

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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January 8, 2009

Mr. Gene Fong
Federal Highway Administration
650 Capitol Mall, #4-100
Sacramento, California 95814

Subject: EPA comments on the Draft Environmental Impact Statement for Mid County Parkway, Riverside County, California (CEQ# 20080413)

Dear Mr. Fong:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the Mid County Parkway (MCP) Project, Riverside County, California. Our comments are provided under the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementing Regulations (40 CFR 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 is summarized below and further detailed in our enclosed comments.

The development of the environmental impact statement (EIS) has been following the National Environmental Policy Act and Clean Water Action Section 404 Integration Process for Federal Aid Surface Transportation Projects in California Memorandum of Understanding (NEPA/404 MOU). EPA participates in the MCP Small Working Group which provides an interagency forum for early feedback during the development of the DEIS and facilitates the NEPA/404 MOU process. EPA has provided concurrence on the purpose and need statement (January 30, 2004), agreement on the range of alternatives to carry forward in the DEIS (December 14, 2007), comments on several draft technical documents that support the DEIS, and comments on an administrative DEIS (February 1, 2008 and February 27, 2008). We note that several of our comments on the administrative DEIS have been incorporated in the DEIS.

EPA is concerned that the mobile source air toxics (MSAT) discussion in the DEIS does not adequately inform decisions regarding alternatives, design, and mitigation. EPA previously provided recommendations on how to perform an MSAT assessment in a February 23, 2007 comment letter on the Draft Air Quality Analysis Report for the MCP project and reiterated our concerns in a February 1, 2008 comment letter on the Administrative DEIS. EPA recommends the use of the CALINE4 model to demonstrate whether the project's MSAT impacts are expected to be significant. EPA also recommends that a detailed construction emissions analysis be performed to identify any adverse impacts from construction and inform decisions to reduce emissions.

The above-listed concerns, as well as recommendations to: 1) provide additional information to support the conclusion that the project will not disproportionately affect environmental justice communities, 2) engage in mitigation discussions with the resource and regulatory agencies now and continue these discussions through the NEPA process, as supported by the NEPA/404 MOU process, and 3) disclose the project's contributions to greenhouse gas emissions under NEPA are further discussed in the attached detailed comments.

We are available to continue working with the Small Working Group to further refine the design of project alternatives to avoid and minimize impacts to resources. In addition, we would like to be involved in conceptual mitigation discussions. As next steps for this project, EPA will review the preliminary least environmentally damaging practicable alternative and conceptual mitigation plan, as described in the NEPA/404 MOU, and review the FEIS pursuant to NEPA, Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

We appreciate the opportunity to review this DEIS and are available to further discuss all recommendations provided. We look forward to continued coordination on this project. When the FEIS is released for public review, please send two hard copies and two electronic copies to the address above (Mail Code: CED-2). If you have any questions, please contact me at 415-972-3521, or contact Susan Sturges, the lead reviewer for this project. Susan can be reached at 415-947-4188 or sturges.susan@epa.gov.

Sincerely,

/s/

Kathleen M. Goforth, Manager
Environmental Review Office (CED-2)

Enclosures: Summary of EPA Rating Definitions
Detailed Comments

cc: Cathy Bechtel, Riverside County Transportation Commission
Susan Meyer, Army Corps of Engineers
Doreen Stadtlander, U.S. Fish and Wildlife Service
Marie Petry, Caltrans District 8
Tay Dam, Federal Highway Administration
Scott Dawson, California Department of Fish and Game
Rob McCann, LSA Associates, Inc.

Air Quality

Mobile Source Air Toxics

Many studies have measured elevated concentrations of pollutants emitted directly by motor vehicles near large roadways. These elevated concentrations generally occur within approximately 200 meters of the road, although the distance may vary depending on traffic and environmental conditions. Pollutants commonly found with elevated concentrations include benzene, polycyclic aromatic hydrocarbons, carbon monoxide, nitrogen dioxide, black carbon, and coarse, fine, and ultrafine particles. For a thorough review of near-roadway monitoring studies, see Section 3.1.3 of EPA's "Regulatory Impact Analysis: Control of Hazardous Air Pollutants from Mobile Sources" (February 2007, <http://www.epa.gov/otaq/regs/toxics/fr-ria-sections.htm>).

A large number of recent studies have examined the association between living near major roads and various adverse health endpoints. Several well-conducted epidemiologic studies have shown associations with cardiovascular effects, premature adult mortality, and adverse birth outcomes, including low birth weight and size. Traffic-related pollutants have been repeatedly associated with increased prevalence of asthma-related respiratory symptoms in children. Also, based on toxicological and occupational epidemiologic literature, several of the mobile source air toxics (MSAT), including benzene, 1,3-butadiene, and diesel exhaust, are classified as known and likely human carcinogens. Thus, cancer risk, including childhood leukemia, is a potential concern in near roadway environments. For more information on near-roadway health studies, see Section 3.5 of the above-mentioned "Regulatory Impact Analysis: Control of Hazardous Air Pollutants from Mobile Sources." For additional information on MSATs, please see EPA's MSAT website (<http://www.epa.gov/otaq/toxics.htm>).

Given the significant concerns about adverse health effects from mobile source pollutants and the project's potential for emissions in close proximity to residential communities and sensitive receptors, such as the Mead Valley area along Cajalco Road or the City of Perris, EPA recommends performing an appropriate analysis of potential MSAT impacts to inform decision-making between project alternatives and to inform avoidance, minimization, and mitigation options. In general, when considering appropriate and useful levels of analysis, EPA recommends that the lead agency consider the following:

- The likelihood of impact and potential magnitude of the effect, including both the magnitude of emissions and the proximity of the project emissions to potential residential and sensitive receptors, such as schools, hospitals, day care facilities, and nursing homes;
- The severity of existing conditions;
- Whether the project is controversial and whether air toxics concerns have been raised by the public for this project or for other projects in the area in the past;
- Whether there is a precedent for analysis for projects of this type, either under National Environmental Policy Act (NEPA) or other environmental laws; and

- Whether the analysis could be useful for distinguishing between alternatives, informing design changes, and targeting mitigation.

For most transportation projects, EPA generally recommends that the following levels of analysis be considered (in order of increasing complexity):

1. Qualitative discussion,
2. Quantify emissions,
3. Toxicity-weight emissions,
4. Dispersion modeling, and
5. Risk assessment.

These analyses are 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).

These recommendations, and the recommendations included in the report for AASHTO referenced above, differ substantially from the Federal Highway Administration (FHWA) interim guidance (February 2006) on MSAT analysis for transportation projects under NEPA, which the Mid County Parkway (MCP) Draft Environmental Impact Statement (DEIS) utilizes. While there are positive elements to this guidance, especially the willingness to acknowledge potential MSAT concerns, EPA continues to disagree, nationally, with major elements of this approach. The analysis of potential MSAT impacts is especially important in California, where the awareness of air toxics impacts, the knowledge of background conditions, and the familiarity with tools to assess potential impacts are very high.

EPA appreciates the willingness of the lead agency to perform a quantitative analysis of the human health impacts from the diesel exhaust emissions of the proposed project, as described on pages 4-6 to 4-10. In general, EPA supports the approach of performing a worst-case screening analysis – with maximum traffic assumptions, worst case meteorology, and minimum distance to the nearest receptor. However, the use of SCREEN3 in this application is very unusual. Therefore, it is difficult to judge the accuracy of the results.

Recommendations:

- For the Final Environmental Impact Statement (FEIS), EPA recommends that the more sophisticated CALINE4 model be used, with worst case modeling assumptions, to demonstrate whether the project impacts are expected to be significant. The modeling assumptions for this analysis should be developed in cooperation with EPA, South Coast Air Quality Management District, and Caltrans. EPA does not believe

that the use of CALINE4 would be a substantial increase in effort, especially given the increased certainty in the results.

- In general, EPA also agrees with the assumption that exposure to diesel particulate matter (DPM) would be the primary risk driver from a facility of this type. However, given the small magnitude of diesel truck traffic (<5%) on this facility, a similar screening analysis should be performed for the other major MSAT species, including benzene, 1,3-butadiene, formaldehyde, acetaldehyde, and acrolein. Given that the screening analysis can be performed with unit emissions and that the gaseous MSATs would behave similarly to diesel PM in the near roadway environment, including the additional MSATs as part of the screening analysis would simply be a matter of multiplying by the appropriate emissions and toxicity factors and would not require additional modeling.

The discussion of potential MSAT impacts in Section 3.14.3.1 (specifically pages 3.14-17 through 28) in the DEIS is not an appropriate analysis of potential MSAT impacts and does not inform the choice of alternatives, design decisions, and mitigation. The analysis in the DEIS does not incorporate many of the early MSAT comments EPA provided on the Draft Air Quality Analysis Report and the Administrative DEIS for the project. The recommendations below reiterate the changes that should be made to the analysis:

Recommendations:

- For each alternative, quantify the construction and operational emissions for the six most significant MSATs, namely DPM, acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene, for the base year, the final build year, and any interim year with peak emissions, especially for construction. The results should be presented in table form, further describing the reported emissions by source type (e.g. on-road gasoline vehicle, on-road diesel vehicle, diesel construction equipment, etc.) and emissions location, when possible. For the latter, if one geographic area of the project will experience a significant increase in emissions relative to other areas, the FEIS should note that.
- EPA previously recommended that dispersion modeling of the six MSATs be included, because MSAT impacts are generally hotspot concerns. The California Air Resources Board (CARB) and EPA-approved model developed and maintained by California Department of Transportation (Caltrans), called CALINE, used commonly for carbon monoxide dispersion, is an appropriate model for this analysis. Several recent studies (Gramatnev *et al.*, Atmospheric Environment, volume 37, pages 465-474, 2003; Zhang *et al.*, Atmospheric Environment, volume 39, pages 4155-4166, 2005) have found CALINE to be accurate for purposes of modeling dispersion of both gaseous and particulate air pollutants, and EPA routinely uses CALINE for such analysis. The joint University of California, Davis (UC Davis) - Caltrans report, entitled "A Survey of Air Quality Dispersion Models for Project-Level Conformity Analysis" (June 19, 2006), describes the use of CALINE and other similar models for this purpose. The report notes that models such as CALINE are appropriate for

modeling the micro-scale of inert pollutants, which would include direct emission of the above-mentioned MSATs in the near-roadway environment. EPA notes that a worst case analysis of potential hotspot MSAT impacts using CALINE may be appropriate for this project, if all of the potential impacts are less than significant. If significant impacts remain, then EPA continues to recommend a full dispersion analysis for the extent of the project.

- Discuss the predicted concentrations, and changes in concentrations between alternatives and years (the base year, build year, and interim peak years), in the context of local air toxics monitoring information (accessible via EPA's AirDATA website, <http://www.epa.gov/oar/data/>), results from EPA's National Air Toxics Assessment (NATA, <http://www.epa.gov/ttn/atw/nata1999/>), and other similar studies, such as South Coast Air Quality Management District's (SCAQMD) Multiple Air Toxics Exposure Study (MATES, <http://www.aqmd.gov/matesiidf/matestoc.htm> and <http://www.aqmd.gov/prdas/matesIII/matesIII.html>). The FEIS should make special note of changes in predicted MSAT ambient concentrations for locations, especially residences and sensitive receptors, near the proposed facility, and should include mitigation, as appropriate.
- Identify design and mitigation measures for operational impacts of MSATs. For example, the analysis recommended above should be used to identify hotspot areas where MSAT impacts are expected to increase. Whenever feasible, FHWA and Riverside County Transportation Commission (RCTC) should minimize these increases in hotspot impacts for residences and other sensitive receptors, such as schools, daycare centers, and medical facilities, when designing the footprint of the proposed project. Also, to the extent that MSAT impacts are reduced through choice of alternatives, project design, travel demand management, or construction mitigation, the FEIS should quantify and describe these benefits. Many of the construction mitigation measures we previously recommended and that were incorporated into the DEIS will decrease impacts for both criteria pollutants and air toxics.
- With respect to environmental justice, evaluate whether low-income and minority communities would experience an increase in MSAT ambient concentrations. If there is an increase, the demographics of the affected community should be compared to the demographics of those who will benefit from the proposed project. Similarly, mitigation should be proposed, as appropriate, to minimize effects to these low-income and minority communities.

EPA notes the following discrepancies and deficiencies related to MSATs in the DEIS, and makes the following associated recommendations:

- Figure 3.14.1 and Tables 3.14.A through D (pages 3.14-7 to 3.14-11) do not report results from air toxics monitors, nor include information from NATA or MATES. Include the results in the FEIS.

- The comparison to total South Coast emissions and current conditions (pages 3.14-25 and 3.14-26) does not demonstrate the continuing potential for localized impacts from the proposed Mid County Parkway project. This is important because MSAT impacts are relevant locally versus regionally. EPA recommends FHWA and RCTC perform the MSAT analysis described above.
- The statement in Section 3.14.4 that the “operation of the MCP project will not result in adverse long-term air quality impacts” (page 3.14-28) is not supported in the document and is unlikely to be true for air toxics. After the revised analysis is performed, update the supporting information as needed.
- Finally, the mitigation measures listed in Section 3.14.4.1 (pages 3.14-29 to 3.14-34) do not include mitigation nor design changes designed to reduce operational impacts from the proposed facility. FHWA and RCTC should incorporate the results of the revised MSAT analysis and any appropriate mitigation or design changes in the FEIS.

Particulate Matter with a Diameter of 10 Microns or Less (PM_{10})

EPA notes the following discrepancy related to PM_{10} in the DEIS, and makes the following associated recommendation:

Recommendation:

- The second bullet on page 3.14-15 in Section 3.14.3.1 states "The ambient PM_{10} concentrations have not exceeded the 24-hour or annual federal standard within the past six years," however, the annual standard for PM_{10} was revoked in 2006. Also, Table 3.14.D (page 3.14-11) indicates that the Riverside-Rubidoux Air Monitoring Station exceeded the 24-hour standard in 2003. Incorporate these corrections in the FEIS and update the conclusions accordingly.

Fugitive Dust Emissions

EPA notes the following discrepancy related to fugitive dust emissions in the DEIS, and makes the following associated recommendation:

Recommendation:

- In Section 3.14.3.2 on page 3.14-27, the DEIS implies that standard construction measures will be implemented with 50 percent effectiveness to reduce fugitive dust emissions. When frequent watering is used as a measure, 50 percent is the standard control effectiveness. When non-water options, such as palliatives, are used, the effectiveness is higher. Clarify if the intent is to use frequent watering to control fugitive dust emissions.

Environmental Justice

Executive Order (EO) 12898 addresses environmental justice to ensure that federal actions do not result in disproportionately high and adverse human health or environmental impacts to minority and low income populations. The DEIS indicates that the establishment of a parkway will result in a large number of property acquisitions, temporary construction detours, temporary and permanent air and noise impacts, permanent aesthetic impacts, and temporary and permanent changes in travel patterns throughout the MCP study area, including the Mead Valley and Perris areas, which have low income and minority communities. Further, all Build Alternatives would impact low income and minority populations from displacement/relocations and from impacts to community character and cohesion.

The conclusion in Section 3.4.3.4 of the DEIS that “the MCP Build Alternatives will not cause disproportionately high and adverse effects on any minority or low-income populations as per EO 12898 regarding environmental justice” does not appear to be sufficiently documented. Based on the information presented, it is unclear whether the impacts to minority and low-income communities are greater than the impacts of the project borne by the overall population benefiting from the project. The DEIS briefly describes impacts to low-income and minority populations, but does not distinguish how the project impacts are distributed among: 1) minority and low-income populations, and 2) the DEIS-determined reference community (Riverside County). The distribution of impacts is critical for determining if impacts to minority and low-income populations are disproportionately high or adverse.

Recommendations:

- Compare the expected impacts to minority and low-income populations to the impacts to the reference community for each potential environmental justice concern or impact.
- Clearly state whether or not, in light of all of the facts and circumstances, a disproportionately high and adverse human health or environmental impact on minority populations or low-income populations is likely to result from the proposed action and each alternative. This statement should be supported by sufficient information for the public to understand the rationale for the conclusion.
- Propose appropriate mitigation if disproportionately high and adverse human health or environmental impacts on minority populations or low-income populations are likely to result from the proposed action or any alternatives.
- Identify whether low-income and minority communities would experience an increase in MSAT ambient concentrations. If there is an increase, the demographics of the affected community should be compared to the demographics of those who will benefit from the proposed project. Similarly, mitigation should be proposed, as appropriate, to minimize effects to these low-income and minority communities.

Construction Impacts

The DEIS discloses that all of the Build Alternatives will require an extensive amount of fill and excavation activities. Alternative 9 requires disposal for 4,232,648 cubic meters of excavated fill. The DEIS does not provide enough information on the effects of the large number of trucks that are necessary to haul or import material as part of the construction activities, which may generate increased noise and air quality impacts to neighboring communities and businesses. In addition, a detailed construction emissions analysis was not included in the DEIS. This could inform what specific construction impacts may be adverse. Considering the large scale of the project, the amount of disturbance proposed, and the proximity to residences and sensitive receptors, a detailed construction emissions analysis is appropriate to disclose impacts and inform emission reduction strategies under NEPA.

Recommendations:

- Identify the impacts to air quality and noise levels, and the community disruption from truck trips required to haul or import material as part of the construction activities. Commit to specific mitigation measures to reduce estimated impacts.
- Include a detailed construction emissions analysis. The analysis should consider phases and duration of construction, the types of construction equipment that will be used, and proximity to sensitive receptors. Where significant emissions are identified, propose strategies to reduce emissions and/or impacts to sensitive receptors.

Wetlands and Other Waters of the United States

Under Section 404 of the Clean Water Act (CWA), a 404(b)(1) alternatives analysis is required to ensure that the least environmentally damaging and practicable alternative (LEDPA) is permitted. EPA appreciates the inclusion of a 404(b)(1) alternatives analysis and conceptual mitigation plan for impacts to wetlands and other waters of the United States in the DEIS. EPA recommends that FHWA and RCTC engage in mitigation discussions with the resource and regulatory agencies now, and continue these discussions through the NEPA process, as supported by the NEPA/404 MOU process. EPA will review the preliminary LEDPA and conceptual mitigation plan as the final checkpoint in the NEPA/404 MOU process. The FEIS should demonstrate that significant impacts to aquatic resources resulting from the project can be reasonably mitigated under NEPA and CWA.

Greenhouse Gas Emissions

EPA appreciates the analysis included in this joint California Environmental Quality Act (CEQA) and NEPA document that estimates greenhouse gas emissions (GHG) and identifies the potential greenhouse gas impacts from the proposed project, however, this additional analysis was only included in the CEQA portion of the document. NEPA requires the disclosure of project impacts to resources, and EPA recommends that the FEIS include this greenhouse gas analysis. EPA further recommends that the FEIS include a discussion of any potential impacts of climate change on the project.

Recommendation:

Include the project's contributions to greenhouse gas emissions and discuss the potential impacts of climate change on the proposed project, if any, in the FEIS. Identify any specific mitigation measures needed to 1) protect the project from the effects of climate change, 2) reduce the project's adverse air quality effects, and/or 3) promote pollution prevention or environmental stewardship.