

Appendix V-C-B
**PHASING OF LYTLE CREEK RANCH
ROADWAY IMPROVEMENT
MITIGATION MEASURES**
Crain & Associates
January 23, 2012



EMAIL TRANSMITTED

January 23, 2012

Ms. Stephanie Eyestone-Jones
President
Matrix Environmental
6701 Center Dr West, Suite 900
Los Angeles, California 90045

RE: Phasing of Lytle Creek Ranch Roadway Improvement Mitigation Measures

Dear Stephanie,

As requested, we have developed a draft phasing procedure and timeline for the subset of transportation mitigation measures/roadway improvements from the Lytle Creek Ranch Specific Plan (LCRSP) Traffic Impact Assessment (TIA) which are recommended for construction by the project. The phasing analysis determines the amount of trip generation during the AM and PM peak hours of the roadway when a project traffic impact is estimated to be considered “significant” at a study location. The mitigation measure “trigger” values were calculated for a subset of mitigation measures from the LCRSP traffic study dated February 2008 as supplemented by the “Sunnyvale” analysis contained in a technical memorandum dated January 2012. The subset of mitigation measures are those recommended for implementation by the project based on the overall cost of the subset being similar to the project’s total fair-share cost of the total cumulative mitigation program and including all intersections that were determined through the “Sunnyvale” analysis to be significantly impacted by project traffic without regard to cumulative growth. These measures are in close proximity to the LCRSP area. Project implementation of these cumulatively required improvements will help ensure installation of the needed site adjacent roadway improvements by the time they first are needed.

In order to determine trigger values, there are two key assumptions:

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- The project traffic impacts at each intersection are proportional to the overall LCRSP project trip generation; and
- If the final “With Project” LOS is unacceptable, the project impact is considered “significant” whenever the project trip threshold is exceeded.

The following list of mitigation measures recommended for implementation by the project includes the project trip generation trigger levels. For each of the six locations, the list presents the level of project development which will first cause a “significant” CEQA or CMP impact, as those terms are defined in our May 12, 2009 letter, except that for the two intersections added due to “Sunnyvale” analysis results, the 2007 rather than 2030 distribution of the project trips was used to determine when the 50 trip threshold would be crossed since the 50 trip threshold would not be crossed with the 2030 improvements when the trips will instead be accommodated by the improved freeway.

In order to minimize adverse traffic impacts, we recommend incorporating these trigger values into the Development Agreement and/or LCRSP. Specifically, we would recommend that prior to receiving a building permit, the applicant for each of the LCRSP’s “planning areas” and/or “B” level subdivision maps, whichever is deemed most appropriate by the City, submit a trip generation report (for uniformity and consistency using the factors in the attached Appendix A – Generation Rates). The trip generation report should be acceptable to the City’s Director of Development Services (Director). The trip generation report will include the total LCRSP projects to that time. Specifically, on the day the report is submitted, all buildings in the LCRSP area for which a building permit application has been filed following the LCRSP’s enactment shall be included in the trip generation table. The report should include those projects for which the application has been approved, but should not include applications which have been subsequently withdrawn or rejected.

The Appendix A table will determine AM and PM peak hour generation values and will be used to determine which of the mitigation measures the LCRSP generation would exceed the trigger generation value during either the AM or PM peak hour. The triggers listed below would only be modified based upon an agreement between the Applicant, as defined in the project’s CEQA document, and the Director. Those mitigation measures for which the trigger level would be exceeded then must be installed prior to the issuance of a Certificate of Occupancy or at an earlier time set by the Director. A substitute improvement and/or Condition of Approval may be agreed-to by the Applicant and Director, but only if it is determined (in consultation with the

City Engineer) that the substitute improvement and/or condition would be as equally effective as the originally required improvement in relieving traffic congestion at the location.

Project Study Intersections Mitigation Measures

The improvements are described below and a worksheet for calculating the trigger values contained in Appendix B.

7. I-215 SB On/Off Ramps & University Pkwy – Improve University Parkway to provide an exclusive right-turn lane in the northbound direction, and one left-turn lane, one left/through-shared lane and one through lane in the southbound direction. In order to accommodate the left-through-shared lane, modify the existing traffic signal to allow split phases for the northbound and southbound approaches.
(AM Peak Hour = N/A, PM Peak Hour = 9,840)
8. I-15 Southbound On/Off Ramps & Glen Helen Parkway - Install a traffic signal at this location.
(AM Peak Hour = 794, PM Peak Hour = 427)
12. I-15 SB On/Off Ramps & Sierra Avenue – Improve Sierra Avenue to provide dual left-turn lanes and two through lanes in the northwest-bound direction, and two through lanes and one free right-turn lane in the southeast-bound direction. Also, widen the southbound off-ramp to accommodate one left-turn lane, one left/right-shared lane and one right-turn lane. In addition, install a traffic signal at this location.
(AM Peak Hour = 272, PM Peak Hour = 281)
13. I-15 NB On/Off Ramps & Sierra Avenue – Improve Sierra Avenue to provide dual left-turn lanes and two through lanes in the southeast-bound direction, and two through lanes and one right-turn lane in the northwest-bound direction. Reconstruct the northbound off-ramp to accommodate one left-turn lane, one left/through-shared lane and one free right-turn lane. In addition, install a traffic signal at this location.
(AM Peak Hour = 240, PM Peak Hour = 222)
18. Riverside Avenue & Sierra Avenue – Widen and restripe Sierra Avenue to provide dual left-turn lanes and two through lanes in the southbound direction. Also improve the intersection to allow a free right-turn from Riverside Avenue onto Sierra Avenue. Install a traffic signal at this intersection.
(AM Peak Hour = 258, PM Peak Hour = 247)

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22. Riverside Avenue & Linden Avenue – Widen and restripe to provide one left-turn lane, one through lane and one through/right-shared lane in the northwest-bound direction.
(AM Peak Hour = 250, PM Peak Hour = 210)

*No project significant traffic impact is anticipated at this intersection, so values from the adjacent intersection within the same interchange were used.

The above improvements, if funded as part of later development projects within the LCRSP area, would be subject to any “in-lieu credit” provisions of any applicable City or other government agency transportation fees. Inclusion of the above requirement to have such measures implemented in relationship to the development within the LCRSP area would not alter fee provisions, including any applicable in-lieu credit.

Please contact me with any questions or requests for analysis modifications.

Sincerely,



George Rhyner
Senior Transportation Engineer

GR:cw
C19837D
JA79256
attachments

cc: Mike Story

APPENDIX A

Generation Rates

Lytle Creek Ranch Specific Plan Trip Generation Rates

<i>Land Use</i> ¹	ITE	UNIT OF MEASURE FOR SIZE	Trip Rate for Hours on the Roadway	
			AM Peak	PM Peak
<u>Residential</u>				
Single Family Detached Homes	210	Dwelling Unit	0.75	1.01
Multi-Family Attached Homes	230	Dwelling Unit	0.44	0.52
Detached Senior Housing	251	Dwelling Unit	0.20	0.26
Assisted Living	254	Bed Space	0.14	0.22
<u>Industrial</u> ²				
Industrial Park	130	Bldg. Area in ksf	0.84	0.86
Manufacturing Standard	140	Bldg. Area in ksf	0.73	0.74
Warehousing Standard ³	150	Bldg. Area in ksf	0.45	0.47
Warehousing - High Cube	152	Bldg. Area in ksf	0.12	0.14
<u>Lodging</u>				
Hotel	310	Room	0.56	0.59
Motel	320	Room	0.45	0.47
<u>Retail/Services</u>				
Shopping Center ⁴	820	Bldg. Area in ksf	1.03	3.75
Bank	912	Bldg. Area in ksf	12.34	45.74
Supermarket (≥15,000 sf)	850	ksf	3.25	10.45
Convenience Market (<15,000 sf)	851	ksf	67.03	52.41
Stand Alone Quality Restaurant	931	Bldg. Area in ksf	0.81	7.49
High-Turnover Restaurant	932	Bldg. Area in ksf	11.52	10.92
Fast Food Restaurant	934	Bldg. Area in ksf	53.11	34.64
Gasoline Service Station	944	Fueling Positions	12.07	13.86
<u>Office</u>				
General-Stand Alone	710	Bldg. Area in ksf	1.55	1.49
Medical/Dental	720	Bldg. Area in ksf	2.48	3.72
Office Park	750	Bldg. Area in ksf	1.74	1.50
<u>Recreational</u>				
Park	412	acres	0.01	0.06
Golf Course	430	acres	0.21	0.30
Health/Fitness Club	492	ksf	1.21	4.05
<u>School</u>				
Elementary	520	students	0.42	0.28
Middle/Jr. High	522	students	0.53	0.15
High	530	students	0.41	0.14
<u>Other</u> ²				
The rate to be considered for other land uses is per the decision of the City Engineer, who shall specify a rate from <i>Trip Generation, 7th Edition</i> , ITE if one is available from that source or one from another source which uses actual trip generation count				
<p>¹Land-uses, except as noted, to be defined per <i>Trip Generation, 7th Edition, ITE</i>.</p> <p>²Passenger Car Equivalent (PCE) factor to be applied for any use where such factors are used in the San Bernadino County Congestion Mangement Plan (CMP) or truck trips exceed 10% of peak hour generation.</p> <p>³Standard warehouses are any warehouses which have less than 24 feet high ceiling or are less than 100,000 square feet in size.</p> <p>⁴Shopping Centers are not to exceed 20% usage for restaurants (all categories), Cinema (all categories) or any other non-retail use.</p>				

APPENDIX B

Trigger Value Calculations

**Project Total Generation Level
By Which Each Intersection
Must Be Mitigated**

INT #	INTERSECTION	AM PEAK HOUR							
		Intersection Project Trips	Project-only Impact (V/C)	Existing (2007) With Project LOS	Future (2030) With Project LOS	Project Development			
						CEQA Threshold	CMP Threshold	Overall Minimum of CEQA and CMP Threshold	Maximum Development Percentage before Triggering an Impact
7	I-215 SB ON/OFF RAMPS & UNIVERSITY PKWY	27	0.013		E	N/A	N/A	N/A	N/A
8	I-15 SB ON/OFF RAMPS & GLEN HELEN PKWY	321	N/A	C		794	N/A	794	12.23%
12	I-15 SB ON/OFF RAMPS & SIERRA AVE	1,195	0.969		F	272	670	272	4.18%
13	I-15 NB ON/OFF RAMPS & SIERRA AVE	1,351	1.130		F	240	575	240	3.70%
18	RIVERSIDE AVE & SIERRA AVE	1,259	1.282		F	258	506	258	3.97%
22	RIVERSIDE AVE & LINDEN AVE	1,297	N/A		F	250	N/A	250	3.86%

INT #	INTERSECTION	PM PEAK HOUR							
		Intersection Project Trips	Project-only Impact (V/C)	Existing (2007) With Project LOS	Future (2030) With Project LOS	Project Development			
						CEQA Threshold	CMP Threshold	Overall Minimum of CEQA and CMP Threshold	Maximum Development Percentage before Triggering an Impact
7	I-215 SB ON/OFF RAMPS & UNIVERSITY PKWY	45	0.019		F	9,840	9,840	9,840	100.00%
8	I-15 SB ON/OFF RAMPS & GLEN HELEN PKWY	935	0.025	E		427	N/A	427	4.34%
12	I-15 SB ON/OFF RAMPS & SIERRA AVE	1,751	1.232		F	281	527	281	2.86%
13	I-15 NB ON/OFF RAMPS & SIERRA AVE	2,213	1.395		F	222	465	222	2.26%
18	RIVERSIDE AVE & SIERRA AVE	1,990	2.339		F	247	278	247	2.51%
22	RIVERSIDE AVE & LINDEN AVE	2,342	N/A		F	210	N/A	210	2.13%