

## DEPARTMENT OF TRANSPORTATION

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June 21, 2006

Ms. Lisa Cathcart-Randall  
Federal Highway Administration  
650 Capitol Mall, Suite 4-100  
Sacramento, CA 95814

**Subject:** Response to Submitted Documents Addressing SOCTIIP

Dear Ms. Cathcart-Randall:

Below are the California Department of Transportation (Department) comments to statements made in the **Shute, Mihaly & Weinberger's** letter to TCA dated January 12, 2006 and January 18, 2006 and their supporting documents (**KCA Engineering, Smart Mobility Incorporated – (SMI), Dr. Caroline Rodier, Jared Ikeda Report and Dan Silver**). In summary all comments relate to the following issues:

1. Viability of the Arterial Improvement Plus (AIP) which includes one general purpose lane and one HOV lane in each direction above the baseline on the I-5,
2. Question the right-of-way needs for the I-5 improvements,
3. Suggest using the HOT lane concept in lieu of HOV to pay for the proposed infrastructure,
4. Do not follow the Department's mandatory design standards,
5. Claim that the Department's design standards are not mandatory, and
6. Question modeling methodologies used in the SOCTIIP EIS.

The above referenced issues address geometric standards, operational strategies and planning methodologies. The following is a discussion of these issues. (For a more detailed description of the issues please see the attachment).

**Department response to Issues # 1, # 2, #3, #4 and #5.**

- **Topic 82.1.2 Application of Standards of the Highway Design Manual (HDM)** states Mandatory Design Standards are those considered most essential to achievement of overall design objectives. Many pertain to requirements of law or regulations such as those embodied in the FHWA's 13 controlling criteria. Mandatory standards use the word "shall" and are printed in **Boldface** type (i.e. **Topic 301** mandates lane width **shall** be 3.6m or 12 feet, **Table 302.1** Shoulder Width left and right **shall** be 3.0m or 10 feet for a multi-lane freeway).
- **Department Standards (Topic 102) referenced in the Highway Design Manual (HDM)** states "freeways should be designed to accommodate design year peak hour (PH) traffic volumes". The number of lanes required on a multi-lane urban freeway is based on PH volume per lane at level of service between C and E. KCA was tasked to study two

options (1) addition of HOV lane in each direction and (2) addition of HOV and General Purpose Lane in each direction. There was no level of service analysis indicating how either one of the proposals would provide an adequate level of service.

- **Design Period HDM Topic 103.2 “Geometric design** of new facilities should normally be based on estimated traffic 20 years after completion of construction.” **New facilities shall be designed to full standard.** Projects such as Safety, Resurfacing, Restoration, and Rehabilitation (RRR) and operational improvements are designed on the basis of current Average Daily Traffic (ADT). Non-standard features may be approved as an “interim” treatment since they provide a quick and cost effective mitigation for an existing condition with the caveat the Department commits restoring the non-standard condition to full standards in the future. For example the SR-55 HOV lane (17<sup>th</sup> Street to SR-91) in 1985 was constructed at a minimal cost (\$255,000 Contract Change Order) only to be restored to full standards in 2001. A project on the I-405 to restore the median shoulder and full width lanes between SR-73 and I-605 is currently under study. The **KCA Study** should follow standards used on the I-5, to add lanes, north of SR-133 in lieu of “interim” standards used between Camino de Las Ramblas and SR-133. **KCA analysis** assumes elimination of the shoulder, reduction in the width of the lanes and no enforcement areas. This approach is not in compliance with state and national standards used for implementation of projects addressing future needs.
- When considering alternatives, the Department must consider full standards for all alternatives such as 12’ lane, 4’ HOV Buffer, 10’ median, and 10’ outside right shoulders. **KCA’s study task of Task 1**, 1 HOV lane and **Task 2**, 1 General Purpose Lane and 1 HOV lane in each direction. In either case the proposed lane additions would not provide the number of lanes required to meet demand or design standards referenced above. For instance, implementing **Task 2** would require an additional 60 to 84 feet if auxiliary lanes were added where needed. In summary **KCA analysis** by not using adequate number of lanes to meet demand and ignoring mandatory standards to implement Tasks 1 and 2, results in erroneous right-of-way needs.
- The Department has no programmed funding for any capacity enhancement project for the I-5 in south Orange County. Also, it does not anticipate any funding from the **Transportation Equity Act: A Legacy for Users (TEA-LU)**. SMI assumes a single lane HOT lane is financially viable option and capable of providing sufficient funds to plan, design, construct and operate this strategy. There is no single project in the country that has shown that this assertion is achievable. SMI provided no data showing how it arrived at such a conclusion. SMI also assumes that you can build HOV or HOT lanes on freeway segments that experience high demand only. Unlike auxiliary lanes that could be built between on and off ramps. It is not possible to take a similar approach when constructing HOV/HOT lanes. This is due to the difficulty of beginning and ending HOV/HOT facilities on a segment by segment basis. SMI also ignore the need for gap closure. For instance, SANDAG’s Regional Transportation Plan shows four (4) managed lanes to the Orange County Line.
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### Department response to Issues #2, 4 and 5

- **SMI** states that the I-5 impact could have been reduced and refined through re-striping and widening on one side by moving the centerline.....All **Build Alternatives** include several **Project Design Features (PDFs)** intended to reduce and minimize potential environmental impacts on the human and natural environments (i.e. wildlife crossings, runoff management features, retaining and soundwalls, landscaping and lighting). Typically any realignment to the centerline is considered during refinement at the design stage. The SOCTIIP analysis arguably is very conservative in its estimate of right of way needs to implement the I-5 widening alternative. For instance, if the Foothill South Extension is not built, the added traffic to the I-5 ramps through the cities of San Clemente and San Juan Capistrano would require a greater storage capacity necessary for ramp metering operation and hence greater right-of-way takes necessary to reconfigure the ramps. Benefits of added interchange capacity, provided by the Foothill South Extension, could not be underestimated. It provides significant improvements to the ramp metering operation along the I-5 corridor and minimizes the impact to the arterial system in the vicinity of the I-5 interchanges that would result by the combination of increased demand and inadequate storage capacity. Also design refinement along the I-5 may show the need for additional climbing lanes at Avenida Pico for the HOV lane, general-purpose lanes as well as the need for CHP enforcement areas. These potential refinements may result in greater right-of-way needs.
- **SMI** also assumes that providing additional lanes on Antonio Parkway/Avenida La Pata between Oso Parkway and Avenida Pico would further support the I-5 alternative. Although Antonio Parkway/Avenida La Pata would be a critical component of the arterial circulation system, their benefit to the I-5 is anticipated to be minimal and in some cases detrimental. In the northbound direction Avenida La Pata/Antonio Parkway take you further away from the I-5 that runs diagonally making it more difficult to return to the I-5. In the southbound direction traffic terminating at Avenida Pico would further exacerbate the currently congested I-5/Avenida Pico Interchange. There is no analysis provided in the **SMI** report to indicate how traffic terminating at Avenida Pico could continue to the I-5 from this location. Arterial improvements along the I-5 corridor are critical in minimizing short trips but lack any viability when it comes to providing a significant alternative to the I-5 diagonal corridor. Currently, the portion of the I-5 between the Orange/San Diego County Line and Oso Parkway continues to be the only significant highway with adequate capacity to support local and regional traffic north of the San Diego County Line. This is evidenced during major incidences in San Juan Capistrano and San Clemente when regional traffic is advised to use SR-91 and I-15 due to lack of any viable alternative to the I-5. The Foothill South Extension would provide the needed alternate for both recurrent and non-recurrent demand.

### Department response to Issue #6

- Results of any model are only estimates - they cannot provide a definitive picture of what will happen in the future. Much like economic projections, transportation forecasts are

greatly affected by the long-term economic health and attractiveness of the region, by population changes, and by the individual behavior of each person using the transportation system. Methodologies used in the SOCTIIP EIS are consistent with other modeling efforts used in other projects throughout the state. It may have actually gone further than is required. Furthermore, members of the Collaborative representing several federal and state agencies insisted on having a consultant verify and validate the traffic model being used in the study. **Mr. John Long** of **DKS Associates** located in Sacramento, California after a lengthy review of all methodologies concluded that “the proposed modeling tools are sound and well validated and I have not found any new issues concerning the proposed forecasting process.” Furthermore, he states, “the proposed process should provide an adequate and defensible analysis of the SOCTIIP alternatives for the EIR/EIS.” The Department as well as members of the Collaborative reviewed the independent consultant conclusion and concurred with the **DKS** findings.

#### OTHER NON-RAISED ISSUES THAT DIRECTLY IMPACT CONSIDERATION OF ALTERNATIVES

- **What would be the impact of the TCA’s non-compete agreement on any I-5 improvements?**

The non-compete clause stipulates that should we decide that it’s in the best interest of the state to provide a competing project, the state shall pay the **TCA** on an annual basis, an amount equal to the loss of toll revenues directly or indirectly resulting from the specific improvement and only if **TCA** is unable to satisfy its obligations under the Indentures of Trust. The agreement allows an HOV lane to be constructed on I-5 from Avenida Pico to Pacific Coast Highway (where the HOV now terminates). The state can construct all safety, maintenance, and operational improvements without restrictions. All non-compete clauses expire in 2020.

- **Exclusions of the non-compete agreement include:**

1. Any State highway projects included in the 1992 STIP adopted by the CTC in 1992.
2. Those State highway improvements specifically described in OCTA’s Revised Improvement and Growth Management Plan” (Measure “M”) which were approved in November 1990.
3. Any State highway improvements necessary for improved safety, maintenance or operational purposes.
4. Any project identified for the Congestion Management Plan (CMP), adopted by OCTA but limited to intersection improvements and those that are consistent with the MPAH adopted by the Orange Co. Board of Supervisors on 8/11/92.
5. Any inter-city, Commuter, Urban, and/or High Speed rail projects supported by the State and or others.
6. Any HOV exclusive lanes operationally required by environmental regulatory agencies.
7. Any HOV exclusive lanes on I-5 between Avenida Pico and State Route 1.

Lisa Cathcart-Randall

June 21, 2006

Page 5

- **Capacity Adequacy of 2025 Freeway/Tollway Mainline**

The Department has reviewed the Capacity Adequacy of the preferred alternative (2 general purpose lanes and 1 HOV lane in each direction in lieu of 3 general purpose lanes and 1 HOV in each direction) and **found that it met the Highway Design Manual as well as other national standards**. The analysis shows that the Level of Service (LOS) under the preferred alternative is **LOS D** or better. Please refer to **Page D-89 SOCTIIP Traffic and Circulation Technical Report Appendices (Volume 1)** for pertinent and detailed information.

In responding to the above issues, the Department has made every effort to address every concern and include documentation that would support its reasoning and arguments. However, should you have any additional questions on this, please do not hesitate to contact me at (949) 724-2102.

Sincerely,



Lisa Ramsey  
Office Chief/Corridor Project Manager

Cc: J. Beil  
S. Vega

Attachment

### Attachment

Department's Technical Review and Comments for FHWA Regarding Documents Provided by Dan Silver

Below are California Department of Transportation (Department) comments to statements from Shute, Mihaly & Weinberger's letter to TCA dated January 12, 2006 and January 18, 2006 and their supporting documents.

#### Summary of Comments by Shute, Mihaly and Weinberger et al

- The EIR summarily rejected an alternative combining limited improvements to the I-5 and selected arterials, based on demonstrably erroneous claims of displacement impacts and associated funding shortfalls. Erroneous Information concerning taking of homes and other structures. The numbers were used as a basis for concluding that the AIP and several other I-5 focused alternatives were infeasible. **Peter Bekey of KCA Engineering** was employed to assess displacement impacts.
- **Peter Bekey's KCA Report** is based on a weekend trip, in which, he reviewed the I-5 in San Clemente. Peter drove the freeway and walked the fronting streets and cul-de-sacs and reported on his findings. This report was not based, on any construction or right-of-way plans, nor was there any analysis of traffic volumes. He concludes that the addition of an HOV lane in each direction should not involve the need to acquire buildings. Peter was also to address what the impact would be if the freeway were increased by one more lane of about 13' in each direction in addition to an HOV lane.
- **Mr. Bekey** asserts that Caltrans could provide widening in San Clemente, similar to what was done on I-5 within the San Juan Capistrano area by simply restriping to create a high occupancy vehicle (HOV) lane adjacent to the exist median. In some areas, he proposes to widen on one side of the freeway to avoid displacement impacts. The report concludes that with this two-stage widening of I-5 within San Clemente can be accomplished with acquisitions of approximately 23-27 buildings. And, if based on the "very preliminary overview of the site conditions," that it is determined as a viable project, then the next step is to acquire existing construction drawings and right-of-way and Assessor maps. Based on that information, preliminary plan lines could be drawn and design criteria established relative to such items as lane width, shoulder width, median island widths, etc.
- **Smart Mobility Incorporated – (SMI)**, a practical, Cost Effective and Environmentally Superior Alternative to a New Toll Road for the SOCTIIP states, "TCA's Failure to Incorporate Induced Demand in Traffic Modeling underestimates future traffic by an amount that is an Order of Magnitude greater than the purported Benefits of the Project." TCA used demonstrably inferior static modeling approach that dramatically overstates the traffic benefits of the Project. The static approach fails to account for induced demand,

that is, increases in traffic volumes or changes in traffic patterns that result when drivers respond to new roads or greater highway capacity. **SMI** suggests a conversion to HOT lanes should also be considered as is similar to SR-91 and I-15 in San Diego County.

- **Caroline Rodier Response to Traffic Response to Comments for the SOCTIIP EIS/SEIR** – Dr. Rodier alleges, “the failure to represent the change in land uses induced by an increase in the supply of highway capacity in analysis of the SOCTIIP alternatives would tend to
  1. Overestimate congestion benefits of the build alternative and
  2. Underestimate VMT and vehicle emissions for the build alternative.”
  
- **JARED IKEDA REPORT** - Diagrams prepared by Jared Ikeda provide graphic illustration of information contained in the KCA Report and the TCA Relocation Impacts Technical Report. Diagrams identify a thirteen-foot wide area from the edge of existing shoulder of either side of the highway.