MEMORANDUM

To:	Mr. Tom Tomlinson Castle & Cooke Alberhill Ranch	Date:	October 14, 2015
From:	Keil D. Maberry, P.E. KDM Linscott, Law & Greenspan, Engineers	LLG Ref:	2.10.3129.2
Subject:	*Updated* Traffic Impact Analysis Supplemental Analysis Alberhill Villages Specific Plan TIA, Lake Elsinore		

The following is a summary of the Updated Supplemental Analysis to the Final Updated Alberhill Villages Specific Plan Traffic Impact Analysis (TIA) prepared by LLG (10.14.15). As coordinated with City Staff, the supplemental analysis addresses the following three focus areas as it relates to the original TIA:

- Land use and roadway network comparison of the currently approved Specific Plan included in the City's adopted General Plan and the proposed Specific Plan configuration.
- AM and PM peak hour roadway segment analysis for the eleven (11) key roadway segments that are forecast to operate unacceptable level of service LOS D or worse for the General Plan Buildout With Project Traffic Conditions, based on the daily V/C method of analysis and the LOS criteria indicated in the TIA.
- Roadway Infrastructure Phasing Plan for the proposed phased improvement/ development of area transportation facilities to address access and circulation needs and system capacity requirements.

Land Use and Roadway Network Comparison

Table 1, attached, presents the project development summary by planning area comparing the current General Plan with the proposed Specific Plan for the proposed Alberhill Villages Specific Plan (AVSP) development. In addition in support of *Table 1*, ***Figure 1*** presents the Current General Plan Land Use Planning Area Map for the AVSP area and ***Figure 2*** presents the Proposed Land Use Planning Area Map for the AVSP area.

As presented in *Table 1*, the development totals are essentially identical between the current General Plan and the proposed Specific Plan for AVSP with the differences consisting primarily of the relocation of schools, parks, residential densities, and commercial land uses from one planning area to another. The residential land use changes included converting approximately 90 single-family dwelling units and 80 condominium dwelling units to apartment dwelling units while the commercial and office land uses changes included converting 50,000 SF of commercial area to office area.

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Table 2A summarizes the forecast daily and peak hour Project traffic volumes on a "typical" weekday for the AVSP based on the current General Plan and ***Table 2B*** summarizes the forecast daily and peak hour Project traffic volumes on a "typical" weekday for the proposed AVSP consistent with the original TIA and provides a comparison with the current General Plan trip generation forecast for AVSP. As shown in *Table 2B*, the proposed AVSP is forecast to generate 7,774 fewer gross Daily trips (one half arriving and one half departing), with 206 fewer gross trips (-144 inbound, -62 outbound) produced in the AM peak hour and 940 fewer gross trips (-461 inbound, -479 outbound) produced in the PM peak hour. It should be noted that these are gross trips based on traffic volumes directly obtained from most current City of Lake Elsinore Traffic Model, which may not be exactly commensurate with ITE. Nonetheless, the comparison of the trips is relevant to the findings of this supplemental analysis.

Regarding the network comparison between the current General Plan and the proposed Specific Plan for AVSP as shown in *Figures 1* and *2*, the only network change consists of retaining the current alignment of Temescal Canyon Road and realigning Lincoln Street to connect at a right angle with Temescal Canyon Road. This improves the circulation network of the development by providing additional roadway network and significantly reducing the traffic volume along the “Street A” couplet.

As a result, the proposed Alberhill Villages Specific Plan consists of a lesser traffic generation compared to the current General Plan for AVSP with only a slightly different roadway network, which improves traffic circulation with the proposed AVSP development. The “No Project” analysis in the original TIA consists of the General Plan Buildout condition with proposed AVSP roadway network but without any AVSP land use development, which reflects the same land use program as the current General Plan and the proposed specific plan for AVSP.

Peak Hour Roadway Segment Analysis

As shown in Section 7.2.3 of the original TIA, eleven (11) of the thirty-two (32) key roadway segments are forecast to operate unacceptable level of service, LOS D or worse for the General Plan Buildout With Project (Proposed AVSP) Traffic Conditions, based on the daily V/C method of analysis and the LOS criteria mentioned in the TIA. Because the recommended roadway segment circulation improvements are consistent with the City of Lake Elsinore General Plan Update and the fact that the daily roadway capacities utilized in the report may not accurately reflect the performance of a particular roadway, an additional analysis step has been conducted in order to determine if the proposed AVSP Project actually creates a significant traffic impact on the roadway segment. This additional analysis step consists of a peak hour roadway segment capacity analysis based on the 2010 Highway Capacity Manual (HCM) Urban Streets methodology.

For roadway segments operating at adverse levels of service, peak hour operating conditions for the impacted study roadway segments have been investigated according to the Urban Street Segments methodology. Urban Street Segments is a methodology for evaluating the capacity and quality of service provided to road users traveling along an urban street segment. The Level of Service criteria and corresponding percentage of free-flow speed (PFFS) value range are shown in ***Table 3***.

Table 4 presents the General Plan Buildout Peak Hour Roadway Segment Analysis summary based on the HCM methodology described above. As presented in ***Table 4***, all eleven (11) key study roadway segments are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours. As a result, none of the key study roadway segments are significantly impacted by proposed AVSP Project and therefore no improvements are required.

Appendix A, attached, presents the HCM peak hour roadway segment LOS calculation worksheets for the eleven (11) key roadway segments.

Roadway Infrastructure Phasing Plan

Table 5 presents the AVSP Roadway Infrastructure Phasing Plan based on the AVSP Land Use and Phasing Plan as shown in the AVSP document. The AVSP Roadway Infrastructure Phasing will provide for the orderly development of roadway facilities as each phase and the various Planning Areas within each phase are built out. The Roadway circulation system as shown within AVSP is consistent with the City's 2011 General Plan Update Circulation Element and the AVSP General Plan Amendment.

The Roadway Infrastructure takes into account the AVSP Traffic Impact Analysis (TIA) report, which provides for a program-level analysis for the General Plan Buildout traffic condition consistent with the City's General Plan and identifies the recommended traffic improvements, accordingly, to achieve acceptable service levels (LOS) within the study area. For the purposes of determining the extent and timing of phased roadway infrastructure improvements, subsequent TIA's will be prepared to accompany any application requiring Discretionary action (i.e. Tentative Tract Map, Conditional Use Permit, etc.). The TIA will be prepared for the strict purpose of determining the "Nexus" Roadway Improvements required as a part of the respective application.

Utilizing the AVSP Land Use phasing exhibit, six (6) development phases are anticipated for the build- out of the AVSP project roadway infrastructure. Each of the Project phases and respective roadway infrastructure facilities are subject to change/modification based on project buildout criteria, economic cost-effectiveness, and market conditions. The projects will require a periodic updated TIA to determine the applicable "Nexus" Roadway Improvements for the applicable Subdivision and/or condition Use Permit (CUP) Conditions of Approval (COA). Conceptually, the proposed backbone AVSP Circulation Element roadway infrastructure facilities

within each of the phases are anticipated to include roadway improvements as determined in the periodic updated TIA's. Those roadway improvements will include but not be limited to the following roadway features: curb and gutter, AC pavement and base, median Island curbing and landscaping, parkway sidewalks and landscaping, street lights, sewer and water utility lines, main line storm drain and catch basin facilities, WQMP facilities, along with backbone dry utilities i.e. power, telephone, gas, and cable TV.

* * * * * * * * * * *

We appreciate the opportunity to provide this Alberhill Villages Specific Plan TIA Supplemental Analysis. Please call us at (949) 825-6175 if you have any questions regarding this analysis.

Attachments

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TABLE 1

PROJECT DEVELOPMENT SUMMARY BY PLANNING AREA

ALBERHILL VILLAGES GENERAL PLAN VERSUS SPECIFIC PLAN – LAKE ELSINORE, CA

Project Description / Land Use	Current General Plan Development Size	Proposed Specific Plan Development Size
Planning Area 1a		
▪ Planning Area 1a - Apartments	452 DU	451 DU
▪ Planning Area 1a - University	6,000 Students	6,000 Students
Planning Area 1b		
▪ Planning Area 1b - Condominiums	346 DU	346 DU
▪ Planning Area 1b - Commercial	650,000 SF	809,500 SF
▪ Planning Area 1b - Office	310,000 SF	220,000 SF
▪ Planning Area 1b - HOA Passive Park	0.7 Acre	
Planning Area 1c		
▪ Planning Area 1c - Apartments	1,000 DU	1,594 DU
▪ Planning Area 1c - Commercial	50,000 SF	
▪ Planning Area 1c - Office	330,000 SF	503,000 SF
Planning Area 2a		
▪ Planning Area 2a - Single Family Residence	651 DU	782 DU
▪ Planning Area 2a - Apartments	760 DU	350 DU
▪ Planning Area 2a - Church with School	600 Students	
▪ Planning Area 2a - City Passive Park	9.3 Acres	
Planning Area 2b		
▪ Planning Area 2b - Apartments	1,040 DU	1,026 DU
Planning Area 2c		
▪ Planning Area 2c - Single Family Residence	288 DU	287 DU
▪ Planning Area 2c - Active (Sports) Park	19.5 Acres	19.5 Acres
▪ Planning Area 2c - Elementary School	850 Students	850 Students
▪ Planning Area 2c - Church with School		600 Students
Planning Area 3a		
▪ Planning Area 3a - Single Family Residence	8 DU	8 DU
Planning Area 4a		
▪ Planning Area 4a - Single Family Residence	821 DU	795 DU
▪ Planning Area 4a - Apartments	888 DU	889 DU
▪ Planning Area 4a - City Passive Lake Park	21.3 Acres	21.3 Acres
▪ Planning Area 4a - HOA Passive Park	0.7 Acre	
Planning Area 4b		
▪ Planning Area 4b - Single Family Residence	397 DU	234 DU
▪ Planning Area 4b - Condominiums	498 DU	467 DU
▪ Planning Area 4b - City Passive Lake Park	15.5 Acres	

Notes:

- DU = Dwelling Units
- SF = Square-Feet

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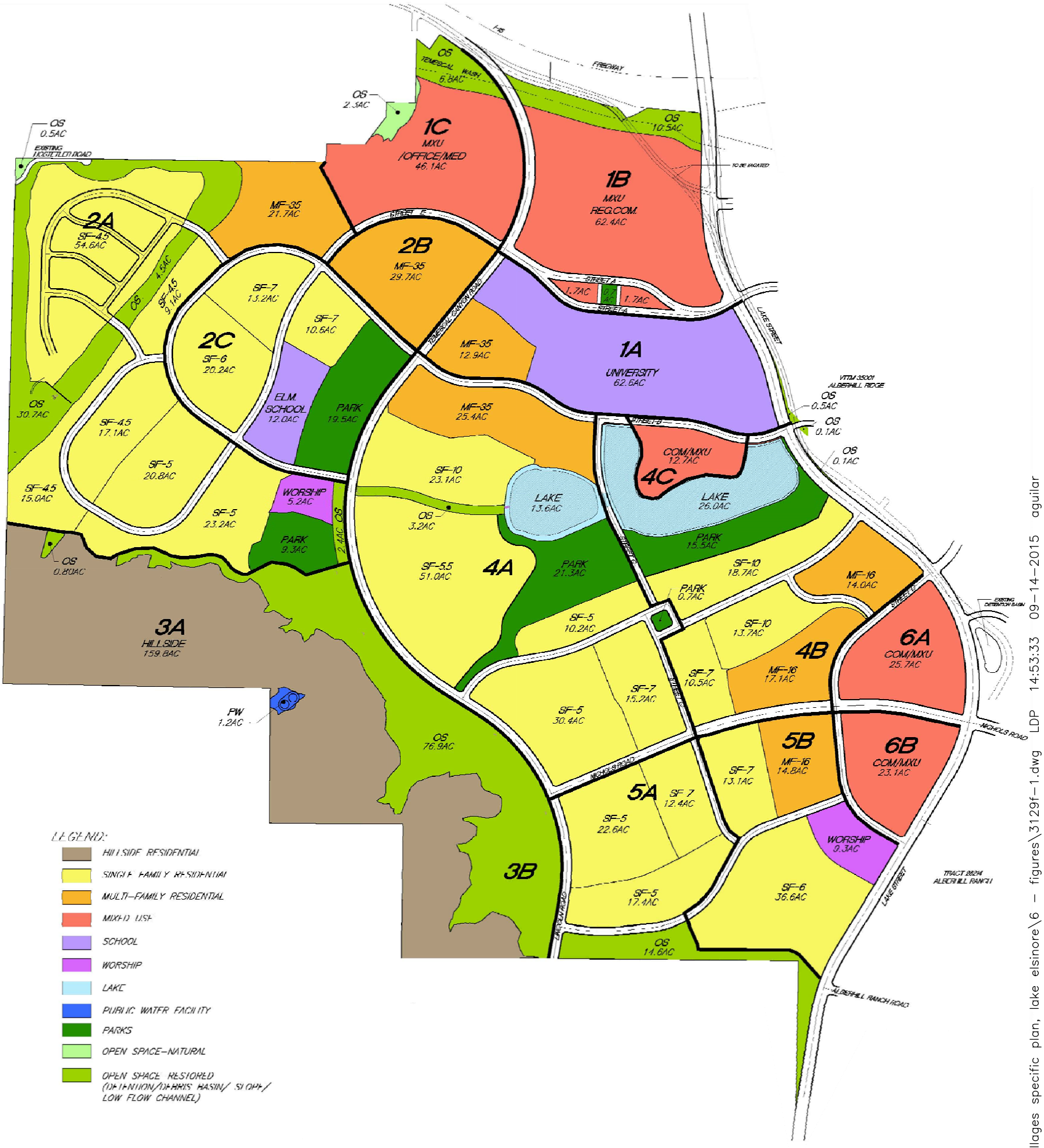
TABLE 1 (CONTINUED)
PROJECT DEVELOPMENT SUMMARY BY PLANNING AREA
GENERAL PLAN VERSUS SPECIFIC PLAN AMENDMENT

Project Description / Land Use	Current General Plan Development Size	Proposed Specific Plan Development Size
Planning Area 4c		
▪ Planning Area 4c – Single-Family Residence		190 DU
▪ Planning Area 4c - Apartments	60 DU	60 DU
▪ Planning Area 4c - Commercial	382,000 SF	382,000 SF
▪ Planning Area 4c - City Passive Lake Park		15.5 Acres
Planning Area 5a		
▪ Planning Area 5a - Single Family Residence	287 DU	287 DU
Planning Area 5b		
▪ Planning Area 5b - Single Family Residence	312 DU	92 DU
▪ Planning Area 5b - Condominiums	236 DU	237 DU
▪ Planning Area 5b - Church with School	600 Students	
▪ Planning Area 5b – Active (Sports) Park		45.9 Acres
Planning Area 6a		
▪ Planning Area 6a - Condominiums	100 DU	100 DU
▪ Planning Area 6a - Commercial	294,500 SF	294,500 SF
▪ Planning Area 6a - Office	98,000 SF	98,000 SF
Planning Area 6b		
▪ Planning Area 6b - Condominiums	100 DU	100 DU
▪ Planning Area 6b - Commercial	294,500 SF	135,000 SF
▪ Planning Area 6b - Office	98,000 SF	65,000 SF
▪ Planning Area 6b - Church with School		600 Students
Active Park Total:	***19.5 Acres***	***19.5 Acres***
Passive Park Total:	***47.5 Acres***	***36.8 Acres***
Apartments Total:	***4,200 DU***	***4,370 DU***
Condominiums Total:	***1,280 DU***	***1,200 DU***
Single Family Residence Total:	***2,764 DU***	***2,675 DU***
Residential Total:	***8,244 DU***	***8,245 DU***
Church with School Total:	***1,200 Students***	***1,200 Students***
Elementary School Total:	***850 Students***	***850 Students***
University Total:	***6,000 Students***	***6,000 Students***
Commercial Total:	***1,671,000 SF***	***1,621,000 SF***
Office Total:	***836,000 SF***	***886,000 SF***

Notes:

- DU = Dwelling Units
- SF = Square-Feet



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SOURCE: KWC ENGINEERS (MARCH 23, 2015)

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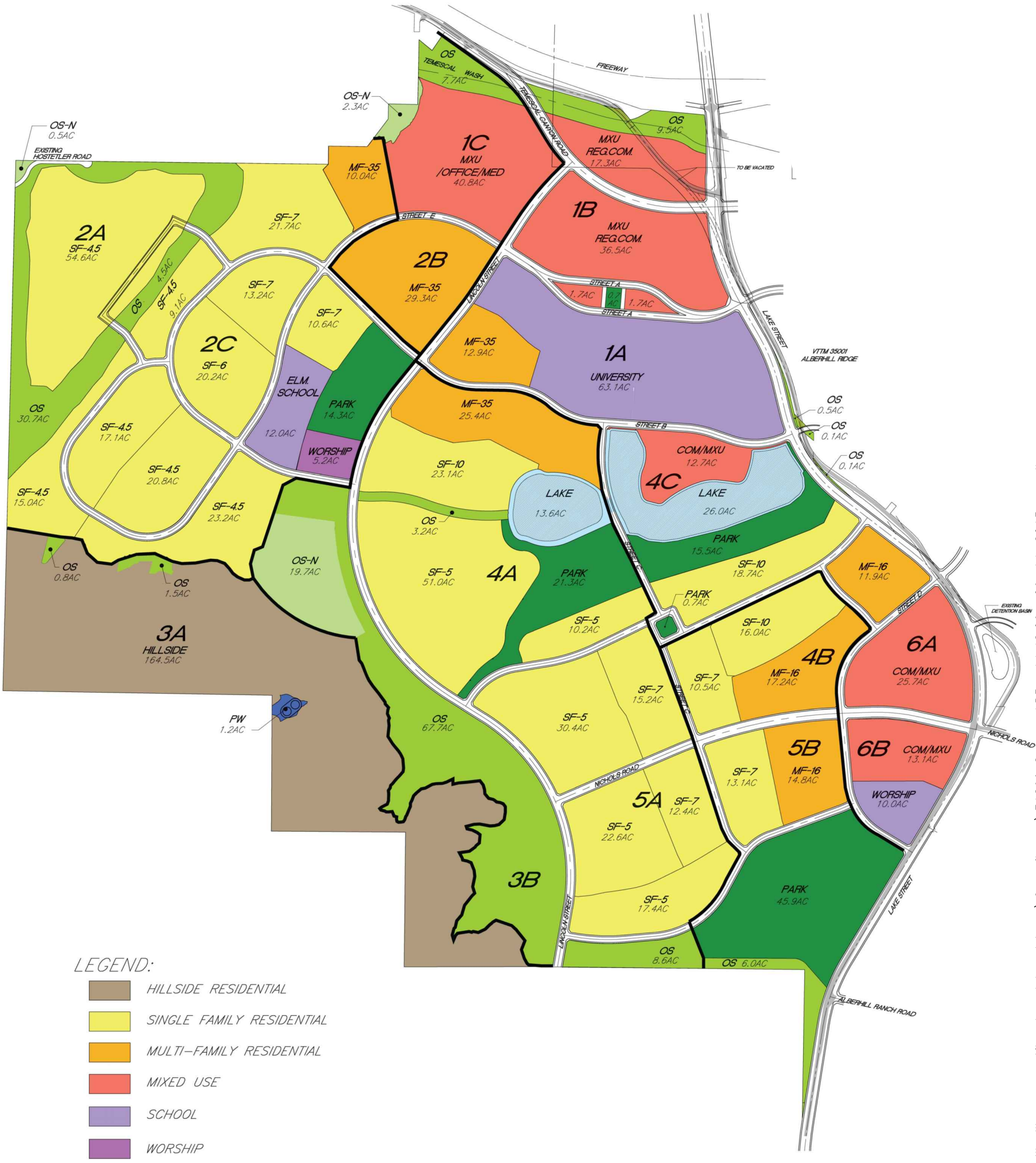
N NO SCALE

FIGURE 1

CURRENT GENERAL PLAN LAND USE PLANNING AREA MAP

ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE



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SOURCE: KWC ENGINEERS (MARCH 23, 2015)

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FIGURE 2

PROPOSED LAND USE PLANNING AREA MAP

ALBERHILL VILLAGES SPECIFIC PLAN, LAKE ELSINORE

TABLE 2A

CURRENT GENERAL PLAN PROJECT TRIP GENERATION FORECAST

ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project Trip Generation Forecast:							
▪ Planning Area 1a - Apartments (452 DU)	3,006	45	185	230	181	99	280
▪ Planning Area 1a - University (6,000 Students)	14,280	1,020	240	1,260	360	900	1,260
Planning Area 1a Total:	***17,286***	***1,065***	***425***	***1,490***	***541***	***999***	***1,540***
▪ Planning Area 1b - Condominiums (346 DU)	2,010	24	128	152	121	59	180
▪ Planning Area 1b - Commercial (650,000 SF)	22,926	283	181	464	1,092	1,137	2,229
▪ Planning Area 1b - Office (310,000 SF)	3,413	422	59	481	78	384	462
Planning Area 1b Total:	***28,349***	***729***	***368***	***1,097***	***1,291***	***1,580***	***2,871***
▪ Planning Area 1c - Apartments (1,000 DU)	6,650	100	410	510	400	220	620
▪ Planning Area 1c - Commercial (50,000 SF)	2,147	31	20	51	92	95	187
▪ Planning Area 1c - Office (330,000 SF)	3,633	449	63	512	83	409	492
Planning Area 1c Total:	***12,430***	***580***	***493***	***1,073***	***575***	***724***	***1,299***
▪ Planning Area 2a - Single Family Residence (651 DU)	6,230	124	365	489	417	241	658
▪ Planning Area 2a - Apartments (760 DU)	5,054	76	312	388	304	167	471
▪ Planning Area 2a - Church with School (600 Students)	1,488	294	192	486	42	60	102
▪ Planning Area 2a - City Passive Park (9.3 Acres)	15	1	0	1	0	1	1
Planning Area 2a Total:	***12,787***	***495***	***869***	***1,363***	***763***	***469***	***1,231***
▪ Planning Area 2b - Apartments (1,040 DU)	6,916	104	426	530	416	229	645
Planning Area 2b Total:	***6,916***	***104***	***426***	***530***	***416***	***229***	***645***
▪ Planning Area 2c - Single Family Residence (288 DU)	2,756	55	161	216	184	107	291
▪ Planning Area 2c - Active (Sports) Park (19.5 Acres)	31	1	0	1	1	4	5
▪ Planning Area 2c - Elementary School (850 Students)	1,097	213	170	383	60	68	128
Planning Area 2c Total:	***3,884***	***269***	***331***	***600***	***245***	***179***	***424***
▪ Planning Area 3a - Single Family Residence (8 DU)	77	2	4	6	5	3	8
Planning Area 3a Total:	***77***	***2***	***4***	***6***	***5***	***3***	***8***

Notes:

- TE/TSF = Trip ends per 1,000 square-feet of development
- SF = Square-feet of gross floor area

TABLE 2A (CONTINUED)
CURRENT GENERAL PLAN PROJECT TRAFFIC GENERATION FORECAST
ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project Trip Generation Forecast:							
▪ Planning Area 4a - Single Family Residence (821 DU)	7,857	156	460	616	525	304	829
▪ Planning Area 4a - Apartments (888 DU)	5,905	89	364	453	355	195	550
▪ Planning Area 4a - City Passive Lake Park (21.3 Acres)	34	1	0	1	1	3	4
Planning Area 4a Total:	***13,796***	***246***	***824***	***1,071***	***881***	***502***	***1,383***
▪ Planning Area 4b - Single Family Residence (397 DU)	3,799	75	222	297	254	147	401
▪ Planning Area 4b - Condominiums (498 DU)	2,893	35	184	219	174	85	259
▪ Planning Area 4b - City Passive Lake Park (15.5 Acres)	25	1	0	1	1	2	3
Planning Area 4b Total:	***6,717***	***111***	***406***	***517***	***429***	***234***	***663***
▪ Planning Area 4c - Apartments (60 DU)	399	6	25	31	24	13	37
▪ Planning Area 4c - Commercial (382,000 SF)	16,228	207	132	339	765	796	1,561
Planning Area 4c Total:	***16,627***	***213***	***157***	***370***	***789***	***809***	***1,598***
▪ Planning Area 5a - Single Family Residence (287 DU)	2,747	55	161	216	184	106	290
Planning Area 5a Total:	***2,747***	***55***	***161***	***216***	***184***	***106***	***290***
▪ Planning Area 5b - Single Family Residence (312 DU)	2,986	59	175	234	200	115	315
▪ Planning Area 5b - Condominiums (236 DU)	1,371	17	87	104	83	40	123
▪ Planning Area 5b - Church with School (600 Students)	1,488	294	192	486	42	60	102
Planning Area 5b Total:	***5,845***	***370***	***454***	***824***	***325***	***215***	***540***
▪ Planning Area 6a - Condominiums (100 DU)	581	7	37	44	35	17	52
▪ Planning Area 6a - Commercial (294,500 SF)	13,704	178	114	292	643	669	1,312
▪ Planning Area 6a - Office (98,000 SF)	1,079	133	19	152	25	122	147
Planning Area 6a Total:	***15,364***	***318***	***170***	***488***	***703***	***808***	***1,511***
▪ Planning Area 6b - Condominiums (100 DU)	581	7	37	44	35	17	52
▪ Planning Area 6b - Commercial (294,500 SF)	13,704	178	114	292	643	669	1,312
▪ Planning Area 6b - Office (98,000 SF)	1,079	133	19	152	25	122	147
Planning Area 6b Total:	***15,364***	***318***	***170***	***488***	***703***	***808***	***1,511***
Proposed Project Trip Generation Forecast	**158,189**	**4,875**	**5,258**	**10,133**	**7,850**	**7,665**	**15,515**

Notes:

- TE/TSF = Trip ends per 1,000 square-feet of development
- SF = Square-feet of gross floor area

TABLE 2B

PROJECT TRIP GENERATION FORECAST COMPARISON

ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project Trip Generation Forecast:							
▪ Planning Area 1a - Apartments (451 DU)	2,999	46	184	230	182	98	280
▪ Planning Area 1a - University (6,000 Students)	10,260	796	224	1,020	326	694	1,020
Planning Area 1a Total:	***13,259***	***842***	***408***	***1,250***	***508***	***792***	***1,300***
▪ Planning Area 1b - Condominiums (346 DU)	2,010	26	126	152	121	59	180
▪ Planning Area 1b - Commercial (809,500 SF)	26,441	346	212	558	1,167	1,265	2,432
▪ Planning Area 1b - Office (220,000 SF)	2,427	302	41	343	56	272	328
Planning Area 1b Total:	***30,878***	***674***	***379***	***1,053***	***1,344***	***1,596***	***2,940***
▪ Planning Area 1c - Apartments (1,594 DU)	10,600	163	650	813	642	346	988
▪ Planning Area 1c - Office (503,000 SF)	5,548	691	94	785	127	622	749
Planning Area 1c Total:	***16,148***	***854***	***744***	***1,598***	***769***	***968***	***1,737***
▪ Planning Area 2a - Single Family Residence (782 DU)	7,445	147	440	587	493	289	782
▪ Planning Area 2a - Apartments (350 DU)	2,328	36	143	179	141	76	217
Planning Area 2a Total:	***9,773***	***183***	***583***	***766***	***634***	***365***	***999***
▪ Planning Area 2b - Apartments (1,026 DU)	6,823	105	418	523	413	223	636
Planning Area 2b Total:	***6,823***	***105***	***418***	***523***	***413***	***223***	***636***
▪ Planning Area 2c - Single Family Residence (287 DU)	2,732	54	161	215	181	106	287
▪ Planning Area 2c - Active (Sports) Park (14.3 Acres)	27	1	0	1	1	3	4
▪ Planning Area 2c - Elementary School (850 Students)	1,097	211	172	383	63	65	128
▪ Planning Area 2c - Church with School (600 Students)	1,488	296	190	486	44	58	102
Planning Area 2c Total:	***5,344***	***562***	***523***	***1,085***	***289***	***232***	***521***
▪ Planning Area 3a - Single Family Residence (8 DU)	76	2	4	6	5	3	8
Planning Area 3a Total:	***76***	***2***	***4***	***6***	***5***	***3***	***8***
▪ Planning Area 4a - Single Family Residence (795 DU)	7,568	149	447	596	501	294	795
▪ Planning Area 4a - Apartments (889 DU)	5,912	91	362	453	358	193	551
▪ Planning Area 4a - City Passive Lake Park (21.3 Acres)	40	2	0	2	1	3	4
Planning Area 4a Total:	***13,520***	***242***	***809***	***1,051***	***860***	***490***	***1,350***

Notes:

- DU = Dwelling Unit
- SF = Square-feet of gross floor area

TABLE 2B (CONTINUED)
PROJECT TRAFFIC GENERATION FORECAST COMPARISON
ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project Trip Generation Forecast:							
▪ Planning Area 4b - Single Family Residence (234 DU)	2,228	44	132	176	147	87	234
▪ Planning Area 4b - Condominiums (467 DU)	2,713	35	170	205	163	80	243
Planning Area 4b Total:	***4,941***	***79***	***302***	***381***	***310***	***167***	***477***
▪ Planning Area 4c - Single Family Residence (190 DU)	1,809	36	107	143	120	70	190
▪ Planning Area 4c - Apartments (60 DU)	399	6	25	31	24	13	37
▪ Planning Area 4c - Commercial (382,000 SF)	16,228	219	134	353	706	765	1,471
▪ Planning Area 4c - City Passive Lake Park (15.5 Acres)	29	1	0	1	1	2	3
Planning Area 4c Total:	***18,465***	***262***	***266***	***528***	***851***	***850***	***1,701***
▪ Planning Area 5a - Single Family Residence (287 DU)	2,732	54	161	215	181	106	287
Planning Area 5a Total:	***2,732***	***54***	***161***	***215***	***181***	***106***	***287***
▪ Planning Area 5b - Single Family Residence (92 DU)	876	17	52	69	58	34	92
▪ Planning Area 5b - Condominiums (237 DU)	1,377	18	86	104	82	41	123
▪ Planning Area 5b - Active (Sports) Park (45.9 Acres)	87	3	1	4	3	10	13
Planning Area 5b Total:	***2,340***	***38***	***139***	***177***	***143***	***85***	***228***
▪ Planning Area 6a - Condominiums (100 DU)	581	7	37	44	35	17	52
▪ Planning Area 6a - Commercial (294,500 SF)	13,704	187	114	301	593	642	1,235
▪ Planning Area 6a - Office (98,000 SF)	1,081	135	18	153	25	121	146
Planning Area 6a Total:	***15,366***	***329***	***169***	***498***	***653***	***780***	***1,433***
▪ Planning Area 6b - Condominiums (50 DU)	291	4	18	22	17	9	26
▪ Planning Area 6b - Commercial (135,000 SF)	8,254	116	71	187	352	381	733
▪ Planning Area 6b - Office (65,000 SF)	717	89	12	101	16	81	97
▪ Planning Area 6b - Church with School (600 Students)	1,488	296	190	486	44	58	102
Planning Area 6b Total:	***10,750***	***505***	***291***	***796***	***429***	***529***	***958***
Alberhill Villages Specific Plan Trip Generation Forecast	**150,415**	**4,731**	**5,196**	**9,927**	**7,389**	**7,186**	**14,575**
Current General Plan Trip Generation Forecast	**158,189**	**4,875**	**5,258**	**10,133**	**7,850**	**7,665**	**15,515**
Net Alberhill Villages Specific Plan Trip Generation Forecast	**(7,774)**	**(144)**	**(62)**	**(206)**	**(461)**	**(479)**	**(940)**

Notes:

- DU = Dwelling Unit
- SF = Square-feet of gross floor area

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TABLE 3

LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS (PFFS METHODOLOGY) [1]

ALBERHILL VILLAGES SPECIFIC PLAN - LAKE ELSINORE, CA

Level of Service (LOS)	Percentage of Free-Flow Speed	Level of Service Description
A	≥ 85.0%	**LOS A** describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at the boundary intersection is minimal. The travel speed exceeds 85% of the base free-flow speed, and the volume-to-capacity is no greater than 1.0.
B	≥ 67.0% – 85.0%	**LOS B** describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted, and control delay at the boundary intersection is not significant. The travel speed is between 67% and 85% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.
C	≥ 50.0% – 67.0%	**LOS C** describes stable operation. The ability to maneuver and change lanes at midsegment locations may be more restricted than at LOS B. Longer queues at the boundary intersection may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.
D	≥ 40.0% – 50.0%	**LOS D** indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersection. The travel speed is between 40% and 50% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.
E	≥ 30.0% – 40.0%	**LOS E** is characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersection. The travel speed is between 30% and 40% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.
F	≤ 30.0%	**LOS F** is characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersection, as indicated by high delay and extensive queuing. The travel speed is 30% or less of the base free-flow speed, or the volume-to-capacity ratio is greater than 1.0.

[1] Source: *Highway Capacity Manual 2010,* Chapter 17 (Urban Street Segments).

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TABLE 4

GENERAL PLAN BUILDOUT PEAK HOUR ROADWAY SEGMENT ANALYSIS SUMMARY

ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Key Roadway Segment	Type of Arterial (HCM Type)	Time Period	(1) Lanes	(2) Approach	(3) Traffic Conditions: Percent Free-Flow Speed	(3) Traffic Conditions: LOS
1. Temescal Canyon Road, *between* Horsethief Canyon Road and I-15 Freeway	Arterial (Multi-Lane)	AM	6	Eastbound	88.16	A
				Westbound	93.34	A
		PM	6	Eastbound	82.54	B
				Westbound	92.62	A
3. Lake Street, *between* Temescal Canyon Road/A Street and Nichols Road	Arterial (Multi-Lane)	AM	6	Northbound	70.25	B
				Southbound	78.27	B
		PM	6	Northbound	63.63	C
				Southbound	73.87	B
9. Nichols Road, *between* Lake Street and Alberhill Ranch Road	Urban Arterial (Multi-Lane)	AM	6	Eastbound	70.17	B
				Westbound	63.63	C
		PM	6	Eastbound	60.77	C
				Westbound	60.48	C

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TABLE 4 (CONTINUED)
GENERAL PLAN BUILDOUT PEAK HOUR ROADWAY SEGMENT ANALYSIS SUMMARY
ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Key Roadway Segment		Type of Arterial (HCM Type)	Time Period	(1) Lanes	(2) Approach	(3) Traffic Conditions	
						Percent Free-Flow Speed	LOS
10.	Nichols Road, *between* Alberhill Ranch Road and Terra Cotta Road	Urban Arterial (Multi-Lane)	AM	6	Eastbound	74.06	B
					Westbound	69.53	B
			PM	6	Eastbound	73.96	B
					Westbound	72.31	B
11.	Nichols Road, *between* Terra Cotta Road and Collier Avenue	Urban Arterial (Multi-Lane)	AM	6	Eastbound	69.09	B
					Westbound	89.96	A
			PM	6	Eastbound	69.56	B
					Westbound	87.16	A
12.	Lake Street, *between* A Street and B Street	Urban Arterial (Multi-Lane)	AM	6	Northbound	71.55	B
					Southbound	68.05	B
			PM	6	Northbound	63.18	C
					Southbound	51.08	C

TABLE 4 (CONTINUED)
GENERAL PLAN BUILDOUT PEAK HOUR ROADWAY SEGMENT ANALYSIS SUMMARY
ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Key Roadway Segment		Type of Arterial (HCM Type)	Time Period	(1) Lanes	(2) Approach	(3) Traffic Conditions	
						Percent Free-Flow Speed	LOS
13.	Lake Street, *between* D Street (North) and Nichols Road	Urban Arterial (Multi-Lane)	AM	6	Northbound	52.43	C
					Southbound	66.32	C
			PM	6	Northbound	52.94	C
					Southbound	68.57	B
15.	Lincoln Street, *between* Temescal Canyon Road and A Street/E Street	Major (Multi-Lane)	AM	4	Northbound	50.59	C
					Southbound	76.05	B
			PM	4	Northbound	50.16	C
					Southbound	77.98	B
20.	E Street, *between* F Street and Lincoln Street	Divided Collector (Two-Lane)	AM	2	Eastbound	65.50	C
					Westbound	50.49	C
			PM	2	Eastbound	59.00	C
					Westbound	59.58	C

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TABLE 4 (CONTINUED)
GENERAL PLAN BUILDOUT PEAK HOUR ROADWAY SEGMENT ANALYSIS SUMMARY
ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Key Roadway Segment		Type of Arterial (HCM Type)	Time Period	(1) Lanes	(2) Approach	(3) Traffic Conditions	
						Percent Free-Flow Speed	LOS
26.	C Street, *between* B Street and Nichols Road	Divided Collector (Two-Lane)	AM	2	Northbound	87.64	A
					Southbound	94.00	A
			PM	2	Northbound	78.87	B
					Southbound	91.63	A
29.	Nichols Road, *between* D Street and Lake Street	Modified Major (Multi-Lane)	AM	4	Eastbound	40.67	D
					Westbound	67.86	B
			PM	4	Eastbound	40.99	D
					Westbound	63.55	C

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TABLE 5

ROADWAY INFRASTRUCTURE PHASING PLAN

ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

Segments	Limits	# of Lanes			Notes
		NB or WB	SB or EB	Raised Median	
PHASE 1					
Temescal Canyon Road	Transition area west of Temescal Creek Bridge to Lake Street	3	3	14’	C&C to buildout 4 lanes subsequent to City’s Temescal Creek Bridge relocation project
Lake Street	I-15 Freeway to Temescal Canyon Road	4	4	Varies 14→26’	Including Temescal Creek Bridge widening
Lake Street	Temescal Canyon Road to South Project Boundary	2	3	14’	
Lincoln Street	Temescal Canyon Road to Street B	2	2	14’	
Street A	Lincoln Street to Lake Street	2	2	14’	Couplet area
Street B	Lincoln Street to Lake Street	1	1	14’	
Street C	Street B to local collector street	1	1	14’	
Local collector	Street C to Lake Street	1	1	-	
Local collector	local collector to Street D	1	1	-	
Street D (North)	Nichols Road to Lake Street	1	1	14’	
Street D (South)	Nichols Road to Lake Street	1	1	14’	
Nichols Road	Street D to Lake Street	2	2	Up to 28’	
PHASE 2					
Nichols Road	Street C to Street D	2	2	14’	
Local collector	Phase 2 westerly boundary to Lake Street	1	1	-	
Street C	North Local collector to South Local Collector	1	1	-	
PHASE 3					
Lincoln Street	Street B to southerly Project Boundary	2	2	14’	
Local Collector	Lincoln Street to Street C	1	1	-	
Nichols Road	Lincoln Street to Street C	2	2	14’	
Local Collector	Lincoln Street to Phase 3 Easterly boundary	1	1	-	
PHASE 4					
Street B Loop Road	Tie-in at both ends at Lincoln Street	1	1	14’	
Street E	Street B (Southerly Loop) to Phase 4 northerly boundary	1	1	14’	
Street E Loop Road	Tie-in at both ends to Street	1	1	14’	

TABLE 5 (CONTINUED)

ROADWAY INFRASTRUCTURE PHASING PLAN

ALBERHILL VILLAGES SPECIFIC PLAN – LAKE ELSINORE, CA

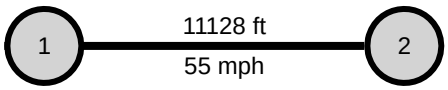
Segments	Limits	# of Lanes			Notes
		NB or WB	SB or EB	Raised Median	
	B Loop				
Miscellaneous Collector Roads		1	1	-	
PHASE 5					
Local Roads only to service Estate Lots		1	1	-	
PHASE 6					
Temescal Canyon Road	West project boundary to transition area west of Temescal Canyon Bridge	3	3	TBD	Transition area from 6 lanes to 2 lanes
Street E	Phase 6 westerly boundary to Lincoln Street	1	1	14’	

APPENDIX A

HCS 2010 URBAN STREET SEGMENT LEVEL OF SERVICE CALCULATION WORKSHEETS

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	2
Analyst		Analysis Date	9/30/2015	Number of Segments	1
Jurisdiction		Time Period		Number of Iterations	15
File Name	AM (1).xus	Analysis Year	2015	System Cycle Length, s	120
Intersections	1. Horsethief Canyon Road at Te	27. Lincoln Street at Temescal Canyon R		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	55	2	2	11128	11128	50	50	0	0	70	70	0.0	0.0

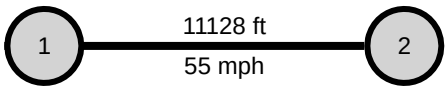
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement		2	12	1	6	
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph		51.12			51.12	
1	Running Time, s		152.11			153.92	
1	Running Speed, mph		49.88			49.29	
1	Through Delay, s/veh		16.24			5.09	
1	Travel Time, s		168.35			159.01	
1	Travel Speed, mph		45.07			47.72	
1	Stop Rate, stops/veh		0.48			0.17	
1	Spatial Stop Rate, stops/mi		0.23			0.08	
1	Through vol/cap Ratio		0.31			0.40	
1	Percent of Base FFS		88.16			93.34	
1	Level of Service		A			A	
1	Auto Traveler Perception Score		2.38			2.15	
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.03		D	3.98		D
1	Bicycle Segment LOS Score / LOS	3.51		D	3.56		D
1	Transit Segment LOS Score / LOS	0.44		A	0.40		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	168.35	159.01
Facility Travel Speed, mph	45.07	47.72
Facility Base Free Flow Speed, mph	51.12	51.12
Facility Percent of Base FFS	88.16	93.34
Facility Level of Service	A	A
Facility Auto Traveler Perception Score	2.38	2.15

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.03	D	3.98	D
Bicycle Facility LOS Score / LOS	3.51	D	3.56	D
Transit Facility LOS Score / LOS	0.44	A	0.40	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency				Number of Intersections	2
Analyst		Analysis Date	9/30/2015	Number of Segments	1
Jurisdiction		Time Period		Number of Iterations	15
File Name	PM (1).xus	Analysis Year	2015	System Cycle Length, s	120
Intersections	1. Horsethief Canyon Road at Te	27. Lincoln Street at Temescal Canyon R		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	55	55	2	2	11128	11128	50	50	0	0	70	70	0.0	0.0

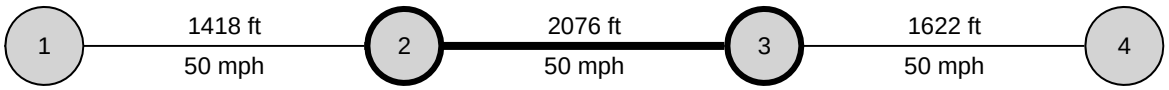
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement		2	12	1	6	
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph		51.12			51.12	
1	Running Time, s		157.43			155.31	
1	Running Speed, mph		48.19			48.85	
1	Through Delay, s/veh		22.38			4.93	
1	Travel Time, s		179.81			160.24	
1	Travel Speed, mph		42.20			47.35	
1	Stop Rate, stops/veh		0.60			0.16	
1	Spatial Stop Rate, stops/mi		0.28			0.08	
1	Through vol/cap Ratio		0.61			0.38	
1	Percent of Base FFS		82.54			92.62	
1	Level of Service		B			A	
1	Auto Traveler Perception Score		2.39			2.15	
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	4.54		E	4.11		D
1	Bicycle Segment LOS Score / LOS	3.81		D	3.59		D
1	Transit Segment LOS Score / LOS	0.71		A	0.45		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	179.81	160.24
Facility Travel Speed, mph	42.20	47.35
Facility Base Free Flow Speed, mph	51.12	51.12
Facility Percent of Base FFS	82.54	92.62
Facility Level of Service	B	A
Facility Auto Traveler Perception Score	2.39	2.15

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	4.54	E	4.11	D
Bicycle Facility LOS Score / LOS	3.81	D	3.59	D
Transit Facility LOS Score / LOS	0.71	A	0.45	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	4
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	3
Jurisdiction		Time Period	AM Peak Hour	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	22. Lake Street at B Street	23. Lake Street at D Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	50	50	3	3	2076	2076	50	50	0	0	70	70	0.0	0.0

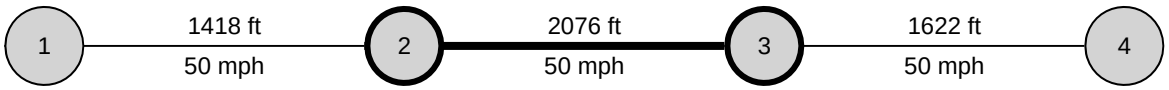
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h		never			never	
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	48.77			48.77		
2	Running Time, s	31.72			31.95		
2	Running Speed, mph	44.62			44.31		
2	Through Delay, s/veh	9.59			5.13		
2	Travel Time, s	41.31			37.08		
2	Travel Speed, mph	34.26			38.17		
2	Stop Rate, stops/veh	0.28			0.18		
2	Spatial Stop Rate, stops/mi	0.71			0.46		
2	Through vol/cap Ratio	0.31			0.35		
2	Percent of Base FFS	70.25			78.27		
2	Level of Service	B			B		
2	Auto Traveler Perception Score	2.25			2.21		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.65		D	3.36		C
2	Bicycle Segment LOS Score / LOS	3.45		C	3.48		C
2	Transit Segment LOS Score / LOS	0.70		A	0.52		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	112.27	100.40
Facility Travel Speed, mph	31.07	34.74
Facility Base Free Flow Speed, mph	48.77	48.77
Facility Percent of Base FFS	63.71	71.24
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.27	2.24

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.61	D	3.31	C
Bicycle Facility LOS Score / LOS	3.46	C	3.48	C
Transit Facility LOS Score / LOS	0.88	A	0.70	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	4
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	3
Jurisdiction		Time Period	PM Peak Hour	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	22. Lake Street at B Street	23. Lake Street at D Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
2	50	50	3	3	2076	2076	50	50	0	0	70	70	0.0	0.0

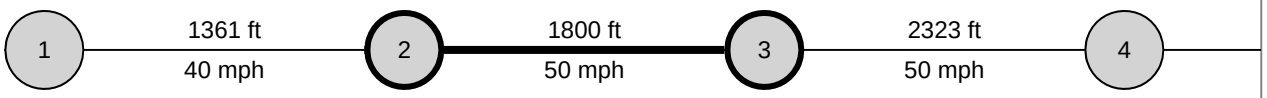
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h		never			never	
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	48.77			48.77		
2	Running Time, s	32.14			31.85		
2	Running Speed, mph	44.04			44.44		
2	Through Delay, s/veh	13.47			7.44		
2	Travel Time, s	45.61			39.29		
2	Travel Speed, mph	31.03			36.03		
2	Stop Rate, stops/veh	0.37			0.24		
2	Spatial Stop Rate, stops/mi	0.94			0.62		
2	Through vol/cap Ratio	0.55			0.34		
2	Percent of Base FFS	63.63			73.87		
2	Level of Service	C			B		
2	Auto Traveler Perception Score	2.28			2.23		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.42		C	3.34		C
2	Bicycle Segment LOS Score / LOS	3.51		D	3.47		C
2	Transit Segment LOS Score / LOS	0.98		A	0.62		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	119.82	111.17
Facility Travel Speed, mph	29.11	31.38
Facility Base Free Flow Speed, mph	48.77	48.77
Facility Percent of Base FFS	59.69	64.34
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.29	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	D	3.24	C
Bicycle Facility LOS Score / LOS	3.52	D	3.47	C
Transit Facility LOS Score / LOS	1.11	A	0.87	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	5
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	4
Jurisdiction		Time Period	AM GPB	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	5. Lake Street at Nichols Road	25. Alberhill Ranch Road at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
2	50	40	2	2	1800	1800	50	50	0	0	70	70	0.0	0.0

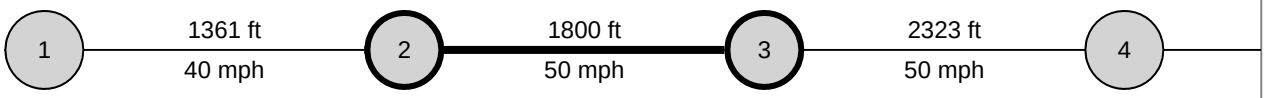
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h		never			never	
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	48.77			44.07		
2	Running Time, s	28.41			31.37		
2	Running Speed, mph	43.20			39.12		
2	Through Delay, s/veh	7.45			12.39		
2	Travel Time, s	35.86			43.76		
2	Travel Speed, mph	34.22			28.04		
2	Stop Rate, stops/veh	0.24			0.31		
2	Spatial Stop Rate, stops/mi	0.70			0.92		
2	Through vol/cap Ratio	0.48			0.30		
2	Percent of Base FFS	70.17			63.63		
2	Level of Service	B			C		
2	Auto Traveler Perception Score	2.24			2.28		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.34		C	4.19		D
2	Bicycle Segment LOS Score / LOS	3.54		D	3.54		D
2	Transit Segment LOS Score / LOS	0.78		A	1.21		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	220.14	189.59
Facility Travel Speed, mph	30.55	35.48
Facility Base Free Flow Speed, mph	48.06	47.16
Facility Percent of Base FFS	63.57	75.23
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.42	2.22

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.73	D	3.79	D
Bicycle Facility LOS Score / LOS	3.50	C	3.51	D
Transit Facility LOS Score / LOS	0.93	A	0.72	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	5
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	4
Jurisdiction		Time Period	PM GPB	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	5. Lake Street at Nichols Road	25. Alberhill Ranch Road at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
2	50	40	2	2	1800	1800	50	50	0	0	70	70	0.0	0.0

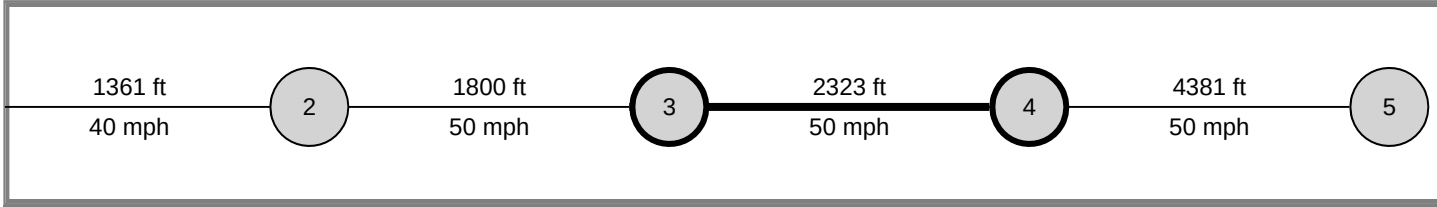
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
2	Bay/Lane Spillback Time, h		never			never	
2	Shared Lane Spillback Time, h						
2	Base Free-Flow Speed, mph	48.77			44.07		
2	Running Time, s	28.58			31.76		
2	Running Speed, mph	42.94			38.64		
2	Through Delay, s/veh	12.83			14.28		
2	Travel Time, s	41.41			46.04		
2	Travel Speed, mph	29.64			26.65		
2	Stop Rate, stops/veh	0.40			0.35		
2	Spatial Stop Rate, stops/mi	1.17			1.02		
2	Through vol/cap Ratio	0.59			0.43		
2	Percent of Base FFS	60.77			60.48		
2	Level of Service	C			C		
2	Auto Traveler Perception Score	2.32			2.29		
Multimodal Results (Segment)							
2	Pedestrian Segment LOS Score / LOS	3.38		C	4.11		D
2	Bicycle Segment LOS Score / LOS	3.58		D	3.60		D
2	Transit Segment LOS Score / LOS	1.10		A	1.37		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	224.73	194.36
Facility Travel Speed, mph	29.93	34.61
Facility Base Free Flow Speed, mph	48.06	47.16
Facility Percent of Base FFS	62.27	73.38
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.44	2.23

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.76	D	3.83	D
Bicycle Facility LOS Score / LOS	3.53	D	3.55	D
Transit Facility LOS Score / LOS	1.01	A	0.79	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	5
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	4
Jurisdiction		Time Period	AM GPB	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	25. Alberhill Ranch Road at Nich	26. Terra Cotta Road at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
3	50	50	3	2	2323	2323	50	50	0	0	70	70	0.0	0.0

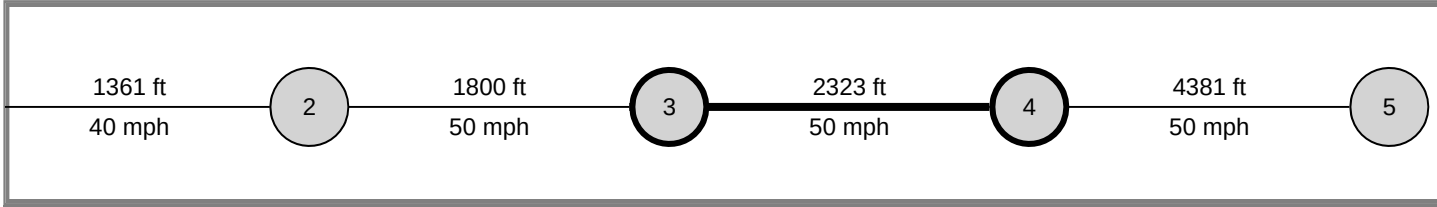
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h		never			never	
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	48.77			48.77		
3	Running Time, s	35.27			35.95		
3	Running Speed, mph	44.91			44.06		
3	Through Delay, s/veh	8.58			10.76		
3	Travel Time, s	43.85			46.71		
3	Travel Speed, mph	36.12			33.91		
3	Stop Rate, stops/veh	0.28			0.33		
3	Spatial Stop Rate, stops/mi	0.63			0.75		
3	Through vol/cap Ratio	0.41			0.62		
3	Percent of Base FFS	74.06			69.53		
3	Level of Service	B			B		
3	Auto Traveler Perception Score	2.44			2.25		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.86		D	4.12		D
3	Bicycle Segment LOS Score / LOS	3.49		C	3.56		D
3	Transit Segment LOS Score / LOS	0.64		A	0.87		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	220.14	189.59
Facility Travel Speed, mph	30.55	35.48
Facility Base Free Flow Speed, mph	48.06	47.16
Facility Percent of Base FFS	63.57	75.23
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.42	2.22

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.73	D	3.79	D
Bicycle Facility LOS Score / LOS	3.50	C	3.51	D
Transit Facility LOS Score / LOS	0.93	A	0.72	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	5
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	4
Jurisdiction		Time Period	PM GPB	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	25. Alberhill Ranch Road at Nich	26. Terra Cotta Road at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
3	50	50	3	3	2323	2323	50	50	0	0	70	70	0.0	0.0

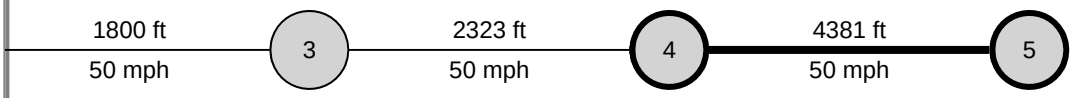
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h		never			never	
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	48.77			48.77		
3	Running Time, s	35.46			35.67		
3	Running Speed, mph	44.67			44.40		
3	Through Delay, s/veh	8.45			9.24		
3	Travel Time, s	43.91			44.91		
3	Travel Speed, mph	36.07			35.27		
3	Stop Rate, stops/veh	0.26			0.27		
3	Spatial Stop Rate, stops/mi	0.59			0.62		
3	Through vol/cap Ratio	0.49			0.54		
3	Percent of Base FFS	73.96			72.31		
3	Level of Service	B			B		
3	Auto Traveler Perception Score	2.44			2.23		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.95		D	4.01		D
3	Bicycle Segment LOS Score / LOS	3.53		D	3.53		D
3	Transit Segment LOS Score / LOS	0.67		A	0.75		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	224.73	194.36
Facility Travel Speed, mph	29.93	34.61
Facility Base Free Flow Speed, mph	48.06	47.16
Facility Percent of Base FFS	62.27	73.38
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.44	2.23

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.76	D	3.83	D
Bicycle Facility LOS Score / LOS	3.53	D	3.55	D
Transit Facility LOS Score / LOS	1.01	A	0.79	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	5
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	4
Jurisdiction		Time Period	AM GPB	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	26. Terra Cotta Road at Nichols	11. Collier Avenue at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
4	50	50	3	3	4381	4381	50	50	0	0	70	70	0.0	0.0

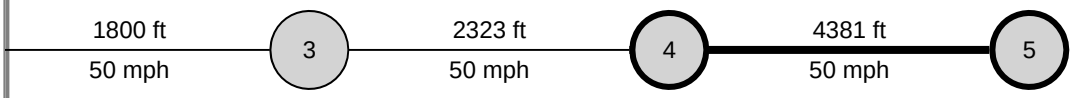
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement		2	12	1	6	
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	48.77			48.77		
4	Running Time, s	63.94			63.89		
4	Running Speed, mph	46.71			46.75		
4	Through Delay, s/veh	24.71			4.19		
4	Travel Time, s	88.65			68.08		
4	Travel Speed, mph	33.69			43.87		
4	Stop Rate, stops/veh	0.63			0.15		
4	Spatial Stop Rate, stops/mi	0.76			0.18		
4	Through vol/cap Ratio	0.59			0.39		
4	Percent of Base FFS	69.09			89.96		
4	Level of Service	B			A		
4	Auto Traveler Perception Score	2.47			2.17		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.85		D	3.73		D
4	Bicycle Segment LOS Score / LOS	3.51		D	3.50		C
4	Transit Segment LOS Score / LOS	0.86		A	0.36		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	220.14	189.59
Facility Travel Speed, mph	30.55	35.48
Facility Base Free Flow Speed, mph	48.06	47.16
Facility Percent of Base FFS	63.57	75.23
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.42	2.22

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.73	D	3.79	D
Bicycle Facility LOS Score / LOS	3.50	C	3.51	D
Transit Facility LOS Score / LOS	0.93	A	0.72	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	5
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	4
Jurisdiction		Time Period	PM GPB	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	26. Terra Cotta Road at Nichols	11. Collier Avenue at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
4	50	50	3	3	4381	4381	50	50	0	0	70	70	0.0	0.0

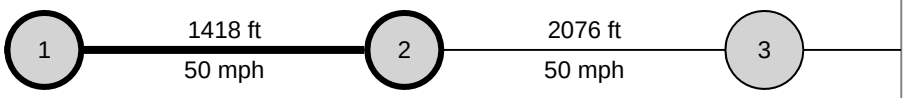
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement		2	12	1	6	
4	Bay/Lane Spillback Time, h		never			never	
4	Shared Lane Spillback Time, h						
4	Base Free-Flow Speed, mph	48.77			48.77		
4	Running Time, s	64.16			64.67		
4	Running Speed, mph	46.56			46.19		
4	Through Delay, s/veh	23.89			5.60		
4	Travel Time, s	88.05			70.27		
4	Travel Speed, mph	33.92			42.51		
4	Stop Rate, stops/veh	0.63			0.23		
4	Spatial Stop Rate, stops/mi	0.76			0.27		
4	Through vol/cap Ratio	0.61			0.49		
4	Percent of Base FFS	69.56			87.16		
4	Level of Service	B			A		
4	Auto Traveler Perception Score	2.47			2.18		
Multimodal Results (Segment)							
4	Pedestrian Segment LOS Score / LOS	3.90		D	3.91		D
4	Bicycle Segment LOS Score / LOS	3.54		D	3.56		D
4	Transit Segment LOS Score / LOS	0.88		A	0.48		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	224.73	194.36
Facility Travel Speed, mph	29.93	34.61
Facility Base Free Flow Speed, mph	48.06	47.16
Facility Percent of Base FFS	62.27	73.38
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.44	2.23

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.76	D	3.83	D
Bicycle Facility LOS Score / LOS	3.53	D	3.55	D
Transit Facility LOS Score / LOS	1.01	A	0.79	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	4
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	3
Jurisdiction		Time Period	AM Peak Hour	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	21. Lake Street at A Street	22. Lake Street at B Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	50	50	3	3	1418	1418	50	50	0	0	70	70	0.0	0.0

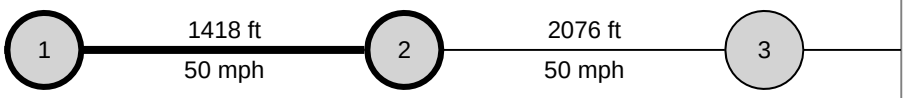
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	48.77			48.77		
1	Running Time, s	23.01			23.20		
1	Running Speed, mph	42.02			41.68		
1	Through Delay, s/veh	4.70			5.93		
1	Travel Time, s	27.71			29.13		
1	Travel Speed, mph	34.89			33.19		
1	Stop Rate, stops/veh	0.16			0.20		
1	Spatial Stop Rate, stops/mi	0.61			0.73		
1	Through vol/cap Ratio	0.28			0.38		
1	Percent of Base FFS	71.55			68.05		
1	Level of Service	B			B		
1	Auto Traveler Perception Score	2.23			2.25		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.62		D	3.76		D
1	Bicycle Segment LOS Score / LOS	3.45		C	3.49		C
1	Transit Segment LOS Score / LOS	0.65		A	0.80		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	112.27	100.40
Facility Travel Speed, mph	31.07	34.74
Facility Base Free Flow Speed, mph	48.77	48.77
Facility Percent of Base FFS	63.71	71.24
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.27	2.24

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.61	D	3.31	C
Bicycle Facility LOS Score / LOS	3.46	C	3.48	C
Transit Facility LOS Score / LOS	0.88	A	0.70	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	4
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	3
Jurisdiction		Time Period	PM Peak Hour	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	21. Lake Street at A Street	22. Lake Street at B Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	50	50	3	3	1418	1418	50	50	0	0	70	70	0.0	0.0

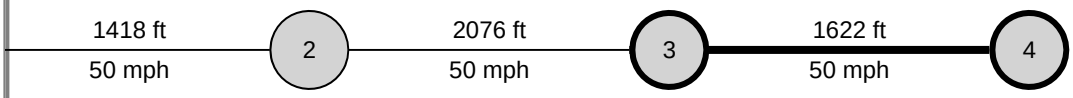
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	48.77			48.77		
1	Running Time, s	23.37			23.21		
1	Running Speed, mph	41.36			41.65		
1	Through Delay, s/veh	8.00			15.60		
1	Travel Time, s	31.38			38.81		
1	Travel Speed, mph	30.81			24.91		
1	Stop Rate, stops/veh	0.22			0.38		
1	Spatial Stop Rate, stops/mi	0.82			1.42		
1	Through vol/cap Ratio	0.57			0.54		
1	Percent of Base FFS	63.18			51.08		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.26			2.35		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.43		C	3.41		C
1	Bicycle Segment LOS Score / LOS	3.52		D	3.49		C
1	Transit Segment LOS Score / LOS	0.99		A	1.38		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	119.82	111.17
Facility Travel Speed, mph	29.11	31.38
Facility Base Free Flow Speed, mph	48.77	48.77
Facility Percent of Base FFS	59.69	64.34
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.29	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	D	3.24	C
Bicycle Facility LOS Score / LOS	3.52	D	3.47	C
Transit Facility LOS Score / LOS	1.11	A	0.87	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	4
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	3
Jurisdiction		Time Period	AM Peak Hour	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	23. Lake Street at D Street	5. Lake Street at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
3	50	50	2	3	1622	1622	50	50	0	0	70	70	0.0	0.0

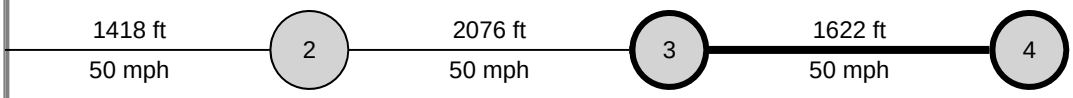
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h		never			never	
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	48.77			48.77		
3	Running Time, s	25.83			25.79		
3	Running Speed, mph	42.81			42.88		
3	Through Delay, s/veh	17.41			8.40		
3	Travel Time, s	43.25			34.19		
3	Travel Speed, mph	25.57			32.35		
3	Stop Rate, stops/veh	0.41			0.25		
3	Spatial Stop Rate, stops/mi	1.32			0.81		
3	Through vol/cap Ratio	0.30			0.37		
3	Percent of Base FFS	52.43			66.32		
3	Level of Service	C			C		
3	Auto Traveler Perception Score	2.34			2.26		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.54		D	2.86		C
3	Bicycle Segment LOS Score / LOS	3.47		C	3.47		C
3	Transit Segment LOS Score / LOS	1.31		A	0.83		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	112.27	100.40
Facility Travel Speed, mph	31.07	34.74
Facility Base Free Flow Speed, mph	48.77	48.77
Facility Percent of Base FFS	63.71	71.24
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.27	2.24

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.61	D	3.31	C
Bicycle Facility LOS Score / LOS	3.46	C	3.48	C
Transit Facility LOS Score / LOS	0.88	A	0.70	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	4
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	3
Jurisdiction		Time Period	PM Peak Hour	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	23. Lake Street at D Street	5. Lake Street at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
3	50	50	2	3	1622	1622	50	50	0	0	70	70	0.0	0.0

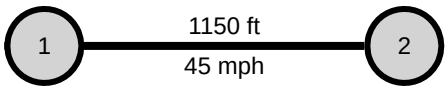
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
3	Bay/Lane Spillback Time, h		never			never	
3	Shared Lane Spillback Time, h						
3	Base Free-Flow Speed, mph	48.77			48.77		
3	Running Time, s	26.29			25.73		
3	Running Speed, mph	42.07			42.99		
3	Through Delay, s/veh	16.54			7.34		
3	Travel Time, s	42.83			33.07		
3	Travel Speed, mph	25.82			33.44		
3	Stop Rate, stops/veh	0.39			0.21		
3	Spatial Stop Rate, stops/mi	1.26			0.70		
3	Through vol/cap Ratio	0.48			0.33		
3	Percent of Base FFS	52.94			68.57		
3	Level of Service	C			B		
3	Auto Traveler Perception Score	2.33			2.24		
Multimodal Results (Segment)							
3	Pedestrian Segment LOS Score / LOS	3.67		D	2.96		C
3	Bicycle Segment LOS Score / LOS	3.55		D	3.46		C
3	Transit Segment LOS Score / LOS	1.40		A	0.75		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	119.82	111.17
Facility Travel Speed, mph	29.11	31.38
Facility Base Free Flow Speed, mph	48.77	48.77
Facility Percent of Base FFS	59.69	64.34
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.29	2.27

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.50	D	3.24	C
Bicycle Facility LOS Score / LOS	3.52	D	3.47	C
Transit Facility LOS Score / LOS	1.11	A	0.87	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	2
Analyst	GJM	Analysis Date	9/30/2015	Number of Segments	1
Jurisdiction		Time Period	AM Peak Hour	Number of Iterations	15
File Name	AM (15).xus	Analysis Year	2015	System Cycle Length, s	90
Intersections	27. Lincoln Street at Temescal C	14. Lincoln Street at A Street/E Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	45	45	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

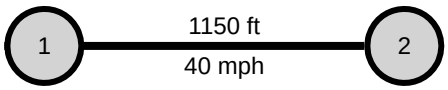
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.42			46.42		
1	Running Time, s	20.34			22.21		
1	Running Speed, mph	38.55			35.30		
1	Through Delay, s/veh	13.05			0.00		
1	Travel Time, s	33.39			22.21		
1	Travel Speed, mph	23.48			35.30		
1	Stop Rate, stops/veh	0.41			0.00		
1	Spatial Stop Rate, stops/mi	1.89			0.00		
1	Through vol/cap Ratio	0.25			0.00		
1	Percent of Base FFS	50.59			76.05		
1	Level of Service	C			B		
1	Auto Traveler Perception Score	2.43			2.14		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.53		B	3.94		D
1	Bicycle Segment LOS Score / LOS	3.45		C	3.74		D
1	Transit Segment LOS Score / LOS	1.42		A	0.90		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	33.39	22.21
Facility Travel Speed, mph	23.48	35.30
Facility Base Free Flow Speed, mph	46.42	46.42
Facility Percent of Base FFS	50.59	76.05
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.43	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.53	C	3.94	D
Bicycle Facility LOS Score / LOS	3.45	C	3.74	D
Transit Facility LOS Score / LOS	1.42	A	0.90	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	2
Analyst	GJM	Analysis Date	9/30/2015	Number of Segments	1
Jurisdiction		Time Period	AM Peak Hour	Number of Iterations	15
File Name	PM (15).xus	Analysis Year	2015	System Cycle Length, s	90
Intersections	27. Lincoln Street at Temescal C	14. Lincoln Street at A Street/E Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	40	40	2	1	1150	1150	50	50	0	0	70	70	0.0	0.0

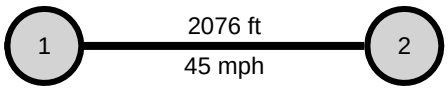
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement		2		1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph		44.07			44.07	
1	Running Time, s		21.25			22.81	
1	Running Speed, mph		36.89			34.37	
1	Through Delay, s/veh		14.22			0.00	
1	Travel Time, s		35.47			22.81	
1	Travel Speed, mph		22.11			34.37	
1	Stop Rate, stops/veh		0.47			0.00	
1	Spatial Stop Rate, stops/mi		2.14			0.00	
1	Through vol/cap Ratio		0.28			0.00	
1	Percent of Base FFS		50.16			77.98	
1	Level of Service		C			B	
1	Auto Traveler Perception Score		2.47			2.14	
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.67		B	3.90		D
1	Bicycle Segment LOS Score / LOS	3.53		D	3.64		D
1	Transit Segment LOS Score / LOS	1.56		A	0.89		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	35.47	22.81
Facility Travel Speed, mph	22.11	34.37
Facility Base Free Flow Speed, mph	44.07	44.07
Facility Percent of Base FFS	50.16	77.98
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.47	2.14

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.67	C	3.90	D
Bicycle Facility LOS Score / LOS	3.53	D	3.64	D
Transit Facility LOS Score / LOS	1.56	A	0.89	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	2
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	1
Jurisdiction		Time Period	AM Peak Hour	Number of Iterations	15
File Name	AM (20).xus	Analysis Year	2015	System Cycle Length, s	120
Intersections	Western Intersection	14. Lincoln Street at A Street/E Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	2	2076	2076	50	50	0	0	70	70	0.0	0.0

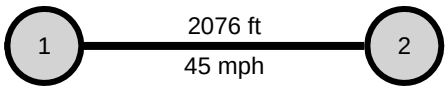
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.42			46.42		
1	Running Time, s	34.02			32.90		
1	Running Speed, mph	41.61			43.02		
1	Through Delay, s/veh	12.53			27.49		
1	Travel Time, s	46.55			60.39		
1	Travel Speed, mph	30.41			23.44		
1	Stop Rate, stops/veh	0.36			0.69		
1	Spatial Stop Rate, stops/mi	0.92			1.77		
1	Through vol/cap Ratio	0.09			0.23		
1	Percent of Base FFS	65.50			50.49		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.28			2.41		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.54		D	3.21		C
1	Bicycle Segment LOS Score / LOS	3.55		D	3.40		C
1	Transit Segment LOS Score / LOS	1.08		A	1.38		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	46.55	60.39
Facility Travel Speed, mph	30.41	23.44
Facility Base Free Flow Speed, mph	46.42	46.42
Facility Percent of Base FFS	65.50	50.49
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.28	2.41

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.54	D	3.21	C
Bicycle Facility LOS Score / LOS	3.55	D	3.40	C
Transit Facility LOS Score / LOS	1.08	A	1.38	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	2
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	1
Jurisdiction		Time Period	PM Peak Hour	Number of Iterations	15
File Name	PM (20).xus	Analysis Year	2015	System Cycle Length, s	120
Intersections	Western Intersection	14. Lincoln Street at A Street/E Street		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	45	45	1	2	2076	2076	50	50	0	0	70	70	0.0	0.0

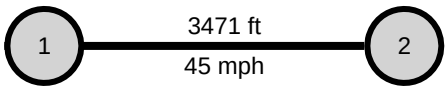
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.42			46.42		
1	Running Time, s	33.96			33.05		
1	Running Speed, mph	41.68			42.82		
1	Through Delay, s/veh	17.72			18.13		
1	Travel Time, s	51.68			51.18		
1	Travel Speed, mph	27.39			27.66		
1	Stop Rate, stops/veh	0.47			0.46		
1	Spatial Stop Rate, stops/mi	1.20			1.16		
1	Through vol/cap Ratio	0.10			0.25		
1	Percent of Base FFS	59.00			59.58		
1	Level of Service	C			C		
1	Auto Traveler Perception Score	2.32			2.31		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.55		D	3.09		C
1	Bicycle Segment LOS Score / LOS	3.54		D	3.44		C
1	Transit Segment LOS Score / LOS	1.27		A	1.09		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	51.68	51.18
Facility Travel Speed, mph	27.39	27.66
Facility Base Free Flow Speed, mph	46.42	46.42
Facility Percent of Base FFS	59.00	59.58
Facility Level of Service	C	C
Facility Auto Traveler Perception Score	2.32	2.31

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.55	D	3.09	C
Bicycle Facility LOS Score / LOS	3.54	D	3.44	C
Transit Facility LOS Score / LOS	1.27	A	1.09	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	2
Analyst	GJM	Analysis Date	9/30/2015	Number of Segments	1
Jurisdiction		Time Period	AM Peak Hour	Number of Iterations	15
File Name	AM (26).xus	Analysis Year	2015	System Cycle Length, s	90
Intersections	18. C Street at B Street	19. C Street at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

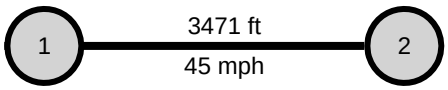
Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	45	45	1	1	3471	3471	50	50	0	0	70	70	0.0	0.0

		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.42			46.42		
1	Running Time, s	53.80			52.95		
1	Running Speed, mph	43.99			44.69		
1	Through Delay, s/veh	4.37			1.29		
1	Travel Time, s	58.17			54.24		
1	Travel Speed, mph	40.68			43.64		
1	Stop Rate, stops/veh	0.17			0.06		
1	Spatial Stop Rate, stops/mi	0.26			0.09		
1	Through vol/cap Ratio	0.25			0.14		
1	Percent of Base FFS	87.64			94.00		
1	Level of Service	A			A		
1	Auto Traveler Perception Score	2.18			2.15		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.00		C	3.13		C
1	Bicycle Segment LOS Score / LOS	3.48		C	3.44		C
1	Transit Segment LOS Score / LOS	0.23		A	0.10		A

Facility Output Data	Southbound		Northbound	
Facility Travel Time, s	58.17		54.24	
Facility Travel Speed, mph	40.68		43.64	
Facility Base Free Flow Speed, mph	46.42		46.42	
Facility Percent of Base FFS	87.64		94.00	
Facility Level of Service	A		A	
Facility Auto Traveler Perception Score	2.18		2.15	
Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.00	C	3.13	C
Bicycle Facility LOS Score / LOS	3.48	C	3.44	C
Transit Facility LOS Score / LOS	0.23	A	0.10	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	2
Analyst	GJM	Analysis Date	9/30/2015	Number of Segments	1
Jurisdiction		Time Period	PM Peak Hour	Number of Iterations	15
File Name	PM (26).xus	Analysis Year	2015	System Cycle Length, s	90
Intersections	18. C Street at B Street	19. C Street at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
1	45	45	1	1	3471	3471	50	50	0	0	70	70	0.0	0.0

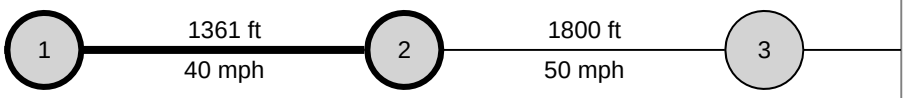
		Southbound			Northbound		
Segment Output Data		SBL	SBT	SBR	NBL	NBT	NBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	46.42			46.42		
1	Running Time, s	54.45			53.31		
1	Running Speed, mph	43.46			44.39		
1	Through Delay, s/veh	10.18			2.33		
1	Travel Time, s	64.64			55.64		
1	Travel Speed, mph	36.61			42.54		
1	Stop Rate, stops/veh	0.34			0.09		
1	Spatial Stop Rate, stops/mi	0.52			0.13		
1	Through vol/cap Ratio	0.48			0.23		
1	Percent of Base FFS	78.87			91.63		
1	Level of Service	B			A		
1	Auto Traveler Perception Score	2.22			2.16		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	2.97		C	2.94		C
1	Bicycle Segment LOS Score / LOS	3.51		D	3.51		D
1	Transit Segment LOS Score / LOS	0.32		A	0.16		A

Facility Output Data	Southbound	Northbound
Facility Travel Time, s	64.64	55.64
Facility Travel Speed, mph	36.61	42.54
Facility Base Free Flow Speed, mph	46.42	46.42
Facility Percent of Base FFS	78.87	91.63
Facility Level of Service	B	A
Facility Auto Traveler Perception Score	2.22	2.16

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	2.97	C	2.94	C
Bicycle Facility LOS Score / LOS	3.51	D	3.51	D
Transit Facility LOS Score / LOS	0.32	A	0.16	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	5
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	4
Jurisdiction		Time Period	AM GPB	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	20. D Street at Nichols Road	5. Lake Street at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	40	40	2	2	1361	1361	50	50	0	0	70	70	0.0	0.0

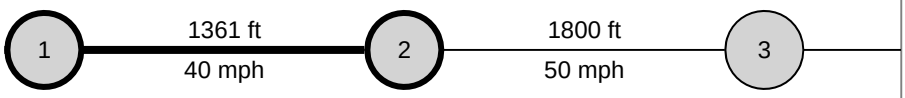
		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	44.07			44.07		
1	Running Time, s	24.05			24.06		
1	Running Speed, mph	38.59			38.57		
1	Through Delay, s/veh	27.73			6.97		
1	Travel Time, s	51.78			31.03		
1	Travel Speed, mph	17.92			29.91		
1	Stop Rate, stops/veh	0.63			0.27		
1	Spatial Stop Rate, stops/mi	2.44			1.06		
1	Through vol/cap Ratio	0.36			0.19		
1	Percent of Base FFS	40.67			67.86		
1	Level of Service	D			B		
1	Auto Traveler Perception Score	2.52			2.30		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.66		D	2.86		C
1	Bicycle Segment LOS Score / LOS	3.42		C	3.42		C
1	Transit Segment LOS Score / LOS	1.89		A	0.92		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	220.14	189.59
Facility Travel Speed, mph	30.55	35.48
Facility Base Free Flow Speed, mph	48.06	47.16
Facility Percent of Base FFS	63.57	75.23
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.42	2.22

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.73	D	3.79	D
Bicycle Facility LOS Score / LOS	3.50	C	3.51	D
Transit Facility LOS Score / LOS	0.93	A	0.72	A

HCS 2010 Urban Street Segment Report

General Information				Streets Information	
Agency	LLG			Number of Intersections	5
Analyst	GJM	Analysis Date	Sep 30, 2015	Number of Segments	4
Jurisdiction		Time Period	PM GPB	Number of Iterations	15
File Name		Analysis Year	2015	System Cycle Length, s	120
Intersections	20. D Street at Nichols Road	5. Lake Street at Nichols Road		Analysis Period	1> 7:00
Project Description					



Basic Segment Information

Segment	Speed Limit		Through Lanes		Segment Length		Intersection Wid		Length of RM		Percent Curb		Other Delay	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
1	40	40	2	2	1361	1361	50	50	0	0	70	70	0.0	0.0

		Eastbound			Westbound		
Segment Output Data		EBL	EBT	EBR	WBL	WBT	WBR
Segment	Movement	5	2	12	1	6	16
1	Bay/Lane Spillback Time, h		never			never	
1	Shared Lane Spillback Time, h						
1	Base Free-Flow Speed, mph	44.07			44.07		
1	Running Time, s	24.21			24.22		
1	Running Speed, mph	38.32			38.31		
1	Through Delay, s/veh	27.15			8.91		
1	Travel Time, s	51.36			33.13		
1	Travel Speed, mph	18.07			28.01		
1	Stop Rate, stops/veh	0.61			0.31		
1	Spatial Stop Rate, stops/mi	2.35			1.22		
1	Through vol/cap Ratio	0.48			0.31		
1	Percent of Base FFS	40.99			63.55		
1	Level of Service	D			C		
1	Auto Traveler Perception Score	2.50			2.32		
Multimodal Results (Segment)							
1	Pedestrian Segment LOS Score / LOS	3.48		C	2.89		C
1	Bicycle Segment LOS Score / LOS	3.45		C	3.45		C
1	Transit Segment LOS Score / LOS	1.92		A	1.09		A

Facility Output Data	Eastbound	Westbound
Facility Travel Time, s	224.73	194.36
Facility Travel Speed, mph	29.93	34.61
Facility Base Free Flow Speed, mph	48.06	47.16
Facility Percent of Base FFS	62.27	73.38
Facility Level of Service	C	B
Facility Auto Traveler Perception Score	2.44	2.23

Multimodal Results (Facility)				
Pedestrian Facility LOS Score / LOS	3.76	D	3.83	D
Bicycle Facility LOS Score / LOS	3.53	D	3.55	D
Transit Facility LOS Score / LOS	1.01	A	0.79	A

LINSCOTT LAW & GREENSPAN engineers

TRAFFIC IMPACT ANALYSIS REPORT

ALBERHILL VILLAGES SPECIFIC PLAN

Lake Elsinore, California
October 14, 2015
(Update of July 14, 2015 Report)

Prepared for:
Castle & Cooke
4113 Pearl Street
Lake Elsinore, CA 92530

LLG Ref. 2-10-3129-2

Prepared by:
Zawwar Saiyed, P.E.
Senior Transportation Engineer

Under the Supervision of:
Keil D. Maberry, P.E.
Principal

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EXECUTIVE SUMMARY

- The Alberhill Villages Specific Plan ("Project") area is generally located along the south side of the I-15 Freeway and west of Lake Street, City of Lake Elsinore, California. The proposed Project consists of a mixed-use master plan with approximately 19.5 acres of active parks, 36.8 acres of city passive parks, 4,370 apartments, 1,200 condominiums, 2,675 single family residences, two churches with schools for 1,200 students, an elementary school for 850 students, a university for 6,000 students, 1,621,000 SF of commercial use and 886,000 SF of office use. The proposed Project is anticipated to be fully developed over a period of approximately 20 to 30 years.

- The proposed Project is forecast to generate 150,415 gross Daily trips (one half arriving and one half departing), with 9,927 gross trips (4,731 inbound, 5,196 outbound) produced in the AM peak hour and 14,575 gross trips (7,389 inbound, 7,186 outbound) produced in the PM peak hour. It should be noted that these are gross trips without the application of internal capture trip or pass-by trip reduction factors. The analyses in the preceding sections of this report for the General Plan Buildout (without and with Project) are based on traffic volumes directly obtained from most current City of Lake Elsinore Traffic Model. In addition, the General Plan Buildout (without and with Project) volumes that have been directly obtained from the most current City of Lake Elsinore Traffic Model assume different variables in determining the trip generation for different land uses. Even though the trips generated for the Project by the traffic model are not exactly same as the ITE forecast trip generation, they are similar. The traffic model takes into account the internal capture and generates and distributes the external traffic volumes accordingly.

- Thirteen (13) key existing study intersections were designated for evaluation for the Existing analysis, nineteen (19) key study intersections were designated for evaluation for the General Plan Buildout Without Project analysis and twenty-seven (27) key study intersections were designated for evaluation for the General Plan Amendment Buildout With Project analysis. The key area intersections selected for evaluation in this report provide local and regional access to the study area and are listed as follows:

    1. Horsethief Canyon Road at Temescal Canyon Road
    2. Lake Street at I-15 Northbound Ramps
    3. Lake Street at I-15 Southbound Ramps
    4. Lake Street at Temescal Canyon Road
    5. Lake Street at Nichols Road
    6. Lake Street at Alberhill Ranch Road
    7. Lake Street at Mountain Street
    8. Lake Street/Grand Avenue at Lakeshore Drive

9. Grand Avenue at Lincoln Street
10. Terra Cotta Road at Lakeshore Drive
11. Collier Avenue at Nichols Road
12. I-15 Southbound Ramps at Nichols Road
13. I-15 Northbound Ramps at Nichols Road
14. Lincoln Street at A Street/E Street (General Plan Scenario)
15. Lincoln Street at B Street/F Street (North) (General Plan Scenario)
16. Lincoln Street at F Street (South) (General Plan Scenario)
17. Lincoln Street at Nichols Road (General Plan Scenario)
18. C Street at B Street (General Plan Scenario)
19. C Street at Nichols Road (General Plan Scenario)
20. D Street at Nichols Road (General Plan Scenario)
21. Lake Street at A Street (General Plan Scenario)
22. Lake Street at B Street (General Plan Scenario)
23. Lake Street at D Street (North) (General Plan Scenario)
24. Lake Street at D Street (South) (General Plan Scenario)
25. Alberhill Ranch Road at Nichols Road (General Plan Scenario)
26. Terra Cotta Road at Nichols Road (General Plan Scenario)
27. Lincoln Street at Temescal Canyon Road

- Nine (9) existing key roadway segments were designated for evaluation for the Existing analysis, twenty-three (23) key roadway segments were designated for evaluation for the General Plan Buildout Without Project analysis and thirty-two (32) key roadway segments were designated for evaluation for the General Plan Buildout With Project analysis. The key area roadway segments selected for evaluation in this report provide local and regional access to the study area and are listed as follows:

    1. Temescal Canyon Rd *between* Horsethief Canyon Rd and I-15 Freeway [E/W]
    2. Lake St *between* I-15 SB Ramps and Temescal Canyon Rd [N/S]
    3. Lake St *between* Temescal Canyon Rd and Nichols Rd [N/S]
    4. Lake St *between* Nichols Rd and Alberhill Ranch Rd [N/S]
    5. Lake St *between* Alberhill Ranch Rd and Mountain St [N/S]
    6. Lake St *between* Mountain St and Lakeshore Drive [N/S]
    7. Grand Avenue *between* Lakeshore Drive and Lincoln St [N/S]
    8. Lakeshore Drive *between* Lake St/Grand Avenue and Terra Cotta Rd [E/W]
    9. Nichols Rd *between* Lake St and Alberhill Ranch Rd [E/W] (General Plan Scenario)
    10. Nichols Rd *between* Alberhill Ranch Rd and Terra Cotta Rd [E/W] (General Plan Scenario)
    11. Nichols Rd *between* Terra Cotta Rd and Collier Avenue [E/W]

12. Lake St *between* A St and B St [N/S] (General Plan Scenario)
13. Lake St *between* D St (North) and Nichols Rd [N/S] (General Plan Scenario)
14. Lake St *between* Nichols Rd and D St (South) [N/S] (General Plan Scenario)
15. Lincoln Street *between* I-15 Freeway and A St/E St [N/S] (General Plan Scenario)
16. Lincoln Street *between* A St/E St and B St/F St (North) [N/S] (General Plan Scenario)
17. Lincoln Street *between* B St/F St (North) and F St (South) [N/S] (General Plan Scenario)
18. Lincoln Street *between* F St (South) and Nichols Rd [N/S] (General Plan Scenario)
19. Lincoln Street *between* Nichols Rd and Mountain St [N/S] (General Plan Scenario)
20. E St *between* F St and Lincoln Street [E/W] (General Plan Scenario)
21. F St (North) *between* E St and Lincoln Street [E/W] (General Plan Scenario)
22. F St (South) *between* E St and Lincoln Street [E/W] (General Plan Scenario)
23. A St *between* Lincoln Street and Lake St [E/W] (General Plan Scenario)
24. B St *between* Lincoln Street and C St [E/W] (General Plan Scenario)
25. B St *between* C St and Lake St [E/W] (General Plan Scenario)
26. C St *between* B St and Nichols Rd [N/S] (General Plan Scenario)
27. Nichols Rd *between* Lincoln Street and C St [E/W] (General Plan Scenario)
28. Nichols Rd *between* C St and D St [E/W] (General Plan Scenario)
29. Nichols Rd *between* D St and Lake St [E/W] (General Plan Scenario)
30. D St (North) *between* Lake St and Nichols Rd [N/S] (General Plan Scenario)
31. D St (South) *between* Nichols Rd and Lake St [N/S] (General Plan Scenario)
32. Temescal Canyon Road *between* Lincoln Street and Lake Street

- **Under Existing traffic conditions,** one (1) of the thirteen (13) key study intersections currently operates at an unacceptable level of service, LOS E or worse during the AM and/or PM peak hour. The remaining twelve (12) key study intersections currently operate at acceptable level of service LOS D or better during the AM and PM peak hours. The intersections operating at an adverse level of service are:

		AM Peak Hour		PM Peak Hour	
Key Intersection		**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
13.	I-15 Northbound Ramps at Nichols Road	--	--	43.6	E

- **Under Existing traffic conditions**, four (4) of the nine (9) key study roadway segments currently operate at unacceptable levels of service, LOS D or worse. The remaining five (5) study roadway segments currently operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

Key Roadway Segment	Daily Volume	Daily V/C Ratio	LOS
2. Lake Street *between* I-15 SB Ramp and Temescal Canyon Road	17,762	0.987	E
3. Lake Street *between* Temescal Canyon Road and Nichols Road	15,189	0.844	D
4. Lake Street *between* Nichols Road and Alberhill Ranch Road	19,788	1.099	F
5. Lake Street *between* Alberhill Ranch Road and Mountain Street	18,880	1.049	F

However, even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours under existing conditions and therefore no improvements to these roadway segments are necessary.

- **Under General Plan Buildout Without Project traffic conditions**, nine (9) key study intersections are forecast to operate at unacceptable levels of service, LOS E or worse during the AM and/or PM peak hours under General Plan Buildout Without Project traffic conditions. The remaining ten (10) key study intersections operate at acceptable levels of service, LOS D or better during the AM and PM peak hours. The intersections operating at adverse levels of service are:

Key Intersection	AM Peak Hour Delay (s/v)	AM Peak Hour LOS	PM Peak Hour Delay (s/v)	PM Peak Hour LOS
1. Horsethief Canyon Road at Temescal Canyon Rd	OVRFL[1]	F	OVRFL[18]	F
5. Lake Street at Nichols Road	--	--	121.1	F
10. Terra Cotta Road at Lakeshore Drive	OVRFL[18]	F	OVRFL[18]	F
11. Collier Avenue at Nichols Road	138.5	F	363.8	F
13. I-15 Northbound Ramps at Nichols Road	80.0	E	257.5	F
14. Lincoln Street at A Street/E Street	280.4	F	481.0	F
21. Lake Street at A Street	--	--	167.2	F
25. Alberhill Ranch Road at Nichols Road	--	--	98.6	F
26. Terra Cotta Road at Nichols Road	--	--	83.8	F

It should be noted that General Plan Buildout Without Project traffic conditions assume a minimum amount of planned intersection improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions.

- **Under General Plan Buildout Without Project traffic conditions,** ten (10) of the twenty-three (23) key study roadway segments operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout Without Project Traffic Conditions. The remaining

[1] OVRFL = Exceeds analysis model capabilities (Overflow conditions).

thirteen (13) study roadway segments operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

Key Roadway Segment		Daily Volume	Daily V/C Ratio	LOS
3.	Lake Street between Temescal Cyn Rd/A St28 and Nichols Rd	49,000	0.909	E
9.	Nichols Road between Lake Street and Alberhill Ranch Road	47,000	0.872	D
10.	Nichols Road between Alberhill Ranch Rd and Terra Cotta Rd	53,000	0.983	E
11.	Nichols Road between Terra Cotta Road and Collier Avenue	58,000	1.076	F
12.	Lake Street between A Street and B Street	47,000	0.872	D
13.	Lake Street between D Street (North) and Nichols Road	51,000	0.946	E
15.	Lincoln Street between Temescal Canyon Road and A St/E St	42,000	1.232	F
23.	A Street between Lincoln Street and Lake Street	34,000	0.944	E
28.	Nichols Road between C Street and D Street	34,000	1.133	F
29.	Nichols Road between D Street and Lake Street	34,000	1.133	F

It should be noted that General Plan Buildout Without Project traffic conditions assume a minimum amount of planned roadway segment improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions.

- **Under General Plan Buildout With Project traffic conditions**, eleven (11) of the key study intersections are forecast to operate at unacceptable levels of service, LOS E or worse with the addition of Project traffic based on the LOS impact criteria mentioned in this report. The remaining sixteen (16) key study intersections operate at acceptable levels of service, LOS D or better during the AM and PM peak hours. The intersections operating at adverse LOS are listed below:

Key Intersection		AM Peak Hour Delay (s/v)	AM Peak Hour LOS	PM Peak Hour Delay (s/v)	PM Peak Hour LOS
1.	Horsethief Canyon Road at Temescal Canyon Rd	OVRFL[18]	F	OVRFL[18]	F
4.	Lake Street at Temescal Canyon Road	--	--	152.2	F
5.	Lake Street at Nichols Road	87.6	F	202.8	F
10.	Terra Cotta Road at Lakeshore Drive	848.4	F	OVRFL[18]	F
11.	Collier Avenue at Nichols Road	133.9	F	371.7	F
13.	I-15 Northbound Ramps at Nichols Road	77.1	E	258.0	F
14.	Lincoln Street at A Street/E Street	--	--	123.9	F
23.	Lake Street at D Street (North)	--	--	102.7	F
25.	Alberhill Ranch Road at Nichols Road	--	--	105.0	F

26.	Terra Cotta Road at Nichols Road	--	--	97.5	F
27.	Lincoln Street at Temescal Canyon Road	122.8	F	342.0	F

These eleven (11) intersections will have a significant impact when compared to the City of Lake Elsinore LOS criteria. It should be noted that the recommended improvements outlined in this report will offset the impact of the General Plan Buildout With Project traffic and bring the significantly impacted intersections to pre-project and/or acceptable conditions.

- **Under General Plan Buildout With Project traffic conditions,** eleven (11) of the thirty-two (32) key study roadway segments operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout With Project Traffic Conditions. The remaining twenty-one (21) study roadway segments operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

			Daily	
Key Roadway Segment		**Daily Volume**	**V/C Ratio**	**LOS**
1.	Temescal Canyon Rd between Horsethief Canyon Road and I-15	44,000	0.816	D
3.	Lake Street between Temescal Cyn Rd/A St28 and Nichols Rd	52,000	0.965	E
9.	Nichols Road between Lake Street and Alberhill Ranch Road	47,000	0.872	D
10.	Nichols Road between Alberhill Ranch Rd and Terra Cotta Rd	53,000	0.983	E
11.	Nichols Road between Terra Cotta Road and Collier Avenue	58,000	1.076	F
12.	Lake Street between A Street and B Street	60,000	1.113	F
13.	Lake Street between D Street (North) and Nichols Road	51,000	0.946	E
15.	Lincoln Street between Temescal Canyon Road and A St/E St	33,000	0.968	E
20.	E Street between F Street and Lincoln Street	23,000	1.278	F
26.	C Street between B Street and Nichols Road	**21,000**	**1.167**	**F**
29.	Nichols Road between D Street and Lake Street	**30,000**	**1.000**	**E**

It should be noted that even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours with approach lane geometry consistent with the lanes in the roadway segment analyses. In addition, the recommended roadway segment circulation improvements are consistent with the City of Lake Elsinore General Plan Update.

- The results of the General Plan Buildout With Project traffic conditions level of service analysis indicate that the proposed Project will significantly impact eleven (11) of the of the twenty-seven (27) key study intersections. The remaining sixteen (16) intersections are forecast to operate at acceptable LOS D or better under the General Plan Buildout With Project traffic conditions. It should be noted that two (2) intersections (Lake Street at A Street and Lake Street at D Street) are not impacted but have been improved due to other

recommended improvements which affect the lane geometry of these intersections. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the General Plan Buildout With Project traffic:

- **Horsethief Canyon Road at Temescal Canyon Road**: Install a traffic signal and design for three-phase operation with protective left-turn phasing for westbound left-turn movements on Horsethief Canyon Road. Widen and re-stripe Horsethief Canyon Road to provide an exclusive northbound free right-turn lane. Widen and re-stripe Temescal Canyon Road to provide a 2nd and 3rd eastbound through lanes, 2nd westbound through lane and dual westbound left-turn lanes.

- **Lake Street at Temescal Canyon Road**: Widen and re-stripe Lake Street to provide a 2nd northbound left-turn lane, 3rd northbound through lane and a 3rd southbound through lane. Modify existing planned traffic signal.

- **Lake Street at Nichols Road**: Widen and re-stripe Lake Street to provide an exclusive northbound free right-turn lane. Install a westbound right-turn overlap phase on Nichols Road. Modify existing traffic signal.

- **Terra Cotta Road at Lakeshore Drive**: Install a traffic signal and design for eight-phase operation with protective left-turn phasing for all left-turn movements on Terra Cotta Road and Lakeshore Drive. Widen and re-stripe Terra Cotta Road to provide an exclusive northbound left-turn lane and an exclusive southbound left-turn lane. Widen and re-stripe Lakeshore Drive to provide a 2nd eastbound through lane, a 2nd westbound through lane and an exclusive westbound right-turn lane.

- **I-15 Southbound Ramps/Collier Avenue at Nichols Road**: Widen and re-stripe I-15 Southbound Ramps to provide two (2) southbound left-turns, one (1) southbound through lane and one (1) southbound free right-turn lane. Widen and re-stripe Collier Avenue to provide one (1) northbound free right-turn lane Widen and re-stripe Nichols Road to provide a 2nd and 3rd eastbound through lanes, an exclusive eastbound right turn lane, dual westbound left-turn lanes, and a 2nd westbound through lane. Modify General Plan Buildout planned traffic signal. It should be noted that this improvement is part of the proposed I-15/Nichols Road Interchange Improvement Project.

- **I-15 Northbound Ramps at Nichols Road**: Widen and re-stripe I-15 Northbound Ramps to provide two (2) northbound left-turns and one (1) northbound right-turn lane. Widen and re-stripe Nichols Road to provide a 2nd and 3rd eastbound through lanes, and a 2nd and 3rd westbound through lanes. Modify General Plan Buildout planned traffic signal. It should be noted that this improvement is part of the proposed I-15/Nichols Road Interchange Improvement Project.

- **Lincoln Street at A Street/E Street**: Widen and re-stripe Lincoln Street to provide an exclusive southbound right-turn lane. Widen and re-stripe E Street to provide a 2nd eastbound left-turn lane. Modify General Plan Buildout planned traffic signal.

- **Lake Street at A Street**: Widen and re-stripe Lake Street to provide a 3rd northbound through lane, 3rd southbound through lane and an exclusive southbound right-turn lane. Widen and re-stripe A Street to provide a 2nd eastbound left-turn lane, an exclusive eastbound right-turn lane, and an exclusive westbound right-turn lane. Install a southbound right-turn overlap phase on Lake Street. Modify General Plan Buildout planned traffic signal and convert from five-phase operation to eight-phase operation. It should be noted that this intersection is not impacted but has been improved due to other recommended improvements which affect the lane geometry of this intersection.

- **Lake Street at B Street**: Widen and re-stripe Lake Street to provide a 3rd northbound through lane and a 3rd southbound through lane. Modify General Plan Buildout planned traffic signal. It should be noted that this intersection is not impacted but has been improved due to other recommended improvements which affect the lane geometry of this intersection.

- **Lake Street at D Street (North)**: Widen and re-stripe Lake Street to provide a 3rd northbound through lane and a 3rd southbound through lane. Modify General Plan Buildout planned traffic signal.

- **Alberhill Ranch Road at Nichols Road**: Widen and re-stripe Alberhill Ranch Road to provide a 2nd southbound left-turn lane. Widen and re-stripe Nichols Road to provide an exclusive westbound right-turn lane. Modify General Plan Buildout planned traffic signal.

- **Terra Cotta Road at Nichols Road**: Widen and re-stripe Nichols Road to a 3rd eastbound through lane, an exclusive eastbound right-turn lane, a 3rd westbound through lane and a 2nd westbound left-turn lane. Install a northbound right-turn overlap phase on Terra Cotta Road. Modify General Plan Buildout planned traffic signal.

- **Lincoln Street at Temescal Canyon Road**: Widen and re-stripe Lincoln Street to provide a 2nd northbound left turn-lane. Widen and re-stripe Temescal Canyon Road to provide an exclusive eastbound free right turn-lane and a 2nd westbound left-turn lane. Modify General Plan Buildout planned traffic signal.

TRAFFIC IMPACT ANALYSIS REPORT

ALBERHILL VILLAGES SPECIFIC PLAN

Lake Elsinore, California
July 14, 2015
(Update of February 25, 2013 Report)

1.0 INTRODUCTION

This traffic impact analysis evaluates the potential traffic impacts of the proposed Alberhill Villages Specific Plan (hereinafter referred to as Project) on the area traffic circulation system. The proposed Project consists of a mixed-use master plan with approximately 8,244 residential dwelling units, approximately 2,507,000 square feet (SF) of commercial and office development, and institutional uses with approximately 8,050 students on approximately 1,400 acres. The Alberhill Villages Specific Plan area is generally located along the south side of the I-15 Freeway and west of Lake Street in the City of Lake Elsinore, California. The proposed Project is anticipated to be fully developed over a period of approximately 20 to 30 years and matches the land use data contained in the Western Riverside Subarea Applications Traffic Model (WRSATM) for this area.

The Project site has been visited and an inventory of adjacent area roadways and intersections made. In support of detailed intersection capacity analyses, existing traffic count information has been compiled.

This traffic report analyzes existing and General Plan Amendment Buildout AM and PM peak hours and Daily traffic conditions upon completion of the Project. Peak hour and daily forecasts for the General Plan Buildout traffic conditions have been provided by Urban Crossroads, the City's consultant for the General Plan Update. The primary purpose of this traffic impact analysis (TIA) report is to provide a program-level analysis for the General Plan Buildout traffic condition consistent with the City's General Plan and identify recommended traffic improvements, accordingly, to achieve acceptable service levels within the study area. In addition, for the purposes of determining the extent and timing of phased infrastructure roadway improvements, subsequent TIA's will be prepared to accompany any application requiring discretionary action (i.e. Tentative Tract Map or Conditional Use Permit, etc.). The TIA will be prepared for the strict purpose of determining the "nexus" improvements required as a part of the respective application.

1.1 Study Area

Thirteen (13) key existing study intersections and nine (9) existing key roadway segments were designated for evaluation for the Existing analysis. Nineteen (19) key study intersections and twenty-three (23) key roadway segments were designated for evaluation for the General Plan Buildout Without Project analysis. Twenty-seven (27) key study intersections and thirty-two (32) key roadway segments were designated for evaluation for the General Plan Amendment Buildout With

Project analysis. The key area intersections selected for evaluation in this report provide local and regional access to the study area and are listed as follows:

1. Horsethief Canyon Road at Temescal Canyon Road
2. Lake Street at I-15 Northbound Ramps
3. Lake Street at I-15 Southbound Ramps
4. Lake Street at Temescal Canyon Road
5. Lake Street at Nichols Road
6. Lake Street at Alberhill Ranch Road
7. Lake Street at Mountain Street
8. Lake Street/Grand Avenue at Lakeshore Drive
9. Grand Avenue at Lincoln Street
10. Terra Cotta Road at Lakeshore Drive
11. Collier Avenue at Nichols Road
12. I-15 Southbound Ramps at Nichols Road
13. I-15 Northbound Ramps at Nichols Road
14. Lincoln Street at A Street/E Street (General Plan Scenario)
15. Lincoln Street at B Street/F Street (North) (General Plan Scenario)
16. Lincoln Street at F Street (South) (General Plan Scenario)
17. Lincoln Street at Nichols Road (General Plan Scenario)
18. C Street at B Street (General Plan Scenario)
19. C Street at Nichols Road (General Plan Scenario)
20. D Street at Nichols Road (General Plan Scenario)
21. Lake Street at A Street (General Plan Scenario)
22. Lake Street at B Street (General Plan Scenario)
23. Lake Street at D Street (North) (General Plan Scenario)
24. Lake Street at D Street (South) (General Plan Scenario)
25. Alberhill Ranch Road at Nichols Road (General Plan Scenario)
26. Terra Cotta Road at Nichols Road (General Plan Scenario)
27. Lincoln Street at Temescal Canyon Road

The key area roadway segments selected for evaluation in this report provide local and regional access to the study area and are listed as follows:

1. Temescal Canyon Rd *between* Horsethief Canyon Rd and I-15 Freeway [E/W]
2. Lake St *between* I-15 SB Ramps and Temescal Canyon Rd [N/S]
3. Lake St *between* Temescal Canyon Rd and Nichols Rd [N/S]
4. Lake St *between* Nichols Rd and Alberhill Ranch Rd [N/S]

5. Lake St *between* Alberhill Ranch Rd and Mountain St [N/S]
6. Lake St *between* Mountain St and Lakeshore Drive [N/S]
7. Grand Avenue *between* Lakeshore Drive and Lincoln St [N/S]
8. Lakeshore Drive *between* Lake St/Grand Avenue and Terra Cotta Rd [E/W]
9. Nichols Rd *between* Lake St and Alberhill Ranch Rd [E/W] (General Plan Scenario)
10. Nichols Rd *between* Alberhill Ranch Rd and Terra Cotta Rd [E/W] (General Plan Scenario)
11. Nichols Rd *between* Terra Cotta Rd and Collier Avenue [E/W]
12. Lake St *between* A St and B St [N/S] (General Plan Scenario)
13. Lake St *between* D St (North) and Nichols Rd [N/S] (General Plan Scenario)
14. Lake St *between* Nichols Rd and D St (South) [N/S] (General Plan Scenario)
15. Lincoln Street *between* I-15 Freeway and A St/E St [N/S] (General Plan Scenario)
16. Lincoln Street *between* A St/E St and B St/F St (North) [N/S] (General Plan Scenario)
17. Lincoln Street *between* B St/F St (North) and F St (South) [N/S] (General Plan Scenario)
18. Lincoln Street *between* F St (South) and Nichols Rd [N/S] (General Plan Scenario)
19. Lincoln Street *between* Nichols Rd and Mountain St [N/S] (General Plan Scenario)
20. E St *between* F St and Lincoln Street [E/W] (General Plan Scenario)
21. F St (North) *between* E St and Lincoln Street [E/W] (General Plan Scenario)
22. F St (South) *between* E St and Lincoln Street [E/W] (General Plan Scenario)
23. A St *between* Lincoln Street and Lake St [E/W] (General Plan Scenario)
24. B St *between* Lincoln Street and C St [E/W] (General Plan Scenario)
25. B St *between* C St and Lake St [E/W] (General Plan Scenario)
26. C St *between* B St and Nichols Rd [N/S] (General Plan Scenario)
27. Nichols Rd *between* Lincoln Street and C St [E/W] (General Plan Scenario)
28. Nichols Rd *between* C St and D St [E/W] (General Plan Scenario)
29. Nichols Rd *between* D St and Lake St [E/W] (General Plan Scenario)
30. D St (North) *between* Lake St and Nichols Rd [N/S] (General Plan Scenario)
31. D St (South) *between* Nichols Rd and Lake St [N/S] (General Plan Scenario)
32. Temescal Canyon Road *between* Lincoln Street and Lake Street

Figure 1-1 presents a Vicinity Map, which illustrates the general location of the Project and depicts the study locations and surrounding street system. The Level of Service (LOS) investigations at these key locations were used to evaluate the potential traffic-related impacts associated with future traffic and the proposed Project. When necessary, this report recommends intersection and/or roadway improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service, and/or mitigates the impact of the Project. ***Figure 1-2*** presents a Regional Map, which illustrates the general location of the Project, surrounding cities and the regional freeway system.

Figure 1-3 presents the City of Lake Elsinore Circulation Element, which identifies the roadway classifications that are identified in this study. ***Figure 1-4*** shows the corresponding City of Lake Elsinore General Plan Roadway Cross-Sections.

Included in this Traffic Impact Analysis are:

- Existing traffic counts,
- Estimated Project traffic generation,
- AM and PM peak hour capacity analyses for existing conditions,
- Daily capacity analyses for existing conditions,
- AM and PM peak hour capacity analyses for General Plan Buildout, without and with Project traffic,
- Daily capacity analyses for General Plan Buildout, without and with Project traffic and
- Area-Wide Traffic Improvements.

1.2 Traffic Impact Analysis Scenarios

AM and PM peak hour intersection capacity analysis for the key existing study intersections has been conducted for the following scenarios:

A. Existing Traffic Conditions,

B. General Plan Buildout Without Project Traffic Conditions,

C. General Plan Amendment Buildout With Project Traffic Conditions, and

D. Scenario "C" plus Recommended Improvements.

The peak hour Delay/LOS calculations will be based on the *Highway Capacity Manual 2000* (HCM 2000) methodology for signalized and unsignalized intersections and will be consistent with the City of Lake Elsinore and Caltrans capacity analysis methodology. The Project's potential impact will be based on the City of Lake Elsinore significant impact criteria.

Daily V/C roadway segment analysis for the key roadway segments has been conducted for the following scenarios:

A. Existing Traffic Conditions,

B. General Plan Buildout Without Project Traffic Conditions,

C. General Plan Amendment Buildout With Project Traffic Conditions, and

D. Scenario "C" plus Recommended Improvements.

The Daily V/C/LOS calculations will be consistent with the City of Lake Elsinore capacity analysis methodology. The Project's potential impact will be based on the City of Lake Elsinore significant impact criteria.

1.3 Impact Criteria and Thresholds

The City of Lake Elsinore and Caltrans consider LOS D to be the minimum acceptable LOS for all intersections. In addition, the City of Lake Elsinore considers LOS C to be the minimum acceptable LOS for all roadway segments.

1.4 Capacity Analysis Methodologies

1.4.1 *Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)*

In conformance with the City of Lake Elsinore and Caltrans requirements, existing AM and PM operating conditions for the key study intersections were evaluated using the *Highway Capacity Manual (HCM)* Methodology for signalized intersections. Based on the HCM operations method of analysis, level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometries, traffic and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during ideal conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of any incidents and when there are no other vehicles on the road.

In Chapter 16 of the HCM, only the portion of total delay attributed to the control facility (study intersection) is quantified. This delay is called *control delay.* Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration delay. In contrast, in previous versions of the HCM (1994 and earlier), delay included only stopped delay. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle. The six qualitative categories of Level of Service that have been defined along with the corresponding HCM control delay (seconds per vehicle) value range for signalized intersections are shown in ***Table 1-1***.

1.4.2 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

The *Highway Capacity Manual (HCM)* Methodology for unsignalized intersections was utilized in the analysis of stop-controlled intersections. For all-way stop-controlled intersections, this methodology estimates the average control delay for each of the subject movements and determines the level of service for each movement. The overall average control delay measured in seconds per vehicle and level of service is then calculated for the entire intersection. The HCM control delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance.

For one-way and two-way stop-controlled (minor street stop-controlled) intersections, this methodology estimates the worst side street delay, measured in seconds per vehicle and determines the level of service for that approach. The HCM delay value translates to a Level of Service (LOS) estimate, which is a relative measure of the intersection performance. The six qualitative categories of Level of Service have been defined along with the corresponding HCM control delay value range, as shown in ***Table 1-2***.

1.4.3 *Volume to Capacity (V/C) Method of Analysis (Roadway Segments)*

In conformance with the City of Lake Elsinore requirements criteria, daily operating conditions for the key study roadway segments have been investigated according to the volume-to-capacity (V/C) of each link. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic count data and the capacity based on the City's classification of each roadway. The six qualitative categories of Level of Service have been defined along with the corresponding Volume to Capacity (V/C) value range and are shown in ***Table 1-3***.

The roadway segment daily capacity of each street classification, according to the City of Lake Elsinore Circulation Element is presented in ***Table 1-4.***

TABLE 1-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM)[2]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	$\leq$ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and $\leq$ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and $\leq$ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and $\leq$ 55.0	Long traffic delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and $\leq$ 80.0	Very long traffic delays. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent occurrences.
-F	$\geq$ 80.0	Severe congestion. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[2] Source: *Highway Capacity Manual 2000*, Chapter 16 (Signalized Intersections).

TABLE 1-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM)[3]

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Value (sec/veh)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

[3] Source: *Highway Capacity Manual.*

TABLE 1-3

LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS (V/C METHODOLOGY)[4]

Level of Service (LOS)	Volume to Capacity Ratio (V/C)	Level of Service Description
A	≤ 0.600	**EXCELLENT**. Describes primarily free flow operations at average travel speeds, usually about 90% of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.
B	0.601 – 0.700	**VERY GOOD**. Represents reasonably unimpeded operations at average travel speeds, usually about 70% of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.
C	0.701 – 0.800	**GOOD**. Represents stable conditions; however, ability to maneuver and change lanes in mid block location may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50% of the average free flow speed for the arterial class. Motorists will experience appreciable tension while driving.
D	0.801 – 0.900	**FAIR**. Borders on a range in which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40% of free flow speed.
E	0.901 – 1.000	**POOR**. Characterized by significant approach delays and average travel speeds of one-third the free flow speed or lower. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.
F	> 1.000	**FAILURE**. Characterizes arterial flow at extremely low speeds below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with resultant high approach delays. Adverse progression is frequently a contributor to this condition.

[4] Source: *Transportation Research Board 2000.*

TABLE 1-4

ROADWAY SEGMENT DAILY CAPACITIES[5]

Type of Arterial	Number of Lanes	LOS "E" Capacity (VPD)
Augmented Urban Arterial	8-Lane	71,000
Urban Arterial	6-Lane	53,900
Towne Center Couplet Arterial	4-Lane	36,000[6]
Major	4-Lane	34,100
Modified Major	4-Lane	30,000
Secondary	4-Lane	25,900
Arterial/Divided Collector	2-Lane[7]	18,000
Collector	2-Lane	13,000

Notes:

- VPD = Vehicles per Day

[5] Source: *Riverside County General Plan – Chapter 4: Circulation Element.*

[6] Capacity calculated based on average capacity per lane for 2-Lane Arterial/Divided Collector [(18,000/2) * 4 = 36,000 VPD].

[7] Capacity calculated based on average capacity between a 4-Lane Major and 4-Lane Secondary [(34,100 + 25,900)/2 = 36,000 VPD].

2.0 PROJECT DESCRIPTION AND LOCATION

The Alberhill Villages Specific Plan area is generally located along the south side of the I-15 Freeway and west of Lake Street, City of Lake Elsinore, California. ***Figure 2-1*** presents the existing site. ***Table 2-1*** presents the Project development summary by land use and ***Table 2-2*** presents the Project development summary by planning area. As presented in *Tables 2-1* and *2-2*, the proposed Project consists of a mixed-use master plan with approximately 19.5 acres of active parks, 36.8 acres of city passive parks, 4,370 apartments, 1,200 condominiums, 2,675 single family residences, two churches with schools for 1,200 students, an elementary school for 850 students, a university for 6,000 students, 1,621,000 SF of commercial use and 886,000 SF of office use. The proposed Project is anticipated to be fully developed over a period of approximately 20 to 30 years.

2.1 Land Use Plan

The Alberhill Villages Specific Plan area has been organized into Villages and Planning Areas. Each Village is intended to create and maintain a unique character. There are a total of six Villages and each is bounded by major roadways, topography, and intended service area (i.e. regional or community focused). In addition, each Village will be anchored by a central focal point such as a school, park, commercial core, plaza, etc. so that these uses are within a ten minute walk or five minute bike ride from residential uses.

2.2 Villages

2.2.1 *Village 1: University Town Center and University Village*

This Village includes regional mixed use and the site for the university campus. At ultimate buildout it is intended to be the most intense, active and vibrant area with regionally-focused commercial uses adjacent to I-15, housing for various types of occupants including students, teachers, alumni, senior citizens, working professionals and families, a potential office/medical center and entertainment uses.

2.2.2 *Village 2: Parkview*

This District is bounded by the wildlife connection adjacent to Temescal Canyon Road/Lincoln Street, steep slopes to the south and the project boundary to the north and west. The Greenbelt District is named after the Greenbelt open space connection formed by a tributary of a canyon drainage, which will carry a portion of the storm water runoff and serve as wildlife and pedestrian connection. Wildlife move mostly at night and early evening when these pedestrian/movement corridor areas are not used by humans. A park and elementary school will provide a focal point and social gathering place for the neighborhoods within this District and should be centrally located to facilitate safe and easy walking. A church site will round out the variety of land uses in this Village.

2.2.3 *Village 3: Highlands*

This hillside area consists of two major components: custom hillside estate homes that will be located in and along the highest portions of the site and the open space connection that runs along Temescal Canyon Road/Lincoln Street. The open space connection will serve a multitude of functions including drainage, sediment collection, wildlife conveyance and recreational pursuits. In

addition, the open space connection will buffer the low density residential development from the more intense development to the east.

2.2.4 *Village 4: Lakeside*

The central portion of the Specific Plan area contains the Lakeside Village. A lake and community park is designed for this area to serve as a transition between the intense University Mixed-Use District and the adjacent residential districts to the south, east and west. A series of interconnected open space areas for pedestrians, bicyclists and wildlife will be provided. This Village is within easy walking distance of the community Alberhill Town Center along Lake Street and Nichols Road. A lake front mixed use area is also located in this Village.

2.2.5 *Village 5: Ridgeview*

The Village will be anchored by a middle school site and a small pocket park that will serve as a focal point for the Village. This Village is also within easy walking distance of the community Alberhill Town Center along Lake Street and Nichols Road. A church site will round out the variety of land uses in this Village.

2.2.6 *Village 6: Alberhill Town Center*

The site is intended to accommodate a mix of uses such as a major market, office, smaller retail businesses and residences, located in a manner which creates a pleasant pedestrian environment complete with public spaces.

2.3 Planning Areas

Each Village is divided into smaller Planning Areas or Neighborhoods. Individual Planning Areas or Neighborhoods have boundaries that are defined by major and minor roadways or distinct topographic features. In addition, they are sized so that uses are within a five minute walk or quarter mile radius.

Figure 2-2 presents the proposed Land Use Planning Area Map prepared by KWC Engineers, dated March 23, 2015. As shown in *Figure 2-2*, the Alberhill Villages Specific Plan will amend the General Plan Circulation Element to modify the roadway network of the current General Plan within the Project site consisting of connecting Temescal Canyon Road to Lake Street within the general proximity of the existing connection to Lake Street and re-aligning Lincoln Avenue to connect with Temescal Canyon Road as a "T" Intersection.

2.4 Project Traffic Analysis Zones (TAZ)

The proposed land use and zoning designations are Specific Plan. The individual land uses within the Specific Plan are summarized in *Tables 2-1* and *2-2*. The Project Traffic Analysis Zones (TAZ) that were utilized in the most current Lake Elsinore Traffic Model to generate the General Plan Buildout traffic volumes are shown in ***Figure 2-3***.

TABLE 2-1

PROJECT DEVELOPMENT SUMMARY BY LAND USE

Project Description / Land Use	Proposed Development Size
Active Park	
▪ Planning Area 2c - Active (Sports) Park	14.3 Acres
▪ Planning Area 5b - Active (Sports) Park	45.9 Acres
▪	
Active Park Total:	***19.5 Acres***
Passive Parks	
City Parks	
▪ Planning Area 4a - City Passive Lake Park	21.3 Acres
▪ Planning Area 4c - City Passive Lake Park	15.5 Acres
Passive Park Total:	***36.8 Acres***
Apartments	
▪ Planning Area 1a - Apartments	451 DU
▪ Planning Area 1c - Apartments	1,594 DU
▪ Planning Area 2a - Apartments	350 DU
▪ Planning Area 2b - Apartments	1,026 DU
▪ Planning Area 4a - Apartments	889 DU
▪ Planning Area 4c - Apartments	60 DU
Apartments Total:	***4,370 DU***
Condominiums	
▪ Planning Area 1b - Condominiums	346 DU
▪ Planning Area 4b - Condominiums	467 DU
▪ Planning Area 5b - Condominiums	237 DU
▪ Planning Area 6a - Condominiums	100 DU
▪ Planning Area 6b - Condominiums	50 DU
Condominiums Total:	***1,200 DU***
Single Family Residence	
▪ Planning Area 2a - Single Family Residence	782 DU
▪ Planning Area 2c - Single Family Residence	287 DU
▪ Planning Area 3a - Single Family Residence	8 DU
▪ Planning Area 4a - Single Family Residence	795 DU
▪ Planning Area 4b - Single Family Residence	234 DU
▪ Planning Area 4c - Single Family Residence	190 DU
▪ Planning Area 5a - Single Family Residence	287 DU
▪ Planning Area 5b - Single Family Residence	92 DU
Single Family Residence Total:	***2,675 DU***

Notes: DU = Dwelling Units

TABLE 2-1 (CONTINUED)

PROJECT DEVELOPMENT SUMMARY BY LAND USE

Project Description / Land Use	Proposed Development Size
Church with School	
▪ Planning Area 2c - Church with School	600 Students
▪ Planning Area 6b - Church with School	600 Students
Church with School Total:	***1,200 Students***
Elementary School	
▪ Planning Area 2c - Elementary School	850 Students
Elementary School Total:	***850 Students***
University	
▪ Planning Area 1a - University	6,000 Students
University Total:	***6,000 Students***
Commercial	
▪ Planning Area 1b - Commercial	809,500 SF
▪ Planning Area 4c - Commercial	382,000 SF
▪ Planning Area 6a - Commercial	294,500 SF
▪ Planning Area 6b - Commercial	135,000 SF
Commercial Total:	***1,621,000 SF***
Office	
▪ Planning Area 1b - Office	220,000 SF
▪ Planning Area 1c - Office	503,000 SF
▪ Planning Area 6a - Office	98,000 SF
▪ Planning Area 6b - Office	65,000 SF
Office Total:	***886,000 SF***
Total Park Acres:	***56.3 Acres***
Total Residential Dwelling Units:	***8,244 DU***
Total Students:	***8,050 Students***
Total Commercial/Office Square-Feet:	***2,507,000 SF***

Notes:

- DU = Dwelling Units
- SF = Square-Feet

TABLE 2-2

PROJECT DEVELOPMENT SUMMARY BY PLANNING AREA

Project Description / Land Use	Proposed Development Size
Planning Area 1a	
▪ Planning Area 1a - Apartments	451 DU
▪ Planning Area 1a - University	6,000 Students
Planning Area 1b	
▪ Planning Area 1b - Condominiums	346 DU
▪ Planning Area 1b - Commercial	809,500 SF
▪ Planning Area 1b - Office	220,000 SF
Planning Area 1c	
▪ Planning Area 1c - Apartments	1,594 DU
▪ Planning Area 1c - Office	503,000 SF
Planning Area 2a	
▪ Planning Area 2a - Single Family Residence	782 DU
▪ Planning Area 2a - Apartments	350 DU
Planning Area 2b	
▪ Planning Area 2b - Apartments	1,026 DU
Planning Area 2c	
▪ Planning Area 2c - Single Family Residence	287 DU
▪ Planning Area 2c - Active (Sports) Park	19.5 Acres
▪ Planning Area 2c - Elementary School	850 Students
▪ Planning Area 2c - Church with School	600 Students
Planning Area 3a	
▪ Planning Area 3a - Single Family Residence	8 DU
Planning Area 4a	
▪ Planning Area 4a - Single Family Residence	795 DU
▪ Planning Area 4a - Apartments	889 DU
▪ Planning Area 4a - City Passive Lake Park	21.3 Acres
Planning Area 4b	
▪ Planning Area 4b - Single Family Residence	234 DU
▪ Planning Area 4b - Condominiums	467 DU

Notes:

- DU = Dwelling Units
- SF = Square-Feet

TABLE 2-2 (CONTINUED)

PROJECT DEVELOPMENT SUMMARY BY PLANNING AREA

Project Description / Land Use	Proposed Development Size
Planning Area 4c	
▪ Planning Area 4c - Single Family Residence	190 DU
▪ Planning Area 4c - Apartments	60 DU
▪ Planning Area 4c - Commercial	382,000 SF
▪ Planning Area 4c - City Passive Lake Park	15.5 Acres
Planning Area 5a	
▪ Planning Area 5a - Single Family Residence	287 DU
Planning Area 5b	
▪ Planning Area 5b - Single Family Residence	92 DU
▪ Planning Area 5b - Condominiums	237 DU
▪ Planning Area 5b – Active (Sports) Park	45.9 Acres
Planning Area 6a	
▪ Planning Area 6a - Condominiums	100 DU
▪ Planning Area 6a - Commercial	294,500 SF
▪ Planning Area 6a - Office	98,000 SF
Planning Area 6b	
▪ Planning Area 6b - Condominiums	100 DU
▪ Planning Area 6b - Commercial	135,000 SF
▪ Planning Area 6b - Office	65,000 SF
▪ Planning Area 6b - Church with School	600 Students
Active Park Total:	***19.5 Acres***
Passive Park Total:	***36.8 Acres***
Apartments Total:	***4,370 DU***
Condominiums Total:	***1,200 DU***
Single Family Residence Total:	***2,675 DU***
Church with School Total:	***1,200 Students***
Elementary School Total:	***850 Students***
University Total:	***6,000 Students***
Commercial Total:	***1,621,000 SF***
Office Total:	***886,000 SF***

Notes:

- DU = Dwelling Units
- SF = Square-Feet

3.0 EXISTING CONDITIONS

Mojave Freeway (I-15 Freeway) provides primary regional access to the proposed development site. The I-15 Freeway is located north and east of the Project site and provides regional access to the Project via On-Ramps and Off-Ramps at Lake Street and Nichols Road.

The principal local network of streets serving the site consists of Lake Street/Grand Avenue, Temescal Canyon Road, Alberhill Ranch Road, Nichols Road, Lakeshore Drive and Lincoln Street. The following discussion provides a brief synopsis of the key area streets.

3.1 Existing Street Network

Lake Street/Grand Avenue is a north-south roadway that borders the Project site on the east. North of Mountain Street, Lake Street is a two-lane, undivided roadway with a posted speed limit of 50 miles per hour (mph). South of Mountain Street, Lake Street/Grand Avenue is a four-lane divided roadway with a posted speed limit of 45 mph. Parking is not permitted on either side of Lake Street/Grand Avenue within the vicinity of the Project. The intersections of Lake Street/Grand Avenue at Alberhill Ranch Road, Mountain Street, Lakeshore Drive and Lincoln Street are controlled by traffic signals.

Temescal Canyon Road is an east-west roadway that borders the Project on the north side. Temescal Canyon Road is a two-lane, undivided roadway with a posted speed limit of 55 miles per hour (mph). Parking is not permitted on either side of the roadway within the vicinity of the Project.

Alberhill Ranch Road is primarily a north-south roadway east of the Project site. Within the vicinity of the Project, Alberhill Ranch Road is a two-lane, divided roadway.

Nichols Road is an east-west roadway that would traverse the Project site. Nichols Road is a two-lane, divided roadway. Parking is not permitted on either side of the roadway within the vicinity of the Project.

Lakeshore Drive is an east-west roadway located south of the Project site. West of Terra Cotta Road, Lakeshore Drive is a four-lane, divided roadway with a posted speed limit of 45 miles per hour (mph). East of Terra Cotta Road, Lakeshore Drive is a two-lane, divided roadway with a posted speed limit of 45 mph. Parking is not permitted on either side of the roadway within the vicinity of the Project.

Lincoln Street is a northwest-southeast roadway located south of the Project site. Lincoln Street is a four-lane, divided roadway with a posted speed limit of 40 miles per hour (mph).

Figure 3-1 presents an inventory of the existing roadway conditions for the intersections evaluated in this report. The number of travel lanes and intersection controls for the key area intersections and roadway segments are also identified.

3.2 Existing Traffic Volumes

Existing AM and PM peak hour traffic volumes at the thirteen (13) key study intersections and Daily traffic volumes at the nine (9) key roadway segments evaluated in this report were collected in September, 2014 and March 2015 by Counts Unlimited, Inc. ***Appendix A*** contains the detailed traffic count data. The thirteen (13) key study intersections and nine (9) key roadway segments were designated for evaluation based on the City of Lake Elsinore criteria and knowledge of the area circulation system.

Figures 3-2 and ***3-3*** present the existing AM and PM peak hour traffic volumes, respectively, for the thirteen (13) key study intersections. ***Figure 3-4*** presents the existing Daily traffic volumes for the nine (9) key study roadway segments.

3.3 Existing Level of Service Results

3.3.1 *Intersections*

Table 3-1 summarizes the existing peak hour service level calculations for the thirteen (13) key study intersections based on existing traffic volumes and current street geometry. Review of *Table 3-1* indicates that based on the HCM method of analysis and the LOS criteria mentioned in this report, one (1) of the thirteen (13) key study intersections currently operates at an unacceptable level of service, LOS E or worse during the AM and/or PM peak hour. The remaining twelve (12) key study intersections currently operate at acceptable level of service LOS D or better during the AM and PM peak hours. The intersections operating at an adverse level of service are:

		AM Peak Hour		PM Peak Hour	
Key Intersection		**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
13.	I-15 Northbound Ramps at Nichols Road	--	--	43.6	E

Figure 3-5 graphically represents the existing traffic conditions level of service results for the AM and PM peak hours.

Appendix B contains the Existing Traffic Conditions Delay/LOS calculation worksheets for the thirteen (13) key study intersections.

3.3.2 *Roadway Segments*

Table 3-2 summarizes the existing service level calculations for the nine (9) key study roadway segments based on existing daily traffic volumes and current roadway geometry. Review of *Table 3-2* indicates that based on the daily V/C method of analysis and the LOS criteria mentioned in this report, four (4) of the nine (9) key study roadway segments currently operate at unacceptable levels of service, LOS D or worse. The remaining five (5) study roadway segments currently operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

	Key Roadway Segment	**Daily Volume**	**Daily V/C Ratio**	**LOS**
2.	Lake Street *between* I-15 SB Ramp and Temescal Canyon Road	17,762	0.987	E
3.	Lake Street *between* Temescal Canyon Road and Nichols Road	15,189	0.844	D
4.	Lake Street *between* Nichols Road and Alberhill Ranch Road	19,788	1.099	F
5.	Lake Street *between* Alberhill Ranch Road and Mountain Street	18,880	1.049	F

TABLE 3-1

EXISTING INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY[8]

Key Intersection		Time Period	Control Type	Delay (s/v)	LOS
1.	Horsethief Canyon Road at	AM	One-Way	10.6	B
	Temescal Canyon Road	PM	Stop	10.6	B
2.	Lake Street at	AM	One-Way	23.0[9]	C
	I-15 Northbound Ramps	PM	Stop	18.8	C
3.	Lake Street at	AM	One-Way	11.4	B
	I-15 Southbound Ramps	PM	Stop	26.0	D
4.	Lake Street at	AM	3Ø Traffic	19.6	B
	Temescal Canyon Road	PM	Signal	16.3	B
5.	Lake Street at	AM	5Ø Traffic	21.7	C
	Nichols Road	PM	Signal	29.1	C
6.	Lake Street at	AM	3Ø Traffic	8.4	A
	Alberhill Ranch Road	PM	Signal	27.1	C
7.	Lake Street at	AM	5Ø Traffic	20.6	C
	Mountain Street	PM	Signal	12.7	B
8.	Lake Street/Grand Avenue at	AM	8Ø Traffic	30.1	C
	Lakeshore Drive	PM	Signal	21.9	C
9.	Grand Avenue at	AM	8Ø Traffic	28.8	C
	Lincoln Street	PM	Signal	23.9	C
10.	Terra Cotta Road at	AM	Two-Way	33.4	D
	Lakeshore Drive	PM	Stop	25.8	D
11.	Collier Avenue at	AM	One-Way	13.2	B
	Nichols Road	PM	Stop	18.4	C
12.	I-15 Southbound Ramps at	AM	All-Way	12.5	B
	Nichols Road	PM	Stop	13.2	B
13.	I-15 Northbound Ramps at	AM	One-Way	23.7	C
	Nichols Road	PM	Stop	**43.6**	**E**

Notes:

- s/v = seconds per vehicle
- LOS = Level of Service, please refer to *Tables 1-1* and *1-2* for the LOS definitions.
- Ø = Phase
- **Bold Delay/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Criteria.
- OVRFL = Exceeds analysis model capabilities (Overflow conditions).

[8] *Appendix B* contains the Delay/LOS calculation worksheets for all study intersections.

[9] Actual delay/LOS at the intersection of Lake Street at I-15 Northbound Ramps based on AM peak hour vehicle delay observations of the NB off-ramp left turn movement.

TABLE 3-2

EXISTING ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	(1) Type of Roadway Segment	(2) Number of Lanes	(3) LOS "E" Capacity (VPD)	(4) Existing Traffic Conditions		
				Daily Volume	V/C Ratio	LOS
1. Temescal Canyon Road *between* Horsethief Canyon Road and I-15 Freeway	Arterial	2U	18,000	5,691	0.316	A
2. Lake Street *between* I-15 SB Ramp and Temescal Canyon Road	Arterial	2U	18,000	**17,762**	**0.987**	**E**
3. Lake Street *between* Temescal Canyon Road and Nichols Road	Arterial	2U	18,000	**15,189**	**0.844**	**D**
4. Lake Street *between* Nichols Road and Alberhill Ranch Road	Arterial	2U	18,000	**19,788**	**1.099**	**F**
5. Lake Street *between* Alberhill Ranch Road and Mountain Street	Arterial	2U	18,000	**18,880**	**1.049**	**F**
6. Lake Street *between* Mountain Street and Lakeshore Street	Secondary	4D	25,900	17,359	0.670	B
7. Grand Avenue *between* Lakeshore Drive and Lincoln Street	Secondary	4D	25,900	14,757	0.570	A
8. Lakeshore Drive *between* Lake Street/Grand Avenue and Terra Cotta Road	Secondary	4D	25,900	9,186	0.355	A
11. Nichols Road *between* Terra Cotta Road and Collier Avenue	Arterial	2U	18,000	6,801	0.378	A

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- V/C = Volume to Capacity ratio.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.

4.0 TRAFFIC FORECASTING METHODOLOGY

The General Plan Buildout forecast volumes for the Alberhill Villages Specific Plan scenarios (without and with Project) were developed using the most current City of Lake Elsinore Traffic Model.

Peak hour and daily forecasts for the General Plan Buildout traffic conditions have been provided by Urban Crossroads, the City's consultant for the General Plan Update

4.1 B-turn Methodology

The base year turning movement counts for each intersection must be converted to approach and departure volumes for each leg of the intersection. Once the base counts are in this format, the difference between the buildout model and base model are then added to the base year counts for each corresponding approach and departure volume. This step provides the adjusted volumes that will be used to determine the Buildout turning movement volumes. The next process in the forecasting of future turning volumes applies the B-turn methodology. The B-turn methodology is generally described in the *"National Cooperative Highway Research Program Report (NCHRP) 255: Highway Traffic Data for Urbanized Area Project Planning and Design", Chapter 8*. The B-turn method uses the base year turning percentages (from traffic counts) and proceeds through an iterative computational technique to produce a final set of future year turning volumes. The computations involve alternatively balancing the rows (approaches) and the columns (departures) of a turning movement matrix until an acceptable convergence is obtained. Future year link volumes are fixed using this method and the turning movements are adjusted to match. The results must be checked for reasonableness, and manual adjustments are sometimes necessary.

5.0 PROJECT TRIP CHARACTERISTICS

5.1 Project Trip Generation Forecast

Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the Ninth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2012].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project. The trip generation potential for the proposed Project was forecast using ITE Land Use Codes:

- 210: Single Family Detached Housing
- 220: Apartments
- 230: Residential Condominium / Townhouse
- 411: City Park
- 520: Elementary School
- 550: University / College
- 536: Private School (K-12)
- 710: General Office Building
- 820: Shopping Center

Table 5-2 summarizes the forecast daily and peak hour Project traffic volumes for a "typical" weekday. The proposed Project is forecast to generate 150,415 gross Daily trips (one half arriving and one half departing), with 9,927 gross trips (4,731 inbound, 5,196 outbound) produced in the AM peak hour and 14,575 gross trips (7,389 inbound, 7,186 outbound) produced in the PM peak hour. It should be noted that these are gross trips without the application of internal capture trip or pass-by trip reduction factors. The analyses in the preceding sections of this report for the General Plan Buildout (without and with Project) are based on traffic volumes directly obtained from most current City of Lake Elsinore Traffic Model.

In addition, the General Plan Buildout (without and with Project) volumes that have been directly obtained from the most current City of Lake Elsinore Traffic Model assume different variables in determining the trip generation for different land uses. Even though the trips generated for the Project by the traffic model are not exactly same as the ITE forecast trip generation, they are similar. The traffic model takes into account the internal capture and generates and distributes the external traffic volumes accordingly.

TABLE 5-1

PROJECT TRIP GENERATION RATES

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Trip Generation Factors[10]:							
▪ 210: Single Family Detached Housing (TE/DU)	9.52	25%	75%	0.75	63%	37%	1.00
▪ 220: Apartments (TE/DU)	6.65	20%	80%	0.51	65%	35%	0.62
▪ 230: Residential Condominium / Townhouse (TE/DU)	5.81	17%	83%	0.44	67%	33%	0.52
▪ 411: City Park (TE/AC)[11]	1.89	75%	25%	0.09	25%	75%	0.28
▪ 411: City Park (TE/AC)[12]	1.89	75%	25%	0.09	25%	75%	0.19
▪ 520: Elementary School (TE/ST)	1.29	55%	45%	0.45	49%	51%	0.15
▪ 550: University / College (TE/ST)	1.71	78%	22%	0.17	32%	68%	0.17
▪ 536: Private School (K-12) (TE/ST)	2.48	61%	39%	0.81	43%	57%	0.17
▪ 710: General Office Building (TE/TSF)	11.03	88%	12%	1.56	17%	83%	1.49
▪ 820: Shopping Center (TE/TSF)	42.70	62%	38%	0.96	48%	52%	3.71
▪ 820: Shopping Center (TE/TSF)[13, 14]	32.66	62%	38%	0.69	48%	52%	3.00
▪ 820: Shopping Center (TE/TSF)[13, 15]	42.48	62%	38%	0.92	48%	52%	3.85
▪ 820: Shopping Center (TE/TSF)[13, 16]	46.53	62%	38%	1.02	48%	52%	4.19
▪ 820: Shopping Center (TE/TSF)[13, 17]	61.14	62%	38%	1.39	48%	52%	5.43

Notes:

- TE/DU = Trip ends per Dwelling Unit
- TE/AC = Trip ends per Acre
- TE/ST = Trip ends per Student
- TE/TSF = Trip ends per 1,000 square feet of development

[10] Source: *Trip Generation, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012).* Average rates used.

[11] The AM peak hour rates are assumed to be 5% [75% Enter / 25% Exit] of the Daily traffic and PM peak hour rates are assumed to be 15% [25% Enter / 75% Exit] of the Daily traffic for the Active Park.

[12] The AM peak hour rates are assumed to be 5% [75% Enter / 25% Exit] of the Daily traffic and PM peak hour rates are assumed to be 10% [25% Enter / 75% Exit] of the Daily traffic for the City Park.

[13] The trip generation rates for the 810: Shopping Center are based on the equations listed below:
- Daily: LN(T) = 0.65LN(X) + 5.83
- AM Peak Hour: LN(T) = 0.61LN(X) + 2.24, [62% Enter / 38% Exit]
- PM Peak Hour: LN(T) = 0.67LN(X) + 3.31, [48% Enter / 52% Exit]

[14] The rates are based on the Project's component square-footage of 809,500 SF.

[15] The rates are based on the Project's component square-footage of 382,000 SF.

[16] The rates are based on the Project's component square-footage of 294,500 SF.

[17] The rates are based on the Project's component square-footage of 135,000 SF.

TABLE 5-2

PROJECT TRIP GENERATION FORECAST

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project Trip Generation Forecast:							
▪ Planning Area 1a - Apartments (451 DU)	2,999	46	184	230	182	98	280
▪ Planning Area 1a - University (6,000 Students)	10,260	796	224	1,020	326	694	1,020
Planning Area 1a Total:	***13,259***	***842***	***408***	***1,250***	***508***	***792***	***1,300***
▪ Planning Area 1b - Condominiums (346 DU)	2,010	26	126	152	121	59	180
▪ Planning Area 1b - Commercial (809,500 SF)	26,441	346	212	558	1,167	1,265	2,432
▪ Planning Area 1b - Office (220,000 SF)	2,427	302	41	343	56	272	328
Planning Area 1b Total:	***30,878***	***674***	***379***	***1,053***	***1,344***	***1,596***	***2,940***
▪ Planning Area 1c - Apartments (1,594 DU)	10,600	163	650	813	642	346	988
▪ Planning Area 1c - Office (503,000 SF)	5,548	691	94	785	127	622	749
Planning Area 1c Total:	***16,148***	***854***	***744***	***1,598***	***769***	***968***	***1,737***
▪ Planning Area 2a - Single Family Residence (782 DU)	7,445	147	440	587	493	289	782
▪ Planning Area 2a - Apartments (350 DU)	2,328	36	143	179	141	76	217
Planning Area 2a Total:	***9,773***	***183***	***583***	***766***	***634***	***365***	***999***
▪ Planning Area 2b - Apartments (1,026 DU)	6,823	105	418	523	413	223	636
Planning Area 2b Total:	***6,823***	***105***	***418***	***523***	***413***	***223***	***636***
▪ Planning Area 2c - Single Family Residence (287 DU)	2,732	54	161	215	181	106	287
▪ Planning Area 2c - Active (Sports) Park (14.3 Acres)	27	1	0	1	1	3	4
▪ Planning Area 2c - Elementary School (850 Students)	1,097	211	172	383	63	65	128
▪ Planning Area 2c - Church with School (600 Students)	1,488	296	190	486	44	58	102
Planning Area 2c Total:	***5,344***	***562***	***523***	***1,085***	***289***	***232***	***521***
▪ Planning Area 3a - Single Family Residence (8 DU)	76	2	4	6	5	3	8
Planning Area 3a Total:	***76***	***2***	***4***	***6***	***5***	***3***	***8***
▪ Planning Area 4a - Single Family Residence (795 DU)	7,568	149	447	596	501	294	795
▪ Planning Area 4a - Apartments (889 DU)	5,912	91	362	453	358	193	551
▪ Planning Area 4a - City Passive Lake Park (21.3 Acres)	40	2	0	2	1	3	4
Planning Area 4a Total:	***13,520***	***242***	***809***	***1,051***	***860***	***490***	***1,350***

Notes:

- DU = Dwelling Unit
- SF = Square-feet of gross floor area

TABLE 5-2 (CONTINUED)
PROJECT TRAFFIC GENERATION FORECAST

Land Use/Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Proposed Project Trip Generation Forecast:							
▪ Planning Area 4b - Single Family Residence (234 DU)	2,228	44	132	176	147	87	234
▪ Planning Area 4b - Condominiums (467 DU)	2,713	35	170	205	163	80	243
Planning Area 4b Total:	***4,941***	***79***	***302***	***381***	***310***	***167***	***477***
▪ Planning Area 4c - Single Family Residence (190 DU)	1,809	36	107	143	120	70	190
▪ Planning Area 4c - Apartments (60 DU)	399	6	25	31	24	13	37
▪ Planning Area 4c - Commercial (382,000 SF)	16,228	219	134	353	706	765	1,471
▪ Planning Area 4c - City Passive Lake Park (15.5 Acres)	29	1	0	1	1	2	3
Planning Area 4c Total:	***18,465***	***262***	***266***	***528***	***851***	***850***	***1,701***
▪ Planning Area 5a - Single Family Residence (287 DU)	2,732	54	161	215	181	106	287
Planning Area 5a Total:	***2,732***	***54***	***161***	***215***	***181***	***106***	***287***
▪ Planning Area 5b - Single Family Residence (92 DU)	876	17	52	69	58	34	92
▪ Planning Area 5b - Condominiums (237 DU)	1,377	18	86	104	82	41	123
▪ Planning Area 5b - Active (Sports) Park (45.9 Acres)	87	3	1	4	3	10	13
Planning Area 5b Total:	***2,340***	***38***	***139***	***177***	***143***	***85***	***228***
▪ Planning Area 6a - Condominiums (100 DU)	581	7	37	44	35	17	52
▪ Planning Area 6a - Commercial (294,500 SF)	13,704	187	114	301	593	642	1,235
▪ Planning Area 6a - Office (98,000 SF)	1,081	135	18	153	25	121	146
Planning Area 6a Total:	***15,366***	***329***	***169***	***498***	***653***	***780***	***1,433***
▪ Planning Area 6b - Condominiums (50 DU)	291	4	18	22	17	9	26
▪ Planning Area 6b - Commercial (135,000 SF)	8,254	116	71	187	352	381	733
▪ Planning Area 6b - Office (65,000 SF)	717	89	12	101	16	81	97
▪ Planning Area 6b - Church with School (600 Students)	1,488	296	190	486	44	58	102
Planning Area 6b Total:	***10,750***	***505***	***291***	***796***	***429***	***529***	***958***
Proposed Project Trip Generation Forecast	**150,415**	**4,731**	**5,196**	**9,927**	**7,389**	**7,186**	**14,575**

Notes:

- DU = Dwelling Unit
- SF = Square-feet of gross floor area

6.0 FUTURE TRAFFIC CONDITIONS

The General Plan Buildout traffic volume forecast for the Alberhill Villages Specific Plan scenarios (without and with Project) were developed from the most current City of Lake Elsinore Traffic Model. Peak hour and daily forecasts for the General Plan Buildout traffic conditions have been provided by Urban Crossroads, the City's consultant for the General Plan Update. ***Appendix C*** contains the detailed General Plan Buildout traffic volume data. It should be noted that the PM peak hour traffic volume forecast has been adjusted (re-routed within the study area) at up to sixteen study intersections to account for potential turning capacity constraints and is denoted in parenthesis in *Appendix C*.

6.1 General Plan Buildout Without Project Traffic Volumes

Figures 6-1 and ***6-2*** present the AM and PM peak hour General Plan Buildout Without Project traffic volumes, respectively, at the key study intersections. In addition, ***Figure 6-3*** presents the Daily General Plan Buildout Without Project traffic volumes at the key study roadway links. It should be noted that in order to remain conservative and the fact that the Alberhill Villages Specific Plan development consists of a significant volume of potential traffic generation within the study area, the "Without Project" roadway network geometry assumed Lake Street, Lincoln Street, Temescal Canyon Road, and Nichols Road as four lane roadways.

6.2 General Plan Amendment Buildout With Project Traffic Volumes

Figures 6-4 and ***6-5*** present the AM and PM peak hour General Plan Buildout With Project traffic volumes, respectively, at the key study intersections. In addition, ***Figure 6-6*** presents the Daily General Plan Buildout With Project traffic volumes at the key study roadway links. It should be noted that Alberhill Villages Specific Plan will amend the General Plan Circulation Element to modify the roadway network of the current General Plan with the Project site consisting of connecting Temescal Canyon Road to Lake Street within the general proximity of the existing connection to Lake Street and re-aligning Lincoln Street to connect with Temescal Canyon Road as a "T" Intersection.

7.0 GENERAL PLAN BUILDOUT TRAFFIC IMPACT ANALYSIS

The relative impact of the added Project traffic volumes generated by the proposed Project during the Daily, AM, and PM peak hours was evaluated based on analysis of future operating conditions at the key study intersections and roadway segments, with and without, the proposed Project for the General Plan Buildout traffic conditions. The previously discussed capacity analysis procedures were utilized to investigate the future delay relationships and volume to capacity ratios and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the Project at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

7.1 General Plan Buildout Intersection Capacity Analysis

Table 7-1 summarizes the AM and PM peak hour Level of Service results at the key study intersections for the General Plan Buildout traffic conditions. The first column (1) of Delay/LOS values in *Table 7-1* presents a summary of existing AM and PM peak hour traffic conditions (which were also presented in *Table 3-1*). The second column (2) lists forecast General Plan Buildout Without Project traffic conditions based on future intersection geometry and planned improvements, as presented in ***Figure 7-1***. It should be noted that the planned intersection improvements represent the minimum intersection improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions as well as planned internal intersection improvements that the Project would construct as part of the Specific Plan development buildout. The third column (3) lists forecast General Plan Buildout With Project traffic conditions based on future intersection geometry and planned improvements, as presented in *Figure 7-1* and the fourth column (4), indicates whether the traffic associated with the Project will have a significant impact based on the significant traffic impact criteria mention in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended improvements to achieve an acceptable level of service.

7.1.1 *Existing Traffic Conditions*

Thirteen (13) key existing study intersections were analyzed for the Existing traffic conditions. As previously presented in *Table 3-1*, review of *Table 7-1* indicates that based on the HCM method of analysis and the LOS criteria mentioned in this report, one (1) of the thirteen (13) key study intersections currently operates at an unacceptable level of service, LOS E or worse during the AM and/or PM peak hour. The remaining twelve (12) key study intersections currently operate at acceptable level of service LOS D or better during the AM and PM peak hours. The intersections operating at an adverse level of service are:

		AM Peak Hour		PM Peak Hour	
Key Intersection		**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
13.	I-15 Northbound Ramps at Nichols Road	--	--	43.6	E

7.1.2 *General Plan Buildout Without Project Traffic Conditions*

Nineteen (19) key study intersections were analyzed for the General Plan Buildout Without Project traffic conditions. Review of Column (2) of *Table 7-1* shows that ten (10) key study intersections are forecast to operate at unacceptable levels of service, LOS E or worse during the AM and/or PM peak hours under General Plan Buildout Without Project traffic conditions. The remaining nine (9) key study intersections operate at acceptable levels of service, LOS D or better during the AM and PM peak hours. The intersections operating at adverse levels of service are:

		AM Peak Hour		PM Peak Hour	
Key Intersection		**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1.	Horsethief Canyon Road at Temescal Canyon Rd	OVRFL[18]	F	OVRFL[18]	F
5.	Lake Street at Nichols Road	--	--	80.1	F
10.	Terra Cotta Road at Lakeshore Drive	OVRFL[18]	F	OVRFL[18]	F
11.	Collier Avenue at Nichols Road	138.5	F	331.1	F
12.	I-15 Southbound Ramps at Nichols Road	--	--	90.1	F
13.	I-15 Northbound Ramps at Nichols Road	80.0	E	257.5	F
14.	Lincoln Street at A Street/E Street	280.4	F	481.0	F
21.	Lake Street at A Street	--	--	133.3	F
25.	Alberhill Ranch Road at Nichols Road	--	--	66.3	F
26.	Terra Cotta Road at Nichols Road	--	--	59.0	F

7.1.3 *General Plan Amendment Buildout With Project Traffic Conditions*

Twenty-seven (27) key study intersections were analyzed for the General Plan Buildout With Project traffic conditions. Review of Columns (3) of *Table 7-1* shows that twelve (12) of the key study intersections are forecast to operate at unacceptable levels of service, LOS E or worse with the addition of Project traffic based on the LOS impact criteria mentioned in this report. The remaining fifteen (15) key study intersections operate at acceptable levels of service, LOS D or better during the AM and PM peak hours. The intersections operating at adverse LOS are listed below:

		AM Peak Hour		PM Peak Hour	
Key Intersection		**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
1.	Horsethief Canyon Road at Temescal Canyon Rd	OVRFL[18]	F	OVRFL[18]	F
4.	Lake Street at Temescal Canyon Road	--	--	120.2	F
5.	Lake Street at Nichols Road	87.6	F	147.6	F
10.	Terra Cotta Road at Lakeshore Drive	848.4	F	OVRFL[18]	F
11.	Collier Avenue at Nichols Road	133.9	F	339.6	F
12.	I-15 Southbound Ramps at Nichols Road	--	--	93.3	F
13.	I-15 Northbound Ramps at Nichols Road	77.1	E	258.0	F

[18] OVRFL = Exceeds analysis model capabilities (Overflow conditions).

14.	Lincoln Street at A Street/E Street	--	--	123.9	F
23.	Lake Street at D Street (North)	--	--	73.8	E
25.	Alberhill Ranch Road at Nichols Road	--	--	67.3	E
26.	Terra Cotta Road at Nichols Road	--	--	72.3	E
27.	Lincoln Street at Temescal Canyon Road	122.8	F	342.0	F

Review of column (4) indicates that these twelve (12) intersections will have a significant impact when compared to the City of Lake Elsinore LOS criteria. It should be noted that the recommended improvements outlined in this report will offset the impact of the General Plan Buildout With Project traffic and bring the significantly impacted intersections to pre-project and/or acceptable conditions as shown in column (5).

To supplement the level of service results as presented in *Table 7-1*, ***Figure 7-2*** graphically represents the comparison between General Plan Buildout Without Project and General Plan Buildout With Project traffic conditions level of service results for the AM and PM peak hours.

In addition, ***Figure 7-3*** graphically represents the comparison between General Plan Buildout With Project and General Plan Buildout With Project With Recommended Improvements traffic conditions level of service results for the AM and PM peak hours.

Appendix D contains the General Plan Buildout Traffic Conditions Delay/LOS calculation worksheets for the key study intersections.

TABLE 7-1

GENERAL PLAN BUILDOUT INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY[19]

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) General Plan Buildout Without Project Traffic Conditions		(3) General Plan Buildout With Project Traffic Conditions		(4) Significant Impact	(5) General Plan Buildout With Project with Improvements	
		Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Horsethief Canyon Road at Temescal Canyon Road	AM	10.6	B	**OVRFL**	**F**	**OVRFL**	**F**	**Yes**	18.9	B
	PM	10.6	B	**OVRFL**	**F**	**OVRFL**	**F**	**Yes**	27.7	C
2. Lake Street at I-15 Northbound Ramps	AM	23.0	C	20.8	C	20.2	C	No	--	--
	PM	18.8	C	24.7	C	24.8	C	No	--	--
3. Lake Street at I-15 Southbound Ramps	AM	11.4	B	18.3	B	16.3	B	No	--	--
	PM	26.0	D	39.3	D	33.3	C	No	--	--
4. Lake Street at Temescal Canyon Road	AM	19.6	B	--	--	34.1	C	No	28.7	C
	PM	16.3	B	--	--	**120.2**	**F**	**Yes**	38.6	D
5. Lake Street at Nichols Road	AM	21.7	C	52.9	D	**87.6**	**F**	**Yes**	31.0	C
	PM	29.1	C	**80.1**	**F**	**147.6**	**F**	**Yes**	34.6	C
6. Lake Street at Alberhill Ranch Road	AM	8.4	A	10.9	B	11.1	B	No	--	--
	PM	27.1	C	9.8	A	9.8	A	No	--	--
7. Lake Street at Mountain Street	AM	20.6	C	18.3	B	18.6	B	No	--	--
	PM	12.7	B	18.3	B	17.8	B	No	--	--
8. Lake Street/Grand Avenue at Lakeshore Drive	AM	30.1	C	38.0	D	39.3	D	No	--	--
	PM	21.9	C	28.4	C	28.2	C	No	--	--
9. Grand Avenue at Lincoln Street	AM	28.8	C	31.8	C	29.6	C	No	--	--
	PM	23.9	C	35.2	D	32.1	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 1-1 and 1-2* for the LOS definitions.
- **Bold LOS values** indicate adverse service levels based on City of Lake Elsinore LOS standards.
- OVRFL = Exceeds analysis model capabilities (Overflow conditions).

[19] *Appendices B* and *D* contain the Delay/LOS calculation worksheets for all study intersections.

TABLE 7-1 (CONTINUED)

GENERAL PLAN BUILDOUT INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY[20]

Key Intersection		Time Period	(1) Existing Traffic Conditions		(2) General Plan Buildout Without Project Traffic Conditions		(3) General Plan Buildout With Project Traffic Conditions		(4) Significant Impact	(5) General Plan Buildout With Project with Improvements	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
10.	Terra Cotta Road at Lakeshore Drive	AM	33.4	D	**OVRFL**	**F**	**848.4**	**F**	**Yes**	14.9	B
		PM	25.8	D	**OVRFL**	**F**	**OVRFL**	**F**	**Yes**	28.4	C
11.	Collier Avenue at Nichols Road[21]	AM	13.2	B	**138.5**	**F**	**133.9**	**F**	**Yes**	Does not Exist Part of Intersection 12	
		PM	18.4	C	**331.1**	**F**	**339.6**	**F**	**Yes**		
12.	I-15 Southbound Ramps at Nichols Road[21]	AM	12.5	B	49.5	D	46.9	D	No	20.1	C
		PM	13.2	B	**90.1**	**F**	**93.3**	**F**	**Yes**	50.9	D
13.	I-15 Northbound Ramps at Nichols Road[21]	AM	23.7	C	**80.0**	**E**	**77.1**	**E**	**Yes**	21.9	C
		PM	**43.6**	**E**	**257.5**	**F**	**258.0**	**F**	**Yes**	18.9	B
14.	Lincoln Street at A Street/E Street[22]	AM	--	--	**280.4**	**F**	39.6	D	No	27.3	C
		PM	--	--	**481.0**	**F**	**123.9**	**F**	**Yes**	43.6	D
15.	Lincoln Street at B Street/F Street (North)[23]	AM	--	--	--	--	28.4	C	No	--	--
		PM	--	--	--	--	33.0	C	No	--	--
16.	Lincoln Street at F Street (South)[23]	AM	--	--	--	--	19.1	B	No	--	--
		PM	--	--	--	--	17.7	B	No	--	--
17.	Lincoln Street at Nichols Road[22]	AM	--	--	28.0	C	24.4	C	No	--	--
		PM	--	--	28.2	C	24.0	C	No	--	--
18.	C Street at B Street[23]	AM	--	--	--	--	16.3	B	No	--	--
		PM	--	--	--	--	28.9	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 1-1 and 1-2* for the LOS definitions.
- **Bold LOS values** indicate adverse service levels based on City of Lake Elsinore LOS standards.
- OVRFL = Exceeds analysis model capabilities (Overflow conditions).

[20] *Appendices B* and *D* contain the Delay/LOS calculation worksheets for all study intersections.
[21] The improvements for this intersection are part of the proposed I-15/Nichols Road Interchange Improvement Project.
[22] Intersection does not exist for Existing traffic conditions.
[23] Intersection does not exist for Existing and General Plan Buildout Without Project traffic conditions.

TABLE 7-1 (CONTINUED)

GENERAL PLAN BUILDOUT INTERSECTION PEAK HOUR LEVELS OF SERVICE SUMMARY[24]

Key Intersection	Time Period	(1) Existing Traffic Conditions		(2) General Plan Buildout Without Project Traffic Conditions		(3) General Plan Buildout With Project Traffic Conditions		(4) Significant Impact	(5) General Plan Buildout With Project with Improvements	
		Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
19. C Street at Nichols Road[25]	AM	--	--	--	--	23.9	C	No	--	--
	PM	--	--	--	--	23.9	C	No	--	--
20. D Street at Nichols Road[25]	AM	--	--	--	--	20.2	C	No	--	--
	PM	--	--	--	--	21.7	C	No	--	--
21. Lake Street at A Street[26, 27]	AM	--	--	42.5	D	14.0	B	No	15.9	B
	PM	--	--	**133.3**	**F**	34.5	C	No	25.7	C
22. Lake Street at B Street[26, 27]	AM	--	--	15.1	B	14.4	B	No	14.9	B
	PM	--	--	11.6	B	34.4	C	No	23.1	C
23. Lake Street at D Street (North)[26]	AM	--	--	27.3	C	26.0	C	No	24.8	C
	PM	--	--	32.6	C	**73.8**	**E**	**Yes**	38.0	D
24. Lake Street at D Street (South)[25]	AM	--	--	--	--	17.1	B	No	--	--
	PM	--	--	--	--	6.7	A	No	--	--
25. Alberhill Ranch Road at Nichols Road[26]	AM	--	--	26.1	C	24.9	C	No	20.8	C
	PM	--	--	**66.3**	**E**	**67.3**	**E**	**Yes**	31.1	C
26. Terra Cotta Road at Nichols Road[26]	AM	--	--	24.8	C	21.8	C	No	14.7	B
	PM	--	--	**59.0**	**E**	**72.3**	**E**	**Yes**	15.6	B
27. Lincoln Street at Temescal Canyon Road[25]	AM	--	--	--	--	**122.8**	**F**	**Yes**	24.8	C
	PM	--	--	--	--	**342.0**	**F**	**Yes**	40.0	D

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service, please refer to *Tables 1-1 and 1-2* for the LOS definitions.
- **Bold LOS values** indicate adverse service levels based on City of Lake Elsinore LOS standards.
- OVRFL = Exceeds analysis model capabilities (Overflow conditions).

[24] *Appendices B* and *D* contain the Delay/LOS calculation worksheets for all study intersections.
[25] Intersection does not exist for Existing and General Plan Buildout Without Project traffic conditions.
[26] Intersection does not exist for Existing traffic conditions.
[27] Intersection is not impacted but improved due to other recommended improvements which affect the lane geometry of this intersection.

7.2 General Plan Buildout Roadway Segment Capacity Analysis

Table 7-2 summarizes the Daily level of service results at the key study roadway segments during a "typical" weekday for the General Plan Buildout traffic conditions. The first section of ***Table 7-2*** presents a summary of existing Daily traffic conditions (which were also presented in *Table 3-2*). The middle section of *Table 7-2* presents the General Plan Buildout traffic conditions. The third section of *Table 7-2* presents the Recommended Circulation Improvements.

Going into further detail for *Table 7-2*, columns one (1), five (5) and ten (10) present type of roadway segment for the Existing, General Plan Buildout and Recommended Circulation Improvements traffic conditions, respectively. Columns two (2), three (3) and eleven (11) present the number of lanes for the Existing, General Plan Buildout and Recommended Circulation Improvements traffic conditions, respectively. Columns three (3) and seven (7) present Daily LOS "E" capacity values for the roadway segments as presented in the *Riverside County General Plan, Chapter 4: Circulation Element* for the Existing and General Plan Buildout traffic conditions, respectively. Columns four (4), eight (8) and nine (9) present the Daily traffic volume, the volume to capacity ratio (V/C) and the level of service (LOS) for the Existing, General Plan Buildout Without Project and General Plan Buildout With Project traffic conditions, respectively.

7.2.1 *Existing Traffic Conditions*

As previously presented in *Table 3-2* review of *Table 7-2* indicates that based on the daily V/C method of analysis and the LOS criteria mentioned in this report, four (4) of the nine (9) key study roadway segments currently operate at unacceptable levels of service, LOS D or worse. The remaining five (5) study roadway segments currently operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

	Key Roadway Segment	Daily Volume	Daily V/C Ratio	LOS
2.	Lake Street *between* I-15 SB Ramp and Temescal Canyon Road	17,762	0.987	E
3.	Lake Street *between* Temescal Canyon Road and Nichols Road	15,189	0.844	D
4.	Lake Street *between* Nichols Road and Alberhill Ranch Road	19,788	1.099	F
5.	Lake Street *between* Alberhill Ranch Road and Mountain Street	18,880	1.049	F

However, even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours under existing conditions and therefore no improvements to these roadway segments are necessary.

7.2.2 *General Plan Buildout Without Project Traffic Conditions*

Review of Columns (8) *Table 7-2* indicates that based on the daily V/C method of analysis and the LOS criteria mentioned in this report, ten (10) of the twenty-three (23) key study roadway segments operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout Without Project Traffic Conditions. The remaining thirteen (13) study roadway segments operate at

acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

Key Roadway Segment		Daily Volume	Daily V/C Ratio	LOS
3.	Lake Street between Temescal Cyn Rd/A St28 and Nichols Rd	49,000	0.909	E
9.	Nichols Road between Lake Street and Alberhill Ranch Road	47,000	0.872	D
10.	Nichols Road between Alberhill Ranch Rd and Terra Cotta Rd	53,000	0.983	E
11.	Nichols Road between Terra Cotta Road and Collier Avenue	58,000	1.076	F
12.	Lake Street between A Street and B Street	47,000	0.872	D
13.	Lake Street between D Street (North) and Nichols Road	51,000	0.946	E
15.	Lincoln Street between Temescal Canyon Road and A St/E St	42,000	1.232	F
23.	A Street between Lincoln Street and Lake Street	34,000	0.944	E
28.	Nichols Road between C Street and D Street	34,000	1.133	F
29.	Nichols Road between D Street and Lake Street	34,000	1.133	F

It should be noted that General Plan Buildout Without Project traffic conditions assume a minimum amount of planned roadway segment improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions.

7.2.3 *General Plan Amendment Buildout With Project Traffic Conditions*

Review of Columns (9) *Table 7-2* indicates that based on the daily V/C method of analysis and the LOS criteria mentioned in this report, eleven (11) of the thirty-two (32) key study roadway segments operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout With Project Traffic Conditions. The remaining twenty-one (21) study roadway segments operate at acceptable LOS C or better on a daily basis. The roadway segments operating at adverse level of service are:

Key Roadway Segment		Daily Volume	Daily V/C Ratio	LOS
1.	Temescal Canyon Rd between Horsethief Canyon Road and I-15	44,000	0.816	D
3.	Lake Street between Temescal Cyn Rd/A St28 and Nichols Rd	52,000	0.965	E
9.	Nichols Road between Lake Street and Alberhill Ranch Road	47,000	0.872	D
10.	Nichols Road between Alberhill Ranch Rd and Terra Cotta Rd	53,000	0.983	E
11.	Nichols Road between Terra Cotta Road and Collier Avenue	58,000	1.076	F
12.	Lake Street between A Street and B Street	60,000	1.113	F
13.	Lake Street between D Street (North) and Nichols Road	51,000	0.946	E
15.	Lincoln Street between Temescal Canyon Road and A St/E St	33,000	0.968	E
20.	E Street between F Street and Lincoln Street	23,000	1.278	F

26.	C Street between B Street and Nichols Road	**21,000**	**1.167**	**F**
29.	Nichols Road between D Street and Lake Street	**30,000**	**1.000**	**E**

It should be noted that even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours with approach lane geometry consistent with the lanes in the roadway segment analyses. In addition, the recommended roadway segment circulation improvements are consistent with the City of Lake Elsinore General Plan Update.

TABLE 7-2

GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)			(9)			(10)	(11)
	Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	Existing Traffic Conditions			Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	General Plan Buildout Without Project Traffic Conditions			General Plan Buildout With Project Traffic Conditions			Type of Roadway Segment	Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
1. Temescal Canyon Rd *between* Horsethief Canyon Road and I-15 Freeway	Arterial	2U	18,000	5,691	0.316	A	Urban Arterial	6D	53,900	42,000	0.779	C	**44,000**	**0.816**	**D**	Urban Arterial	6D
2. Lake Street *between* I-15 Southbound Ramps and Temescal Canyon Rd/A St[28]	Arterial	2U	18,000	**17,762**	**0.987**	**E**	Augmented Urban Arterial	8D	71,000	47,000	0.662	B	48,000	0.676	B	Augmented Urban Arterial	8D
3. Lake Street *between* Temescal Cyn Rd/A St[28] and Nichols Road	Arterial	2U	18,000	**15,189**	**0.844**	**D**	Urban Arterial	6D	53,900	**49,000**	**0.909**	**E**	**52,000**	**0.965**	**E**	Urban Arterial	6D
4. Lake Street *between* Nichols Road and Alberhill Ranch Road	Arterial	2U	18,000	**19,788**	**1.099**	**F**	Urban Arterial	6D	53,900	35,000	0.649	B	38,000	0.705	C	Urban Arterial	6D
5. Lake Street *between* Alberhill Ranch Road and Mountain Street	Arterial	2U	18,000	**18,880**	**1.049**	**F**	Urban Arterial	6D	53,900	41,000	0.761	C	42,000	0.779	C	Urban Arterial	6D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

[28] Temescal Canyon Road is re-aligned in the General Plan Buildout condition and does not intersect Lake Street.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)			(9)			(10)	(11)
	Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	Existing Traffic Conditions			Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	General Plan Buildout Without Project Traffic Conditions			General Plan Buildout With Project Traffic Conditions			Type of Roadway Segment	Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
6. Lake Street *between* Mountain Street and Lakeshore Drive	Secondary	4D	25,900	17,359	0.670	B	Urban Arterial	6D	53,900	40,000	0.742	C	41,000	0.761	C	Urban Arterial	6D
7. Grand Avenue *between* Lakeshore Drive and Lincoln Street	Secondary	4D	25,900	14,757	0.570	A	Major	4D	34,100	19,000	0.557	A	21,000	0.616	B	Major	4D
8. Lakeshore Drive *between* Lake Street/Grand Ave and Terra Cotta Road	Secondary	4D	25,900	9,186	0.355	A	Urban Arterial	6D	53,900	26,000	0.482	A	26,000	0.482	A	Urban Arterial	6D
9. Nichols Road *between* Lake Street and Alberhill Ranch Road[29]	--	--	--	--	--	--	Urban Arterial	6D	53,900	**47,000**	**0.872**	**D**	**47,000**	**0.872**	**D**	Urban Arterial	6D
10. Nichols Road *between* Alberhill Ranch Road and Terra Cotta Road[29]	--	--	--	--	--	--	Urban Arterial	6D	53,900	**53,000**	**0.983**	**E**	**53,000**	**0.983**	**E**	Urban Arterial	6D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

[29] Roadway Segment does not exist for Existing traffic conditions.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)			(9)			(10)	(11)
	Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	Existing Traffic Conditions			Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	General Plan Buildout Without Project Traffic Conditions			General Plan Buildout With Project Traffic Conditions			Type of Roadway Segment	Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
11. Nichols Road *between* Terra Cotta Road and Collier Avenue	Arterial	2U	18,000	6,801	0.378	A	Urban Arterial	6D	53,900	**58,000**	**1.076**	**F**	**58,000**	**1.076**	**F**	Urban Arterial	6D
12. Lake Street *between* A Street and B Street[30]	--	--	--	--	--	--	Urban Arterial	6D	53,900	**47,000**	**0.872**	**D**	**60,000**	**1.113**	**F**	Urban Arterial	6D
13. Lake Street *between* D Street (North) and Nichols Road[30]	--	--	--	--	--	--	Urban Arterial	6D	53,900	**51,000**	**0.946**	**E**	**51,000**	**0.946**	**E**	Urban Arterial	6D
14. Lake Street *between* Nichols Road and D Street (South)[30]	--	--	--	--	--	--	Urban Arterial	6D	53,900	35,000	0.649	B	38,000	0.705	C	Urban Arterial	6D
15. Lincoln Street *between* Temescal Canyon Road and A Street/E Street[30]	--	--	--	--	--	--	Major	4D	34,100	**42,000**	**1.232**	**F**	**33,000**	**0.968**	**E**	Major	4D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

[30] Roadway Segment does not exist for Existing traffic conditions.

TABLE 7-2 (CONTINUED)

GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)			(9)			(10)	(11)
	Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	Existing Traffic Conditions			Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	General Plan Buildout Without Project Traffic Conditions			General Plan Buildout With Project Traffic Conditions			Type of Roadway Segment	Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
16. Lincoln Street *between* A Street/E Street and B Street/F Street (North)[31]	--	--	--	--	--	--	Modified Major	4D	30,000	17,000	0.567	A	22,000	0.733	C	Modified Major	4D
17. Lincoln Street *between* B Street/F St (North) and F Street (South)[31]	--	--	--	--	--	--	Modified Major	4D	30,000	13,000	0.433	A	9,000	0.300	A	Modified Major	4D
18. Lincoln Street *between* F Street (South) and Nichols Road[31]	--	--	--	--	--	--	Modified Major	4D	30,000	16,000	0.533	A	11,000	0.367	A	Modified Major	4D
19. Lincoln Street *between* Nichols Road and Mountain Street[31]	--	--	--	--	--	--	Secondary	4D	25,900	10,000	0.386	A	7,000	0.270	A	Secondary	4D
20. E Street *between* F Street and Lincoln Street[32]	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	**23,000**	**1.278**	**F**	Divided Collector	2D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

[31] Roadway Segment does not exist for Existing traffic conditions.
[32] Roadway Segment does not exist for Existing and General Plan Buildout Without Project traffic conditions.

TABLE 7-2 (CONTINUED)

GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)			(9)			(10)	(11)
	Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	Existing Traffic Conditions			Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	General Plan Buildout Without Project Traffic Conditions			General Plan Buildout With Project Traffic Conditions			Type of Roadway Segment	Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
21. F Street (North) *between* E Street and Lincoln Street[33]	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	6,000	0.333	A	Divided Collector	2D
22. F Street (South) *between* E Street and Lincoln Street[33]	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	3,000	0.167	A	Divided Collector	2D
23. A Street *between* Lincoln Street and Lake Street[34]	--	--	--	--	--	--	Towne Center Couplet	4D	36,000	**34,000**	**0.944**	**E**	5,000	0.139	A	Towne Center Couplet	4D
24. B Street *between* Lincoln Street and C Street[33]	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	13,000	0.722	C	Divided Collector	2D
25. B Street *between* C Street and Lake Street[33]	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	8,000	0.444	A	Divided Collector	2D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

[33] Roadway Segment does not exist for Existing and General Plan Buildout Without Project traffic conditions.
[34] Roadway Segment does not exist for Existing traffic conditions.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)			(9)			(10)	(11)
	Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	Existing Traffic Conditions			Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	General Plan Buildout Without Project Traffic Conditions			General Plan Buildout With Project Traffic Conditions			Type of Roadway Segment	Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
26. C Street *between* B Street and Nichols Road[35]	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	**21,000**	**1.167**	**F**	Divided Collector	2D
27. Nichols Road *between* Lincoln Street and C Street[36]	--	--	--	--	--	--	Modified Major	4D	30,000	13,000	0.433	A	8,000	0.267	A	Modified Major	4D
28. Nichols Road *between* C Street and D Street[36]	--	--	--	--	--	--	Modified Major	4D	30,000	**34,000**	**1.133**	**F**	10,000	0.333	A	Modified Major	4D
29. Nichols Road *between* D Street and Lake Street[36]	--	--	--	--	--	--	Modified Major	4D	30,000	**34,000**	**1.133**	**F**	**30,000**	**1.000**	**E**	Modified Major	4D
30. D Street (North) *between* Lake Street and Nichols Road[35]	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	9,000	0.500	A	Divided Collector	2D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

[35] Roadway Segment does not exist for Existing and General Plan Buildout Without Project traffic conditions.
[36] Roadway Segment does not exist for Existing traffic conditions.

TABLE 7-2 (CONTINUED)
GENERAL PLAN BUILDOUT ROADWAY SEGMENT DAILY LEVELS OF SERVICE SUMMARY

Key Roadway Segment	Existing Conditions						General Plan Buildout Conditions									Recommended Circulation Improvements	
	(1)	(2)	(3)	(4)			(5)	(6)	(7)	(8)			(9)			(10)	(11)
	Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	Existing Traffic Conditions			Type of Roadway Segment	Lanes	LOS "E" Capacity (VPD)	General Plan Buildout Without Project Traffic Conditions			General Plan Buildout With Project Traffic Conditions			Type of Roadway Segment	Lanes
				Daily Volume	V/C Ratio	LOS				Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS		
31. D Street (South) *between* Nichols Road and Lake Street[37]	--	--	--	--	--	--	Divided Collector	2D	18,000	--	--	--	3,000	0.167	A	Divided Collector	2D
32. Temescal Canyon Rd *between* Lincoln Street and Lake Street	--	--	--	--	--	--	Urban Arterial	6D	53,900	--	--	--	35,000	0.649	B	Urban Arterial	6D

Notes:

- VPD = Vehicles per Day, please refer to *Table 1-4* for the LOS "E" capacities.
- LOS = Level of Service, please refer to *Table 1-3* for the LOS definitions.
- V/C = Volume to Capacity Ratio.
- **Bold Daily/V/C/LOS values** indicate adverse service levels based on City of Lake Elsinore LOS Standards.

[37] Roadway Segment does not exist for Existing and General Plan Buildout Without Project traffic conditions.

8.0 GENERAL PLAN BUILDOUT AREA-WIDE TRAFFIC IMPROVEMENTS

For those intersections and roadway segments where projected traffic volumes are expected to result in unacceptable operating conditions, this report recommends traffic improvements that change the intersection and/or roadway segments geometry to increase capacity. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) roadways to specific approaches of a key intersection and/or roadway segments and constructability of the planned and recommended improvements are feasible based on our review of existing conditions. The identified improvements are expected to:

- Address the impact of existing traffic, Project traffic and future non-project (cumulative ambient traffic growth and cumulative projects) traffic, and
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

8.1 General Plan Amendment Buildout With Project Recommended Improvements

8.1.1 *Intersections*

The results of the General Plan Buildout With Project traffic conditions level of service analysis indicate that the proposed Project will significantly impact eleven (11) of the of the twenty-seven (27) key study intersections. The remaining sixteen (16) intersections are forecast to operate at acceptable LOS D or better under the General Plan Buildout With Project traffic conditions. It should be noted that two (2) intersections (Lake Street at A Street and Lake Street at D Street) are not impacted but have been improved due to other recommended improvements which affect the lane geometry of these intersections. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the General Plan Buildout With Project traffic:

- **Horsethief Canyon Road at Temescal Canyon Road**: Install a traffic signal and design for three-phase operation with protective left-turn phasing for westbound left-turn movements on Horsethief Canyon Road. Widen and re-stripe Horsethief Canyon Road to provide an exclusive northbound free right-turn lane. Widen and re-stripe Temescal Canyon Road to provide a 2nd and 3rd eastbound through lanes, 2nd westbound through lane and dual westbound left-turn lanes.

- **Lake Street at Temescal Canyon Road**: Widen and re-stripe Lake Street to provide a 2nd northbound left-turn lane, 3rd northbound through lane and a 3rd southbound through lane. Modify existing planned traffic signal.

- **Lake Street at Nichols Road**: Widen and re-stripe Lake Street to provide an exclusive northbound free right-turn lane. Install a westbound right-turn overlap phase on Nichols Road. Modify existing traffic signal.

- **Terra Cotta Road at Lakeshore Drive**: Install a traffic signal and design for eight-phase operation with protective left-turn phasing for all left-turn movements on Terra Cotta Road and Lakeshore Drive. Widen and re-stripe Terra Cotta Road to provide an

exclusive northbound left-turn lane and an exclusive southbound left-turn lane. Widen and re-stripe Lakeshore Drive to provide a 2nd eastbound through lane, a 2nd westbound through lane and an exclusive westbound right-turn lane.

- **I-15 Southbound Ramps/Collier Avenue at Nichols Road**: Widen and re-stripe I-15 Southbound Ramps to provide two (2) southbound left-turns, one (1) southbound through lane and one (1) southbound free right-turn lane. Widen and re-stripe Collier Avenue to provide one (1) northbound free right-turn lane Widen and re-stripe Nichols Road to provide a 2nd and 3rd eastbound through lanes, an exclusive eastbound right turn lane, dual westbound left-turn lanes, and a 2nd westbound through lane. Modify General Plan Buildout planned traffic signal. It should be noted that this improvement is part of the proposed I-15/Nichols Road Interchange Improvement Project.

- **I-15 Northbound Ramps at Nichols Road**: Widen and re-stripe I-15 Northbound Ramps to provide two (2) northbound left-turns and one (1) northbound right-turn lane. Widen and re-stripe Nichols Road to provide a 2nd and 3rd eastbound through lanes, and a 2nd and 3rd westbound through lanes. Modify General Plan Buildout planned traffic signal. It should be noted that this improvement is part of the proposed I-15/Nichols Road Interchange Improvement Project.

- **Lincoln Street at A Street/E Street**: Widen and re-stripe Lincoln Street to provide an exclusive southbound right-turn lane. Widen and re-stripe E Street to provide a 2nd eastbound left-turn lane. Modify General Plan Buildout planned traffic signal.

- **Lake Street at A Street**: Widen and re-stripe Lake Street to provide a 3rd northbound through lane, 3rd southbound through lane and an exclusive southbound right-turn lane. Widen and re-stripe A Street to provide a 2nd eastbound left-turn lane, an exclusive eastbound right-turn lane, and an exclusive westbound right-turn lane. Install a southbound right-turn overlap phase on Lake Street. Modify General Plan Buildout planned traffic signal and convert from five-phase operation to eight-phase operation. It should be noted that this intersection is not impacted but has been improved due to other recommended improvements which affect the lane geometry of this intersection.

- **Lake Street at B Street**: Widen and re-stripe Lake Street to provide a 3rd northbound through lane and a 3rd southbound through lane. Modify General Plan Buildout planned traffic signal. It should be noted that this intersection is not impacted but has been improved due to other recommended improvements which affect the lane geometry of this intersection.

- **Lake Street at D Street (North)**: Widen and re-stripe Lake Street to provide a 3rd northbound through lane and a 3rd southbound through lane. Modify General Plan Buildout planned traffic signal.

- **Alberhill Ranch Road at Nichols Road**: Widen and re-stripe Alberhill Ranch Road to provide a 2nd southbound left-turn lane. Widen and re-stripe Nichols Road to provide an exclusive westbound right-turn lane. Modify General Plan Buildout planned traffic signal.

- **Terra Cotta Road at Nichols Road**: Widen and re-stripe Nichols Road to a 3rd eastbound through lane, an exclusive eastbound right-turn lane, a 3rd westbound through lane and a 2nd westbound left-turn lane. Install a northbound right-turn overlap phase on Terra Cotta Road. Modify General Plan Buildout planned traffic signal.

- **Lincoln Street at Temescal Canyon Road**: Widen and re-stripe Lincoln Street to provide a 2nd northbound left turn-lane. Widen and re-stripe Temescal Canyon Road to provide an exclusive eastbound free right turn-lane and a 2nd westbound left-turn lane. Modify General Plan Buildout planned traffic signal.

Figure 8-1 presents the planned and recommended traffic improvements for the key study intersections for the General Plan Buildout With Project traffic conditions. The planned improvements consist of intersection and roadway segment improvements that would likely occur with all other development in the City between existing conditions and General Plan Buildout conditions as well as planned internal intersection improvements that the Project would construct as part of the Specific Plan development buildout.

8.1.2 *Roadway Segments*

The results of the roadway segment analyses summarized in *Table 7-2* indicate that with the addition of Project traffic, eleven (11) of the thirty-two (32) key study roadway segments are forecast to operate at unacceptable levels of service, LOS D or worse for the General Plan Buildout With Project Traffic Conditions. It should be noted that even though these roadway segments are forecast to operate at adverse levels of service based on the Daily V/C ratio analyses, the adjacent intersections are forecast to operate at acceptable levels of service during the peak hours with approach lane geometry consistent with the lanes in the roadway segment analyses. In addition, the recommended roadway segment circulation improvements listed in the last section of *Table 7-2* are consistent with the City of Lake Elsinore General Plan Update. Thus, based on this, no additional improvements are recommended for the roadway segments.

8.2 Alberhill Villages Specific Plan Circulation Plan

The following is a list of backbone roads that form the framework for the entire project. They include a new realigned Lake Street, a new realigned portion of Temescal Canyon Road, Lincoln Street, Nichols Road (extension), A Street, which bisects the campus and the UTC area, B Street, which runs south of the campus, C Street, which runs north-south in the Lakeside Village, D Street near the Alberhill Town Center, and E Street and F Street in the Parkview Village.

8.2.1 *Lake Street*

Lake Street, which will serve as the northern gateway to the City of Lake Elsinore, will be realigned and widened. Lake Street is a major thoroughfare off the I-15 Freeway and will serve as the main entrance into Alberhill Villages. In addition, a new widened bridge will extend over Temescal Creek along Lake Street.

Monumentation will be placed at key location(s) to identify one of the City's key entries at Lake Street. A major feature of this "gateway experience" will be a variable width median ranging up to 26 feet wide, and is complimented by a 100 foot by 250 foot open space corridor on the east side of Lake Street that stretches from the freeway to the intersection at Nichols Road that is a part of the Alberhill Ridge project. This is a multi-functional corridor, which provides wildlife linkage, meandering pedestrian and bicycle paths, utility easements, a perennial flowing creek, ponds, and a native re-vegetated landscape. A landscape setback has been set in place on the western edge of the street to ensure a visually appealing environment and complement the wildlife movement corridor on the east side of Lake Street. With the landscapes corridors and edges on both sides of Lake Street, combined with the landscaped roadway median, this Lake Street entry will form a broad canopy of native landscape that will be one of the central features of the AVSP. Lake Street's cross section will vary from 6 to 8 lanes, the 8 lanes occurring near the Temescal Canyon Road intersection and transitioning to 6 lanes as it approaches Nichols Road. Bike lanes will be provided on both sides of the street.

8.2.2 *Temescal Canyon Road*

Temescal Canyon Road will consist of 6 lanes and be realigned along with the Temescal Creek Bridge in order to link directly to Lake Street. Temescal Canyon Road will also connect to Lincoln Street, which will consist of 4 lanes as it moves south.

8.2.3 *Lincoln Street*

Lincoln Street consists of 4 lanes and will include bike lanes on both sides of the road, as well as an 8-foot minimum multi-purpose path along its western edge. As with all divided roads, Lincoln Street will incorporate a "depressed" or concave median with "broken" curbs in order to minimize runoff in the pavement area. The corridor will also provide: trail rest stops, off-site siltation collection, drainage, utility easement, enhanced wildlife connection, and a naturalized landscape.

8.2.4 *Nichols Road*

Nichols Road will be a 4 lane divided road with wide medians that links Lake Street and Lincoln Street. There are two distinct cross sections for Nichols Road. The section that bisects Alberhill Town Center, which employs unique left turn pockets and a wide median; and the section that extends westerly between Lakeside and Ridgeview Villages. Both sections will have bike lanes and non-adjacent sidewalks along each of their sides in order to provide a safe and enjoyable experience for the residents. This road will serve as one of the three main east-west links between Lake Street and Lincoln Street. Street A and B provide the other two links near the University and UTC Villages. These three roads, when combined with other streets and the pedestrian, bicycle paths,

provide the inter-locking modified grid that allows residents and visitors a variety of choices when moving around, though, and among the Alberhill Villages.

8.2.5 *A Street*

A Street is one of the main east-west connections located in the northern portion of the project. It plays a major role in providing a seamless connection between the UTC and University Villages. This road will have bike lanes and an "urban edge" consisting of a wide walk with tree wells along the street's sides. This "urban edge" or main street design configuration is important in balancing automobile and pedestrian safety. Its unique configuration is based on small town central squares where residents and visitors socialized on a daily basis. There are three distinct cross sections that when combined form an environment both conducive to moving automobile traffic, as well as providing safe pedestrian and bicycle crossings. The three sections consist of a traditional divided 4 lane road, a "main street" section with buildings and parking on both sides, and the "town square" section that provides the social gathering space so important in establishing community pride.

8.2.6 *B Street*

B Street, a two lane divided road employing extra wide travel lanes, is another important east-west link in the northern portion of the project. When combined with the other east-west links, it provides alternative traffic routes through the project, as well as serving as the main entry to the University. This road will have bike lanes and non-adjacent sidewalk along its northern side and an "urban edge" consisting of a wide walk with tree wells along its southern side The street's wide median and extended curbs design also facilitates the pedestrian and bicycle movement across its section. This feature is important because the street separates the University Village from the Lakeside Park and the southern Villages.

8.2.7 *C Street*

C Street, a two lane road with curb extensions, is the north-south connector for the Lakeside and Ridgeview Villages that will extend from Nichols Road to Street B. It will be composed of two different cross sections that are designed to both calm traffic and alert the driver to his or her surroundings. C1 Street is the northern portion of this road and will incorporate a median to bring attention to the Lakeside Park area. C2 Street, the southern portion, will travel through a residential neighborhood that will utilize alley-loaded homes whose entries will face the street. These features will assist in bringing "eyes on the street" and encourage social interaction to this main north-south auto, pedestrian, and bicycle route.

8.2.8 *D Street*

D Street forms the north and south western boundaries of the Alberhill Town Center. It is a two lane divided road with parking on both sides. Due to the anticipated traffic the travel and parking lanes are slightly wider than other two lane streets in the community. Where possible on this street, curb extensions will be employed to facilitate the safe street crossings due to the strong draw of the mixed-use Town Center.

8.2.9 *E Street and F Street*

E Street and F Street are very similar to D Street, but service primarily residential traffic. They are each two lane divided roads with parking on both sides. Where possible on this street, curb extensions will be employed to facilitate safe street crossings.