

## **ITEM 10 - Action**

April 21, 2004

Approval of Scope of Work for the  
Air Quality Conformity Assessment for the  
2004 Constrained Long Range Plan (CLRP) and the  
FY2005-2010 Transportation Improvement Program (TIP)

### **Staff**

#### **Recommendation:**

Approve the enclosed scope of work for the air quality conformity assessment for the 2004 CLRP and the FY 2005-2010 TIP.

#### **Issues:**

The schedule for this work calls for a draft report in July, with subsequent TPB adoption of the conformity assessment, CLRP and TIP in September. Adherence to this schedule will depend upon receipt of Round 6.4 Cooperative Forecast land activity data at the traffic zone level. In March 2004 the Metropolitan Development Policy Committee approved for conformity testing purposes draft Round 6.4 control totals at the jurisdiction level. When these forecasts were prepared by the Planning Directors in each jurisdiction, the Intercounty Connector (ICC) was not an element of the CLRP. However, MDOT's project submissions to the 2004 CLRP include the ICC, and identify two alternative alignments to be tested. Depending upon the time required for

the Planning Directors in affected jurisdictions to potentially adjust the forecasts to reflect the land activity impacts of the facility for each alignment, travel demand forecasting work activities might not be completed in time for a July report to the TPB. In this event the schedule would slip to a September draft report, with TPB action in October.

**Background:**

At its March 17, 2004 meeting, the Board received for its review the draft scope of work for the air quality conformity assessment for the 2004 CLRP and the FY 2005-2010 TIP. The scope of work describes the analytical approach, tasks, and schedule for the air quality conformity assessment necessary for the adoption of the 2004 CLRP and the FY2005-2010 TIP.

**AIR QUALITY CONFORMITY ASSESSMENT:  
2004 CONSTRAINED LONG RANGE PLAN AMENDMENTS AND  
FY2005-2010 TRANSPORTATION IMPROVEMENT PROGRAM**

**SCOPE OF WORK**

**I. INTRODUCTION**

Projects solicited for the 2004 Constrained Long Range Plan (CLRP) and the FY2005-2010 Transportation Improvement Program (TIP) are scheduled to be finalized at the April 21, 2004 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 in September 2004.

The plan and program must meet air quality conformity regulations: (1) as published by the Environmental Protection Agency (EPA) in the November 24, 1993 Federal Register, and (2) as subsequently amended, most recently on August 15, 1997, and (3) as revised through court action on March 2, 1999, with subsequent follow-up FHWA / FTA and EPA guidance. These regulations specify both technical criteria and consultation procedures to follow in performing the assessment. The work effort addresses requirements associated with attainment of the one hour ozone standard, i.e., volatile organic compounds (VOC) and nitrogen oxides (NOx) precursor pollutants, and maintenance of the wintertime carbon monoxide (CO) standard.

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.

**B. Approach** The analytical approach is similar to that applied and documented in the development of the Washington area's severe area ozone SIP and winter CO maintenance

SIP. 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 April 21, 2004 TPB meeting.

1. Action scenarios for each forecast year, with parallel efforts to analyze transportation emissions reduction measures (TERMs). (Analysis of TERMS is ongoing within TPB's mobile source emissions planning activities, with oversight from the Travel Management Subcommittee.)
2. Regionally significant projects
3. Round 6.4 Cooperative Forecasts
4. Expanded cordon (2191 zone) networks and model set (Methodology as described in the Metropolitan Washington Council of Governments, COG/TPB Travel Forecasting Model, Version 2.1/TP+, Release D, Report. Refinements to Version 2.1 Release C addressed in Version 2.1 Release D include:
  - use of updated toll analysis methods
  - updated speed / capacity tables
  - revised volume delay function for freeways
  - minimized model adjustment factors
  - bus speed / highway congestion relationships
  - speed feedback revisions to ensure consistency of travel speeds throughout the process
5. MOBILE6 model emission factors, consistent with the procedures utilized to establish the latest VOC and NOx mobile source emissions budgets within the severe area SIP
6. Refinements developed as part of the SIP include: use of 2002 vehicle registration data for all jurisdictions; updated VMT mix procedures using national trends in vehicle fleet characteristics together with local data on light duty versus heavy duty vehicle use; updated databases for public transit and school buses, park and ride lot use, and travel on local roads; and post-processor estimation
7. VOC, NOx and CO (wintertime) emissions budgets
8. MSA-based geography

### **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. Receive project inputs from programming agencies and organize into conformity documentation listings (endorsement of financially constrained project submissions scheduled for April 21, 2004)
  - Project type, limits, NEPA approval, etc.
  - Phasing with respect to forecast years
  - Transit operating parameters, e.g. schedules, service, fares
  - Action scenarios, with tests of the ICC to include two separate corridors
2. Utilize Round 6.4 Cooperative Forecasts
  - Households by auto ownership, population and employment
  - Zonal data files
  - Review with Planning Directors potential adjustment of Round 6.4 land activity forecasts to reflect each of the two alternative alignments being tested for the ICC
3. Utilize 1990 and 2002 base conditions developed in the severe area SIP process
4. Prepare forecast year highway, HOV, and transit networks
  - Update highway database
  - Update GIS highway network
  - Filter database to create 2005, 2015, 2025 and 2030 highway networks
  - Rebuild networks for modeling
  - Update / edit transit files
  - Update fares, as necessary

5. Prepare 2005 ozone attainment year travel and emissions estimates
  - Execute travel demand modeling
  - Apply Mobile6 emission factors based upon SIP and 2003 CLRP work
  - Calculate emissions
6. Prepare 2015 CLRP conditions
  - Tasks as in year 2005 analysis
  - Perform transit “capacity constraint” procedures
  - Execute corridor 1 and corridor 2 ICC alternatives
7. Prepare 2025 CLRP conditions
  - Tasks as in year 2015 analysis
  - Interpolate data to develop 2007 and 2016 forecasts for wintertime CO
8. Prepare 2030 CLRP conditions
  - Tasks as in year 2025 analysis
9. Identify extent to which TIP and plan provide for expeditious implementation of TCMs contained in state implementation plans and emissions mitigation requirements of previous TIP and CLRP commitments (TERMs)
  - In the CLRP / TIP solicitation 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 December 31, 2003 air quality conformity report
  - The status reports and the updated TERM tracking sheet will be included in the air quality conformity report.
10. Coordinate / analyze emissions reductions associated with CMAQ and similar projects
  - Obtain project-specific emissions reductions from programming agencies
  - Summarize VOC and NOx reductions for each milestone year
  - With oversight from the Travel Management Subcommittee, propose and analyze additional measures for their emissions benefits, costs, cost effectiveness, and other evaluation criteria
11. Analyze results of above technical analysis
  - Reductions from 1990 and 2002 base
  - VOC, NOx and 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
12. Assess conformity and document results in a report
- Document methods
  - Draft conformity report
  - Forward to technical committees, policy committees, and EPA
  - 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 in September, 2004.

# Exhibit 1

Table 1 \_\_ Conformity Criteria

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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. 93.118 or Sec. 93.119	Emissions budget or Emission reduction.

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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 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. 93.118 Criteria and procedures: Motor vehicle emissions budget.**

The transportation plan, TIP, and project not from a conforming transportation plan and TIP must be consistent with the motor vehicle emissions budget(s) in the applicable implementation plan (or implementation plan submission).

**Sec. 93.119 Criteria and procedures: Emission reductions in areas without motor vehicle emissions budgets.**

The transportation plan, TIP, and project not from a conforming transportation plan and TIP must contribute to emissions reductions.

**NOTE:** See EPA's August 15, 1997 conformity regulations for the full text associated with each section's requirements.

## Exhibit 2

## PROPOSED YEAR 2004 CLRP AND FY 2005-2010 TIP AIR QUALITY CONFORMITY SCHEDULE

*December 17, 2003	TPB Reviews Draft Solicitation Document
*January 21, 2004	TPB Releases Final Solicitation Document
February 6, 2004	DEADLINE: Implementing Agencies Complete Electronic Submissions of Project Information to staff- including CMS, CLRP, and TIP Data.
February 12, 2004	CLRP and TIP Project Submissions for inclusion in the Air Quality Conformity Analysis and Draft Scope of Work Released for Public Comment and Inter-Agency Review
*February 18, 2004	TPB Reviews Project Submissions and Scope of Work
March 11, 2004	Final CLRP and TIP Project Submissions for inclusion in the Air Quality Conformity Analysis and Draft Scope of Work Released for Public Comment and Inter-Agency Review
*March 17, 2004	TPB Reviews Public Comments Received to Date on Project Submissions for Inclusion in the Air Quality Conformity Analysis for CLRP and TIP and Scope of Work
April 10, 2004	Public Comment Period Ends for Project Submissions and Scope of Work
April 21, 2004	TPB Reviews Public Comments, Approves Project Submissions for inclusion in the Air Quality Conformity Analysis for CLRP and TIP and Scope of Work
*June 16, 2004	TPB Receives Briefing on Draft Air Quality Conformity Determination, CLRP and TIP Documents
*July 21, 2004	TPB Releases Draft Air Quality Conformity Determination, Draft Year 2004 CLRP, and Draft FY 2005-2010 TIP for Public Comment and Inter-Agency Review
August 20, 2004	Public Comment Period Ends for Draft Documents
*September 15, 2004	TPB Reviews Public Comments on Draft Documents, Approves Responses to Comments, and Adopts the Air Quality Conformity Determination, the Year 2004 CLRP and FY 2005-2010 TIP

\*TPB Meeting

## **WORK SCOPE ATTACHMENT A**

**DRAFT 3/09/04**

### **POLICY AND TECHNICAL INPUT ASSUMPTIONS AIR QUALITY CONFORMITY ANALYSIS OF 2004 CLRP AND FY2005-2010 TIP**

#### 1. Land Activity

- Round 6.4 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 4/21/2004

#### 3. Travel Demand Modeling Methods

- 'Version 2.1 D' Travel Model
- I-66 (inside the beltway) at HOV-3 in 2010
- Transit "capacity constraint" procedures

#### 4. Emission Factors

- Emission factors methods as developed and applied in the SIP and in the 2003 CLRP conformity process: MOBILE6, 2002 registration data, VMT mix specific to each analysis year
- Enhanced I/M in DC, MD, and VA, using state-specified standards
- No oxygenated fuels assumed for wintertime carbon monoxide conditions

#### 5. Emissions Modeling Methods / Credits

- Updated post-processor methods as developed in the severe area SIP and additional updates developed in ongoing research
- Offline emissions analyses

#### 6. Conformity Assessment Criteria

- 8/15/97 EPA regulations (as modified by the 3/2/99 court decision and subsequent guidance), including 1/1/95 technical requirements; use of severe area SIP mobile source emissions budgets
- Analysis years: 2005, 2015, 2025, 2030 for ozone precursors; 2007, 2016, 2025, and 2030 for wintertime CO