

## **National Capital Region Transportation Planning Board**

777 North Capitol Street, N.E., Suite 300, Washington, D.C. 20002-4290 (202) 962-3310 Fax: (202) 962-3202

### MEMORANDUM

December 1, 2006

To: Transportation Planning Board Technical Committee

From: Michael J. Clifford   
Systems Planning Applications Director

Subject: Transportation Measures / Categories: Emissions Benefits and Application in State Air Quality Implementation Plan (SIP)s and Air Quality Conformity Assessments

### **I. Introduction**

This memo provides an update to my November 3, 2006 memo to the TPB Technical Committee on this same topic. The November 3<sup>rd</sup> memo identified 4 different emissions benefit categories in which transportation measures could be lodged, as follows.

#### Categories of Transportation Measures

1. TERM, transportation emissions reduction measure: a measure credited in an air quality conformity assessment.
2. TCM, transportation control measure: a demand-based measure which is a legally enforceable commitment in a SIP.
3. Vehicle-Based Measure, a vehicle technology-, fuel-, or maintenance-based measure which is also a commitment in a SIP.
4. Voluntary Bundle, an aggregation of emissions reduction (transportation or non-transportation) measures which may or may not be credited in the SIP.

Last month's memo also served to advance 2008 and 2009 estimates of emissions benefits for those transportation measures which were commitments in the existing 1-hour ozone SIP; those emissions estimates were advanced for use in MWAQC's setting mobile budgets for the 8-hour SIP now under development. Attachment A represents the formal transmittal of these estimates from TPB to MWAQC, together with the appropriate emissions inventories, which yielded draft mobile source emissions budget calculations for 2008 and 2009.

## **II. Subsequent Events**

At its November 8, 2006 meeting the COG Board passed a resolution (Attachment B) encouraging its member governments to adopt additional measures to reduce air pollution, and assist in addressing 8-hour ozone health standards. The resolution asks for commitment letters from agencies by December 31, 2006. The measures would then be included in the 8-hour SIP (presumably in any of the TCM, Vehicle-Based or Voluntary Bundle categories). Note that in Table 1 of the resolution, there are a number of transportation measures included as examples.

## **III. Current Discussion**

This outreach to local jurisdictions is clearly an effort to be encouraged. However, it also points out a need for TPB involvement in the process. Given that such transportation measures may be used in any of the various categories identified here, it will be necessary for TPB staff to review such submissions for emissions benefits calculation procedures, consistency of methods and assumptions, and to ensure that no double-counting of emissions benefits occurs.

It should also be noted that once such measures are advanced to the SIP for emissions credit, they are no longer available for use as TERM credits in conformity. Lastly, it should be reiterated that all SIP commitments are legally enforceable. While TPB and MWAQC staff can set up an internal review process to accomplish necessary review activity, it is also important to alert all parties before commitments are finalized to ensure possible implications are known to the submitting agencies.

## **IV. Next Steps**

This memo is being advanced to the TPB Technical Committee for discussion at its December 1, 2006 meeting. Staff recommendation is to also convey these discussion points to the TPB at its December meeting, and to recommend that the TPB convey its views to MWAQC as outlined in the attached draft letter from TPB to MWAQC. The letter discusses the air quality conformity and SIP planning areas, summarizes the need for coordination between policy areas, and offers TPB's assistance in reviewing measures which are received from the outreach effort.

Attachments (A - C)



## Attachment A

### **National Capital Region Transportation Planning Board**

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November 7, 2006

The Honorable Phil Mendelson  
Chairman  
Metropolitan Washington Air Quality Committee  
777 North Capitol Street, NE  
Washington, DC 20002 – 4239

Dear Chairman Mendelson:

The National Capital Region Transportation Planning Board (TPB) is pleased to transmit to the Metropolitan Washington Air Quality Committee (MWAQC) the attached table of mobile source emissions data prepared for use in the development of the 8-hour ozone state air quality implementation plan (SIP). Building upon the TPB's July 12, 2006 transmittal of mobile source emissions inventory results, this table incorporates estimates of emissions benefits of transportation measure commitments which are in the region's 'severe area 1-hour ozone SIP' to yield draft 2008 and 2009 mobile emissions budgets for volatile organic compounds (VOC) and nitrogen oxide (NOx) emissions.

These data are being formally transmitted by the TPB to MWAQC today because the 2008 and 2009 estimates of 'mobile emissions inventories less SIP-committed measures' represent the basis for establishing new motor vehicle emissions budgets in the SIP. These new emissions budgets will, in turn, be used by the TPB in future air quality conformity determinations. Reviewing the data in the table, the TPB's July 12, 2006 transmittal of the primary emissions inventory data provides the starting point for the forecast emissions levels. Emissions benefits for the transportation control measures (TCM)s and the Vehicle Technology measures in the table reflect estimates prepared by TPB staff as part of the air quality conformity assessment of the 2006 Constrained Long Range Plan (CLRP) and the FY2007 – 12 Transportation Improvement Program (TIP), which was adopted by the TPB on October 18, 2006. Subtraction of the SIP-committed measures from the base inventory levels yields the draft mobile budgets.

According to EPA's conformity regulations the motor vehicle emissions budget represents "... that portion of the total allowable emissions defined in the submitted or approved control strategy implementation plan.....allocated to highway and transit vehicle use and emissions." The regulations state further that EPA will not find a

submitted motor vehicle emissions budget to be adequate for transportation conformity purposes unless "The motor vehicle emissions budget(s), when considered together with all other emissions sources, is consistent with applicable requirements for reasonable further progress, attainment, or maintenance..." and "... is consistent with and clearly related to the emissions inventory and the control measures in the submitted control strategy implementation plan revision...". The TPB believes that the attached 2008 and 2009 motor vehicle emissions estimates, in conjunction with the emissions benefits from the SIP-committed measures, provide the basis for establishing motor vehicle emissions budgets that will comply with these EPA regulations.

The TPB looks forward to continuing the close technical and policy working relationships with MWAQC as we move forward in meeting remaining requirements for SIP planning.

Sincerely,

A handwritten signature in black ink, appearing to read "MKnapp", with a long horizontal line extending to the right.

Michael Knapp  
Chair, National Capital Region  
Transportation Planning Board

**Summary Table - Calculation Of  
Mobile Source Emissions Budgets For the 8-Hour Ozone SIP**

	2008		2009	
	VOC	NOx	VOC	NOx
	Tons/day			
Mobile Source Inventory	70.98	160.30	66.68	146.53
TCMs	0.11	0.25	0.10	0.22
Vehicle Technology Based Measures	0.08	0.24	0.08	0.23
Net	70.79	159.81	66.50	146.08
 Draft Mobile Source Budgets	 <b>70.8</b>	 <b>159.8</b>	 <b>66.5</b>	 <b>146.1</b>

**METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS  
777 North Capitol Street, NE  
Washington, D.C. 20002**

**RESOLUTION TO ENCOURAGE ADOPTION OF MEASURES TO REDUCE AIR POLLUTION BY  
COG MEMBER GOVERNMENTS**

**WHEREAS**, the Metropolitan Washington region does not meet the National Ambient Air Quality Standards (NAAQS) for ozone and fine particles; and

**WHEREAS**, the local jurisdictions in the Metropolitan Washington Council of Governments (COG) who participate with the states of Maryland, Virginia and the District on the Metropolitan Washington Air Quality Committee (MWAQC) are developing a regional plan to improve the air and meet federal health standards by reducing emissions that cause pollution; and

**WHEREAS**, the Washington, DC-MD-VA metropolitan region is classified as a moderate nonattainment area for the 8-hour ozone standard and is required to submit a revision to the region's state implementation plan (SIP) by June 15, 2007; and

**WHEREAS**, the states have committed to adopt and implement control measures beyond those explicitly required by the Clean Air Act to attain the eight-hour National Ambient Air Quality Standards; and

**WHEREAS**, MWAQC has investigated a broad range of measures for attainment, including short-term measures to attain the 8-hour ozone standard in 2009 and long-term approaches that go beyond traditional control measures; and

**WHEREAS**, MWAQC identified innovative approaches to reduce emissions through public policy initiatives such as purchase of wind power and environmental performance contracting; and

**WHEREAS**, the measures adopted by local jurisdictions have the potential to provide additional emission reductions necessary to meet the 8-hour ozone National Ambient Air Quality Standard, and to reduce eight-hour ozone levels which have been shown to produce detrimental human health effects.

**NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE  
METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS THAT:**

1. COG encourages members to adopt programs to reduce harmful emissions causing air pollution such as purchasing wind energy, retrofitting diesel school and transit buses, purchasing low emissions vehicles, energy efficiency measures, and others listed in Table 1.
2. COG encourages members to submit letters committing to these programs to the appropriate state air agency by December 31, 2006, so the programs being adopted may be included in the regional air quality plan to be submitted to the states and EPA.
3. The Chair of the Board of Directors shall expeditiously transmit this resolution to the lead elected officials of all member jurisdictions.

**Table 1**

**Measures That Reduce Harmful Air Emissions  
For Consideration by COG Member Governments**

- School Bus and Other Diesel Engine Retrofits
- Wind Energy Purchases
- Renewable Portfolio Standards
- LED Traffic Signal Retrofits
- Alternative Vehicle Purchases
- Low-VOC Paints
- Energy Performance Contracting (e.g., building efficiency, solar photovoltaics for schools)
- Airports Voluntary Emission Reduction Agreements
- U.S. Green Building Council's Guidelines for Energy and Design Standards (e.g., LEEDs, Green Building Codes) or other nationally recognized Green Building standards
- Tree Planting and Urban Heat Island Mitigation
- Enhanced Enforcement – Idling (e.g., trucks and buses)
- Cash for Clunkers Lawn and Garden Equipment Programs
- Best Practices in Production and Application of Traffic Markings, Asphalt, and Pesticides
- Environmental Performance Contracting (e.g., construction, landscaping)
- Additional transportation measures such as, but not limited to smart growth and transit-oriented development, expansion of the transit system to new locations; expanded Commuter Choice and telecommuting programs; and enhanced bicycle and pedestrian access to transit stations

## **National Capital Region Transportation Planning Board**

777 North Capitol Street, N.E., Suite 300, Washington, D.C. 20002-4290 (202) 962-3310 Fax: (202) 962-3202

December 20, 2006

**DRAFT**

The Honorable Phil Mendelson  
Chairman  
Metropolitan Washington Air Quality Committee  
777 North Capitol Street, NE  
Washington, DC 20002 – 4239

Dear Chairman Mendelson:

The TPB has been working cooperatively with MWAQC over the past year to meet all requirements for development and submission of an 8-hour ozone state implementation plan (SIP) to the Environmental Protection Agency (EPA) in Spring 2007. A recent product of these work efforts was my November 7, 2006 letter to you transmitting 2008 and 2009 estimates of transportation measure emissions benefits associated with previous SIP commitments (Attachment A).

At its November 8, 2006 meeting the COG Board passed a resolution (Attachment B) encouraging its member governments to adopt additional measures to reduce air pollution, and assist in addressing the 8-hour health standards. The resolution asks for commitment letters from agencies by December 31, 2006. We note that in Table 1 of the resolution there are a number of transportation measures included as examples. The fact that the same or similar transportation measures may be advanced to either SIP or air quality conformity planning activities emphasizes the need for continuing coordination between MWAQC and the TPB regarding review and implementation of such projects.

The purposes of this letter are: (1) to identify differences in the way emissions benefits of transportation measures may be credited, and potentially critical differences in implications for transportation and air quality planning, and (2) to offer TPB's review and comment assistance in this process.

### **Categories of Transportation Measures**

TPB staff and committees have identified four different emissions benefit categories in which transportation measures could be lodged for air quality conformity and SIP planning activities.

1. TERM, transportation emissions reduction measure: a measure credited in an air quality conformity assessment.



2. TCM, transportation control measure: a demand-based measure which is a legally enforceable commitment in a SIP.
3. Vehicle-Based Measure, a vehicle technology-, fuel-, or maintenance-based measure which is also a commitment in a SIP.
4. Voluntary Bundle, an aggregation of emissions reduction (transportation or non-transportation) measures which may or may not be credited in the SIP.

In the TPB process, TERMS are measures which can be included in the constrained long range plan (CLRP) and transportation improvement program (TIP) to reduce emissions. Several such measures have been adopted by the TPB over the past decade. According to EPA's Conformity Rule, TCMs are measures "specifically identified and committed to in the applicable implementation plan – for the purpose of reducing emissions or concentrations of air pollutants from transportation sources." Consequently, a TERM becomes a TCM only if it is included specifically in the SIP. Regarding vehicle-based measures, EPA's conformity rule states that "vehicle technology-based, fuel-based and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs". While these measures are specifically not classified as TCMs, once such measures are advanced as SIP commitment measures, they too become legally enforceable.

While the voluntary bundle is less rigorously defined, it appears that such measures may be advanced to a SIP with or without associated emissions credit. EPA staff, however, has indicated that any measure in a SIP with a quantified emissions benefit would represent an emissions credit and therefore also would be considered as a SIP commitment. The programming of transportation measures as SIP commitments has potential implications to the transportation planning process should implementation of such a measure be delayed, as discussed further below.

### **Programming Implications**

As you know, the CLRP and TIP scheduled for approval by the TPB next year must meet air quality conformity requirements which will be defined in large part by mobile emissions budgets and other provisions included in the new air quality plan now being developed by MWAQC. TCMs (as well as measures in the vehicle-based or voluntary bundle categories if advanced as SIP commitments) have a special status in the transportation conformity process in that in order to make a conformity determination the TPB must find that the CLRP and / or TIP "provides for timely completion or implementation of all TCMs in the applicable implementation plan". An ineffective TCM included in the SIP could preclude the TPB from making a conformity determination even if all other SIP and conformity requirements are met. By comparison, if a TERM does not perform as expected the TPB can substitute a more effective TERM through the CLRP or TIP update process. It is therefore recommended that, in the development of the current 8-hour ozone SIP, TERMS should only be "hard-wired" into the new SIP as TCMs if it is absolutely certain that they will be implemented.

### **Review Function**

In past work to identify transportation measures for inclusion in a SIP, state, local and regional agencies have advanced some transportation measures from a TERM to a TCM status. These actions have therefore removed the associated emissions benefits of such projects from any subsequent air quality conformity assessment. It is clear that vigilant bookkeeping is a necessity to ensure that emissions benefits are not double-counted. For these reasons, TPB asks for the opportunity to review and comment upon any transportation measures received through the COG Board resolution or other initiatives. We believe that these efforts will help to ensure a consistent analytical approach and to guard against any possibility of double-counting emissions benefits among SIP and air quality conformity assessment activities.

The TPB looks forward to continuing the close technical and policy working relationships with MWAQC as we move forward in meeting remaining requirements for SIP planning.

Sincerely,

Michael Knapp  
Chair, national Capital Region  
Transportation Planning Board

Attachments (A - B)

cc: COG Board Members