



August 19, 2016

Mr. Reuben Arceo  
COUNTY OF SAN BERNARDINO  
385 North Arrowhead Avenue, 1<sup>st</sup> Floor  
San Bernardino, CA 92415

Dear Mr. Arceo:

## **INTRODUCTION**

Kunzman Associates, Inc. is pleased to submit this letter in response to the California Department of Transportation comment letter dated August 11, 2016 regarding the Arrowhead Pine Rose Traffic Impact Analysis (Kunzman Associates, Inc., June 27, 2016).

## **COMMENT 1**

Please explain why the traffic study does not utilize the ITE Trip Generation Manual 9<sup>th</sup> Edition.

## **RESPONSE TO COMMENT 1**

The Institute of Transportation Engineers Trip Generation Manual does not contain trip generation rates applicable to this land use. The methodology used in the traffic impact analysis was approved by the County of San Bernardino Traffic Engineer.

## **COMMENT 2**

Please provide an explanation for why the traffic counts were not taken during the peak month of July. Appendix C shows zero volumes during the morning peak hours in the project vicinity. Please provide an explanation and revise as necessary.

## **RESPONSE TO COMMENT 2**

The traffic impact analysis was started and completed before the month of July.

The County of San Bernardino Traffic Engineer and the California Department of Transportation Traffic Engineer that were consulted during the scoping agreement process of this analysis, asked that a peak season factor be calculated to factor an average month's traffic data to peak season traffic volumes. The City of Big Bear Traffic Engineer was consulted to determine what month is the peak traffic volume month of the year in this region. The peak traffic volume month in the mountain resorts area is July. The California Department of Transportation count data for both SR-173 and SR-189 within the study area were obtained. The peak month traffic data was compared to the average month traffic data. The data shows that the peak month is approximately 12.84 percent higher than the average month. The traffic counts for this analysis were not taken during the peak month of July. A base volume factor of

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12.84 percent has been applied to all base traffic volumes for Existing, Existing Plus Project, Opening Year (2018) Without Project, Opening Year (2018) With Project, Year 2040 Without Project, and Year 2040 With Project traffic volumes.

The zeros represented in Appendix C indicate turning movements that do not exist. A double check of the data in Appendix C indicates that all physically possible turning movements have a traffic volume associated with them.

### **COMMENT 3**

In Appendix D, please explain why the traffic study uses the De Facto right turn at SR-189 westbound direction. At this point, SR-189 westbound movement has no traffic control.

### **RESPONSE TO COMMENT 3**

During the field inventory and traffic counts, numerous vehicles were observed pulling to the right while decelerating to make their right turn while through vehicles passed them in the through lane. A Defacto right turn lane can be present even if a movement is not controlled.

### **COMMENT 4**

In Appendix D, please explain why a speed of 30 mph was used on SR-189.

### **RESPONSE TO COMMENT 4**

Most traffic impact analysis software contains some sort of a speed adjustment. In order to maintain consistent and keep other adjusted calculations from being altered, these speed adjustments are left as a default. In this case, the estimated speed is relatively close to the actual speed.

### **COMMENT 5**

Traffic Control Type at SR-189/Grandview Road is not a Two-Way Stop. Please revise Appendix B and D accordingly.

### **RESPONSE TO COMMENT 5**

When conducting a traffic impact analysis, we can choose from a few types of intersection controls. These controls include no control, yield, two way stop, all way stop, and a traffic signal. Currently, the southbound leg of the intersection is controlled by a stop sign. That forced the control type of the intersection to be a two way stop because it is controlled (can't be "no control") it is a stop sign (can't be a yield or a traffic signal) and it is not stopping all legs of the intersection (can't be an all way stop).

### **COMMENT 6**

Please explain why the traffic study uses Base Volume Adjustment Factor of 1.13. Also, please state why the traffic study uses three different Peak Hour Factors.

### **RESPONSE TO COMMENT 6**

The traffic impact analysis was started and completed before the month of July. The County of San Bernardino Traffic Engineer and the California Department of Transportation Traffic Engineer that were consulted during the scoping agreement process of this analysis, asked that a peak season factor be calculated to factor an average month's traffic data to peak season traffic volumes. The City of Big Bear

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Traffic Engineer was consulted to determine what month is the peak traffic volume month of the year in this region. The peak traffic volume month in the mountain resorts area is July. The California Department of Transportation count data for both SR-173 and SR-189 within the study area were obtained. The peak month traffic data was compared to the average month traffic data. The data shows that the peak month is approximately 12.84 percent higher than the average month. The traffic counts for this analysis were not taken during the peak month of July. A base volume factor of 12.84 percent has been applied to all base traffic volumes for Existing, Existing Plus Project, Opening Year (2018) Without Project, Opening Year (2018) With Project, Year 2040 Without Project, and Year 2040 With Project traffic volumes.

Per the County of San Bernardino Traffic Study Guidelines, peak hour factors are calculated for each intersection individually and for each peak hour. It is also important to note that for Year (2040) the default peak hour factor of 0.95 has been utilized for all intersections.

#### **COMMENT 7**

Please provide a left-turn lane on SR-189 for eastbound left-turn movements onto Grandview Road for project Opening Year (2018).

#### **RESPONSE TO COMMENT 7**

This left turn lane is not required for Opening Year (2018). Implementing this improvement earlier than Year 2040 was not analyzed in the traffic impact analysis. Requiring this improvement before it is required will not negatively impact the roadway system. The implementation of this improvement needs to be coordinated with the applicant, the County of San Bernardino, and the California Department of Transportation.

#### **COMMENT 8**

Left-turn lanes on Stat Right of Way shall be constructed in compliance with Caltrans Highway Design Manual (HDM), Standard Plans, and Specifications. Any proposed non-standard specification will need to be submitted for a design exception during the Encroachment Permit phase.

#### **RESPONSE TO COMMENT 8**

The client is advised to coordinate with the California Department of Transportation on the design and installation of the proposed eastbound left turn lane at the intersection of Grandview Road and SR-189. The same procedures are required regardless of what year the improvements are required.

#### **COMMENT 9**

The drainage plan demonstrates that the proposed project should not have any adverse impacts to nearby State facilities

#### **RESPONSE TO COMMENT 9**

This comment does not pertain to the traffic impact analysis completed by Kunzman Associates, Inc.

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## CONCLUSION

Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 973-8383.

Sincerely,

KUNZMAN ASSOCIATES , INC.

A handwritten signature in black ink that reads "Robert Kunzman". The signature is written in a cursive, flowing style.

Robert Kunzman  
Senior Associate

Jn 6412