

ITEM 7 - Action
July 20, 2005

Approval of the Scope of Work
for Conducting the Fine Particles (PM2.5) Conformity Analysis for
the 2005 CLRP and FY 2006-2011 TIP

Staff

Recommendation: Receive briefing on the comments received and the recommended responses, and approve the enclosed scope of work for the PM2.5 air quality conformity assessment for the 2005 CLRP and the FY 2006-2011 TIP.

Issues: None

Background: At the June 15 meeting, the Board received a briefing on the final Transportation Conformity Rule Amendments for the new PM2.5 National Ambient Air Quality Standard, and released the draft scope of work for conducting the PM2.5 conformity analysis for the 2005 CLRP and FY 2006-2011 TIP.

Public comments are posted as they are received on the COG web site at <http://www.mwcog.org/transportation/public/comments.asp>



*District of Columbia
Bowie
College Park
Frederick County
Gaithersburg
Greenbelt
Montgomery County
Prince George's County
Rockville
Takoma Park
Alexandria
Arlington County
Fairfax
Fairfax County
Falls Church
Loudoun County
Manassas
Manassas Park
Prince William County*

MEMORANDUM

July 13, 2005

To: Transportation Planning Board

From: Michael J. Clifford
Systems Planning Applications Director

Subject: Scope of Work for the Fine Particles Standards, Supplemental Air Quality Conformity Assessment of the 2005 Constrained Long Range Plan (CLRP) and the FY2006-2011 Transportation Improvement Program (TIP)

Background

In the July 1, 2004 Federal Register, EPA issued its first set of transportation conformity regulations for fine particles (particulate matter less than or equal to 2.5 micrometers in diameter, called PM_{2.5}). Those regulations establish a 1-year grace period in which to demonstrate conformity of transportation plans and programs to the new standards, which, if not met, results in a conformity lapse. In December 2004 EPA designated the Washington, DC-MD-VA area as nonattainment for PM_{2.5}. This designation became effective on April 5, 2005, and marked the beginning of the 1-year 'lapse clock'.

Since EPA had not issued its necessary second set of PM_{2.5} transportation conformity regulations at the time of the TPB's annual plan / program update cycle, staff prepared a draft work scope for the air quality conformity assessment of the 2005 CLRP and FY2006-2011 TIP to address only ozone season and winter carbon monoxide requirements. This scope was released for public comment in February and approved by the TPB at its April 20, 2005 meeting.

In the May 6, 2005 Federal Register EPA issued its second set of PM_{2.5} transportation conformity regulations. This enabled TPB staff to draft a 'supplemental' scope of work for the PM_{2.5} component of the conformity assessment of the CLRP and TIP. The TPB released that supplemental scope, dated May 31, 2005, on June 15, 2005 for 30 day public comment / interagency consultation. This memo transmits the one comment received to date and the response to that comment, along with the May 31, 2005 work scope.

Scope of Work

The attached scope of work presents an outline of the work tasks required to address transportation conformity for the fine particles standards, including direct and precursor PM2.5 emissions. The schedule of work activities contained in the scope is designed to ensure that all requirements are addressed, including both TPB and federal approvals, in a time frame to avoid a conformity lapse.

Comment / Response To Date

Comment: The Metropolitan Washington Air Quality Committee (MWAQC) provided written comment on the proposed work scope (see attached letter). MWAQC supports the TPB's selection of EPA's 'Option 2' emissions test, in which mobile emissions in the CLRP and TIP 'action scenarios' must be shown to be no greater than 2002 emissions. In addition, MWAQC offers its assistance in future PM2.5 planning efforts concerning emissions test options, possible inclusion of additional PM2.5 precursors, and possible changes to work activities in response to future technical guidance from EPA. MWAQC also urges state and local governments to maintain their commitments to TERMS and other emissions reduction measures.

Response: TPB appreciates MWAQC's support of the work scope approach, and will continue the close working relationship it has had with MWAQC in addressing all future PM2.5 requirements.

Recommendations

Staff will prepare draft responses to any additional comments received through the close of the public comment period on July 15, 2005, and will brief the Board on the comments received and recommended responses. The TPB will be asked to approve the final scope of work at its July 20, 2005 meeting.

Attachments

- MWAQC letter
- Scope of Work

Metropolitan Washington Air Quality Committee

Suite 300, 777 North Capitol Street, N.E. Washington, D.C. 20002-4239 202-962-3358 Fax: 202-962-3203

July 13, 2005

Honorable Phil Mendelson, Chair
National Capital Region Transportation Planning Board
777 North Capitol Street, NE
Washington, D.C. 20002

Dear Chair Mendelson:

Thank you for soliciting input on the scope of work for the Fine Particles (PM_{2.5}) Standards Supplemental Air Quality Conformity Assessment of the 2005 CLRP and the FY2006-2011 TIP. According to EPA guidance, the Washington region is required to conduct a conformity determination for direct emissions and precursors of fine particulate pollution (PM_{2.5}) by April 6, 2006 to avoid a conformity lapse. As proposed in TPB's scope of work, the TPB intends to complete the PM_{2.5} conformity determination as a supplement to the on-going work to assess conformity for the 8-hour ozone standard in October 2005.

EPA's Transportation Conformity Rule Amendments provide two options for conformity determination during the interim period prior to the SIPs development in the new PM_{2.5} non-attainment areas and the establishment of mobile budgets for PM_{2.5} pollution and its precursors. The two options are (1) build no greater than no-build, or (2) build no greater than 2002. The TPB proposes to use Option 2, the build no greater than 2002 budget test in this year's conformity analysis. We note that both options provide an interim test until the state air agencies develop mobile emissions budgets for PM_{2.5} and its precursor pollutants. For this year's analysis, we support the TPB's choice of interim method because it makes the best use of available resources and supports the budget concept. For any PM_{2.5} conformity analysis in the coming years of the interim period, MWAQC urges TPB and the state air agencies to work together to determine which option is most appropriate for conformity analysis.

For the current PM_{2.5} conformity cycle, we support the TPB proposed approach of emissions analysis and conformity determination only for direct PM_{2.5} and for precursor NO_x. We are urging the TPB and the three state air agencies to work together to determine which of the other precursors of PM_{2.5} (VOCs, SO_x, ammonia etc.) contribute significantly for possible inclusion in the analysis for the next conformity cycle and beyond.

EPA is expected to release additional guidance on PM_{2.5} conformity. The proposed scope of work may change when this new additional guidance becomes available later this year. The MWAQC Technical Advisory Committee is available to work with TPB staff for making any needed changes in the work scope and to develop any other new inputs required to complete the analysis.

Meeting the PM_{2.5} standard is expected to require continuation of all mobile and non-mobile emission reduction commitments, and possibly new ones in the near future. States and local governments are urged to maintain their commitments to TERMS and other emission reduction measures, regardless of whether implementation of these measures is currently critical for conformity determination during the interim period.

Thank you for the opportunity to comment on the PM_{2.5} conformity assessment scope of work. We look forward to working closely with you on making further improvements to the region's air quality to meet the new PM_{2.5} standard.

Sincerely,

A handwritten signature in black ink, reading "Dana Kauffman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Hon. T. Dana Kauffman, Chair
Metropolitan Washington Air Quality Committee

**DRAFT
5-31-05**

FINE PARTICLES (PM_{2.5}) STANDARDS AIR QUALITY CONFORMITY ASSESSMENT

SCOPE OF WORK

Supplement to the Air Quality Conformity Assessment of the 2005 Constrained Long Range Plan Amendments and FY2006-2011 Transportation Improvement Program

I. INTRODUCTION

On December 17, 2004 the Environmental Protection Agency (EPA) designated 224 counties, as well as the District of Columbia, that exceeded the health-based standards for fine particles (PM_{2.5}) as nonattainment areas. PM_{2.5} standards refer to particulate matter less than or equal to 2.5 micrometers in diameter. The Washington, DC-MD-VA area (consisting of the Washington metropolitan statistical area, excluding Stafford County, Virginia, and Calvert County, Maryland) was designated nonattainment for PM_{2.5} and is required to attain clean air as soon as possible but no later than 2010.

As published in the January 5, 2005 Federal Register, these PM_{2.5} nonattainment designations became effective on April 5, 2005. Nonattainment areas are required by early 2008 to submit to EPA a state implementation plan (SIP) to define the expected methods for reducing the fine particulate matter level in the air and emissions of PM_{2.5} precursors. However, the new standards affect transportation conformity planning requirements immediately: areas have a one year grace period starting April 5, 2005 in which to demonstrate conformity of transportation plans and programs to the new standards. If a plan and TIP which conform to the new standards are not in place (including both TPB and federal approvals) by April 6, 2006, the conformity status lapses.

This scope of work presents an outline of the work tasks, including preparation of both direct particles and precursors, to address the conformity requirements of the fine particles standards. It supplements the ongoing TPB work activities directed at the 8-hour ozone and Winter carbon monoxide (CO) standards, to ensure that all requirements are addressed in performing the Air Quality Conformity Assessment of the 2005 CLRP and FY2006-2011 TIP.

II. REQUIREMENTS AND APPROACH

A. Criteria (See Exhibit 1)

As described in the 1990 Clean Air Act Amendments, conformity is demonstrated if transportation plans and programs:

1. Are consistent with most recent estimates of mobile source emissions,
2. Provide expeditious implementation of TCMs, and
3. Contribute to annual emissions reductions.

B. Approach

1. Analytical: The analytical approach outlined here supplements the current conformity assessment efforts underway to analyze the 2005 CLRP and FY2006-2011 TIP with respect to 8-hour ozone and Winter CO standards. Specifically, travel demand estimates for each analysis year being prepared as part of that work will be utilized in conjunction with the development and application of PM_{2.5} emissions rates to yield required PM_{2.5} emissions levels. (I.E. Round 7 Cooperative Forecasts, and all network inputs and technical methods approved by the TPB at its April 20, 2005 meeting, are therefore relevant to this PM_{2.5} analysis.) Emissions will be inventoried for yearly totals instead of on a daily basis.
2. Evaluation: Criteria and procedures for demonstrating conformity with respect to PM_{2.5} in the interim period before state implementation plans (SIPs) are filed differ from ozone or wintertime carbon monoxide assessments in that there are no existing budgets which can be applied. In a case such as this EPA provides two options for regional emissions analysis to be used until motor vehicle emissions budgets are established in the SIP. For both PM_{2.5} directly emitted particles and precursors, one of the following requirements must be met:

Option 1. "The emissions predicted in the "Action" scenario are not greater than the emissions predicted in the "Baseline" scenario, and this can be reasonably expected to be true in the periods between the analysis years; or

Option 2. The emissions predicted in the "Action" scenario are not greater than 2002 emissions."

A SIP has not yet been prepared to inventory point, area and mobile categories to define the extent of the problem by source in the Washington area. However, since base year 2002 on-road mobile source direct and precursor PM_{2.5} emissions are necessary for the SIP, it is recommended that option 2, reductions from the base 2002 inventory, be utilized as the relevant regional emissions test for conformity. The MOBILE6.2 model will be used to generate emissions factors for PM_{2.5} direct particles and NO_x precursors.

III. CONSULTATION

1. Execute TPB consultation procedures as outlined in the consultation procedures report adopted by the TPB on May 20, 1998.
2. Participate in meetings of MWAQC, its Technical Advisory Committee and its Conformity Subcommittee to discuss the scope of work activities, TERM development process, and other elements as needed; discuss at TPB meetings or forums, as needed, the following milestones:
 - Project solicitation
 - Scope of work
 - TERM proposals
 - Project submissions: documentation and comments
 - Analysis of TERMS, list of mitigation measures
 - Conformity assessment: documentation and comments
 - Process: comments and responses

IV. WORK TASKS

1. Prepare 2002 base conditions
 - Develop and apply Mobile6.2 emission factors for PM2.5 direct particles and NOx precursors
 - Calculate yearly (not daily) emissions for total PM2.5 and NOx precursors using latest seasonal traffic adjustments
2. Prepare 2010 emissions estimates
 - Develop and apply Mobile6.2 emission factors
 - Calculate emissions as above
3. Prepare 2020 emissions estimates
 - As in year 2010 tasks
4. Prepare 2030 emissions estimates
 - As in year 2010 tasks
5. Analyze results of above technical analysis

- Reductions from 2002 base
 - With review by the Travel Management Subcommittee, the Technical Committee and the TPB, identify and recommend additional measures should the plan or program fail the regional emissions test in any year and incorporate
6. Assess conformity and document results in a report
- Document methods
 - Draft conformity report
 - Forward to technical committees and policy committees
 - Make available for public and interagency consultation
 - Receive comments
 - Address comments and present to TPB for action
 - Finalize report and forward to FHWA and FTA

V. SCHEDULE

The schedule for the execution of these work activities is shown in Exhibit 2, attached. This schedule shows the adoption of the PM2.5 conformity determination by the TPB in October 2005, which allows sufficient time for distribution, review and final approval by federal agencies in order to meet the April 5, 2006 deadline for avoiding a conformity lapse.

Exhibit 1

Conformity Criteria

All Actions at all times:

Sec. 93.110	Latest planning assumptions.
Sec. 93.111	Latest emissions model.
Sec. 93.112	Consultation.

Transportation Plan:

Sec. 93.113(b)	TCMs.
Sec. 93.118 or Sec. 93.119	Emissions budget or Emission reduction.

TIP:

Sec. 93.113(c)	TCMs.
Sec. 93.118 or Sec. 93.119	Emissions budget or Emission reduction.

Project (From a Conforming Plan and TIP):

Sec. 93.114	Currently conforming plan and TIP.
Sec. 93.115	Project from a conforming plan and TIP.
Sec. 93.116	CO and PM10 hot spots.
Sec. 93.117	PM10 control measures.

Project (Not From a Conforming Plan and TIP):

Sec. 93.113(d)	TCMs.
Sec. 93.114	Currently conforming plan and TIP.
Sec. 93.116	CO and PM10 hot spots.
Sec. 93.117	PM10 control measures.
Sec. 93.119	Interim emissions in areas without motor vehicle emissions budgets

Sec. 93.110 Criteria and procedures: Latest planning assumptions.

The conformity determination must be based upon the most recent planning assumptions in force at the time of the conformity determination.

Sec. 93.111 Criteria and procedures: Latest emissions model.

The conformity determination must be based on the latest emission estimation model available.

Sec. 93.112 Criteria and procedures: Consultation.

Conformity must be determined according to the consultation procedures in this subpart and in the applicable implementation plan, and according to the public involvement procedures established in compliance with 23 CFR part 450.

Sec. 93.113 Criteria and procedures: Timely implementation of TCMs.

The transportation plan, TIP, or any FHWA/FTA project which is not from a conforming plan and TIP must provide for the timely implementation of TCMs from the applicable implementation plan.

Sec. 93.114 Criteria and procedures: Currently conforming transportation plan and TIP.

There must be a currently conforming transportation plan and currently conforming TIP at the time of project approval.

Sec. 93.115 Criteria and procedures: Projects from a plan and TIP.

The project must come from a conforming plan and program.

Sec. 93.116 Criteria and procedures: Localized CO and PM10 violations (hot spots).

The FHWA/FTA project must not cause or contribute to any new localized CO or PM10 violations or increase the frequency or severity of any existing CO or PM10 violations in CO and PM10 nonattainment and maintenance areas.

Sec. 93.117 Criteria and procedures: Compliance with PM10 control measures.

The FHWA/FTA project must comply with PM10 control measures in the applicable implementation plan.

Sec. 93.119 Criteria and procedures: Interim emissions in areas without motor vehicle budgets

The FHWA/FTA project must satisfy the interim emissions test(s).

NOTE: See EPA's May 6, 2005 conformity regulations for the full text associated with each section's requirements.

Exhibit 2

**PROPOSED PM2.5 STANDARD SUPPLEMENT TO THE YEAR
2005 CLRP AND FY 2006-2011 TIP
AIR QUALITY CONFORMITY SCHEDULE**

June 3, 2005	TPB Technical Committee Reviews Draft Work Scope for the Air Quality Analysis
*June 15, 2005	TPB Releases Draft Work Scope for Public Comment and Inter-Agency Review
*July 20, 2005	TPB Reviews Public Comments, Approves Draft Scope of Work
September 9, 2005	TPB Technical Committee Reviews Draft Conformity Report
September 15, 2005	Draft Conformity Report Released for Public Comment and Interagency Review
*September 21, 2005	TPB Receives Briefing on Draft Air Quality Conformity Determination
*October 19, 2005	TPB Reviews Public Comments on Draft Document, Approves Responses to Comments, and Adopts the PM 2.5 Air Quality Conformity Determination

*TPB Meeting

WORK SCOPE ATTACHMENT A

POLICY AND TECHNICAL INPUT ASSUMPTIONS PM2.5 STANDARDS CONFORMITY ASSESSMENT

1. Land Activity

- Round 7 Cooperative Forecasts

2. Policy and Project Inputs

- Highway, HOV and transit projects and operating parameters
- Financially constrained project submissions advanced by the TPB on 4/20/2005

3. Travel Demand Modeling Methods

- 'Version 2.1 D #50' Travel Model
- All HOV facilities at HOV-3 in 2010
- Transit "capacity constraint" procedures (2010 constrains later years)

4. Emission Factors

- Emission factors methods as developed and applied in the SIP and in the 2004 CLRP conformity process: MOBILE6.2, 2002 registration data, VMT mix specific to each analysis year
- Enhanced I/M in DC, MD, and VA, using state-specified standards
- Refinements based upon EPA's Mobile6.2 guidance
- PM2.5 factors for total directly emitted particles and NOx precursors

5. Emissions Modeling Methods / Credits

- Updated post-processor methods to reflect EPA guidance associated with Mobile6.2 model release updates for local road speed profiles in rural areas
- Yearly PM2.5 emissions (total PM2.5 and NOx precursors) using latest seasonal traffic adjustments
- Offline emissions analyses

6. Conformity Assessment Criteria

- 5/6/05 EPA's "*Transportation Conformity Rule Amendments for the New PM2.5 National Ambient Air Quality Standard: PM2.5 Precursors*"
- Analysis years: 2010, 2020, 2030