Washington Park Specific Plan Adjacent Tract 2

TRAFFIC IMPACT ANALYSIS

CITY OF LA QUINTA

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
Ave	Avenue
Caltrans	California Department of Transportation
CIP	Capital Improvement Program
CVAG	Coachella Valley Association of Governments
DIF	Development Impact Fee
Dr	Drive
E+P	Existing Plus Project
FHWA	Federal Highway Administration
HCM	Highway Capacity Manual
Hwy	Highway
ITE	Institute of Transportation Engineers
LOS	Level of Service
MUTCD	Manual on Uniform Traffic Control Devices
NEV	Neighborhood Electric Vehicle
NP	No Project (same as Without Project)
PHF	Peak Hour Factor
Project	Washington Park Specific Plan Adjacent Tract 2
SCAG	Southern California Association of Governments
sf	Square Feet
St	Street
TIA	Traffic Impact Analysis
tsf	Thousand Square Feet
TUMF	Transportation Uniform Mitigation Fee
V/C	Volume-to-Capacity
VPH	Vehicles per Hour
WP	With Project

1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

This report presents the results of the traffic impact analysis (TIA) for the proposed Washington Park Specific Plan Adjacent Tract 2 ("Project") located at the northeast corner of Washington Street and Avenue 47 in the City of La Quinta as shown on Exhibit 1-1.

The purpose of this TIA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and recommend improvements to achieve acceptable circulation system operational conditions. As directed by City of La Quinta staff, this TIA has been prepared in accordance with the City of La Quinta's Engineering Bulletin #06-13 (dated April 9, 2014) and Engineering Bulletin #10-01 (dated August 9, 2010). To ensure that this TIA satisfies the City of La Quinta's traffic study requirements, Urban Crossroads, Inc. prepared a traffic study scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The Agreement approved by the City is included in Appendix "1.1".

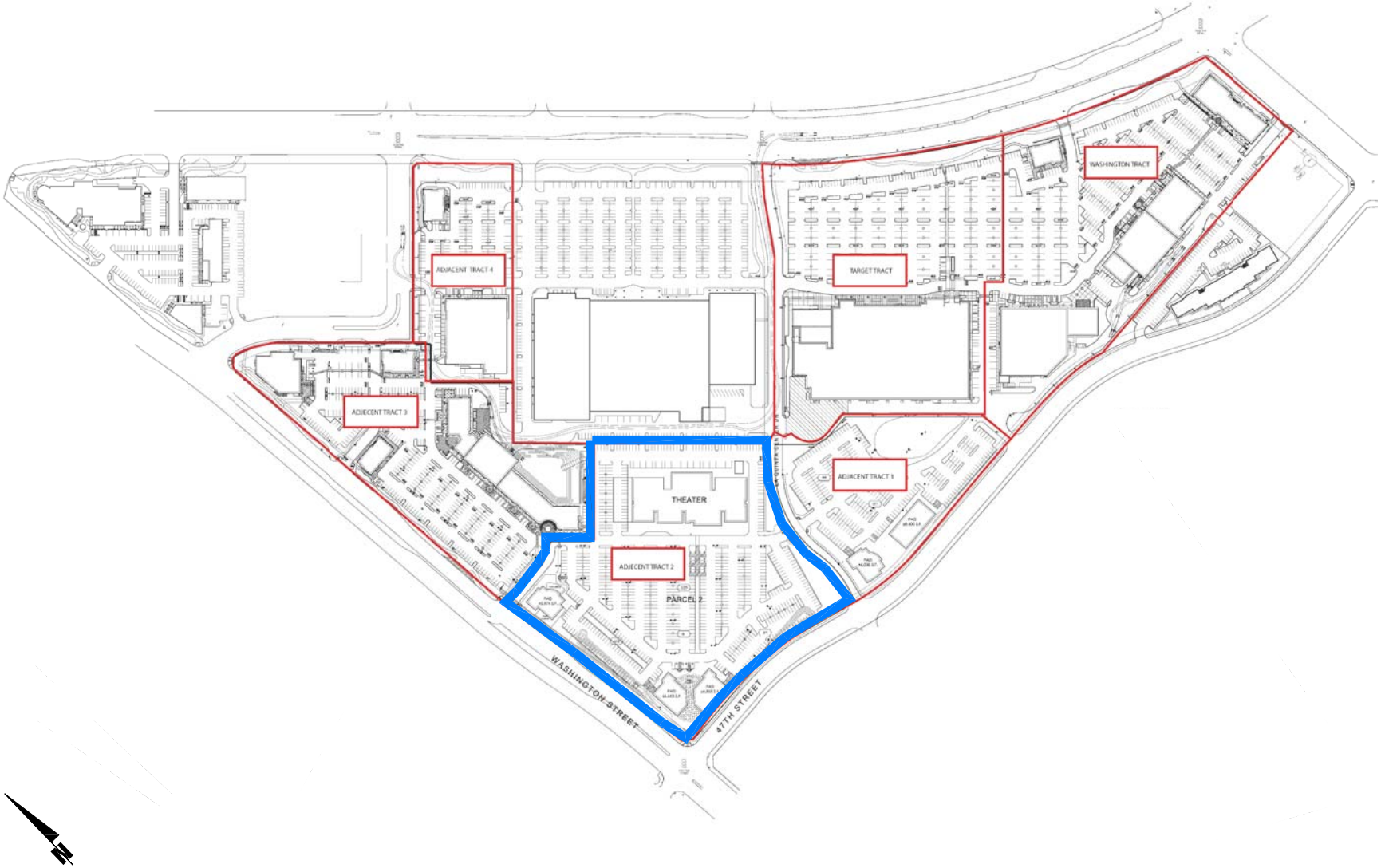
1.2 DESCRIPTION OF PROPOSED PROJECT

The Project is proposed to consist of the development of a 2,087 seat multiplex cinema and 27,373 square feet (sf) of commercial retail use. The proposed Project is currently one of two undeveloped tracts within the existing Washington Park Specific Plan. The Washington Park Specific Plan (SP1987-011, Amendment No. 4) was approved on May 8, 2003 by the City of La Quinta and consisted of a 508,000 sf shopping center. For the purposes of this analysis, it is assumed that the Project will be constructed within a single phase of development with a projected Opening Year of 2015.

The Project is proposed to have access on Washington Street, Avenue 47, and Highway 111 via existing site access points. The existing Washington Park Plaza Driveway on Washington Street is a right-in/right-out/left-in access while the access point of La Quinta Center Drive/Caleo Bay on Avenue 47 is currently a full access cross-street stop controlled intersection. The Project is also anticipated to utilize La Quinta Center Drive to access Highway 111 to the north via an existing signalized intersection. Regional access to the project site is provided via Highway 111 and the I-10 Freeway via Washington Street.

In accordance with City of La Quinta's traffic study guidelines, trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition, 2012. (1) (2) The proposed Project is anticipated to generate a net total of approximately 4,842 trip-ends per day on a typical weekday with 151 vehicles per hour (VPH) during the weekday AM peak hour, 707 VPH during the weekday PM peak hour and 758 VPH during the Saturday peak hour.

EXHIBIT 1-1: PRELIMINARY SITE PLAN



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URBAN CROSSROADS

1.3 STUDY AREA AND ANALYSIS SCENARIOS

1.3.1 INTERSECTIONS

The following twelve study area intersections shown on Exhibit 1-2 and listed in Table 1-1 were selected for this TIA based on consultation with City of La Quinta staff.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
1	Plaza La Quinta/Channel Drive / Highway 111	La Quinta
2	Washington Street / Channel Drive	La Quinta
3	Washington Street / Highway 111	La Quinta
4	Washington Street / Point Happy Way/Simon Drive	La Quinta
5	Washington Street / Washington Park Plaza Driveway	La Quinta
6	Washington Street / Highland Palms Drive/Avenue 47	La Quinta
7	Washington Street / Lake La Quinta Drive	La Quinta
8	Simon Drive / Highway 111	La Quinta
9	La Quinta Center Drive / Highway 111	La Quinta
10	La Quinta Center Drive / Lowes/Target Driveway	La Quinta
11	La Quinta Center Drive/Caleo Bay / Avenue 47	La Quinta
12	Adams Street / Highway 111	La Quinta
13	Adams Street / Avenue 47	La Quinta

1.3.2 ROADWAY SEGMENTS

Through consultation with City staff, daily volume-to-capacity (V/C) roadway analyses have been evaluated for the following roadway segments as shown on Table 1-2:

TABLE 1-2: ROADWAY SEGMENT ANALYSIS LOCATIONS

ID	Roadway Segment Location	Jurisdiction
1	Washington St, north of Channel Dr	La Quinta
2	Washington St, between Channel Dr and Hwy 111	La Quinta
3	Washington St, between Hwy 111 and Simon Dr	La Quinta
4	Washington St, between Simon Dr and Washington Park Plaza Dwy	La Quinta
5	Washington St, between Washington Park Plaza Dwy and Highland Palms Dr/Ave 47	La Quinta
6	Washington St, between Highland Palms Dr/Ave 47 and Lake La Quinta Dr	La Quinta
7	Washington St, south of Lake La Quinta Dr	La Quinta
8	La Quinta Center Dr, between Hwy 111 and Ave 47	La Quinta
9	Caleo Bay, south of Ave 47	La Quinta
10	Adams St, north of Hwy 111	La Quinta
11	Adams St, between Hwy 111 and Ave 47	La Quinta
12	Adams St, south of Ave 47	La Quinta

EXHIBIT 1-2: LOCATION MAP

LEGEND:

0 = EXISTING INTERSECTION ANALYSIS LOCATION

N

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URBAN CROSSROADS

ID	Roadway Segment Location	Jurisdiction
13	Hwy 111, between Plaza La Quinta/Channel Dr and Washington St	La Quinta
14	Hwy 111, between Washington St and Simon Dr	La Quinta
15	Hwy 111, between Simon Dr and La Quinta Center Dr	La Quinta
16	Hwy 111, between La Quinta Center Dr and Adams St	La Quinta
17	Hwy 111, east of Adams St	La Quinta
18	Simon Dr, between Washington St and Hwy 111	La Quinta
19	Ave 47, between Washington St and La Quinta Center Dr/Caleo Bay	La Quinta
20	Ave 47, between La Quinta Center Dr/Caleo Bay and Adams St	La Quinta

1.3.3 ANALYSIS SCENARIOS

In accordance with the City of La Quinta's traffic study guidelines and as documented in Appendix "1.1" of this TIA, this study has analyzed the following scenarios (1):

- Existing (2014) Conditions
- Existing plus Project (E+P) Conditions
- Opening Year Cumulative (2015) Without Project Conditions
- Opening Year Cumulative (2015) With Project Conditions

Detailed descriptions of each analysis scenario can be found in Section 5.1 *Scenarios* of this TIA. The proposed Project land use is consistent with the City's General Plan. As such, analysis of General Plan Buildout traffic conditions is not necessary per the City's traffic study guidelines.

1.4 CRITERIA FOR DETERMINING SIGNIFICANT IMPACTS

Potentially significant Project traffic impacts are divided separately into intersection and roadway segment traffic impacts. Intersections and roadway segments are evaluated for both potentially significant Project and cumulative impacts.

The potentially significant Project and cumulative impact criteria described below for both intersection and roadway segments per the City of La Quinta's traffic study guidelines. (1)

1.4.1 INTERSECTIONS

Potentially Significant Project Impacts

Pursuant to the criteria outlined for the analysis of study area intersections using the HCM methodology, a potentially significant Project impact is defined to occur at any signalized intersection if the addition of Project trips will result in the LOS for that intersection to exceed the criteria established in Table 1-3 for E+P traffic conditions.

TABLE 1-3: IMPACT CRITERIA FOR INTERSECTIONS ALREADY OPERATING AT LOS "E" OR LOS "F"

Significant Changes in LOS	
LOS "E"	An increase in delay of 2 seconds or more
LOS "F"	An increase in delay of 1 second or more

Source: City of La Quinta Engineering Bulletin #06-13 Table 4.0

A potentially significant Project impact at an unsignalized study area intersection is defined to occur when an intersection has a projected LOS "F" on a side street for a two-way stop control or LOS "E" or worse for the intersection an all-way stop controlled intersection and the addition of Project traffic results in an addition of 3 seconds or more of delay for any movement.

Potentially Significant Cumulative Impacts

A potentially significant cumulative impact is defined to occur at any signalized intersection if the addition of Project trips will result in the LOS for that intersection to exceed the criteria established in Table 1-3 for Opening Year Cumulative traffic conditions.

A potentially significant cumulative impact at an unsignalized study area intersection is defined to occur when, with Project traffic included, an intersection has a projected LOS "F" on a side street for a two-way stop control or LOS "E" or worse for the intersection an all-way stop controlled intersection and the addition of Project traffic results in an addition of 3 seconds or more of delay for any movement.

1.4.2 ROADWAY SEGMENTS

Potentially Significant Project Impacts

A potentially significant Project impact is defined to occur at any study area roadway segment if the segment is projected to be operating at LOS "E" or LOS "F" and the volume-to-capacity (V/C) ratio increases by 0.02 or more with the addition of Project traffic for E+P traffic conditions.

Potentially Significant Cumulative Impacts

A potentially significant cumulative impact is defined to occur at any study area roadway segment if the Project would cause the Existing LOS to fall to worse than LOS "D" for Opening Year Cumulative traffic conditions. A potentially significant cumulative impact is also defined to occur on any study area roadway segment that is already operating at LOS "E" or LOS "F", if the Project traffic will increase the V/C ratio by more than 0.02 for Opening Year Cumulative With Project traffic conditions.

1.5 SUMMARY OF FINDINGS

The results of the potentially significant Project and cumulative impacts for the study area intersections for E+P and Opening Year Cumulative traffic conditions are summarized in Table 1-4. As shown on Table 1-4 and discussed in detail on Section 6 *Near Term Conditions Traffic Analysis*, the development of the proposed Project is not anticipated to result in a potentially significant Project or cumulative impact.

A summary of roadway segment volume-to-capacity analysis is provided on Table 1-5.

1.5.1 EXISTING CONDITIONS

Intersections

As shown in Table 1-4, the intersection analysis for Existing conditions indicates that all existing study area intersections are currently operating at an acceptable LOS during the peak hours, with the exception of the following intersection:

ID	Intersection Location
7	Washington Street / Lake La Quinta Drive – LOS "F" AM peak hour only

Roadway Segments

As shown on Table 1-5, all study area roadway segments analyzed are currently operating at acceptable LOS.

1.5.2 EXISTING PLUS PROJECT CONDITIONS

Intersections

As shown in Table 1-4, no additional study area intersections are anticipated to experience unacceptable LOS (i.e., LOS "E" or "F") in addition to those previously identified under Existing traffic conditions.

Based on the City of La Quinta's potentially significant Project impact criteria described previously in Section 1.4 *Potentially Significant Traffic Impact Criteria*, the deficient intersection of Washington Street at Lake La Quinta Drive was not found to meet the threshold of a potentially significant Project impact as the addition of Project traffic does not increase the delay by more than 3.0 seconds. As such, a potentially significant Project impact has not been identified for E+P traffic conditions.

Roadway Segments

As shown on Table 1-5, all study roadway segments analyzed are anticipated to operate at acceptable LOS with the exception of La Quinta Center Drive between Highway 111 and Avenue 47 which was found to operate at LOS "E".

Table 1-4

Summary of Intersection Operations

#	Intersection	Traffic Control[2]	Existing (2014)						E+P						Potentially Significant Project Specific Impact[3]	OY Cumulative (2015) Without Project						OY Cumulative (2015) With Project						Potentially Significant Cumulative Impact[4]	Acceptable LOS
			Delay[1]			LOS			Delay[1]			LOS				Delay[1]			LOS			Delay[1]			LOS				
			AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat		AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat		
1	Plaza La Quinta/Channel Dr. / Hwy. 111	TS	11.0	12.2	12.6	B	B	B	11.0	12.3	12.7	B	B	B	NO	11.2	12.4	12.7	B	B	B	11.2	12.5	12.8	B	B	B	NO	D
2	Washington St. / Channel Dr.	TS	12.3	22.7	25.0	B	C	C	12.3	22.8	25.1	B	C	C	NO	12.5	23.4	25.6	B	C	C	12.5	23.5	25.7	B	C	C	NO	D
3	Washington St. / Hwy. 111	TS	40.4	41.9	41.5	D	D	D	40.8	44.0	44.3	D	D	D	NO	41.2	42.8	42.7	D	D	D	41.5	45.2	45.9	D	D	D	NO	D
4	Washington St. / Point Happy Wy./Simon St.	TS	6.4	15.4	17.4	A	B	B	6.4	15.5	17.6	A	B	B	NO	6.7	15.7	17.9	A	B	B	6.7	15.8	18.0	A	B	B	NO	D
5	Washington St. / Washington Park Plaza Dwy.	CSS	12.9	11.3	11.2	B	B	B	13.0	11.5	11.4	B	B	B	NO	12.9	11.3	11.2	B	B	B	13.0	11.5	11.4	B	B	B	NO	E
6	Washington St. / Highland Palms Dr./Ave. 47	TS	21.1	10.6	15.1	C	B	B	22.8	12.5	17.7	C	B	B	NO	22.7	10.9	15.3	C	B	B	24.7	12.7	18.0	C	B	B	NO	D
	-Saturday Evening [5]	TS	--	--	30.5	--	--	C	--	--	39.5	--	--	D	NO	--	--	30.8	C	B	B	--	--	40.1	C	B	B	NO	D
7	Washington St. / Lake La Quinta Dr.	CSS	**97.5**	22.5	23.0	**F**	C	C	**99.5**	24.4	25.0	**F**	C	D	NO	**112.5**	23.5	24.0	**F**	C	C	**114.9**	25.5	26.1	**F**	D	D	NO	E
8	Simon Dr. / Hwy. 111	TS	5.7	12.6	14.1	A	B	B	5.7	12.7	14.1	A	B	B	NO	5.7	12.9	14.5	A	B	B	5.7	13.0	14.5	A	B	B	NO	D
9	La Quinta Center Dr. / Hwy. 111	TS	12.9	18.5	25.3	B	B	C	16.0	30.0	43.9	B	C	D	NO	13.2	18.7	25.9	B	B	C	16.2	30.7	45.6	B	C	D	NO	D
10	La Quinta Center Dr. / Lowes / Target Dwy.	AWS	7.6	9.6	11.6	A	A	B	8.0	17.1	30.8	B	C	D	NO	7.6	9.7	11.8	B	B	C	8.0	17.5	32.6	B	C	D	NO	D
11	La Quinta Center Dr./Caleo Bay / Ave. 47	CSS	10.9	12.8	14.2	B	B	B	11.3	16.1	20.2	B	C	C	NO	10.9	12.9	14.4	B	B	B	11.3	16.3	20.6	B	C	C	NO	E
12	Adams St. / Hwy. 111	TS	31.4	31.6	27.6	C	C	C	31.5	32.3	28.1	C	C	C	NO	31.6	32.1	27.8	C	C	C	31.7	32.8	28.4	C	C	C	NO	D
13	Adams St. / Ave. 47/Auto Centre Dr.	TS	15.9	21.3	23.3	B	C	C	16.4	22.6	24.1	B	C	C	NO	16.0	21.5	23.4	B	C	C	16.4	22.8	24.2	B	C	C	NO	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal.
For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] CSS = Cross-street Stop; TS = Traffic Signal; AWS = All-way Stop

[3] A potentially significant project traffic impact is defined to occur at any signalized intersection if the intersection is operating at LOS "E" and the project causes the delay to increase by 2 seconds or more. If the signalized intersection is operating at LOS "F", a potentially significant project specific traffic impact is defined to occur if the project causes the delay to increase by 1 second or more. For cross-street stop controlled intersections, a potentially significant project specific traffic impact is defined to occur if the intersection is operating at LOS "F" on the side street and the addition of project traffic results in an increase of 3 seconds or more of delay for any movement.

[4] A potentially significant cumulative traffic impact is defined to occur at any signalized intersection if the intersection is operating at LOS "E" and the project causes the delay to increase by 2 seconds or more. If the signalized intersection is operating at LOS "F", a potentially significant cumulative traffic impact is defined to occur if the project causes the delay to increase by 1 second or more. For cross-street stop controlled intersections, a potentially significant cumulative traffic impact is defined to occur if the intersection is operating at LOS "F" on the side street and the addition of project traffic results in an increase of 3 seconds or more of delay for any movement.

[5] Saturday evening evaluated at the intersection of Washington St. and Highland Palms Dr. / Avenue 47 to determine potential impacts due to the services at the adjacent St. Francis of Assisi Catholic Church.

Table 1-5

Summary of Roadway Segment Volume/Capacity Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing (2014)		E+P		Potentially Significant Project Traffic Impact[2]	OYC (2015) NP		OYC (2015) WP		Potentially Significant Project Traffic Impact[4]	Acceptable LOS
					V/C	LOS	V/C	LOS		V/C	LOS	V/C	LOS		
1	Washington St.	North of Channel Dr.	6D	61,100	0.64	B	0.65	B	NO	0.65	B	0.66	B	NO	D
2		Channel Dr. to Hwy. 111	6D	61,100	0.63	B	0.64	B	NO	0.64	B	0.65	B	NO	D
3		Hwy. 111 to Simon Dr.	6D	61,100	0.65	B	0.66	B	NO	0.67	B	0.67	B	NO	D
4		Simon Dr. to Washington Park Plaza Dwy.	6D	61,100	0.66	B	0.67	B	NO	0.68	B	0.68	B	NO	D
5		Washington Park Plaza Dwy. to Highland Palms Dr./Ave. 47	6D	61,100	0.66	B	0.67	B	NO	0.67	B	0.68	B	NO	D
6		Highland Palms Dr./Ave. 47 to Lake La Quinta Dr.	6D	61,100	0.66	B	0.67	B	NO	0.67	B	0.69	B	NO	D
7		South of Lake La Quinta Dr.	6D	61,100	0.62	B	0.64	B	NO	0.64	B	0.65	B	NO	D
8	La Quinta Center Dr.	Hwy. 111 to Ave. 47	2U	9,000	0.64	B	**0.96**	**E**	NO[3]	0.65	B	**0.98**	**E**	NO[3]	D
9	Caleo Bay	South of Ave. 47	2U	9,000	0.31	A	0.33	A	NO	0.31	A	0.34	A	NO	D
10	Adams St.	North of Hwy. 111	4D	28,000	0.65	B	0.67	B	NO	0.67	B	0.68	B	NO	D
11		Hwy. 111 to Ave. 47	4D	28,000	0.47	A	0.48	A	NO	0.48	A	0.49	A	NO	D
12		South of Ave. 47	4D	28,000	0.48	A	0.49	A	NO	0.50	A	0.50	A	NO	D
13	Hwy. 111	Plaza La Quinta/Channel Dr. to Washington St.	6D	61,100	0.56	A	0.58	A	NO	0.57	A	0.59	A	NO	D
14		Washington St. to Simon Dr.	6D	61,100	0.54	A	0.56	A	NO	0.55	A	0.57	A	NO	D
15		Simon Dr. to La Quinta Center Dr.	6D	61,100	0.58	A	0.60	A	NO	0.59	A	0.61	B	NO	D
16		La Quinta Center Dr. to Adams St.	6D	61,100	0.60	A	0.62	B	NO	0.61	B	0.63	B	NO	D
17		East of Adams St.	6D	61,100	0.60	A	0.62	B	NO	0.61	B	0.63	B	NO	D
18	Simon Dr.	Washington St. to Hwy. 111	2U	9,000	0.43	A	0.43	A	NO	0.44	A	0.44	A	NO	D
19	Ave. 47	Washington St. to La Quinta Center Dr./Caleo Bay	2U	9,000	0.36	A	0.43	A	NO	0.38	A	0.46	A	NO	D
20		La Quinta Center Dr./Caleo Bay to Adams St.	2U	9,000	0.40	A	0.45	A	NO	0.40	A	0.46	A	NO	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been extracted from the City of La Quinta Engineering Bulletin #06-13 (Revised April 7, 2014).
These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

[2] A potentially significant project traffic impact is defined to occur on any road segment if the segment is projected to be operating at LOS "E" or LOS "F" with project traffic included and the V/C is increased by 0.02 or more by addition of project traffic.

[3] Although the ADT-based roadway segment analysis indicates a deficiency (unacceptable LOS "E" or worse), a review of more detailed peak hour intersection analysis found in Table 1-4 of this report found that the intersections on either side of the roadway segment are anticipated to operate at acceptable LOS. As such, no roadway widening is necessary to address this deficiency.

[4] A potentially significant cumulative traffic impact is defined to occur on any road segment if the project would cause the existing LOS to fall to worse than LOS "D" for Opening Year (2015) With Project volumes. A potentially significant cumulative traffic impact is also defined to occur if the segment is projected to be operating at LOS "E" or LOS "F" with project traffic included and the V/C is increased by 0.02 or more by addition of project traffic.

As described subsequently in Section 3.8 *City of La Quinta Required Roadway Segment Level of Service*, a deficient roadway segment, as defined by a V/C evaluation, requires the analyst to assess peak hour operations of the adjacent intersections to determine if roadway widening is indeed necessary to meet peak hour demands. As the adjacent study intersections of La Quinta Center Drive at Highway 111 and La Quinta Center Drive/Caleo Bay at Avenue 47 are anticipated to operate at an acceptable LOS during peak hours under E+P traffic conditions, roadway widening is not necessary to address this deficiency.

1.5.3 OPENING YEAR CUMULATIVE (2015) CONDITIONS

Intersections

As shown in Table 1-4, no additional study area intersections are anticipated to experience unacceptable LOS under Opening Year Cumulative Without and With Project traffic conditions (i.e., LOS "E" or "F") in addition to those previously identified under Existing traffic conditions.

Based on the City of La Quinta's potentially significant cumulative impact criteria described previously in Section 1.4 *Potentially Significant Traffic Impact Criteria*, the deficient intersection of Washington Street at Lake La Quinta Drive was not found to meet the threshold of a potentially significant cumulative impact. As such, a potentially significant cumulative impact has not been identified for Opening Year Cumulative With Project traffic conditions.

Roadway Segments

As shown on Table 1-5, all study roadway segments analyzed are anticipated to operate at acceptable LOS under Opening Year Cumulative Without Project traffic conditions. The addition of Project traffic is not anticipated to result in any roadway segment capacity deficiencies with the exception of La Quinta Center Drive between Highway 111 and Avenue 47 which was found to operate at LOS "E".

As previously described, a deficient roadway segment as defined by a V/C evaluation requires the analyst to assess peak hour operations of the adjacent intersections to determine if roadway widening is indeed necessary to meet peak hour demands. As the adjacent study intersections of La Quinta Center Drive at Highway 111 and La Quinta Center Drive/Caleo Bay at Avenue 47 are anticipated to operate at an acceptable LOS during Opening Year Cumulative With Project peak hour traffic conditions, roadway widening is not necessary to address this deficiency.

1.5.4 RECOMMENDED IMPROVEMENTS

Although the analysis presented in this traffic study indicates that there are no Project or cumulative impacts to the study area intersections based on an assessment of the peak hour intersection operations, improvement strategies have been recommended at the following study area intersections to address potential sight distance or potential queuing issues.

EXHIBIT 1-3: SITE ACCESS IMPROVEMENT RECOMMENDATIONS

EASTBOUND RIGHT-TURN LANE: RESTRIPE THE EXISTING POCKET LENGTH OF 185-FEET TO 250-FEET WITH A TRANSITION TAPER OF 150-FEET TO MEET CITY STANDARDS FOR DECELERATION LANES.

DUAL WESTBOUND LEFT-TURN LANES: MAINTAIN THE EXISTING POCKET LENGTH OF 525-FEET FOR BOTH LEFT TURN LANES. IT IS ANTICIPATED THAT THE DUAL WESTBOUND LEFT TURN LANES CAN BE ACCOMMODATED THROUGH RESTRIPING ONLY. SEE EXHIBIT 7-2 FOR PROPOSED CONCEPTUAL STRIPING.

IT IS PROPOSED THAT THE SOUTHBOUND APPROACH ALONG LA QUINTA CENTER DRIVE FROM HIGHWAY 111 TO THE LOWES/TARGET DRIVEWAY BE RESTRIPED TO PROVIDE TWO LANES IN ORDER TO ACCOMMODATE RECEIVING LANES FOR THE PROPOSED DUAL WESTBOUND LEFT-TURN LANES AT THE INTERSECTION OF LA QUINTA CENTER DRIVE AND HIGHWAY 111. THE TWO SOUTHBOUND LANES WILL BE RESTRIPED AS A LEFT-TURN AND SHARED THROUGH-RIGHT-TURN LANE AT THE LOWES/TARGET DRIVEWAY. IT IS ANTICIPATED THAT THE TWO SOUTHBOUND APPROACH LANES WILL PROVIDE ADDITIONAL STORAGE IN AN EFFORT TO MINIMIZE POTENTIAL SPILLBACK ONTO HIGHWAY 111.

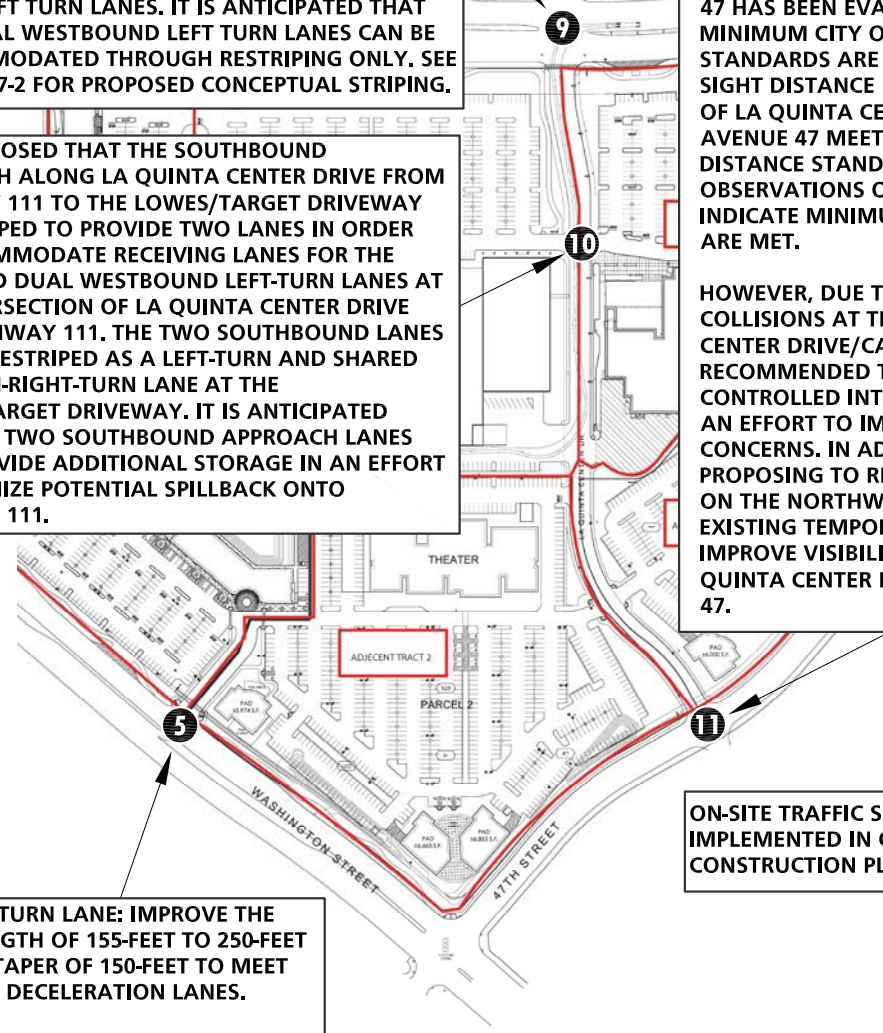
SIGHT DISTANCE AT THE PROJECT ACCESS POINT OF LA QUINTA CENTER DRIVE/CALEO BAY AT AVENUE 47 HAS BEEN EVALUATED TO DETERMINE IF THE MINIMUM CITY OF LA QUINTA SIGHT DISTANCE STANDARDS ARE MET. AS DEMONSTRATED IN THE SIGHT DISTANCE EVALUATION, THE INTERSECTION OF LA QUINTA CENTER DRIVE/CALEO BAY AT AVENUE 47 MEETS THE CITY'S MINIMUM SIGHT DISTANCE STANDARDS. IN ADDITION, FIELD OBSERVATIONS OF THE EXISTING DRIVEWAY ALSO INDICATE MINIMUM SIGHT DISTANCE STANDARDS ARE MET.

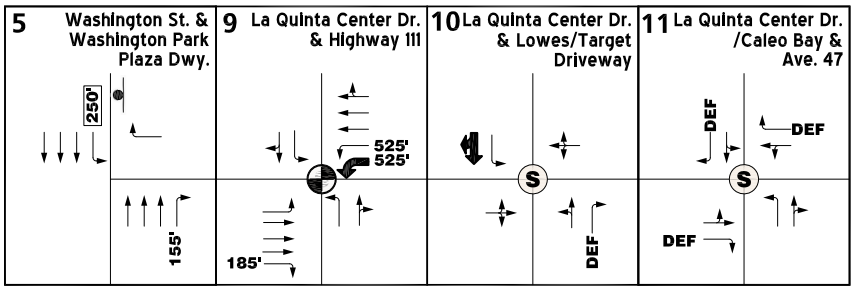
HOWEVER, DUE TO THE NUMBER OF TRAFFIC COLLISIONS AT THE INTERSECTION OF LA QUINTA CENTER DRIVE/CALEO BAY AND AVENUE 47, IT IS RECOMMENDED THAT AN ALL-WAY STOP CONTROLLED INTERSECTION BE IMPLEMENTED IN AN EFFORT TO IMPROVE EXISTING SAFETY CONCERNS. IN ADDITION , THE PROJECT IS ALSO PROPOSING TO RELOCATE THE MONUMENT SIGN ON THE NORTHWEST CORNER AND REMOVE THE EXISTING TEMPORARY FENCING TO FURTHER IMPROVE VISIBILITY AT THE INTERSECTION OF LA QUINTA CENTER DRIVE/CALEO BAY AND AVENUE 47.

ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT SITE.

NORTHBOUND RIGHT-TURN LANE: IMPROVE THE EXISTING POCKET LENGTH OF 155-FEET TO 250-FEET WITH A TRANSITION TAPER OF 150-FEET TO MEET CITY STANDARDS FOR DECELERATION LANES.

SOUTHBOUND LEFT-TURN LANE: INCREASE THE STORAGE LENGTH TO A MINIMUM OF 250-FEET.





LEGEND:

- = TRAFFIC SIGNAL
- S = ALL WAY STOP
- = STOP SIGN
- = EXISTING LANE
- DEF = DEFACTO RIGHT TURN
- 525' = EXISTING TURN POCKET STORAGE LENGTH
- 250' = IMPROVED TURN POCKET STORAGE LENGTH

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Washington Street / Lake La Quinta Drive (#7)

- Pursuant to discussions with City staff, it is our understanding that there are currently plans to install a traffic signal within the next 12-18 months. Although the traffic signal is not necessary based on the intersection's peak hour operations reported for the purposes of this analysis, the intersection operations with the proposed signal is shown for informational purposes.

La Quinta Center Drive / Highway 111 (#9)

- Although not necessary based on the intersection's anticipated peak hour operations, dual westbound left turn lanes have been recommended to alleviate any potential queuing and can be accommodated by restriping the westbound approach.

La Quinta Center Drive / Lowes/Target Driveway (#10)

- It is proposed that the southbound approach along La Quinta Center Drive from Highway 111 to the Lowes/Target Driveway be restriped to provide two lanes in order to accommodate receiving lanes for the proposed dual westbound left-turn lanes at the intersection of La Quinta Center Drive and Highway 111. The two southbound lanes will be restriped as a left-turn and shared through-right-turn lane at the Lowes/Target Driveway. It is anticipated that the two southbound approach lanes will provide additional storage in an effort to minimize potential spillback onto Highway 111.

La Quinta Center Drive/Caleo Bay / Avenue 47 (#11)

- In response to the number of traffic collisions and concerns of the local citizens, it is recommended that an all-way stop controlled intersection be implemented in an effort to improve existing safety concerns. In addition, the Project is also proposing to relocate the monument sign on the northwest corner and remove the existing temporary fencing to further improve visibility at the intersection of La Quinta Center Drive/Caleo Bay and Avenue 47.

1.5.5 SITE ACCESS AND ON-SITE CIRCULATION

The recommended site access improvements for the Project are described below. These improvements need to be incorporated into the project description prior to Project approval or imposed as conditions of approval as part of the Project approval. Exhibit 1-3 illustrates the site-adjacent roadway improvement recommendations.

Washington Street / Washington Park Plaza Driveway – Modify the following auxiliary lanes to provide the following storage lengths:

Northbound Right-Turn Lane: Improve the existing pocket length of 155-feet to 250-feet with a transition taper of 150-feet to meet City standards for deceleration lanes.

Southbound Left-Turn Lane: Increase the storage length to a minimum of 250-feet.

La Quinta Center Drive / Highway 111 – Modify the following auxiliary lanes to provide the following storage lengths:

Eastbound Right-Turn Lane: Restripe the existing pocket length of 185-feet to 250-feet with a 150-foot transition taper to meet City standard for deceleration lanes.

Dual Westbound Left-Turn Lanes: Maintain the existing pocket length of 525-feet for both left turn lanes. It is anticipated that the dual westbound left-turn lanes can be accommodated through restriping only. See Exhibit 7-2 for the proposed conceptual striping for Highway 111.

La Quinta Center Drive / Lowes/Target Driveway – It is proposed that the southbound approach along La Quinta Center Drive from Highway 111 to the Lowes/Target Driveway be restriped to provide two lanes in order to accommodate receiving lanes for the proposed dual westbound left-turn lanes at the intersection of La Quinta Center Drive and Highway 111. The two southbound lanes will be restriped as a left-turn and shared through-right-turn lane at the Lowes/Target Driveway. It is anticipated that the two southbound approach lanes will provide additional storage in an effort to minimize potential spillback onto Highway 111.

La Quinta Center Drive/Caleo Bay / Avenue 47 – Sight distance at the Project access point of La Quinta Center Drive/Caleo Bay at Avenue 47 has been evaluated during a site visit made in preparation of this TIA. The existing sight distances have been reviewed and comply with City of La Quinta sight distance standards. (3) Further discussion detailing the sight distance assessment at La Quinta Center Drive/Caleo Bay at Avenue 47 can be found in *Section 7.5 Sight Distance* of this TIA. However, due to the number of traffic collisions at the intersection of La Quinta Center Drive/Caleo Bay and Avenue 47, it is recommended that an all-way stop controlled intersection be implemented in an effort to improve existing safety concerns. In addition, the Project is also proposing to relocate the monument sign on the northwest corner and remove the existing temporary fencing to further improve visibility at the intersection of La Quinta Center Drive/Caleo Bay and Avenue 47.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the Project site.

1.5.6 PARKING

The proposed Project's parking supply meets the parking standards from the Washington Park Specific Plan (SP1987-011, Amendment No. 4), as approved on May 8, 2003 by the City of La Quinta.

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2 PROPOSED DEVELOPMENT

2.1 LOCATION

The proposed Project is located on the northeast corner of Washington Street and Avenue 47 in the City of La Quinta.

2.2 LAND USE AND INTENSITY

The Project is proposed to consist of a 2,087 seat multiplex cinema and 27,373 square feet of commercial retail use. It should be noted that the proposed Project is currently one of two undeveloped tracts within the Washington Park Specific Plan. The Washington Park Specific Plan (SP1987-011, Amendment No. 4) was approved on May 8, 2003 by the City of La Quinta and consisted of a 508,000 sf shopping center.

2.3 SITE PLAN AND PROJECT ACCESS

Access to the Project site will be provided to Washington Street, Highway 111, and 47th Street via the following existing driveways:

- Washington Street via Washington Park Plaza Driveway (right-in/right-out/left-in access only)
- Avenue 47 via La Quinta Center Drive/Caleo Bay (cross-street stop controlled full access)
- Highway 111 via La Quinta Center Drive (signalized full access)

2.4 PROJECT TIMING

The proposed Project is anticipated to be built and occupied by Year 2015.

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3 AREA CONDITIONS

This section provides a summary of the existing study area, the City of La Quinta General Plan Circulation Network, and a review of existing peak hour intersection operations, roadway segment capacity, and traffic signal warrant analyses.

3.1 STUDY AREA

Pursuant to the agreement with City of La Quinta staff (Appendix "1.1"), the study area includes the following twelve existing intersections:

ID	Intersection Location	Jurisdiction
1	Plaza La Quinta/Channel Drive / Highway 111	La Quinta
2	Washington Street / Channel Drive	La Quinta
3	Washington Street / Highway 111	La Quinta
4	Washington Street / Point Happy Way/Simon Drive	La Quinta
5	Washington Street / Washington Park Plaza Driveway	La Quinta
6	Washington Street / Highland Palms Drive/Avenue 47	La Quinta
7	Washington Street / Lake La Quinta Drive	La Quinta
8	Simon Drive / Highway 111	La Quinta
9	La Quinta Center Drive / Highway 111	La Quinta
10	La Quinta Center Drive / Lowes/Target Driveway	La Quinta
11	La Quinta Center Drive/Caleo Bay / Avenue 47	La Quinta
12	Adams Street / Highway 111	La Quinta
13	Adams Street / Avenue 47	La Quinta

The locations of these intersections were shown previously on Exhibit 1-2.

3.2 EXISTING LAND USES

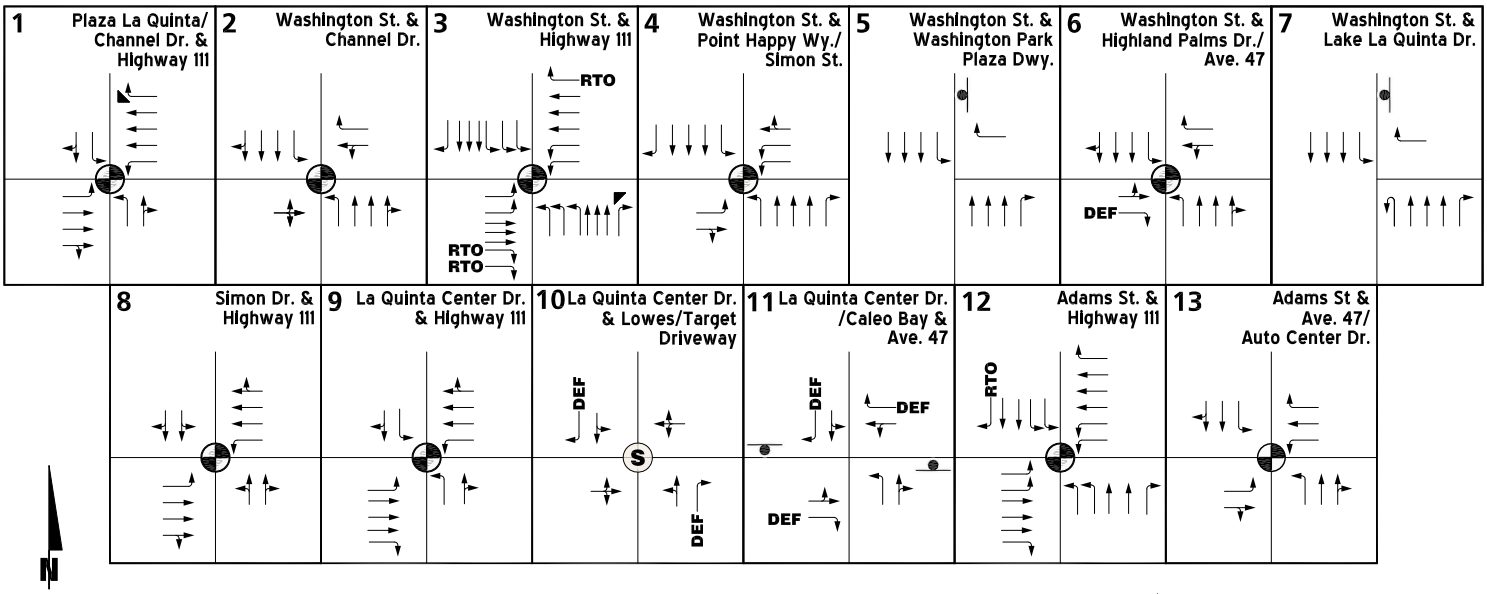
The existing land uses adjacent to the Project site are as follows:

- North – Washington Park retail plaza
- South – Residential and office plaza
- East – Currently vacant Adjacent Tract 1 of the Washington Park Specific Plan
- West – Residential

3.3 AREA ROADWAY SYSTEM

Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



3.3.1 CITY OF LA QUINTA GENERAL PLAN CIRCULATION ELEMENT

Exhibit 3-2 shows the City of La Quinta General Plan Circulation Element, and Exhibit 3-3 illustrates the City of La Quinta General Plan roadway cross-sections.

3.4 TRAFFIC VOLUMES AND CONDITIONS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in May 2014. Based on discussions with City staff, the following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 6:30 AM and 8:30 AM)
- Weekday PM Peak Hour (peak hour between 2:30 PM and 5:30 PM)
- Saturday Peak Hour (peak hour between 11:00 AM and 1:00 PM)

Consistent with the City of La Quinta's traffic study guidelines (1), traffic counts should consider the seasonal population variations within the City of La Quinta. Traffic counts conducted during the peak seasonal period from January 2nd to March 31st require no seasonal adjustments. In accordance with the City of La Quinta's traffic study guidelines, a 10% seasonal variation factor has been applied to the May 2014 traffic count data. At the City's direction, the traffic volumes at the intersection of La Quinta Center Drive and the Lowes/Target Driveway have been estimated based on the increased seasonal volumes shown at the intersections of La Quinta Center Drive at Highway 111 and La Quinta Center Drive/Caleo Bay at Avenue 47 for the purposes of this analysis. The raw manual peak hour turning movement traffic count data sheets are included in Appendix "3.1". There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity that would prevent or limit roadway access and detour routes. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic.

Existing weekday average daily traffic (ADT) volumes on arterial highways throughout the study area are shown on Exhibit 3-4. Existing ADT volumes are based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 12.8426598= Leg Volume

For those roadway segments which have 24-hour tube count data available in close proximity to the study area, a comparison between the PM peak hour and daily traffic volumes indicated that the peak-to-daily relationship of approximately 7.79 percent would sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. As such, the above equation utilizing a factor of 12.8426598 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.79 percent (i.e., 1/0.0779 = 12.8426598). Existing weekday AM and PM peak hour intersection volumes are also shown on Exhibit 3-4. Existing Saturday peak hour intersection volumes are shown on Exhibit 3-5.

EXHIBIT 3-2: CITY OF LA QUINTA GENERAL PLAN CIRCULATION ELEMENT

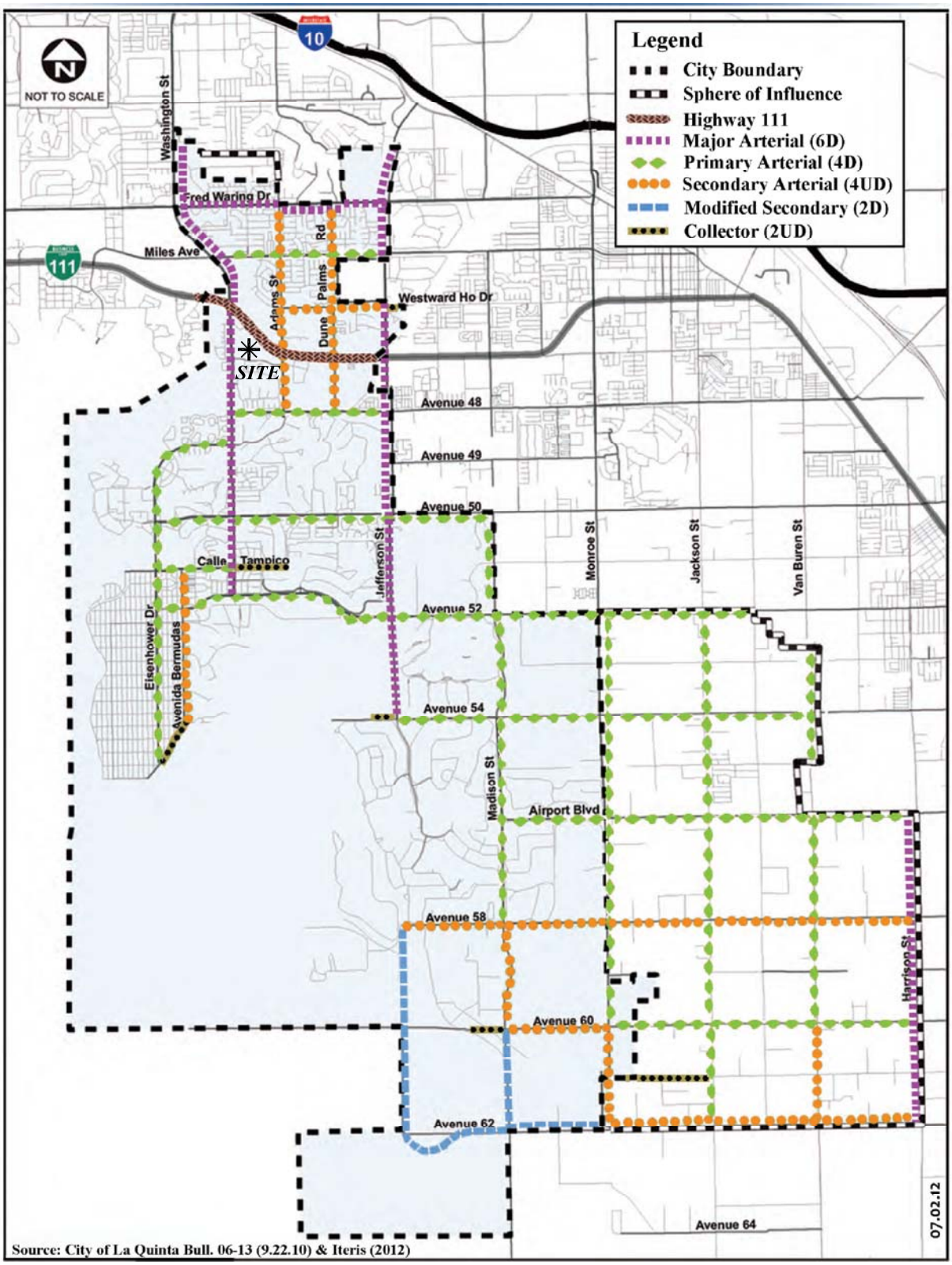
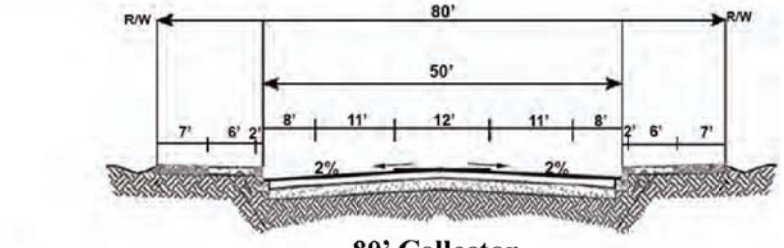
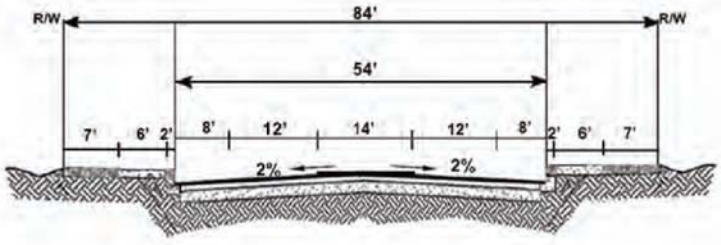


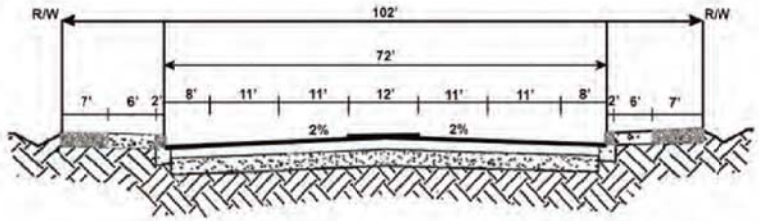
EXHIBIT 3-3: CITY OF LA QUINTA GENERAL PLAN ROADWAY CROSS-SECTIONS



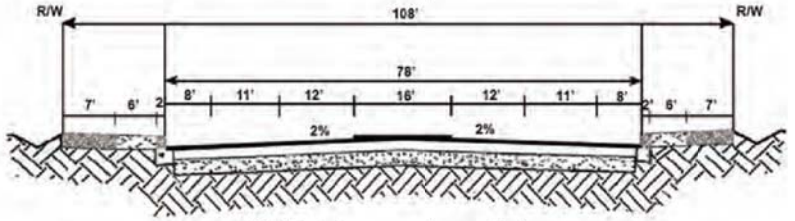
80' Collector



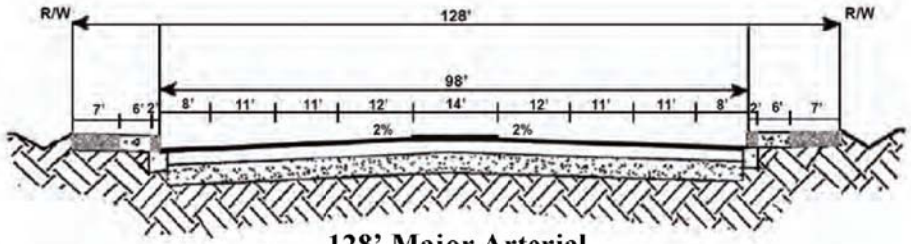
84' Modified Secondary Arterial



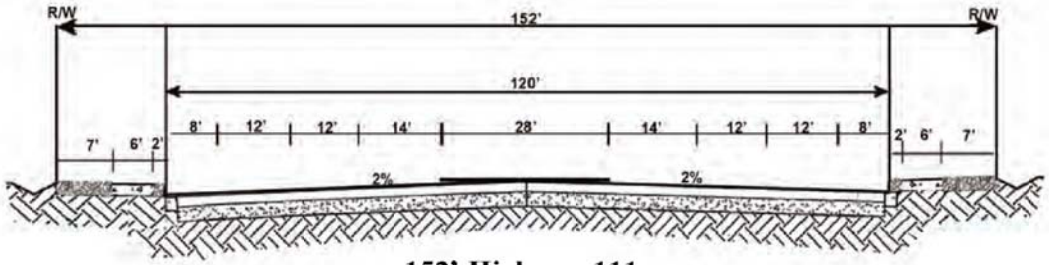
102' Secondary Arterial



108' Primary Arterial

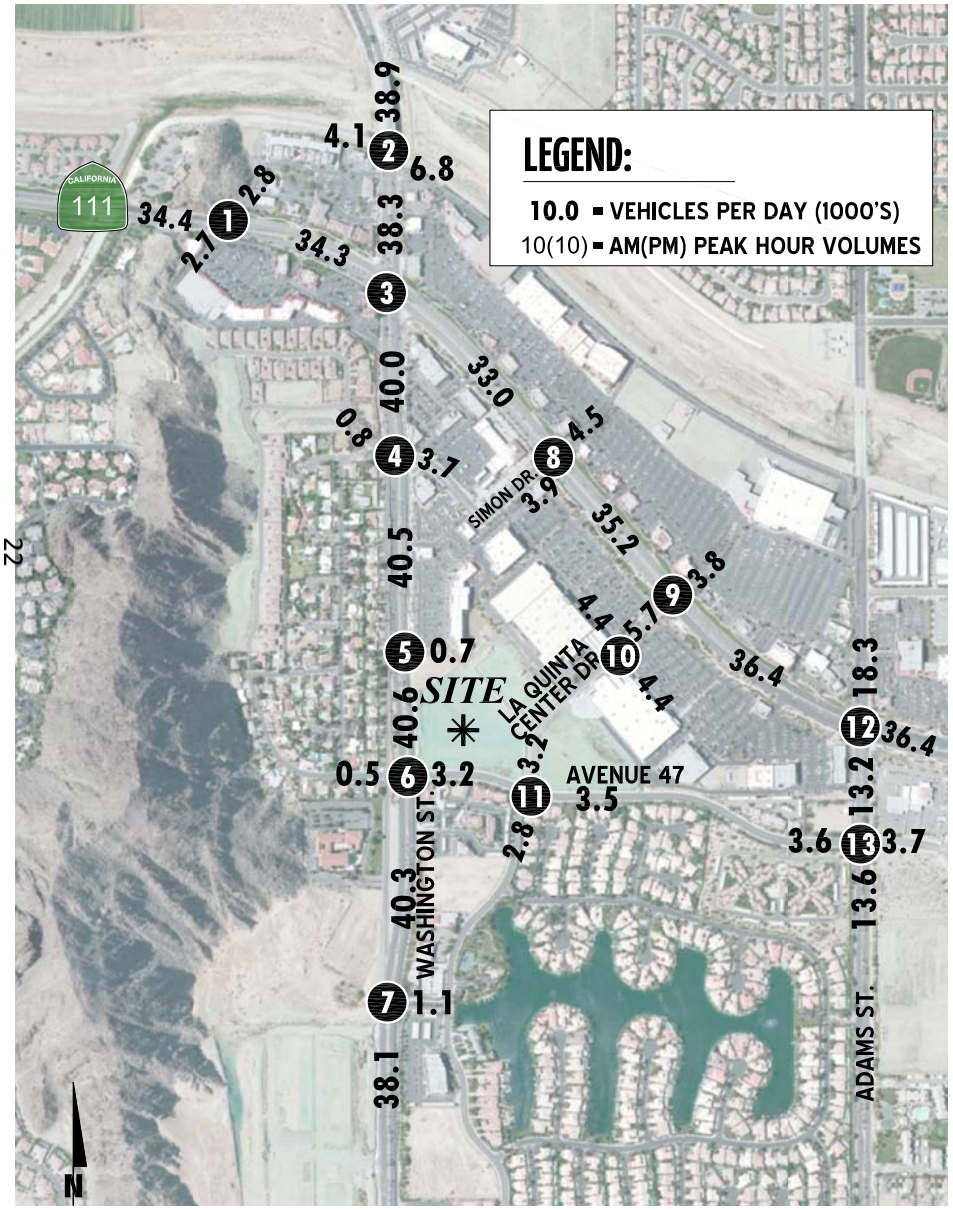


128' Major Arterial



152' Highway 111

EXHIBIT 3-4: EXISTING (2014) VOLUMES



1 Plaza La Quinta/ Channel Dr. & Highway 111

84(62) 27 20(51) | 40(29) 1375(1007) 25(31)
25(55) 686(1433) 29(72) | 28(47) 6(13) 17(44)

2 Washington St. & Channel Dr.

131(87) 967(1306) 79(179) | 139(241) 8(15) 13(78)
40(95) 7(13) 79(85) | 4(25) 1313(1118) 14(6)

3 Washington St. & Highway 111

66(83) 748(957) 245(429) | 239(349) 699(644) 64(172)
69(173) 364(730) 194(608) | 746(431) 960(646) 63(180)

4 Washington St. & Point Happy Wy./ Simon St.

8(26) 1049(1649) 22(98) | 13(50) 0(2) 20(75)
24(12) 3(2) 2(7) | 2(11) 1865(1278) 44(57)

5 Washington St. & Washington Park Plaza Dwy.

1067(1706) 4(24) | 1(17)
1936(1408) 3(17)

6 Washington St. & Highland Palms Dr./ Ave. 47

43(3) 955(1668) 65(35) | 35(80) 32(8) 19(56)
8(8) 6(8) 4(4) | 40(10) 1896(1337) 70(63)

7 Washington St. & Lake La Quinta Dr.

919(1663) 64(65) | 15(10)
1953(1286) 6(14)

8 Simon Dr. & Highway 111

0(29) 1(24) 26(144) | 12(59) 960(1089) 23(70)
21(78) 663(1263) 18(42) | 37(70) 10(15) 17(78)

9 La Quinta Center Dr. & Highway 111

66(59) 13(29) 10(50) | 50(84) 1016(1110) 55(145)
40(48) 585(1362) 20(77) | 10(83) 21(29) 14(84)

10 La Quinta Center Dr. & Lowes/Target Driveway

41(123) 5(5) 42(123) | 20(96) 5(5) 20(75)
20(95) 5(5) 19(74) | 21(43) 5(5) 22(43)

11 La Quinta Center Dr. /Caleo Bay & Ave. 47

14(35) 19(80) 11(39) | 10(29) 52(69) 21(28)
18(36) 73(74) 11(17) | 29(29) 20(26) 7(36)

12 Adams St. & Highway 111

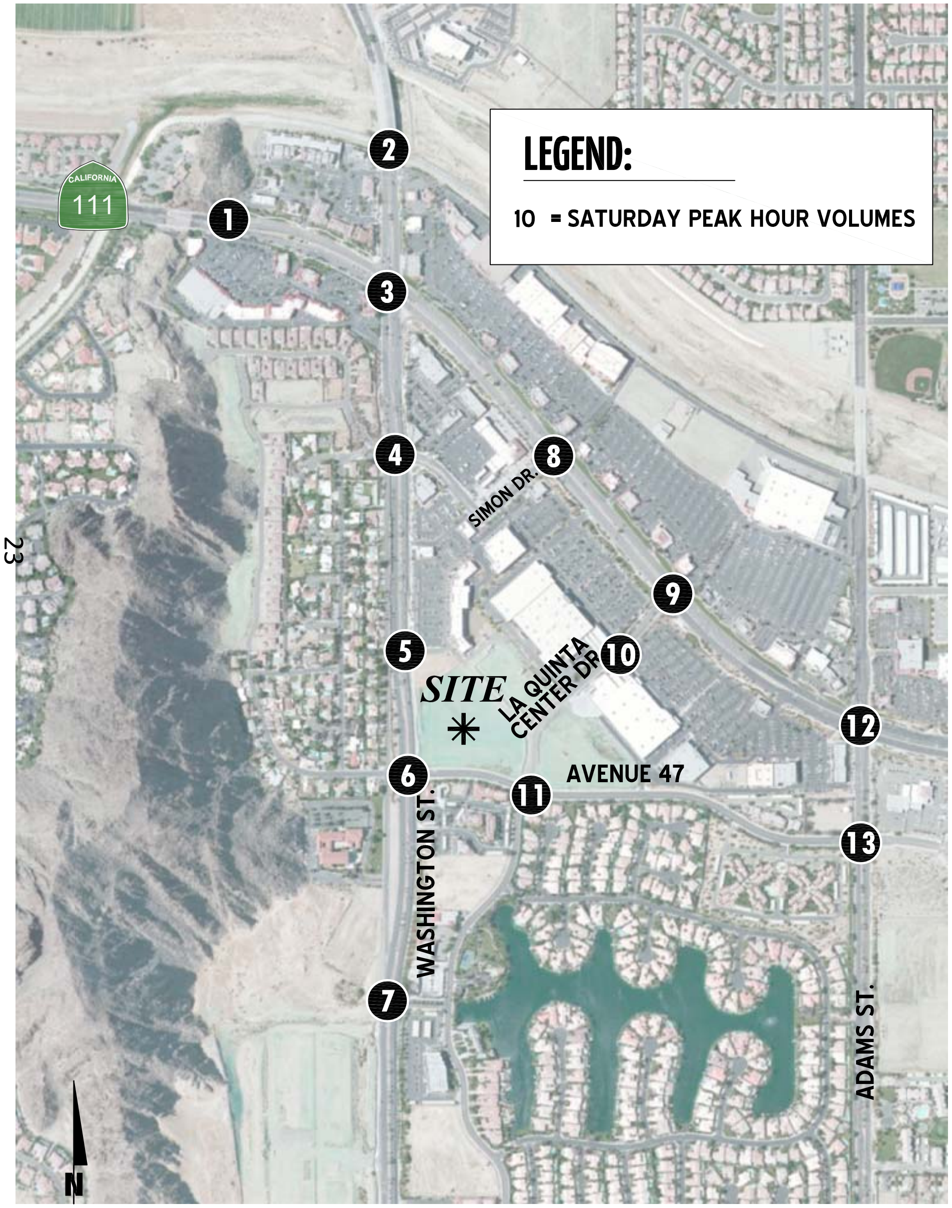
88(147) 259(327) 139(249) | 120(204) 903(1095) 61(119)
92(207) 514(1113) 21(99) | 136(105) 417(290) 42(53)

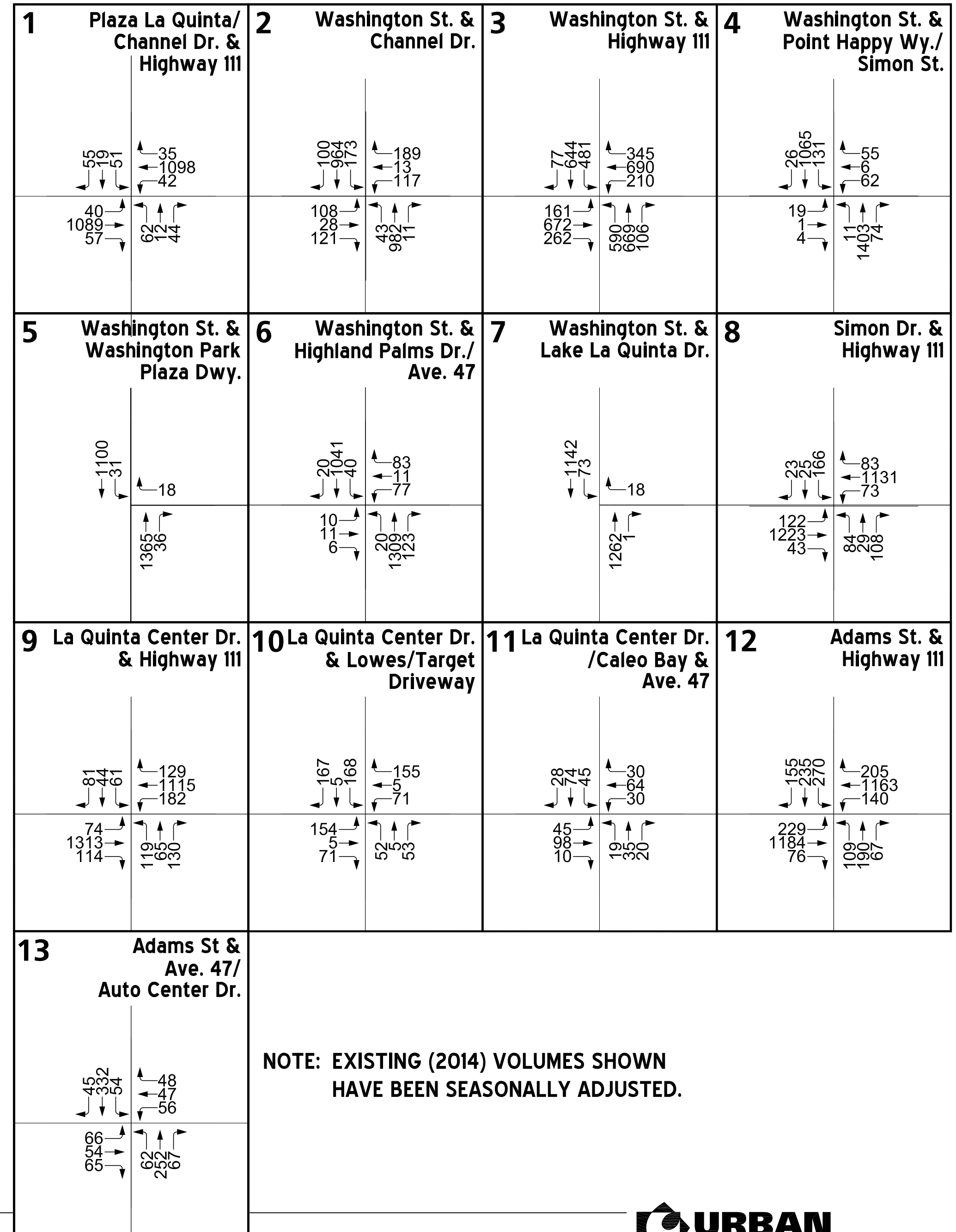
13 Adams St & Ave. 47/ Auto Center Dr.

42(41) 262(492) 7(51) | 9(41) 17(44) 19(58)
47(59) 10(39) 10(56) | 30(42) 539(348) 41(61)

NOTE: EXISTING (2014) VOLUMES SHOWN HAVE BEEN SEASONALLY ADJUSTED.

EXHIBIT 3-5: EXISTING (2014) SATURDAY PEAK HOUR VOLUMES





NOTE: EXISTING (2014) VOLUMES SHOWN HAVE BEEN SEASONALLY ADJUSTED.

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3.5 LEVEL OF SERVICE DEFINITIONS AND ANALYSIS METHODOLOGIES

3.5.1 SIGNALIZED INTERSECTIONS

City of La Quinta

The City of La Quinta requires signalized intersection operations analysis based on the methodology described in Chapter 18 and Chapter 31 of the HCM 2010. (4) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 3-1.

TABLE 3-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	80.01 and up	F	F

Source: HCM 2010, Chapter 18

Study area intersections have been analyzed using the software package Synchro (Version 8.0, Build 805). Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the Chapter 18 of the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network. The LOS analysis for signalized intersections has been performed using optimized signal timing for existing traffic conditions. Signal timing optimization has considered pedestrian safety and signal coordination requirements. Appropriate time for pedestrian crossings has also been considered in

the signalized intersection analysis. Signal timing for study area intersections have been requested and utilized. Where signal timing was unavailable, the local accepted standards were utilized in lieu of actual signal timing.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15 minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g. PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per Chapter 4 of the HCM 2010, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (4)

California Department of Transportation (Caltrans)

Per the Caltrans *Guide for the Preparation of Traffic Impact Studies*, the traffic modeling and signal timing optimization software package Synchro (Version 8 Build 805) has been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include the intersections along Highway 111. (5) Per discussions with Caltrans staff, it is our understanding that control of traffic signals at the study intersections along Highway 111 has been relinquished to the City of La Quinta; signal timings consistent with City of La Quinta standards were utilized.

3.5.2 UNSIGNALIZED INTERSECTIONS

The City of La Quinta requires the operations of unsignalized intersections be evaluated using the methodology described in Chapter 19, Chapter 20, and Chapter 32 of the HCM 2010. (4) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 3-2).

TABLE 3-2: UNSIGNALIZED INTERSECTION DESCRIPTION OF LOS

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM 2010, Chapter 19 and Chapter 20

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane.

3.6 CITY OF LA QUINTA REQUIRED INTERSECTION LEVEL OF SERVICE

Per City of La Quinta traffic study guidelines (1), the following LOS criteria have been utilized for the purposes of this analysis.

Intersection Type	LOS Criteria
Signalized Intersection or All-Way Stop Controlled Intersection	LOS "D" or better
Cross-Street Stop Controlled Intersection	LOS "E" or better for the side street

3.7 EXISTING INTERSECTION LEVEL OF SERVICE

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 3.5 *Level of Service Definitions and Analysis Methodologies* of this report. The intersection operations analysis results are summarized in Table 3-3 which indicates that all existing study area intersections are currently operating at an acceptable LOS during the peak hours, with the exception of the following intersection:

ID	Intersection Location
7	Washington Street / Lake La Quinta Drive – LOS "F" AM peak hour only

Consistent with Table 3-3, a summary of the peak hour intersection LOS for Existing conditions are shown on Exhibit 3-6. Pursuant to discussions with City staff, it is our understanding that there are currently plans to install a traffic signal at the intersection of Washington Street and Lake La Quinta Drive within the next 12-18 months.

At the request of City staff, the intersection of Washington Street and Highland Palms Drive/Avenue 47 has been evaluated during the Saturday evening peak hour to determine any potential impacts associated with Saturday evening services at the adjacent existing St. Francis of Assisi Catholic Church.

The intersection operations analysis worksheets are included in Appendix "3.2" of this TIA.

3.8 CITY OF LA QUINTA REQUIRED ROADWAY SEGMENT LEVEL OF SERVICE

The City of La Quinta has established LOS "D" as the minimum level of service for its roadway segments. Therefore, any study area roadway segment operating at LOS "E" or LOS "F" will be considered deficient for the purposes of this analysis.

Consistent with City guidelines, the level of service "E" capacity has been established as the limit of acceptable capacity threshold for roadway segments. The capacities utilized for this analysis are consistent with the maximum daily capacity thresholds provided in the City of La Quinta traffic study guidelines (1) and are summarized below:

Table 3-3

Existing (2014) Conditions Intersection Analysis

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)			Level of Service			Acceptable LOS
			Northbound			Southbound			Eastbound			Westbound									
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	Sat	AM	PM	Sat	
1	Plaza La Quinta/Channel Dr. / Hwy. 111	TS	1	1	0	1	1	0	1	3	0	1	3	1	11.0	12.2	12.6	B	B	B	D
2	Washington St. / Channel Dr.	TS	1	3	0	1	3	0	0	1	0	0	1	1	12.3	22.7	25.0	B	C	C	D
3	Washington St. / Hwy. 111	TS	3	3	1	3	3	1	2	3	2>	2	3	1>	40.4	41.9	41.5	D	D	D	D
4	Washington St. / Point Happy Wy./Simon St.	TS	1	3	1	1	3	1	1	1	0	2	1	0	6.4	15.4	17.4	A	B	B	D
5	Washington St. / Washington Park Plaza Dwy.	CSS	0	3	1	1	3	0	0	0	0	0	0	1	12.9	11.3	11.2	B	B	B	E
6	Washington St. / Highland Palms Dr./Ave. 47	TS	1	3	0	1	3	0	0	1	d	0	1	1	21.1	10.6	15.1	C	B	B	D
	-Saturday Evening[4]	TS	1	3	0	1	3	0	0	1	d	0	1	1	--	--	30.5	--	--	C	D
7	Washington St. / Lake La Quinta Dr.	CSS	U	3	1	1	3	0	0	0	0	0	0	1	**97.5**	22.5	23.0	**F**	C	C	E
8	Simon Dr. / Hwy. 111	TS	0	2	0	0	2	0	1	3	0	1	3	0	5.7	12.6	14.1	A	B	B	D
9	La Quinta Center Dr. / Hwy. 111	TS	1	1	0	1	1	0	1	3	1	1	3	0	12.9	18.5	25.3	B	B	C	D
10	La Quinta Center Dr. / Lowes / Target Dwy.	AWS	0	1	d	0	1	d	0	1	0	0	1	0	7.6	9.6	11.6	A	A	B	D
11	La Quinta Center Dr./Caleo Bay / Ave. 47	CSS	1	1	0	0	1	d	0	1	d	0	1	d	10.9	12.8	14.2	B	B	B	E
12	Adams St. / Hwy. 111	TS	2	2	1	2	2	1>	2	3	1	2	3	1	31.4	31.6	27.6	C	C	C	D
13	Adams St. / Ave. 47/Auto Centre Dr.	TS	1	2	0	1	2	0	1	1	0	1	1	1	15.9	21.3	23.3	B	C	C	D

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-turn Overlap Phasing; d= Defacto Right Turn Lane; U = U-Turn Lane

[2] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. All locations have been analyzed using the Synchro Software (Version 8).

[3] CSS = Cross-street Stop; TS = Traffic Signal; AWS = All-way Stop

[4] Saturday evening evaluated at the intersection of Washington St. and Highland Palms Dr. / Avenue 47 to determine potential impacts due to the services at the adjacent St. Francis of Assisi Catholic Church.

EXHIBIT 3-6: SUMMARY OF LOS FOR EXISTING (2014) CONDITIONS

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TABLE 3-4: ROADWAY SEGMENT CAPACITY THRESHOLDS

Roadway Classification	Lane Configuration	Capacity (Vehicles per Day)
Local	2-Lane Undivided	9,000
Collector	2-Lane Undivided	14,000
Modified Secondary	2-Lane Divided	19,000
Secondary	4-Lane Undivided	28,000
Primary	4-Lane Divided	42,600
Major	6-Lane Divided	61,100
Augmented Major	8-Lane Divided	76,000

These roadway capacities are "rule of thumb" estimates for planning purposes and are affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian bicycle traffic. As such, where the average daily traffic volume (ADT) based roadway segment analysis indicates a deficiency (unacceptable LOS), a review of the more detailed peak hour intersection analysis and progression analysis are undertaken. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity. Therefore, for the purposes of this analysis, roadway widening is typically only recommended if the peak hour intersection analysis indicates the need for additional through lanes.

3.9 EXISTING ROADWAY SEGMENT LEVEL OF SERVICE

The roadway segment capacities are approximate figures only, and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 3-5 provides a summary of the Existing conditions roadway segment capacity analysis based on the roadway segment capacity thresholds identified on Table 3-4. As shown on Table 3-5, all study area roadway segments analyzed are currently operating at acceptable LOS.

3.10 EXISTING TRAFFIC SIGNAL WARRANT ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. Based on the peak hour volume based Warrant #3 of the 2012 Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD), as amended for use in California, the intersections of La Quinta Center Drive at Lowes/Target Driveway and La Quinta Center Drive/Caleo Bay at Avenue 47 do not currently warrant a traffic signal. (6) The traffic signal warrant worksheets for Existing Conditions are included in Appendix "3.3" of this TIA.

Table 3-5

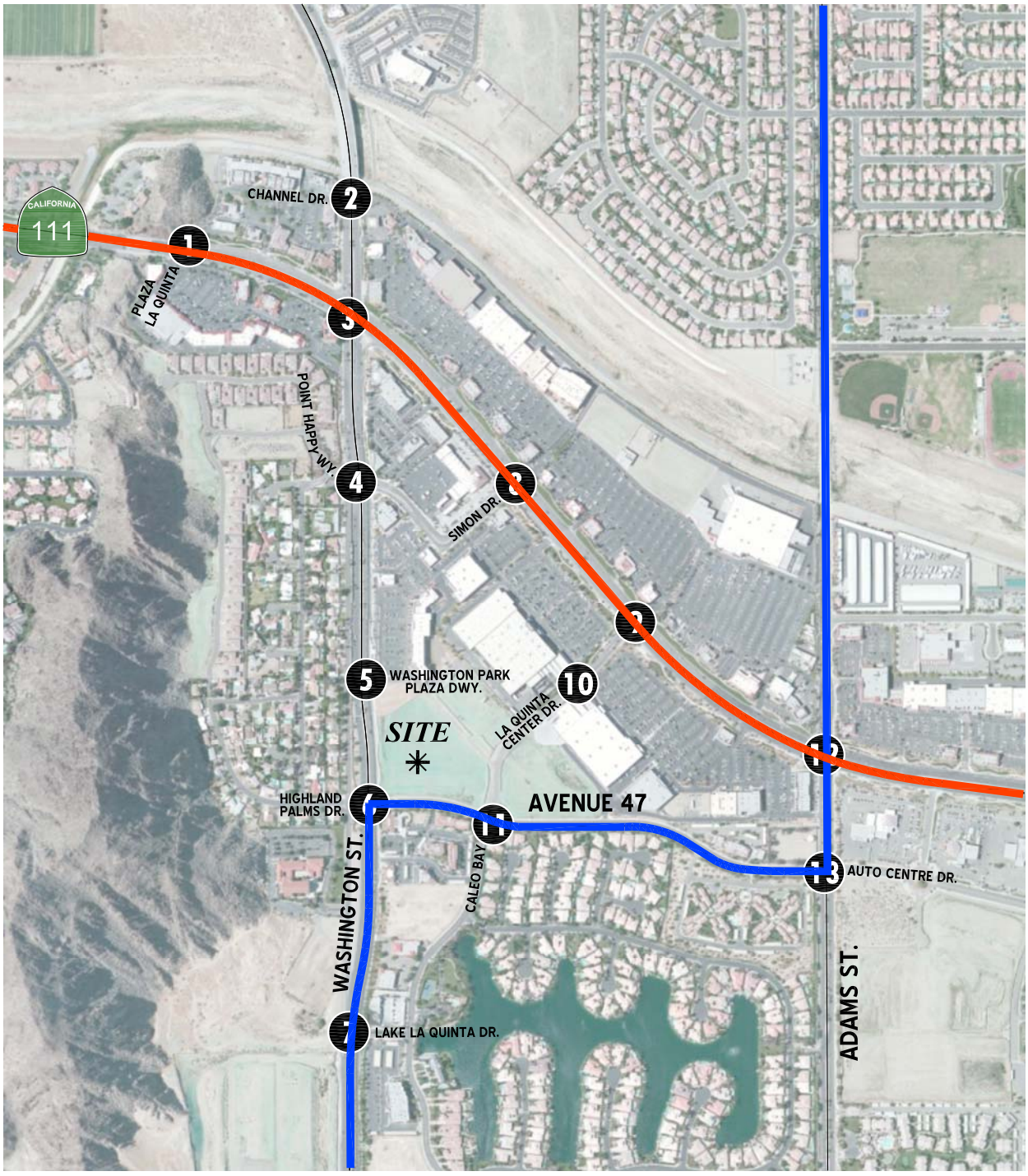
Existing (2014) Conditions
Roadway Segment Volume/Capacity Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing (2014)	V/C	LOS	Acceptable LOS
1	Washington St.	North of Channel Dr.	6D	61,100	38,849	0.64	B	D
2		Channel Dr. to Hwy. 111	6D	61,100	38,325	0.63	B	D
3		Hwy. 111 to Simon Dr.	6D	61,100	39,979	0.65	B	D
4		Simon Dr. to Washington Park Plaza Dwy.	6D	61,100	40,516	0.66	B	D
5		Washington Park Plaza Dwy. to Highland Palms Dr./Ave. 47	6D	61,100	40,604	0.66	B	D
6		Highland Palms Dr./Ave. 47 to Lake La Quinta Dr.	6D	61,100	40,290	0.66	B	D
7		South of Lake La Quinta Dr.	6D	61,100	38,058	0.62	B	D
8	La Quinta Center Dr.	Hwy. 111 to Ave. 47	2U	9,000	5,721	0.64	B	D
9	Caleo Bay	South of Ave. 47	2U	9,000	2,769	0.31	A	D
10	Adams St.	North of Hwy. 111	4D	28,000	18,280	0.65	B	D
11		Hwy. 111 to Ave. 47	4D	28,000	13,237	0.47	A	D
12		South of Ave. 47	4D	28,000	13,562	0.48	A	D
13	Hwy. 111	Plaza La Quinta/Channel Dr. to Washington St.	6D	61,100	34,272	0.56	A	D
14		Washington St. to Simon Dr.	6D	61,100	32,960	0.54	A	D
15		Simon Dr. to La Quinta Center Dr.	6D	61,100	35,176	0.58	A	D
16		La Quinta Center Dr. to Adams St.	6D	61,100	36,391	0.60	A	D
17		East of Adams St.	6D	61,100	36,363	0.60	A	D
18	Simon Dr.	Washington St. to Hwy. 111	2U	9,000	3,857	0.43	A	D
19	Ave. 47	Washington St. to La Quinta Center Dr./Caleo Bay	2U	9,000	3,207	0.36	A	D
20		La Quinta Center Dr./Caleo Bay to Adams St.	2U	9,000	3,560	0.40	A	D

[1] These maximum roadway capacities have been extracted from the City of La Quinta Engineering Bulletin #06-13 (Revised April 7, 2014).

These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

EXHIBIT 3-7: EXISTING TRANSIT ROUTES



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3.11 TRANSIT SERVICE

The study area is currently served by the SunLine Transit Agency with bus services along Highway 111, Washington Street, and Adams Street via Lines 70 and 111. Transit service in the vicinity of the Project site provided via Lines 70 and 111 are illustrated on Exhibit 3-7.

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network.

The Project is proposed to consist of the development of a 2,087 seat multiplex cinema and 27,373 square feet of commercial retail use. The proposed Project is currently one of two undeveloped tracts within the existing Washington Park Specific Plan. The Washington Park Specific Plan (SP1987-011, Amendment No. 4) was approved on May 8, 2003 by the City of La Quinta and consisted of a 508,000 sf shopping center. For the purposes of this analysis, it is assumed that the Project will be constructed within a single phase of development with a projected Opening Year of 2015.

The Project is proposed to have access on Washington Street, Avenue 47, and Highway 111 via existing site access points. The existing Washington Park Plaza Driveway on Washington Street is a right-in/right-out/left-in access while the access point of La Quinta Center Drive/Caleo Bay on Avenue 47 is currently a full access cross-street stop controlled intersection. The Project is also anticipated to utilize La Quinta Center Drive to access Highway 111 to the north via an existing signalized intersection. Regional access to the project site is provided via Highway 111 and the I-10 Freeway via Washington Street.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

Trip generation rates used to estimate Project traffic and a summary of the Project's trip generation are shown in Table 4-1. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE) for Multiplex Movie Theater (ITE Land Use Code 445), Movie Theater without Matinee (ITE Land Use Code 443), and Shopping Center (ITE Land Use Code 820) land uses in their published *Trip Generation* manual, 9th Edition, 2012. (2) The Movie Theater without Matinee trip generation rates were utilized to estimate the Project's AM peak hour and daily trip generation as *Trip Generation* did not contain suitable trip generation rates for the Multiplex Movie Theater land use during the AM peak hour only.

In accordance with the City of La Quinta's traffic study guidelines (1), trip generation estimates for the Project determined by utilizing the published rates for the peak hour of the generator rather than for the peak hour of adjacent street traffic, where possible. Average trip generation rates have been utilized for the shopping center component as opposed to application of the regression equations due to its size and nature. As the shopping center portion of the Project is much smaller than the average shopping centers surveyed in *Trip Generation* and represents a small portion of the existing Washington Park Shopping Center as opposed to a standalone land use, utilization of the regression equation based trip generation rates, as advised by the

Table 4-1

Trip Generation Summary

Trip Generation Rates

Land Use	ITE LU Code	Units[4]	AM Peak Hour			PM Peak Hour			Daily	Weekend Peak Hour		
			Inbound	Outbound	Total	Inbound	Outbound	Total		Inbound	Outbound	Total
Multiplex Movie Theater[1,2]	445/443	Seats	0.03	0.03	0.06	0.17	0.12	0.29	1.76	0.16	0.14	0.30
Shopping Center[1,3]	820	TSF	0.60	0.36	0.96	1.78	1.93	3.71	42.70	2.51	2.31	4.82

Project Trip Generation Summary

Land Use	Quantity	Units	AM Peak Hour			PM Peak Hour			Daily	Weekend Peak Hour		
			Inbound	Outbound	Total	Inbound	Outbound	Total		Inbound	Outbound	Total
Multiplex Movie Theater	2087	Seats	63	63	125	357	248	605	3,673	326	301	626
Shopping Center	27.373	TSF	16	10	26	49	53	102	1,169	69	63	132
Total			**79**	**73**	**151**	**406**	**301**	**707**	**4,842**	**394**	**364**	**758**

[1] Trip Generation Source: ITE (Institute of Transportation Engineers) *Trip Generation,* 9th Edition, 2012.

[2] ITE Land Use 443 Movie Theater without Matinee Weekday AM Peak Hour of generator and daily rates were utilized as ITE Land Use 445 Multiplex Movie Theater did not have a corresponding trip generation rate.

[3] Trip generation rates for the AM and PM peak hour of adjacent street traffic were utilized as AM and PM peak hour trip generation rates of the generator for ITE Land Use 820: Shopping Center are not shown in *Trip Generation* . Saturday peak hour of the generator rates were utilized as they are provided in *Trip Generation*. In addition, the average AM, PM, Saturday peak hour and weekday ADT rates as opposed to regression equation based rates were utilized due to the small size of the proposed use in relation to the average size of shopping centers surveyed in the *Trip Generation* manual. Lastly, as the proposed land use would represent a small portion of the existing Washington Park Shopping Center, utilization of the regression equation would significantly overstate the trip generation of this component of the Project.

[4] TSF = Thousand Square Feet

[5] Internal Capture Percentage Source: ITE *Trip Generation Handbook*, 2nd Edition

City of La Quinta traffic study guidelines, would significantly overstate the trip generation for the shopping center component of the Project.

As shown on Table 4-1, the proposed Project is anticipated to generate a net total of approximately 4,842 trip-ends per day on a typical weekday with 151 VPH during the weekday AM peak hour, 707 VPH during the weekday PM peak hour and 758 VPH during the Saturday peak hour.

4.2 PROJECT TRIP DISTRIBUTION

As directed and subsequently approved by City staff, the proposed Project trip distribution patterns have been based on the existing peak hour turning movement count data that was taken for this work effort. The purpose of utilizing the existing count data to develop a trip distribution for the Project was to follow existing travel patterns as the Project is part of the Washington Park shopping center. The proposed Project's trip distribution patterns are illustrated graphically on Exhibit 4-1.

4.3 MODAL SPLIT

Although the use of public transit, walking, and/or bicycling have the potential to reduce Project-related traffic, such reductions have not been taken into considerations in this traffic study in order to provide a conservative analysis of the Project's potential to contribute to circulation system deficiencies.

4.4 TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and weekday AM and PM peak hour intersection turning movement volumes are shown on Exhibit 4-2. Project Saturday peak hour volumes are shown on Exhibit 4-3.

4.5 CUMULATIVE GROWTH TRAFFIC

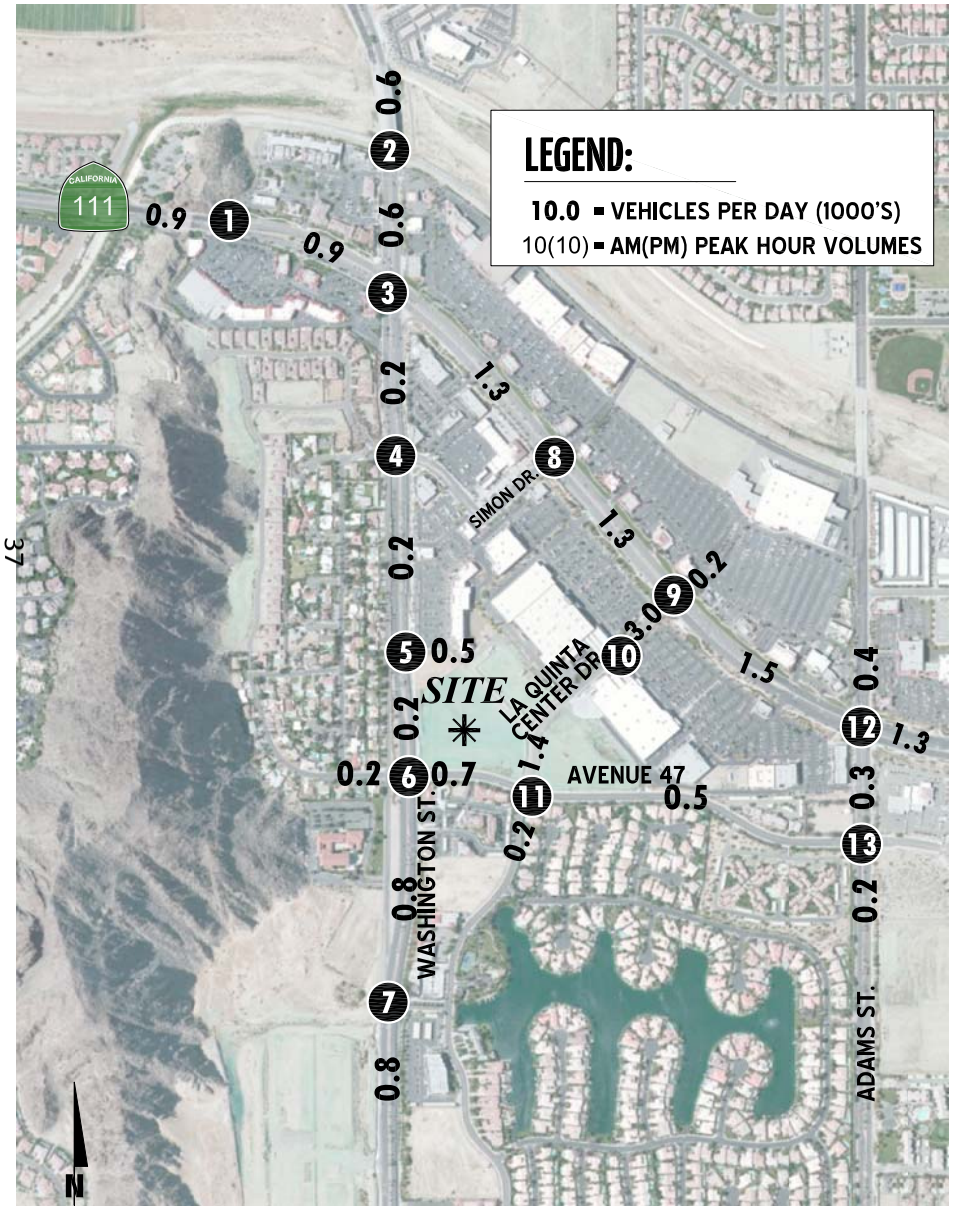
At the direction of City staff and consistent with the City of La Quinta's traffic study guidelines (1), future traffic growth for Opening Year Cumulative conditions has been determined from the growth between Existing conditions and the latest projections from the La Quinta Traffic Model for General Plan Buildout (2035) conditions as presented in the City of La Quinta's recent General Plan Circulation Element Update. (7)

4.5.1 AMBIENT GROWTH RATE

To account for a minimum background growth, an ambient growth rate of 2% per year has been added to existing traffic volumes to account for a minimum background growth to act as a comparison to the incremental growth calculated from the projections of the La Quinta Traffic Model.

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION

EXHIBIT 4-2: PROJECT VOLUMES



1 Plaza La Quinta/ Channel Dr. & Highway 111

0(0) 0(0) 0(0) → 0(0) ← 14(57) ← 0(0)
0(0) → 15(77) → 0(0)
0(0) 0(0) 0(0) ↑

2 Washington St. & Channel Dr.

0(0) 9(49) 0(0) → 0(0) ← 0(0) ← 0(0)
0(0) → 0(0) → 0(0)
0(0) 9(36) 0(0) ↑

3 Washington St. & Highway 111

0(0) 2(12) 7(37) → 7(27) ← 12(51) ← 0(0)
0(0) → 13(69) → 2(8)
1(6) 2(9) 0(0) ↑

4 Washington St. & Point Happy Wy./ Simon St.

0(0) 4(20) 0(0) → 0(0) ← 0(0) ← 0(0)
0(0) → 0(0) → 0(0)
0(0) 4(15) 0(0) ↑

5 Washington St. & Washington Park Plaza Dwy.

0(0) 4(20) → 4(15)
0(0) → 0(0) → 7(37)

6 Washington St. & Highland Palms Dr./ Ave. 47

0(0) 0(0) 0(0) → 0(0) ← 2(9) ← 12(48)
1(4) → 2(8) → 0(0)
0(0) 6(32) 6(32) ↑

7 Washington St. & Lake La Quinta Dr.

12(48) 0(0) → 0(0)
13(65) → 0(0)

8 Simon Dr. & Highway 111

0(0) 0(0) 0(0) → 0(0) ← 19(78) ← 0(0)
0(0) → 21(106) → 0(0)
0(0) 0(0) 0(0) ↑

9 La Quinta Center Dr. & Highway 111

0(0) 4(20) 0(0) → 0(0) ← 0(0) ← 24(121)
0(0) → 0(0) → 21(106)
19(78) 4(15) 22(90) ↑

10 La Quinta Center Dr. & Lowes/Target Driveway

0(0) 49(247) 0(0) → 0(0) ← 0(0) ← 0(0)
0(0) → 0(0) → 0(0)
0(0) 45(183) 0(0) ↑

11 La Quinta Center Dr. /Caleo Bay & Ave. 47

14(57) 4(15) 7(30) → 8(41) ← 0(0) ← 0(0)
8(41) → 0(0) → 0(0)
0(0) 4(20) 0(0) ↑

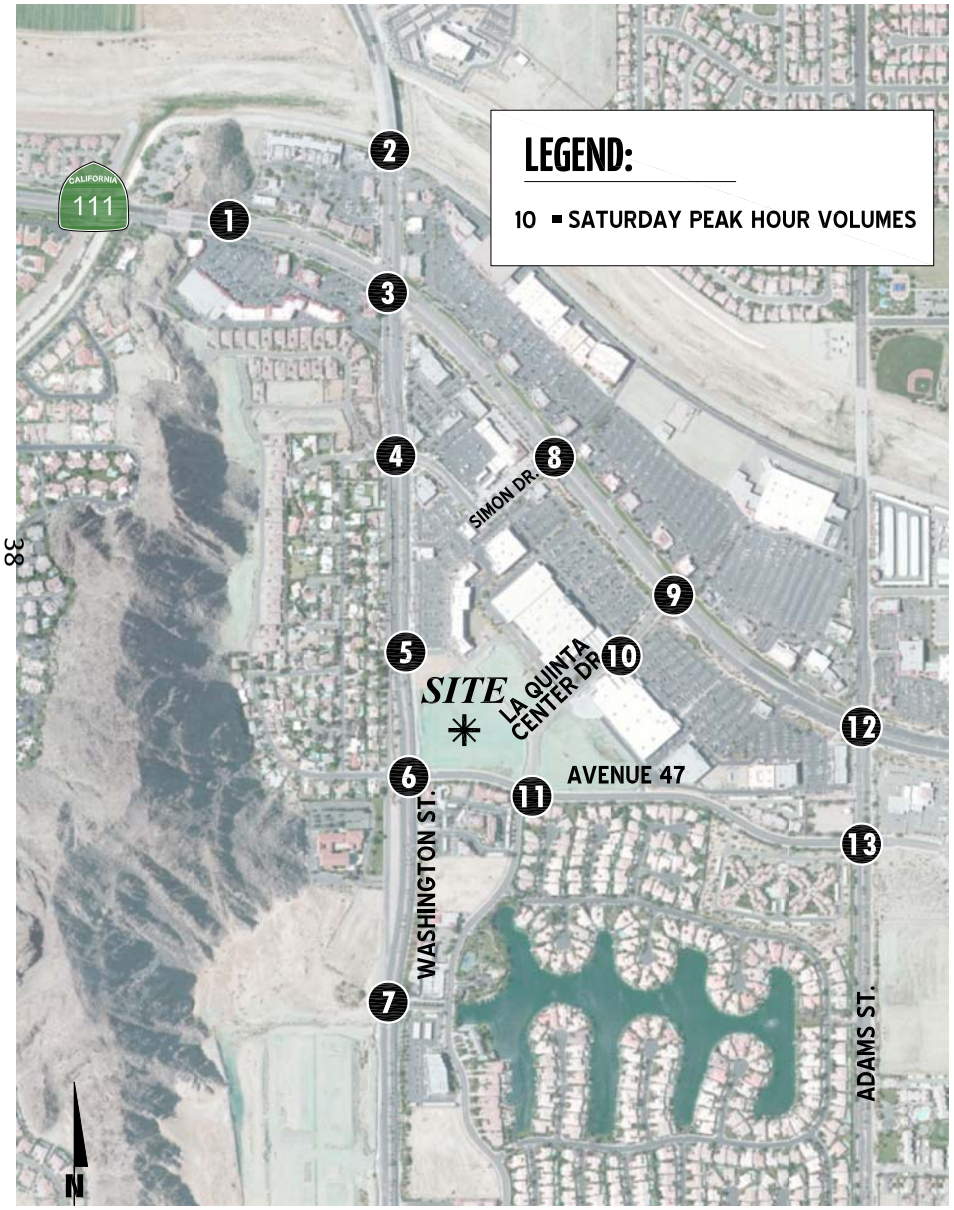
12 Adams St. & Highway 111

3(16) 4(20) 0(0) → 0(0) ← 20(105) ← 1(4)
3(12) → 19(78) → 0(0)
0(0) 4(15) 1(3) ↑

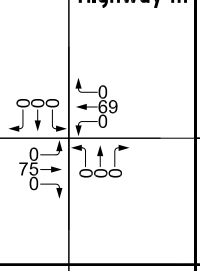
13 Adams St & Ave. 47/ Auto Center Dr.

5(25) 0(0) 0(0) → 0(0) ← 0(0) ← 0(0)
4(18) → 0(0) → 3(12)
3(16) 0(0) 0(0) ↑

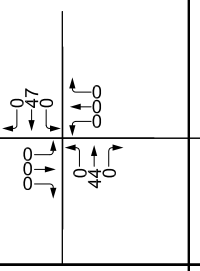
EXHIBIT 4-3: PROJECT SATURDAY PEAK HOUR VOLUMES



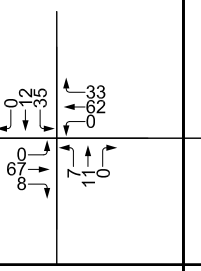
1 Plaza La Quinta/ Channel Dr. & Highway 111



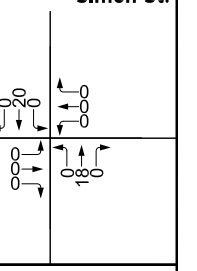
2 Washington St. & Channel Dr.



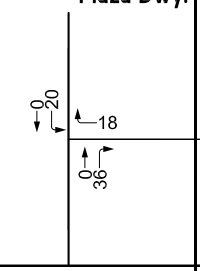
3 Washington St. & Highway 111



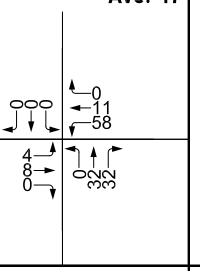
4 Washington St. & Point Happy Wy./ Simon St.



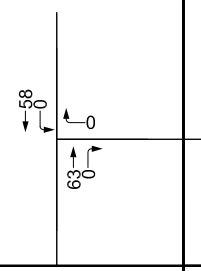
5 Washington St. & Washington Park Plaza Dwy.



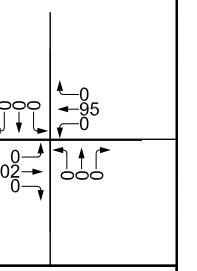
6 Washington St. & Highland Palms Dr./ Ave. 47



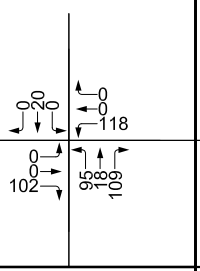
7 Washington St. & Lake La Quinta Dr.



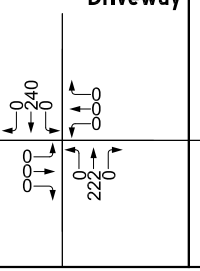
8 Simon Dr. & Highway 111



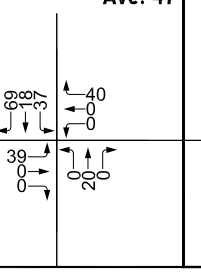
9 La Quinta Center Dr. & Highway 111



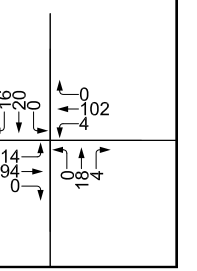
10 La Quinta Center Dr. & Lowes/Target Driveway



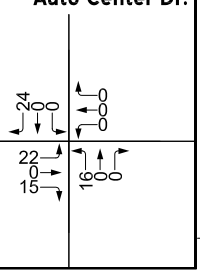
11 La Quinta Center Dr. /Caleo Bay & Ave. 47



12 Adams St. & Highway 111



13 Adams St & Ave. 47/ Auto Center Dr.



URBAN CROSSROADS

According to recent information published by the Southern California Association of Governments (SCAG), the population of La Quinta is projected to increase by 28.3% in the period between 2008 and 2035, a compounded rate of approximately 1.01% annually.

During the same period, employment in La Quinta is expected to increase by 29.4% or 1.01% annually. (8) Therefore, the future traffic growth from either the base annual growth rate of 2% or the projected growth from the La Quinta Traffic Model would appear to be conservative and tend to overstate as opposed to understate traffic impacts.

4.6 TOTAL FUTURE TRAFFIC

E+P and Opening Year Cumulative Without and With Project ADT and peak hour traffic volumes are presented in Section 6 *Near Term Conditions Traffic Analysis* of this TIA.

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5 TRAFFIC IMPACT ASSESSMENT METHODOLOGY

This section discusses the criteria used to determine potentially significant Project impacts and potentially significant cumulative impacts.

5.1 SCENARIOS

In accordance with the City of La Quinta's traffic study guidelines and as documented in Appendix "1.1" of this TIA, this study has analyzed the following scenarios (1):

- Existing Conditions
- Existing plus Project (E+P) Conditions
- Opening Year Cumulative Without Project Conditions
- Opening Year Cumulative With Project Conditions

5.1.1 EXISTING (2014) CONDITIONS

Existing physical conditions have been disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

5.1.2 EXISTING PLUS PROJECT CONDITIONS

The Existing plus Project (E+P) traffic conditions analysis determines circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing traffic conditions. For the purposes of this analysis, the E+P analysis scenario was utilized to determine potentially significant Project impacts associated solely with the development of the proposed Project and the corresponding mitigation measures necessary to mitigate these impacts.

In accordance with the City of La Quinta's traffic study guidelines, improvements fully funded by the City's Capital Improvement Program (CIP) are assumed to be in place for E+P conditions. (1) A review of the City of La Quinta's CIP indicates that no improvements in the study area are fully funded. (9) As such, the E+P analysis scenario utilizes existing geometry and intersection controls.

5.1.3 OPENING YEAR CUMULATIVE (2015) CONDITIONS

The Opening Year Cumulative traffic conditions analysis will be utilized to determine if improvements funded through local and regional transportation mitigation fee programs such as the Transportation Uniform Mitigation Fee (TUMF) program, City of La Quinta Development Impact Fee (DIF) program, or other approved funding mechanism can accommodate the near-term cumulative traffic at the target LOS identified in the City of La Quinta's traffic study guidelines. For the purposes of this analysis, a comparison between the Opening Year Cumulative Without Project analysis scenario and the Opening Year Cumulative With Project analysis scenario was utilized to determine potentially significant cumulative impacts.

In accordance with the City of La Quinta's traffic study guidelines, improvements fully funded by the City's CIP, DIF, and TUMF programs are assumed to be in place for Opening Year Cumulative traffic conditions. (1) A review of the City of La Quinta's CIP, DIF, and TUMF programs indicates that no improvements in the study area are fully funded. (9) (10) As such, the Opening Year Cumulative Without and With Project analysis scenarios utilize existing geometry and intersection controls.

5.2 POTENTIALLY SIGNIFICANT TRAFFIC IMPACT CRITERIA

Potentially significant Project traffic impacts are divided separately into intersection and roadway segment traffic impacts. Intersections and roadway segments are evaluated for both potentially significant Project and cumulative impacts.

The potentially significant Project and cumulative impact criteria described below for both intersection and roadway segments per the City of La Quinta's traffic study guidelines. (1)

5.2.1 INTERSECTIONS

Potentially Significant Project Impacts

Pursuant to the criteria outlined for the analysis of study area intersections using the HCM methodology, a potentially significant Project impact is defined to occur at any signalized intersection if the addition of Project trips will result in the LOS for that intersection to exceed the criteria established in Table 5-1 for E+P traffic conditions.

TABLE 5-1: IMPACT CRITERIA FOR INTERSECTIONS ALREADY OPERATING AT LOS "E" OR LOS "F"

Significant Changes in LOS	
LOS "E"	An increase in delay of 2 seconds or more
LOS "F"	An increase in delay of 1 second or more

Source: City of La Quinta Engineering Bulletin #06-13 Table 4.0

A potentially significant Project impact at an unsignalized study area intersection is defined to occur when an intersection has a projected LOS "F" on a side street for a two-way stop control or LOS "E" or worse for the intersection an all-way stop controlled intersection and the addition of Project traffic results in an addition of 3 seconds or more of delay for any movement.

Potentially Significant Cumulative Impacts

A potentially significant cumulative impact is defined to occur at any signalized intersection if the addition of Project trips will result in the LOS for that intersection to exceed the criteria established in Table 5-1 for Opening Year Cumulative traffic conditions.

A potentially significant cumulative impact at an unsignalized study area intersection is defined to occur when, with Project traffic included, an intersection has a projected LOS "F" on a side street for a two-way stop control or LOS "E" or worse for the intersection an all-way stop controlled intersection and the addition of Project traffic results in an addition of 3 seconds or more of delay for any movement.

5.2.2 ROADWAY SEGMENTS

Potentially Significant Project Impacts

A potentially significant Project impact is defined to occur at any study area roadway segment if the segment is projected to be operating at LOS "E" or LOS "F" and the V/C ratio increases by 0.02 or more with the addition of Project traffic for E+P traffic conditions.

Potentially Significant Cumulative Impacts

A potentially significant cumulative impact is defined to occur at any study area roadway segment if the Project would cause the Existing LOS to fall to worse than LOS "D" for Opening Year Cumulative traffic conditions. A potentially significant cumulative impact is also defined to occur on any study area roadway segment that is already operating at LOS "E" or LOS "F", if the Project traffic will increase the V/C ratio by more than 0.02 for Opening Year Cumulative With Project traffic conditions.

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6 NEAR TERM CONDITIONS TRAFFIC ANALYSIS

This section discusses the results of the near-term HCM intersection analysis and roadway segment capacity analysis. This section also identifies any potentially significant Project and cumulative traffic impacts to the study area intersections and roadway segments.

6.1 EXISTING PLUS PROJECT CONDITIONS

E+P ADT, weekday AM and weekday PM peak hour volumes are shown on Exhibit 6-1. The Saturday peak hour volumes which can be expected for E+P traffic conditions are shown on Exhibit 6-2.

6.1.1 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under E+P traffic conditions with roadway and intersection geometrics consistent with those described in Section 5.1.2 *Existing plus Project Conditions*. The intersection analysis results are summarized in Table 6-1, which indicates that no additional study area intersections are anticipated to operate at unacceptable LOS (i.e., LOS "E" or "F") in addition to those previously identified under Existing traffic conditions.

Based on the City of La Quinta's potentially significant Project impact criteria described previously in Section 5.2 *Potentially Significant Traffic Impact Criteria*, the deficient intersection of Washington Street at Lake La Quinta Drive was not found to meet the threshold of a potentially significant Project impact as the addition of Project traffic does not increase the delay by more than 3.0 seconds. As such, a potentially significant Project impact has not been identified for E+P traffic conditions.

Exhibit 6-3 summarizes the weekday AM, PM, and Saturday peak hour study area intersection LOS under E+P traffic conditions, consistent with the summary provided in Table 6-1.

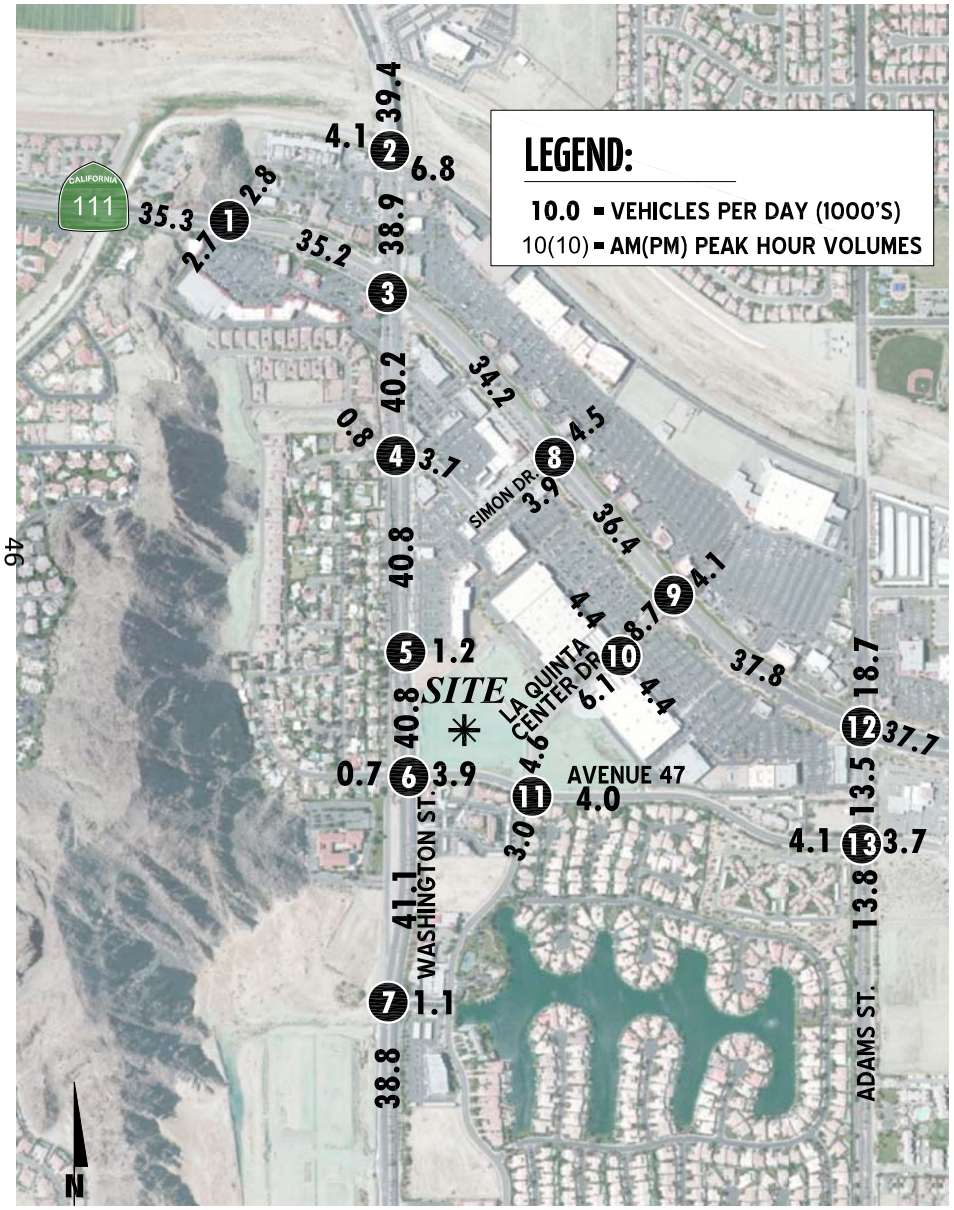
The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix "6.1" of this TIA.

6.1.2 ROADWAY SEGMENT CAPACITY ANALYSIS

The roadway segment capacities are approximate figures only, and are typically used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future forecasted traffic demand. Table 6-2 provides a summary of the E+P traffic conditions roadway segment capacity analysis based on the City of La Quinta roadway segment capacity thresholds identified previously in Table 3-4. As shown on Table 6-2, all study roadway segments analyzed are anticipated to operate at acceptable LOS with the exception of La Quinta Center Drive between Highway 111 and Avenue 47, which is anticipated to operate at LOS "E".

As previously described in Section 3.8 *City of La Quinta Required Roadway Segment Level of Service*, a deficient roadway segment, as defined by a V/C evaluation, requires the analyst to

EXHIBIT 6-1: E+P VOLUMES



1 Plaza La Quinta/ Channel Dr. & Highway 111

84(62) 2(7) 20(51) | 40(29) 1389(1064) 25(31)
25(55) 701(1510) 29(72) | 28(47) 6(13) 17(44)

2 Washington St. & Channel Dr.

131(87) 976(1355) 79(179) | 139(241) 8(15) 13(78)
40(95) 7(13) 79(85) | 4(25) 1322(1154) 14(6)

3 Washington St. & Highway 111

66(83) 750(988) 252(466) | 246(376) 711(695) 64(172)
69(173) 377(795) 196(616) | 747(437) 962(655) 63(180)

4 Washington St. & Point Happy Wy./ Simon St.

8(26) 1053(1669) 22(98) | 13(50) 0(2) 20(75)
24(12) 3(2) 2(7) | 2(11) 1869(1293) 44(57)

5 Washington St. & Washington Park Plaza Dwy.

1067(1706) 8(44) | 5(32)
1936(1408) 10(54)

6 Washington St. & Highland Palms Dr./ Ave. 47

43(3) 959(1668) 65(35) | 35(80) 34(17) 31(104)
9(12) 8(16) 4(4) | 40(10) 1902(1369) 76(95)

7 Washington St. & Lake La Quinta Dr.

931(1711) 64(65) | 15(10)
1966(1351) 6(14)

8 Simon Dr. & Highway 111

0(29) 1(24) 26(144) | 12(59) 979(1167) 23(70)
21(78) 684(1369) 18(42) | 37(70) 10(15) 17(78)

9 La Quinta Center Dr. & Highway 111

66(59) 17(49) 10(50) | 50(84) 1016(1110) 79(266)
40(48) 585(1362) 41(183) | 29(161) 25(44) 36(174)

10 La Quinta Center Dr. & Lowes/Target Driveway

41(123) 54(252) 42(123) | 20(96) 5(5) 20(75)
20(95) 5(5) 19(74) | 21(43) 50(188) 22(43)

11 La Quinta Center Dr. /Caleo Bay & Ave. 47

28(92) 23(95) 18(69) | 18(70) 52(69) 21(28)
26(77) 73(74) 11(17) | 29(29) 24(46) 7(36)

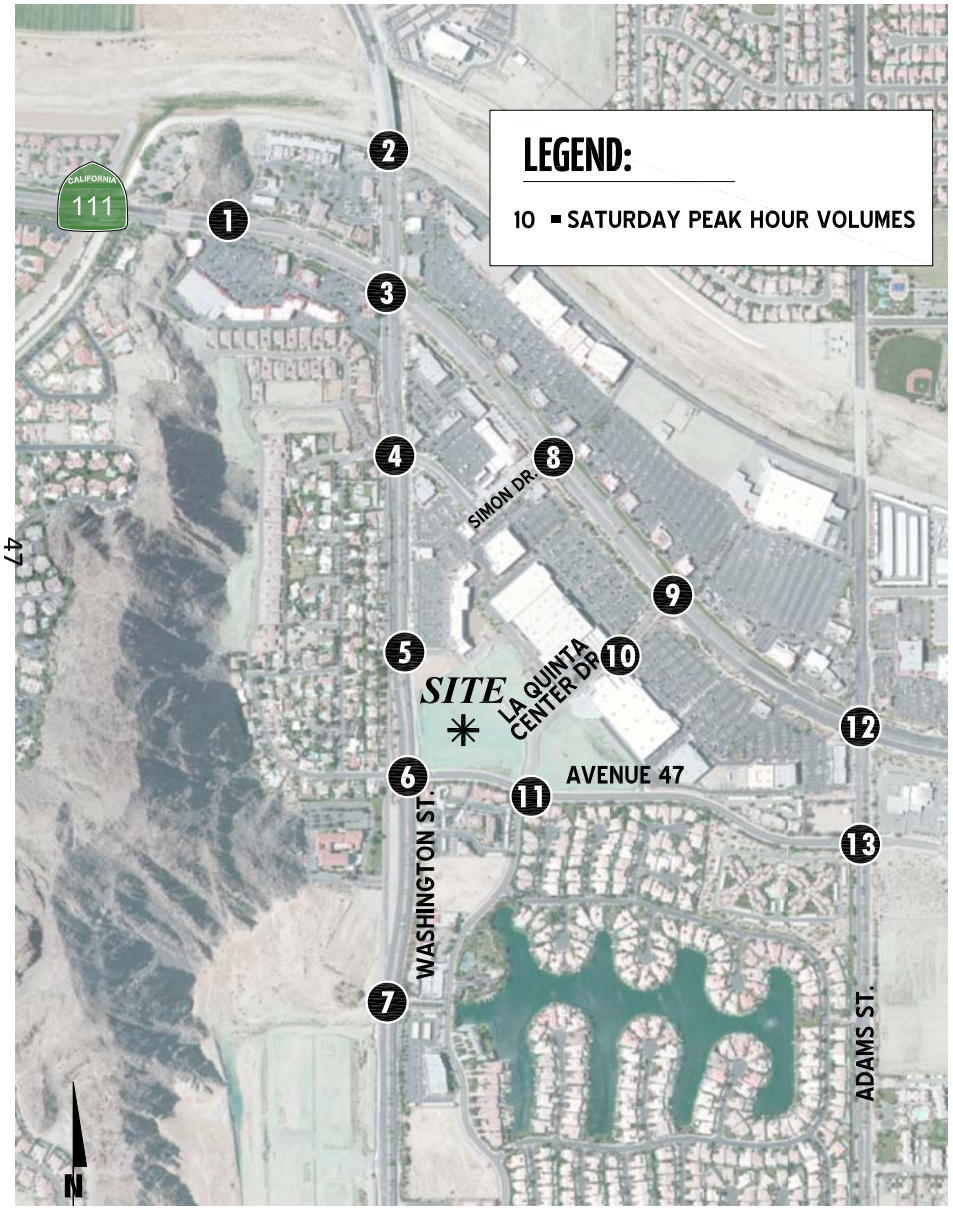
12 Adams St. & Highway 111

91(163) 263(347) 139(249) | 120(204) 923(1200) 62(123)
95(219) 533(1191) 21(99) | 136(105) 421(305) 43(56)

13 Adams St & Ave. 47/ Auto Center Dr.

47(66) 292(492) 7(51) | 9(41) 17(44) 19(58)
51(77) 10(35) 13(68) | 33(58) 539(348) 41(61)

EXHIBIT 6-2: E+P SATURDAY PEAK HOUR VOLUMES



1 Plaza La Quinta/ Channel Dr. & Highway 111

	55 ← 39 ← 51	← 35 ← 1167 ← 42
40 → 1164 → 57		62 → 12 → 44

2 Washington St. & Channel Dr.

	100 ← 1011 ← 173	← 189 ← 13 ← 117
108 → 28 → 121		43 → 1026 → 11

3 Washington St. & Highway 111

	77 ← 656 ← 516	← 378 ← 752 ← 210
161 → 739 → 270		597 → 680 → 106

4 Washington St. & Point Happy Wy./ Simon St.

	26 ← 1085 ← 131	← 55 ← 62
19 → 1 → 4		11 → 1421 → 74

5 Washington St. & Washington Park Plaza Dwy.

	1100 ← 51	← 36
1365 → 72		

6 Washington St. & Highland Palms Dr./ Ave. 47

	20 ← 1041 ← 40	← 83 ← 22 ← 135
14 → 19 → 6		20 → 1341 → 155

7 Washington St. & Lake La Quinta Dr.

	1200 ← 73	← 18
1325 → 1		

8 Simon Dr. & Highway 111

	23 ← 25 ← 166	← 83 ← 1226 ← 73
122 → 1325 → 43		84 → 29 → 108

9 La Quinta Center Dr. & Highway 111

	81 ← 64 ← 61	← 129 ← 1115 ← 300
74 → 1313 → 216		214 → 83 → 239

10 La Quinta Center Dr. & Lowes/Target Driveway

	167 ← 245 ← 168	← 155 ← 5 ← 71
154 → 5 → 71		52 → 227 → 53

11 La Quinta Center Dr. /Caleo Bay & Ave. 47

	97 ← 92 ← 82	← 70 ← 64 ← 30
84 → 98 → 10		19 → 55 → 20

12 Adams St. & Highway 111

	171 ← 255 ← 270	← 205 ← 1265 ← 144
243 → 1278 → 76		109 → 208 → 71

13 Adams St & Ave. 47/ Auto Center Dr.

	69 ← 332 ← 54	← 48 ← 47 ← 56
88 → 54 → 80		78 → 252 → 67

URBAN CROSSROADS

EXHIBIT 6-3: SUMMARY OF LOS FOR E+P CONDITIONS

09228 - los.dwg

Table 6-1

E+P Conditions Intersection Analysis

#	Intersection	Traffic Control[2]	Existing (2014)						E+P						Acceptable LOS	Potentially Significant Project Specific Impact[3]
			Delay [1] (secs.)			Level of Service			Delay [1] (secs.)			Level of Service				
			AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat		
1	Plaza La Quinta/Channel Dr. / Hwy. 111	TS	11.0	12.2	12.6	B	B	B	11.0	12.3	12.7	B	B	B	D	NO
2	Washington St. / Channel Dr.	TS	12.3	22.7	25.0	B	C	C	12.3	22.8	25.1	B	C	C	D	NO
3	Washington St. / Hwy. 111	TS	40.4	41.9	41.5	D	D	D	40.8	44.0	44.3	D	D	D	D	NO
4	Washington St. / Point Happy Wy./Simon St.	TS	6.4	15.4	17.4	A	B	B	6.4	15.5	17.6	A	B	B	D	NO
5	Washington St. / Washington Park Plaza Dwy.	CSS	12.9	11.3	11.2	B	B	B	13.0	11.5	11.4	B	B	B	E	NO
6	Washington St. / Highland Palms Dr./Ave. 47	TS	21.1	10.6	15.1	C	B	B	22.8	12.5	17.7	C	B	B	D	NO
	-Saturday Evening [4]	TS	--	--	30.5	--	--	C	--	--	39.5	--	--	D	D	NO
7	Washington St. / Lake La Quinta Dr.	CSS	**97.5**	22.5	23.0	**F**	C	C	**99.5**	24.4	25.0	**F**	C	D	E	NO
8	Simon Dr. / Hwy. 111	TS	5.7	12.6	14.1	A	B	B	5.7	12.7	14.1	A	B	B	D	NO
9	La Quinta Center Dr. / Hwy. 111	TS	12.9	18.5	25.3	B	B	C	16.0	30.0	43.9	B	C	D	D	NO
10	La Quinta Center Dr. / Lowes / Target Dwy.	AWS	7.6	9.6	11.6	A	A	B	8.0	17.1	30.8	A	C	D	D	NO
11	La Quinta Center Dr./Caleo Bay / Ave. 47	CSS	10.9	12.8	14.2	B	B	B	11.3	16.1	20.2	B	C	C	E	NO
12	Adams St. / Hwy. 111	TS	31.4	31.6	27.6	C	C	C	31.5	32.3	28.1	C	C	C	D	NO
13	Adams St. / Ave. 47/Auto Centre Dr.	TS	15.9	21.3	23.3	B	C	C	16.4	22.6	24.1	B	C	C	D	NO

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal.
For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] CSS = Cross-street Stop; TS = Traffic Signal; AWS = All-way Stop

[3] A potentially significant project traffic impact is defined to occur at any signalized intersection if the intersection is operating at LOS "E" and the project causes the delay to increase by 2 seconds or more. If the signalized intersection is operating at LOS "F", a potentially significant project specific traffic impact is defined to occur if the project causes the delay to increase by 1 second or more. For cross-street and all-way stop controlled intersections, a potentially significant project specific traffic impact is defined to occur if the intersection is operating at LOS "F" on the side street and the addition of project traffic results in an increase of 3 seconds or more of delay for any movement.

[4] Saturday evening evaluated at the intersection of Washington St. and Highland Palms Dr. / Avenue 47 to determine potential impacts due to the services at the adjacent St. Francis of Assisi Catholic Church.

Table 6-2

E+P Conditions
Roadway Segment Volume/Capacity Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	Existing (2014)	V/C	LOS	E+P	V/C	LOS	Acceptable LOS	Potentially Significant Project Traffic Impact[2]
1	Washington St.	North of Channel Dr.	6D	61,100	38,849	0.64	B	39,431	0.65	B	D	NO
2		Channel Dr. to Hwy. 111	6D	61,100	38,325	0.63	B	38,907	0.64	B	D	NO
3		Hwy. 111 to Simon Dr.	6D	61,100	39,979	0.65	B	40,221	0.66	B	D	NO
4		Simon Dr. to Washington Park Plaza Dwy.	6D	61,100	40,516	0.66	B	40,758	0.67	B	D	NO
5		Washington Park Plaza Dwy. to Highland Palms Dr./Ave. 47	6D	61,100	40,604	0.66	B	40,823	0.67	B	D	NO
6		Highland Palms Dr./Ave. 47 to Lake La Quinta Dr.	6D	61,100	40,290	0.66	B	41,065	0.67	B	D	NO
7		South of Lake La Quinta Dr.	6D	61,100	38,058	0.62	B	38,832	0.64	B	D	NO
8	La Quinta Center Dr.	Hwy. 111 to Ave. 47	2U	9,000	5,721	0.64	B	**8,669**	**0.96**	**E**	D	NO[3]
9	Caleo Bay	South of Ave. 47	2U	9,000	2,769	0.31	A	3,011	0.33	A	D	NO
10	Adams St.	North of Hwy. 111	4D	28,000	18,280	0.65	B	18,716	0.67	B	D	NO
11		Hwy. 111 to Ave. 47	4D	28,000	13,237	0.47	A	13,533	0.48	A	D	NO
12		South of Ave. 47	4D	28,000	13,562	0.48	A	13,756	0.49	A	D	NO
13	Hwy. 111	Plaza La Quinta/Channel Dr. to Washington St.	6D	61,100	34,272	0.56	A	35,192	0.58	A	D	NO
14		Washington St. to Simon Dr.	6D	61,100	32,960	0.54	A	34,220	0.56	A	D	NO
15		Simon Dr. to La Quinta Center Dr.	6D	61,100	35,176	0.58	A	36,436	0.60	A	D	NO
16		La Quinta Center Dr. to Adams St.	6D	61,100	36,391	0.60	A	37,837	0.62	B	D	NO
17		East of Adams St.	6D	61,100	36,363	0.60	A	37,671	0.62	B	D	NO
18	Simon Dr.	Washington St. to Hwy. 111	2U	9,000	3,857	0.43	A	3,857	0.43	A	D	NO
19	Ave. 47	Washington St. to La Quinta Center Dr./Caleo Bay	2U	9,000	3,207	0.36	A	3,909	0.43	A	D	NO
20		La Quinta Center Dr./Caleo Bay to Adams St.	2U	9,000	3,560	0.40	A	4,050	0.45	A	D	NO

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been extracted from the City of La Quinta Engineering Bulletin #06-13 (Revised April 7, 2014).
These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

[2] A potentially significant project traffic impact is defined to occur on any road segment if the segment is projected to be operating at LOS "E" or LOS "F" with project traffic included and the V/C is increased by 0.02 or more by addition of project traffic.

[3] Although the ADT-based roadway segment analysis indicates a deficiency (unacceptable LOS "E" or worse), a review of more detailed peak hour intersection analysis found in Table 6-1 of this report found that the intersections on either side of the roadway segment are anticipated to operate at acceptable LOS. As such, no roadway widening is necessary to address this deficiency.

assess peak hour operations of the adjacent intersections of a deficient roadway segment to determine if roadway widening is necessary to meet peak hour demands. As the adjacent study intersections of La Quinta Center Drive at Highway 111 and La Quinta Center Drive/Caleo Bay at Avenue 47 are anticipated to operate at an acceptable LOS during peak hours under E+P traffic conditions, roadway widening is not necessary to address this deficiency.

6.1.3 TRAFFIC SIGNAL WARRANT ANALYSIS

Traffic signal warrant analyses have been performed on the unsignalized intersections of La Quinta Center Drive at Lowes/Target Driveway and La Quinta Center Drive/Caleo Bay at Avenue 47 for E+P traffic conditions. For E+P traffic conditions, neither intersection is anticipated to warrant a traffic signal utilizing the peak hour volume based Warrant #3 (see Appendix "6.2").

6.2 OPENING YEAR CUMULATIVE (2015) CONDITIONS

Opening Year Cumulative (2015) Without Project Volumes

Opening Year Cumulative Without Project ADT, weekday AM, and weekday PM peak hour volumes are shown on Exhibit 6-4. The Saturday peak hour volumes which can be expected for Opening Year Cumulative Without Project traffic conditions are shown on Exhibit 6-5.

Opening Year Cumulative (2015) With Project Volumes

Opening Year Cumulative With Project ADT, weekday AM, and weekday PM peak hour volumes are shown on Exhibit 6-6. The Saturday peak hour volumes which can be expected for Opening Year Cumulative With Project traffic conditions are shown on Exhibit 6-7.

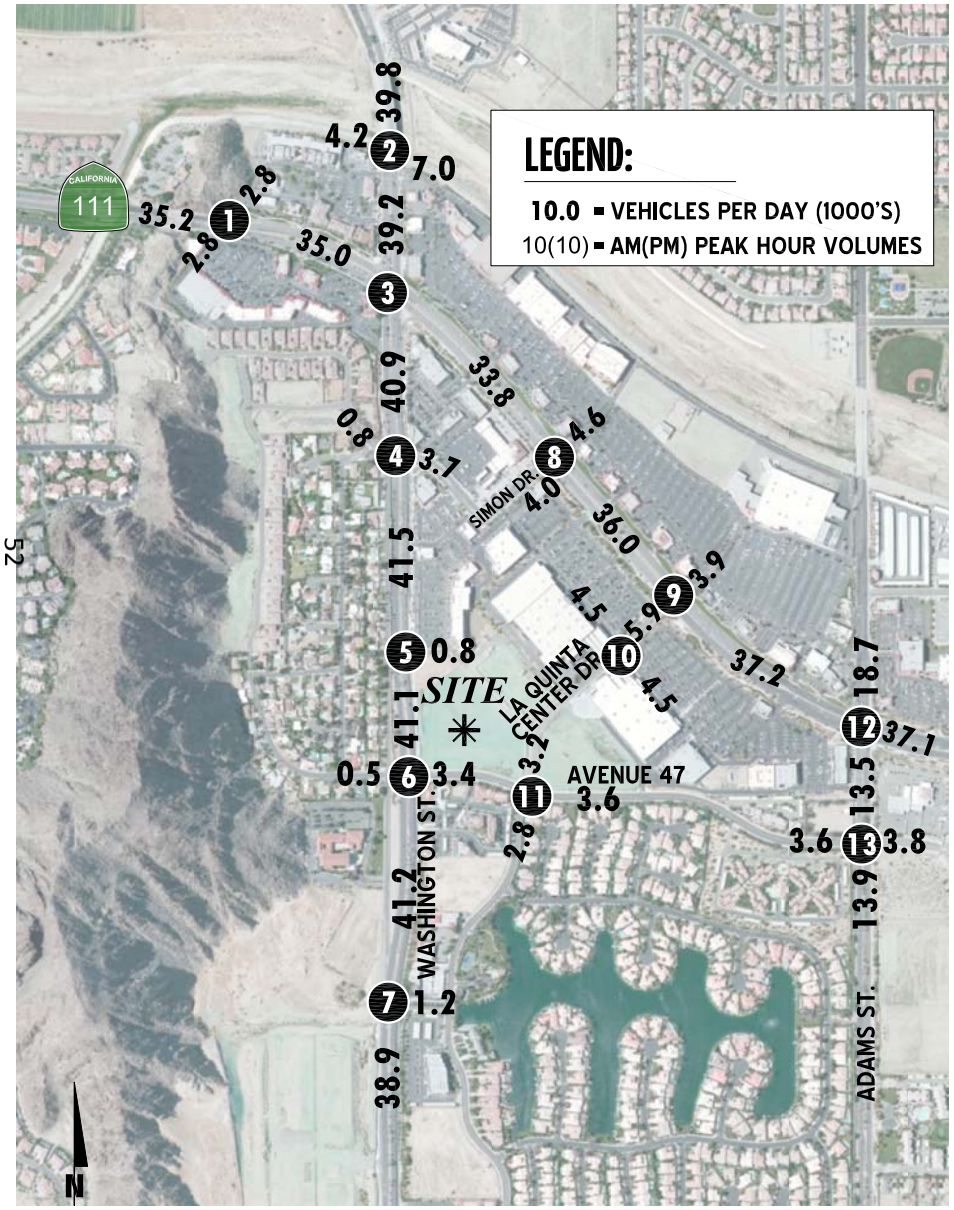
6.2.1 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under Opening Year Cumulative Without and With Project traffic conditions with roadway and intersection geometrics consistent with those described in Section 5.1.3 *Opening Year Cumulative (2015) Conditions*. The intersection analysis results are summarized in Table 6-3, which indicates that no additional study area intersections are anticipated to operate at unacceptable LOS under Opening Year Cumulative Without and With Project traffic conditions (i.e., LOS "E" or "F") in addition to those previously identified under Existing traffic conditions.

Based on the City of La Quinta's potentially significant cumulative impact criteria described previously in Section 5.2 *Potentially Significant Traffic Impact Criteria*, the deficient intersection of Washington Street at Lake La Quinta Drive was not found to meet the threshold of a potentially significant cumulative impact as the addition of Project traffic does not increase delay by more than 3.0 seconds. As such, a potentially significant cumulative impact has not been identified for Opening Year Cumulative With Project traffic conditions.

Consistent with the summary provided in Table 6-3, Exhibits 6-8 and 6-9 summarizes the weekday AM, PM, and Saturday peak hour study area intersection LOS under Opening Year Cumulative Without and With Project traffic conditions, respectively.

EXHIBIT 6-4: OPENING YEAR CUMULATIVE (2015) WITHOUT PROJECT VOLUMES



1 Plaza La Quinta/ Channel Dr. & Highway 111

86(63) 27(7) 20(52)		41(29) 1409(1030) 26(32)
26(56) 703(1466) 29(73)	28(48) 6(14) 17(45)	

2 Washington St. & Channel Dr.

134(89) 100(332) 81(183)		141(246) 8(16) 14(80)
40(96) 7(13) 81(86)	5(26) 1342(1157) 15(6)	

3 Washington St. & Highway 111

67(84) 775(976) 254(438)		243(360) 712(656) 66(177)
71(176) 378(745) 202(620)	761(441) 987(675) 65(184)	

4 Washington St. & Point Happy Wy./ Simon St.

8(27) 1075(1687) 23(100)		14(51) 0(2) 20(77)
25(12) 3(2) 2(7)	2(11) 1910(1308) 45(59)	

5 Washington St. & Washington Park Plaza Dwy.

1093(1745) 5(25)		1(17)
	1984(1440) 3(17)	

6 Washington St. & Highland Palms Dr./ Ave. 47

44(3) 983(1706) 66(36)		36(82) 33(8) 19(57)
5(8) 5(8) 5(5)	41(10) 1943(1367) 72(64)	

7 Washington St. & Lake La Quinta Dr.

941(1702) 65(66)		16(10)
	2001(1316) 6(15)	

8 Simon Dr. & Highway 111

0(29) 1(25) 27(147)		12(61) 984(1114) 24(72)
21(80) 680(1292) 18(43)	38(72) 10(16) 17(80)	

9 La Quinta Center Dr. & Highway 111

68(61) 14(29) 10(51)		51(86) 1041(1136) 56(149)
41(50) 600(1393) 20(79)	10(84) 21(29) 15(86)	

10 La Quinta Center Dr. & Lowes/Target Driveway

42(126) 5(5) 43(126)		21(97) 5(5) 20(76)
20(97) 5(5) 20(76)	21(44) 5(5) 22(44)	

11 La Quinta Center Dr. /Caleo Bay & Ave. 47

15(36) 19(82) 11(39)		10(29) 53(71) 21(28)
18(37) 74(75) 11(17)	29(29) 20(27) 7(37)	

12 Adams St. & Highway 111

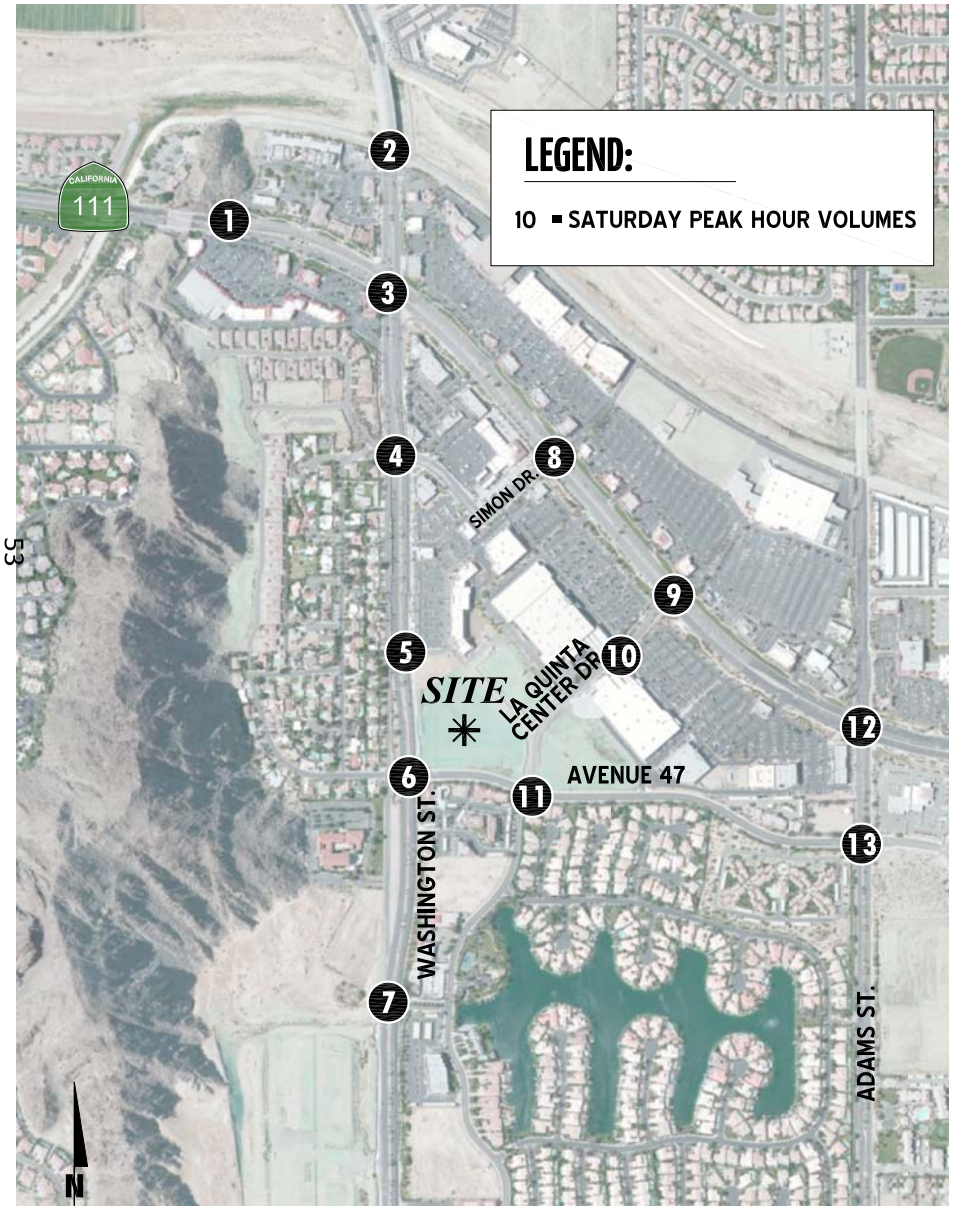
90(150) 270(333) 141(254)		122(208) 921(1116) 63(121)
95(213) 531(1135) 23(104)	142(108) 425(301) 43(54)	

13 Adams St & Ave. 47/ Auto Center Dr.

43(42) 299(503) 7(52)		9(42) 17(45) 19(60)
48(61) 10(36) 10(57)	30(43) 552(356) 42(62)	

URBAN CROSSROADS

EXHIBIT 6-5: OPENING YEAR CUMULATIVE (2015) WITHOUT PROJECT SATURDAY PEAK HOUR VOLUMES



1 Plaza La Quinta/ Channel Dr. & Highway 111

56 → 19 ← 52		← 36 ← 1120 ← 43
40 → 1111 → 58		← 63 ← 12 ← 45

2 Washington St. & Channel Dr.

102 → 983 ← 176		← 193 ← 13 ← 119
110 → 28 → 123		← 44 ← 1017 ← 13

3 Washington St. & Highway 111

79 → 656 ← 491		← 356 ← 703 ← 216
164 → 686 → 267		← 603 ← 699 ← 108

4 Washington St. & Point Happy Wy./ Simon St.

27 → 1089 ← 134		← 56 ← 6 ← 63
19 → 1 → 5		← 11 ← 1435 ← 75

5 Washington St. & Washington Park Plaza Dwy.

1125 → 32		← 18
1397 → 37		

6 Washington St. & Highland Palms Dr./ Ave. 47

20 → 1065 ← 41		← 84 ← 11 ← 79
10 → 11 → 6		← 20 ← 1339 ← 126

7 Washington St. & Lake La Quinta Dr.

1168 → 74		← 18
1291 → 1		

8 Simon Dr. & Highway 111

24 → 26 ← 170		← 84 ← 1157 ← 74
125 → 1251 → 44		← 86 ← 29 ← 110

9 La Quinta Center Dr. & Highway 111

83 → 45 ← 62		← 132 ← 1141 ← 186
75 → 1344 → 117		← 122 ← 66 ← 133

10 La Quinta Center Dr. & Lowes/Target Driveway

171 → 5 ← 172		← 158 ← 5 ← 72
158 → 5 → 72		← 53 ← 5 ← 54

11 La Quinta Center Dr. /Caleo Bay & Ave. 47

28 → 75 ← 46		← 30 ← 65 ← 30
46 → 100 → 10		← 19 ← 36 ← 20

12 Adams St. & Highway 111

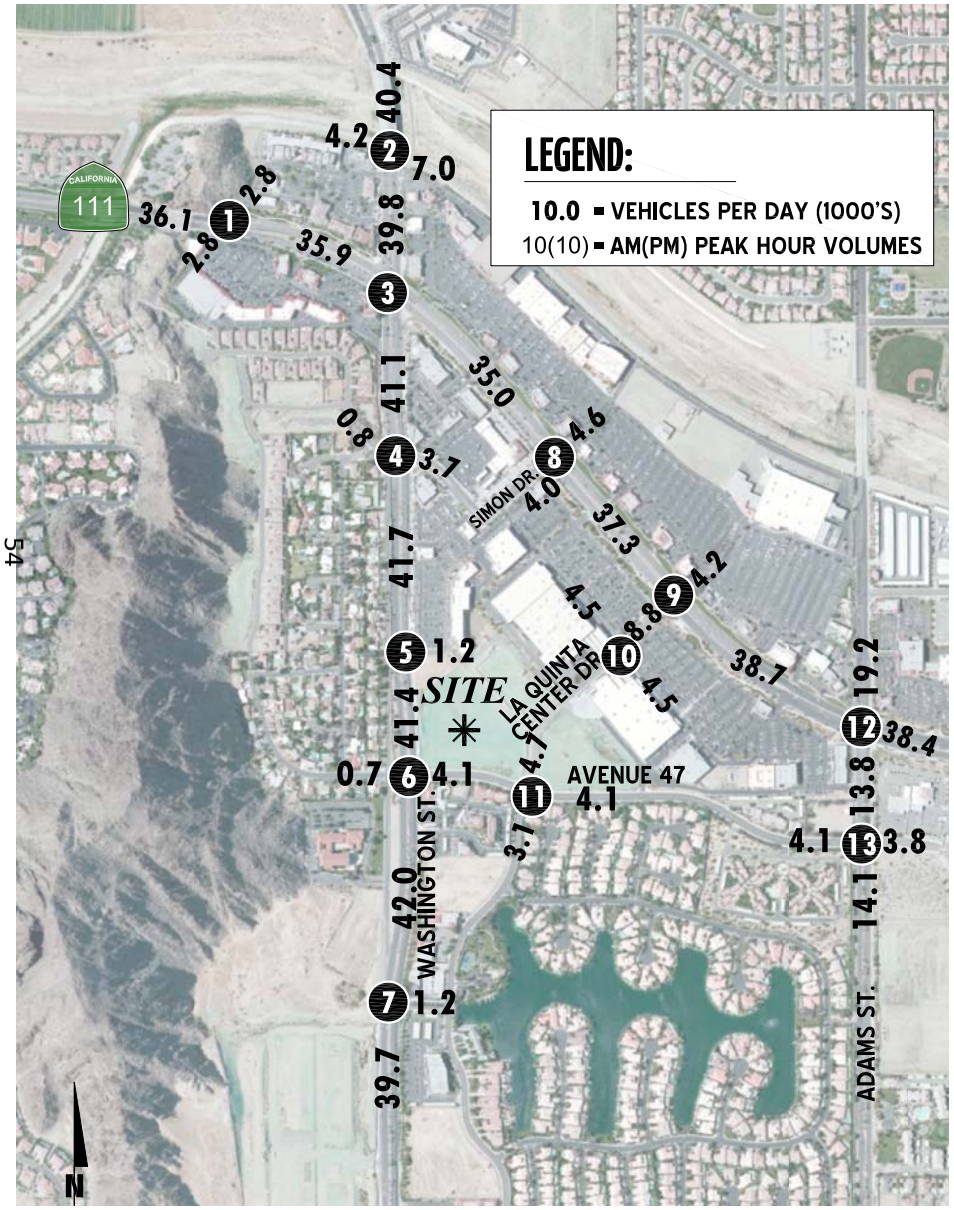
158 → 240 ← 275		← 209 ← 1186 ← 143
235 → 1207 → 80		← 113 ← 197 ← 69

13 Adams St & Ave. 47/ Auto Center Dr.

46 → 340 ← 55		← 50 ← 48 ← 57
68 → 6 → 6		← 63 ← 258 ← 69

URBAN CROSSROADS

EXHIBIT 6-6: OPENING YEAR CUMULATIVE (2015) WITH PROJECT VOLUMES



1 Plaza La Quinta/ Channel Dr. & Highway 111

86(63)	41(29)	26(56)	28(48)
207	1423(1087)	718(1543)	6(14)
20(52)	26(32)	29(73)	17(45)

2 Washington St. & Channel Dr.

134(89)	141(246)	40(96)	5(26)
101(1381)	8(16)	7(13)	1351(1193)
81(183)	14(80)	81(86)	15(6)

3 Washington St. & Highway 111

67(84)	250(387)	71(176)	762(447)
771(998)	724(707)	391(814)	989(684)
261(475)	66(177)	204(628)	65(184)

4 Washington St. & Point Happy Wy./ Simon St.

8(27)	14(51)	25(12)	2(11)
1079(1707)	0(2)	3(2)	1914(1323)
23(100)	20(77)	2(7)	45(59)

5 Washington St. & Washington Park Plaza Dwy.

1093(1745)	5(32)	1984(1440)	
9(45)		10(54)	

6 Washington St. & Highland Palms Dr./ Ave. 47

44(3)	36(82)	9(12)	41(10)
983(1706)	35(17)	8(16)	1949(1399)
66(36)	31(105)	5(5)	78(96)

7 Washington St. & Lake La Quinta Dr.

953(1750)	16(10)	2014(1381)	
65(66)		6(15)	

8 Simon Dr. & Highway 111

0(29)	12(61)	21(80)	38(72)
1(25)	1003(1192)	701(1398)	10(16)
27(147)	24(72)	18(43)	17(80)

9 La Quinta Center Dr. & Highway 111

68(61)	51(86)	41(50)	29(162)
18(49)	1041(1136)	600(1393)	25(44)
10(51)	80(270)	41(185)	37(176)

10 La Quinta Center Dr. & Lowes/Target Driveway

42(126)	21(97)	20(97)	21(44)
54(252)	5(5)	5(5)	50(188)
43(126)	20(76)	20(76)	22(44)

11 La Quinta Center Dr. /Caleo Bay & Ave. 47

29(93)	18(70)	26(78)	29(29)
23(97)	53(71)	74(75)	24(47)
18(69)	21(28)	11(17)	7(37)

12 Adams St. & Highway 111

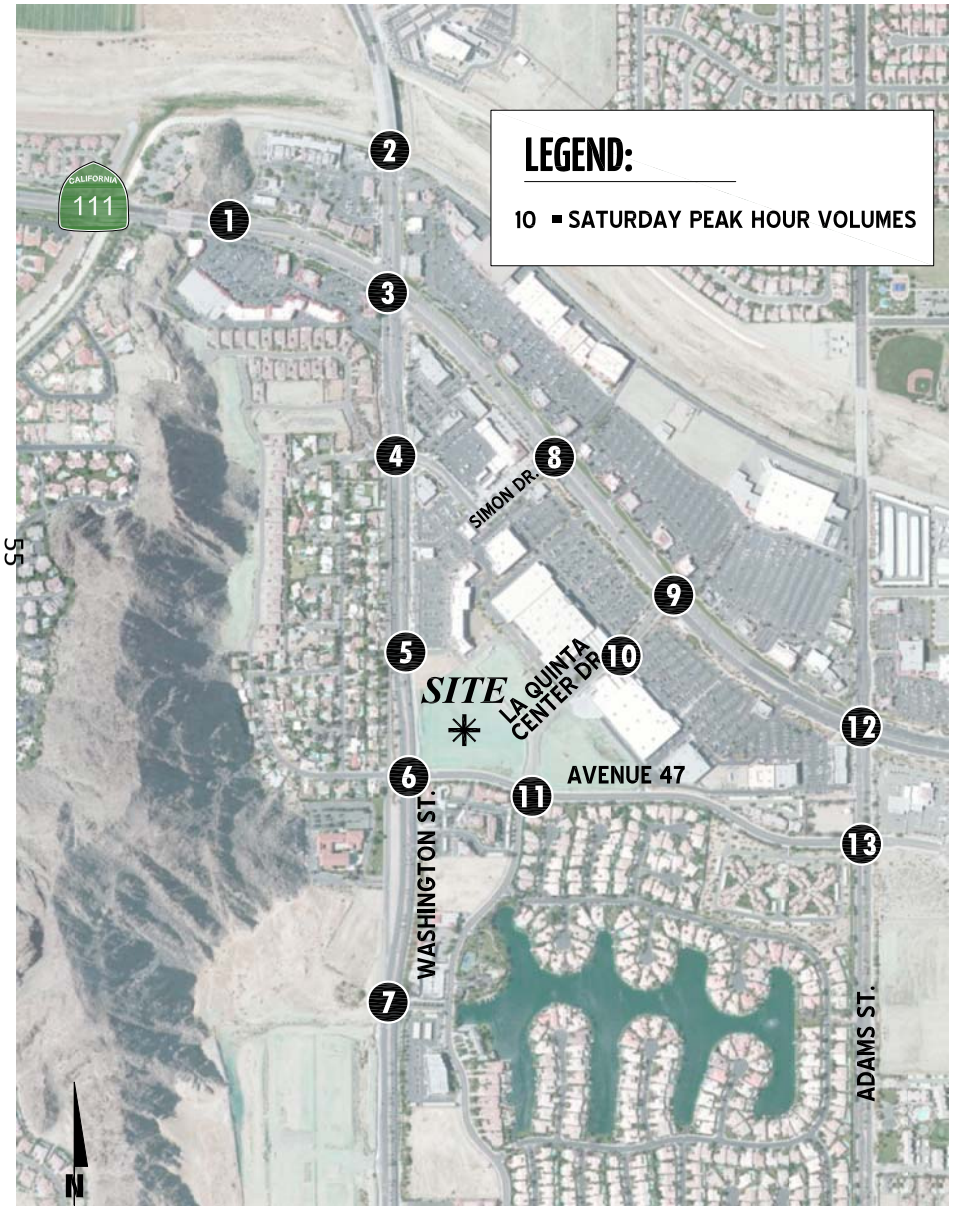
93(166)	122(208)	98(225)	142(108)
274(353)	941(1221)	550(1213)	429(316)
141(254)	64(125)	23(104)	44(57)

13 Adams St & Ave. 47/ Auto Center Dr.

48(67)	9(42)	52(79)	33(59)
299(503)	17(45)	10(36)	552(356)
7(52)	19(60)	13(69)	42(62)

URBAN CROSSROADS

EXHIBIT 6-7: OPENING YEAR CUMULATIVE (2015) WITH PROJECT SATURDAY PEAK HOUR VOLUMES



1 Plaza La Quinta/ Channel Dr. & Highway 111

56 → 19 → 52		← 36 ← 1189 ← 43
40 → 1186 → 58		← 63 ← 12 ← 45

2 Washington St. & Channel Dr.

102 → 1030 → 176		← 193 ← 13 ← 119
110 → 28 → 123		← 44 ← 1061 ← 13

3 Washington St. & Highway 111

79 → 668 → 526		← 389 ← 765 ← 216
164 → 753 → 275		← 610 ← 710 ← 108

4 Washington St. & Point Happy Wy./ Simon St.

27 → 1109 → 134		← 56 ← 6 ← 63
19 → 1 → 5		← 11 ← 1453 ← 75

5 Washington St. & Washington Park Plaza Dwy.

1125 → 52		← 36
1397 → 73		

6 Washington St. & Highland Palms Dr./ Ave. 47

20 → 1065 → 41		← 84 ← 22 ← 137
14 → 19 → 6		← 20 ← 1371 ← 158

7 Washington St. & Lake La Quinta Dr.

1226 → 74		← 18
1354 → 1		

8 Simon Dr. & Highway 111

24 → 26 → 170		← 84 ← 1252 ← 74
125 → 1353 → 44		← 86 ← 29 ← 110

9 La Quinta Center Dr. & Highway 111

83 → 65 → 62		← 132 ← 1141 ← 304
75 → 1344 → 219		← 217 ← 84 ← 242

10 La Quinta Center Dr. & Lowes/Target Driveway

171 → 245 → 172		← 158 ← 5 ← 72
158 → 5 → 72		← 53 ← 227 ← 54

11 La Quinta Center Dr. /Caleo Bay & Ave. 47

97 → 93 → 83		← 70 ← 65 ← 30
85 → 100 → 10		← 19 ← 56 ← 20

12 Adams St. & Highway 111

174 → 260 → 275		← 209 ← 1288 ← 147
249 → 1301 → 80		← 113 ← 215 ← 73

13 Adams St & Ave. 47/ Auto Center Dr.

70 → 340 → 55		← 50 ← 48 ← 57
90 → 895 → 81		← 79 ← 258 ← 69

URBAN CROSSROADS

EXHIBIT 6-8: SUMMARY OF LOS FOR OPENING YEAR CUMULATIVE (2015) WITHOUT PROJECT CONDITIONS

09228 - los.dwg

EXHIBIT 6-9: SUMMARY OF LOS FOR OPENING YEAR CUMULATIVE (2015) WITH PROJECT CONDITIONS

09228 - los.dwg

Table 6-3

Opening Year Cumulative (2015) Conditions Intersection Analysis

#	Intersection	Traffic Control[2]	OY Cumulative (2015) Without Project						OY Cumulative (2015) With Project						Acceptable LOS	Cumulative Impact[3]
			Delay [1] (secs.)			Level of Service			Delay [1] (secs.)			Level of Service				
			AM	PM	Sat	AM	PM	Sat	AM	PM	Sat	AM	PM	Sat		
1	Plaza La Quinta/Channel Dr. / Hwy. 111	TS	11.2	12.4	12.7	B	B	B	11.2	12.5	12.8	B	B	B	D	NO
2	Washington St. / Channel Dr.	TS	12.5	23.4	25.6	B	C	C	12.5	23.5	25.7	B	C	C	D	NO
3	Washington St. / Hwy. 111	TS	41.2	42.8	42.7	D	D	D	41.5	45.2	45.9	D	D	D	D	NO
4	Washington St. / Point Happy Wy./Simon St.	TS	6.7	15.7	17.9	A	B	B	6.7	15.8	18.0	A	B	B	D	NO
5	Washington St. / Washington Park Plaza Dwy.	CSS	12.9	11.3	11.2	B	B	B	13.0	11.5	11.4	B	B	B	E	NO
6	Washington St. / Highland Palms Dr./Ave. 47	TS	22.7	10.9	15.3	C	B	B	24.7	12.7	18.0	C	B	B	D	NO
	-Saturday Evening [4]	TS	--	--	30.8	--	--	C	--	--	40.1	--	--	D	D	NO
7	Washington St. / Lake La Quinta Dr.	CSS	**112.5**	23.5	24.0	**F**	C	C	**114.9**	25.5	26.1	**F**	D	D	E	NO
8	Simon Dr. / Hwy. 111	TS	5.7	12.9	14.5	A	B	B	5.7	13.0	14.5	A	B	B	D	NO
9	La Quinta Center Dr. / Hwy. 111	TS	13.2	18.7	25.9	B	B	C	16.2	30.7	45.6	B	C	D	D	NO
10	La Quinta Center Dr. / Lowes / Target Dwy.	AWS	7.6	9.7	11.8	A	A	B	8.0	17.5	32.6	A	C	D	D	NO
11	La Quinta Center Dr./Caleo Bay / Ave. 47	CSS	10.9	12.9	14.4	B	B	B	11.3	16.3	20.6	B	C	C	E	NO
12	Adams St. / Hwy. 111	TS	31.6	32.1	27.8	C	C	C	31.7	32.8	28.4	C	C	C	D	NO
13	Adams St. / Ave. 47/Auto Centre Dr.	TS	16.0	21.5	23.4	B	C	C	16.4	22.8	24.2	B	C	C	D	NO

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[2] CSS = Cross-street Stop; TS = Traffic Signal; AWS = All-way Stop

[3] A potentially significant cumulative traffic impact is defined to occur at any signalized intersection if the intersection is operating at LOS "E" and the project causes the delay to increase by 2 seconds or more. If the signalized intersection is operating at LOS "F", a potentially significant cumulative traffic impact is defined to occur if the project causes the delay to increase by 1 second or more. For cross-street stop controlled intersections, a potentially significant cumulative traffic impact is defined to occur if the intersection is operating at LOS "F" on the side street and the addition of project traffic results in an increase of 3 seconds or more of delay for any movement.

[4] Saturday evening evaluated at the intersection of Washington St. and Highland Palms Dr. / Avenue 47 to determine potential impacts due to the services at the adjacent St. Francis of Assisi Catholic Church.

The intersection operations analysis worksheets for Opening Year Cumulative Without and With Project traffic conditions are included in Appendices "6.3" and "6.4" of this TIA.

6.2.2 ROADWAY SEGMENT CAPACITY ANALYSIS

The roadway segment capacities are approximate figures only, and are typically used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet future forecasted traffic demand. Table 6-2 provides a summary of the Opening Year Cumulative Without and With Project traffic conditions roadway segment capacity analysis based on the City of La Quinta roadway segment capacity thresholds identified previously in Table 3-4. As shown on Table 6-4, all study roadway segments analyzed are anticipated to operate at acceptable LOS under Opening Year Cumulative Without Project traffic conditions. The addition of Project traffic is not anticipated to result in any roadway segment capacity deficiencies with the exception of La Quinta Center Drive between Highway 111 and Avenue 47, which is anticipated to operate at LOS "E".

As previously described in Section 3.8 *City of La Quinta Required Roadway Segment Level of Service*, a deficient roadway segment, as defined by a V/C evaluation, requires the analyst to assess peak hour operations of the adjacent intersections of a deficient roadway segment to determine if roadway widening is necessary to meet peak hour demands. As the adjacent study intersections of La Quinta Center Drive at Highway 111 and La Quinta Center Drive/Caleo Bay at Avenue 47 are anticipated to operate at an acceptable LOS during Opening Year Cumulative With Project peak hour traffic conditions, roadway widening is not necessary to address this deficiency.

6.2.3 TRAFFIC SIGNAL WARRANT ANALYSIS

The intersection of La Quinta Center Drive/Caleo Bay at Avenue 47 is not anticipated to warrant a traffic signal under Opening Year Cumulative Without and With Project traffic conditions (see Appendices "6.5" and "6.6").

6.3 RECOMMENDED IMPROVEMENTS

Although the analysis presented in this traffic study indicates that there are no Project or cumulative impacts to the study area intersections based on an assessment of the peak hour intersection operations, improvement strategies have been recommended at the following study area intersections to address potential sight distance or potential queuing issues. The effectiveness of the recommended improvement strategies discussed below is presented in Table 6-5.

Washington Street / Lake La Quinta Drive (#7)

- Pursuant to discussions with City staff, it is our understanding that there are currently plans to install a traffic signal within the next 12-18 months. Although the traffic signal is not necessary based on the intersection's peak hour operations reported for the purposes of this analysis, the intersection operations with the proposed signal is shown for informational purposes.

Table 6-4

Opening Year Cumulative (2015) Conditions
Roadway Segment Volume/Capacity Analysis

#	Roadway	Segment Limits	Roadway Section	LOS Capacity[1]	OYC (2015) Without Project	V/C	LOS	OYC (2015) With Project	V/C	LOS	Acceptable LOS	Potentially Significant Cumulative Traffic Impact[2]
1	Washington St.	North of Channel Dr.	6D	61,100	39,844	0.65	B	40,426	0.66	B	D	NO
2		Channel Dr. to Hwy. 111	6D	61,099	39,210	0.64	B	39,792	0.65	B	D	NO
3		Hwy. 111 to Simon Dr.	6D	61,100	40,902	0.67	B	41,144	0.67	B	D	NO
4		Simon Dr. to Washington Park Plaza Dwy.	6D	61,100	41,451	0.68	B	41,693	0.68	B	D	NO
5		Washington Park Plaza Dwy. to Highland Palms Dr./Ave. 47	6D	61,100	41,133	0.67	B	41,352	0.68	B	D	NO
6		Highland Palms Dr./Ave. 47 to Lake La Quinta Dr.	6D	61,100	41,220	0.67	B	41,995	0.69	B	D	NO
7		South of Lake La Quinta Dr.	6D	61,100	38,936	0.64	B	39,710	0.65	B	D	NO
8	La Quinta Center Dr.	Hwy. 111 to Ave. 47	2U	9,000	5,853	0.65	B	**8,801**	**0.98**	**E**	D	NO[3]
9	Caleo Bay	South of Ave. 47	2U	9,000	2,833	0.31	A	3,075	0.34	A	D	NO
10	Adams St.	North of Hwy. 111	4D	28,000	18,733	0.67	B	19,169	0.68	B	D	NO
11		Hwy. 111 to Ave. 47	4D	28,000	13,542	0.48	A	13,838	0.49	A	D	NO
12		South of Ave. 47	4D	28,000	13,875	0.50	A	14,069	0.50	A	D	NO
13	Hwy. 111	Plaza La Quinta/Channel Dr. to Washington St.	6D	61,100	34,975	0.57	A	35,895	0.59	A	D	NO
14		Washington St. to Simon Dr.	6D	61,100	33,777	0.55	A	35,037	0.57	A	D	NO
15		Simon Dr. to La Quinta Center Dr.	6D	61,100	35,988	0.59	A	37,248	0.61	B	D	NO
16		La Quinta Center Dr. to Adams St.	6D	61,100	37,231	0.61	B	38,677	0.63	B	D	NO
17		East of Adams St.	6D	61,100	37,098	0.61	B	38,406	0.63	B	D	NO
18	Simon Dr.	Washington St. to Hwy. 111	2U	9,000	3,946	0.44	A	3,946	0.44	A	D	NO
19	Ave. 47	Washington St. to La Quinta Center Dr./Caleo Bay	2U	9,000	3,411	0.38	A	4,113	0.46	A	D	NO
20		La Quinta Center Dr./Caleo Bay to Adams St.	2U	9,000	3,642	0.40	A	4,132	0.46	A	D	NO

BOLD = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

[1] These maximum roadway capacities have been extracted from the City of La Quinta Engineering Bulletin #06-13 (Revised April 7, 2014).
These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian and bicycle traffic.

[2] A potentially significant cumulative traffic impact is defined to occur on any road segment if the project would cause the existing LOS to fall to worse than LOS "D" for Opening Year (2015) With Project volumes. A potentially significant cumulative traffic impact is also defined to occur if the segment is projected to be operating at LOS "E" or LOS "F" with project traffic included and the V/C is increased by 0.02 or more by addition of project traffic.

[3] Although the ADT-based roadway segment analysis indicates a deficiency (unacceptable LOS "E" or worse), a review of more detailed peak hour intersection analysis found in Table 6-3 of this report found that the intersections on either side of the roadway segment are anticipated to operate at acceptable LOS. As such, no roadway widening is necessary to address this deficiency.

Table 6-5

Intersection Analysis With Improvements

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1]												Delay[2] (secs.)			Level of Service		
			Northbound			Southbound			Eastbound			Westbound								
			L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	Sat	AM	PM	Sat
7	Washington St. / Lake La Quinta Dr.																			
	- Existing Plus Project[4]	**TS**	U	3	1	1	3	0	0	0	0	0	0	1	2.7	1.7	2.0	A	A	A
	- 2015 With Project[4]	**TS**	U	3	1	1	3	0	0	0	0	0	0	1	2.6	1.6	2.0	A	A	A
9	La Quinta Center Dr. / Hwy. 111																			
	- Existing Plus Project[5]	TS	1	1	0	1	1	0	1	3	1	**2**	3	0	16.0	21.8	30.5	B	C	C
	- 2015 With Project[5]	TS	1	1	0	1	1	0	1	3	1	**2**	3	0	16.2	21.9	31.5	B	C	C
10	La Quinta Center Dr. / Lowes/Target Dwy.																			
	- Existing Plus Project[6]	AWS	0	1	d	**1**	1	0	0	1	0	0	1	0	8.0	16.0	25.8	A	C	D
	- 2015 With Project[6]	AWS	0	1	d	**1**	1	0	0	1	0	0	1	0	8.0	16.3	27.8	A	C	D
11	La Quinta Center Dr./Caleo Bay / Ave. 47																			
	- Existing Plus Project[7]	**AWS**	1	1	0	0	1	d	0	1	d	0	1	d	8.4	9.9	10.8	A	A	B
	- 2015 With Project[7]	**AWS**	1	1	0	0	1	d	0	1	d	0	1	d	8.4	9.9	10.9	A	A	B

[1] When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; **1** = Improvement

[2] Per the 2010 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all-way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

[3] TS = Traffic Signal; AWS = All-way Stop

[4] Pursuant to discussions with City staff, it is our understanding that there are currently plans to install a traffic signal within the next 12-18 months. Although the traffic signal is not necessary based on the intersection's peak hour operations reported for the purposes of this analysis, the intersection operations with the proposed signal is shown for informational purposes.

[5] Although not necessary based on the intersection's anticipated peak hour operations, dual westbound left turn lanes have been recommended to alleviate any potential queuing and can be accommodated by restriping the westbound approach.

[6] It is proposed that the southbound approach along La Quinta Center Drive from Highway 111 to the Lowes/Target Driveway be restriped to provide two lanes in order to accommodate receiving lanes for the proposed dual westbound left-turn lanes at the intersection of La Quinta Center Drive and Highway 111. The two southbound lanes will be restriped as a left-turn and shared through-right-turn lane at the Lowes/Target Driveway. It is anticipated that the two southbound approach lanes will provide additional storage in an effort to minimize potential spillback onto Highway 111.

[7] Due to the number of traffic collisions at the intersection of La Quinta Center Drive/Caleo Bay and Avenue 47, it is recommended that an all-way stop controlled intersection be implemented in an effort to improve existing safety concerns. In addition, the Project is also proposing to relocate the monument sign on the northwest corner and remove the existing temporary fencing to further improve visibility at the intersection of La Quinta Center Drive/Caleo Bay and Avenue 47.

La Quinta Center Drive / Highway 111 (#9)

- Although not necessary based on the intersection's anticipated peak hour operations, dual westbound left turn lanes have been recommended to alleviate any potential queuing and can be accommodated by restriping the westbound approach.

La Quinta Center Drive / Lowes/Target Driveway (#10)

- It is proposed that the southbound approach along La Quinta Center Drive from Highway 111 to the Lowes/Target Driveway be restriped to provide two lanes in order to accommodate receiving lanes for the proposed dual westbound left-turn lanes at the intersection of La Quinta Center Drive and Highway 111. The two southbound lanes will be restriped as a left-turn and shared through-right-turn lane at the Lowes/Target Driveway. It is anticipated that the two southbound approach lanes will provide additional storage in an effort to minimize potential spillback onto Highway 111.

La Quinta Center Drive/Caleo Bay / Avenue 47 (#11)

- In response to the number of traffic collisions and concerns of the local citizens, it is recommended that an all-way stop controlled intersection be implemented in an effort to improve existing safety concerns. In addition, the Project is also proposing to relocate the monument sign on the northwest corner and remove the existing temporary fencing to further improve visibility at the intersection of La Quinta Center Drive/Caleo Bay and Avenue 47.

Worksheets for HCM calculations, with improvements, are provided in Appendix "6.7".

7 SUMMARY AND RECOMMENDATIONS

7.1 PROJECT ACCESS

The Project is proposed to have access on Washington Street, Avenue 47, and Highway 111 via existing site access points. The existing Washington Park Plaza Driveway on Washington Street is a right-in/right-out/left-in access while the access point of La Quinta Center Drive/Caleo Bay on Avenue 47 is currently a full access cross-street stop controlled intersection. The Project is also anticipated to utilize La Quinta Center Drive to access Highway 111 to the north via an existing signalized intersection.

7.1.1 AUXILIARY LANE EVALUATION

Available storage capacity of existing auxiliary lanes at site access points at the intersections of Washington Street at Washington Park Plaza Driveway and La Quinta Center Drive at Highway 111 have been reviewed in accordance with the City of La Quinta's auxiliary lane criteria as outlined in the City's traffic study guidelines. (1)

As shown on Table 7-1, the existing southbound left-turn auxiliary lane at the site access point of Washington Street and Washington Park Plaza Driveway does not currently meet City of La Quinta criteria.

It should be noted that although the existing storage length for the westbound left turn lane at the intersection of La Quinta Center Drive at Highway 111 was found to be sufficient based on anticipated future volumes, the methodology utilized to calculate the required storage length may not reflect queues observed in the field during evening peak hour conditions. This is due to the fact that volume based calculations are based on count data that only count vehicles as they travel through an intersection (i.e., crossing the stop bar). As such, this methodology does not take into account vehicles that may not be able to travel through an intersection due to queuing.

Observations at this location indicate that the findings of Table 7-1 may be consistent during the weekday AM peak hour. However, queuing during the weekday PM peak hour and Saturday peak hour should be monitored and queuing needs be addressed at the City Traffic Engineer's discretion based on engineering judgment. It is our understanding that the northbound right-turn lane at the intersection of Washington Street at Washington Park Plaza Driveway and the eastbound right-turn lane at the intersection of La Quinta Center Drive at Highway 111 are currently not designed to meet the standards outlined in the City's traffic study guidelines. As such, improvements have been recommended to these turn lanes and are discussed subsequently in Section 7.4 *On-Site Circulation Recommendations* of this traffic study.

Table 7-1

Opening Year (2015) With Project Conditions Site Access Auxiliary Lane Analysis

Scenario	Movement	Storage Length	
Washington St. / Washington Park Plaza Dwy.			
Auxiliary Lane Storage Length Provided	NBR	155	**Acceptable?** [3]
AM Peak Hour Storage Length Required [1]		0	YES
PM Peak Hour Storage Length Required		0	YES
Saturday Peak Hour Storage Length Required		0	YES
Auxiliary Lane Storage Length Provided	SBL	240	**Acceptable?** [3]
AM Peak Hour Storage Length Required		100	YES
PM Peak Hour Storage Length Required		200	YES
Saturday Peak Hour Storage Length Required		250	NO
La Quinta Center Dr. / Hwy. 111			
Auxiliary Lane Storage Length Provided	EBR	185	**Acceptable?** [3]
AM Peak Hour Storage Length Required		100	YES
PM Peak Hour Storage Length Required		100	YES
Saturday Peak Hour Storage Length Required		100	YES
Auxiliary Lane Storage Length Provided	WBL	525	**Acceptable?** [3]
AM Peak Hour Storage Length Required		150	YES
PM Peak Hour Storage Length Required		450	YES
Saturday Peak Hour Storage Length Required		500	YES

Storage lengths are shown in feet.

[1] The required auxiliary lane storage lengths at site access points have been calculated per the criteria outlined in the City of La Quinta's Engineering Bulletin #06-13 (Revised April 7, 2014).

[2] Length is acceptable if the required storage length is less than or equal to the length provided.

7.2 PROJECT TRAFFIC

The Project is proposed to consist of the development of a 2,087 seat multiplex cinema and 27,373 square feet of commercial retail use. The proposed Project is currently one of two undeveloped tracts within the existing Washington Park Specific Plan. The Washington Park Specific Plan (SP1987-011, Amendment No. 4) was approved on May 8, 2003 by the City of La Quinta and consisted of a 508,000 sf shopping center.

The proposed Project is anticipated to generate a net total of approximately 4,842 trip-ends per day on a typical weekday with 151 vehicles per hour (VPH) during the weekday AM peak hour, 707 VPH during the weekday PM peak hour and 758 VPH during the Saturday peak hour.

7.3 POTENTIALLY SIGNIFICANT IMPACT ASSESSMENT RESULTS

Per the City of La Quinta's traffic study guidelines, both potentially significant Project and cumulative impacts must be identified in the report. The results of the potentially significant Project and cumulative impact assessment were presented previously on Tables 6-1 through 6-4 of this TIA. As shown on Tables 6-1 through 6-4, the development of the proposed Project is not anticipated to result in either a potentially significant Project impact or a potentially significant cumulative impact. However, in an effort to address potential queuing issues and existing sight distance concerns, improvements have been recommended at a number of study area intersections. These intersections were discussed previously in Section 6.3 *Recommended Improvements* of this traffic study and are shown on Table 6-5.

7.4 ON-SITE CIRCULATION RECOMMENDATIONS

7.4.1 SITE ACCESS IMPROVEMENTS

Improvements for the existing auxiliary lanes at the site access points have been recommended in order to comply with City of La Quinta standards and are described below. Exhibit 7-1 illustrates the auxiliary lane improvements. Storage lengths recommended for turn pockets are based on Opening Year Cumulative With Project volumes in conjunction with City criteria.

Washington Street / Washington Park Plaza Driveway – Modify the following auxiliary lanes to provide the following storage lengths:

Northbound Right-Turn Lane: Improve the existing pocket length of 155-feet to 250-feet with a transition taper of 150-feet to meet City standards for deceleration lanes.

Southbound Left-Turn Lane: Increase the storage length to a minimum of 250-feet.

La Quinta Center Drive / Highway 111 – Modify the following auxiliary lanes to provide the following storage lengths:

Eastbound Right-Turn Lane: Restripe the existing pocket length of 185-feet to 250-feet with a 150-foot transition taper to meet City standard for deceleration lanes.

EXHIBIT 7-1: SITE ACCESS IMPROVEMENT RECOMMENDATIONS

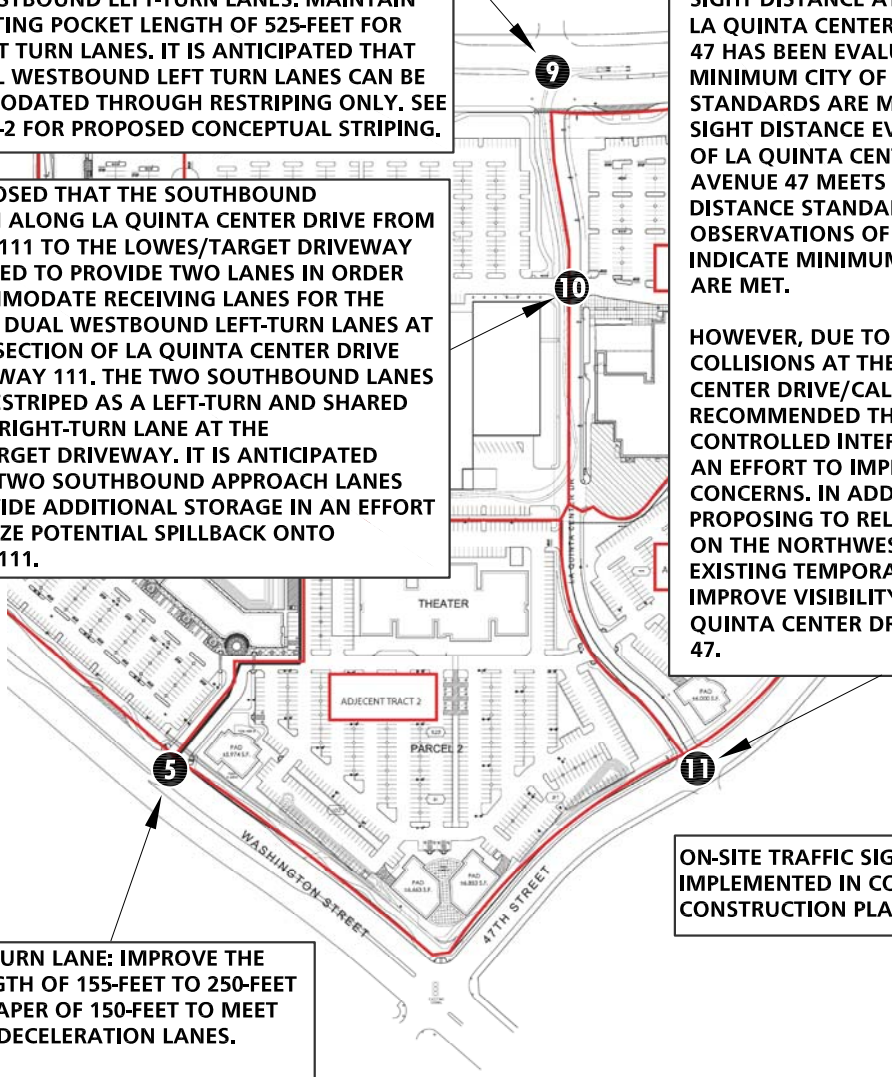
EASTBOUND RIGHT-TURN LANE: RESTRIPE THE EXISTING POCKET LENGTH OF 185-FEET TO 250-FEET WITH A TRANSITION TAPER OF 150-FEET TO MEET CITY STANDARDS FOR DECELERATION LANES.

DUAL WESTBOUND LEFT-TURN LANES: MAINTAIN THE EXISTING POCKET LENGTH OF 525-FEET FOR BOTH LEFT TURN LANES. IT IS ANTICIPATED THAT THE DUAL WESTBOUND LEFT TURN LANES CAN BE ACCOMMODATED THROUGH RESTRIPING ONLY. SEE EXHIBIT 7-2 FOR PROPOSED CONCEPTUAL STRIPING.

IT IS PROPOSED THAT THE SOUTHBOUND APPROACH ALONG LA QUINTA CENTER DRIVE FROM HIGHWAY 111 TO THE LOWES/TARGET DRIVEWAY BE RESTRIPED TO PROVIDE TWO LANES IN ORDER TO ACCOMMODATE RECEIVING LANES FOR THE PROPOSED DUAL WESTBOUND LEFT-TURN LANES AT THE INTERSECTION OF LA QUINTA CENTER DRIVE AND HIGHWAY 111. THE TWO SOUTHBOUND LANES WILL BE RESTRIPED AS A LEFT-TURN AND SHARED THROUGH-RIGHT-TURN LANE AT THE LOWES/TARGET DRIVEWAY. IT IS ANTICIPATED THAT THE TWO SOUTHBOUND APPROACH LANES WILL PROVIDE ADDITIONAL STORAGE IN AN EFFORT TO MINIMIZE POTENTIAL SPILLBACK ONTO HIGHWAY 111.

SIGHT DISTANCE AT THE PROJECT ACCESS POINT OF LA QUINTA CENTER DRIVE/CALEO BAY AT AVENUE 47 HAS BEEN EVALUATED TO DETERMINE IF THE MINIMUM CITY OF LA QUINTA SIGHT DISTANCE STANDARDS ARE MET. AS DEMONSTRATED IN THE SIGHT DISTANCE EVALUATION, THE INTERSECTION OF LA QUINTA CENTER DRIVE/CALEO BAY AT AVENUE 47 MEETS THE CITY'S MINIMUM SIGHT DISTANCE STANDARDS. IN ADDITION, FIELD OBSERVATIONS OF THE EXISTING DRIVEWAY ALSO INDICATE MINIMUM SIGHT DISTANCE STANDARDS ARE MET.

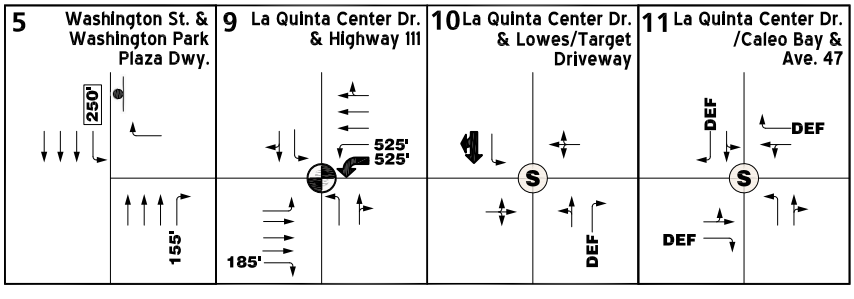
HOWEVER, DUE TO THE NUMBER OF TRAFFIC COLLISIONS AT THE INTERSECTION OF LA QUINTA CENTER DRIVE/CALEO BAY AND AVENUE 47, IT IS RECOMMENDED THAT AN ALL-WAY STOP CONTROLLED INTERSECTION BE IMPLEMENTED IN AN EFFORT TO IMPROVE EXISTING SAFETY CONCERNS. IN ADDITION , THE PROJECT IS ALSO PROPOSING TO RELOCATE THE MONUMENT SIGN ON THE NORTHWEST CORNER AND REMOVE THE EXISTING TEMPORARY FENCING TO FURTHER IMPROVE VISIBILITY AT THE INTERSECTION OF LA QUINTA CENTER DRIVE/CALEO BAY AND AVENUE 47.



ON-SITE TRAFFIC SIGNING AND STRIPING SHOULD BE IMPLEMENTED IN CONJUNCTION WITH DETAILED CONSTRUCTION PLANS FOR THE PROJECT SITE.

NORTHBOUND RIGHT-TURN LANE: IMPROVE THE EXISTING POCKET LENGTH OF 155-FEET TO 250-FEET WITH A TRANSITION TAPER OF 150-FEET TO MEET CITY STANDARDS FOR DECELERATION LANES.

SOUTHBOUND LEFT-TURN LANE: INCREASE THE STORAGE LENGTH TO A MINIMUM OF 250-FEET.



LEGEND:

- = TRAFFIC SIGNAL
- S = ALL WAY STOP
- = STOP SIGN
- = EXISTING LANE
- DEF = DEFACTO RIGHT TURN
- 525' = EXISTING TURN POCKET STORAGE LENGTH
- 250' = IMPROVED TURN POCKET STORAGE LENGTH

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URBAN CROSSROADS

Dual Westbound Left-Turn Lanes: Maintain the existing pocket length of 525-feet for both left turn lanes. It is anticipated that the dual westbound left-turn lanes can be accommodated through restriping only. See Exhibit 7-2 for the proposed conceptual striping for Highway 111.

La Quinta Center Drive / Lowes/Target Driveway – It is proposed that the southbound approach along La Quinta Center Drive from Highway 111 to the Lowes/Target Driveway be restriped to provide two lanes in order to accommodate receiving lanes for the proposed dual westbound left-turn lanes at the intersection of La Quinta Center Drive and Highway 111. The two southbound lanes will be restriped as a left-turn and shared through-right-turn lane at the Lowes/Target Driveway. It is anticipated that the two southbound approach lanes will provide additional storage in an effort to minimize potential spillback onto Highway 111.

La Quinta Center Drive/Caleo Bay / Avenue 47 – Sight distance at the Project access point of La Quinta Center Drive/Caleo Bay at Avenue 47 has been evaluated during a site visit made in preparation of this TIA. The existing sight distances have been reviewed and comply with City of La Quinta sight distance standards. (3) Further discussion detailing the sight distance assessment at La Quinta Center Drive/Caleo Bay at Avenue 47 can be found in *Section 7.5 Sight Distance* of this TIA. However, due to the number of traffic collisions at the intersection of La Quinta Center Drive/Caleo Bay and Avenue 47, it is recommended that an all-way stop controlled intersection be implemented in an effort to improve existing safety concerns. In addition, the Project is also proposing to relocate the monument sign on the northwest corner and remove the existing temporary fencing to further improve visibility at the intersection of La Quinta Center Drive/Caleo Bay and Avenue 47.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the Project site.

7.4.2 TRUCK ACCESS

The City of La Quinta's existing truck routes are illustrated on Exhibit 7-3. As shown on Exhibit 7-3, truck access to the Project site and the rest of the Washington Park Specific Plan is provided via Washington Street and Adams Street.

7.4.3 PEDESTRIAN AND ALTERNATIVE FACILITIES

Existing Facilities

The existing pedestrian facilities within the study area are shown on Exhibit 7-4. As shown on Exhibit 7-4, the Project site has existing pedestrian access to sidewalks along Washington Street and Avenue 47. In addition, study area currently includes Class II bikeways on Adams Street south of Highway 111.

Planned Facilities

The City of La Quinta General Plan Update Future Buildout Golf Cart/ neighborhood electric vehicle (NEV) Paths are shown on Exhibit 7-5. As shown on Exhibit 7-5, the Project site is anticipated to have access to future Class II golf cart/NEV paths along Avenue 47 and La Quinta Center Drive.

EXHIBIT 7-2: CONCEPTUAL STRIPING FOR HIGHWAY 111

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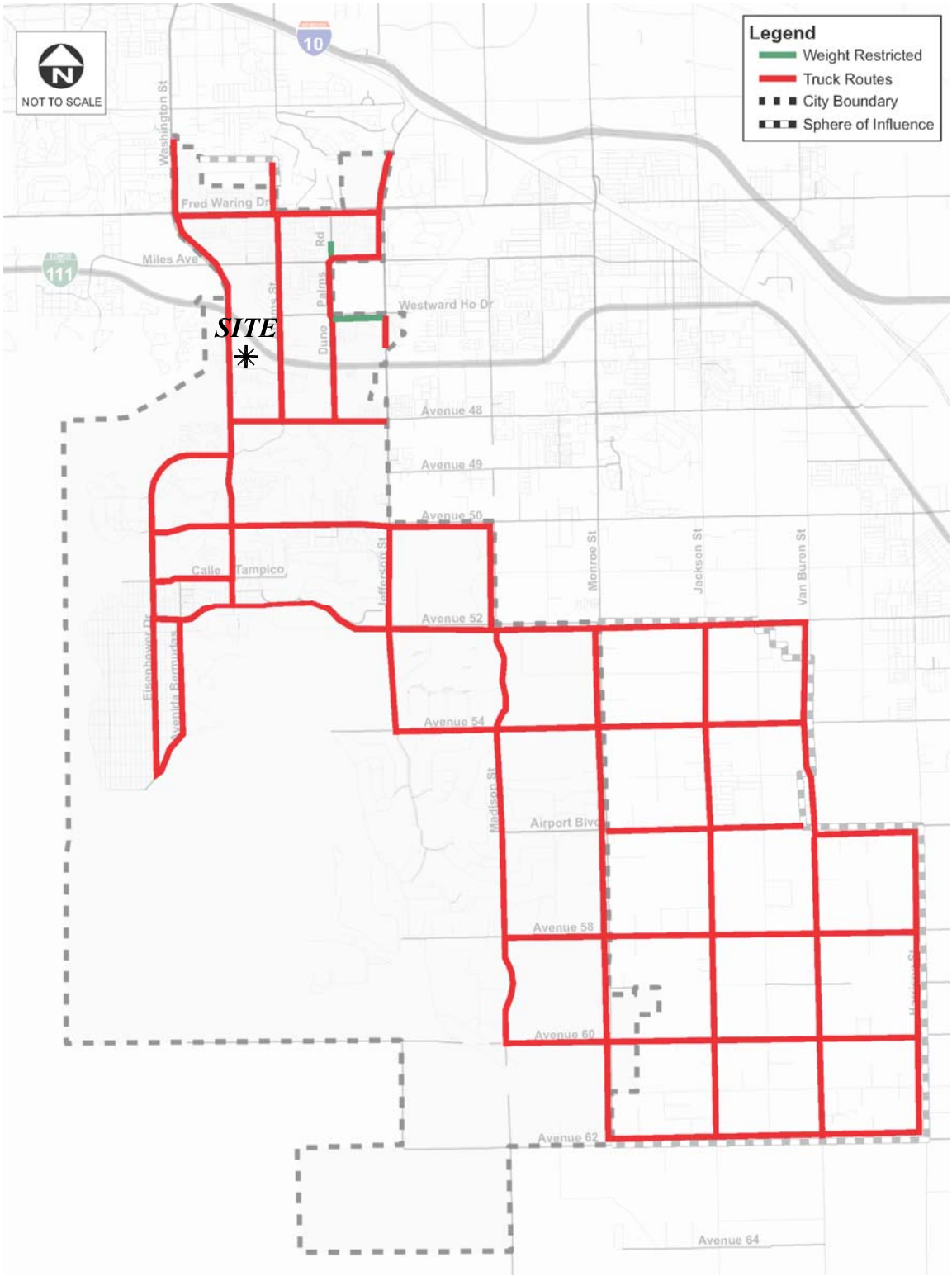
EXHIBIT 7-3: CITY OF LA QUINTA EXISTING TRUCK ROUTES



SOURCE: LA QUINTA GENERAL PLAN CIRCULATION ELEMENT UPDATE TRAFFIC IMPACT ANALYSIS (MAY14, 2012)

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EXHIBIT 7-4: EXISTING PEDESTRIAN FACITITIES

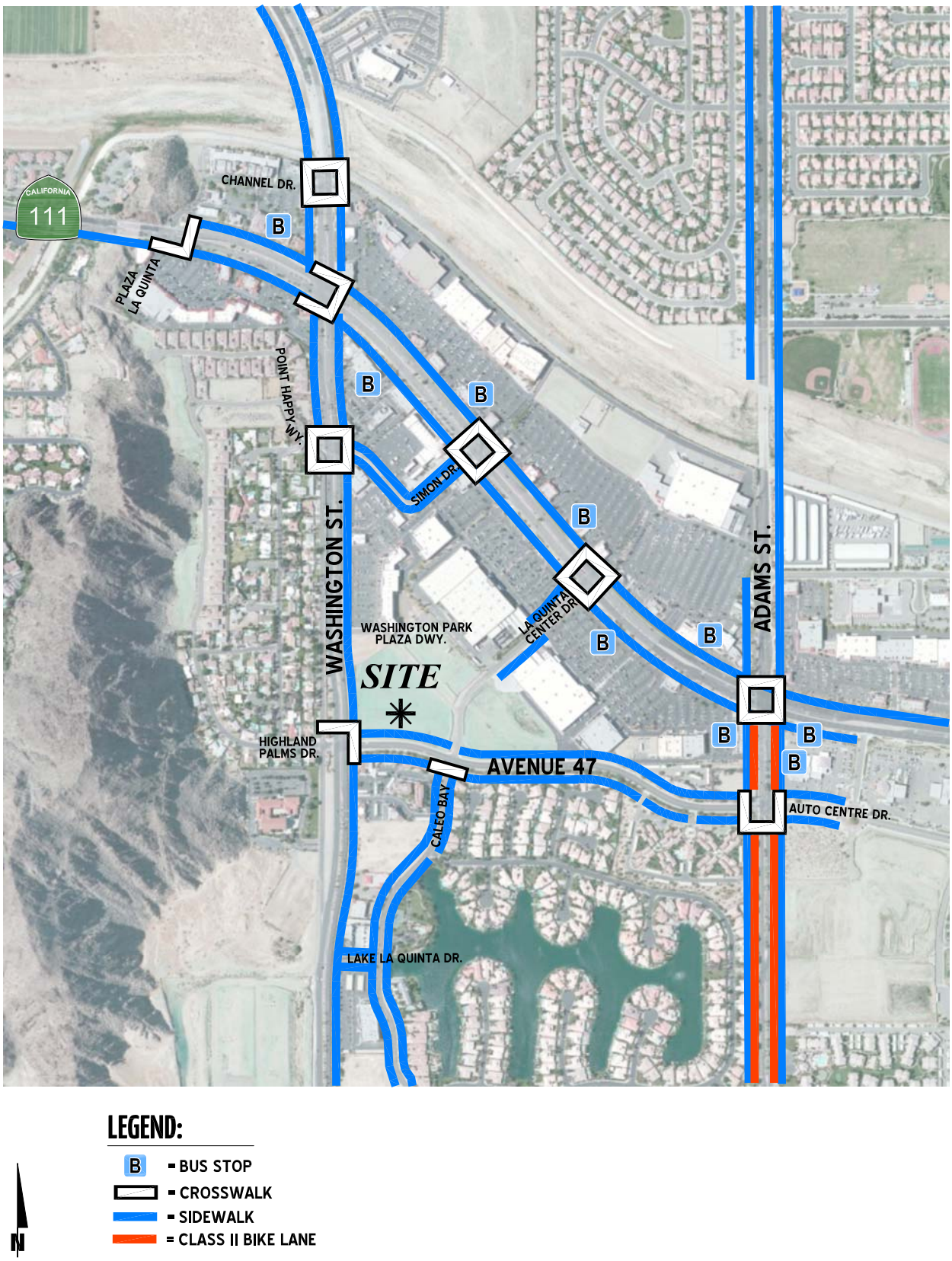
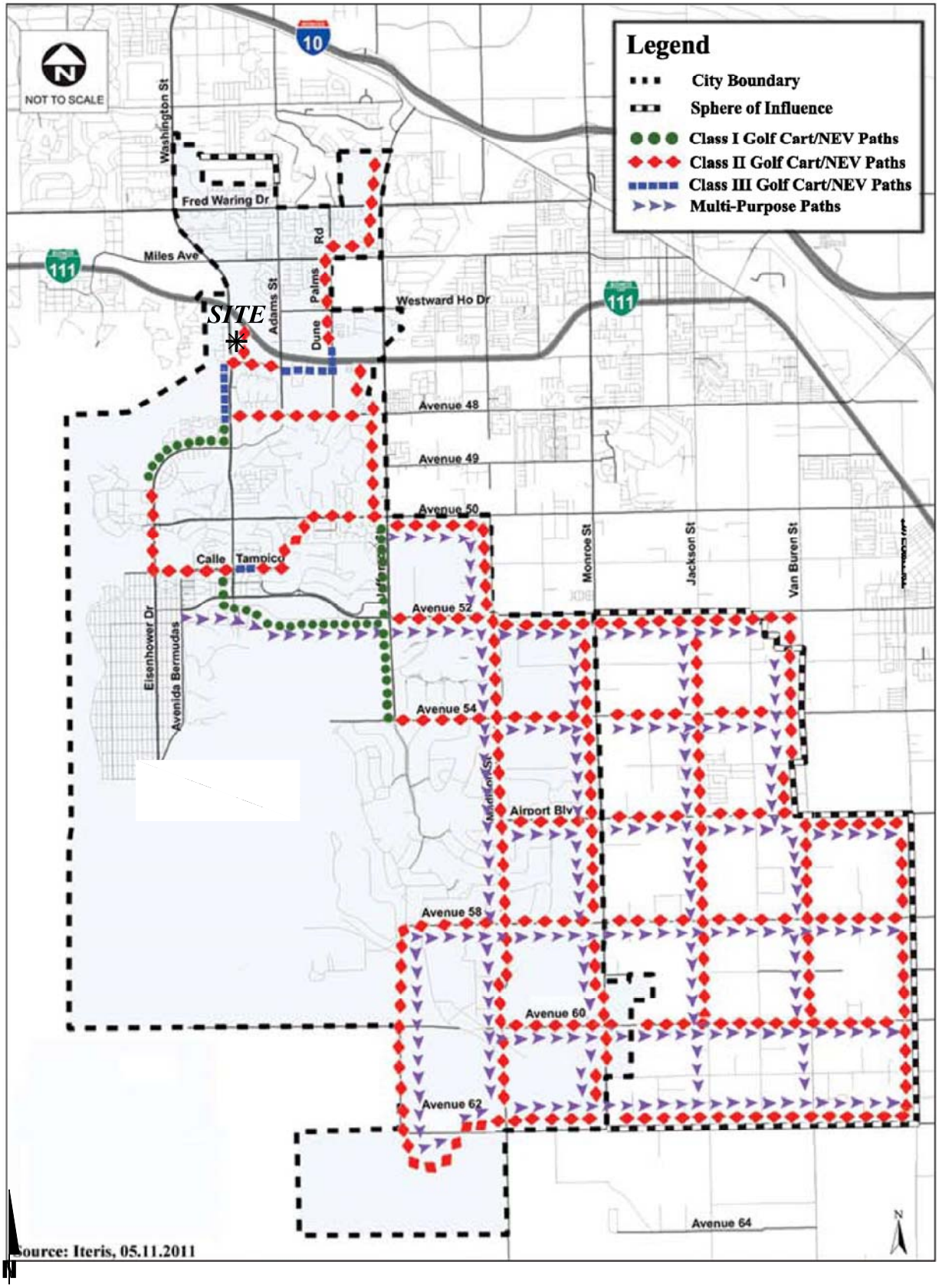


EXHIBIT 7-5: FUTURE BUILDOUT GOLF CART/NEV PATHS



7.5 SIGHT DISTANCE

In an effort to address concerns regarding sight distance due to the monument on the northwest corner of the Project site access point of La Quinta Center Drive/Caleo Bay at Avenue 47, a sight distance assessment has been conducted through a site visit and review of roadway plans.

At unsignalized intersections, intersection sight distance must provide a substantially clear line of sight between the driver of the vehicle waiting on the minor road (project driveways) and the driver of an approaching vehicle. The City of La Quinta's intersection sight distance guidelines (Engineering Bulletin #10-01, dated August 9, 2010) requires that a driver of the vehicle on a private driveway approach has sufficient corner sight distance for a safe departure from the stopped position assuming that the approaching vehicle comes into view as the stopped vehicle begins its departure. Similarly, the driver of the vehicle on the major street approaching a private driveway vehicle approach must have sufficient stopping sight distance to come to a stopped position if the driver of the vehicle on the private driveway approach begins its departure as the vehicle on the major road is approaching the intersection.

Per City of La Quinta guidelines, intersection sight distance calculations assume a driver eye height of 3 ½ feet to the top of an object 4 ¼ feet above the pavement. (3) In determining intersection sight distance, a set-back distance for the waiting vehicle on the minor road must be assumed. Set-back for the driver on the minor road shall be a minimum of 15 feet back from the edge of the traveled way (6 feet from the edge of the traveled way + 1 foot stop bar + 8 feet from front bumper to driver).

Adequate visibility for vehicular and pedestrian traffic can be provided at the project driveways by limiting sight obstructions within the limited use area. Any landscaping within the limited use area should not exceed thirty inches in height.

Avenue 47 has a posted speed limit of 40 miles per hour. Based on the City of La Quinta guidelines, the minimum stopping sight distance on a level roadway with a speed limit of 40 miles per hour is 300 feet with a minimum corner sight distance of 440 feet. Sight distance at the Project site access point of La Quinta Center Drive/Caleo Bay at Avenue 47 has been determined for the southbound direction.

The sight distance lines and limited use area are illustrated on Exhibit 7-6. The vertical sight distance for La Quinta Center Drive/Caleo Bay at Avenue 47 is shown on Exhibit 7-7. Exhibit 7-7 identifies the line of sight for the driver's eye height of 3 ½ feet and an object height of 4 ¼ feet. As shown on Exhibits 7-6 and 7-7, sight distance deficiencies are not anticipated at the Project access point of La Quinta Center Drive/Caleo Bay at Avenue 47.

As the intersection of La Quinta Center Drive/Caleo Bay at Avenue 47 exists today, the intersection was also evaluated in the field in an effort to confirm the findings discussed above. Field observations, using the specifications defined in the City of La Quinta's Engineering Bulletin #10-01 (3), indicate that the driveway has a sufficient line of sight. As such, the existing shopping center monument on the northwest corner does not appear to obstruct the existing line of sight for southbound turning vehicles.

EXHIBIT 7-6: HORIZONTAL SIGHT DISTANCE AT LA QUINTA CENTER DRIVE/CALEO BAY AT AVENUE 47

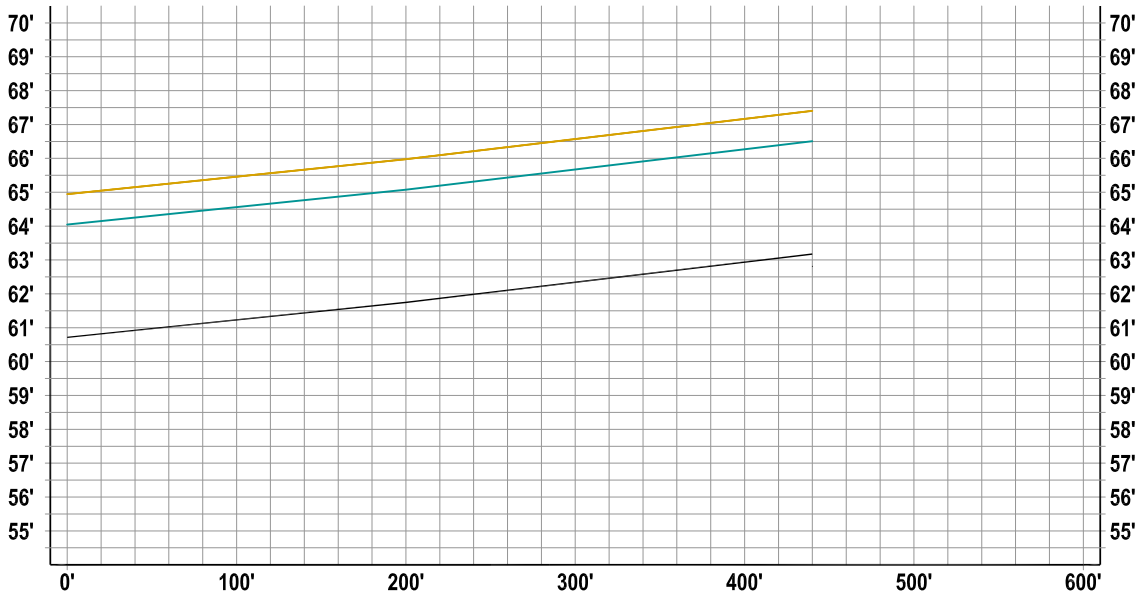
LEGEND:

= MINIMUM SIGHT DISTANCE LINES

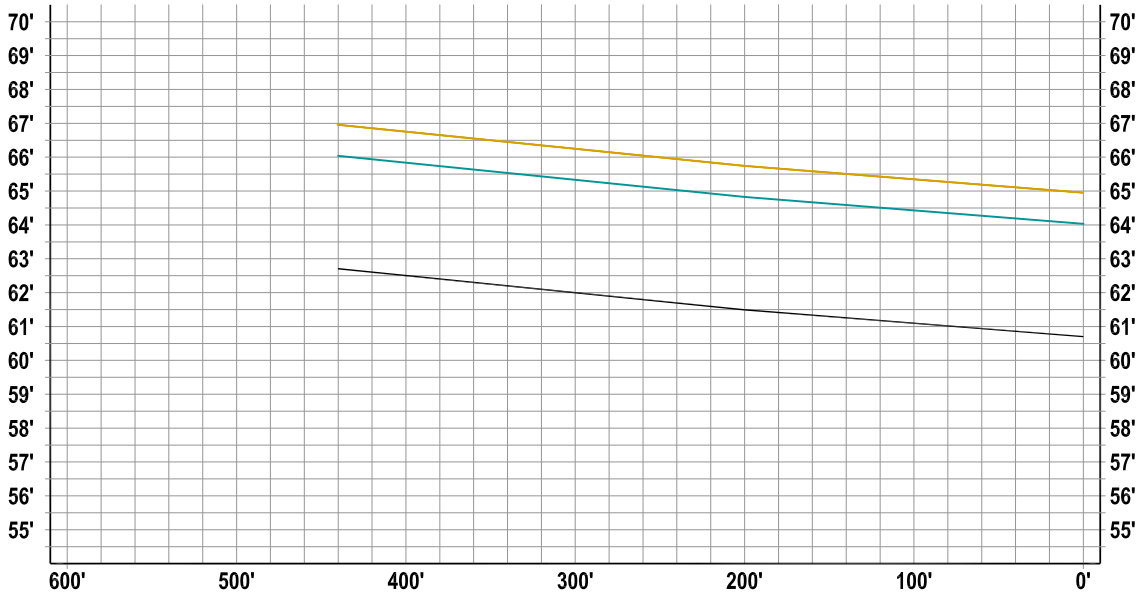
= LIMITED USE AREA

N

EXHIBIT 7-7: VERTICAL SIGHT DISTANCE AT LA QUINTA CENTER DRIVE/CALEO BAY AT AVENUE 47



VERTICAL PROFILE
EAST OF LA QUINTA CENTER DR/CALEO BAY



VERTICAL PROFILE
WEST OF LA QUINTA CENTER DR/CALEO BAY

LEGEND:

= ROADWAY
= DRIVER'S EYE HEIGHT (3'6")
= OBJECT HEIGHT (4'3")

N

In addition, the existing shopping center monument on the northwest corner of La Quinta Center Drive/Caleo Bay at Avenue 47 is anticipated to be replaced with a new monument and will be relocated to improve visibility at the intersection. The existing temporary fencing on the northwest corner of the intersection will be removed with the development of the proposed Project which will improve the existing line of sight for the Project access point at the intersection of La Quinta Center Drive/Caleo Bay at Avenue 47.

Notwithstanding the results of the sight distance assessment, an all-way stop controlled intersection is recommended to be implemented in an effort to improve existing safety concerns in response to the number of traffic collisions and concerns of the local citizens.

Additional notes and photographs of the site visit are included in Appendix "7.1" of this TIA.

7.6 PARKING

The proposed Project's parking supply meets the parking standards from the Washington Park Specific Plan (SP1987-011, Amendment No. 4), as approved on May 8, 2003 by the City of La Quinta.

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8 REFERENCES

1. **City of La Quinta.** *Engineering Bulletin #06-13.* s.l. : City of La Quinta, 2014.

2. **Institute of Transportation Engineers.** *Trip Generation.* 9th Edition. 2012.

3. **City of La Quinta.** *Engineering Bulletin #10-01 Intersection Sight Distance Guidelines.* s.l. : City of La Quinta Public Works/Engineering Department, 2010.

4. **Transportation Research Board.** *Highway Capacity Manual (HCM).* s.l. : National Academy of Sciences, 2000 and 2010.

5. **California Department of Transportation.** *Guide for the Preparation of Traffic Impact Studies.* December 2002.

6. **Federal Highway Administration.** Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD).* 2012.

7. **Iteris, Inc.** *City of La Quinta General Plan Circulation Element Update Traffic Impact Analysis.* La Quinta : Iteris, Inc. , 2012.

8. **Southern California Association of Governments.** *2012 Draft RTP Growth Forecast.* s.l. : Southern California Association of Governments, 2012.

9. **City of La Quinta.** *Resolution No. 2012-12: Fiscal Year 2012/2013 through 2016/2017 Capital Improvement Plan.* s.l. : City of La Quinta, 2012.

10. **KOA Corporation.** *CVAG Transportation Project Prioritization Study - 2010 Update.* Coachella Valley Association of Governments : s.n., 2010.

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