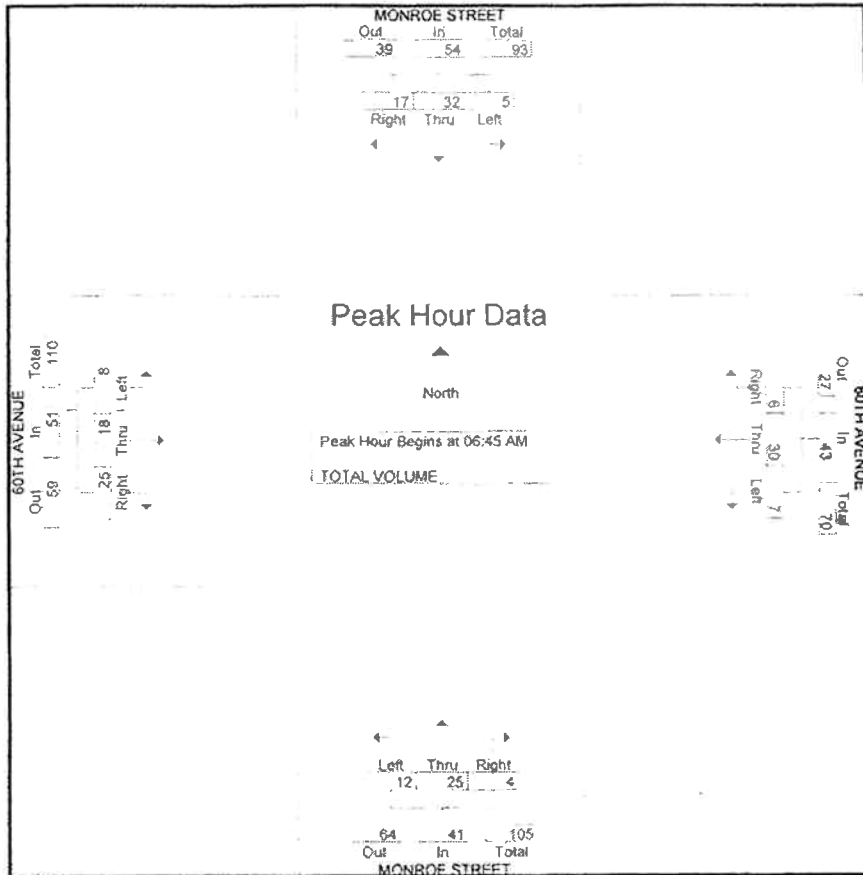
Groups Printed- TOTAL VOLUME

Start Time	MONROE STREET Southbound				60TH AVENUE Westbound				MONROE STREET Northbound				60TH AVENUE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	24	45	90	352
Approch %	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	

Start Time	MONROE STREET Southbound				60TH AVENUE Westbound				MONROE STREET Northbound				60TH AVENUE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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

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			07:45 AM			08:45 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

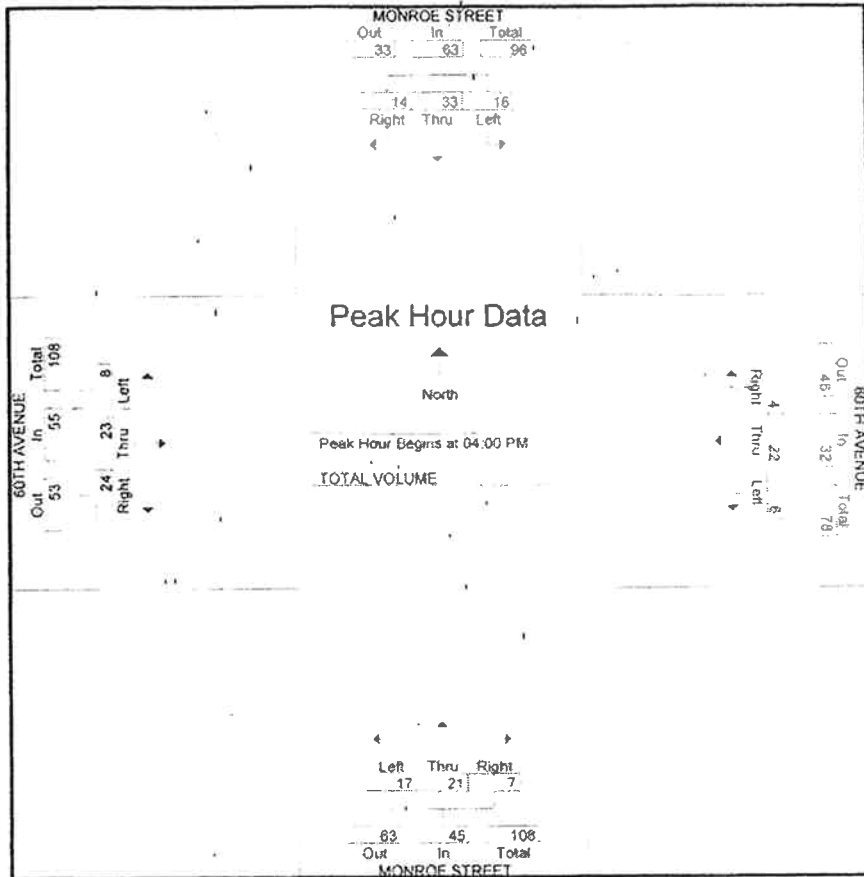
Groups Printed- TOTAL VOLUME

Start Time	MONROE STREET Southbound				60TH AVENUE Westbound				MONROE STREET Northbound				60TH AVENUE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. 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	50.7	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	

Start Time	MONROE STREET Southbound				60TH AVENUE Westbound				MONROE STREET Northbound				60TH AVENUE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for future 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

CITY OF LA QUINTA
 N/S: MONROE STREET
 EW: 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

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Weekday 24-Hour ADT Counts
For Monroe Street

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

Start Time	18-May-06 Thu	NORTHBOUND		Hour Totals		SOUTHBOUND		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	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			2	164
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

