

**AIR QUALITY CONFORMITY ASSESSMENT:  
2010 CONSTRAINED LONG RANGE PLAN AND  
FY2011-2016 TRANSPORTATION IMPROVEMENT PROGRAM  
VIRGINIA I95/I395 HOT LANES AMENDMENT**

**SCOPE OF WORK**

**I. INTRODUCTION**

The Virginia Department of Transportation (VDOT) has requested an amendment to the 2010 Constrained Long Range Plan (CLRP) to modify the I-95/ I-395 HOT lanes project as described in the attached materials. The proposed changes affect the air quality conformity analysis, and will therefore require a new demonstration of air quality conformity before they can be adopted as plan and program elements by the Transportation Planning Board (TPB).

This scope of work reflects the tasks and schedule designed for the air quality conformity assessment leading to adoption of the amended plan and program. This work effort addresses requirements associated with attainment of the ozone standards (volatile organic compounds (VOC) and nitrogen oxides (NOx) as ozone precursor pollutants), and fine particles (PM<sub>2.5</sub>) standards (direct particles and precursor NOx), as well as maintenance of the wintertime carbon monoxide (CO) standard.

The amended 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 24, 2010 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 PM<sub>2.5</sub> are discussed below.

Ozone season pollutants will be assessed by comparing the “action” scenarios to the 8-hour ozone area 2008 Reasonable Further Progress (RFP) VOC and NOx emissions budgets which were deemed adequate for use in conformity by EPA in September 2009.

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.

PM<sub>2.5</sub> pollutants will be assessed both by comparing the “action” scenarios to a 2002 base and by comparing the pollutant levels to the budgets submitted by the MWAQC to EPA in April, 2008. PM<sub>2.5</sub> emissions will be inventoried for yearly totals (instead of on a daily basis as performed for Ozone and CO).

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

The analytical approach is similar to that applied and documented in the air quality conformity assessment of the 2010 CLRP and the FY2011-2016 TIP. 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 March 16, 2011 TPB meeting.

**TABLE 1 – Summary of Technical Approach**

	<b>Ozone</b>	<b>Wintertime CO</b>	<b>PM<sub>2.5</sub></b>
<b>Pollutant:</b>	VOC, NO <sub>x</sub>	CO	Direct particles, Precursor NO <sub>x</sub>
<b>Emissions Assessment Criteria:</b>	8-hour 2008 Reasonable Further Progress (RFP) ozone budgets	Approved wintertime CO emissions budget	Reductions from base 2002 inventory & comparison to budgets
<b>Emissions Analysis Time-frame:</b>	Daily	Daily	Annual
<b>Geography:</b>	8-hour ozone non-attainment area	DC, Arl., Alex., Mont., Pr. Geo.	8-hr. area less Calvert County
<b>Network Inputs:</b>	Regionally significant projects		
<b>Land Activity:</b>	Round 8.0		
<b>Modeled Area:</b>	Current Cordon (2191 zone)		
<b>Travel Demand Model:</b>	Version 2.2		
<b>Mobile Model:</b>	MOBILE6.2 emissions factors, consistent with the procedures utilized to establish the VOC and NO <sub>x</sub> mobile source emissions budgets	MOBILE6.2 Consistent with procedures used to establish the budget	MOBILE6.2 ‘Seasonal’ approach, consistent with procedures used to establish the budget
<b>Emissions Factor Refinements:</b>	Use of 2008 vehicle registration data for all jurisdictions		

**III. CONSULTATION**

A 30 day public comment / interagency consultation period followed by response to comments will be provided for the following milestones:

- Project review
- Air quality conformity scope of work
- Conformity report

#### **IV. WORK TASKS**

1. Prepare forecast year highway and transit networks
  - 2020, 2030, 2040
2. Review tolling inputs/algorithm
3. Prepare 2020 travel and emissions estimates
  - Execute travel demand modeling using Version 2.2 travel model
  - Calculate emissions (daily for ozone season VOC and NO<sub>x</sub> for ozone standard requirements; daily for winter CO; yearly for PM<sub>2.5</sub> direct particles and precursor NO<sub>x</sub>)
4. Prepare 2030 travel and emissions estimates
  - Execute tasks as in 2020 analysis
  - Apply “transit constraint” using 2020 levels
5. Prepare 2040 travel and emissions estimates
  - Execute tasks as in 2030 analysis
  - Apply “transit constraint” using 2020 levels
6. Analyze results of above technical analysis
  - Reductions from 1990 (ozone season VOC and NO<sub>x</sub> and winter CO) and 2002 base (ozone season VOC and NO<sub>x</sub>, winter CO, and PM<sub>2.5</sub>)
  - 8-hour ozone season 2008 RFP VOC and NO<sub>x</sub> budgets, direct PM<sub>2.5</sub> and precursor NO<sub>x</sub> budgets, and winter CO emissions budgets
7. Assess conformity and document results in a report
  - Document methods
  - Draft conformity report
  - Forward to technical committees, policy committees
  - Make available for public comment 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. 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 July 20, 2011.

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**SCHEDULE**

February 4, 2011	TPB Technical Committee briefed on proposed amendments
February 10, 2011	Project description and conformity analysis scope of work released for public comment
*February 16, 2011	TPB briefed on proposed amendment and conformity analysis scope of work
March 12, 2011	Public comment period ends
*March 16, 2011	TPB approves proposed project inputs and conformity analysis scope of work
June 4, 2011	TPB Technical Committee receives status report
June 9, 2011	Draft conformity results for amendment released for public comment
*June 15, 2011	TPB briefed on draft conformity results
July 9, 2011	Public comment period ends
*July 20, 2011	TPB reviews public comments and responses to comments, and adopts conformity analysis, 2010 CLRP, and FY2011-2016 TIP amendment
* TPB meeting	