



Standard Operating Procedure for Complying with Hot-Spot Requirements

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Effective Date: 2/26/14
Revision: 1

Purpose of This SOP

The purpose of this SOP is to explain clearly how to comply with project level hot-spot requirements. In particular, it details when and how to prepare and coordinate a hot-spot analysis technical report documenting that project level hot-spot requirements have been met.

Subject Overview

The Clean Air Act (CAA) requires that all federal actions in nonattainment or maintenance areas have to conform to the State Implementation Plan (SIP). One aspect of project-level conformity determinations are potential hot-spot analyses, when the project meets certain criteria. This SOP was developed to assist project sponsors understand both when and how to prepare hot-spot analysis technical reports. This SOP should be used specifically when required by the *SOP for Complying with Conformity Requirements*.

Authorities

There is no specific authority or requirement to use this SOP, but it designed to help project sponsors meet the project-level hot-spot conformity requirements of the CAA in regards to transportation projects.

Toolkit

The following tools should be used in conjunction with this SOP.

- Documentation Standard for a Hot-Spot Analysis Technical Report
- Hot-Spot Analysis Data for a Consultation Partner Decision
- Hot-Spot Pre-Analysis Consensus Form
- SOP for Complying with Conformity Requirements
- SOP for Preparing Air Quality Statements

Personnel

The audience for this SOP includes project sponsors, contractors, and consultants responsible for preparing valid documentation that a project complies with CAA requirements; in particular, hot-spot analysis requirements related to project-level conformity determinations.

Applicable Models

A hot-spot analysis is developed through the use of two different models, an emissions model and a dispersion model. The current EPA approved emissions model¹ is MOVES2010b and the current approved EPA dispersion models for hot-spot analyses are either AERMOD or CAL3QHCR. The

¹ EPA has guidance on using MOVES for hot-spot analyses which is located at <http://www.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm#pm-hotspot>.



emission factors obtained from the MOVES model will be used in the appropriate dispersion model to predict the specific concentration of the pollutant at applicable receptor locations.

General Information Regarding Hot-Spot Analyses

A hot-spot analysis is a project level analysis that determines the potential CO or PM impacts of proposed transportation projects. In other words, the hot-spot analysis determines whether the project would adversely affect local air quality by contributing to pollutant levels that exceed the applicable CO or PM National Ambient Air Quality Standards (NAAQS) or whether the project would improve the expected pollutant concentration from that of the no-build alternative. A hot-spot technical report should be coordinated with FHWA for review and approval at least 60 days prior to the project's public hearing.

Procedure

1. Determine whether the project is exempt from hot-spot analysis requirements by completing Steps 1.1 through 1.3 as directed.
 - 1.1. Determine whether the project is a FHWA/FTA project. If so, continue to Step 1.2. If not, proceed to Step 8.
 - 1.2. Determine whether the project is located in a nonattainment or maintenance area (NA/MA) for CO₂ or PM₃. If so, continue to Step 1.3. If not, proceed to Step 8.
 - 1.3. Determine whether the project is exempt from conformity requirements under 40 CFR 93.126 (Appendix B) or 40 CFR 93.128 (Appendix C). If so, proceed to Step 8. If not, continue to Step 2.
2. Follow, by completing Steps 2.1 through 2.5 as directed, the procedures for coordinating with the Consultation Partners in order to receive a determination on whether this is a "project of air quality concern" (POAQC).
 - 2.1. Contact the local MPO and request that they schedule a future conference call with the Consultation Partners. Continue to step 2.2.
 - 2.2. Provide the following information to the Consultation Partners for review immediately after scheduling the conference call:
 - A completed Hot-Spot Analysis Data for a Consultation Partner Decision Form
 - Project location maps
 - Available traffic data for the projectContinue to step 2.3.
 - 2.3. Lead and take meeting minutes for the Consultation Partners conference call, which should include a Consultation Partner determination as to whether this is a POAQC. Continue to step 2.4.
 - 2.4. Distribute the meeting minutes to each Consultation Partner for comments and corrections. Maintain the final approved meeting minutes in the project file. Continue to step 2.5.

² This currently only applies to a small portion El Paso.

³ This currently only applies to a portion of El Paso.



- 2.5. Record the Consultation Partners' determination of whether the project is POAQC. If the project is a POAQC, continue to Step 3. If not, proceed to Step 7.
3. Follow, by completing Steps 3.1 through 3.6 as directed, the procedures for coordinating with the Consultation Partners to determine an appropriate methodology and input parameters to use in a hot-spot analysis.
 - 3.1. Prepare a draft methodology for performing a hot-spot analysis in compliance with the following EPA guidance documents, as applicable:
 - Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas, December 2010
 - Using MOVES in Project-Level Carbon Monoxide Analyses, December 2010Continue to step 3.2.
 - 3.2. Complete the *Hot-Spot Pre-Analysis Consensus Form*. Continue to step 3.3.
 - 3.3. Contact the local MPO and request that they schedule a future conference call with the Consultation Partners. Continue to step 3.4.
 - 3.4. Provide the completed *Hot-Spot Pre-Analysis Consensus Form* to the Consultation Partners for review at least 14 days prior to the conference call. Continue to step 3.5.
 - 3.5. Lead and take meeting minutes for a Consultation Partners conference call, which should include getting approval for the following items:
 - The overall methodology for the hot-spot analysis
 - The future years to be analyzed
 - The methodology for identifying applicable background concentrations
 - The models to be used
 - Additional point-sources that should be included in the analysis
 - Applicable receptor locations
 - Sources for the input data to be used in the modeling
 - Identification of any State Implementation Plan (SIP) mitigation measures that this project is required to incorporateContinue to step 3.6.
 - 3.6. Distribute the meeting minutes to each participating agency for comments and corrections. Maintain the final approved meeting minutes in the project file. Continue to step 4.
4. Follow the process for developing a hot-spot analysis technical report by completing Steps 4.1 through 4.8 as directed.
 - 4.1. In accordance with the methodology approved by the Consultation Partners, model the future year emissions⁴ associated with the build alternative. Continue to step 4.2.
 - 4.2. Determine whether the modeled emissions exceed the NAAQS for the applicable pollutant. If so, continue to Step 4.3. If not, proceed to Step 4.8.

⁴ These emissions will include additional nearby point-sources and background concentrations.



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- 4.3. In accordance with the methodology approved by the Consultation Partners, model the future year emissions associated with the no-build alternative. Continue to step 4.4.
- 4.4. Determine whether the modeled emissions for the build alternative exceed the modeled emissions for the no-build alternative in the future years modeled. If so, continue to Step 4.5. If not, proceed to Step 4.8.
- 4.5. Identify mitigation measures or project design changes that can reduce the applicable pollutant emissions associated with the project, and quantify them. Continue to step 4.6
- 4.6. Re-model the build alternative in the future years, incorporating any new mitigation measures or applicable design changes. Continue to step 4.7
- 4.7. Determine whether the re-modeled emissions for the build alternative, after accounting for reductions due to mitigation measures, exceed the modeled emissions for the no-build alternative in the future years modeled. If so, proceed to Step 4.5. If not, continue to Step 4.8.
- 4.8. Prepare a technical report in accordance with the Documentation Standard for a Hot-Spot Analysis Technical Report. Ensure that any mitigation measures or project design changes accounted for in the modeling are identified in the mitigation commitments in the technical report. Continue to step 5.
5. Follow, by completing Steps 5.1 through 5.5 as directed, the procedures for obtaining approval of the hot-spot analysis.
 - 5.1. Provide the hot-spot analysis technical report and any associated mitigation commitments to the Consultation Partners and the ENV air specialist for review. Continue to step 5.2.
 - 5.2. Address any comments from the Consultation Partners and the ENV air specialist. Proceed to Step 5.3.
 - 5.3. At least 60 days prior to the project's public hearing, submit the revised hot-spot technical report to FHWA for final approval. Continue to step 5.4.
 - 5.4. Determine whether FHWA has approved the hot-spot technical report. If so, continue to Step 6. If not, proceed to Step 5.5.
 - 5.5. Address any comments from FHWA and resubmit the revised hot-spot technical report to FHWA. Proceed to Step 5.4.
6. Incorporate applicable mitigation commitments into the Environmental Permits Issues & Commitments (EPIC) sheet. Continue to Step 7.
7. Follow, by completing Steps 7.1 through 7.4 as directed, the procedures for addressing public involvement requirements.
 - 7.1. Determine whether the project has future public involvement required by NEPA. If so, separate public involvement will not be required. Proceed to Step 7.4. If not, continue to Step 7.2.
 - 7.2. Identify a public involvement method and submit it to the Consultation Partners for approval. Continue to step 7.3.
 - 7.3. After Consultation Partner approval of the public involvement methodology, perform the approved public involvement activities. Continue to step 7.4.



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- 7.4. Address, in writing, any conformity related comment received from the public and share the comment and response with the Consultation Partners. Continue to step 8.
8. Refer to the *SOP for Preparing Air Quality Statements* for the applicable hot-spot disclosure language to include in the project file.

The procedure is complete.



Appendix A: Acronyms and Definitions

Table 1 – Acronyms	
Acronym	Full Name
CAA	Clean Air Act
CO	Carbon Monoxide
ENV	TxDOT Environmental Affairs Division
EPA	Environmental Protection Agency
EPIC	Environmental Permits Issues & Commitments
FHWA/FTA	Federal Highway Administration/Federal Transit Administration
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NA/MA	Nonattainment or Maintenance Area
NEPA	National Environmental Policy Act
PM	Particulate Matter
POAQC	Project of Air Quality Concern
SIP	State Implementation Plan
SOP	Standard Operating Procedure
TCEQ	Texas Commission on Environmental Quality
TxDOT	Texas Department of Transportation
Definitions	
Term	Definition
Consultation Partners	A specific group of agencies responsible for providing consultation on a variety of conformity related issues. These agencies typically include but are not limited to the local MPO, TxDOT, TCEQ, FHWA, and EPA.
FHWA/FTA Project	A project that has FHWA/FTA funding, needs a FHWA/FTA decision, or that has been delegated.
Project of Air Quality Concern (POAQC)	This term is a specific phrase used in the transportation conformity rule referring to projects that may have substantive localized impacts on either CO or PM emissions in an area.



Appendix B: 40 CFR 93.126 Exempt Projects.

Notwithstanding the other requirements of this subpart, highway and transit projects of the types listed in table 2 of this section are exempt from the requirement to determine conformity. Such projects may proceed toward implementation even in the absence of a conforming transportation plan and TIP. A particular action of the type listed in table 2 of this section is not exempt if the MPO in consultation with other agencies (see § 93.105(c)(1)(iii)), the EPA, and the FHWA (in the case of a highway project) or the FTA (in the case of a transit project) concur that it has potentially adverse emissions impacts for any reason. States and MPOs must ensure that exempt projects do not interfere with TCM implementation.

Table 2 - Exempt Projects	
Safety	
Railroad/highway crossing	
Projects that correct, improve, or eliminate a hazardous location or feature.	
Safer non-Federal-aid system roads.	
Shoulder improvements.	
Increasing sight distance.	
Highway Safety Improvement Program implementation.	
Traffic control devices and operating assistance other than signalization projects.	
Railroad/highway crossing warning devices.	
Guardrails, median barriers, crash cushions.	
Pavement resurfacing and/or rehabilitation.	
Pavement marking.	
Emergency relief (23 U.S.C. 125).	
Fencing.	
Skid treatments.	
Safety roadside rest areas.	
Adding medians.	
Truck climbing lanes outside the urbanized area.	
Lighting improvements.	
Widening narrow pavements or reconstructing bridges (no additional travel lanes).	
Emergency truck pullovers.	
Mass Transit	
Operating assistance to transit agencies.	
Purchase of support vehicles.	



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Rehabilitation of transit vehicles ¹ .
Purchase of office, shop, and operating equipment for existing facilities.
Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts, etc.).
Construction or renovation of power, signal, and communications systems.
Construction of small passenger shelters and information kiosks.
Reconstruction or renovation of transit buildings and structures (e.g., rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures).
Rehabilitation or reconstruction of track structures, track, and trackbed in existing rights-of-way.
Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet 1.
Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR part 771.
Air Quality
Continuation of ride-sharing and van-pooling promotion activities at current levels.
Bicycle and pedestrian facilities.
Other
Specific activities which do not involve or lead directly to construction, such as:
Planning and technical studies.
Grants for training and research programs.
Planning activities conducted pursuant to titles 23 and 49 U.S.C.
Federal-aid systems revisions.
Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action.
Noise attenuation.
Emergency or hardship advance land acquisitions (23 CFR 710.503).
Acquisition of scenic easements.
Plantings, landscaping, etc.
Sign removal.
Directional and informational signs.
Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities).
Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational or capacity changes.
Note: ¹ In PM10 and PM2.5 nonattainment or maintenance areas, such projects are exempt only if they are in compliance with control measures in the applicable implementation plan.



Appendix C: 40 CFR 93.128 Traffic signal synchronization projects.

Traffic signal synchronization projects may be approved, funded, and implemented without satisfying the requirements of this subpart. However, all subsequent regional emissions analyses required by §§ 93.118 and 93.119 for transportation plans, TIPs, or projects not from a conforming plan and TIP must include such regionally significant traffic signal synchronization projects.



Appendix D

The following table shows the revision history for this guidance document.

Revision History	
Effective Date Month, Year	Reason for and Description of Change
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