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February 27, 2008

Mr. John Vuksic President Vuksic Architects 44530 San Pablo Avenue, Suite 200 Palm Desert, CA 92260

Subject:

Traffic Analysis for Saint Francis of Assisi Catholic Church

Improvement Project

Dear Mr. Vuksic:

INTRODUCTION

Willdan is pleased to submit this traffic analysis regarding the Saint Francis of Assisi Catholic Church (Church). The Church proposes to expand its parking facilities to add additional parking spaces. The City of La Quinta requested a Traffic Impact Report to address trip generation, level of service (LOS), parking generation, and left turn and right turn storage requirements.

The City also requested that traffic generated by the Laing Homes development be incorporated into the study. The Church and Laing Homes development will have shared access to the west leg of the Washington Street and Lake La Quinta Drive intersection. This letter report analyzes the existing traffic volumes generated by the Church and the proposed traffic generated by the Laing Homes development. It does not address traffic volumes that will be generated by other developments.

DATA COLLECTION

Turning movement counts were taken on Saturday, May 26, 2007, between 1:30 p.m. and 3:30 p.m. and on Sunday, June 3, 2007, between 8:30 a.m. and 12:30 p.m. These dates and times were chosen based on discussions with the Church regarding current Sunday church service and Saturday special event schedules. The counts were taken at the following locations:

- Washington Street Frontage and the south Church driveway.
- Washington Street Frontage and the north Church driveway.
- Washington Street Frontage and Highland Palms Drive.
- Washington Street and Highland Palms/Avenue 47.
- Washington Street and Lake La Quinta Drive.

Average Daily Traffic (ADT) counts were not requested by the City or gathered for this analysis.

The peak hour identified for Saturday was 2:30 p.m. to 3:30 p.m. and the peak hour for Sunday was 10:15 a.m. to 11:15 a.m. Saturday Church volumes were significantly lower than Sunday volumes; therefore, Sunday traffic volumes were used as the basis for this analysis and are depicted in Exhibit A. Saturday traffic volumes are depicted in Exhibit B.

TRIP GENERATION

Trip generation was determined for the existing Church facilities. The Institute of Transportation Engineers (ITE) Trip Generation Manual, 7th Edition, was used to calculate trips based on the number of seats. The Church has 760 existing seats and based on the ITE rates, the Church is estimated to generate the following:

	V	St. Franc Veekend Trip	Tab is of Assi Generation I	si Catholi		uts	
			Land Use Number of				
Average Saturday Rate	Average Saturday Trips	Average Saturday Peak Hour Rate	Average Saturday Peak Hour Trips	Average Sunday Rate	Average Sunday Trips	Average Sunday Peak Hour Rate	Average Sunday Peak Hour Trips
0.9	684	0.6	456	1.53	1163	0.63	479

Table 2 depicts the weekend trip generation based on the collected turning movement data into and out of the Church.

Tabl St. Francis of Assis Existing Weekend	si Catholic Church
Saturday	Sunday
28	545

Trip generation for the Laing Homes development was determined based on their approved environmental analysis information received from the City. The environmental analysis indicates that 708 average weekday daily trips will be generated from 74 residences. The peak hour volume was taken to be 10 percent of the average daily trips.

Based on collected turning movement data, the Church currently generates 545 Sunday peak hour trips which exceeds the 479 Sunday peak hour trips determined by the ITE

Trip Generation Manual. Therefore, the existing Church volumes were used as a basis to determine LOS and ICU.

The weekday trips generated by Laing Homes development were combined with the Sunday Church volumes to present a worst case scenario of future trips. For a worse case scenario, a church generates traffic during the weekend and a housing development generates traffic during the weekday.

TRIP DISTRIBUTION

The Church's expansion of its parking facilities will require Washington Street frontage to be abandoned, including the existing north and south Church driveways. A new driveway will be constructed to provide right turn in and out access to Washington Street. A traffic signal will also be installed at Washington Street and Lake La Quinta Drive to provide additional access to the Church property.

The Sunday peak hour volumes were redistributed from the existing access points to the new access points to determine the traffic impacts with the new Church parking facilities. Exhibit C depicts the redistributed traffic volumes generated by the Church. Per City guidelines, a 40 percent seasonal increase was included with the redistributed traffic volumes. The City considers May 16th to September 30th to be off-season and the measured volumes may be increased up to 40 percent.

Exhibit D depicts the peak hour distributed volumes generated by the Laing Homes development.

Exhibit E identifies the combined distributed volumes used in the analysis, which include the Church, the 40% seasonal increase, and Laing Homes.

The trip distribution for the Church was based on the following:

 A 60/40 split was used to determine the traffic volume through the two access points where 60 percent of the Church traffic travels through the Washington Street and Lake La Quinta Drive intersection and 40 percent travels through the north Church driveway.

The trip distribution for the Laing Homes development was based on the following:

Per discussions with the City, it was determined the majority of traffic will travel to and return from the north. It was assumed that vehicles traveling north will use the north driveway and vehicles traveling south will use the south driveway. A 70/30 split was used to distribute vehicles traveling to the north and to the south, where 70% use the Washington Street and Lake La Quinta Drive intersection and 30% use the south driveway.

- Per ITE Trip Generation Land Use Code 210, a 25/75 in-out distribution was used for the AM peak hour and a 63/37 in-out distribution was used for the PM peak hour.
- In general, housing developments produce lower weekend trips than weekday trips therefore yield a small impact on sites where the majority of traffic is weekend generated. The worst-case scenarios of AM and PM weekday peak hour trips were added to the redistributed weekend Church traffic volumes and used for the analysis.

PARKING GENERATION

The ITE Parking Generation book, 3rd Edition, was used to calculate the peak period parking demand of the existing Church facilities. Currently, the Church provides 184 parking spaces. Table 3 indicates the parking demand to be 122 spaces on a Sunday.

St. Francis of As	able 3 ssisi Catholic Church g Demand vs. Seats on a Sunday
	se Code: 560 of Seats: 760
Average Rate (vehicles/seat)	Average Parking Demand
0.16	122

Chapter 9 of the City of La Quinta Municipal Code states that one parking space per three seats shall be provided for all "Assembly Uses."

	Table 4		
Saint Fra	ancis of Assisi Catholic Ch	urch	
City of La	Quinta Municipal Code, Cha	pter 9	
	Assembly Uses		
	Number of Seats: 760		
Average Saturday Rate (vehicles/seat)	Average Sunday Rate	Total Available Space (existing + proposed)	
0.333	253	590	

As shown in Table 4, the City's Municipal Code requires 253 parking spaces for the Church and the total number of existing and proposed spaces is 590.

LEVEL OF SERVICE ANALYSIS

An Intersection Capacity Utilization (ICU) analysis was performed for the proposed traffic signal at the intersection of Washington Street and Lake La Quinta Drive. The Highway Capacity Manual (HCM) was used to analyze the proposed north driveway entrance.

The ICU method computes a Level of Service (LOS) for an entire intersection based on a volume to capacity (V/C) ratio summation for key conflicting movements. LOS is a relative measure of driver satisfaction with ranges from "A" (free flow: ICU less than 0.600) to "F" (forced flow: ICU value in excess of 1.000).

The following is a description of levels of service:

- LOS A (ICU less than 0.600) Low volumes; high speeds; speed not restricted by other vehicles; all signal cycles clear with no vehicles waiting through more than one signal cycle.
- LOS B (ICU 0.601 to 0.700) Operating speeds beginning to be affected by other traffic; between one and ten percent of the signal cycle have one or more vehicles which wait through more than one signal cycle during peak traffic periods.
- LOC C (ICU 0.701 to 0.800) Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; recommended ideal design standard.
- LOS D (ICU 0.801 to 0.900) Tolerable operating speeds; 31 to 70 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; often used as design standard in urban areas.
- LOS E (ICU 0.901 to 1.000) Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71 to 100 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.
- LOS F (ICU over 1.000) Long queues of traffic; unstable flow; stoppages of long duration; traffic volume and traffic speed can dip to zero; traffic volume will be less than the volume which occurs at Level of Service E.

Based on the ICU analysis for Washington Street and Lake La Quinta Drive, the intersection will be operating at a LOS A during the Sunday peak hour (Table 5). This analysis is based on the combined redistributed Church traffic volumes and the weekday Laing Homes traffic volumes.

Table 5		
Intersection	v/c	LOS
Washington Street/North Driveway Entrance	0.409	Α

The methodology used to analyze the north driveway entrance is described in the 2000 Highway Capacity Manual (HCM), published by the Transportation Research Board. This methodology was used because the driveway will be stop-controlled. LOS of stop-controlled intersections is defined in terms of delay, which is a measure of driver comfort, frustration, fuel consumption, and loss of time.

The HCM analysis method determines the available acceptable gaps in the major traffic stream used by vehicles crossing or turning through the stream. The number of available gaps affects the delay experienced by motorists required to yield. This delay is calculated and a LOS designation is assigned at incremental delay times. LOS A corresponds to little or no delay whereas LOS F corresponds to very long delays.

Based on the HCM analysis for the north driveway entrance, the access will be operating at LOS C during the Sunday peak hour (Table 6). As stated previously, this analysis is based on the combined redistributed Church traffic volumes and the weekday Laing Homes traffic volumes.

Table 6		-
Intersection	Eastbound Approach	
	Delay	LOS
Washington Street/North Driveway Entrance	16.1	С

Note: delay is in seconds

LEFT-TURN AND RIGHT-TURN STORAGE CALCULATIONS

The City requested a queuing analysis at the following locations:

- Southbound Washington Street right turns at the north Church driveway entrance.
- Southbound Washington Street right turns at Lake La Quinta Drive.
- Northbound Washington Street left turns at Lake La Quinta Drive.

The City also requested the west leg of the Washington Street and Lake La Quinta Drive intersection be analyzed to determine whether the current striping design is adequate.

The queuing analysis was based on the peak 15-minute period of the existing redistributed Church traffic volumes and includes the 40% seasonal increase. The number of vehicles in the peak 15-minute period was then multiplied by four (4) to determine the number of vehicles per hour. Finally, the peak hour volume for the Laing Homes development was added to the Church to determine the total vehicles per hour. Peak Sunday Church volumes combined with peak weekday Laing Homes volumes present a worse case scenario to determine turning lane storage requirements.

In general, an accepted method to determine turning lane storage lengths is to provide 1 foot for every turning vehicle in the peak hour. The City utilizes the ITE Transportation and Land Development nomograph to determine storage lengths. The minimum storage length is 100 feet and 250 vehicles during the peak hour is the City's threshold for dual left turn lanes. A 90 second traffic signal cycle was used to determine the storage lengths at the Washington Street and Lake La Quinta Drive intersection.

Table 7 Recommended Storage Lengths based on Peak 15-minute Period							
Turning Movement Location	Volume (vehicles/hr)	Minimum Storage Length (feet)	Recommended Storage Length (feet)				
Southbound Washington Street right turns at north Church driveway entrance	180 (87)	170 (100)	225 (100)				
Southbound Washington Street right turns at Lake La Quinta Drive	296 (161)	275 (150)	360 (200)				
Northbound Washington Street left turns at Lake La Quinta Drive	405 (205)	210* (200)	280* (265)				
Eastbound Lake La Quinta Drive left turns at Washington Street	297 (164)	155* (150)	200* (200)				
Eastbound Lake La Quinta Drive right turns at Washington Street	236 (115)	170 (115)	225 (150)				

Note: Numbers in parenthesis () identify the peak hour volume and include the 40% seasonal increase and Laing Homes.

Table 7 indicates the recommended storage lengths for each turning movement to range from 225 to 360 feet. The Church volume is based on the peak 15-minute period for Sunday traffic and does not reflect storage needs when the Church is not in session. During a normal weekday, the recommended storage lengths are more than adequate to accommodate the Laing Homes 15-minute peak period.

^{*} Dual left turn lanes required.

SUMMARY

This Traffic Impact Report has been completed to address trip generation, parking generation, level of service, and left turn/right turn storage requirements. The average number of existing Sunday trips generated by the Church is 545, which is greater than the calculated 479 trips found in the Trip Generation book. As such, the existing Church volumes were used as the basis for this analysis.

The average parking demand based on ITE parking rates is 122 spaces. The City of La Quinta requires 253 parking spaces per the La Quinta Municipal Code, Chapter 9. The existing parking lot currently has 184 spaces and the expansion will yield an additional 406 spaces for a total of 590. The expansion will exceed the parking requirements for the City of La Quinta and ITE parking generation rates.

The ICU analysis for Washington Street and Lake La Quinta Drive indicates the intersection will operate at a LOS A during the Sunday peak hour and exceeds the recommended ideal design standard. The HCM analysis for Washington Street and the north Church driveway entrance indicates a LOS C and a delay of 16.1 seconds will be experienced during the Sunday peak hour.

The left-turn and right-turn storage lengths were determined based on the redistributed traffic volumes. The recommended storage lengths are:

- 225 feet for southbound Washington Street right turns at the north Church driveway entrance
- 360 feet for southbound Washington Street right turns at Lake La Quinta Drive
- 280 feet for northbound Washington Street left turns at Lake La Quinta Drive.
 Dual left turn lanes are required.

Based on the 50 MPH posted speed limit on Washington Street, it is further recommended that 150 feet reverse curves be used for the turning lane bay tapers.

Should you have any questions regarding this study, please contact me at (562) 908-6221

Sincerely,

WIĻLŲAN

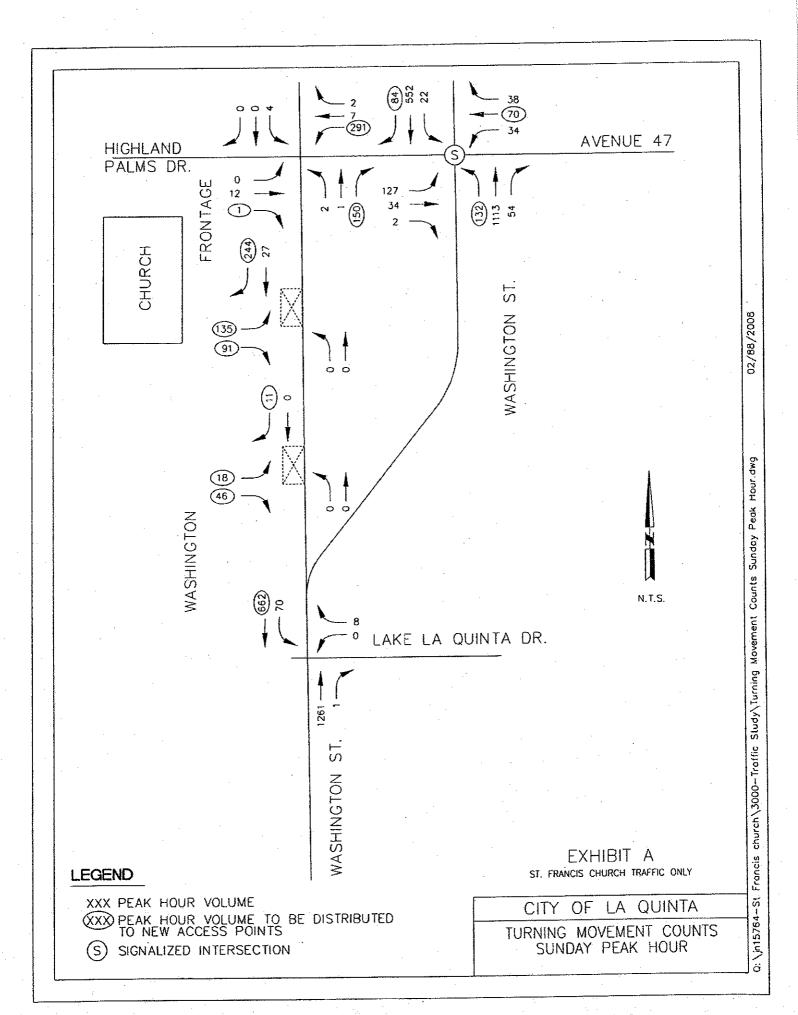
Reggie Greene

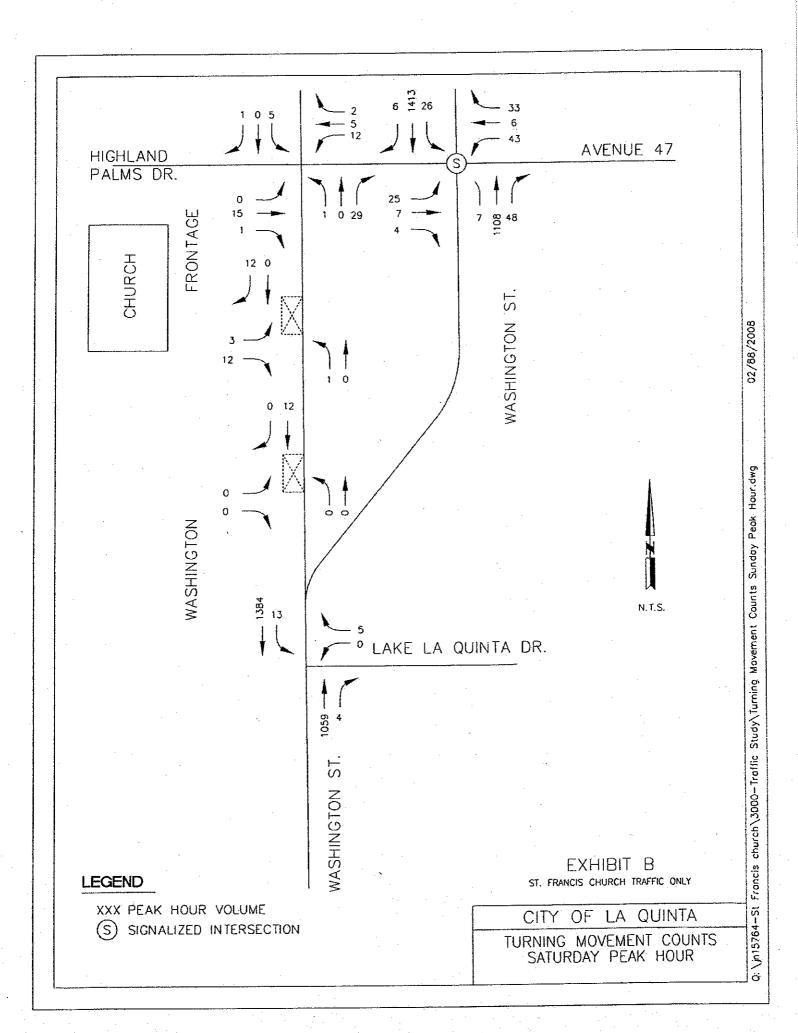
Senior Design Engineer

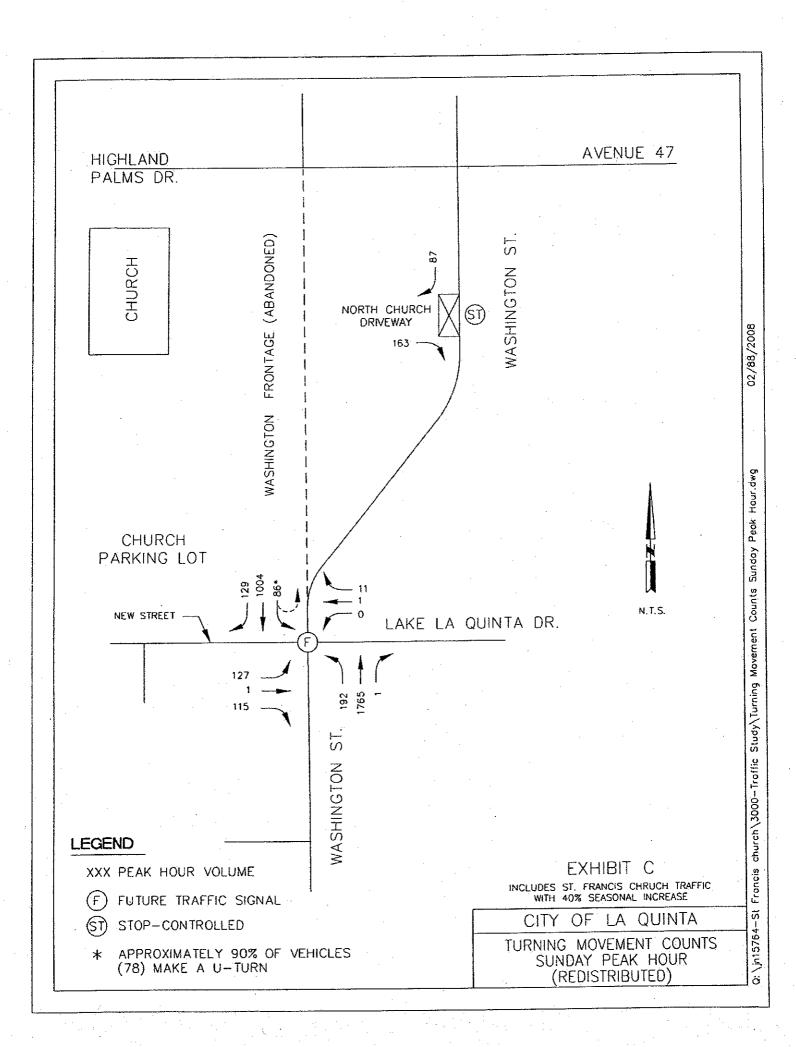
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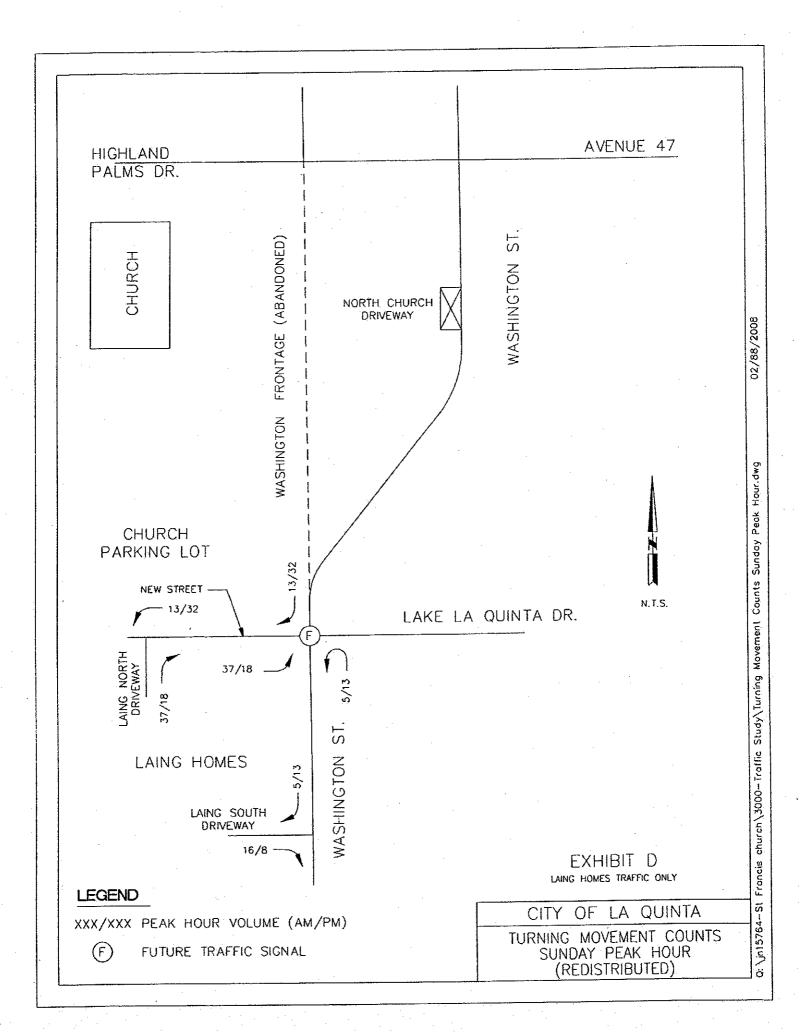
<u>APPENDIX</u>

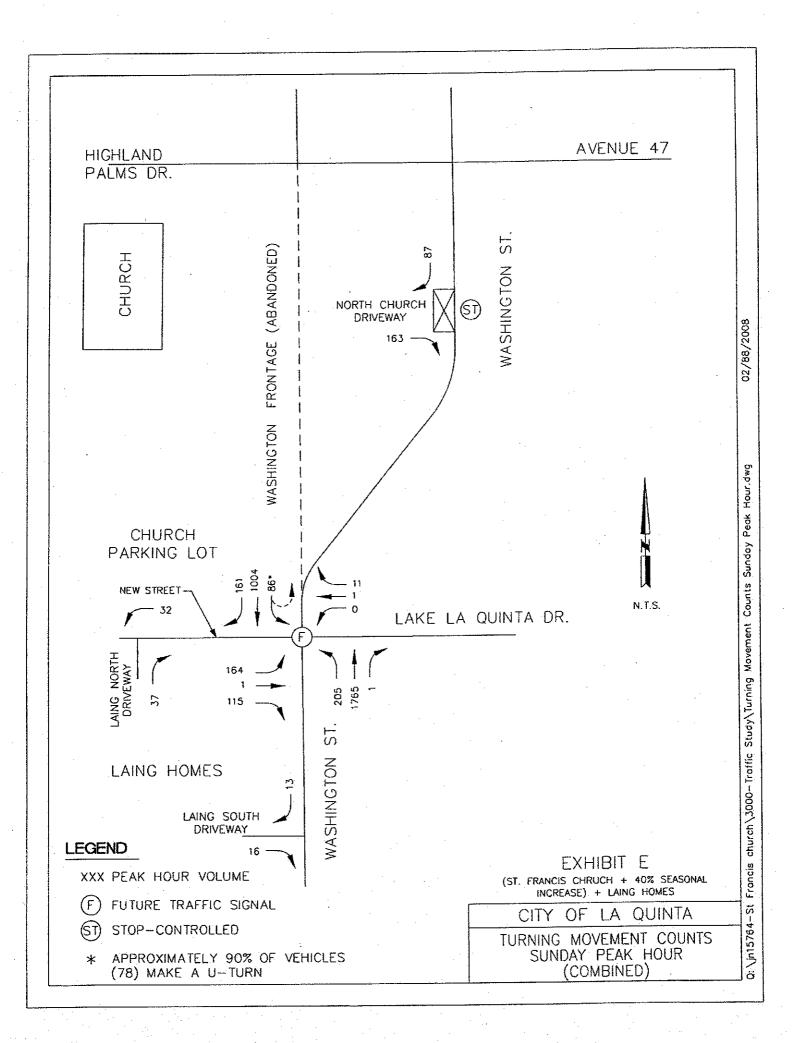
- Exhibits
- ICU Calculations
- HMC Calculations
- ITE Transportation and Land Development Nomograph
- Traffic Counts











INTERSECTION CAPACITY UTILIZATION CALCULATION SHEET

Intersection: Washington Street and north driveway entrance (St. Francis Church)

Count Date: Sunday June 3, 2007 Peak Hour: 2:30 - 3:30pm

Analyst: R. Greene Agency: City of La Quinta

		Number		V/C			
Movement	Volume	of Lanes	Capacity	Ratio		Total	
NB Left	205	I	1900	0.108			
NB Thru	1766	3	5700	0.310	0.310		
NB Right	0	. 0	0	0.000		0.055	
SB Left	86	1	1900	0.045	0.045	0:355	
SB Thru	1004	3	5700	0.176		•	
SB Right	161	I	1900	0.085			
		Yazılı.					
EB Left	164	2 ·	3420	0.048	0.048	*6	
EB Thru	l	1	1900	0.001			
EB Right	115	l	1900	0.061		0.054	
		l ,	1000	0.000		0.054	
WB Left	0	l l	1900	0.000		·	
WB Thru	12	1	1900	0.006	0.006		
WB Right	0	0	0	0.000	187 188		
Sum of Critical V/C Ratios							
Adjustment for Lost Time							
Intersection Capacity Utilization (ICU)							
	Level of Service (LOS) - Refer to table below						

Notes:					
1. Per lane Capacity		=	1,900	VPH	
2. Dual turn lane Capa	city	***	3,420	VPH	
3. Intersection Type:	4-W	/ay			
	T		X		
	Spli	t N/S			
	Spli	it E/W			

Maximum V/C Ratió
0.6
0.7
0.8
0.9
1.0
n/a

- 11 C 1	CONTROL SUMMARY Site Information								
General Information				Washington St./No.					
Analyst	R. Greene		Interse	Intersection			Driveway		
Agency/Co.	City of La Quinta		Jurisdi	Jurisdiction			Diveway		
Date Performed	11/08/07	Analys		ſ	2007				
Analysis Time Period	10:15 - 11	:15AM	╝						
Project Description		-							
East/West Street: North	Driveway En	trance	North/S	South S	Street: Was	hington Stre	et		
Intersection Orientation:			Study I	Period	(hrs): 0.25				
Vehicle Volumes and	d Adjustm	ents			. ,,,,				
Major Street		Northbound				Southbou	ind		
Movement	1	. 2	3		4	5		6	
	. L	T	R		L	T		R	
Volume (veh/h)		1	<u> </u>			1251		87 1.00	
Peak-Hour Factor, PHF	1.00	1.00	1.00		1.00	1.00		1.00	
Hourly Flow Rate, HFR	0	0	163	1	0	. 0	- 1	0	
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						Westbound			
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/olume (veh/h).	<u> </u>		163		· · · · · · · · · · · · · · · · · · ·				
Peak-Hour Factor, PHF	1.00	1.00	1.00		1.00	1.00		1.00	
Hourly Flow Rate, HFR			87		0	0	,	0	
veh/h)	0	1251	0/						
Percent Heavy Vehicles	0	0	1		0 ·	0		0	
Percent Grade (%)		0				0	·····		
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Storage		0				- 0			
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<u>,,</u>				 				163	
(veh/h)								486	
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//c				-			 	1.46	
95% queue length		·		 			 		
Control Delay (s/veh)							 	16.1	
OS	· · · · · · · · · · · · · · · · · · ·]	1	1	1	С	

Approach Delay (s/veh)	<u></u>	**************************************	16.1
Approach LOS			C

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TABLE 5-7
Minimum Spacing Between Median Openings

Connd	Minimum S	pacing (feet)
Speed (mph)	Absolute *	Desirable ^t
30	190	370
35	240	460
40	300	530
45	360	670
50	430	780
55	510	910

SOURCE: Vergil G. Stover, William G. Adkins, and John C. Goodknight [22, p. 19]

⁶ 6.5 ft/sec² average deceleration rate and no deceleration in through-traffic lane.

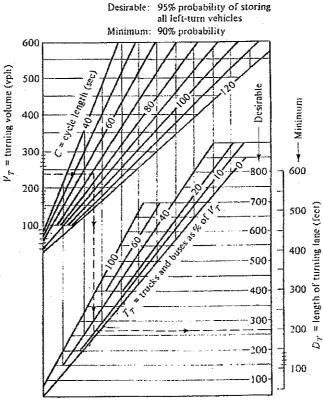


Figure 5-14 Nomograph for a single-lane left-turn storage at signalized intersections. As illustrated, with a left-turn volume of 240 vehicles per hour (vph), a 70-second cycle, and 10% trucks, a storage length of about 260 feet is required for desirable conditions and about 200 feet for a minimum. These storage lengths would accommodate 10 or 11 vehicles for the desirable conditions and about 8 for the minimum. The figure can be used to estimate the storage length (excluding taper) of a double left-turn bay by dividing by 1.8. Thus, for the desirable conditions, a double left-turn bay of about 145 feet (excluding taper) would be required. SOURCE: Northwestern University Traffic Institute [25].

^{*8.0} ft/sec² average deceleration rate and 10 mph deceleration in throughtraffic lane.

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

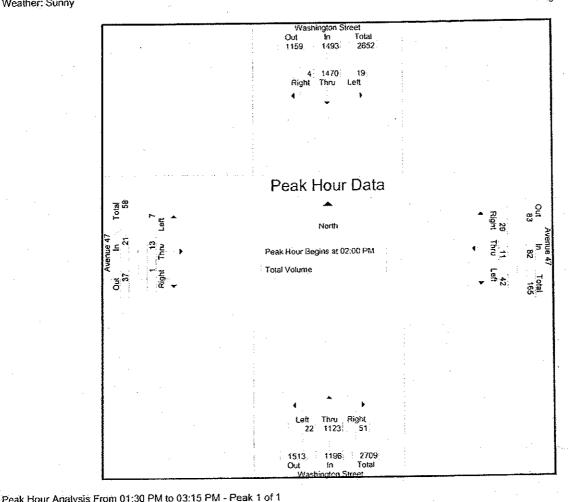
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Start Time	Lcti	Thru		App. Total	Left	Thru	Right	App Total	Left	Thru	Right .	App. Total	Leit	Thru	Right	App. Teral	lac Total
01:30 PM	5	226	4	235	5.	. 3	8	15	1	207	11	219	0	0	0	.0	469
01:45 PM	2	328	4	334	9	3	5	17	10	310	10	330	2	2	0	4	685
Total	7	554	8	569	14	3	13	32	13	517	21	549	2	2	0	4	1154
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02:00 PM	2	319	. 1	322	11	3	•	27	17	265	16	284	'n	4	0	4	703
02:15 PM	3	385	0	388	9	- 1	. 11	:	,		***	302	1	4	Ü	×	704
02:30 PM	8	364	1	373	11	2	8	21	0	283	19		4	0	6	2	710
02:45 PM	6	402	2	410	. 11	. 1	2	14	O	281	3	284	2			21	2792
Total	19	1470	4	1493	42	1 1	29	82	22	1123	51	1.196	,	Ļ3	,	21	2192
03:00 PM		308	1	313	10	Ð	14	24	1	- 247	13	261	2	2	0	4	602
03:15 PM	8	339	3	349	11	3	9	23	6	297	13	316	17	i	4	22	710
Grand Total	38	2671	15	2724	77	19	65	161	40	2184	98	2322	28	18	- 5	51	5258 .
	1.4	98.1	0.6	₩ (A. T	47.8	11.8	40.4	, ., -	1.7	94.1	4.2		54.9	35.3	9.8		
Appreh % Total %	0.7	50.8	0.3	51.8	1.5	0.4	1.2	3.1 -	0.8	41.5	1.9	44.3	0	0.3	0.1	1	
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Peak Hour Analysis F	rom 01:	30 PM to 0	13:15 PM -	Peak 1 o	C1											
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02:00 PM	2 31	9 1	322 -	11	1	3	20	19	294	13	326	. 1.	5	1	- 1	675
02:15 PM	3 38	5 0	388	9	7	41	27	3	265	16	284	Ű	4	0	4	703
02:30 PM	8 36		373	11	2	8	21	0	283	19	302	4	4	0	8	7.04
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PHF59			,910	.955	.393	.659	.759	.289	.955	.671	.917	.438	.650	.250	.656	.983

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

File Name: LQWA47SAT Site Code: 00724612 Start Date: 5/26/2007 Page No: 2



Peak Hour for																
a and the second of the	02:00 PN				62:15 PM				01:45 PM	1			62;30 PM			
+0 mins.	2	319	1	322	9	7	11	27	10	310	10	330	4	4	0	. 8
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+13 mins.	2	385			41	,	3	1/1		265	16	284	2	2	0	4
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47.7

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0.3

.500

1.3

% App. Total

98.5

.914

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny File Name: LQWA47SUN Site Code: 00724611 Start Date: 6/3/2007 Page No: 1

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	08:30 AM	3	94	18	115	4	8	2	14	8	207	2	217	54	17	1	72	418
	08:45 AM	3	69	42	114	2	8	7		32	184	7	223	5	3	. 1	. 9	363
	Total	6	163	60	229	6	16	9	.17 .31	40	391	9	440	59	20	2	81	781
	COMP.	``	****			•												
	09:00 AM	6	100	61	167	0	27	8	35	56	214	4	274	6	4	0	10	486
	09:15 AM	2	107	15	124	2	17	7	26	23	231	10	264	2	2	0	4.	418
	09:30 AM	1	110	4	115	. 2	3	0	5	2	208	6	216	i	0	0	Ī	337
	09:45 AM	1	105	i	107	7.	1	6	14	. 4	246	6	256	. 3	. 2.	0	5 .	382
	Total	10	422	81	513	11	48	21	80	85	899	26	1010	12	. 8	0	20	1623
																	4.6	en a
	10:00 AM	9	132	. 1	142	4	5	- 13	22	13	234		258	. 7	8	1	16	438
	10:15 AM	6	94	4	104	10	3	4	17	3.,	264	13	280	74	24	2	100	501
	10.30 AM	ġ.	171	14	194	7	9	1 ì	27	15	297	18	330	33	6	0	39	590
	10:45 AM	6	143	40	189	10	43	9	62	63	319	}4	396	12	i	0	13	660
	Total	30	540	59	629	31	60	37	128	94	1114	56	1264	126	39	3	168	2189
		- :													_			500
	11:00 AM	1	144	24	169	7	14	14	35	51	233	9	293	8	3	0	11	508
	11:15 AM	П	139	5.	155	8	4	19	31	14	230	13	257	4	0	0	4	447
	11:30 AM	5	189	5	199	9.	2	16	27	3	259	15	276	3	1	0	4	506
	11:45 AM	6	180	5	191	. 7	7	11	25.	6	264	20	290	5	. 1	0	6	512
	Total	23	652	39	714	31	27	60	118 -	73	986	57	1116	20	5	0	25	.1973
										•							29	535
	12:00 PM	6	176	3	185	7	3	11	21.	14	268	18	300	19	9	1		670
	12:15 PM	8	219	5	232	- 11	8	16	35 -	20	296	19	335	57	10	. 1	68	
	Grand Total	83	2173	247	2502	97	162	154	413	326	3954	185	4465	293	91	7	391	7771
	Appreh %	3.3	86.8	9.9		23.5	39.2	37.3	-	7.3	88.6	4.1		. 74.9	23.3	1.8		
	Total %	1.1	28	3.2	. 32.2	1.2	2.1	2	5.3	4.2	50.9	2.4	57.5	3.8	1.2	0.1	5	

	W		on Stree bound	ι			auc 47 bound		N	~	ion Street	1		Eastl	nic 47 bound		
Start Time	Left			Арр. Гота]	Left		Right	App. Fool	Leit	Thru	Right	App, Intal	Left	Diru	Right	App. Total	int, Total
Peak Hour Analy						of I											
Peak Hour for Er	itire Inte	rsection	Begins	at 10:15 A	M							200	#4	34		100	501
10:15 AM	6	94	4	104	10	3	4	17 :	3	264	13	280	74	24	4		-
10:30 AM	0	171	14	194	. 7	9	11	27 -	15	297	18	330	33	6	0	39	590
10:45 AM	6	143	40	189	10	43	9	62	63	319	14	396	12	1	0	13	660
	Υ.		24	169	. 7	. 14	14	35	51	233	9	293	8	3	0	11	508
11:00 AM		144	-,-		- 1						54	1299	127	34	2	163	2259
Total Volume	22	552	82	656	34	69	38	141	132	1113	_	1222			1.2		
% App. Total	3.4	84.1	12.5		24.1	48.9	2,7		10.2	85.7	4.2	1 1 14	77.9	20.9		100	0.57
PHF	.611	.807	.513	,845	.850	.401	.679	.569	.524	.872	.750	.820	.429	354	.250	408	.856

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny File Name: LQWA47SUN Site Code: 00724611 Start Date: 6/3/2007 Page No: 2

	Washington Street Out In Total 1278 656 1934 82 552 22 Right Thru Left	
	*	
•		
	Peak Hour Data	and the second second
7 446	•	÷ 20 = 1 = 1
2 2	North	* Right 38
1,163 2 34 7 Thru	Peak Hour Begins at 10:15 AM	# 141 60 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Out 2863 Aight 4	Total Volume	Total 251 34 Left
		. `
•		
	Left Thru Right 132 1113 54	
	588 1299 1887 Out in Total Washington Street	

Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

reak riour for	EXCH !	чорго	acn c	egins at:													
	11:30	AM				10:30 AM			:	10:15 AX	a i			10:00 AM			_
+0 mins.		5	189 -	5	199	7	y)	11	27	3	264	13	280	7	\$	1	16
+15 mins.	-	6	180	5	191	10	43	9.	62	15	297	18	330	74	24	2	100
+30 mins.	1.	6	176	3	185	7	14	14	35	63	319	14	396	33	6	()	39 -
+45 mins.		8	219	5	232	8	4	19	31	51	233	9	293	12	. 1	0	1.3
Total Volume	2		764	18.	807	32	70	53	155	132	1113	54	1299	126	39	3	168
% App. Total	3.	-)4.7	2.2		20.6	45.2	34.2		10.2	85.7	4.2		. 75	23.2	1.8	
PHF	.78		872	.900	.870	.800	.407	.697	-625	.524	.872	.750	.820	426	.406	.375	.420

City of La Quinta N/S: Washington Street E/W: Lake La Quinta Drive Weather: Sunny

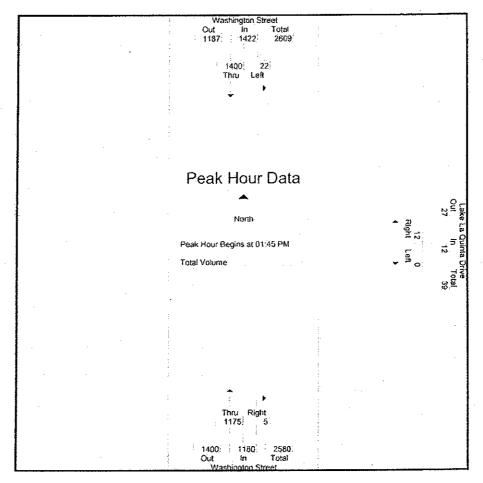
File Name : LQWALLSAT Site Code : 00724613 Start Date : 5/26/2007 Page No : 1

		hington Str Southbound			- Total Voli .a Quinta D Vestbound	rive	3	hington Stre Northbound	•	
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
01:30 PM	4	225	229	-0	2	2	230	2,	232	463
01:45 PM	- 5	341	346	0	. 1	· • • • • • • • • • • • • • • • • • • •	315	2.	317	664
Total	9	566	575	0	3	3	545	4	549	1127
02:00 PM	8	352	360	0	4	4	313	2	315	679
02:15 PM	.1	369	373	ñ	6	6	254	1	255	634
02:30 PM		338	343	ń	ĭ	ï	293	0	203	637
02:30 FM 02:45 PM	3	370	373	-0	,	'n	252	3	255	630
U2:45 PM Total	20	1429	1449	0	13	13	1112	6	1118	2580
03:00 PM		332	333	0	i	i	269	0.	269	603
03:15 PM	.1	344	348	0		1	245	i	246	595
Grand Total	34	2671	2705	0	18	18	2171	11	2182	4905
	1.3	98.7		Ω .	100		99.5	0.5		
Appreh % Total %	0.7	54.5	55.1	0	0.4	0.4	44.3	0.2	44.5	

1		hington Stre outhbound	eet '		a Quinta D Vestbound	•		shington Stre Northbound	,	
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 0										
Peak Hour for Entire Interse-	ction Begir	is at 01:45 I	PM					_		
01:45 PM	5	341	346	-0	1	1	315	2	317	664
02:00 PM	8	352	360	0	4	.4	313	2	315	679
02:15 PM	a a	369	373	ä	6	6.	254	1.1	255	634
	7	338	343	ň	ì	1	293	0	293	637
02:30 PM				0	12	12	1175	5	1180	2614
Total Volume	22	1400	1422	U	12	1/2			1100	201
% App. Total	1.5	98.5		0	100		99.6	0.4		
944	.688	949	.953	.000	.500	,500	.933	.625	931	.962

City of La Quinta N/S: Washington Street E/W: Lake La Quinta Drive Weather: Sunny

File Name : LQWALLSAT Site Code : 00724613 Start Date : 5/26/2007 Page No : 2



Peak Hour Analysis Fr				1 - Peak 1 of 1			•			
Peak Hour for Each App	roach	Begins	at:					. •		
	-02:00	PM		10	:30 PM		0	1:45 PM		
+0 mins.	:	8	352	360	()	2	2	315	2	317
+15 mins.	:	4	369	373 : .	0	1	t	313	. 2	315
+30 mins.		5	338	343	0	4 .	4	254	1	255
145 mins.		3	370	373	0	6	6	293.	0	293
Total Volume		20	1429	1449	0	13	13	1175	5	1180
% App. Total		1.4	98.6		0	100		99.6	0.4	, s
one.		625	986	971	000	542	54?	933	625	.931

City of La Quinta N/S: Washington Street E/W: Lake La Quinta Drive Weather: Sunny File Name: LQWALLSUN Site Code: 00724613 Start Date: 6/3/2007 Page No: 1

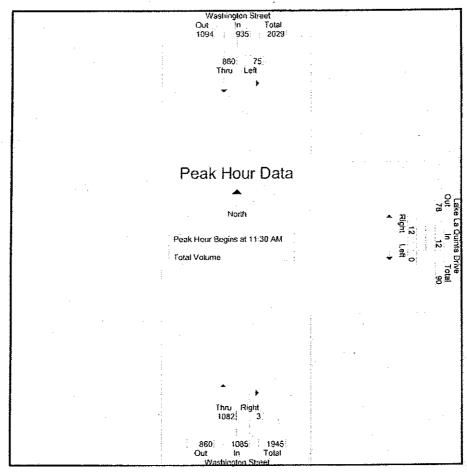
			Group	s Printed	- Total Volume					
	Wash	ington Str			.a Quinta Drive			hington Street		
:		outhbound		1	Vestbound			lorthbound		
Start Time	Left	Thru	App. Total	Left	Right App	o. Total	Thru	Right	App. Total	Int. Total
 08:30 AM	22	155	177	0	2	2	202	0	202	381
08:45 AM	7	85	92	0	2	2	222	. 2	224	318
Total	29	240	269	Ü	4	4	424	2	126	699
09:00 AM	5	86	91	Ö	4	4 :	286	0	286	381
09:15 AM	3	118	121	0	3	3 .	226	1	227	351
09:30 AM	3	99	102	0	2	2 .	212	t	213	317
09:45 AM	8	103	111	0	0	0 :	253	0	253	364
 Total	19	406	425	0	9	9.	977	2	979	1413
10:00 AM	4	153	157	0	Į	I	242	0	242	400
10:15 AM	44	187	231	0	0	ο	283	0	283	514
10:30 AM	13	£75	188	0	2	2 -	297	1	298 :	488
10:45 AM	10	158	168	0	2	5	396	. 0	396	566
Total	71	673	744	0	5	5	1218	. 1	1219	1968
11:00·AM	3	142	145	o	4	4	285	0	285	434
11:15 AM	4	140	144	0	0	0	260	2	262	406
11:30 AM	5	197	202	0	4	4	260	. 0	260	466
11:45 AM	7	180	187	0	0	. 0	263	2	265	452
Total	19	659	678	0	8	8	1068	4 .	1072	1758
12:00 PM	16	177	193	0	6	6	280	0	280	479
12:15 PM	47	306	353	0	2	2	279	1	280	635
Grand Total	201	2461	2662	0	34	34	4246	10	4256	6952
Appreh %	7.6	92.4		0	100		99.8	0.2		
Total %	2.9	35.4	38.3	0	0.5	0.5	61.1	0.1	61.2	

	Se	ington Stree outhbound	,	, \	a Quinta D Vestbound	i •	١	nington Stre		Int. Total
Start Time	Left		App. Total	Left	Right	App. Total	Thru	Right	App. Total	int. I diai
Peak Hour Analysis From 0	98:30 AM to	12:15 PM - I	Peak Lof L							
Peak Hour for Entire Interse	cction Begins	s at 11:30 Af	М							
11:30 AM	5	197	202	0	4	4	260	0	260	466
11:45 AM	7	180	187	0	.0	0 :	263	2	265	452
12:00 PM	16	177	193	0	6	6	280	0	280	479
12:15 PM	. 47	306	353	0	. 2	2 :	279	ţ	280 -	635
Total Volume	75	860	935	0	12	12	1082	3	1085	2032
% App. Total	8	92		0	. 100		99.7	0,3		•
PHF	.399	.703	.662	.000	500	.500	.966	.375	.969	.800

City of La Quinta N/S: Washington Street E/W: Lake La Quinta Drive

Weather: Sunny

File Name: LQWALLSUN Site Code: 00724613 Start Date: 6/3/2007 Page No: 2



Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

JOHN TOLICATOR MADE	roach degma	at.							
	11:30 AM		1	1:30 AM	•	11):15 AM		
÷0 mins.	5	197	202	0	4	4	283	0	283
+15 mins.	7	180	187	0	0	0	297	1	298
+30 mins.	16	177	193	. 0	6	6 -	396	. 0	396
+45 mins.	47	306	353	0	2	2	285	0	285
Total Volume	75	860	935	0	12	12	1261	j	1262
% App. Total	8	92		0	100		99.9	0.1	
PHF	.399	.703	.662	.000	.500	.500	.796	.250	.797

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive Weather: Sunny

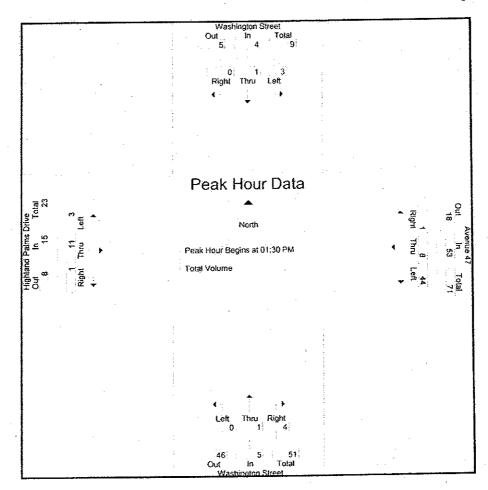
File Name : LQWA47HSAT Site Code : 00724687 Start Date : 5/26/2007 Page No : 1

		•				(Groups I	Printed- Tot	al Voli	ume							
	v	/ashinet	on Stree	t .			tuc 47				ion Street	E	Hig		alms Dr	ive	
		South					bound			North	bound				oound		
Start Time	Left			App. Total	Left			App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Test	lar. Total
01:30 PM	LUI	0	nagar :	1	5	2		7	0	1	0	1	3	0	1	4	13
01:45 PM	,	1	n	· .	16	ī	0	17	ő	()	Į	- 1	Œ	2	0	2	32
Total	- 1		0	2	21	3	ő	24	0	1		2	3	2	1	6	35
(Otai	-	,	1,	ر.	21	,	•	2.4	.,	•		_					
an an ner				0	17	3	4	-21	0	a	2	2	0	4	0	4	27
02.00 PM	IJ	U	0	Ω							1	- 1	a	5	n	5.	15
02:15 PM	1	()	·().	1 -	6	- 2	U	8	U	U	1			7	0	7	12
62:30 PM	2	0	0.	2	Į	1.	- 1	3	0	0	0	O :	IJ.	- /	ų,		14
02.45 PM	1	0	i	2	2	1	ø	3	0	. 0	4	4	0	2	1		12
Total	4	0	i	5	26	7	2	35	0	0	7	7.	0	18	1	19 :	66
	-		-	-				•					1.				
03:00 PM	1	. 0	0	1	1 -	1	0	. 2	0	()	12	12	Ø	2	0	2.	17
03:15 PM	i	n	8	i i	8	,	1	11	į	()	12	13	0	4	0	4	29
Grand Total	٠	1	í	16	56	13	1	72		1.	32	34	3	26	2	31	147
	80	10	10.	10	77.8	18.1	4.2	-	3.9	2.9	94.1		9.7	83.9	6.5		
Appreh %				<i>c</i> 0			7.2	49	.0.7	0.7	21.8	23.1	2	17.7	1.4	21.1	
Total %	5.4	0.7	0.7	6.8	38,1	8,8	2	+9		47.8	41.0		-		•••		

:	#	South			West	nuc 47 bound			North		;		Eastl	alms Dri bound		rus Winnestei
Start Time	Left	Thru	Right	App. Total LCIL		Right	Apri. Fond	Left	Thru	Right	Apr. Total	Lett	Unru	: Kigut	App. Total .	HH. 4 CR13
Peak Hour Analys	is Fron	i 01:30 l	PM to 03	3:15 PM - Peak 1	of I											
Peak Hour for Ent	ire Inte	esection	Begins	at 01:30 PM												1.3
01:30 PM	1	0	0.	1 5	2.	0	7	0	-1	0	1 ;	3	0.	1	4 :	13
01:45 PM	-1	1	0	2 16	. 1	0	17	0	Ø	I	1	:0.	2	{]	2.	22
02:00 PM	0	0	0	0 1.7	3	1	21	0	0	. 2	2	0	4	0	4 ;	27
02:15 PM	1	ö	0	1 6	2	0	8	. 0	Õ	ŧ	1.	()	5	0	5	15
Total Volume	i	1	ő	4 44	8	ŧ	53	0	1	4	5	3	11	1	15	77
% App. Total	75	25	ő	83	15.1	1.9		0	20	80		20	73.3	6,7		
PHF	.750	.250	.000	.500 .647	.667	.250	.631	.000	.250	.500	.625	250	550	.250	.750	.713

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive Weather: Sunny

File Name : LQWA47HSAT Site Code : 00724687 Start Date : 5/26/2007 Page No : 2



Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of	1
Peak Hour for Each Approach Begins at:	

Peak Hour for	Each App	woach B	iegins al	t:							-					
	02:15 PM				61:30 PM			: (62:30 PM			1	02:00 PM			
+0 mins.	1	0	0	f	5	2 -	0	7	Ö	0	0	0	0	4	0	4
+15 mins.	2	0	0	2	16	1	0	17	0	0	4	4	0	5	()	3
+30 mins.	: 1	0	1	2 ;	17	3	1 .	21	0	0	12	12	0	7	G	4 :
+45 mias.	1	0	0	1 -	6	2	Ð	8	1 :	-()	12	13	0	2	1	
Total Volume	5	0	1	6	. 44	8	ŧ	53	Ţ	()	28	29	0	18	- 1	19
% App. Total	83.3	0	16.7		83	15.1	1.9		3.4	0	96.6		Q	94.7	5.3	
141F		.000	.250	.750	.647	.667	250	.634	.250	.000	.583	.558	.000	.643	.250	.679

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive Weather: Sunny

File Name: LQWA47HSUN Site Code: 00724612 Start Date: 6/3/2007 Page No: 1

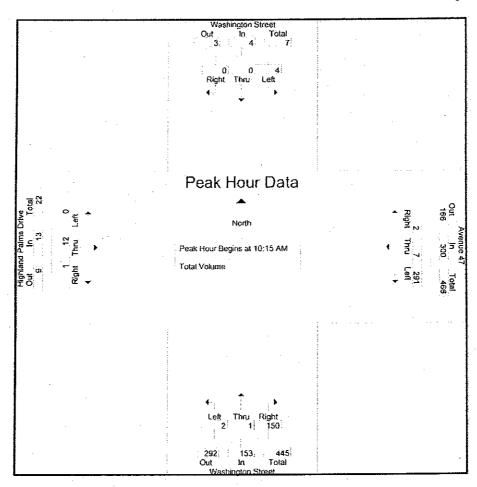
	•						Grouns Pr	rinted- To	tal Volu	me								
	12	Jachinau	on Street	i			nue 47		W	ashing	ton Stree	t	Hìg		alms D	rive		
	•	South					bound				bound				ound			,
Start Time	Left		Right	kon Total	Left -		Right	Ann. Foral	Left	Tiru	Right	Арр. Тоші	Left	Thru	Right	App. Total		, i
08:30 AM	2	()	()	?	28	2	0	30	1	0	66	67	0	3	1	4	103	
08:45 AM	õ	1	ő	1	89	. 2	0	91	()	0	10	10	0	0	1	. I	103	
Total	3	i	ŏ	3	117	4	0	121	1	0	76	77	0	3	2	5	206	
09:00 AM	0	ı	0	1	141	3		145	. 0	0	6	6 ;	q	0	Ü	ø	152	
09,15 AM		ò	ŏ	1	46	3	j	50	0	0	2	2	Ð	. 3	(j	3		
09:30 AM	ė.		ő	1	8	ī	0	9	0	0	2	2	0	()	0	0	12	
09:45 AM	ö	o	ő	Ü	2	0	i	3 1	ø	0	1	1	0	0	0	. 0		
Total	1	2	ő	3	197	7	3	207	0	0	11	11	0	3	0	3	224	
10:00 AM	1	0	0	1	10	2	2	. I4	. 0	0	22	22	0	2	Ö	2	39	
10:15 AM	2	. 0	ö	2	. 11	2	0	1.3	0.	1	93	94	0	6	0	6	115	
10:30 AM	0	ä	ű	0	46	ī	0	47	0	0	41	41	0	4	0	4	92	
10:45 AM	2	ő	ő	2	147	3	0	150	2	0	7	9	0	1	1	2	163	
Total	5	ő	0	5	214	8	2	224	2	1	163	166	0	13	1	14	409	
11:00 AM	. 0	ø	0	0 ;	87		2	90 :	9	0	9	9	0	I	0	l	100	
11:15 AM		Œ	0	0	25	Ü	0	25	9	Q	4	4	0	0	0	Q	29	
11:30 AM		ő	ö	2	6	0	0	6:	0	0	4	4	0	- 4	0	1	13	
11:45 AM	ĩ	Ö	í	2 2	13	ŧ	2	16	0	0	. 2	2 .	0	0	0	O.	20	
Total	3	ö	1	4	131	2	4	137	0	0	19	19	. 0	· 2	()	2	162	
12:00 PM		0	0	1 1	19	. 0	0	19	ø	0	34	34	0	4	0	4	58	
12:15 PM	2	ő	Ö	2	32	2	1	35	()	. 0	93	93	í	6	0			
Grand Total	14	3	ī	18	710	23	10	743	3		396	400	1	31	3	35	, 1,196	
Appreh %	77.8	16.7	5.6		95.6	3.1	1.3		0.8	0.2	99		2.9	88.6	8.6	<u> </u>	•	
Total %	1.2	0.3	0.1	1.5	59.4	1.9	0.8	62.1	0.3	0.1	33.1	33.4	0.1	2.6	0.3	2.9	5	

Start:Time	Left	ashingto Southb Thru	ound Right A	pp. Votal	Left	Ayen Westb Thru		pp. faral Le	No	ngton Str rthbound u Righ		Hig Left	Eastb		ve App. Fotal	Int. Total
Peak Hour Analysi	is Fron	i 98:30 A	M to 12:	15 PM - P	eak I a	of 1										
Peak Hour for Enti	re Inte	rsection	Begins at	10:15 AN	t			:				à		n	4	115
10:15 AM	2	0	0	2	11	2	0	13	0	1 93		· U	0	· V	,	
10:30 AM	0	O.	0	0	46	1	0	47	0	0 41	41	U	-4	Q	4	92
10:45 AM	່າ	ň	G	2 .	147	3	0	450	2	0 '	9	Ò	i	1	2	163
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PHF	.500	.000	.000	.500	.495	.583	.250	.50025	0 .25	0 .40.	.407	.000	.500	.4.20		-151

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive Weather: Sunny

File Name : LQWA47HSUN Site Code : 00724612 Start Date : 6/3/2007

Page No : 2



Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1

Peak Hour for I	Each App	roach f	degins at:													1
	11:30 AM	1			98:30 AM	l			10:00 AN	1		10	$30~\mathrm{AM}$			1
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+15 mins.	1	0	1	2	89	2	0	91.	0.	1	93	94	0	6	0	6.
+30 mins.	1	0	. 0	1	141	3	1	145	0	θ	41	41 :	0.	4	0	4
+45 mms.	2	0	0	2	46	3	1	50	2	Ü	- 7	9	0	1	i	2
Total Volume	6	0	1	7	304	10	2	316	2	. 1	163	166	Ü	13	ŀ	14
% App. Total	85.7	0	14.3	- :	96.2	3.2	0.6		1.2	0.6	98.2		0	92.9	7.1	
PHE	750	000	250	875	530	833	500	545	250	.250	.438	.441	000	542	.250	.583

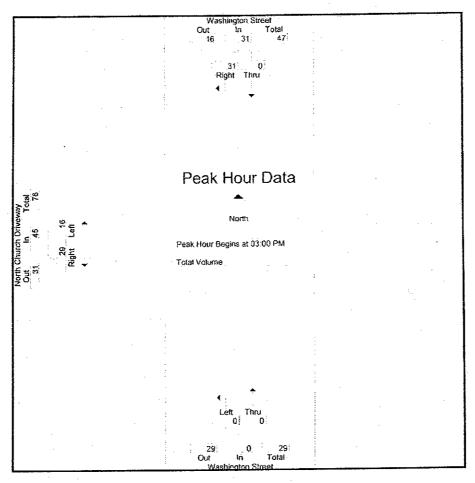
City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name: LQWADWNSAT Site Code: 00724623 Start Date: 5/26/2007 Page No: 1

	Wash	ington Stre			d-Total Volu shington Stree Northbound		North	Church Driv Eastbound	eway	
Start Time	Thru	Right	App. Total	Left		App. Total	Left	Rìght	App. Total	Int. Total
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Total	0	6	6	0	0	0 :	ï	Ö	ì	7
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02:30 PM	0	4	4	0	Ü	0.1	0	0	0 .	4
02:45 PM	O	()	0	0	Ü	0 :	E	0	1	. 1
Total	0	32	32	ŧ	0	· L.	2	1	3	36
03:00 PM	0	6	6	0	Ö	0 '	0	0	0	6
03:15 PM	0	2	2	.0	0	0.	3	12	15	17
03:30 PM	0	12	12	Ð	ប	0 -	10	17	27	39
03:45 PM	0	11	11	Ü	0	0	3	θ	3	14
Total	. 0	31	. 31	0	υ	0	16	29	45	76
Grand Total	0	69	. 69	***	0	1	19	30	49	119
Appreh %	0	100		100	0		38.8	61.2		
Total %	0	58	58	0.8	0	0.8	16	25.2	41.2	

		nington Stre	et		hington Streetorthound	e t		Church Drive Eastbound	eway	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 01	:45 PM to (03:45 PM -	Peak Lof L							
Peak Hour for Entire Intersec	tion Begin	s at 03:00 P	M		•	• •				
03:00 PM	0	. 6	6	0	. 0	0	0	0.	0	6
03:15 PM	Ð	2	2	0	0	0	3	12	15 :	17
03:30 PM	0	12	12	0	Û	0	10	17	27	39
03:45 PM	0	11	11	0	0	0	3	0	3	14
Total Volume	0	31	31	0	0	0	16	29	45	76
% App. Total	ø	100	*	0	0		35.6	64.4	:	
PHF	.000	646	.646	.000	.000	.000	.400	.426	.417	.487

City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny File Name: LQWADWNSAT Site Code: 00724623 Start Date: 5/26/2007 Page No: 2



Peak Hour Analysis From Peak Hour for Each Approac			M - Peak 1 of	1					
01.	45 PM		0	:45 PM		Q:	3:00 PM		:
÷0 mins.	0	6	6	0	.0	0 -	0	0	0
+15 mus.	n'	19	19	. 1	0	1	-3	12	15
+30 mins.	ő	9	9	U	0	0.	10	17	27
+45 mins.	ő	4	4	0	0	0	3	0	3 .
Total Volume	ő	38	38	1	0	1	16	29	45
% App. Total	ŏ.	100		100	0		35.6	64.4 .	,
Over the second	000	500	SNO	250	000	250	400	.426	.417

City of La Quinta N/S: Washington Street E/W: South Church Driveway Weather: Sunny

File Name : LQWADWSSAT Site Code : 00724623 Start Date : 5/26/2007 Page No : 1

			Gro	ups Printe	d- Total Vo	olume				
:	Wasi	hington Str	eet	Was	hington Sti Iorthbound	reet	South C	ieway		
Start Time	Thru		App. Total	Leit		App. Total	Left	Eastbound Rght	App. Total	Int. Total
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Total	Ō	Ō	Ŏ	ő	0	0	0	.0	0 :	Ó
02:00 PM	0	. 0	0	0	0	0	. 0	0	. 0	0
02:15 PM	Ō	Ō	0	0	0	0 -	· 0	0	0	0
02:30 PM	Ō	ō	0	0	0	0.	0	0	0 -	0
02:45 PM	Ō	Ō	0	- 0	0	0.	0	0,	0	0
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- 03:00 PM	0	0	.0	0	.0	0	0	. 0	0 -	0
03:15 PM	0	0	0	0	0	0	0	Ö	0	0
03:30 PM	0	Ô	0 :	. 0	0	0	. 0	. 0	. 0	0
03:45 PM	Ō	Ö	0	0	0	0	0	,0	0 .	0
Total	0	0	0	٥	0	0	0	0	0	0
Grand Total	0	0	0	. 0	0	0 -	0	0	0	0
Approh %	0	0		0	0	•	O	0		
Total %						:		•		

		hington Stre	et		hington Str Jorthbound			Church Dri		
Start Time	Thru	Rght: /	App. Total	Left :	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Analysis From	n 01:45 PM	to 03:30 PM	I - Peak 1 of 1							
Peak Hour for Entire Inte	rsection Be	gins at 01:4:	5-PM						_ 4	_
01:45 PM	0	0	0	0	0	0 :	0	0	0	0
02:00 PM	0	0	0 :	0	0	0	0	0	0.	0
02:15 PM	0	0	0	0	0	0 :	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
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PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

City of La Quinta

N/S: Washington Street

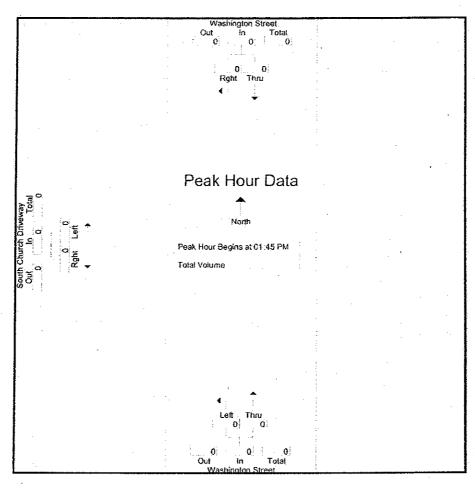
E/W: South Church Driveway

Weather: Sunny

File Name: LQWADWSSAT

Site Code : 00724623 Start Date : 5/26/2007

Page No : 2



Peak Hour Analysis From 01:45 PM to 03:30 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

	, ,		J						
01	:45 PM		÷ 61	:45 PM		01	:45 PM		:
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	Ó	0	0	0 `
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	C	0	. 0	. 0
Total Volume	0	0	0	0	0	0	0	0	0 ;
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City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name : LQWADWNSUN Site Code : 00724623 Start Date : 6/3/2007 Page No : 1

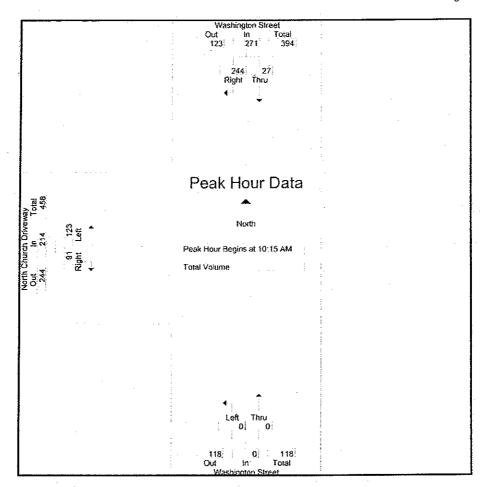
				Gro	ups Printed-					\$ 1 T	
,	1		rington Stre	et		ington Stree	t	North C	eway		
: 14			outhbound		11.	orthbound			Eastbound	to Tarel	Int Total
	Start Time	Thru	Right	App. Total	Left		App. Total	Left	Right	App. Total	Int. Total: 143
	08:30 AM	14	28	42	. 0	0	0	64	37		
	08:45 AM	2	68.	70	. 1	0		9	5	14	85
	Total	16	96	112	I	0.	!	73	42	115	228
	09:00 AM	28	100	128	0	0	0	. 5 .	4	9	137
	09:15 AM	15	36	51	0	0	. 0 .	1	3	4	55
	09:30 AM	-2	7	9	0	0	0.	i	1	<u>2</u> · ·	. 11
	09:45 AM	0	2	2	. 0	0	• 0	0	0.	0.	2 .
	Total	45	2 145	190	0	0	0	. 7	8	15	205
	10:00 AM	1 .	10	ti .	. 0	O.	0 -	17	9	26	37
	10:15 AM	13	7	20	0	0	0	81	74	155	175
	10.30 AM	2	33	35	Q	0	0	25	9	34	69
	10:45 AM	5	123	127	.0.	Ű	Û	9.	7,	1.6	143
	'Total	21	172	193	0	Q	0	132	99	231	424
	11:00 AM	7	82	89	0	0	0 -	8	1	9	98
	H:15 AM :	3	21	24	0	0	Ú	4	2	6	- 30
	11:30 AM	2	7	9	0	G	0	3	2	5	14
	11:45 AM	ţ	11	12	Ó,	0	0	2 17	2	4	16
	Total	13	121	134	0	0	0	17	7	24	158
	12:00 PM	-5	15	20	0	0	0	21	5	26	46
	12:15 PM	16	23	39	0	0	0	67	57	124	163
	Grand Total	116	572	688	1	0	ţ	317	218	535	1224
	Appreh %	16.9	83.t		100	0		59.3	40.7		
	Total %	9.5	46.7	56.2	0.1	0	0.1	25.9	17.8	43.7	

		hington Street outhbound	!		ington Stree	,		Church Orivi Eastbound	eway	1
Start Time	Thru		App. Total	Left	Thru	App, Total	Left	Right	App. Total	Int, Total
Peak Hour Analysis From 0	8:30 AM to	12:15 PM - P	eak Lof I							
Peak Hour for Entire Interse	ection Begin	s at 10:15 AN	ſ							
10:15 AM	13	7	20	0	0	0 -	81	74	155	175
10:30 AM	2	33	35	0	ø	0.	25	9	34	69
10:45 AM	5	122	127	O	0	0.	9	7	16	143
11:00 AM	7	82	89	0	. 0	0	8	1,	9	98
Total Volume	27	244	271	0	0	0	123	91	214	485
% App. Total	10	90		0	0	1	57.5	42.5		
PHF	.519	.500	.533	.000	.000	.000	.380	.307	.345	.693

City of La Quinta N/S; Washington Street E/W: North Church Driveway Weather: Sunny

File Name : LOWADWNSUN Site Code : 00724623 Start Date : 6/3/2007

Page No : 2



Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

он ног васи жрркоа	ын ысданы а	t.							2
08	08	08:30 AM			10:00 AM				
+0 mins.	14	28	42	0	0	. 0	17	9	26
+15 mins.	2	68	70	1	0	1 :	81	74	155
+30 mins.	28	100	128	0	0	0.1	25	9	34
+45 mins.	. 15	36	51	0	. 0	0	9	7	16
Total Volume	59	232	291	1	.0	1	132	99	231
% App. Total	20.3	79.7		100	0		57.1	42.9	
PHF	.527	.580	.568	.250	.000	.250	.407	.334	.373

City of La Quinta N/S: Washington Street E/W: South Church Driveway Weather: Sunny

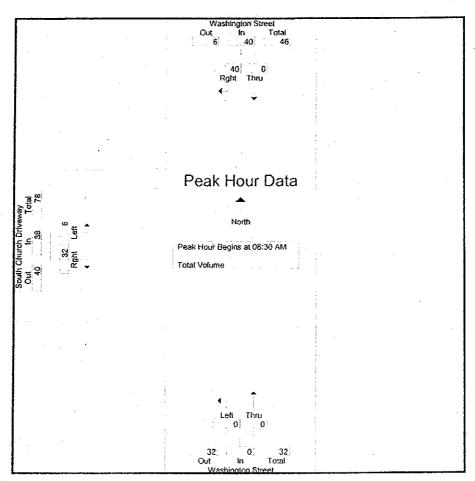
File Name : LQWADWSSUN Site Code : 00724623 Start Date : 6/3/2007 Page No : 1

		4		Grou	ps Printed	Total Volu	me				
		Wash	ington Stre	et		ington Stre		South C	hurch Driv	eway	
		Sc	nuthbound		N	orthbound		F	astbound	. [
į.	Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
	08:30 AM	0.	0	0	0	0	0	5	32	37	37
	08:45 AM	0	2	2	0	0	0 :	1	0	1.1.	. 3
	Total	0	2	2	0	0	0	6	32	38	40
	09:00 AM	0	25	25	0	0.	0 ·	0	0	0 :	25
	09:15 AM	0	13	13	0	0	O	0	. 0	0 :	13
	09:30 AM	0	1	1	0	0	, 0	0	0	0	. 4 -
	09:45 AM	0	0	0	0	. 0	0	0	0	0.	0
	Total	0	. 0 39	39	0	0	0	0	0	0	39
	10:00 AM =	0	i	1	0	0	()	2	2	4	5.
	10:15 AM	0	0	0	0	Ø	0	15	4[56	56
	10:30 AM	0	0	0	0	0	Û	ŧ	4	5.	5
	10:45 AM	()	3	3	0	Û	0	0	ļ	1	4
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	11:00 AM	.0.	8	8	0	0	0	0	0	0 :	8
	H:15 AM	0	5	5. "	0	0	0	0	0	0	5
	11:30 AM	()	1	1	0	0	0	0	0	0	T
	11:45 AM	0	0	0	0	0	()	0	0	0	0
	Total	0	14.	14	0	0	ø	0	0	0	14
	12:00 PM	0.	0	0.	0	0	0	4	ŧ	5	5
	12:15 PM	0	2	2	0	• 0	()	8	39	47	49
	Grand Total	0	61	61	0	. 0	0	36	120	156	217
	Appreh %	Ø	100.	:	0	0		23.1	76.9		
	Total %	0	28.1	28.1	0	0	0	16.6	35.3	71.9	

			ington Stree	et		nington Stree	et :		hurch Drive astbound		
S	tart Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Ar	nalysis From 01	3:30 AM to 1	0:15 AM -	Peak 1 of 1					-		
Peak Hour fo	r Entire Interse	ction Begins	at 08:30 A	M			•				
	08:30 AM	oʻ -	0.	0 :	0	Ó	0	5	32	37	37
	08:45 AM	0	2 .	2	0	0	0	1	0	1	3
	09:00 AM	0	25	25	Ö	0	0	0	0	0	25
	09:15 AM	o i	13	13	0	. 0	0	0	Ó	0	13
Tota	l Volume	0	40	40	0	0	0	6	32	38	78
% A	App. Total	0	100		0	Ö		15.8	84.2	* -	
*	PHF	.000	.400	.400	.000	.000	000	.300	.250	.257	.527

City of La Quinta N/S: Washington Street E/W: South Church Driveway Weather: Sunny

File Name : LQWADWSSUN Site Code : 00724623 Start Date : 6/3/2007 Page No : 2



Peak Hour Analysis From 08:30 AM to 10:15 AM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

	and in the Continue of	••	4 4 4			and the second second			
	8:45 AM		0	8:30 AM		09	:30 AM		
±0 mins.	O.	2	2	0	0	0 :	0	0	0
+15 mins.	0	25	25	Ð	0	0	0	Ü	0 ;
+30 mins	0	13	13	0	0	0.:	2	. 2	4
+45 mins.	0	. 1	1	0	0	0:	15	41	56.
Total Volume	0	41	41	0	0	0	17	43	60
% App. Total	0	100		0	0		28.3	71.7	
PHF	.000	.410	.410	.000	.000	.000	283	.262	.268



November 12, 2007

13191 Crossroads Parkway North, Suite 405 Industry, California 91746-3497 562/908-6200 fax 562/695-2120 www.willdan.com

Mr. John Vuksic President Vuksic Architects 44530 San Pablo Avenue, Suite 200 Palm Desert, CA 92260

Subject:

Traffic Analysis for Saint Francis of Assisi Catholic Church

Improvement Project

Dear Mr. Vuksic:

INTRODUCTION

Willdan is pleased to submit this traffic analysis regarding the Saint Francis of Assisi Catholic Church (Church). The Church proposes to expand its parking facilities to add additional parking spaces. The City of La Quinta requested a Traffic Impact Report to address trip generation, level of service (LOS), parking generation, and left turn and right turn storage requirements. The City also requested that traffic generated by the Laing Homes development be incorporated into the study. The Church and Laing Homes development will have shared access to the west leg of the Washington Street and Lake La Quinta Drive intersection. This letter report analyzes the existing traffic volumes generated by the Church and the proposed traffic generated by the Laing Homes development. It does not address traffic volumes that will be generated by other developments.

DATA COLLECTION

Turning movement counts were taken on Saturday, May 26, 2007, between 1:30 p.m. and 3:30 p.m. and on Sunday, June 3, 2007, between 8:30 a.m. and 12:30 p.m. These dates and times were chosen based on discussions with the Church regarding current Sunday church service and Saturday special event schedules. The counts were taken at the following locations:

- Washington Street Frontage and the south Church driveway.
- Washington Street Frontage and the north Church driveway.
- Washington Street Frontage and Highland Palms Drive.
- Washington Street and Highland Palms/Avenue 47.
- Washington Street and Lake La Quinta Drive.

Average Daily Traffic (ADT) counts were not requested by the City for this analysis.

The peak hour identified for Saturday was 2:30 p.m. to 3:30 p.m. and the peak hour for Sunday was 10:15 a.m. to 11:15 a.m. Saturday Church volumes were significantly lower than Sunday volumes; therefore, Sunday traffic volumes were used as the basis for this analysis and are depicted in Exhibit A. Saturday traffic volumes are depicted in Exhibit B.

TRIP GENERATION

Trip generation was determined for the existing Church facilities. The Institute of Transportation Engineers (ITE) Trip Generation book, 7th Edition, was used to calculate trips based on the number of seats. The Church has 760 existing seats and based on the ITE rates, the Church is estimated to generate the following:

Table 1 St. Francis of Assisi Catholic Church

Weekend Trip Generation Rates (trips/seat) vs. Seats

Land Use Code: 560 Number of Seats: 760

	· · · · · · · · · · · · · · · · · · ·	,			,	y	
Average Saturday Rate	Average Saturday Trips	Average Saturday Peak Hour Rate	Average Saturday Peak Hour Trips	Average Sunday Rate	Average Sunday Trips	Average Sunday Peak Hour Rate	Average Sunday Peak Hour Trips
0.9	684	0.6	456	1.53	1163	0.63	479

Trip generation for the Laing Homes development was determined based on their approved environmental analysis for the development. The environmental analysis indicates that 708 average daily trips will be generated from 74 residences. The peak hour volume was taken to be 10 percent of the average daily trips.

TRIP DISTRIBUTION

The Church's expansion of its parking facilities will require Washington Street frontage to be abandoned, including the existing north and south Church driveways. A new driveway will be constructed to provide access to Washington Street. A traffic signal will also be installed at Washington Street and Lake La Quinta Drive to provide additional access to the Church property.

The Sunday peak hour volumes were redistributed from the existing access points to the new access points to determine the traffic impacts with the new Church parking facilities. Exhibit C depicts the redistributed traffic volumes generated by the Church. Per City guidelines, a 40 percent seasonal increase was included with the redistributed traffic volumes. The City considers May 16th to September 30th to be off-season and the measured volumes may be increased up to 40 percent.

Exhibit D depicts the peak hour distributed volumes generated by the Laing Homes development. Exhibit E identifies the total distributed volume used in the analysis.

The trip distribution for the Church was based on the following:

 A 60/40 split was used to determine traffic volume through the two access points where 60 percent is through the Washington Street and Lake La Quinta Drive intersection and 40 percent is through the north Church driveway.

The trip distribution for the Laing Homes development was based on the following:

- Per discussions with the City, it was determined the majority of traffic will travel to and return from the north. It was assumed that vehicles traveling north will use the north driveway and vehicles traveling south will use the south driveway. A 70/30 split was used to distribute vehicles traveling to the north and to the south, where 70% use the Washington Street and Lake La Quinta Drive intersection and 30% use the south driveway.
- Per ITE Trip Generation Land Use Code 210, a 25/75 in-out distribution was used for the AM peak hour and a 63/37 in-out distribution was used for the PM peak hour.
- In general, housing developments produce lower weekend trips than weekday trips therefore yield a small impact on sites where the majority of traffic is weekend generated. The worst-case scenarios of AM and PM peak hour trips were added to the redistributed weekend Church traffic volumes and used for the analysis.

PARKING GENERATION

The ITE Parking Generation book, 3rd Edition, was used to calculate the peak period parking demand of the existing Church facilities. Currently, the Church provides 184 parking spaces. Table 2 indicates the parking demand to be 122 spaces on a Sunday.

St. Francis of A	Table 2 ssisi Catholic Church ng Demand vs. Seats on a Sunday
1	se Code: 560 of Seats: 760
Average Rate (vehicles/seat)	Average Parking Demand
0.16	122

Chapter 9 of the City of La Quinta Municipal Code states that one parking space per three seats shall be provided for all "Assembly Uses."

	Table 3	
Saint Fr	ancis of Assisi Catholic Ch	urch
City of La	Quinta Municipal Code, Cha	pter 9
	Assembly Uses	
	Number of Seats: 760	
Average Saturday Rate (vehicles/seat)	Average Sunday Rate	Total Available Spaces (existing + proposed)
0.333	253	590

As shown in Table 3, the City's Municipal Code requires 253 parking spaces for the Church and the total number of existing and proposed spaces is 590.

LEVEL OF SERVICE ANALYSIS

An intersection capacity utilization (ICU) analysis was performed for the proposed traffic signal at the intersection of Washington Street and Lake La Quinta Drive and at the proposed north driveway entrance. The ICU method computes a Level of Service for an entire intersection based on a volume to capacity (V/C) ratio summation for key conflicting movements. LOS is a relative measure of driver satisfaction with ranges from "A" (free flow: ICU less than 0.600) to "F" (forced flow: ICU value in excess of 1.000).

The following is a description of levels of service:

- LOS A (ICU less than 0.600) Low volumes; high speeds; speed not restricted by other vehicles; all signal cycles clear with no vehicles waiting through more than one signal cycle.
- LOS B (ICU 0.601 to 0.700) Operating speeds beginning to be affected by other traffic; between one and ten percent of the signal cycle have one or more vehicles which wait through more than one signal cycle during peak traffic periods.
- LOC C (ICU 0.701 to 0.800) Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; recommended ideal design standard.

- LOS D (ICU 0.801 to 0.900) Tolerable operating speeds; 31 to 70 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; often used as design standard in urban areas.
- LOS E (ICU 0.901 to 1.000) Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71 to 100 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.
- LOS F (ICU over 1.000) Long queues of traffic; unstable flow; stoppages of long duration; traffic volume and traffic speed can dip to zero; traffic volume will be less than the volume which occurs at Level of Service E.

Based on the ICU analysis for Washington Street and Lake La Quinta Drive, the intersection will be operating at a LOS A during the Sunday peak hour (Table 4). This analysis is based on the redistributed Church traffic volumes and the weekday Laing Homes traffic volumes.

Table 4	·	
Intersection	v/c	LOS
Washington Street/North Driveway Entrance	0.409	Α

The methodology used to analyze the north driveway entrance is described in the 2000 Highway Capacity Manual (HCM), published by the Transportation Research Board. This methodology was used because the driveway will be stop-controlled. LOS of stop-controlled intersections is defined in terms of delay, which is a measure of driver comfort, frustration, fuel consumption, and loss of time.

The HCM analysis method determines the available acceptable gaps in the major traffic stream used by vehicles crossing or turning through the stream. The number of available gaps affects the delay experienced by motorists required to yield. This delay is calculated and a LOS designation is assigned at incremental delay times. LOS A corresponds to little or no delay whereas LOS F corresponds to very long delays.

Based on the HCM analysis for the north driveway entrance, the access will be operating a LOS C during the Sunday peak hour (Table 5). As stated previously, this analysis is based on the redistributed Church traffic volumes and the weekday Laing Homes traffic volumes.

Table 5			
Intersection	Eastbound Approach		
	Delay	LOS	
Washington Street/North Driveway Entrance	16.1	С	

Note: delay is in seconds

LEFT-TURN AND RIGHT-TURN STORAGE CALCULATIONS

In general, an accepted method to determine turning lane storage lengths is to provide 1 foot for every turning vehicle in the peak hour. The City utilizes the ITE Transportation and Land Development nomograph to determine storage lengths. The minimum storage length is 100 feet and 250 vehicles during the peak hour is the threshold for dual left turn lanes. A 90 second traffic signal cycle was used to determine the storage lengths at the Washington Street and Lake La Quinta Drive intersection.

The storage length was determined for the following locations:

- Southbound Washington Street right turns at the north Church driveway entrance.
- Southbound Washington Street right turns at Lake La Quinta Drive.
- Northbound Washington Street left turns at Lake La Quinta Drive.

The analysis was based on the redistributed traffic volumes of existing vehicles entering and exiting the Church property.

	Table 6		
Turning Movement Location	Volume (vehicles/hr)	Minimum Storage Length (feet)	Recommended Storage Length (feet)
Southbound Washington Street right turns at north Church driveway entrance	87	100	100
Southbound Washington Street right turns at Lake La Quinta Drive	161	150	200
Northbound Washington Street left turns at Lake La Quinta Drive	205	200	265

Table 6 indicates the recommended storage lengths for each intersection to range from 100 to 265 feet.

SUMMARY

This Traffic Impact Report has been completed to address trip generation, parking generation, level of service, and left turn/right turn storage requirements. The average number of trips generated by the Church on a Sunday is 479 trips during the peak hour and the average parking demand is 122 spaces. The City of La Quinta requires 253 parking spaces per the La Quinta Municipal Code, Chapter 9. The existing parking lot currently has 184 spaces and the expansion will yield an additional 406 spaces for a total of 590. The expansion will exceed the parking requirements for the City of La Quinta and ITE parking generation rates.

The ICU analysis for Washington Street and Lake La Quinta Drive intersection indicates a LOS A during the Sunday peak hour and exceeds the recommended ideal design standard. The HCM analysis for Washington Street and the north Church driveway entrance indicates a LOS C and a delay of 16.1 seconds during the peak hour.

The left-turn and right-turn storage lengths were determined based on the redistributed traffic volumes. The recommended storage lengths are:

- 100 feet for southbound Washington Street right turns at the north Church driveway entrance
- 200 feet for southbound Washington Street right turns at Lake La Quinta Drive
- 265 feet for northbound Washington Street left turns at Lake La Quinta Drive

Based on the 50 MPH posted speed limit on Washington Street, it is further recommended that 150 feet reverse curves be used for the turning lane bay tapers.

Should you have any questions regarding this study, please contact me at (562) 908-6221

Sincerely,

WILLDAN

Réggie Greene

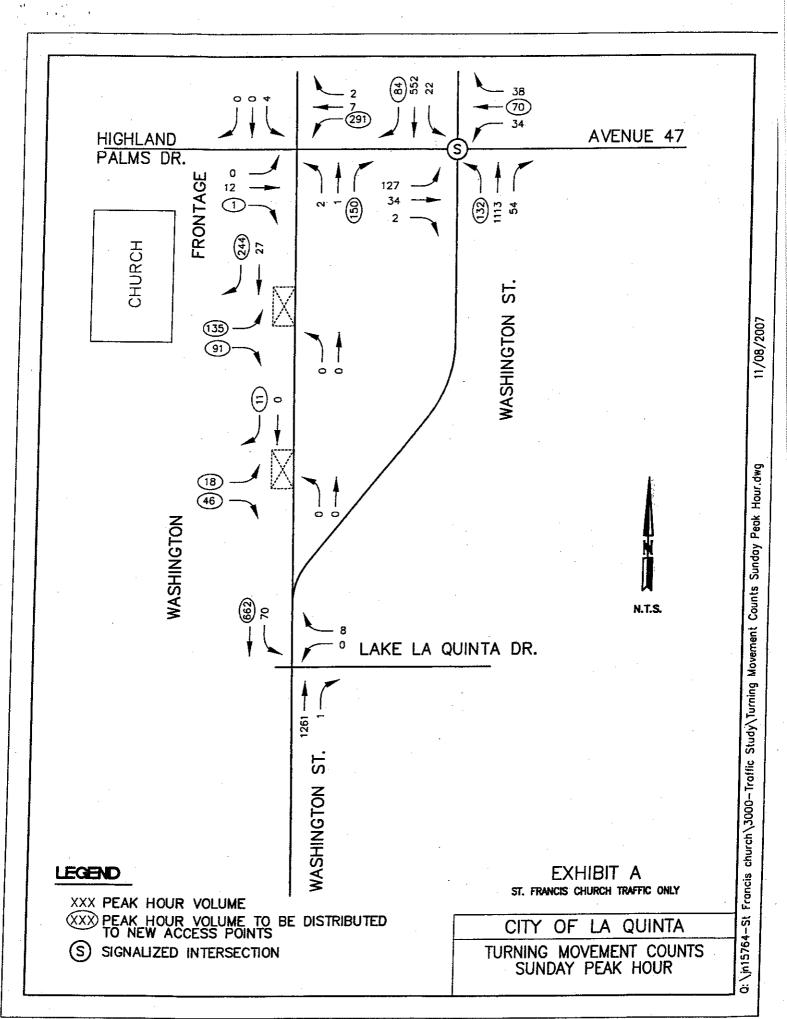
Senior Design Engineer

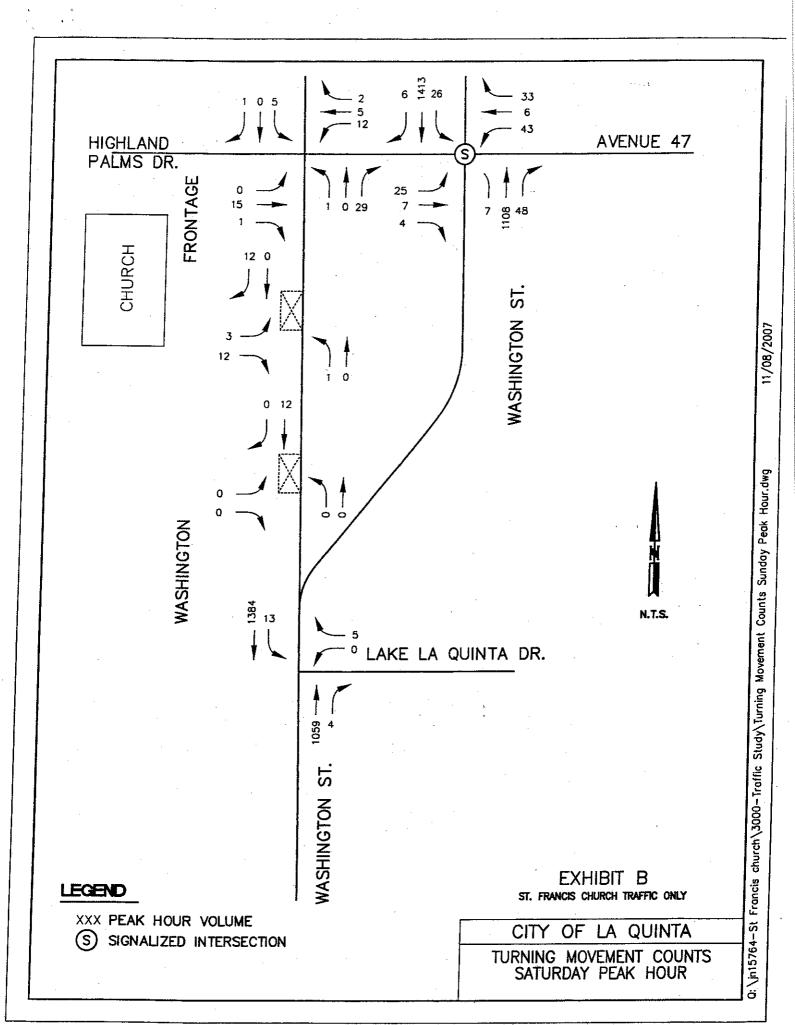
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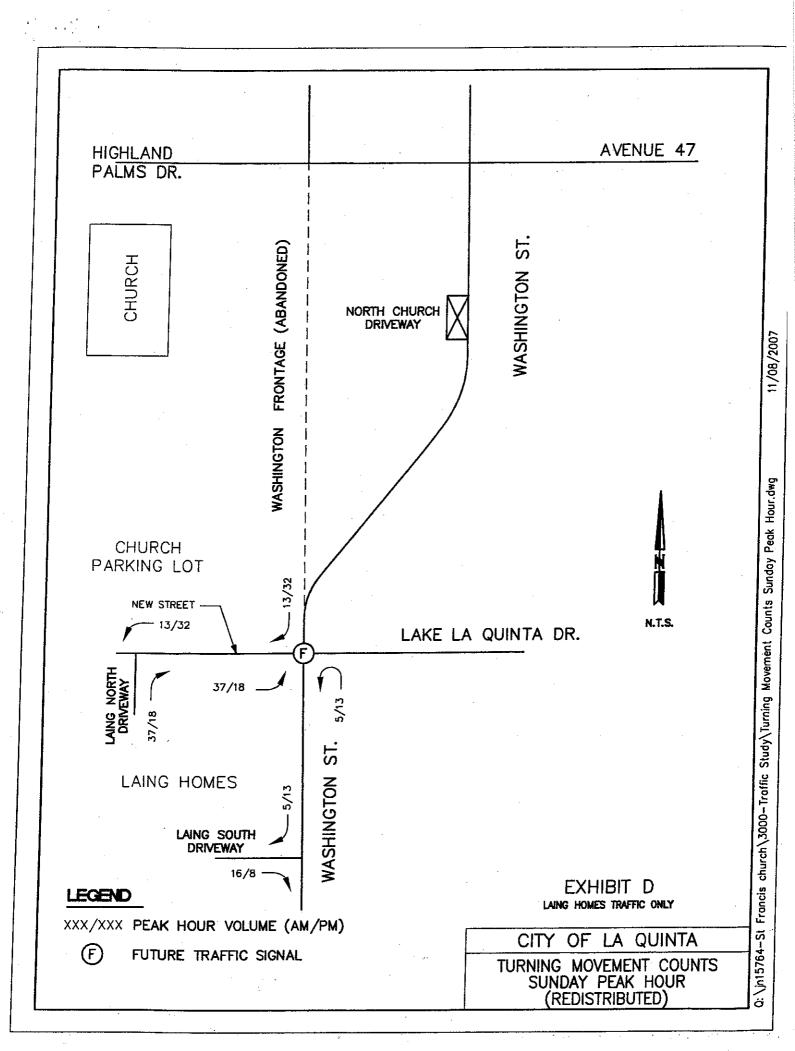
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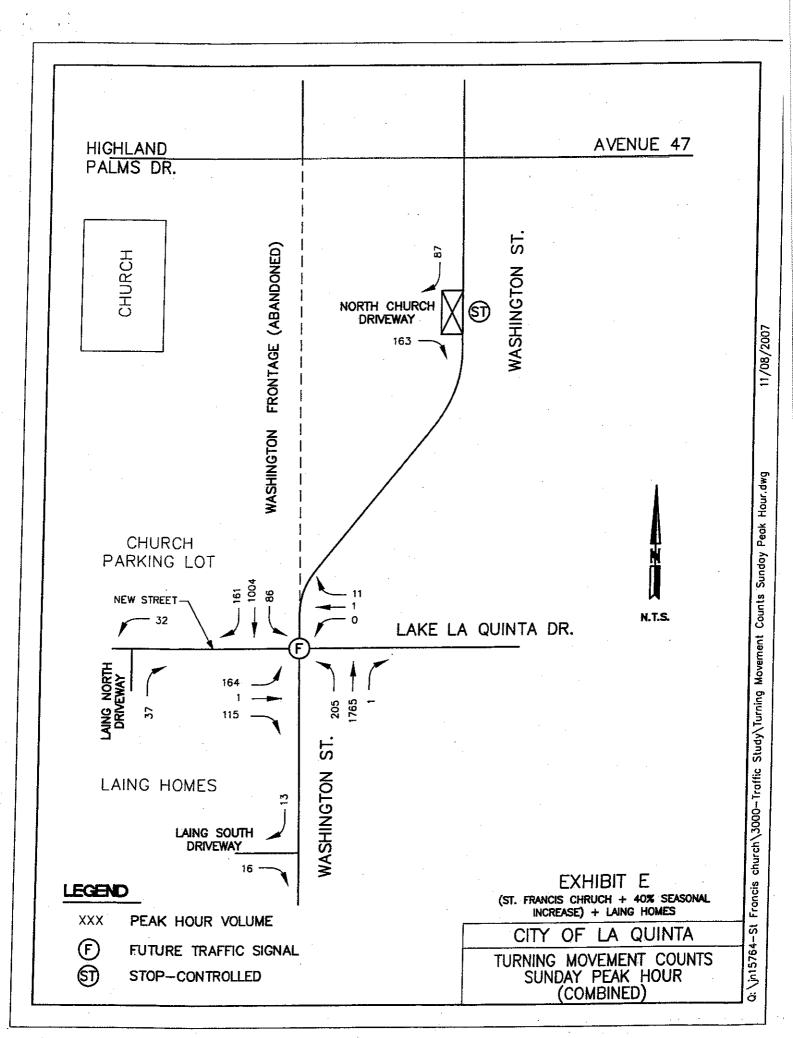
<u>APPENDIX</u>

- Exhibits
- ICU Calculations
- HMC Calculations









INTERSECTION CAPACITY UTILIZATION CALCULATION SHEET

Intersection: Washington Street and north driveway entrance (St. Francis Church)

Count Date: Sunday June 3, 2007 Peak Hour: 2:30 - 3:30pm

Analyst: R. Greene Agency: City of La Quinta

	1	1]	T.L.C.	r 	1	
Ţ	İ .	Number	İ	· V/C		i	
Movement	Volume	of Lanes	Capacity	Ratio		Total	
NB Left	205	1	1900	0.108			
NB Thru	1766	3	5700	0.310	0.310		
NB Right	0	0	0	0.000			
						0.355	
SB Left	86	1	1900	0.045	. 0.045		
SB Thru	1004	3	5700	0.176			
SB Right	161	1 ·	1900	0.085			
EB Left	164	2	3420	0.048	0.048		
EB Thru	1	1	1900	0.001			
EB Right	115	1	1900	0.061		0.054	
WB Left	0 T	1	1900	0.000		0.054	
WB Thru	12	1 1	1900	0.006	0.006		
WB Right	0	0	0	0.000			
WB Right	V	U I	0]	0.000 <u> </u>			
Cum of Cuitinal	N/C D-+:					0.400	
Sum of Critical						0.409	
Adjustment for Lost Time						0.100	
Intersection Capacity Utilization (ICU)							
Level of Service (LOS) - Refer to table below							

Notes:			
1. Per lane Capacity	, , =	1,900	VPH
Dual turn lane Capa	city =	3,420	VPH
3. Intersection Type:	4-Way		-
	T	Χ	
	Split N/S		
	Split E/W		

Maximum V/C Ratio
0.6
0.7
0.8
0.9
1.0
n/a

General Inform	atic	> n			Sit	e Info	orm	ation				
Analyst		R. Gre			Int	ersecti	on			hingto way	on St.	/No.
Agency/Co.		City of		uinta	Jui	isdictio	n					
Date Performed	٠	11/08/	_	V C A 8.8	An	alysis `	Year		2007			
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ntersection Oriental					Stu	gy Peri	oa (hrs): 0.2	5			
/ehicle Volume	s a	nd Adjus										
Major Street Movement				Northbound	<u> </u>		+		South		<u>d</u>	
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Approach LOS			C ·

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Generated: 11/9/2007 11:07 AM

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

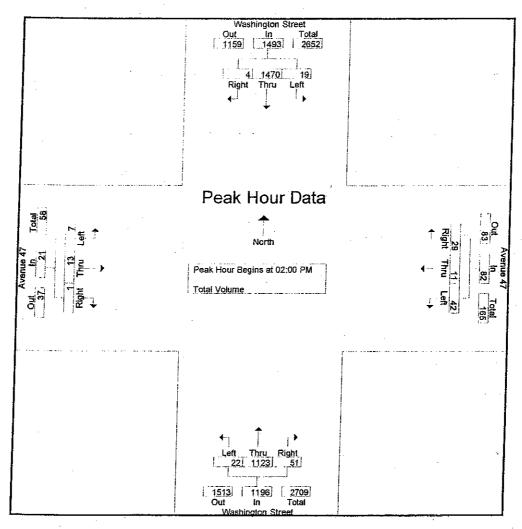
File Name : LQWA47SAT Site Code : 00724612 Start Date : 5/26/2007 Page No : 1

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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
01:30 PM	5	226	4	235	5	2	8	15	1	207	11	219	0	0	0	0	469
01:45 PM	2	328	4	334	. 9	3.	5	17	10	310	10	330	2	2	0	4	685
Total	. 7	554	8	569	14	. 5	13	32	11	517	21	549	2	2	0	4	1154
02:00 PM	2	319	1	322	11	1	8	20 i	19	294	13	326	1	5	1	7 :	675
02:15 PM	3	385	0	388	9	7	11	27	3.	265	16	284	0	4	0	4	703
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Total	19	1470	4	1493	42	T I	29	82	22	1123	51	1196	.7	13	1	21	2792
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03:15 PM	8	339	2	349	11	3	9	23)	6	297	13	316	17	1	4	22	710
Grand Total	38	2671	15	2724	77	19	65	161	40	2184	98	2322	28	18	5	51	5258
Apprch %	1.4	1.89	0.6	1	47.8	11.8	40.4	:	1.7	94.1	4.2		54.9	35.3	9.8	1	
Total %	0.7	50.8	0.3	51.8	1.5	0.4	1.2	3.1	0.8	41.5	1.9	44.2	0.5	0.3	0.1	1 1	

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Peak Hour Analy	ysis Fro	m 01:30	PM to 0.	3:15 PM -	Peak 1	of I					 	- 14,			• • • • • • • • • • • • • • • • •		
Peak Hour for E	ntire Int	ersection	Begins	at 02:00 P	M												
02:00 PM	2	319	1	322	11	i	8	20	19	294	13	326	1	5	1	7	675
02:15 PM	3	385	ò	388	9	7	11	27	3	265	16	284	0	4	ō	4	703
02:30 PM	8	364	ĩ	373	11	2	8	21	ő	283	19	302	4	4	Õ	8	704
02:45 PM	6	402	2	410	11	1	2	14	ň	281	3	284	2	Ó	ő	2	710
Total Volume	19	1470	4	1493	42	11	29	82	22	1123	51	1196	7	13	- · · · ·	21	2792
% App. Total	1.3	98.5	0.3		51.2	13.4	35.4	V-	1.8	93.9	4.3		33.3	61.9	4.8		2172
PHF	.594	.914	.500	.910	.955	.393	.659	.759	.289	955	.671	.917	.438	.650	.250	.656	.983

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

File Name : LQWA47SAT Site Code : 00724612 Start Date : 5/26/2007 Page No : 2



Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1

Peak Hour for	ach Ap	ргоась Е	egins at:													
	02:00 PM				02:15 PN	1			01:45 PM	1			02:30 PM			İ
+0 mins.	2	319	1	322	. 9	7	11	27	- 10	310	10	330	4	4	0	8
+15 mins.	3	385	0	388	11	2	8	21	19	294	13	326	2	0	0	2
+30 mins.	8	364	I	373	11	1	2	14	3	265	16	284	2	2	0	4
+45 mins.	6	402	. 2	410	10	0	14	24	0	283	19	302	17	1	4	22
Total Volume	19	1470	4	1493	41	10	35	86	32	1152	58	1242	25	7	4	36
% App. Total	1.3	98.5	0.3		47.7	11.6	40.7		2.6	92.8	4.7		69.4	19,4	11.1	1
PHF	.594	.914	.500	.910	.932	.357	.625	.796	.421	.929	.763	.941	.368	.438	.250	.409

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

File Name: LQWA47SUN Site Code: 00724611 Start Date: 6/3/2007 Page No: 1

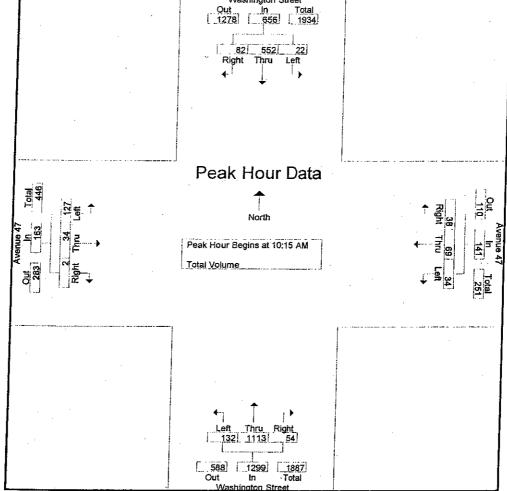
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	09:15 AM	2	107	15	124	2	17	7	26	23	231	10	264	2	2	0	4	418
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	11:15 AM	11	139	5	155	8	4	19	31	14	230	13	257	4	0	0	4	447
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	Total	23	652	39	714	31	27	60	118	73	986	57	1116	20	5	0	25	1973
	12:00 PM	6	176	3	185	7	3	11	21	14	268	18	300	19	9	1	29	535
	12:15 PM	8	219	5	232	11	8	16	35	20	296	19	335	57	10	1	68	670
	and Total	83	2172	247	2502	97	162	154	413	326	3954	185	4465	293	91	7	391	7771
	Apprch %	3.3	86.8	9.9		23.5	39.2	37.3	.	7.3	88.6	4.1		74.9	23.3	8.1		
	Total %	1.1	28	3.2	32.2	1.2	2.1	2	5.3	4.2	50.9	2.4	57.5	3.8	1.2	1.0	. 5	

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Peak Hour Anal	ysis Froi	m 08:30	AM to 12	2:15 PM -	Peak I	of I											
Peak Hour for E	ntire Inte	ersection	Begins a	at 10:15 A	M						•	. •					
10:15 AM	- 6	94	4	104	10	3	4	17	3	264	13	280	74	24	2	100	501
10:30 AM	. 9	171	· 14	194	7 ·	9	11	27	15	297	18	330	33	6	0	39	590
10:45 AM	6	143	40	189	10	43	9	62	63	319	14	396	12	1	0	13	660
11:00 AM	<u>I</u>	144	24	169	7	14	14	35	51	233	9	293	8	3 .	0	11	508
Total Volume	22	552	82	656	34	69	38	141	132	1113	54	1299	127	34	2	163	2259
% App. Total	3.4	84,1	12.5		24.1	48.9	27		10.2	85.7	4.2		77.9	20.9	1.2		
PHF	.611	.807	.513	.845	.850	₋₄₀₁	.679	.569	.524	.872	.750	.820	.429	.354	.250	.408	.856

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

File Name: LQWA47SUN Site Code : 00724611 Start Date : 6/3/2007 Page No : 2

Washington Street
Out In Total
1278 656 1934



Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

reak mour for i	расп Ар	proach i	segins at:	<u>-</u>				m								
	11:30 AN	4			10:30 AM	1			10:15 AN	1			10:00 AM	1		
+0 mins.	5	189	5	199	7	9	11	27	3	264	13	280	7	8	I	16
+15 mins.	6	180	5	191	10	43	- 9	62	15	297	18	330	74	24	2	100
+30 mins.	6	176	3	185	7	14	14	35	63	319	14	396	33	6	0	39
+45 mins.	8	219	5	232	8	4	19	31	51	233	9	293	12	1	0	13
Total Volume	25	764	18	807	32	70	53	155	132	1113	54	1299	126	39	3	168
% App. Total	3.1	94.7	2.2		20.6	45.2	34.2		10.2	85.7	4.2		75	23.2	1.8	
PHF [.781	.872	.900	.870	.800	.407	.697	.625	.524	.872	.750	.820	.426	.406	.375	420

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive Weather: Sunny

File Name: LQWA47HSAT Site Code: 00724687 Start Date: 5/26/2007 Page No: 1

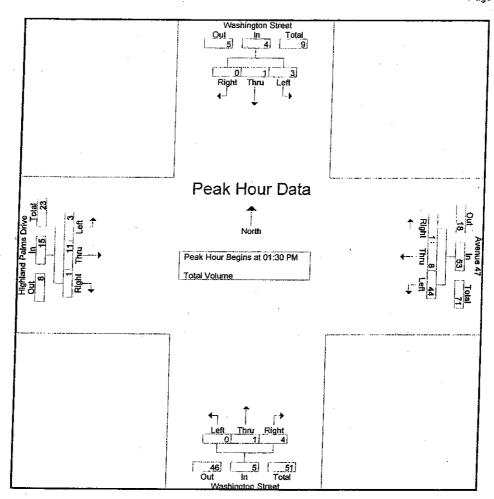
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١.	Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
	01:30 PM	1	0	0	1	5	2	0	7	0	1	Ö	1	3	0	1	4	13
-	01:45 PM	1_	1	0	2	16		0_	17	0	0		I	0	2	0	2	22
	Total	2	1	0	, 3	21	3	0	24	0	1	1	2	3	2	1	6	35
	02:00 PM	0	0	.0	0	17	3	1	21	0	0	2	. 2	0	4	0	4	27
	02:15 PM	1	0	0	1	6	2	0	8	0	0	i	1	0	5	0	5	15
	02:30 PM	2	0	0	2	1	1	1	3	0	0	0	0	0	7	0	7	12
	02:45 PM	<u></u>	0_	11	2	2	1	0	3	. 0	0	4	4	. 0	2	1	3	12
	Total	4	0	1	5 !	26	7	2	35	0	0	7	7	0	18	1	19	66
	03:00 PM	1	0	0	1	1	Į.	. 0	2	0	0	12	12	0	2	0	2	17
	03:15 PM	1	0	0	1 }	8	2	I	11	1	0	12	13	0	4	0	4	29
•	Grand Total	8	1	I	10	56	13	3	72	1	1	32	34	3	26	2	31	147
	Apprch %	80	10	10		77.8	18.1	4.2	1	2.9	2.9	94.1	1	9.7	83.9	6.5		
	Total %	5.4	0.7	0.7	6.8	38.1	8.8	2	49	0.7	0.7	21.8	23.1	2	17.7	1.4	21.1	

]	V		on Stree	et ´		Ave	nue 47		v	Vashing	ton Stree	t	Hig	hland F	alms D	rive	1
		South	bound			Wes	tbound			North	ibound			Eastl	oound		İ
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 Analy	ysis Fron	n 01:30	PM to 0.	3:15 PM ~	Peak 1 c	of I											** ***
Peak Hour for E	ntire Inte	rsection	Begins	at 01:30 P	M												
01:30 PM	1	0	0	1	5	2	0	7	0	1	0	1	3	0	1	4	13
01:45 PM	1	1	ō	2	16	1	ő	17	ŏ	â	1	i l	ō	. ,	ñ	2	22
02:00 PM	0	0	0	0	17	3	1	21	ñ	ñ	•	2	ñ	4	0	4	27
02:15 PM	1	0	ō.	1	6	2	Ō	8	ñ	ñ	ī	1	ñ		0	5	15
Total Volume	3	1	0	4	44	8	J	53		<u></u>			3	77	1	15	77
% App. Total	75	25	õ	- 1	83	15.1	1,9		ñ	20	80	-	20	73.3	6.7		**
PHF	.750	.250	.000	.500	.647	.667	.250	.631	.000	.250	.500	.625	.250	.550	.250	.750	.713

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive

Weather: Sunny

File Name: LQWA47HSAT Site Code : 00724687 Start Date : 5/26/2007 Page No : 2



Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1

reak Hour for I	ach App	roach E	egins at	<u>:</u>												
	02:15 PM				01:30 PM				02:30 PM				02:00 PM			
+0 mins.	1	0	0	1	5	2	0	7	0	0	0	0	0	4	0	4
+15 mins.	2	0	0	2	16	1	0	17	0	0	4	4	0	5	0	5
+30 mins.	1	0	1	2	17	3	1	21	0	0	12	12	0	7	0	7
+45 mins.		0	0	1	6	2	0	8	1	0	12	13	0	2	1	3
Total Volume	5	0	1	6	44	8	1	53	1	0	28	29	0	18	1	19
% App. Total	83.3	0	16.7		83	15.1	1.9		3.4	0	96.6		0	94.7	5.3	
PHF	.625	.000	.250	.750	.647	.667	.250	.631	.250	.000	.583	.558	.000	.643	.250	.679
																2. 11 . 1 . 2 . 2 . 2

City of La Quinta N/S: Washington Street EW: Avenue 47 / Highland Palms Drive Weather: Sunny

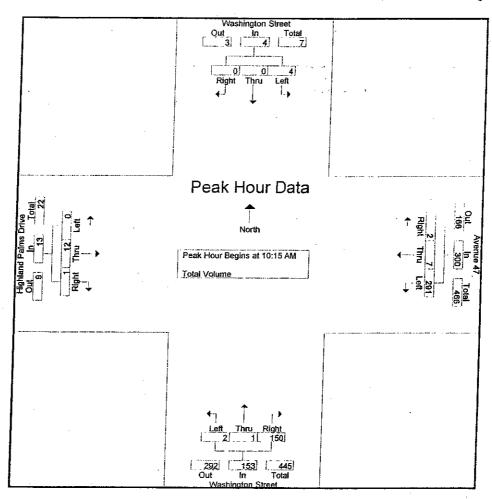
File Name: LQWA47HSUN Site Code : 00724612 Start Date : 6/3/2007 Page No : 1

	1	Washing	ton Stre	et		Aver	nue 47	Printed- T		ashing	ton Stre	et	Hi		Palms D	rive	1
		South	bound			West	bound			Nort	hbound	,			bound	,	
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right		Int. Total
08:30 AM	2	0	0	2	28	2	0	30	1	0	66	67	0	3	ſ	4	103
08:45 AM	0	1	. 0	11	89	2	0	91	0	0	10	10	0	0	1_	1	103
Total	2	1	0	3	117	4	0	121	I	0	76	77	0	3	2	5	206
09:00 AM	0	1	0	1	141	3	1	145	0	0	6	6	0	0	0	0	152
09:15 AM	1	0	0	1	46	3	1	50	0	0	2	2	0	3	0	3	56
09:30 AM	0	1	0	1	8	1	0	9	0	0	2	2	0	0	0	0	12
09:45 AM	0	0	0	0	2	0	1	3	0	0	I	1	0	0	0_	0	4.
Total	1	2	0	3	197	7	3	207	0	0	11	11	0	3	0	3	224
10:00 AM	1	0	0	1	10	2	2	14	0	. 0	22	22	0	2	0	2	39
10:15 AM	2	0	0	2	11	2	. 0	13	0	1	93	94	0	6	0	6	115
10:30 AM	0	0	0	0	46	1.	0	47	0	0	41	41	0	4	0	4	92
10:45 AM	2	0	0_	2	147	. 3.	0	150	2.	0	7	9	0	1 .	1_	. 2	163
Total	5	0	0	5	214	8	2	224	2	1	163	166	0	13	i	[4]	409
11:00 AM	0	0	0	0	87	1	2	90	0	0	9	9	0	1	0	1	100
11:15 AM	0	0	0	0	25	0	0	25	0	0	4	4	0	0	0	0	29
11:30 AM	2	0	0	2	6	0	0	6	0	0	4	4	0	1	0	1	13
11:45 AM	1_	0	1_	2	13	1	2	16	0	0	2	2	0	0	0	0	20
Total	3	0	I	4	131	2	4	137	0	0	19	19	0	2	0	2	162
12:00 PM	I	0	0	1	19	0	0	19	0	0	34	34	0	4	0	4	58
12:15 PM	2	0	0	2	32	2	. 1	35	0	0	93	. 93	1	6	0	7	137
and Total	14	3	1	18	710	23	10	743	3	1	396	400	1	31	3	. 35	1196
Appreh %	77.8	16.7	5.6	į	95.6	3.1	1.3		0.8	0.2	99	Ì	2.9	88.6	8.6		
Total %	1.2	0.3	0.1	1.5	59.4	1,9	0.8	62.1	0.3	0.1	33.1	33.4	0.1	2.6	0.3	2.9	

					·												٦
	V	Vashingt	on Stree	t i	,	Aver	nue 47		1	Vashing	ton Stree	et :	Hi	ghland P	alms Driv	e	1
		South	bound			West	bound		i	North	ibound			Eastb	ound		<u> </u>
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right /	Vpp. Total	Int Total
Peak Hour Anal	ysis Fror	n 08:30			Peak 1	of l											
Peak Hour for E	ntire Inte	rsection	Begins	at 10:15 A	M												_
10:15 AM	2	0	0	2	11	2	0	13	0	1	93	94	0	6	0	6	115
10:30 AM	0	0	0	0 -	46	1	0	47	0	0	41	41	0	4	0	4	- 92
10:45 AM	2	0	0	2	147	3	0	150	2	. 0	7	9	0	1	1	2	163
11:00 AM	0	0	0	0	87	1	2	90	0	0	9	9	.0	1	0_	1	100
Total Volume	4	0	0	4	291	7	2	300	2	1	150	153	0	12	Ţ	13	470
% App. Total	100	ō	0		97	2.3	0.7		1.3	0.7	98	[0	92.3	7.7		
PHF	.500	.000	.000	.500	495	.583	.250	.500	250	.250	.403	.407	.000	.500	.250	.542	.721

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive Weather: Sunny

File Name : LQWA47HSUN Site Code : 00724612 Start Date : 6/3/2007 Page No : 2



Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1

Peak Hour for I	ach Apr	roach E	Begins at														
	11:30 AM				08:30 A	vŧ.			10:00 AM	(10:00 AM	1			l
+0 mins.	2	0	0	2	28	2	0	30	0	0	22	22	0	2	0	. 2	ĺ
+15 mins.	1	0	1	2 .	89	2	0	91	0	1	93	94	0	6	0	6	
+30 mins.	Ī	0	0	1	141	3	1	145	0	0	41	41	0	4	ō	4	
+45 mins.	. 2	0	0	2	46	3	I	50	2	ō	7	.9	Ő	1	1	2	
Total Volume	6	0	1	7	304	10	2	316	2	1	163	166	0	13	1	14	
% App. Total	85,7	. 0	14.3		96.2	3.2	0.6	·	1.2	0.6	98.2		0	92.9	7.1		
PHF	.750	.000	.250	.875	.539	.833	.500	.545	.250	.250	.438	.441	.000	.542	.250	.583	

City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name: LQWADWNSAT Site Code: 00724623 Start Date: 5/26/2007 Page No: 1

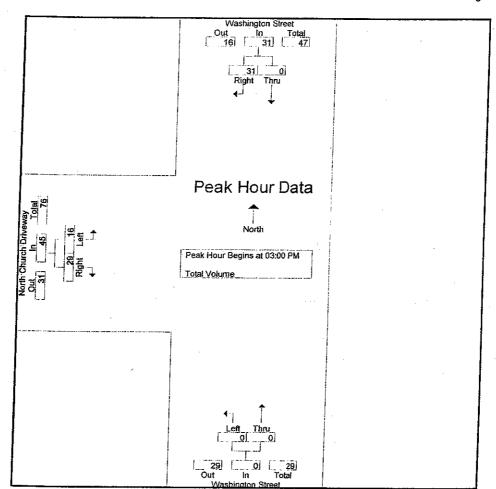
	·			Groups Printed						•
i	W:	ashington Stre	et :	Was	hington Stree	et	North	Church Driv	/eway	
	l	Southbound			Vorthbound			Eastbound	,,,	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
01:45 PM	0		6	0	0	0	1	. 0	1	. 7
Total	0	6	6	0	0	0	I	0	1	7
02:00 PM		10			•	. 1			. !	
	0	19	19	1 .	0	. []	1	0	1	21
02:15 PM	0	9	9	0	0	0	0	1	1	10
02:30 PM	0	4	4	0 -	0	0	0	0	0	4
02:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	32	32	I	0	1	2	ı	3	36
03:00 PM	0	6	6	0	0	0 !	0	0	0	6
03:15 PM	0	2	2	Ō	ō	n i	3	12	15	17
03:30 PM	0	12	12	Ô	Õ	0	19	17	27	39
03:45 PM	. 0	11	11	0	ō	0	3	0	3 :	14
Total	0	31	31	0	0	0	16	29	45	76
Grand Total	0	69	69	. 1	0	1	19	30	49	119
Appreh %	0	100		100	0	- 1	38.8	61.2	1	
Total %	- 0	58	58	0.8	ŏ	0.8	16	25.2	41.2.	

		ington Stre	et		shington Stre	et		Church Dri	veway	
***************************************	<u>_</u>	outhbound			Northbound			Eastbound	L	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fron	n 01:45 PM to	03:45 PM -	Peak I of 1							
Peak Hour for Entire Inte	rsection Begin	s at 03:00 P	M		•					
03:00 PM	0	6	6	0	0	0	0	0	0	6
03:15 PM	0	2	2	0	0	0	3	12	15	17
03:30 PM	0	12	12	0	0	0	10	17	27	39
03:45 PM	. 0	11	11	0	0	0	3	0	3	14
Total Volume	0	31	31	0	0	0	16	29	45	76
% App. Total	0	100	l	0	0		35.6	64.4		
PHF	.000	.646	.646	.000	.000	.000	.400	.426	.417	.487

City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name: LQWADWNSAT Site Code: 00724623 Start Date: 5/26/2007

Page No : 2



Peak Hour Analysis From 01:45 PM to 03:45 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

	01:45 PM		(01:45 PM			03:00 PM		
+0 mins.	0	6	6	0	0	o	0	. 0	o l
+15 mins.	0	19	19	1	ō	ĭ	ž	12	15
+30 mins.	0	9	9	0	0	0	10	17	27
+45 mins.	0	4	4	0	0	0 !	3	0	3]
Total Volume	0	38	38	1	0		16	29	45
% App. Total	0	100		100	0	İ	35.6	64.4	-
PHF	.000	.500	.500	.250	.000	.250	.400	.426	.417

City of La Quinta N/S: Washington Street E/W: South Church Driveway Weather: Sunny

File Name: LQWADWSSAT Site Code: 00724623 Start Date: 5/26/2007 Page No: 1

professional designation of the second section of the section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of the second section of the second section of the second section of the section			Gro	oups Printe	d- Total Vo	lume	•			
	PM 0 0 0			Wasl	hington Str orthbound	eet		Church Dri astbound		
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left		App. Total	Int. Total
01:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
02:00 PM	0	0	0	0	. 0	0	0	0	0	0
02:15 PM	0	0	0	0	. 0	0	0	0	0	0
02:30 РМ j	0	0	0	0	0	oĺ	0	0	0	0
02:45 PM	0	0	0	0	0	o l	0	0	0	Ō
Total	0	0	0	0	0	0	Ö	0	0	0
03:00 PM	0	0	0	0	0	o i	0	0	o i	0
03:15 PM	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	. 0	0	Ō	Ō	0	Ŏ
03:45 PM	. 0	0	0	0	o ·	o l	Ō	0	0	. 0
Total	0	0	0	Ö	Ö	0	Õ	Ō	0	0
Grand Total	0	0 -	o l	0	0	0	0	. 0	0	0
Apprch % Total %	0	0		0	Ō	-	Ó	Ō		•

	S	hington Stre	eet		hington St Iorthbound		South	iveway I		
Start Time		Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	int. Total
Peak Hour Analysis Fro	om 01:45 PM	to 03:30 PM	/i - Peak 1 of	1						
Peak Hour for Entire In	tersection Be	gins at 01:4	5 PM							
01:45 PM	0	0	0	o	0	0	Q	0	0	0
02:00 PM	0	0	0	Ö	ō	o l	ō	Ō	0	ō
02:15 PM	0	0	o l	Ō	Õ	ō i	ō	ō	o l	ñ
02:30 PM	0	0	o l	Ō	ñ	o l	ā	ñ	o	ñ
Total Volume	0	Ö	0	Ō	0	0	0	0	ō	0
% App. Total	0	0		ō	Ō	-	ō	õ		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

City of La Quinta

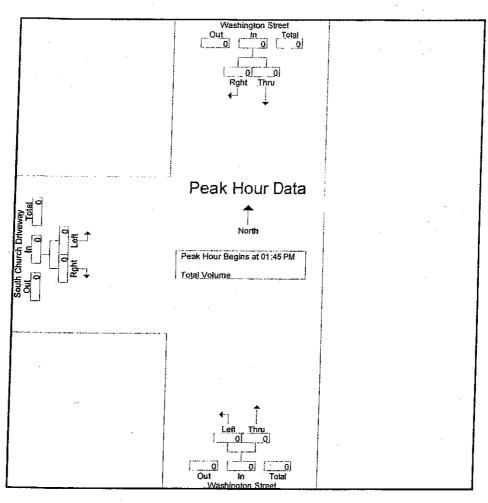
N/S: Washington Street E/W: South Church Driveway

Weather: Sunny

File Name: LQWADWSSAT

Site Code : 00724623 Start Date : 5/26/2007

Page No : 2



Peak Hour Analysis From 01:45 PM to 03:30 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

		I Cacil D	cgii io at.						
	01:45 PM			01:45 PM			01:45 PM		
+0 mins.	0	0	. 0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	. 0	0	0
+30 mins.	0	. 0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0 .	0	. 0	0
Total Volume	0	0	0	0	0	0	O	o	0
% App. Total	. 0	00		0	00		O	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name: LQWADWNSUN Site Code: 00724623 Start Date: 6/3/2007 Page No: 1

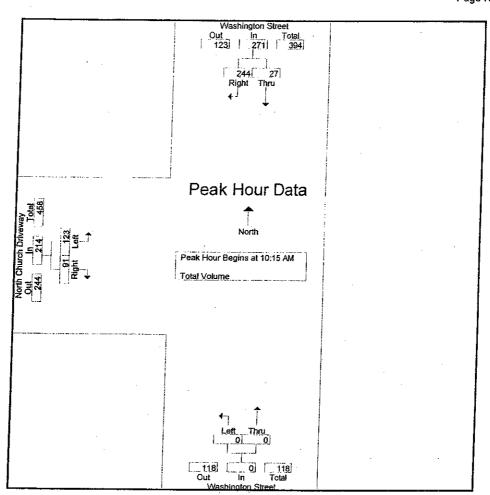
The same area area area		**:		roups Printed	- Total Vol	lume				
j		hington Stre	et		nington Str		North	Church Dri	veway	
	<u>.</u>	outhbound			lorthbound			Eastbound	i	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
08:30 AM	14	28	42	0	0	0	64	37	101	143
08:45 AM	22	68	70	1	0	1	9	5	14	85
Total	16	96	112	1	0	1	73	42	115	228
09:00 AM	28	100	128	0	0	0	5	4	9	137
09:15 AM	15	36	51	0	0	0	1	3	4	55
09:30 AM	2	7	9	0	0	0	Ì	. 1	2	11
09:45 AM	. 0	2	2	0	0	0	ò	0	ō l	2
Total	45	145	190	0	0	0	7	8	15	205
10:00 AM	l	10	11	0	0	0 :	17	9	26	37
10:15 AM	13	7	20	0	0	0	81	74	155	175
10:30 AM	2	33	35	0	0	ó:	25	9	34	69
10:45 AM	5	122	127	0	0	o i	9	7	16	143
Total	21	172	193	0	0	0	132	99	231	424
11:00 AM	7	82	89	0	0	0 [8	1	9	98
11:15 AM	3	21	24	0	Õ	o l	4	2	6.	30
11:30 AM	2	7	9	Ō	0	0	3	2	5	14
11:45 AM	11		12	0	0	0	2	2	4	16
Total	13	121	134	0	. 0	0	17	7	24	158
12:00 PM	5	15	20	0	0	0	21	5	26	46
12:15 PM	16	23	39	0	0	0	67	57	124	163
Grand Total	- 116	572	688	1	0	i	317	218	535	1224
Appreh %	16.9	83.1	1	100	0	-	59.3	40.7		
Total %	9.5	46.7	56.2	0.1	Ō	1.0	25.9	17.8	43.7	

	1	shington Stre	eet		hington Stre	et	North	/eway		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From	m 08:30 AM to	12:15 PM -	Peak I of 1			. reprise	·			
Peak Hour for Entire Into	ersection Begin	ns at 10:15 A	ΔM							
10:15 ATM	13	7	20	0	θ	o l	81	74	155	175
10:30 AM	2	33	35	0	ō	ő	25	9	34	69
10:45 AM	5	122	127	0	Ō	ŏ	9	7	16	143
11:00 AM	77_	82	89	0	0	o l	8	i	9	,
Total Volume	27	244	271	0	. 0	0	123	91	214	485
% App. Total	10	90		0	0	-	57.5	42.5		,00
PHF	.519	.500	.533	.000	.000	.000	380	.307	.345	.693

City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name: LQWADWNSUN Site Code: 00724623 Start Date: 6/3/2007

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Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1

Peak Hour for Each App	Peak Hour for Each Approach Begins at:												
	08:30 AM			08:30 AM			10:00 AM						
+0 mins.	14	28	42	0	0	0	17	9	26				
+15 mins.	2	68	70	1	0	1	81	74	155				
+30 mins.	28	100	128	. 0	0	· 0	25	9	34				
+45 mins.	15	36	- 51	0	0 -	. 0	9	7	16				
Total Volume	59	232	291	1	0	1 1 1	132	99	231				
% App. Total	20,3	79.7		100	0	İ	57.I	42.9					
PHF	.527	.580	568	.250	.000	.250	.407	.334	.373				

City of La Quinta N/S: Washington Street E/W: South Church Driveway Weather: Sunny

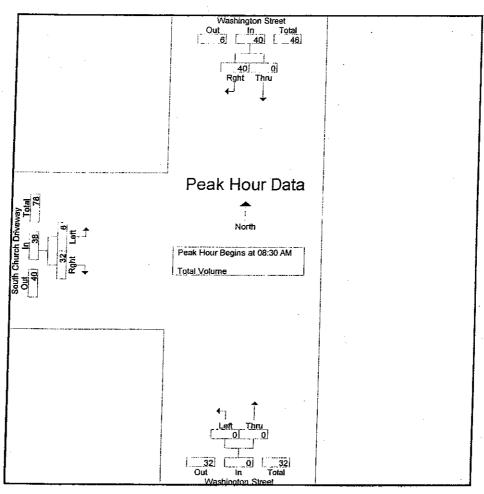
File Name: LQWADWSSUN Site Code: 00724623 Start Date: 6/3/2007 Page No: 1

	or			roups Printed	- Total Vo	lume				
		shington Str Southbound	eet	Wash	ington Str	eet		Church Driv Eastbound		
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	int. Total
08:30 AM	0	0	0	0	0	0	5	32	37	37
08:45 AM	0	2	2	ŏ	ŏ	ŏ	1	0	7,	31
Total	0	2	2	0	0	0	6	32	38	40
. 09:00 AM	0	25	25	0	0	0	0	O	0.1	25
09:15 AM	0	13	13	0	0	0	ō	ō	ŏ	13
09:30 AM	0	1	1	0	Ō	o l	Õ	õ	ŏ	13
09:45 AM	0	0	0	0	0	0	ŏ	Õ	ő	ń
Total	0	39	39	0	0	0	0	. 0	0	39
MA 00:01	0	ī	I	0	0	0	2	2	4 İ	5
10:15 AM	0	0	0 !	0	0	0 :	15	41	56	56
10:30 AM	0	0	0	0	0	0	1	4	5	5
10:45 AM	0	3	3	. 0	0	0	Ô	1	i l	4
Total	0	4	4	0	0	0	18	48	66	70
11:00 AM	0	8	8	0	0	0	0	0	0	8
MA 51:11	. 0	_. 5	5	0	0	0	0	0	0	5
11:30 AM	0	Ţ	1	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	0		0
Total	0	14	14	0	0	0]	0	0	0	14
12:00 PM	0	0	0	0	0	0	4	1	5	5
12:15 PM	0	2	2	0	0	0	8	39	47	49
Grand Total	0	61	61	0	0	0	36	120	156	217
Appreh %	0	100		0	0	İ	23.1	76.9	4	
Total %	0	28.1	28.1	0	0	0	16.6	55.3	71.9	

	Washington Street Southbound				shington Stre	eet	South Church Driveway Eastbound			
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
Peak Hour Analysis From 08:30 AM to 10:15 AM - Peak 1 of 1										
Peak Hour for Entire Inte	ersection Beg	ins at 08:30 A	AM						•	
08:30 AM	ס ֿ	0	0	0	n ·	o.l	5	32	37	37
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% App. Total	. 0	100		0	0		15.8	84.2		,,,
PHF	.000	.400	.400	.000	.000	000	.300	.250	.257	.527

City of La Quinta N/S: Washington Street E/W: South Church Driveway Weather: Sunny

File Name: LQWADWSSUN Site Code : 00724623 Start Date : 6/3/2007 Page No : 2



Peak Hour Analysis From 08:30 AM to 10:15 AM - Peak 1 of 1

Peak Hour for Each Approach Begins	at:
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reak from for Each Approach Begins at:									
	08:45 AM			08:30 AM			09:30 AM		
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+15 mins.	0	25	25	0	0	0	0	0	0
+30 mins.	0	13	13	0	0	0	2	2	4
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Total Volume	0	41	41	0	0	0	17	43	60
% App. Total	0	100		0	. 0		28.3	71.7	
PHF	.000	.410	.410	.000	.000	.000	.283	.262	.268

Paul Goble

From: Paul Goble

Sent: Friday, August 24, 2007 2:06 PM

To: 'John Vuksec (vuksic@dc.rr.com)'

Cc: Andy Mogensen; 'Reggie Greene'; Ed Wimmer

Subject: St. Francis Traffic Study & Intersection Design

Gentlemen,

Please find a brief summary which reflects the Public Works review of both the preliminary intersection configuration and the traffic study for the Washington & Lake La Quinta Drive.

8/20-24/2007 - Paul reviewed MDS intersection plans & Willdan study (July 23, 2007 report) with Nazir in Traffic Staff meeting:

Willdan report redlines:

- 1. City requires Willdan traffic volumes to include the Laing Homes project.
- 2. Report should clearly calibrate differences between existing and proposed conditions.
- 3. Please recheck left turn storage requirements at south leg of intersection evaluate the need of a 2nd left turn lane for peak conditions assuming 250 ft of pocket storage.

Redlines for MDS (Laing Homes) preliminary intersection configuration dated 7/27/2007:

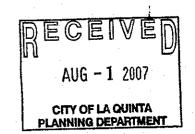
- 1. Left turn pocket at southern intersection leg turning west into Laing/St. Francis should be extended to at least 250 ft. The existing storage pocket of 150 ft. is insufficient. Review of final storage capacity still pending revision to Willdan study.
- 2. Extension of the median nose at the southern intersection leg requested to eliminate most or all of painted median. City observes painted median noses are created improper turning movement and cheating U turns.
- 3. Confirm that east leg island rework will be included in offsite street plan submittal.
- 4. Elimination of the left turn pocket into the Laing project at the west leg is requested. The pocket will create a stacking capacity problem and promoting cheating across dual left lane lines.

Please advise if you have any further questions.

Thanks

Paul Goble, PE Public Works Senior Engineer City of La Quinta (760) 777-7087 pgoble@la-quinta.org





MEMORANDUM

TO: Andrew Mogensen

CO: City of La Quinta

FROM: Samantha McAuliffe for John Vuksic

DATE: August 1, 2007

RE: Traffic Analysis

PROJECT: 25066 – St. Francis

Andy – Attached is the Traffic Analysis for St. Francis of Assisi. Please review and send any comments directly to John Vuksic.

RECEIVED

AUG 0 3 2007

Development Services



13191 Crossroads Parkway North, Suite 405 Industry, California 91746-3497 562/908-6200 fax 562/695-2120 www.willdan.com

July 23, 2007

Mr. John Vuksic President Vuksic Architects 44530 San Pablo Avenue, Suite 200 Pal Desert, CA 92260

Subject:

Traffic Analysis for Saint Francis of Assisi Catholic Church

Improvement Project

Dear Mr. Vuksic:

INTRODUCTION

The Saint Francis of Assisi Catholic Church (Church) will expand its parking facilities to add additional parking spaces. The City of La Quinta requested a Traffic Impact Report to address trip generation, intersection capacity utilization (ICU), parking generation, and left turn and right turn storage requirements. This letter report addresses the existing traffic volumes generated by the Church. It does not address traffic volumes that will be generated by adjacent developments.

DATA COLLECTION

Turning movement counts were taken on Saturday, May 26, 2007, between 1:30 p.m. and 3:30 p.m. and on Sunday, June 3, 2007, between 8:30 a.m. and 12:30 p.m. These dates and times were chosen based on discussions with the Church regarding current Sunday church service and Saturday special event schedules. The counts were taken at the following locations:

- Washington Street Frontage and the south Church driveway.
- Washington Street Frontage and the north Church driveway.
- Washington Street Frontage and Highland Palms Drive.
- Washington Street and Highland Palms/Avenue 47.
- Washington Street and Lake La Quinta Drive.

Average Daily Traffic (ADT) counts were not gathered for Washington Boulevard.

The peak hour identified for Saturday was 2:30 p.m. to 3:30 p.m. and the peak hour for Sunday was 10:15 a.m. to 11:15 a.m. Saturday Church volumes were significantly lower than Sunday volumes; therefore, Sunday traffic volumes were used in this analysis and are depicted in Exhibit A. Saturday traffic volumes are depicted in Exhibit B.

The Church's expansion of its parking facilities will require Washington Street frontage to be abandoned, including the existing north and south Church driveways. A new driveway will be constructed to provide access to Washington Street. A traffic signal will also be installed at Washington Street and Lake La Quinta Drive to provide additional access to the Church property.

The Sunday peak hour volumes were redistributed from the existing access points to the new access points to determine the traffic impacts with the new Church parking facilities. Exhibit C depicts the redistributed traffic volumes. In addition, a seasonal adjustment was made to the Sunday peak hour volume. May 16th to September 30th is considered off-season and the measured volumes may be increased up to 40 percent. Exhibit D identifies the redistributed volumes and includes the 40 percent seasonal increase.

Trip Generation

Trip generation was determined for the existing Church facilities. The Institute of Transportation Engineers (ITE) Trip Generation book, 7th Edition, was used to calculate trips based on the number of seats. The Church has 760 existing seats. Based on the ITE rates, the Church is estimated to generate the following:

Table 1 St. Francis of Assisi Catholic Church

Weekend Trip Generation Rates (trips/seat) vs. Seats

Land Use Code: 560 Number of Seats: 760

Average Saturday Rate	Average Saturday Trips	Average Saturday Peak Hour Rate	Average Saturday Peak Hour Trips	Average Sunday Rate	Average Sunday Trips	Average Sunday Peak Hour Rate	Average Sunday Peak Hour Trips
0.9	684	0.6	456	1.53	1163	0.63	479

Parking Generation

The ITE Parking Generation book, 3rd Edition, was used to calculate the peak period parking demand of the existing Church facilities. Table 2 indicates the parking demand to be 122 spaces on a Sunday.

St. Francis of A	Fable 2ssisi Catholic Churchng Demand vs. Seats on a Sunday
li.	se Code: 560 of Seats: 760
Average Rate (vehicles/seat)	Average Parking Demand
0.16	122

Chapter 9 of the City of La Quinta Municipal Code states that one parking space per three seats shall be provided for all "Assembly Uses."

Та	ble 3
St. Francis of Ass	sisi Catholic Church
City of La Quinta Mur	nicipal Code, Chapter 9
	bly Uses
Number o	f Seats: 760
Average Rate (vehicles/seat)	Required Spaces
0.333	253

As shown in Table 3, the City's Municipal Code requires 253 parking spaces for the Church.

INTERSECTION CAPACITY UTILIZATION (ICU)

An ICU analysis was performed for the proposed traffic signal at the intersection of Washington Street and Lake La Quinta Drive and at the proposed north driveway entrance. The ICU method computes a Level of Service (LOS) for an entire intersection based on a volume to capacity (V/C) ratio summation for key conflicting movements. LOS is a relative measure of driver satisfaction with ranges

from "A" (free flow: ICU less than 0.600) to "F" (forced flow: ICU value in excess of 1.000). The following is a description of levels of service:

- LOS A (ICU less than 0.600) Low volumes; high speeds; speed not restricted by other vehicles; all signal cycles clear with no vehicles waiting through more than one signal cycle.
- LOS B (ICU 0.601 to 0.700) Operating speeds beginning to be affected by other traffic; between one and ten percent of the signal cycle have one or more vehicles which wait through more than one signal cycle during peak traffic periods.
- LOC C (ICU 0.701 to 0.800) Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; recommended ideal design standard.
- LOS D (ICU 0.801 to 0.900) Tolerable operating speeds; 31 to 70 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; often used as design standard in urban areas.
- LOS E (ICU 0.901 to 1.000) Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71 to 100 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.
- LOS F (ICU over 1.000) Long queues of traffic; unstable flow; stoppages of long duration; traffic volume and traffic speed can dip to zero; traffic volume will be less than the volume which occurs at Level of Service E.

Based on the ICU analysis for Washington Street and Lake La Quinta Drive, the intersection will be operating at a LOS A during the Sunday peak hour (Table 4).

Table 4									
Intersection	v/c	LOS							
Washington Street/North Driveway Entrance	0.463	Α							

The methodology used to analyze the north driveway entrance is described in the 2000 Highway Capacity Manual (HCM), published by the Transportation Research Board. This methodology was used because the driveway will be stop-controlled. LOS of stop-controlled intersections is defined in terms of delay, which is a measure of driver comfort, frustration, fuel consumption, and loss of time.

The HCM analysis method determines the available acceptable gaps in the major traffic stream used by vehicles crossing or turning through the stream. The number of available gaps affects the delay experienced by motorists required to yield. This delay is calculated and a LOS designation is assigned at incremental delay times. LOS A corresponds to little or no delay whereas LOS F corresponds to very long delays.

Based on the HCM analysis for the north driveway entrance, the access will be operating a LOS C during the Sunday peak hour (Table 5).

Table 5		
Intersection	Eastl Appl	oound roach
	Delay	LOS
Washington Street/North Driveway Entrance	22.5	C

Note: delay is in seconds

LEFT-TURN AND RIGHT-TURN STORAGE CALCULATIONS

In general, an accepted method to determine turning lane storage lengths is to provide 1 foot for every turning vehicle in the peak hour. The minimum storage length is generally taken to be 50 feet. The maximum storage length for left-turn pockets is taken to be 300 feet. For lengths over 300 feet, dual left-turn lanes are recommended.

The storage length was determined for the following locations:

- Southbound Washington Street right turns at the north driveway entrance.
- Southbound Washington Street right turns at Lake La Quinta Drive.
- Northbound Washington Street left turns at Lake La Quinta Drive.

The analysis was based on the redistributed traffic volumes of existing vehicles entering and exiting the Saint Francis Church property.

	Table 6							
Turning Movement Location	Volume (vehicles/hr)	Minimum Storage Length (feet)	Recommended Storage Length (feet)					
Southbound Washington Street right turns at north driveway entrance	87	87	90					
Southbound Washington Street right turns at Lake La Quinta Drive	129	129	130					
Northbound Washington Street left turns at Lake La Quinta Drive	192	192	195					

Table 6 indicates the recommended storage lengths for each intersection to range from 90 to 195 feet.

<u>SUMMARY</u>

This Traffic Impact Report has been completed to address trip generation, parking generation, intersection capacity utilization, and left turn/right turn storage requirements. The average number of trips generated by the Church on a Sunday is 479 trips during the peak hour and the average parking demand is 122 spaces. The City of La Quinta requires 253 parking spaces per the La Quinta Municipal Code, Chapter 9. The existing parking lot currently has 184 spaces and the expansion will yield an additional 406 spaces for a total of 590. The expansion will exceed the parking requirements for the City of La Quinta and ITE parking generation rates.

The ICU analysis for Washington Street and Lake La Quinta Drive shows a LOS A during the Sunday peak hour and exceeds the recommended ideal design standard. The HCM analysis for Washington Street and the north driveway entrance shows a LOS C and a delay of 22.5 seconds during the peak hour.

The left-turn and right-turn storage lengths were determined based on the redistributed traffic volumes. The recommended storage lengths are:

- 90 feet for southbound Washington Street right turns at the north driveway entrance
- 130 feet for southbound Washington Street right turns at Lake La Quinta Drive
- 195 feet for northbound Washington Street left turns at Lake La Quinta Drive

July 23, 2007 Page 7

Based on the 50 MPH posted speed limit on Washington Street, it is further recommended that 150 feet reverse curves be used for the turning lane bay tapers.

Should you have any questions regarding this study, please contact me at (562) 908-6221

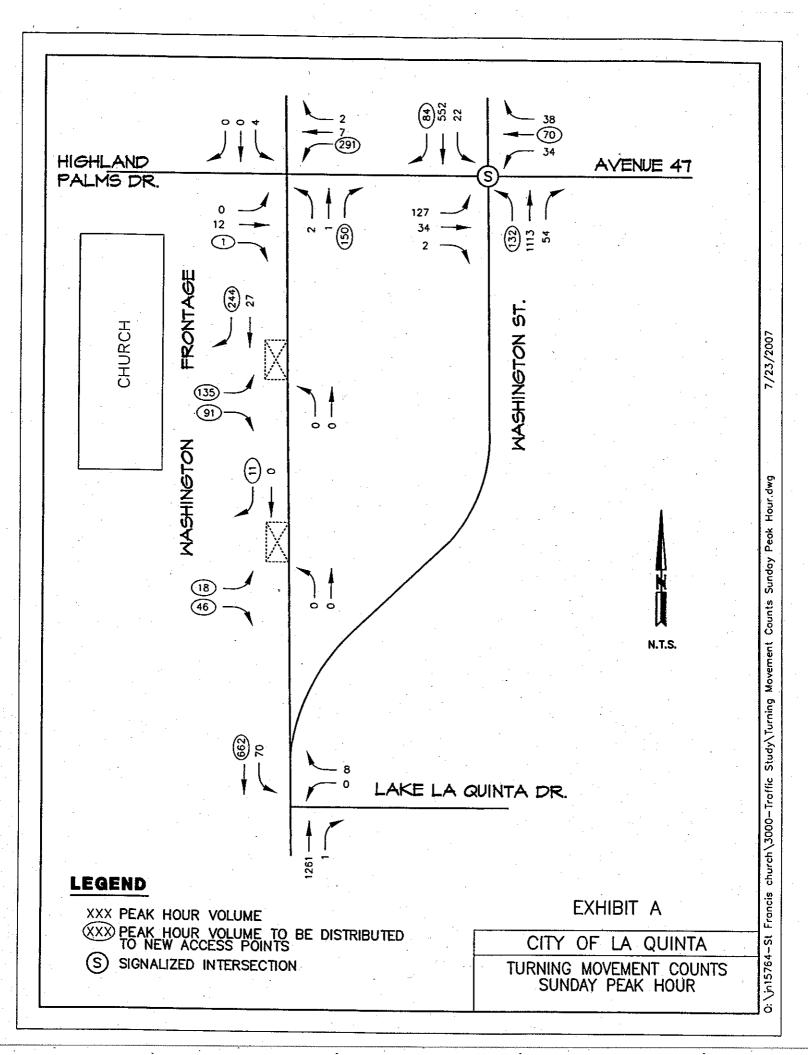
Sincerely,

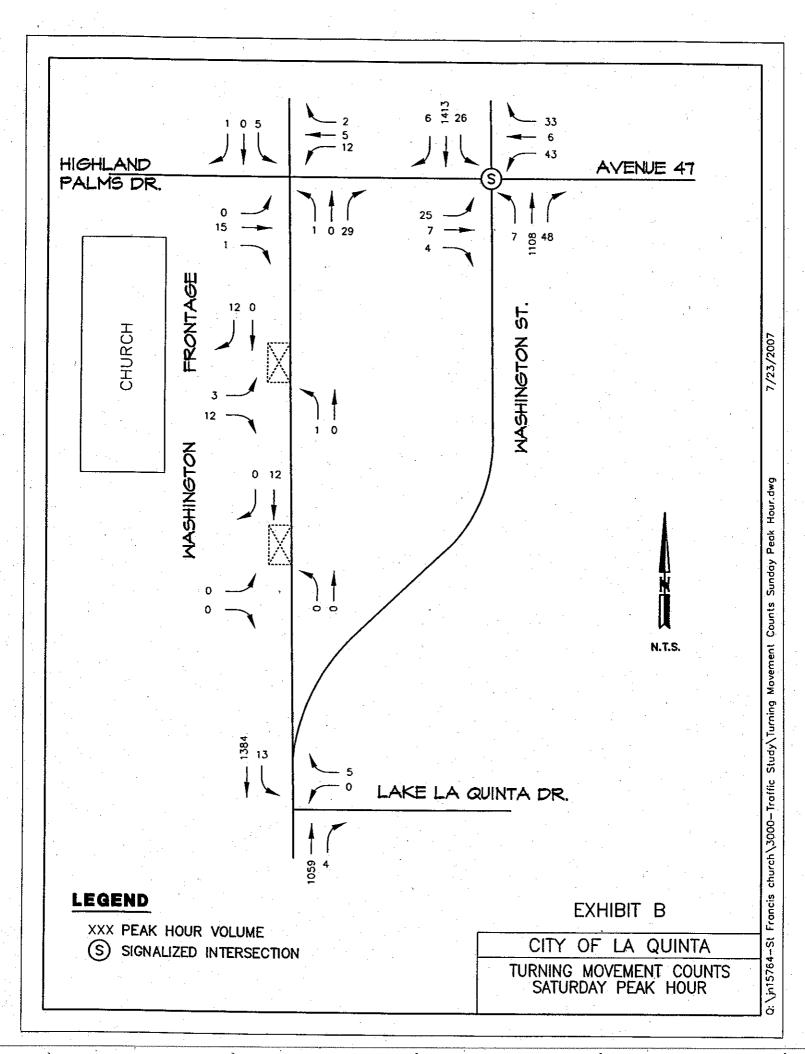
WILLDAN

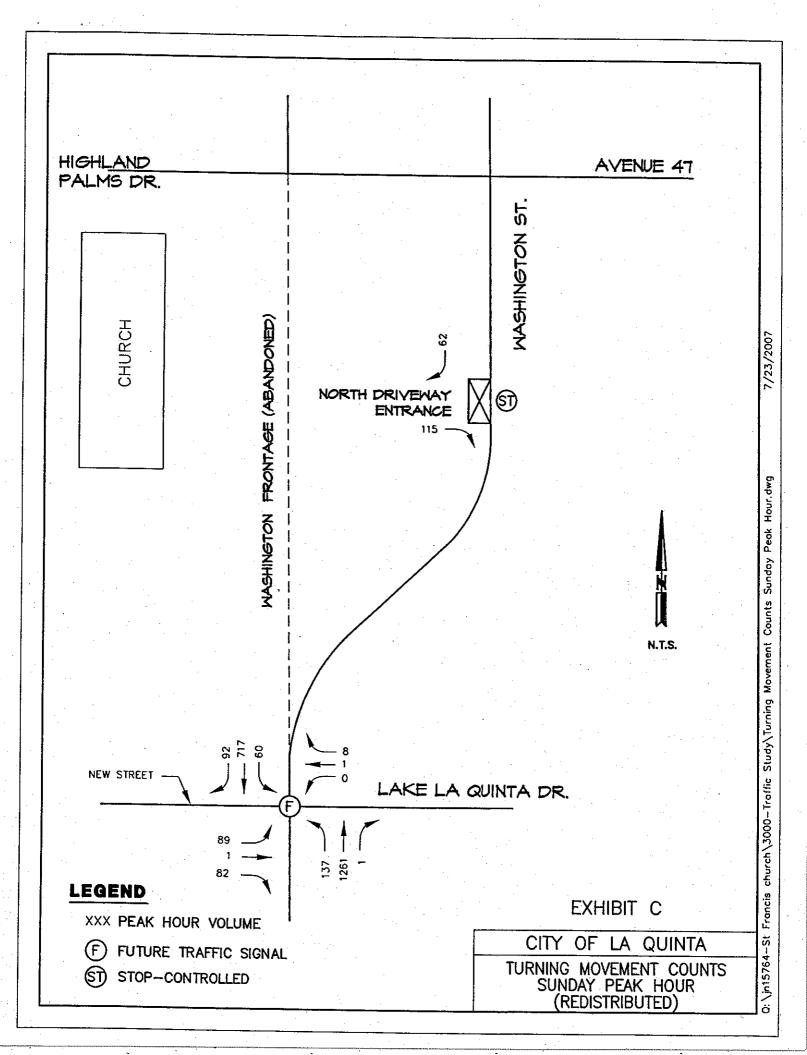
House Speciel Reggie Greene

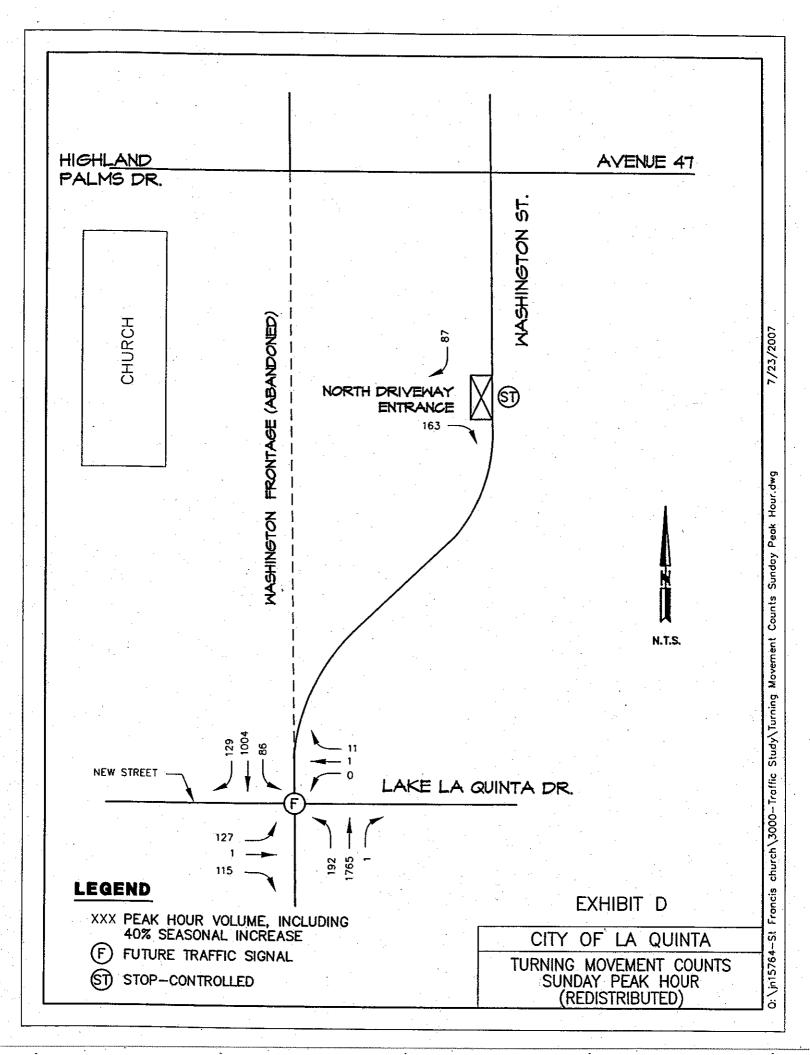
Senior Design Engineer

RG:lss (06160) 15764/3000/L01









<u>APPENDIX</u>

- Traffic Volumes
- ICU Calculations
- HMC Calculations

City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

File Name: LQWA47SAT Site Code: 00724612 Start Date: 5/26/2007

Page No : 1

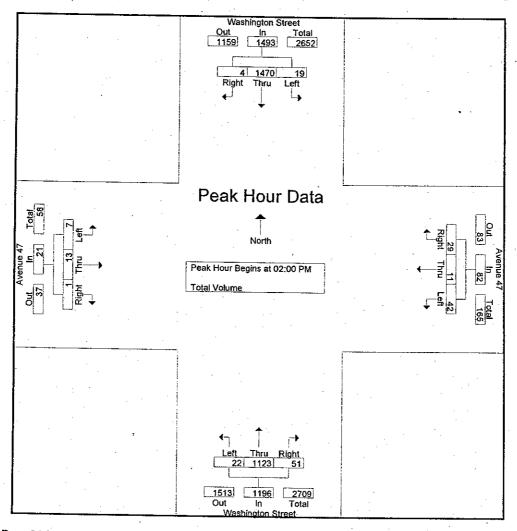
Groups Printed- Total Volume Washington Street Avenue 47 Washington Street Avenue 47 Southbound Westbound Northbound Eastbound Start Time Left Thru Right App. Total Thru Right Left App. Total Left Thru Right App. Total Left Thru Right App. Total Int. Total 01:30 PM .0 01:45 PM Total 02:00 PM 02:15 PM 11. 02:30 PM 02:45 PM O Total 2792. 03:00 PM ł 03:15 PM . 297 Grand Total Apprch % 1.4 98.1 0.6 47.8 11.8 40.4 1.7 94.1 4.2 54.9 35.3 9,8 Total % 0.7 50.8 0.3 51.8 1.5 0.4 1.2 3.1 0.8 41.5 44.2 1.9 0.5 0.3 0.1

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City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

File Name: LQWA47SAT Site Code: 00724612 Start Date: 5/26/2007

Page No : 2



Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1

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City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

File Name: LQWA47SUN Site Code: 00724611 Start Date: 6/3/2007

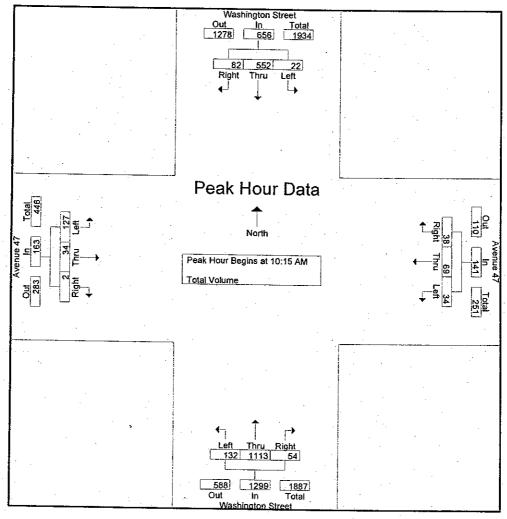
Page No : 1

Groups Printed- Total Volume Washington Street Avenue 47 Washington Street Avenue 47 Southbound Westbound Northbound Eastbound Start Time Left Thru Right App. Total Left Thru Right App. Total Thru Right App. Total Left Left Thru Right App. Total Int. Total 08:30 AM 08:45 AM Total 09:00 AM 09:15 AM 09:30 AM ı 09:45 AM Total 10:00 AM 10:15 AM 5Ò1 10:30 AM .7 10:45 AM Total 128. 11:00 AM 11:15 AM 31. 11:30 AM O 11:45 AM Total 12:00 PM 12:15 PM Grand Total Apprch % 3.3 9.9 86.8 23.5 39.2 37.3 7.3 88.6 4.1 74.9 23.3 1.8 Total % 1.1 3.2 32.2 1.2 2.1 5.3 50.9 2.4 57.5 3,8 1.2 0.1

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10:45 AM	6	143	40	189	10	43		62	63	319	14	396	12	1	0	39 13	590
11:00 AM	1	144	24	169	7	14	14	35	51	233	0	293	1.2	2	0		660
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City of La Quinta N/S: Washington Street E/W: Avenue 47 Weather: Sunny

File Name: LQWA47SUN Site Code: 00724611 Start Date : 6/3/2007 Page No : 2



Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

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City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

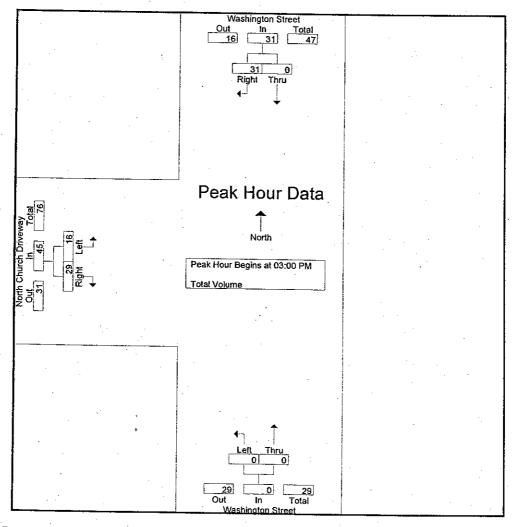
File Name: LQWADWNSAT Site Code: 00724623 Start Date: 5/26/2007 Page No: 1

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City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name: LQWADWNSAT Site Code: 00724623 Start Date: 5/26/2007 Page No: 2



Peak Hour Analysis From 01:45 PM to 03:45 PM - Peak 1 of 1

Peak	Hour	for	Each	App	roach	Begins	at:
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+45 min		4	4	0	0	0.	· 3	0	. 3
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City of La Quinta N/S: Washington Street E/W: South Church Driveway Weather: Sunny

File Name: LQWADWSSAT Site Code: 00724623 Start Date: 5/26/2007 Page No: 1

				Gro	ups Printed	d- Total Vo	lume					
			hington Stre	et	Wasi	nington Str	eet		hurch Dri		• .	
L	Start Time	Thru	Rght A	App. Total	Left		App. Total	Left	Rght	App. Total	Int. T	-1-1-
	01:45 PM	0	0	0	n	0	0	0	0	App. Total	1111. 1	<u>orai</u> i
	Total	0	0	0	0	0	0	0	0	0		0
-	02:00 PM	0	0	- 0 } -	0	0	0.1	0	n	. 0		٥
	02:15 PM	.0	0	o i	0	Ö	0	ň	ñ	ŏ		0
	02:30 PM	. 0	. 0	· o i	n .	ň	o l	.0	0	0		U
	02:45 PM	0	0	ñ	ñ	Ď.	ŏ	0	0.	0		-0
	Total	0	0	0	. 0	0	0	0	0	0		0
-	03:00 PM	0	0	0.1	0	0	o i			0		_
	03:15 PM	0	0	ñ	ň	ñ	. 0	0	Ü	.0		Ü
	03:30 PM	0	Õ	ň	ň	. 0	0	0	Ü	U		0
	03:45 PM	Ō	ň	ŏ	ň	0.	Ü	Ū	U.	0		0
	Total	0	0	0	0	0	0	<u> </u>	0	0		_0_
	C				_		0 1	J	O	O į		U
	Grand Total	0	0	-0	0	0	0	0	. 0	ol	•	Ω
	Apprch % Total %	0	0		0	0		Ŏ.	ŏ			J

CA		Washington Street Southbound Thru Roht App Total			hington St orthbound			iveway		
Start Time	i hru i	Rght	App. Total	Left	Thru	App. Total	Left	Raht	App. Total	Int. Total
Peak Hour Analysis From	01:45 PN	I to 03:30 F	PM - Peak 1 o	f 1		11			J.pp. Totar	mit. Total
Peak Hour for Entire Inter-	section Be	egins at 01:	:45 PM	•						
01:45 PM	0	0	0	. 0	٥	· n!	0	0		
02:00 PM	0	. 0	· 0	n.	n	0	0	0	0	. 0
02:15 PM	0	. 0	. 0	Õ	n	0	0	U	U	Ü
02:30 PM	0	ñ	Õ	Ŏ	0	0	. 0	. 0.	0	0
Total Volume	0	0	0	0		0		<u> </u>	0	0
% App. Total	ñ	ň		0	0	U	Ū	U	U	0
PHF	.000	. 000		<u> </u>	U		0	0		
FIII' i	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

City of La Quinta

N/S: Washington Street

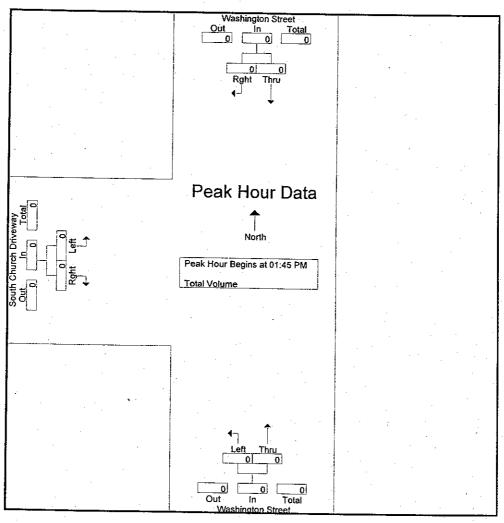
E/W: South Church Driveway

Weather: Sunny

File Name: LQWADWSSAT

Site Code : 00724623 Start Date : 5/26/2007

Page No : 2



Peak Hour Analysis From 01:45 PM to 03:30 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

				· · · · · · · · · · · · · · · · · · ·					
	01:45 PM			01:45 PM			01:45 PM		
+0 mins.	0	0	0	0	. 0		0	٥	٨
+15 mins.	0	0	0	ō	ŏ	. 0	, o	0	0
+30 mins.	0	0	0	Ō	ŏ	. 0	0	0	. 0
+45 mins.	0	0	. 0	Ō	, ŏ		0	. 0	0
Total Volume		0	0	0	0	0	0	0	0
% App. Total	00	0		0			n	Ŏ	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000
						.000		.000	.000:

City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name : LQWADWNSUN Site Code : 00724623 Start Date : 6/3/2007 Page No : 1

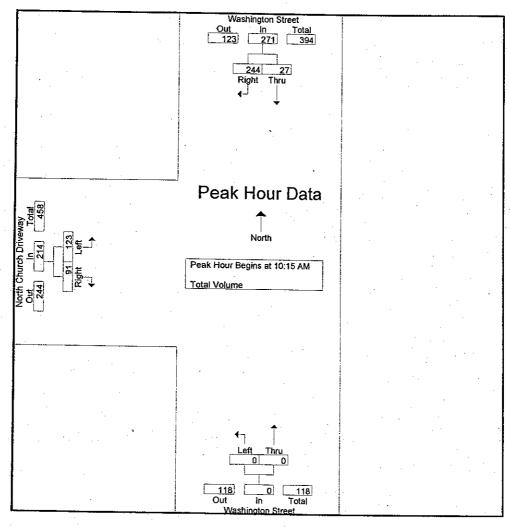
		· was	hington Str	eet	Was	hington Str	eet	North (Church Driv		
			Southbound			Vorthbound			Eastbound	veway	
L	Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
	08:30 AM	14	28	42	0	0	0	64	37	101	143
	08:45 AM	2	68	70	1	Õ	1	9	5	101	
-	Total	16	96	112	1	.0	1	73	42	115	228
	09:00 AM	28	100	128	. 0	0	0.1		4	ا م	
	09:15 AM	15	36	51	. 0	0	0	5	4	9	137
	09:30 AM	2	7	9	0	0	0	1	. 3	4	55
	09:45 AM	. 0	2	2	0	=	0	I.	. 1	2	11
	Total	45	145	190	0	0	0	0	0_	0	. 2
		13	140	190]	U	0	0	7	8	15	205
	10:00 AM	. 1	.10	11	0	. 0	0	17	9	20	
20	10:15 AM	. 13	7	20	ŏ	0	. 0	81		26	37
	10:30 AM	2	33	35	Ö	. 0			. 74	155	175
	10:45 AM	5	122	127	0	0	0	25	9	34	69
	Total	-21	172	193	0	- 0	0	9	7	.16	143
				. 193		0	0	132	99	231	424
	11:00 AM	7	82	89	0	0	0!	. 8	1	9	00
	11:15 AM	3	21	24	ŏ	0	0	4	1		98
	11:30 AM	2	7	9	ő·	0	0	. 3	2	6	30
	11:45 AM	1.	11	12	ő	. 0	~	. 3	2	5	14
	Total	13	121	134	0	0	0		. 2	4	16
			•	154 ;	,U	U	. 0	17	7	24	158
	12:00 PM	5	15	20	0	0	0	21	. 5	26	46
	12:15 PM	16	23 .	39	0	0	o l	67	57	124	
	Grand Total	116	572	688		0	. 1	317	218	535	163
	Apprch %	16.9	83.1		100	Õ	*	59.3		333	1224
	Total %	9.5	46.7	56.2	0.1	0	0.1	39.3 25.9	40.7 17.8	43.7	

Start Time	S	nington Stre			ington Stre	et		Church Driv Eastbound	reway	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
eak Hour Analysis From	08:30 AM to	12:15 PM -	Peak 1 of 1					100011	7 tpp. 10ta1	mi. Total
eak Hour for Entire Inter	section Begins	s at 10:15 A	M				•	100		
10:15 AM	13	7	20	0.	٥	ا م	01	54		
10:30 AM	. 2	33	35	0.	0	. 0	81	74	155	175
10:45 AM	5	122	127	· •	0	0	25	. 9	. 34	69
11:00 AM	7	82	89	0	v	0 1	9	7	16	143
Total Volume	27	244		<u>_</u>	0	0	8		9	98
% App. Total			271	- 0	0	0	123	91	214	485
	10	90		0	0		57.5	42.5		
PHF	.519	.500	.533	.000	.000	.000	.380	.307	.345	.693

City of La Quinta N/S: Washington Street E/W: North Church Driveway Weather: Sunny

File Name: LQWADWNSUN Site Code: 00724623

Start Date : 6/3/2007 Page No : 2



Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1

Peak Hour for Each Approac	h Begins at:
----------------------------	--------------

Tour Trout for Euch App	noach begins a					•			
	08.30 AM			08:30 AM	· · · · · · · · · · · · · · · · · · ·		10:00 AM		
+0 mins.	14	28	42	0	0	0	17	0	26
+15 mins.	2	68	· 70	1	ō	1	81	74	155
+30 mins.	28	100	128	ō	0	ń	25	, , ,	34
+45 mins.	15	36	51	ñ	0.	0	23	7	34
Total Volume	59	232	291	- 1		1	132	99	771
% App. Total	20.3	79.7		100	0	1 1			231
PHF	527	.580	.568	.250	.000	250	57.1	42.9	
				.2.30	.000	.250	.407	.334	373

City of La Quinta N/S: Washington Street E/W: South Church Driveway Weather: Sunny

File Name: LQWADWSSUN Site Code: 00724623 Start Date: 6/3/2007 Page No: 1

				<u>G</u>	oups Printed	Total Vol	ume				
		Wasi	hington Str	eet		ington Str			hurch Driv	eway	
-	Start Time	Thru	outhbound Rght			orthbound			Eastbound		
	08:30 AM	<u> </u>	Kgm 0	App. Total	Left	Thru	App. Total	Left	Rght	App. Total	Int. Total
	08:45 AM	0	2	0	.0	. 0	0	5	32	37	37
	Total	0	2			0	0	1	0	1	3
	. Total i	U	- 2	2	0	0	0	. 6	32	38	40
	09:00 AM	0	25	25							
	09:15 AM	. 0		25	0	0	0	0	0	0	25
	09:30 AM	0	13	13	0	0	0	0 -	0	0	13
	09:45 AM	0	1	1	0	0	0	0	0	0	1
	Total	0	20	0	0	0	0	0	0	0	0
	Total	U	39	39	. 0	0	0	0	0	0	39
	10:00 AM	0					1	•			
	10:15 AM	. 0		. 1	0 -	0	0	2	2	4	5
	10:30 AM	0	0	0	0	0	. 0	15	41	56	56
	10:45 AM	0	U	0	0	0	. 0	1	4	. 5	5
-	Total	0	3	3	0	0	0	0	1	1	4
	Total i	U	4	4	0	. 0	. 0	18	48	66	70
	11:00 AM	0	0	٠			,				
	11:15 AM	0	0	8	0	0	0	. 0	0	. 0	. 8
	11:30 AM	0)	3	0	0	0	0	0	0	5
	11:45 AM	0	1	1	0	0	0	0	0	0	. 1
	Total	0	0	0	0	0	0	0	0	0	0
	Total ,	U	14	14	0	0	0	0	. 0	0	14
	12:00 PM	0	0								
	12:15 PM	0	-	0	0	0	0	. 4	1	5	. 5
	Grand Total	0	. 2	2	0 .	0	0	8	39	47	49
	Appreh %		61	61	0 .	0	0	36	120	156	217
	Total %	0	100	00 i	0	0	1	23.1	76.9		
	10141 /0	U	28.1	28.1	0	0	. 0	16.6	55.3	71.9	

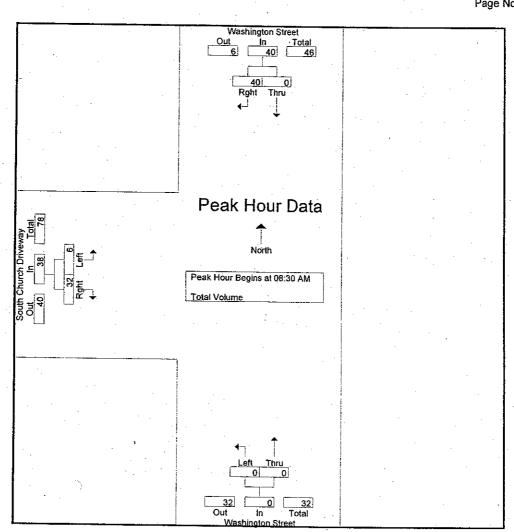
	S	nington Street outhbound			ington Stre		South (eway		
Start Time	Thru	Rght	App. Total	Left	Thru	App. Total	Left	Eastbound Rght	App. Total	Int, Total
Peak Hour Analysis From (08:30 AM to	10:15 AM - 1	Peak I of 1					235,121	ripp. rotur	IIII. I Olai
Peak Hour for Entire Inters	ection Begin	s at 08:30 AN	4						*	
08:30 AM	0	0	0	0	0	ا م ا	5	32	37	
08:45 AM	0 -	2	2	ŏ	0	0	1	32	3/	37
09:00 AM	. 0	25	25	ő	ň	0		Ü	-1	3
09:15 AM	0	13	13	Õ	ň	0	U O	Ü	0	25
Total Volume	0	40	40	0	0.	0		- 0	0	13
% App. Total	0	. 100		Ů	0	U	15.0	32	38	. 78
PHF	.000	.400	.400	.000	- 000	200	15.8	84.2		
			.400	.000	_000_	.000	.300	.250	.257	527

City of La Quinta N/S: Washington Street E/W: South Church Driveway

Weather: Sunny

File Name: LQWADWSSUN Site Code: 00724623

Start Date : 6/3/2007
Page No : 2



Peak Hour Analysis From 08:30 AM to 10:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

- date 17001 for Luch 71pp	Ouch Degins a								
	08:45 AM			08:30 AM			09:30 AM	··	
+0 mins.	0	2	2	0	0	n	Ω	0	n
+15 mins.	0	25	25	0	-0	Õ	0	0	0
+30 mins.	0	13	13	o	. 0	ň.	2	. 2	4
+45 mins.	0	1 .	. 1	o o	. 0	0	15	41	EC
Total Volume	0	41	41	0	0		17	41	56
% App. Total	0	100	',	ň	. 0	U	28.3	43 71.7	60
PHF	.000	.410	410	.000	.000	.000	.283	.262	2/0
				.000	.000	.000	.203	.202	.268

City of La Quinta N/S: Washington Street

E/W: Avenue 47 / Highland Palms Drive

Weather: Sunny

File Name: LQWA47HSAT Site Code : 00724687

Start Date : 5/26/2007

Page No : 1

1.4

21.1

Groups Printed- Total Volume Washington Street Avenue 47 Washington Street Highland Palms Drive Southbound Westbound Northbound Eastbound Thru | Right | App. Total Start Time Left Thru Right App. Total Left Thru Right App. Total Left Thru Right App. Total Int. Total Lcft 01:30 PM 01:45 PM Total 02:00 PM 02:15 PM 02:30 PM 1 . 02:45 PM Total 03:00 PM 11 03:15 PM ì **Grand Total** 2. Apprch % 77.8 18.1 4.2 2.9 2.9 94.1 9.7 83.9 6.5 Total % 5.4 0.7 0.7 6.8 38.1 8.8 0.7

0.7

21.8

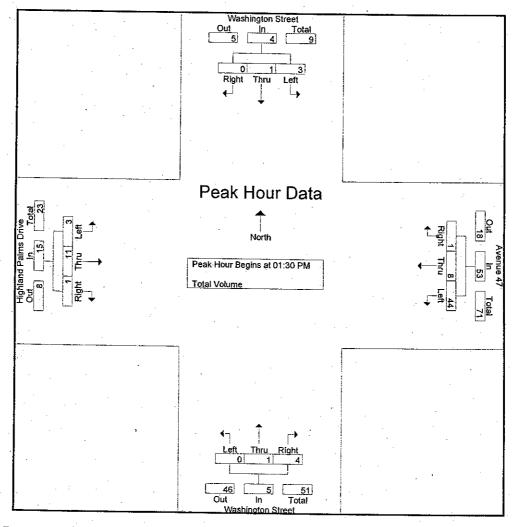
23.1

17.7

Start Time	Left	South				West	nue 47 bound				on Street	t	Hig	,	Palms Dr	ive	-
Peak Hour Analy	ysis Fron	n 01:30 l	Right PM to 03:	15 PM ~	Peak 1 c	Thru of 1	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour for E	ntire Into	ersection	Begins a	t 01:30 P	M							* 1					
01:30 PM	1	0	- 0	1.	5	2	0	7	ا ا		0		-	•	-		
01:45 PM	1	1	. 0	2	16	ī	Ô	. 17	0	1	V	1	3	U	1	4	13
02:00 PM	0	0	0	0	17	. 1	. 1	21	0	0	1	1	. 0	2	. 0	2	22
02:15 PM	Ŧ	0	Õ	· i	6		7		. 0	U	2	2	0	4	0	4	27
Total Volume	3	1		4	44	. 2		8	U	- 0		1	0	5_	0	5	15
% App. Total	75	25				16.1	1	-53	0	1	4	5	- 3	11	1	15	77
PHF	.750	250	000		83	15.1	1.9	·	0_	20	80		20	73.3	6.7		
	.750	.430	.000		647	.667	250	.631	000	.250	500	.625	.250	.550	.250	.750	.713

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive Weather: Sunny

File Name: LQWA47HSAT Site Code: 00724687 Start Date: 5/26/2007 Page No: 2



Peak Hour Analysis From 01:30 PM to 03:15 PM - Peak 1 of 1

Peak Hour	tor	Each	Approach	Begins at:

y can Hour for I	Sacu Ahl	proacti r	segins at:													
	02:15 PM	1			01:30 PM			-	02:30 PM			· · ·	02:00 PM			
+0 mins.	. 1	0	0	1	5	2	0	7	02.507.11	0	. 0	٥	02:00 PM	4.	. 0	4
+15 mins.	2	0	0	2	16	1	ň	17	0	0	4		0	4	0	4
+30 mins.	1	.0	1	2	17	3	ĭ	21	0	0	17	4	0	3	0	2
+45 mins.	- 1	.0	0.	1	6	2		- A O	1	0	12	12	0	,	U	T
Total Volume	5	. 0	i		44	- 4		62	<u> </u>	<u> </u>	12	13	0	2		3
% App. Total	83.3		16.7	U		15.1	1 0	53	J .	. 0	28	29	0	18	1	19
PHF	.625	000		750	83	15.1	1.9		3.4	0_	96.6		0	94.7	5.3	
1111	.023	.000	250	.750	.647	667_	.250	.631	.250	.000	.583	.558	.000	.643	.250	.679

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive

Weather: Sunny

File Name: LQWA47HSUN Site Code : 00724612 Start Date : 6/3/2007

Page No : 1

Groups Printed- Total Volume Washington Street Avenue 47 Washington Street Highland Palms Drive Southbound Westbound Northbound Eastbound Start Time Left Thru Right App. Total Thru Right App. Total Left Left Thru Right App. Total Thru Right App. Total Int. Total Left 08:30 AM ī 08:45 AM Ó Total 2. 09:00 AM 09:15 AM 09:30 AM 09:45 AM Total 10:00 AM 10:15 AM 10:30 AM I 10:45 AM Total 11:00 AM. Ó 11:15 AM .0 11:30 AM 11:45 AM 20_ Total 12:00 PM 12:15 PM Grand Total -1 Apprch % 77.8 16.7 5.6 95.6 3.1 1.3 8.0 0.2 2.9 88.6 8.6 Total % 1.2 0.3 0.1 1.5 59.4 1.9 0.8 62.1 0.3 0.1 33.1 33.4 0.1 2.6 0.3 2.9

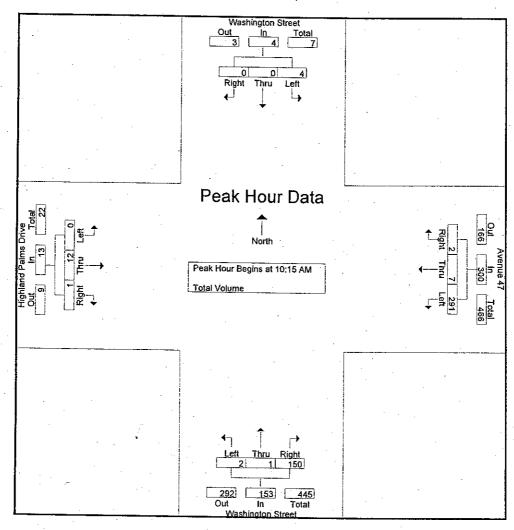
	ν	Vashingt	on Stree	et		Aver	nue 47		1)	Vashingt	on Chi		T.T.	.11. 17			1
		South	bound		ĺ		bound	Î	y	_	ion Street ibound	:(HIE	-	'alms Dr oound	ive	
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Tetal	Left	Thru		App. Total	Left			App. Total	Int. Total
Peak Hour Anal	ysis Fron	n 08:30 n	AM to 1	2:15 PM -	Peak 1	of 1		,				111001 10111 1	2010.1			rpp. roisi	mi, i tiai
Peak Hour for E	ntire Inte	ersection	Begins	at 10:15 A	M		•										
10:15 AM	2	0	0	2	11	2	. 0	13 !	· 0	1	93	94	٥		0		115
10:30 AM	0	0	0	0	· 46	1	0	47	. 0	ก	41	41	٨	1	0	. 4	115 92
10:45 AM	. 2	0	0	2	147	3	0	150	. 2	กั	71	71	0	. 7	1	2	163
11:00 AM	0	0_	0	0	87	1	2	90	ō	Š	á	اهٔ	n	1	ń	1	100
Total Volume	4	0	0	4	291	7	2	300	2	1	150	153	<u> </u>	12	1	13	470
% App. Total	100	0	0		97	2.3	0.7	200	1.3	0.7	98	155	n n	92.3	7.7	13	470
PHF	.500	.000	.000	.500	.495	.583	.250	.500	.250	.250	.403	407	.000	.500	.250	.542	-721

City of La Quinta N/S: Washington Street E/W: Avenue 47 / Highland Palms Drive

Weather: Sunny

File Name: LQWA47HSUN Site Code: 00724612

Start Date : 6/3/2007 Page No : 2



Peak Hour Analysis From 08:30 AM to 12:15 PM - Peak 1 of 1

Peak Hour for I	ach App	roach E	egins at:					100								
	11:30 AM				08:30 AM				10:00 AM	,			10:00 AM			
+0 mins.	. 2	0	0	2	28	. 2	. 0	30	0	n	22	22	Δ	2	n	2
+15 mins.	I	0	1 .	2	89	2	ō	91	n	. 1	93	94	0	6	0	
+30 mins.	1	0	. 0	1	141	3	ĭ	145	ň	^	<i>A</i> 1	41	n n	4	0	4
+45 mins.	2	0	0.	2	46	3	i	. 50	. 2	۸	71	41	n O	1	. 0	4
Total Volume	6	0	1	7	304	10	2	316	2		163	166		12		Z
% App. Total	85.7	0	14.3	,	96.2	3.2	0.6	510	1 2	0.0		100	0.	13	1,	14
PHF	.750	.000	.250	.875	.539	.833	.500	.545	250	0.6	98.2		000	92.9	7.1	
	·		1200	.572		.033		45	250	.250	.438	.441	.000	.542	.250	.583

INTERSECTION CAPACITY UTILIZATION CALCULATION SHEET

Intersection: Washington Street and north driveway entrance (St. Francis Church)

Count Date: Sunday June 3, 2007 Peak Hour: 2:30 - 3:30pm

Analyst: R. Greene Agency: City of La Quinta

		Т				·
		Number		V/C		
Movement	<u>Volume</u>	of Lanes	Capacity	Ratio		Total
NB Left	192	1	1900	0.101	-0.101	
NB Thru	1766	3	5700	0.310		-
NB Right	0	0	0	0.000		
CD I - C						0.365
SB Left	86	1	1900	0.045		
SB Thru	1004	2	3800	0.264	0.264	
SB Right	129	1	1900	0.068		
adentification of	新发生的 在 国际政治的 (1944)。			Nas Paris de Caracteria		
EB Left	128	1	1900	0.067	0.067	
EB Thru	0	2	3800	0.000		
EB Right	115	1	1900	0.061		
111D 7 0				V.VV.		0.071
WB Left	0	1	1900	0.000		
WB Thru	12	2	3800	0.003	0.003	
WB Right	0 ,	1	1900	0.000		
Sum of Critica	l V/C Ratios					0.436
Adjustment fo	r Lost Time					0.100
Intersection Ca	apacity Utilization (Id	CU)				0.536
	ce (LOS) - Refer to ta					
	- (=00) 110101 10 1	ACIC DCIOW				A

Notes:			
 Per lane Capacity Dual turn lane Capa 	= city =	1,900 3,420	VPH VPH
3. Intersection Type:	4-Way	- ,	
	T	. X	
	Split N/S	,	
· ·	Split E/V	/	·

	٠
Maximum V/C Ratio	
0.6	
0.7	
0.8	
0.9	
1.0	
n/a	

General Information	on		CONTROL SUMMARY Site Information							
					lation	Washing	ton St./No	<u> </u>		
Analyst Agency/Co.	R. Green		linters	ection		Driveway				
Date Performed	City of La 7/17/2007		Jurisd	iction						
Analysis Time Period	10:15 - 1:		- Analy	sis Yea	ar	2007				
	10.15 - 1	I. IOAW					*, *			
Project Description								**-		
ast/West Street: Nor	th Driveway Er		North/South Street: Washington Street							
ntersection Orientation			Study	Period	(hrs): 0.25					
/ehicle Volumes a	nd Adjustn		· ·		·	•				
Major Street Movement	 	Northbound	Т -		-	Southbou	ınd	· .		
wovernent		2 T	3		. 4	5		6		
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fourly Flow Rate, HFR		1.00	1.00	-	1.00	1.00		1.00		
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Percent Heavy Vehicles	0				0	<u> </u>				
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Approach Delay (s/veh)	 	22.5
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ENGINEERS

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City of La Quinta

Date:

8/2/07

La Quinta, CA 92253

VOICE: 760-771-4013

•

Public Works

Address: 78495 Calle Tampico La Quinta, CA 92253

Job #: 69400

FAX: 760-771-4073

Attention: Ed Wimmer

Subject: Tr. No. 35060

E-MAIL: mdsirvine@mdsconsulting.net

From:

Barrett Bruchhauser

CC.

trans. only

	From: Barrett Bruchhauser cc: trans. only
NO. OF ITEMS:	DESCRIPTION:
2	Preliminary Intersection Configuration Exhibit
1	Church Traffic Signal Plan Prelim. Check
	REGEIVED AUG 0 2 2007 PUBLIC WORKS
THE ABOVE ITEMS ARE SUBMITTED: AT YOUR REQUEST	MESSAGE:
FOR YOUR REVIEW	Ed,
FOR YOUR APPROVAL FOR YOUR USE FOR YOUR INFO THE ABOVE ITEMS ARE TRANSMITTED:	Here is the proposed preliminary configuration of the intersection of Washington Street and Lake La Quinta Drive in coordination with the future secondary access for Laing Luxury Homes. Prior to final engineering of this area we would like to verify approval of the layout with the City to ensure we are all on the same page. This exhibit is based on previous comments made from Public Works on the Church/Wil Dan Traffic Signal Plan. Please call with any questions or comments.
VIA DELIVERY UNDER SEPARATE COVER	Thank you. Barrett



OCB Reprographics INVOICE

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