



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION IX**

75 Hawthorne Street  
San Francisco, CA 94105

July 11, 2011

Mr. Aaron Burton  
California Department of Transportation, District 8  
464 West 4<sup>th</sup> Street, 6<sup>th</sup> floor  
San Bernardino, CA 92401

Subject: EPA Comments on the Draft Environmental Impact Statement for State Route 91  
Corridor Improvement Project in Riverside and Orange Counties, California (CEQ #  
20110158)

Dear Mr. Burton:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the State Route (SR) 91 Corridor Improvement Project in Riverside and Orange Counties, California, pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. Based upon our review, we have rated the proposed action as *Environmental Concerns-Insufficient Information (EC-2)*. See attached "Summary of the EPA Rating System" for a description of the rating. The basis for the rating and our recommendations are summarized below and further detailed in our enclosed comments.

Riverside County Transportation Commission (RCTC) and California Department of Transportation (Caltrans) propose to add a general purpose lane in each direction and convert existing express lanes to toll lanes on approximately 17 miles of State Route (SR) 91 from SR 241 in the Cities of Anaheim and Yorba Linda to just west of I-15 in the City of Riverside. The project also includes a toll lane in each direction for approximately six miles of Interstate 15 at the SR91 junction.

As identified in the DEIS, SR 91 is the major highway for commuting Riverside and San Bernardino residents working in Orange and Los Angeles Counties and sections of the corridor are reported to be used by more than 280,000 vehicles per day. Communities along the heavily travelled and congested SR 91 corridor are already experiencing poor air quality. EPA is concerned with possible increases in localized, or "hot spot" vehicle emissions and exposure to mobile source air toxics (MSAT) for a number of residents and sensitive receptors that are located near the existing SR 91 facility. EPA recommends performing MSAT hot spot analyses, and if significant hot spots are identified, implementing measures to reduce exposure to MSATs, such as targeted project alignment modifications or shifts or the use of buffers.

We also recommend that Caltrans identify specific locations of any impacts to waters of the U.S. in the Final Environmental Impact Statement (FEIS) and further discuss why these impacts are unavoidable. In addition, the FEIS should assess indirect impacts to wetlands and other waters and include a description of mitigation to replace affected wetland functions.

The above-listed concerns, along with additional comments on water quality and children's health are further discussed in the attachment. Thank you for the opportunity to comment on the DEIS. When the FEIS is published for public review, please send one hard copy and, if available, two CD-ROMs to the address above (mail code: CED-2). If you have any questions, please contact Susan Sturges, the lead reviewer for this project. You may reach Susan at 415-947-4188 or [sturges.susan@epa.gov](mailto:sturges.susan@epa.gov).

Sincerely,

/s/

Connell Dunning, Transportation Team Supervisor  
Environmental Review Office  
Communities and Ecosystems Division

Attachments: Summary of Rating Definitions  
EPA's Detailed Comments

CC via email: John Chisholm, Caltrans District 11  
Sally Brown, U.S. Fish and Wildlife Service  
Stephanie Hall, U.S. Army Corps of Engineers

### **Mobile Source Air Toxics (MSAT)**

Because the existing highway already accommodates a tremendous volume of traffic and a number of sensitive receptors and neighboring residential communities are likely currently exposed to substantial MSAT emissions, additional increases in MSATs may have significant impacts. The MSAT Analysis of Results (p. 3.14-33) is misleading because it does not discuss localized impacts as “hot spots” along the proposed alignments and does not assess proximity to sensitive receptors and residential areas. Changes in traffic density resulting from the project may lead to an increase in MSAT impacts at some locations (e.g., neighboring intersections, local roads) and potentially a decrease in MSAT impacts in other locations. The net result of this change may be either unacceptable or beneficial, and is especially dependent on the relative locations of sensitive receptors, but is difficult to determine without further analysis of changes in ambient concentration as a result of each alternative.

EPA recommends including additional quantitative analysis in the Final Environmental Impact Statement (FEIS) to determine if MSAT hotspots are a concern for the project and if so, to inform avoidance, minimization, and mitigation options. This is especially important, given the significant concerns about adverse health effects from mobile source pollutants and the project’s potential to increase localized emissions in areas abutting residential communities and sensitive receptors along portions of the SR 91 and Interstate 15 corridors, intersections, and neighboring roads.

#### *Recommendations:*

- Identify projects segments and/or areas that may have potential for hot spot impacts, such as:
  - 1) Project segments with the closest sensitive receptors and residential areas,
  - 2) Project segments with the largest increases in vehicle miles traveled (VMT) or highest baseline emissions, and
  - 3) Project segments with the largest emissions changes and distance reductions to sensitive receptors and residential areas.
  
- Quantify emissions and assess whether the project will result in potential MSAT hotspots. Include dispersion modeling and an assessment of health risk for the six primary MSATs for areas above that appear to have potential hot spot concerns. This analysis is further described in the March 2007 report entitled “Analyzing, Documenting, and Communicating the Impacts of Mobile Source Air Toxic Emissions in the NEPA Process” conducted for the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on the Environment and funded by the Transportation Research Board ([http://www.trb.org/NotesDocs/25-25\(18\)\\_FR.pdf](http://www.trb.org/NotesDocs/25-25(18)_FR.pdf)). Procedures for toxicity-weighting, which EPA has found to be especially useful for the targeting of mitigation, are described in EPA’s Air Toxics Risk Assessment Reference Library (Volume 3, Appendix B, beginning on page B-4, [http://epa.gov/ttn/fera/data/risk/vol\\_3/Appendix\\_B\\_April\\_2006.pdf](http://epa.gov/ttn/fera/data/risk/vol_3/Appendix_B_April_2006.pdf)).

- If significant impacts are identified, include appropriate mitigation or design changes to reduce potential operational impacts in the FEIS and Record of Decision (ROD).

Additionally, EPA disagrees with the claim in the DEIS on page 3.14-26 that "...the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA". EPA recommends eliminating incorrect statements regarding technical shortcomings and uncertain science in the FEIS. Tools and models are available that EPA (as well as other agencies) routinely use effectively. Both EPA and California Office of Environmental Health Hazard Assessment (OEHHA) have long-standing experience and published, peer-reviewed guidance for evaluating long-term health effects, including cancer risk. EPA has published an Air Toxics Risk Assessment Reference Library ([http://www.epa.gov/ttn/fera/risk\\_atra\\_main.html](http://www.epa.gov/ttn/fera/risk_atra_main.html)) that addresses how to develop appropriate exposure scenarios in a risk assessment. Similarly, California OEHHA has hot spot risk assessment guidance published in support of California's Air Toxics "Hot Spots" Information and Assessment Act of 1987 (a.k.a. AB2588, [http://www.oehha.ca.gov/air/hot\\_spots/pdf/HRAguidefinal.pdf](http://www.oehha.ca.gov/air/hot_spots/pdf/HRAguidefinal.pdf)). The previously mentioned March 2007 AASHTO Report also discusses available methodologies and tools.

#### Construction Mitigation Measures

EPA recommends supplementing and/or if applicable, modifying the measures in Section 3.14.4.1 Standard Conditions with the following in the FEIS and ROD to reduce the impacts resulting from future construction associated with this project.

##### *Recommendation:*

In light of the serious health impacts associated with vehicle and diesel exhaust exposure, we recommend that the best available control measures for these pollutants be implemented at all times and recommend that a Construction Emissions Mitigation Plan is incorporated into the FEIS and committed to in the ROD. We recommend that the following measures be incorporated into a Construction Emissions Mitigation Plan, where feasible and appropriate, in order to reduce impacts associated with fugitive dust and vehicle emissions, diesel exhaust, and mobile source air toxics from construction-related activities:

##### *Fugitive Dust Source Controls:*

- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions.
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

##### *Mobile and Stationary Source Controls:*

- Minimize use, trips, and unnecessary idling of heavy equipment.

- Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies. Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. The California Air Resources Board has a number of mobile source anti-idling requirements which could be employed. See their website at: <http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>
- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations.
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal<sup>1</sup> or State Standards<sup>2</sup>. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible<sup>3</sup>. Lacking availability of non-road construction equipment that meets Tier 4 engine standards, Caltrans should commit to using the best available emissions control technologies on all equipment.
- Utilize EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site.

*Administrative controls:*

- Specify the means by which impacts to sensitive receptors, such as children, elderly, infirm and others identified in the FEIS, will be minimized. For example, locate construction equipment and staging zones away from sensitive receptors and fresh air intakes to buildings and air conditioners.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking. (Suitability of control devices is based on: whether there is reduced normal availability of the construction equipment due to increased downtime and/or power output, whether there may be significant damage caused to the construction equipment engine, or whether there may be a significant risk to nearby workers or the public.) Meet EPA diesel fuel requirements for off-road and on-highway, and, where appropriate, use alternative fuels such as natural gas and electric.

## **Clean Water Act Section 404**

The DEIS does not clearly identify where specific impacts to jurisdictional and non-jurisdictional waters might occur, making it difficult to assess whether additional options for avoidance and minimization exist. Chapter 3.18 Wetlands and Other Waters in the DEIS includes a summary

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<sup>1</sup> EPA's website for nonroad mobile sources is <http://www.epa.gov/nonroad/>.

<sup>2</sup> For ARB emissions standards, see: <http://www.arb.ca.gov/msprog/offroad/offroad.htm>.

<sup>3</sup> Diesel engines < 25 hp rated power started phasing in Tier 4 Model Years in 2008. Larger Tier 4 diesel engines will be phased in depending on the rated power (e.g., 25 hp - <75 hp: 2013; 75 hp - < 175 hp: 2012-2013; 175 hp - < 750 hp: 2011 - 2013; and  $\geq$  750 hp 2011- 2015).

of permanent and temporary impacts, by alternative, to wetlands and other waters under jurisdiction of the US Army Corps of Engineers (Corps), California Department of Fish and Game and the Regional Water Quality Control Board, but does not provide information pertaining to the specific impact locations. Instead, the DEIS refers to Appendix B of the November 2009 Jurisdictional Delineation Report (Report) that was submitted to the Corps for verification. The Report is not included in the DEIS, but EPA obtained a copy from Riverside County Transportation Commission's website for the SR 91 Corridor Improvement Project<sup>4</sup>. While the Report maps wetlands and other waters by potential jurisdiction type, it does not superimpose the proposed project alignments and impacts on the mapped waters.

Caltrans should identify specific locations of the project's impacts to wetlands and other waters in the FEIS and further discuss why these impacts are unavoidable. At a minimum, EPA anticipates the alternatives analysis for Corps authorization under Section 404 of the Clean Water Act will contain this level of detail based on the Corps verified jurisdictional delineation. This information is necessary to demonstrate compliance with the Guidelines found in Clean Water Act Section 404(b)(1) which prohibits the discharge of dredged or fill material if there is a practicable alternative which would have less adverse impact on the aquatic ecosystem.

*Recommendation:*

Caltrans should include additional detail in the FEIS on the potential impact sites to wetlands and other waters for both Alternatives 1 and 2, including specific impact locations that would result from proposed project alignments. Include a description of why proposed impacts are unavoidable consistent with the Guidelines.

*Indirect Impacts*

While permanent and temporary impacts to federal and state jurisdictional waters are quantified, it's unclear if the estimated impacts include indirect effects. The DEIS does not specifically discuss or quantify indirect effects of the project to waters of the U.S. These impacts would include: (1) corresponding increases in the volume and velocity of polluted stormwater from increased impervious surfaces; (2) hydrologic and sediment transportation effects influenced by placement of new permanent fill and structures, (3) vegetative changes and disturbance to wetlands habitat which results in a reduction in the functional capacity of adjacent wetlands; (4) additional noise, glare, and other similar human-related disturbances to aquatic resources; (5) additional shading of wetland habitat from roads and crossings; and (6) decreases in biodiversity and ecosystem stability.

*Recommendations:*

- Assess and report in the FEIS the changes in ecosystem functions as a result of the proposed project associated with permanent direct and indirect effects.
- Update tables in Chapter 3.18 to identify what the estimated indirect impacts to jurisdictional waters will be.
- Provide a description of the proposed mitigation to offset indirect impacts (see comment below).

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<sup>4</sup> Available on-line at: [http://sr91project.info/environmental/draft\\_eir\\_eis.php](http://sr91project.info/environmental/draft_eir_eis.php).

### Avoidance, Minimization, and Compensatory Mitigation

The DEIS does not include a description of mitigation to replace lost wetland functions. Section 3.18.4 Avoidance, Minimization and Mitigation Measures in the Wetlands and Other Waters chapter states that compensatory mitigation is as described in Section 3.17.4.1 but this section only mentions mitigation for riparian communities and other native vegetation communities. Caltrans should identify in the FEIS available and reasonable means of mitigation to alleviate the environmental effects of the proposed action (see 19. Mitigation Measures of Forty Most Asked Questions Concerning the Council of Environmental Quality's National Environmental Policy Act Regulations<sup>5</sup>).

#### *Recommendations:*

- The FEIS should include a more detailed discussion of available compensatory mitigation measures for wetlands and other waters consistent with the Corps and EPA 2008 Compensatory Mitigation Rule<sup>6</sup>. These regulations were designed to improve the effectiveness of compensatory mitigation to replace lost aquatic resource functions and area and include a mitigation hierarchy with an inherent preference for mitigation banks and in-lieu fee programs before the use of an on-site mitigation site.
- Discuss mitigation for temporary and unavoidable indirect impacts. Temporary impact mitigation should consider additional compensatory mitigation for temporal loss of functions as well as establishing numeric criteria and monitoring of the temporary impact site to ensure that aquatic functions are fully restored. Indirect impact mitigation should consider opportunities to reduce any potential effects from shading and to compensate for possible wetland habitat fragmentation.

## **Water Quality**

Stormwater capture and treatment should be designed to maximize treatment of the existing roadway footprint in addition to new project-related impervious surface areas directly connected to waters. The current MS4 permit requires Caltrans to “seek opportunities to retrofit the Storm Water Drainage System for water quality improvement whenever a section of the rights-of-way undergoes significant construction or reconstruction” (Order 99-06). EPA recognizes that Caltrans proposes to meet stormwater treatment sizing criteria in the statewide MS4 permit that is currently up for renewal, which states that “Where redevelopment results in an increase of less than 50% of the total impervious area of a previously existing development, the numeric sizing criteria apply only to the addition and not to the entire development” (Section 2, Stormwater Program Implementation Requirements). The proposed project would result in a total impervious surface area increase of 27.5 percent for Alternative 1 and 39.2 percent for Alternative 2, which is significant but well below the 50 percent threshold.

The DEIS indicates proposed best management practices would treat runoff from an area equivalent to the impervious surface area added by the project as well as runoff from part of the existing freeway facility (i.e., approximately 125 percent of impervious surface area for Segment A, 116 percent for Segment B, and 102 percent for Section C.) (p. 3.10-23). While these percentages represent potential increases in treated impervious surface area, they leave a

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<sup>5</sup> Available on-line at: <http://ceq.hss.doe.gov/nepa/regs/40/11-19.HTM#19>

<sup>6</sup> Available on-line at: <http://www.epa.gov/EPA-WATER/2008/April/Day-10/w6918a.pdf>

significant portion of stormwater runoff from existing roadway untreated. Measures to expand treatment would improve water quality in the Santa Ana River watershed and could help address current CWA Section 303(d) listed water quality impairments for lead, copper and other pollutants along the Santa Anna River and tributaries.

*Recommendation:*

Caltrans should commit to additional opportunities to maximize treatment of stormwater runoff from both new and existing roadway like expanding existing and planned treatment BMPs during project construction in the FEIS and ROD.

### **Children's Health and Safety**

While Section 3.4 of the DEIS (Community Impacts) provides basic demographic information on children and locations of schools, the DEIS does not assess the project's potential to affect the health and safety of children. Executive Order (EO) 13045 "Protection of Children from Environmental Health Risks and Safety Risks"<sup>7</sup> requires federal agencies to ensure that their policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

Given the behaviors of children, such as more active time spent outdoors and closer to the ground during play, and their developing systems, children are more vulnerable due to higher relative doses of air pollution and smaller diameter airways. In addition, traffic-related pollutants have been repeatedly associated with increased prevalence of asthma-related respiratory symptoms in children. Given that the proposal is a proposed expansion of an existing large capacity freeway in an area with existing poor air quality, EPA recommends that Caltrans demonstrate compliance with the EO and specifically identify and assess in the FEIS any potential environmental health risks and safety risks that may disproportionately affect children.

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<sup>7</sup> Available on-line at: <http://ceq.hss.doe.gov/nepa/regs/eos/eo13045.html> .