Memorandum

March 23, 2004

To: Travel Management Subcommittee

From: Daivamani Sivasailam
Principal Transportation Engineer

Subject: Potential Emissions Trading Program in the Region

Following is a draft outline of an emissions trading program for the mobile sector in the Washington region. The outline provides background about emissions trading in the form of questions and answers and discusses three emissions trading options. Based on comments received at the meeting, staff will refine the outline and present it to the TPB Technical Committee during the April meeting.

Regional Emissions Trading Program

I. Background

What is Emissions Trading?

Emissions trading is a regulatory program that allows an entity (TPB) the flexibility to select cost-effective solutions to achieve established environmental goals. Emissions trading has been in existence since the early 1980's. References to trading for the manufacture of leaded gasoline when it was being phased out in the early 1980's are available in literature on emissions trading. Similarly trading for sulfur-di-oxide, and other power plant generated pollutants were in existence for a long time and credits can be purchased on the open market.

How about trading for Ozone Precursors?

Trading of volatile organic compounds (VOC) and nitrogen oxides (NOx), the precursors of ozone, has been in existence for more than a decade. Out of the three sectors (Point, Area, and Mobile) trading has occurred mostly with point sources. This sector has purchased credits from the other sectors (area, mobile) to off-set their VOC and NOx emissions. Trading generally occurs when the technology in one sector is more cost-effective in reducing pollutants than the sector which is purchasing the credits. Most of the emissions credits traded by the mobile sector were produced due to vehicle technology which is easy to track and measure, as compared to demand management programs.

II. Emissions trading in the Metropolitan Washington Region.

The District of Columbia Department of Transportation (DDOT) requested for inclusion in the FY 2004 Unified Planning Work Program (UPWP) a work item to study strategies, requirements and implementation of a Washington region emissions trading program for transportation (Attachment A). As part of this work effort, staff has identified three types of potential trading programs. They are:

1) Inter-sector trading - Under this program trading will occur between mobile, area, and point sources. The sector with the most cost-effective program will implement such a program and the emissions credit generated by such a program will be sold to the other sectors as and when needed. Many examples of this type of program exist and such a program can be implemented in the region but such a trading program has to be enabled in the State Implementation Plan (SIP) and has to be approved by the Environmental Protection Agency (EPA).

2) Inter-pollutant trading - Under this program trading occurs between the two precursors of ozone (VOC and NOx) according to the ratio of their respective contribution to ozone formation in the emissions inventory. This kind of trading program was successfully implemented in the region as part of the attainment plan. Again, such a program has to be enabled in the SIP and approved by the EPA. Mobile sources availed of this trading program to obtain a higher VOC budget in the out years by trading away the NOx emissions credit and raising the VOC budget. However when the mobile sector was required to off-set 8 tons/day of NOx emissions, the TPB was unsuccessful in it's effort to amend the SIP to perform inter-pollutant trading.

3) Inter-jurisdictional trading – Under this program trading would occur between the different jurisdiction within a region if a jurisdiction can produce emissions credit in a cost-effective manner and bank them for sale to another jurisdiction which may require them in order to off-set emissions created by transportation projects in their particular jurisdiction. Since the trading occurs within the mobile sources and within the same region we see no need for inclusion of such a program in the SIP and hence approval from EPA. Programs that are implemented by a jurisdiction as part of a normal transportation improvement program cannot be considered as excess credit and will not be available for trading. The emissions credit should be generated by a program which is not part of a regular TIP. An example of such a program is illustrated below.

Example

The District of Columbia has a large taxicab fleet (7000) with no age restrictions on the cabs. These taxicabs are often old and generate high emissions compared to a cleaner burning taxi. If the District government passes a regulation which places an age restriction of 3 years (example), the emissions credit generated by such a program could be banked and sold to the other jurisdictions. When there is a need to off-set emissions, such as during the implementation of the Redskins stadium or the I-66 HOV 3 to HOV 2 conversion which were implemented in isolation, the interested jurisdiction could estimate the cost effectiveness of the various TERMs under consideration and if they find the emissions credit available from the DDOT to be more cost effective they could choose to purchase the credit from DDOT.

Attachment

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION

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Office of the Director

March 17, 2003

Chairman Peter Shapiro
National Capital Region Transportation Planning Board
Metropolitan Washington Council of Governments
777 North Capitol Street, N.E. Suite 300
Washington, DC 20002-4201

Re: FY 2004 Unified Planning Work Program

Dear Chairman Shapiro:

The District Department of Transportation (DDOT) requests that the National Capital Region Transportation Planning Board (TPB) consider a project for inclusion in the Fiscal Year 2004 Unified Planning Work Program. We request the inclusion of a regional study of strategies, requirements and implementation of a Washington region emissions trading program for transportation. The region has a major air quality challenge and it is becoming increasingly difficult for the transportation sector to meet federally required emissions reductions. The recent change in status from serious to severe has exacerbated the problem and stricter measures such as the eight-hour standard are on the horizon. We believe that the region must begin developing and implementing more innovative and comprehensive methods to reach ambient air quality.

DDOT proposes that the TPB engage a study of one such innovative method: an emissions trading system. In an emissions trading system, a member organization could bank and trade credits. The fundamental concept of a trading program is to encourage lower emissions reductions by creating market incentives for implementing reductions.

Some of the framework for a trading system is already in place through the TERM development process. However, we strongly believe that the region needs a program which would lead to more comprehensive reductions than a collection of TERMs. Tangible and, possibly, monetary incentives may fuel more substantive emissions reductions from mobile sources.

We look forward to discussing this idea with you or COG staff to more fully explain our proposal and assist in designing the work program.

Sincerely,

Dan Tangherlini
Director