

Commonwealth of Pennsylvania  
Department of Environmental Protection

Transportation Conformity State Implementation Plan Revision

**COMMENT AND RESPONSE DOCUMENT**

Section 176 of the CAA requires transportation plans to conform to clean air plans. The public comment period on the proposed Transportation Conformity revision to the State Implementation Plan began on March 2, 2008 and closed on April 4, 2008. A public hearing was held on April 1, 2008 at the Department of Environmental Protection's South Central Regional Office, 909 Elmerton Avenue, Harrisburg, PA 17110.

COMMENTATOR:

1. Jennifer McKenna, President  
Clean Air Board  
528 Garland Drive  
Carlisle, PA 17103

COMMENTS

1. **COMMENT:** *A reviewing agency cannot know whether a transportation activity will cause new violations or worsen existing violations unless someone measures the existing air quality in the vicinity of the proposed activity.* (1)

The Department disagrees. The U.S. Environmental Protection Agency (EPA) has provided regulations and guidance to describe the methods by which the agency performing a hot-spot analysis can assess whether the activity will cause new violations or contribute to an existing air quality violation. On March 10, 2006 (71 Fed. Reg. 12468), EPA published a final rule entitled, *PM<sub>2.5</sub> and PM<sub>10</sub> Hot-Spot Analyses in Project-Level Transportation Conformity Determinations for the New PM<sub>2.5</sub> and Existing PM<sub>10</sub> National Ambient Air Quality Standards*, amending 40 CFR Part 93 (relating to determining conformity of Federal actions to State or Federal implementation plans). On March 29, 2006, guidance and associated materials were issued jointly by EPA and the Federal Highway Administration (FHWA), including *Transportation Conformity Guidance for Qualitative Hot-spot Analysis in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas*.

EPA suggests that an agency can compare a project of air quality concern to another location with similar characteristics or can use air quality studies and data from previously conducted studies. Nearby monitors, air quality data from monitors with similar traffic and environmental conditions, and emission source apportionment studies can also be used. The lead agency is required to document within the project-level

conformity determination the air quality information used and why it is appropriate. Neither the EPA regulation nor the EPA-FHWA guidance requires microscale air quality monitoring or analysis.

2. **COMMENT:** *The proposed SIP does not specifically state the steps the various agencies will take to conduct the hot-spot analysis for projects that meet the criteria for air quality concern in 40 CFR 93.123(b)(1).* (1)

The Pennsylvania Transportation Conformity SIP revision satisfies federal requirements by requiring processes that meet or exceed those in 40 CFR 93.105, binding local and state agencies to that process via a Memorandum of Understanding, and implementing detailed consultation processes specific to general and specific project level PM<sub>2.5</sub> screening and, where required, analysis.

Federal requirements for the conformity SIP revisions were modified by Public Law 109-59, the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), signed by the President on August 10, 2005. These amendments, specifically in SAFETEA-LU Section 6011(f)(4), deleted and modified prior portions of 40 CFR Part 93, leaving three provisions that must be addressed in the state's conformity SIP: section 93.105 (relating to consultation), section 93.122 (relating to procedures for determining regional transportation-related emissions), and section 93.125(c) (relating to enforceability of design concept and scope and project-level mitigation and control measures). For all other transportation conformity provisions, Pennsylvania is subject to the federal requirements without a SIP revision. The Memoranda of Agreement included in the SIP revision and signed by the Department, the Department of Transportation (PennDOT) and the Commonwealth's regional transportation planning partners include provisions that bind all parties to compliance with federal requirements.

Section V(A) and (B) of the proposed SIP revision contain extensive descriptions of the Intergovernmental Consultation Group (ICG) process to address requirements of Section 93.105. The ICG process includes screening of projects for potential hot-spot analysis and performance of the analysis itself.

Under federal regulations (see references in Comment #1), a qualitative analysis is required if a project is "a project of air quality concern" as defined in 40 CFR Part 93.123 (relating to procedures for determining localized CO, PM<sub>10</sub>, and PM<sub>2.5</sub> concentrations (hot-spot analysis)), pending federal approval of a quantitative analysis methodology. Federal regulations and guidance do not prescribe a procedure, a methodology, analytical tools, data, models or thresholds in conducting a project review or analysis of a project that is of air quality concern. (Federal regulations are more specific regarding the identification of projects that are not "projects of air quality concern.") Federal regulations and guidance provide a general framework, and defer to the ICG process for decisions regarding, among other things, the analysis approach and data to be utilized.

PennDOT implemented procedures to comply with the federal requirements for intergovernmental consultation for hot-spot screening and analysis. PennDOT amended its Air Quality Handbook (Publication #321) with the PennDOT PM<sub>2.5</sub>/PM<sub>10</sub> Hot-Spot Project Screening Process, effective June 8, 2007. The process itself was developed through the interagency consultation process described in this SIP submission. This addition to the Air Quality Handbook is available from PennDOT at (717) 772-2526 or on the web at <ftp://ftp.dot.state.pa.us/public/bureaus/BEQ/hs/pdf>.

If, through this process, it is uncertain whether the project is “of air quality concern” or it is determined that the project is “of air quality concern,” the lead agency for the project is to perform a PM<sub>2.5</sub> hot-spot analysis following federal procedures and guidance for that analysis. As no specific methodology is required or applicable to all projects, the lead agency is responsible for drafting an analysis approach, presenting this to the ICG, refining the approach per ICG input, conducting the analysis, conducting a public comment period, and submitting the analysis to federal and state agencies for review.

Public comment regarding the hot-spot determination is obtained as part of the regular public comment period for the project, or if this has already occurred (i.e., the project had completed the National Environmental Policy Act process prior to April 5, 2006), an additional opportunity for public comment will be provided.

3. **COMMENT:** *Due to the concentration of diesel truck traffic and warehouse facilities, fine particulate pollution from diesel exhaust is much higher in Cumberland County, particularly in Carlisle, than in most areas. PM<sub>2.5</sub> sampling conducted by CAB indicates that significant levels are found in areas east and west of Carlisle borough, the Miracle Mile and at Interstate 81. Pollution levels at the 1000 Walnut Street site are quite high. (1)*

While the Department appreciates the information provided by the commentator regarding air quality sampling in Carlisle, Cumberland County, the proposed SIP revision describes the statewide process by which the Commonwealth will meet transportation conformity requirements and does not address potential determinations for any particular project.

It should be noted that monitoring in Cumberland County as part of the Harrisburg-Lebanon-Carlisle PM<sub>2.5</sub> nonattainment area is performed by the official Federal Reference Monitor (FRM) in Carlisle at Imperial Court. The Department is also collecting PM<sub>2.5</sub> information from a special project FRM monitor located in Carlisle at Walnut Street at the request of the Clean Air Board. DEP disagrees with the claim made by the commenter that the data collected at the Walnut Street monitor are “quite high”. Data comparisons between the DEP operated sites in Carlisle are extremely good. The average of the samples for the period during which the Walnut Street site has been operational are 15.2 micrograms per cubic meter (ug/m<sup>3</sup>) and 15.6 ug/m<sup>3</sup> from the Imperial Court and Walnut Street sites, respectively. The federal standard is 15.0 ug/m<sup>3</sup>.

Attainment of the annual National Ambient Air Quality Standard for PM<sub>2.5</sub>, however, is measured by the three-year average of the annual means. This value is called the “design value.” Data from the Harrisburg-Lebanon-Carlisle regional FRM monitors have been showing attainment of the annual PM<sub>2.5</sub> NAAQS since 2006. When compared against the standard of 15.0 ug/m<sup>3</sup>, the design values for the Carlisle (Imperial Ct.) monitor are 14.4 and 13.9 ug/m<sup>3</sup> for the 2004-2006 and 2005-2007 attainment years respectively. For the Harrisburg monitor, the annual design values are 15.0 and 14.6 ug/m<sup>3</sup> for the same attainment years.

FRM monitors measure total PM<sub>2.5</sub> and do not have the capability to determine whether the PM<sub>2.5</sub> comes from diesel exhaust, power plants or any other specific source. The Commonwealth operates several speciation monitors, which can assist in that assessment, with the sampler located in Harrisburg being the only speciation monitor in the Harrisburg-Lebanon-Carlisle area.

It is the Department’s understanding that daily data collected by the Clean Air Board was collected with an Environmental Beta Attenuation Monitor (EBAM). Data from EBAMs cannot necessarily be correlated with FRM data. Studies have shown that the EBAM sampler reads high when compared to FRM units, especially during periods of high humidity. This high bias can be seen in the data provided by the commentator as the attachment called, “Comparison of PM<sub>2.5</sub> Monitoring Sites along I-81 Corridor”. Each of the highest concentration data points was recorded on a day for which weather records record fog, snow or rain.

The conformity rules in 40 CFR Part 93 do not require that new monitoring be conducted for use in a qualitative analysis now required by EPA and FHWA. Should a hot-spot analysis be done for a project in Cumberland County, the lead agency would most likely include information such as data from similar sites and information from nearby monitor(s), potentially including the one-year special project study at Walnut Street. The project’s lead agency may also consider data from an existing EBAM study. The Department would advise the lead agency that such data should be part of a hot-spot analysis only if appropriate sampling methodology and quality assurance procedures had been followed and the positive bias of EBAM instrumentation (over-prediction when compared to FRM) were considered.

4. **COMMENT:** *Plans are in place to expand Exit 44 at I-81 to allow greatly increased diesel truck traffic, which will affect a hot spot of nonattainment for PM<sub>2.5</sub> and no air quality analysis has been performed. (1)*

The proposed SIP describes the statewide process by which the Commonwealth will meet transportation conformity requirements and does not address potential determinations for any particular project. Note, however, that “air quality analysis” does not necessarily mean air quality monitoring at the project site (see Responses to Comments No. 1 and 3).

5. **COMMENT:** *If the project planners do not consider air quality issues, then the project plan is not in conformance with the SIP and does not satisfy EPA's requirements for hot-spots. (1)*

The Department agrees. The procedures in the transportation conformity SIP revision, the process for screening projects for hot-spot analyses, performance of required analysis, the federal regulations and guidance, and NEPA require that project planners consider air quality issues.

6. **COMMENT:** *Local agencies currently do not have an inventory of existing and potential hot-spots within the nonattainment areas nor a plan to vigorously identify potential hot-spots in the nonattainment areas. The lack of a plan that will ensure careful analysis of hot-spots within the nonattainment areas of the Commonwealth renders the consultative procedures contained in the proposed SIP ineffective.*

The Department disagrees. An inventory of PM<sub>2.5</sub> hot-spots is impractical with anticipated monitoring resources, unnecessary, subject to considerable change and uncertainty, and not required by 40 CFR Part 93 or other federal statute or regulation. The criteria in 40 CFR 93.123(b)(1) define characteristics of those projects likely to raise issues of concern. Four of those five criteria involve diesel vehicles, with metrics that are known (namely, number of diesel vehicles, effects at intersections with significant numbers of diesel vehicles, increase in number of diesel vehicles, new and expanded bus terminals, rail terminals and transfer points.) These project-by-project criteria, coupled with the PennDOT PM<sub>2.5</sub> /PM<sub>10</sub> Hot-Spot Project Screening Process (see Response to Comment No. 2), are sufficient to identify projects that may be of air quality concern for PM<sub>2.5</sub>. This issue may be revisited once EPA and FHWA issue additional requirements or guidance.

The Department disagrees that the lack of such an inventory constitutes lack of a plan to "ensure careful analysis of hot-spots." Consultation procedures as required by the SIP and 40 CFR 93.105, and as implemented by Pennsylvania via its ICG, are described in detail in the Response to Comment No. 1. That response also references documents describing and governing these procedures relative to PM<sub>2.5</sub> hot-spot analyses. These inter-agency consultation procedures are extensive, thorough, involve all relevant parties, and meet all federal and state requirements.

A justification of the decision regarding whether a hot-spot analysis is necessary must be included in the NEPA process and, thus, subject to public review.