ITEM 8 - Action
May 16, 2007

Approval of Scope of Work for the
Air Quality Conformity Assessment for the
2007 CLRP and the FY 2008-2013 (TIP)

Staff Recommendation: Receive briefing on the comments received and recommended responses, and approve the enclosed scope of work for the air quality conformity analysis for the 2007 CLRP and the FY 2008-2013 TIP.

Issues: None

Background: At the March 21 meeting, the Board was briefed on the draft scope of work, which was released for public comment and agency review at the TPB Citizens Advisory Committee (CAC) meeting on March 15 This public comment period closed on April 14.

Public comments are posted as they are received on the COG web site at http://www.mwcog.org/transportation/public/comments.asp Board members are invited to review these comments on the web. Staff prepared draft responses to comments received through the close of the public comment period on April 14, and e-mailed them to Board members on April 17. The Board will be briefed on the comments received and recommended responses at the May 16 meeting.

National Capital Region Transportation Planning Board

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MEMORANDUM

May 4, 2007

To: Transportation Planning Board

From: Michael J. Clifford MC
Systems Planning Applications Director

Subject: Approval of the Scope of Work for the Air Quality Conformity Assessment of the 2007 Constrained Long range Plan (CLRP) and the FY2008 – 2013 Transportation Improvement Program (TIP)

Introduction

At the March 21, 2007 TPB meeting, staff briefed the Board on a draft scope of work for the air quality conformity assessment for the 2007 CLRP and the FY2008 – 2013 TIP, which had been released for public comment at the Citizens Advisory Committee (CAC) meeting on March 15th. The public comment period closed on April 14. This memo transmits comments received on the draft scope of work, responses to comments, and the draft work scope.

Scope of Work

Consistent with the CLRP and TIP call for projects approved by the TPB at its December 20, 2006 meeting, this scope reflects the necessary technical tasks and public comment / interagency consultation requirements to assess conformity, to be performed on a schedule leading to adoption of the plan and program by the TPB in December 2007.

These work efforts address conformity requirements associated with: attainment of the 8-hour ozone standard (volatile organic compounds (VOC) and nitrogen oxides (NOx) as ozone precursor pollutants); fine particles (PM2.5) standards (directly emitted particles and precursor NOx); and maintenance of the wintertime carbon monoxide (CO) standard.

Comments / Responses

Comment: The attached comments letter from the Metropolitan Washington Air Quality

Committee (MWAQC) supports the technical approach contained in the work scope, and urges maintenance of commitments to transportation emissions reduction measures (TERMs).

Response: We appreciate MWAQC's support of the technical approach, and concur with the maintenance of commitments to TERMs.

Next Steps

At the May 16, 2007 TPB meeting staff will brief the Board on these comments received and recommended responses, and the Board will be asked to approve the scope of work.

Attachments (2)

AIR QUALITY CONFORMITY ASSESSMENT: 2007 CONSTRAINED LONG RANGE PLAN AMENDMENTS AND FY2008-2013 TRANSPORTATION IMPROVEMENT PROGRAM

SCOPE OF WORK

I. INTRODUCTION

Projects solicited for the 2007 Constrained Long Range Plan (CLRP) and the FY2008-2013 Transportation Improvement Program (TIP) are scheduled to be finalized at the May 16, 2007 TPB meeting. This scope of work reflects the tasks and schedule designed for the air quality conformity assessment leading to adoption of the plan and program on December 19, 2007. This work effort addresses requirements associated with attainment of the 1-hour and 8-hour ozone standards (volatile organic compounds (VOC) and nitrogen oxides (NOx) as ozone precursor pollutants), and fine particles (PM2.5) standards (direct particles and precursor NOx), as well as maintenance of the wintertime carbon monoxide (CO) standard.

The plan and program must meet air quality conformity regulations: (1) as originally published by the Environmental Protection Agency (EPA) in the November 24, 1993 Federal Register, and (2) as subsequently amended, most recently on March 10, 2006, and (3) as detailed in periodic FHWA / FTA and EPA guidance. These regulations specify both technical criteria and consultation procedures to follow in performing the assessment.

This scope of work provides a context in which to perform the conformity analyses and presents an outline of the work tasks required to address all regulations currently applicable.

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.

Assessment criteria for ozone, CO, and PM2.5 are discussed below.

DC, Maryland, and Virginia state air agencies, working through the Metropolitan Washington Air Quality Committee (MWAQC), are scheduled to submit 8-hour ozone SIP budgets to EPA by June 15, 2007. These new budgets will provide the basis for the ozone season emissions budget comparison element of the conformity assessment.

The region is in maintenance for mobile source wintertime CO and, as in prior conformity assessments, is required to show that pollutant levels do not exceed the approved budget.

Criteria and procedures for demonstrating conformity with respect to PM2.5 in the interim period before SIPs are filed differ from ozone or wintertime carbon monoxide assessments in that there are no existing budgets which can be applied. In this case EPA allows for an assessment that shows emissions in "action" scenarios are no greater than those in a 2002 base. This criterion was established and applied, with the concurrence of MWAQC, in the past PM2.5 conformity assessments. Emissions will be inventoried for yearly totals instead of on a daily basis.

B. Approach (See Table 1 – Summary of Technical Approach)

The analytical approach is similar to that applied and documented in the October 18, 2006 air quality conformity assessment of the 2006 CLRP and the FY2007-2012 TIP. Exceptions are the use of the forthcoming 8-hour ozone budgets, as mentioned above, and the use of the updated travel demand model, Version 2.2. In addition to the highlighted elements below, explicit inputs include: a summary list of major policy and technical input assumptions, shown as Attachment A; and all transportation network elements which will be finalized at the May 16, 2007 TPB meeting.

TABLE 1 – Summary of Technical Approach

	Ozone	Wintertime CO	PM2.5
Pollutant:	VOC, NOx	CO	Direct particles, Precursor NOx
Budget:	Existing 1-hour ozone budgets & NEW 8-hour ozone budgets	Approved wintertime CO emissions budget	Budget not yet set - Use Reductions from base 2002 inventory
Emissions Analysis Time-frame:	Daily	Daily	Annual
Geography:	1-hour ozone area (MSA) 8-hour ozone area (MSA less Stafford)	DC, Arl., Alex., Mont., Pr. Geo.	MSA less Stafford and Calvert counties
Network Inputs:	Regionally significant projects		
Land Activity:	Round 7.1		
Modeled Area:	Expanded Cordon (2191 zone)		
Travel Demand Model:	Version 2.2		
Mobile Model:	MOBILE6.2 emissions factors, consistent with the procedures utilized to establish the VOC and NOx mobile source emissions budgets	MOBILE6.2 Consistent with procedures used to establish the budget	MOBILE6.2 'Seasonal' approach
Emissions Factor Refinements:	Refinements developed as part of the recent SIP development and conformity assessments include: use of 2005 vehicle registration data for all jurisdictions; use of hourly temperatures, relative humidity, barometric pressure and NOx rebuild effects.		

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:

   - CLRP / TIP Call for Projects
   - 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. Receive project inputs from programming agencies and organize into conformity documentation listings (endorsement of financially constrained project submissions scheduled for May 16, 2007)

   - Project type, limits, NEPA approval, etc.
   - Phasing with respect to forecast years
   - Transit operating parameters, e.g. schedules, service, fares
   - Action scenarios

2. Utilize Round 7.1 Cooperative Forecasts

   - Households by auto ownership, population and employment
   - Zonal data files

3. Prepare forecast year highway, HOV, and transit networks

   - Update GIS highway database
   - Filter database to create 2008, 2009, 2010, 2020, and 2030 highway networks
   - Rebuild networks for modeling
   - Update / edit transit files
   - Update fares, as necessary

4. Prepare 2002 travel, emissions factors and emissions estimates

   - Execute travel demand modeling
   - Develop Mobile6.2 emission factors (ozone)
   - Calculate emissions (daily for ozone season VOC and NOx; yearly for PM2.5 direct particles and precursor NOx)

5. Prepare 2008 travel and emissions estimates

   - Execute travel demand modeling

- Develop and apply Mobile6.2 emission factors (ozone)
- Calculate emissions (daily for ozone season VOC and NOx for ozone standard requirements)

6. Prepare 2009 travel and emissions estimates

   - Tasks as in year 2008 analysis

7. Prepare 2010 travel and emissions estimates

   - Execute travel demand modeling
   - Develop Mobile6.2 emission factors (ozone)
   - Calculate emissions (daily for ozone season VOC and NOx for ozone standard requirements; daily for winter CO; yearly for PM2.5 direct particles and precursor NOx)

8. Prepare 2020 travel and emissions estimates

   - Tasks as in year 2010 analysis
   - Apply "transit constraint" using 2010 levels (unless additional funding is identified to enable removal of peak period capacity constraints in the core part of the Metrorail system)

9. Prepare 2030 travel and emissions estimates

   - Tasks as in year 2020 analysis

10. Identify extent to which TIP and plan provide for expeditious implementation of TCMs contained in ozone state implementation plans and emissions mitigation requirements of previous TIP and CLRP commitments (TERMs)

    - In the CLRP / TIP Call for Projects document staff identified previous TCM and TERM commitments and requested a status report from the implementing agencies
    - Staff will review these reports as they are received and update the TERM tracking sheet that was included in the October 18, 2006 air quality conformity report
    - The status reports and the updated TERM tracking sheet will be included in the air quality conformity report.

11. Coordinate / analyze emissions reductions associated with CMAQ and similar projects

    - Obtain project-specific emissions reductions from programming agencies
    - Summarize daily ozone season VOC and NOx reductions for each milestone year
    - Analyze current TERMs for yearly direct PM2.5 and precursor NOx PM2.5 pollutant reductions; explore additional TERMS
    - With oversight from the Travel Management Subcommittee, as needed, propose and analyze additional measures for their emissions benefits, costs, cost effectiveness, and other evaluation criteria

12. Analyze results of above technical analysis

- Reductions from 1990 (ozone season VOC and NOx and winter CO) and 2002 base (ozone season VOC and NOx, winter CO, and PM2.5)
- 1-hour and 8-hour ozone season VOC and NOx budgets and winter CO emissions budgets
- With oversight from the Travel Management Subcommittee, the Technical Committee and the TPB, identify and recommend additional measures should the plan or program fail any test and incorporate measures into the plan

13. Assess conformity and document results in a report

- Document methods
- Draft conformity report
- Forward to technical committees, 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, FTA and EPA

V. SCHEDULE

The schedule for the execution of these work activities is contained within the air quality conformity schedule in Exhibit 2. The time line shows completion of the analytical tasks, preparation of a draft report, public and interagency review, response to comments and action by the TPB on December 19, 2007.

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 and/or Sec. 93.119	Emissions budget and /or Interim emissions.

TIP:

Sec. 93.113(c)	TCMs.
Sec. 93.118 and/or Sec. 93.119	Emissions budget and /or Interim emissions.

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, PM10, and PM2.5 hot spots.
Sec. 93.117	PM10 and PM2.5 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, PM10, and PM2.5 hot spots.
Sec. 93.117	PM10 and PM2.5 control measures.
Sec. 93.118 and/or Sec. 93.119	Emissions budget and/or Interim emissions

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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, PM10, and PM2.5 violations (hot spots).

The FHWA/FTA project must not cause or contribute to any new localized CO, PM10, and/or PM2.5 violations or increase the frequency or severity of any existing CO, PM10, and /or PM2.5 violations in CO, PM10, and PM2.5 nonattainment and maintenance areas.

Sec. 93.117 Criteria and procedures: Compliance with PM10 and PM2.5 control measures.

The FHWA/FTA project must comply with PM10 and PM2.5 control measures in the applicable implementation plan.

Sec. 93.118 Criteria and procedures: Motor vehicle emissions budget

The transportation plan, TIP, and projects must be consistent with the motor vehicle emissions budget(s).

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 conformity regulations for the full text associated with each section's requirements.

Exhibit 2 Revised 4/24/07

Schedule for the 2007 Financially Constrained Long-Range Plan (CLRP) and FY 2008 – 2013 Transportation Improvement Program (TIP)

January 2007	Transportation Agencies Begin Submitting Project Information through On-Line Database
February 23, 2007	DEADLINE: Transportation Agencies Complete On-Line Project Submissions
March 2, 2007	Technical Committee reviews Plan and TIP Project Submissions and draft Scope of Work for the Air Quality Conformity Assessment
March15, 2007	Plan and TIP Project Submissions and draft Scope of Work Released for Public Comment at the Citizens Advisory Committee (CAC)
*March 21, 2007	TPB Briefed on Project Submissions and draft Scope of Work
April 14, 2007	Public Comment Period Ends
*May 16, 2007	TPB Reviews Public Comments and is asked to Approve Project Submissions and draft Scope of Work
*October 17, 2007	TPB Receives Status Report on the Draft Plan, TIP and Conformity Assessment
November 15, 2007	Draft Plan, TIP and Conformity Assessment Released for Public Comment at Citizens Advisory Committee (CAC)
*November 21, 2007	TPB Briefed on the Draft Plan, TIP and Conformity Assessment
December 15, 2007	Public Comment Period Ends
*December 19, 2007	TPB Reviews Public Comments and Responses to Comments, and is Presented the Draft Plan, TIP and Conformity Assessment for Adoption

*TPB Meeting

WORK SCOPE ATTACHMENT A

POLICY AND TECHNICAL INPUT ASSUMPTIONS
AIR QUALITY CONFORMITY ANALYSIS OF 2007 CLRP AND FY2008-2013 TIP

1. Land Activity
   - Round 7.1 Cooperative Forecasts

2. Policy and Project Inputs

   - Highway, HOV and transit projects and operating parameters
   - Financially constrained project submissions to be advanced by the TPB on 5/16/2007

3. Travel Demand Modeling Methods

   - Version 2.2 Travel Model
   - All HOV facilities at HOV-3 in 2010
   - Transit "capacity constraint" procedures (2010 constrains later years)

4. Emissions Factors

   - Update emissions factors methods originally developed and applied in the 2006 CLRP conformity process: MOBILE6.2, 2005 registration data, VMT mix specific to each analysis year
   - Refinements based upon new methods developed for SIP analysis
   - Seasonal PM2.5 factors for total directly emitted particles and precursor NOx
   - No oxygenated fuels assumed for wintertime carbon monoxide conditions

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 precursor NOx) using latest seasonal traffic adjustments and above emissions factors
   - Offline emissions analyses

6. Conformity Assessment Criteria

   - Emissions budgets for ozone precursors and wintertime CO
   - EPA conformity regulations stating the transportation conformity rule amendments for PM2.5 requirements to demonstrate emissions are no greater than a 2002 base case.
   - Analysis years: 2008, 2009, 2010, 2020, and 2030

Metropolitan Washington Air Quality Committee

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April 11, 2007

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

Dear Chair Hudgins:

Thank you for soliciting input on the scope of work for the Air Quality Conformity Assessment: 2007 CLRP and the FY2008-2013 TIP. MWAQC has reviewed the proposed scope of work and supports the approach for this year's conformity determination.

Though not applicable for the 2007 CLRP, additional pollutants may be required for future conformity demonstrations based on current research addressing the significance of other PM precursors.
The conformity demonstration should reflect several recent items. As indicated in the draft scope of work, States expect to submit the 8-hour ozone SIP in June and the new mobile budgets for 8-hour ozone should be available for use by TPB in October, the expected completion date for the draft conformity determination. We understand that the determination will also reflect updates to the Travel Demand Model. The region's Cooperative Forecasts developed by the Planning Directors of the Metropolitan Development Policy Committee (MDPC) will also reflect recent land use, housing, and employment changes expected as a result of Department of Defense base realignments and closures in the region.

Meeting the 8-hour ozone and $PM_{2.5}$ standards 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 needed for conformity determinations.

Thank you for the opportunity to comment on the 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 standards.

Sincerely,

Nancy Floreen, Chair
Metropolitan Washington Air Quality Committee