Analyzing Mobile Source Air Toxics (MSAT) in the NEPA Process for Highways

California’s vehicle emissions control and fuel standards are more stringent than federal standards, and are effective sooner, so the effect on air toxics of combined state and federal regulations is expected to result in greater emission reductions, more quickly, than the FHWA analysis shows. The FHWA analysis, with modifications related to use of the California-specific EMFAC model rather than the MOBILE model, would be conservative.

Appendices and other references marked with an asterisk (*) are from FHWA’s Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA.

MSAT analysis may differ for CEQA.

No MSAT analysis is required, regardless of the class of NEPA environmental document. However the project record should document the basis for the determination of “no meaningful potential impacts” with a brief description of the factors considered. Prototype language that could be included in the record is found in *Appendix A of the FHWA Interim MSAT Guidance.

Projects with Low Potential MSAT Effects

These projects serve to improve operations of highway, transit or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase emissions or exposure to MSAT emissions of sensitive populations or land uses.

For these projects, a qualitative assessment of emissions projections should be conducted. This qualitative assessment would compare the expected effect of the project on traffic volumes, vehicle mix, or routing of traffic, and the associated changes in MSATs for the project alternatives, based on *VMT, vehicle mix, and speed.* *Appendix B includes prototype language for a qualitative assessment. It would also discuss national trend data projecting substantial overall reductions in emissions due to stricter engine and fuel regulations issued by the U.S. EPA. In addition, quantitative emissions analysis of these types of projects will not yield credible results that are useful to project-level decision-making due to the limited capabilities of the transportation and emissions forecasting tools. In addition to the qualitative assessment, a NEPA document for this category of projects must include a discussion of information that is incomplete or unavailable for a project specific assessment of MSAT impacts, in compliance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information. This discussion would explain how air toxics analysis is an emerging field and current scientific techniques, tools, and data are not sufficient to accurately estimate human health impacts that would result from a transportation project in a way that would be useful to decision-makers. Also in compliance with 40 CFR 1502.22(b), it should contain a summary of current studies regarding the health impacts of MSATs. Prototype language for this discussion is contained in *Appendix C.*

Projects with Higher Potential MSAT Effects

Does your project create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, or does your project create new or add significant capacity to urban highways, such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be 140,000-150,000 in any analysis year through the design year, and also proposed to be located in proximity to populated areas or in rural areas, in proximity to concentrations of vulnerable populations?

The California Air Resources Board “Air Quality and Land Use Handbook” identifies the following land uses as particularly sensitive to MSATs: residential areas, schools, hospitals and other health care facilities, day care and other child care facilities, and parks and playgrounds.

You should contact your HQ Environmental Coordinator for assistance in developing a specific approach for assessing impacts.

This approach would include a quantitative analysis that would attempt to measure the level of emissions for the U.S. EPA’s priority MSATs for each alternative, to use as a basis of comparison. This analysis also may address the potential for cumulative impacts, where appropriate, based on local conditions. How and when cumulative impacts should be considered would be addressed as part of the assistance outlined above.

(*Note that the organic-based MSATs listed by the U.S. EPA are also listed as toxic air contaminants by the California Air Resources Board. The particulate matter fraction of diesel exhaust (Diesel PM) has also been identified by the California Air Resources Board as a toxic air contaminant)*.

The NEPA document for this project would also include relevant prototype language on unavailable information included in *Appendix C.*

California does not use the U.S. EPA’s MOBILE 6 or MOVES emission models, but instead uses the latest version of the EMFAC model issued by the California Air Resources Board. Use of EMFAC for MSAT analysis requires “off-model” application of air toxics speciation factors and other information, or use of tools like CT-EMFAC (maintained by Caltrans).

If the analysis for a project in this category indicates meaningful differences in levels of MSAT emissions, mitigation options should be identified and considered. See *Appendix E* for information on mitigation strategies.

Does your project not fall within any of these categories, but you think it has the potential to substantially increase future MSAT emissions?

Contact your HQ Environmental Coordinator for assistance in developing a specific approach for assessing impacts. Although not required, projects with high potential for litigation on air toxics issues may also benefit from a more rigorous quantitative analysis to enhance their defensibility in court.