

## **MINUTES OF THE MEETING**

### **I-710 TECHNICAL ADVISORY COMMITTEE**

**A Meeting Held at Progress Park**

**15500 Downey Avenue**

**Paramount, CA**

**April 9, 2003**

- I. Chair Pagett called the meeting to order at 1:40 p.m.

COMMITTEE MEMBERS PRESENT: Chair William Pagett, Bell Gardens, Maywood, Paramount; Anthony La, Downey; Carlos Alvarado, Bell, Cudahy; Robert Zarrilli, Commerce; Joseph Lim, Compton; Patrick Fu, Huntington Park; Lon Maddox, Long Beach; Yadi Farhadi, Lynwood; Mohammad Mostahkami, South Gate; Kevin Wilson, Vernon; Victor Rollinger, Carson; Maged El-Rabaa, County of Los Angeles; Kerry Cartwright, Port of Long Beach; Sue Lai, Port of Los Angeles; Sharas Bangalore, Caltrans; Ernest Morales, MTA; Al Bowser, SCAG; Sandra Balmir, FHWA/FTA; Lt. William Murphy, CHP; Carol Gomez, AQMD.

COMMITTEE MEMBERS ABSENT: None.

OTHERS PRESENT: Bridget Sramek, Assemblyman Alan Lowenthal's office; Helene Ansel, Assemblyman Alan Lowenthal's office; Mike Sanders, Long Beach Mayor Beverly O'Neill's office; Jolene Hayes, Port of Long Beach; Michael DiBernardo, Port of Los Angeles; Sumire Gant, City of Long Beach; Anthony R. Ybarra, City of Bell Gardens; Maged Soliman, Los Angeles County, Department of Public Works; Ken Hatai, Caltrans Traffic Investigations; Linda Taira, Caltrans, Corridor Studies; Joe Brazile, Caltrans; Raymond Maekawa, MTA; Ed Gingras, CHP; Enrique Arroyo, Rivers and Mountains Conservancy; John Zeigler, Auto Club of Southern California; Dr. John Peters, USC Keck School of Medicine; Andrea Hricko, USC Keck School of Medicine; Corina Ulloa, USC Keck School of Medicine; Duane Kenagy, ACET; John Doherty, ACTA; Robert Cabrales, CBE; Agustin Eichwald, CBE; David L. San Jose, private citizen, Coolidge Triangle Association, Long Beach; Roger Holman, Coolidge Triangle Association, Long Beach; Martha Thuerte, private citizen, Long Beach; Linda Ivers, private citizen, Long Beach; Dan Pressburg, private citizen, Long Beach; John G. Miller, MD, private citizen, San Pedro; Regina Taylor, private citizen, Long Beach; Ray Pok, private citizen, Long Beach; Deborah Schoch, Los Angeles Times; Dave Levinsohn, PBQD; Steven Yoshizumi, PBQD; Susan Robbins, PBQD; Joel Soden, PBQD; Doris Chan, PBQD; Julie Rush, PBQD; Andrea Rodriguez, CPG; Lee Ward, Meyer, Mohaddes Associates; Harley Martin, CH2M Hill; Paul Taylor, Kaku Associates; Michael Fischer, Cambridge Systematics; Jack Joseph, Gateway Cities COG; Deborah Chankin, Gateway Cities COG.

- II. Roll was taken through self-introductions and a sign-in sheet was circulated.
- III. Bill Pagett, TAC Chair, led the pledge of allegiance.
- IV. There were no amendments to the agenda.
- V. There were no public comments at this time.
- VI. Consent Calendar:

It was moved by Robert Zarrilli, seconded by Joseph Lim, to approve the TAC minutes for March 26, 2003. The motion was approved unanimously.

VII. Reports:

A. Study Overview

Dave Levinsohn of PBQD presented an overview of the TAC meeting schedule to provide the TAC with the evaluation results of the final set of alternatives. At the March 26 meeting the TAC received information regarding the right of way impacts and costs of the alternatives. At the April 2 meeting the TAC received information on the environmental impacts of the final set of alternatives. At this meeting the TAC will receive information on the travel benefits and impacts of the alternatives, as well as information on the impact of the alternatives on diesel particulate emissions. Chairman Pagett commented that the TAC might need to adjust the schedule of future meetings because of the volume of materials received.

B. Traffic Impacts and Benefits

Michael Fischer, Cambridge Systematics, presented results of the traffic impacts and benefits analysis. The first indicator for which he presented results was volume-to-capacity (V/C) ratios, an indicator of congestion. V/C was calculated using passenger car equivalency (PCE) factors that attribute higher volume impacts to trucks relative to autos based on the size and operational characteristics of the vehicles. Data were presented that compared each of the alternatives by direction for major segments of the corridor during the PM peak period. The presentation focused first on mainline 710 V/C characteristics. While the results vary by location in the corridor, Alternative D generally had the lowest V/C ratios of all the alternatives. This is primarily because it adds the most capacity relative to demand. Alternative E also reduced V/C ratios on the mainline considerably, due to the diversion of trucks from the mainline to the truck-only lanes. However, the relative improvement in mainline conditions in Alternative E as compared to Alternative C was less than the relative improvement in Alternative D as compared to all other alternatives.

Mr. Fischer next presented information about the utilization of the new facilities that were added in several alternatives (truck by-pass lanes in Alternative C, HOV lanes in Alternative D, and truck-only lanes in Alternative E). Data were again presented by direction for the PM peak period. The truck lanes have the highest projected utilization of all of the new facilities, with V/C ratios above 0.8 throughout most of the corridor. Truck by-pass lanes also have high utilization relative to capacity, with V/C ratios slightly above 0.6. HOV utilization is expected to be relatively low throughout the corridor, with V/C ratios in the middle of the corridor only slightly above 0.3.

Mr. Fischer also presented data on projected mainline speeds based on the model output. These data show similar trends to the V/C ratios as speeds are a function of V/C. Mainline speeds for the no-build condition in the PM Peak period are projected to average between 30 and 45 mph for most of the corridor with many segments below 35 mph. Alternative D gives the greatest improvement in travel times with many segments achieving speeds above 50 mph. The results for Alternative E and Alternative C are similar to results reported for the V/C ratios, with most segments achieving speeds of between 40 and 50 mph. It was noted that the improvement of travel times on the mainline for Alternative E will have implications for tolling because trucks may not realize significant enough savings as compared to the mainlines to make paying tolls very attractive (given the option to use either the mixed flow lanes or the truck lanes).

Mr. Fischer showed the percentage of trucks using the truck by-pass lanes in Alternative C and the truck lanes in Alternative E. Truck lane utilization rates were very high, generally between 60 and 80 percent. Truck by-pass lane utilization was somewhat lower due to the fact that only trucks that are moving through an interchange are candidates for using these lanes. Michael also noted that in some segments, truck lane utilization in Alternative E may be dropping because the truck lanes are operating close to V/C of 1 and the travel savings benefits relative to the mainlines may be narrowing.

Paul Taylor of Kaku Assoc. described traffic volume changes from the No Build alternative due to (1) extending the Terminal Island Freeway to I-710/I-405 in Alternative C and (2) connecting the Terminal Island Freeway to Alameda Street and the proposed Alameda Truckway in Alternative D. Kerry Cartwright asked for data to be presented at the next meeting comparing volumes on Alameda Street north of the proposed connector in Alternative D. Victor Rollinger asked for data to be presented at the next TAC meeting showing the volume changes due to the I-710 Truckway in Alternative E.

Mr. Taylor also described traffic forecasts for the proposed Slauson Avenue interchange and volume changes at the Atlantic/Bandini and Florence interchanges due to adding an interchange at Slauson. He said he would have more details regarding arterial volume changes at the next TAC meeting.

Michael Fischer then showed changes in truck average daily traffic (ADT) on the I-710 mainlines for each of the alternatives. The benefits of truck by-pass lanes and truck lanes as a way of separating trucks and autos were clearly evident in this data with significant decreases in truck ADT on the mainlines for these alternatives.

Mr. Fischer next presented data on the changes in vehicle miles traveled (VMT) and delay. As expected, VMT increases dramatically on the 710 facilities (including HOV lanes, truck by-pass lanes, and truck lanes) as compared to the no-build condition for any of the alternatives that add capacity, with Alternatives D and E having the greatest increases in VMT. For the study area as a whole (the area bounded by I-110, I-605, SR-60, and the ports), VMT increases were less pronounced but still significant for Alternatives D and E indicating that some traffic is diverting onto study area facilities due to the improved traffic conditions. Alternatives D and E produced the greatest reductions in overall delay (measured both in terms of vehicle hours traveled and person hours traveled). Overall delay reductions were not substantially different for all of the build alternatives at the study area level, with Alternative D having the greatest benefits. For the 710 facilities, Alternatives D and E had greater benefits than Alternative C.

Based on these results, Mr. Fischer presented the following conclusions:

- Alternative D provides the greatest congestion benefits for the 710 mainlines because it adds the most capacity. However, some of this capacity, the HOV lanes, is poorly utilized. If this capacity were eliminated, Alternative E would look much better by comparison.
- Alternative E provides the greatest mobility benefits for trucks. The truck lane performance is better than the mixed flow performance in Alternative D.
- While Alternative E does provide significant mobility benefits, truck utilization pushes V/C ratios high enough that there are slight congestion impacts during peak periods (speeds are reduced below free flow conditions).
- Alternative E shows very high utilization of the truck lanes. Truck by-pass lanes also have high utilization, although not as high as truck lanes. They also have the unintended impact of increasing truck volumes on the mainline in the immediate vicinity of the truck lanes as compared to the no-build condition.
- All of the build alternatives reduce delay substantially despite increased VMT.

Mr. Fischer next presented results of the safety analysis. The following conclusions with respect to safety are relevant:

- Incident management introduced with the ITS options in the TSM alternative (Alternative B) has significant safety benefits.

- The build alternatives produce safety benefits in part by shifting traffic from the arterials to the freeway, where accident rates are lower.
- Alternative D shows the greatest reduction in fatality accidents (although the difference is small) but these shift to less severe accident types.
- Alternative E evaluation does not account for the safety benefits of separating trucks and autos as no data are available. This benefit is expected to be significant.

Victor Rollinger pointed out that the safety analysis probably under represented the safety benefits of separating trucks and autos as is accomplished in Alternative E. Mr. Fischer agreed with that assessment. Mr. Rollinger suggested that the study team acquire accident rate data, if available, from the separate truck lanes on I-5 in San Diego County. He also requested that when the OPC is briefed on safety benefits, that the consultant team point out that the analysis methodology under represents the safety benefits of those alternative features that separate trucks and cars.

Mr. Fischer concluded his presentation with results from the reliability analysis. Reliability is measured as changes in non-recurrent (incident-related) delay. The following conclusions were presented:

- Alternative B shows significant reliability benefits due to the benefits of incident management in reducing incident duration.
- Alternative D has the greatest reliability improvements. This is due to the addition of lanes, which reduces the impact of incidents, and the reduction in overall congestion making it easier to clear incidents faster.
- The reliability benefits of Alternative E are underestimated because they do not take into account the safety benefits of separating trucks and autos. However, there is a reduction in the potential benefits associated with reduced congestion because a two-lane facility (the truck lanes) is less reliable than a three or four lane facility.

C. Presentation by Dr. John Peters, Co-Director, Children's Environmental Health Center, Keck School of Medicine of USC

Dr. Peters began by distributing copies of his PowerPoint slides to the members of the TAC. The presentation was entitled "Health Impacts of Freeway Expansion". Dr. Peters pointed out that vehicle exhaust contains lots of particles and gases, these particles are very small, as small as PM 0.1, which is 0.1  $\mu\text{m}$ . In 1998, California designated diesel exhaust as a toxic air contaminant, based on studies showing increased cancer risk among railroad workers and truck drivers.

Dr. Peters pointed out that forecasts indicate that the number of trucks on I-710 will almost triple over the next 17 years, and that increasing the number of trucks on I-710 will create local and regional air pollution. He presented data that shows that there is a high concentration of black carbon within 100 meters of I-710, and that I-710 has higher concentrations of black carbon (a marker of all components of diesel exhaust) than I-405 at equal distances, presumably due to the greater truck volumes on I-710.

Dr. Peters referred to the SCAQMD MATES II Study, which looked at the risk for cancer causing chemicals in the air. That study identified diesel exhaust as the most important cancer causing constituent in the air, and the study predicted the greatest risk of cancer along those freeways with the most truck traffic. The health effects of exposure to diesel exhaust include more lung cancer, worsened asthma, and other respiratory effects. He presented data that suggests that living within 300 meters of major roadways adversely affect lung function and increases asthma risk. Dr. Peters also referred to a children's health study which analyzed the health of 6,000 children in 12 California communities in six different counties. The study concluded that lung growth in children is lower in those communities near heavily traveled freeways than in those without them. Data also showed negative effects on children who spent more time outdoors in the vicinity of freeways with higher truck volumes, even if that outdoor activity was exercise.

Additional data presented by Dr. Peters indicates that higher concentrations of ozone are associated with an 83% increase in acute respiratory disease sufficient to cause school absences among children.

In summary, Dr. Peters urged the TAC to consider local and regional health impacts in planning for improvements to I-710, as adding pollution to an already polluted air basin is a really bad idea and the plans for I-710 must make certain that air pollution is not increased and that public health is protected.

At the conclusion of Dr. Peters' presentation, Dr. John Miller, a member of the public, requested the opportunity to address the TAC. Chairman Pagett granted Dr. Miller time to address the TAC. Dr. Miller said he is an emergency room physician but also has a personal and professional interest in children's health. He is concerned because of studies he cited from the medical research literature which links illnesses in children to air pollution, particularly mobile source pollution. Dr. Miller urged the TAC to consider the health effects of I-710 improvement plans on the surrounding communities and their children.

#### D. Air Quality Analysis

Joel Soden of PBQD presented preliminary findings of the forecast of the effects of the Final Set of I-710 alternatives on diesel particulate matter concentrations. Mr. Soden stated that the analysis focused on diesel particulate matter (DPM), which is part of the

exhaust emissions of heavy-duty trucks. The analysis focuses on particulate matter less than 10 microns in diameter (PM10), and is measured in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). It is a local, rather than regional air quality impact and is estimated as a line source (highway) rather than a point source (e.g. power plant). The challenges in performing this analysis are that there is no approved EPA methodology to quantify diesel particulate concentrations, that the physical science of this is still speculative, and that the methods to quantify diesel particulates for transportation projects are still evolving.

Mr. Soden said that the analysis used existing, approved models for line source evaluation of PM10 in order to compare the I-710 alternatives, focusing on the key variables that increase or decrease diesel particulate concentrations. The analysis focused on year 2025, utilizing EMFAC 2002, v2.2 emission factors, CAL3QHCR mobile dispersion program and actual worst case meteorological conditions from the Los Angeles region. The future traffic forecasts came from the I-710 sub-area model developed for the study by Kaku Assoc., which forecasts traffic by vehicle type, including three classes of trucks by four time periods: am peak, midday, pm peak and night time. DPM model inputs include roadway geometry, truck volumes, emission rates and meteorology. Mr. Soden presented a graph which shows that DPM emission rates are forecast to decline significantly by 2025 compared to today's rates, as federal diesel emissions standards are implemented along with new mandates on low sulfur fuel and as older trucks are replaced with newer trucks over time.

Mr. Soden also showed a graph which indicates that DPM emissions in grams/mile decline as vehicle speed increases.

The forecasts of DPM concentrations were performed for two locations along the I-710 Corridor: between Willow St. and I-405 in Long Beach and between Alondra Blvd. and Rosecrans Ave., both on the southbound side of the I-710. These locations were selected because of the higher forecast truck volumes at those locations, residences close to I-710 at those locations, and to capture the design differences among the alternatives. Mr. Soden presented two charts which displayed the analysis results at those locations. The charts displayed DPM concentrations for each I-710 alternative at increasing distances from the centerline of I-710. At the Willow/405 location, the analysis predicts that alternatives C and D would generate lower DPM concentrations than the no build alternative (A) and that Alternative E would produce higher concentrations. (Checking of these results subsequent to this presentation found errors in the analysis of Alternative E, which were corrected and these revised results were presented at the 4/15/03 TAC meeting. See minutes of that meeting for the corrected results). The results for the Alondra/Rosecrans location predict that all of the improvement alternatives (B-E) will generally reduce DPM concentrations compared to the No Build (A).

The lessons learned from this DPM analysis include:

- Higher speeds reduce DPM emissions
- Trucks in lanes close to sensitive uses increases DPM concentrations
- Elevated lanes are better than at-grade lanes due to increased DPM dispersion
- Higher truck volumes generate higher DPM emissions

Mr. Soden concluded by stating that the analysis shows the relative difference among alternatives for DPM concentrations, informs the facility design process, and that the next phase of I-710 study (EIS/EIR) will involve additional analysis of DPM.

Doctors Peters and Miller questioned the assertion in Mr. Soden's comment that the current state-of-the-art on DPM is still speculative and evolving, given the many health studies that they had cited in their previous presentations. Mr. Soden responded by discussing USEPA current position on DPM and the potential health effects of transportation projects.

Al Bowser said that the position taken by the doctors (i.e., that DPM is very harmful to human health) and the results of the air quality analysis (i.e., that the design of the roadway affects localized pollutant concentrations) are not mutually exclusive.

There were several questions regarding the change in emission factors with future analysis years. In response, Mr. Soden explained the variable and assumptions that USEPA and CARB incorporated into their emission factor algorithms. He also discussed the increased emission controls on diesel engines that are mandated and how they are incorporated into the results.

Several speakers were concerned that traffic projections show large increases in traffic along the I-710 corridor by the 2025 analysis year. Mr. Soden stated that emissions caused by these increases would be offset to some extent by lower emission factors from both future emission controls and increases in vehicular speeds.

#### E. Discussion

Chairman Pagett requested that the proposed TAC meeting schedule for future meetings be adjusted. He said that he feels that the TAC has been given a substantial amount of information on the evaluation of alternatives over the past three meetings and that they need additional time to digest the information and ask questions of the consultant team. He suggested that at the 4/15/03 meeting that the TAC members be prepared to ask questions of the consultant team regarding right of way impacts and design features of the alternatives. He also requested an update for the TAC of the public outreach effort. Dave Levinsohn indicated that the proposed revision in schedule would be fine with the consultant team. He also reminded the Chair that the consultants have two more items to present to the TAC at the April 15 meeting: an analysis of tolling the truck lanes in Alternative E and the presentation of regional air quality impacts of the alternatives.

#### IX. Adjournment

Minutes  
I-710 Technical Advisory Committee  
April 9, 2003  
Page 9 of 9

The meeting was adjourned by consensus at 4:40 p.m.