Appendix 5.10-B
Caltrans Correspondence Regarding the Centennial Traffic Study
June 13, 2007

Mr. William Winter  
Assistant Deputy Director  
County of Los Angeles  
Department of Public Works—Traffic and Lighting  
900 South Fremont Avenue  
Alhambra, CA 91803 - 1331

RE: Centennial Traffic Study--February 2006, Methodology and Modeling

Dear Mr. Winter:

We appreciate the coordinated effort that has been made between Los Angeles County, Centennial Founders, LLC, and Caltrans in determining the study area and traffic impacts related to the proposed Centennial project. We have reviewed the Centennial Traffic Study, dated February 2006 ("Traffic Study"), and have discussed with Centennial Founders, LLC, issues of concern related to modeling, methodology, impacts, and proposed mitigations relating to both the program-level Specific Plan analysis and project level Vesting Tentative Tract Map analysis ("Phase One"). By this letter, we are concurring with the modeling used in the Traffic Study. Furthermore, we concur with the methodology used in the Traffic Study, with the following modifications:

(1) Level of Service ("LOS") D is to be utilized as a threshold of significance for State Route (SR)-138;
(2) LOS E is to be utilized as a threshold of significance for urban segments of all other highways and freeways studied in the Traffic Study. For Interstate-5 through the Santa Clarita Valley, it is understood that such an urban segment extends from the southern-most reach of the study area north to Parker Road; and
(3) As to rural segments of highways and freeways (except SR-138), the attached language is agreed upon in addressing LOS for rural segments within the study area of the Traffic Study.

As to mitigations, we have been in discussions with Centennial Founders, LLC, regarding mitigations that would adequately address impacts identified in the Traffic Study. We anticipate a letter addressing mitigations to be forthcoming.

We reserve the right to comment on the Draft Environmental Impact Report (DEIR) related to the Centennial project when it is circulated for public comment, including any technical documents supporting the DEIR as appendices.
Thank you for your consideration, and we look forward to future collaboration with Los Angeles County.

Sincerely,

ROSE CASEY
Deputy District Director
Division of Planning, Public Transportation, & Local Assistance

cc: Mr. Daniel Fierros -- County of Los Angeles Department of Regional Planning

attachment: Centennial Traffic Study -- pages 1-16, 1-18, 5-4, 5-30, and 5-31
1.3.1 Impact Criteria for Freeway Mainline Segments

The impact analysis for freeway mainline segments is based on peak hour volumes by direction. The measure used to provide an estimate of LOS can be V/C, speed (miles/hour) or density (passenger cars/mile/lane). The three basic measurements for traffic (speed, density, and volume) are interrelated in such a way that if values for two of these measures are known, the third can be computed. Table 1-4 shows the relationship between these three measures and how they translate to LOS.

When a peak hour V/C ratio for a freeway segment exceeds the theoretical (and practical) maximum V/C of 1.0, the actual value is reported, even though it is recognized that this demand typically cannot be accommodated during the peak hour. In such cases the excess peak hour demand will spread into a peak period that lasts more than one hour, meaning that more motorists will try to avoid the peak hours by traveling before or after they occur. The degree to which spreading into the peak period occurs is related to the amount by which demand exceeds capacity (i.e., the V/C).

Capacities for calculating peak hour V/C ratios for freeway mainline segments are derived with the methodology utilized in the HCM 2000. A maximum service flow rate, measured in passenger cars per hour per lane (pc/h/ln), that corresponds to LOS E is determined based on the segment’s free flow speed. From this, a service flow rate is calculated based on prevailing roadway and traffic conditions such as terrain, grade, and the proportion of trucks within the traffic stream. These same factors, together with the traffic volumes, are also used to calculate density and the corresponding density based LOS (see Appendix E).

Table 1-5 summarizes the overall impact criteria for analyzing freeway mainline segments within the study area. Caltrans’ goal is to maintain no worse than LOS E in urban areas and LOS D in rural areas. However, Caltrans acknowledges that this is not always feasible for some rural areas due to constraints such as geological, structural or right-of-way conditions. To achieve conformity in the evaluation of mainline freeway segments and acknowledging that there exist some such rural segments as described above within the study area, Caltrans has agreed that, for the sole purposes of evaluation of the study area for this project, LOS E is to be uniformly utilized as the performance criteria for freeways for the purpose of determining significant project impacts within the study area for this project. Mitigation is proposed for all cases where LOS exceeds E and project traffic exceeds the specified impact threshold. Furthermore, in rural areas where freeway LOS exceeds D and project traffic exceeds the specified impact threshold, mitigation measures are proposed, where feasible, to mitigate the project’s contribution of traffic. The urban and rural classifications for the study area freeways are illustrated in Figure 1-4.
Table 1-5: Freeway Mainline Performance Criteria

<table>
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<tr>
<th>Performance Standard</th>
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<tr>
<td>LOS E(^1) (peak hour V/C less than or equal to 1.00)</td>
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\(^1\)or existing LOS, whichever is worse, for the purpose of determining significant project impacts. In rural areas, Caltrans goal is to maintain conditions no worse than LOS D (see discussion in 1.3.1.)

<table>
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<th>Impact Threshold</th>
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<td>A freeway mainline segment is considered to be adversely impacted if each of the following conditions are met:</td>
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1. The segment is forecast to operate inefficiently (i.e., worse than the performance standard).
2. Compared to the V/C in the no-project alternative, the V/C in the with-project alternative increases by greater than or equal to .02 (the impact threshold specified in the CMP).

<table>
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<th>Abbreviations:</th>
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<tr>
<td>CMP – Congestion Management Program</td>
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<td>V/C – Volume/Capacity Ratio</td>
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1.3.2 Impact Criteria for Freeway Ramps

Similar to the freeway mainline system evaluation, the peak hour is the time period used for impact evaluation of freeway interchange ramps. For the traffic study, levels of service for freeway ramps in the traffic analysis study area are based on AM and PM peak hour V/C ratios. Carrying capacities for the various ramp configurations that either exist or are anticipated on the freeway system in the traffic analysis study area are based on information in the Highway Design Manual and The Ramp Meter Design Manual (see References 8 and 9, respectively, at the end of this chapter) and refinements in various planning studies for freeway interchanges.

The capacities for calculating ramp V/C ratios are summarized in Table 1-6 together with the overall impact criteria for freeway ramps within the study area. Capacities are listed for two basic types of interchanges: freeway to arterial road and freeway to freeway. The LOS E performance standard listed here is consistent with the performance standard for freeway mainline segments as noted above.
The following sections discuss the project impacts to the surrounding roadway system.

5.2.1 SR-138 Analysis

Forecast traffic volumes for year 2030, with and without project traffic, are listed in Table 5-2. The table shows that the existing two-lane highway is forecast to exceed the available capacity by 2030 for conditions both with and without the proposed project. In other words, significant improvements will be required for this highway regardless of development on the project site. A comparable analysis, based on the capacities of the planned future facility, is provided in Table 5-3. This table shows that adequate capacity will exist given the planned roadway configuration.

A complete analysis of SR-138 through the project site is provided in Chapter 6.0.

5.2.2 Mainline Freeway Analysis

Freeway mainline segments are evaluated using the methodology outlined in Section 1.3.1. Significant impacts are determined based on the performance criteria and impact thresholds listed in that same section.

A complete listing of 2030 peak hour traffic volumes for conditions with and without the project’s traffic is provided in Table 5-4. The table shows that given the freeway capacity that either exists today or is currently under construction, significant impacts occur due to project traffic for the following sections of mainline freeway segments:

- I-5 between SR-138 and Calgrove Boulevard (11 Segments Total)

In addition, while not a significant impact, project traffic exceeds the impact threshold (i.e., V/C ≥ .02) for the following rural segment that is projected to exceed LOS D:

- I-5 between Frazier Mountain Park Road and Gorman School Road (Southbound Direction)
5.4.4 I-5 Freeway

The project has been shown to cause significant impacts to the I-5 freeway between SR-138 and Calgrove Boulevard for project buildout conditions. While not a significant impact, project traffic has also been shown to exceed the impact threshold (i.e., V/C ≥ .02) for the rural segment of the I-5 freeway between Frazier Mountain Park Road and Gorman School Road, which is projected to exceed LOS D. In addition, in Chapter 4.0 it was shown that Phase I of the project results in a significant impact to the segment between Valencia Boulevard and SR-14.

To address these impacts, the project will contribute its fair share toward the addition of one HOV lane in each direction from Parker Road to SR-14, and the addition of one truck lane in each direction between Calgrove Boulevard and SR-14. A Project Study Report (PSR) has been completed by Caltrans for these improvements up to the SR-126 interchange and the subsequent stages of project development are currently underway. As part of its fair share contribution to the implementation of these improvements, the project will contribute the resources necessary to include the extension of HOV lanes north to Parker Road as part of the subsequent Caltrans project development process.

The project’s fair share of its impact to these sections of I-5 is discussed in Section 7.1. These share calculations show that the project’s share of future traffic ranges between a high of 13.4 percent just north of SR-126 to a low of 1.5 percent just north of SR-14.

The project will also address impacts to the I-5 corridor by participating in and/or contributing to a project to develop a regional high capacity goods movement facility along the SR-58 and/or E-220 corridor between I-5 in Kern County and I-15 in San Bernardino County. This facility has been identified in regional planning analyses as a route for goods movement between the San Joaquin Valley and the I-15/I-40 interchange area, thus providing an effective by-pass route for truck trips between the Central Valley area and areas such as Southern California, Arizona, Nevada and Mexico. A significant byproduct of the goods movement corridor is a reduction in truck traffic along the I-5 corridor through the Tejon Pass and the Santa Clarita Valley. This reduction, in conjunction with the capacity enhancements to I-5 noted above, as well as with the transit and rideshare reductions noted in Section 5.4.2, will effectively mitigate the impacts of the proposed project.

For example, a comprehensive SCAG goods movement truck count study prepared in 2002 includes data suggesting that there are approximately 3,800 daily truck trips currently using the I-5 corridor between Kern and Los Angeles Counties that would benefit from this high capacity goods movement facility (see Reference 18 in Section 1.6). These truck trips have origins and destinations
outside of the greater Los Angeles basin and would experience less congested facilities and reduced travel times by utilizing a by-pass route around Los Angeles. By 2030, this demand would increase to approximately 8,500 daily truck trips given the traffic growth projections for the I-5 corridor.

A reduction of heavy truck traffic greatly increases the capacity of a roadway, particularly through mountainous terrain. One truck of the type used for long-haul/interstate shipping is equivalent to 1.5 passenger vehicles on level terrain, 2.5 passenger vehicles on rolling terrain, and as much as 4.5 passenger vehicles in mountainous terrain. Given the steep grades of the I-5 through the Tejon Pass area and the resulting slow travel speeds of trucks currently using the highway, a reduction in truck volumes will significantly benefit vehicle travel through the corridor.

Table 5-8 provides a summary of 2030 conditions along the significantly impacted portions of I-5 with each of the mitigation measures noted above. The table shows that no significant impacts result due to the project with these mitigation measures in place. However, while not a significant impact, with the mitigation measures in place the following rural segments of the I-5 freeway are still projected to exceed LOS D with a project contribution that exceeds the impact threshold (i.e., V/C ≥ .02):

- I-5 between SR-138 and Lake Hughes Road (2 Segments Total)

For the above rural section of I-5 that is projected to exceed LOS D with mitigation (but not to exceed LOS E), existing geotechnical constraints render any physical capacity improvements as infeasible. Caltrans recognizes that these constraints exist and, given the “systems” approach taken by the project to address mobility and operations on all state highway facilities in this subregion, have accepted LOS E as the projected operating condition for this specific section of rural freeway.

### 5.4.5 I-5/SR-138 Interchange

The I-5/SR-138 interchange is proposed to be modified as follows:

- **Westbound SR-138 to Southbound I-5 Connector Ramp** – reconfigure the existing two lane connector ramp to include three lanes from westbound SR-138 to southbound I-5
- **SB I-5 just south of I-5/SR-138 Interchange** – add mainline auxiliary lane to accommodate reconfigured westbound SR-138 to southbound I-5 connector ramp

East of the I-5/SR-138 interchange, SR-138 is proposed to be reconfigured as discussed in Section 5.4.3.