

## **ITEM 9 - Information**

June 20, 2012

Briefing on the Draft Air Quality Conformity Assessment of the  
2012 CLRP and FY 2013-2018 TIP

**Recommendation:** Receive briefing on the conformity assessment. The TPB will be asked to adopt the plan, TIP and conformity assessment at its meeting on July 18.

**Issues:** None

**Background:** At the February 15 meeting, the Board approved the projects submitted for inclusion in the air quality conformity assessment for the 2012 CLRP and FY 2012-2018 TIP. On June 14 the draft plan and TIP together with a conformity assessment were released for public comment at the TPB Citizens Advisory Committee (CAC) meeting.



# **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**

**June 14, 2012**

**To: Transportation Planning Board**

**From: Jane Posey  
Senior Transportation Engineer**

**Subject: Air Quality Conformity Assessment for the 2012 Constrained Long Range Plan (CLRP) and the FY2013-2018 Transportation Improvement Program (TIP)**

## **INTRODUCTION**

This memo documents summary results of the air quality conformity assessment of the 2012 CLRP and FY2013-2018 TIP with respect to the following pollutants:

- **Ozone Season Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>).** Ozone season pollutants must not exceed EPA approved totals from the Metropolitan Washington Air Quality Committee's (MWAQC's) Motor Vehicle Emissions Budgets (MVEBs) from the 8-hour Ozone State Implementation Plan (SIP). MWAQC adopted the 8-hour ozone SIP in May, 2007, and on September 4, 2009, EPA found adequate the 2008 Reasonable Further Progress (RFP) budgets, and stated that the Metropolitan Washington region must use these budgets for future conformity determinations for the 8-hour ozone standard. The RFP budget for VOC is 70.8 tons/day, and for NO<sub>x</sub> is 159.8 tons/day. Ozone season pollutants will no longer be assessed against 1-hour ozone budgets.
- **Fine Particles (PM<sub>2.5</sub>).** In 2008 MWAQC approved a SIP to achieve the 1997 National Ambient Air Quality Standards (NAAQS) for PM<sub>2.5</sub> that included mobile budgets. EPA never approved those budgets. On January 12, 2009, EPA determined that the region had attained the 1997 PM<sub>2.5</sub> NAAQS and issued a clean data determination for the area. In early 2012 Virginia, Maryland, and the District of Columbia withdrew the SIP updates, including the mobile budgets. The withdrawal letters are included as Attachment A. In the absence of approved mobile budgets, EPA allows for an assessment that shows emissions in forecast year scenarios are no greater than those in a 2002 base. This criterion was established and applied, with the concurrence of MWAQC, in prior PM<sub>2.5</sub> conformity assessments.
- **Wintertime Carbon Monoxide (CO).** The region is in maintenance for mobile source wintertime CO, and is required to show that pollutants do not exceed the approved budget of 1671.5 tons/day.

The analysis shows that mobile emissions are well within the mobile budgets for ozone season VOC and NO<sub>x</sub>, as well as wintertime CO, and are well below the 2002 base year levels for the PM<sub>2.5</sub> pollutants.

The results, based upon analyses contained in the technical report, Air Quality Conformity Determination Of The 2012 Constrained Long Range Plan and FY2012-2018 Transportation Improvement Program For The Washington Metropolitan Region, were released for public comment and interagency consultation on June 14, 2012. The public comment period ended on July 14, 2012.

## **BACKGROUND**

The Transportation Planning Board (TPB) approved the scope of work and the project submissions for the 2012 CLRP and FY2013-2018 TIP air quality conformity analysis on February 15, 2012.

Key technical inputs to the analysis include:

- Round 8.1 Cooperative Land Activity Forecasts
- The Version 2.3 Travel Demand Model including a 3722 Transportation Analysis Zones (TAZ) area system and updated transit service
- New Project Submissions
- 2011 Vehicle Registration Data
- EPA's Mobile6.2 Emissions Factor Model.

## **WORK ACTIVITIES**

Staff prepared inventories for each pollutant for five forecast years (2007, 2017, 2020, 2030 and 2040). Ozone season pollutants (VOC and NO<sub>x</sub>) and wintertime CO are inventoried for average weekday conditions, and precursor NO<sub>x</sub> and direct PM<sub>2.5</sub> are inventoried to reflect emissions on a yearly total basis. Staff applied seasonal adjustment factors to convert daily travel (annual average weekday traffic or AAWDT) to annual values.

These inventories address a primary conformity assessment criterion to demonstrate that emissions associated with the plan do not exceed the approved budgets. In anticipation of possible emissions increases associated with implementation of the plan, staff (in conjunction with the TPB Technical Committee and its Travel Management Subcommittee) conducted parallel analyses of committed and potential new transportation emissions reduction measures (TERM)s, and documented emissions benefits for each analysis year.

### **Plan Amendments**

Attachment B lists the major changes to the conformity project inputs since the 2011 CLRP.

### **Land Activity Forecasts**

The COG Board approved the draft Round 8.1 Cooperative Forecasts for use in the air quality conformity analysis of the 2012 CLRP and FY2013-2018 TIP in February, 2012. The forecasts

reflect both the small area land use distributions throughout the Washington region, and also the latest planning assumptions for areas that are outside the Washington region. Attachment C shows a summary of the Round 8.1 data.

## **Travel Modeling Process**

Staff prepared travel demand forecasts for each of the analysis years using the Version 2.3 travel demand model. Exhibit 1 presents the geographic areas for travel modeling and for emissions reporting for each pollutant. Exhibit 2 presents the resulting average weekday transit trips, vehicle trips, and vehicle miles traveled (VMT) results through time for each conformity analysis year, for the full modeled area.

## **Emissions Factors**

Staff developed emissions factors using EPA's MOBILE6.2 emissions model. This year's rates include 2011 VIN data. Emissions rates for each pollutant – shown illustratively for Fairfax County in Exhibits 3 and 4 -- were developed following execution of the model in one mph speed increments, by jurisdiction, for each analysis year. The chart shows significantly reduced rates through time, primarily due to the impacts of having cleaner fuel and vehicles in the fleet. Exhibit 5 presents direct PM<sub>2.5</sub> emissions rates through time for each of the three seasons; data are arrayed in a bar chart since these emissions rates do not vary by vehicle speed.

## **Mobile Emissions Inventories**

### *Ozone Season and Wintertime CO – Daily Emissions*

The average annual weekday travel forecasts (AAWDT) generated by the travel demand model were adjusted, using a 1.03 ozone season factor or a 0.96 winter season factor, to develop seasonally appropriate VMT estimates. Staff then applied the appropriate Mobile6.2 emissions factors to the travel demand forecasts to prepare mobile source emissions inventories for each forecast year. These emissions results for ozone season pollutants are summarized in Exhibits 6 and 7 and indicate total VOC and NO<sub>x</sub> emissions for each analysis year. The charts show dramatic reductions throughout the period. Historical emissions reductions from the Clean Air Act amendments 1990 base have been well documented in the past. 2040 VOC and NO<sub>x</sub> emissions represent about 14 percent and 9 percent, respectively, of their 1990 levels. The results reflect the impact of the cleaner fuel / fleet and related programs.

### *PM<sub>2.5</sub> – Yearly Emissions*

To develop the yearly total PM<sub>2.5</sub> emissions, travel and emissions were estimated by applying (three) seasonal factors to the primary travel data, followed by applying emissions rates for each of the seasons, and summarizing to obtain yearly totals. Direct PM<sub>2.5</sub> and precursor NO<sub>x</sub> emissions are shown in Exhibits 8 and 9. The emissions reductions through time are largely attributable to Tier II vehicle standards, cleaner fuels, and the heavy duty engine rule.

## *2012 CLRP Emissions Inventories vs. Budgets*

Exhibits 6-9 display net emissions for each forecast year. The charts show that emissions are within the mobile budgets for ozone season pollutants, and are not greater than 2002 levels for fine particles pollutants, for all forecast years. Wintertime CO emissions (contained in a full technical report but not summarized here) are also within the CO emissions budget.

### **Net Emissions Analysis**

The emissions inventory data contained in Exhibits 6-9 reflect total mobile source network and off-network emissions. However, there are also emissions benefits associated with certain other transportation programs and projects. These benefits, estimated on an off-line basis, are also creditable in conformity analyses. Attachment D represents a summary table of these transportation emissions reduction measures, or TERMS, which have been previously planned or programmed by the TPB. They are arrayed in a 'Tracking Sheet' format to document the implementation status of each, with part A of the table documenting ozone season and part B documenting PM<sub>2.5</sub> pollutants. The summary result of these measures, shown as the bottom line for each section of the table, amounts to additional reductions in each of the pollutants. Only those projects which have been affirmed by the implementing agency as having been completed, or are on a realistic schedule towards implementation, are being credited in this emissions analysis. Combining the emissions results in Exhibits 6-9 with the additional reductions from TERMS would further improve the emissions margins for each pollutant.

### **SUMMARY**

The analytical results described in this air quality assessment provide a basis for a determination by the TPB of conformity of the 2012 CLRP and FY2013-2018 TIP.

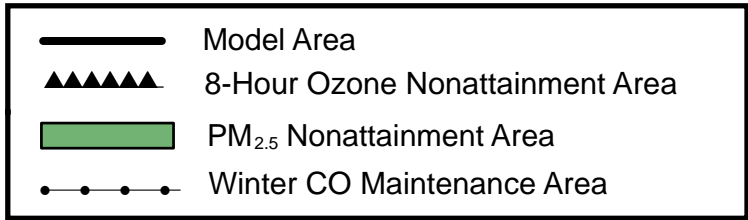
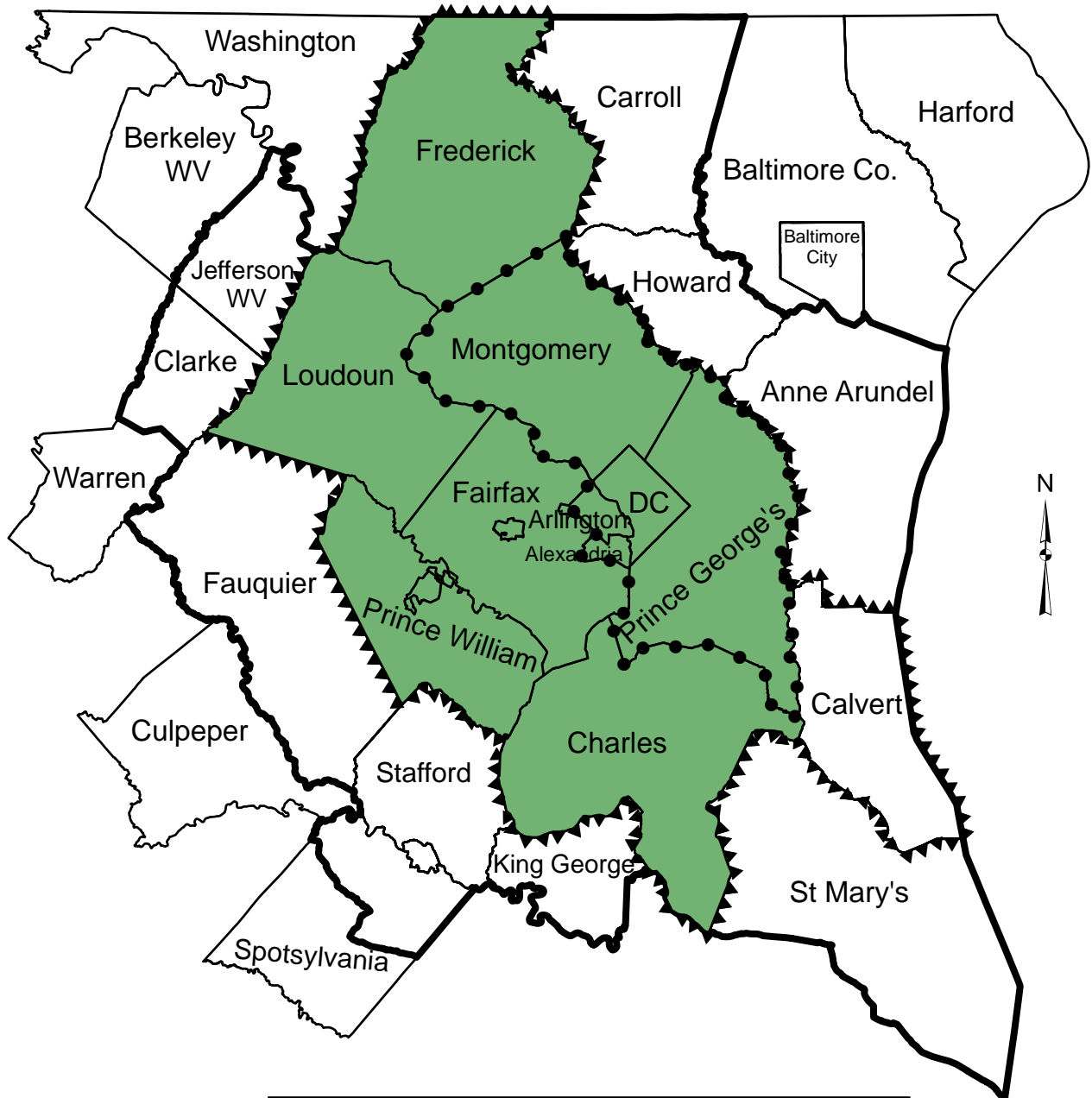
### **COMPARISON WITH 2011 CLRP**

An evaluation of data for the 2012 CLRP conformity analysis revealed some interesting information. When comparing the 2012 CLRP to the 2011 CLRP for the forecast year 2020, in spite of a decrease in both vehicle trips and VMT (due to the economic slowdown reflected in the updated 8.1 land activity data, and modification of external travel into and out of the region to reflect updated count data), all pollutants increased, some significantly. To find an explanation for this, staff ran a sensitivity test, applying the 2008 VIN data that was used with the 2011 CLRP to the 2012 CLRP travel data, in place of the updated 2011 VIN data (which showed an older fleet than the 2008 data). The sensitivity test showed that had the 2008 VIN data been used for the 2012 CLRP rather than the 2011 VIN data, all pollutants would have decreased in line with the decrease in vehicle trips and VMT. The test shows that the impact on emissions of the aging vehicle fleet overwhelms that of the decrease in vehicle trips and VMT. A summary of these results is included as Attachment E.

Following: Exhibits 1- 9  
Attachments A - E

# EXHIBIT 1

## Washington, D.C.- Maryland - Virginia Planning Areas



**Exhibit 2**  
**Travel Demand Summary**  
**Modeled Area Trips and Vehicle Miles Traveled (000's)**  
**Average Weekday Traffic (AWDT)**

	<u>2002</u>	<u>2007</u>	<u>2017</u>	<u>2020</u>	<u>2030</u>	<u>2040</u>
<b>Transit Trips</b>	1,092.5	1,158.5	1,361.8	1,425.7	1,542.0	1,628.4
<b>Vehicle Trips</b>	14,822.9	15,867.8	17,539.8	18,087.9	19,830.0	21,116.6
<b>VMT</b>	149,388.9	159,299.0	174,806.1	180,153.7	200,136.4	212,923.6

**Adjustment Factors to Convert AAWDT to Appropriate Season:**

**Ozone Season AWDT: 1.03**

**Winter Season AWDT: 0.96**

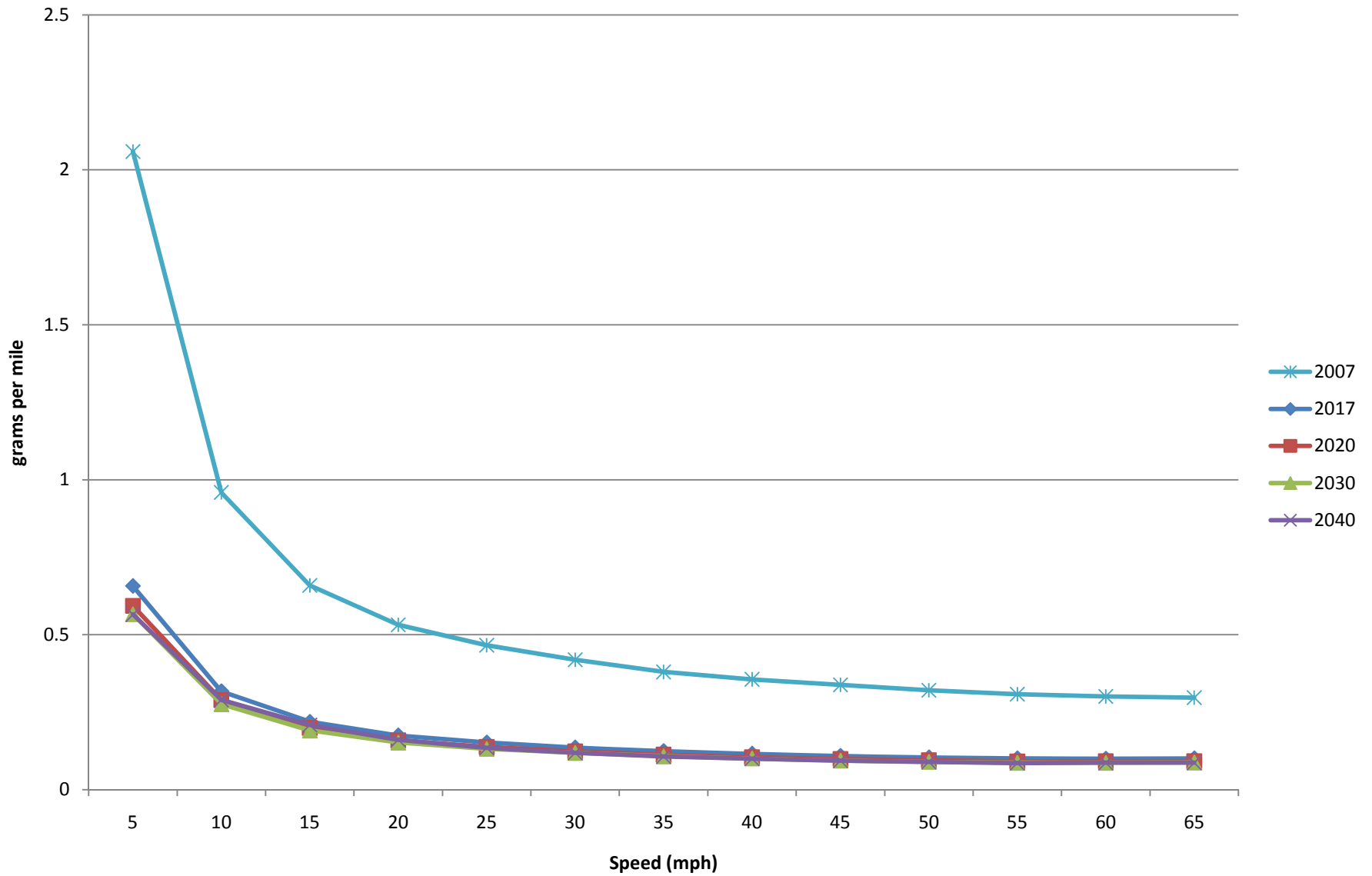
**PM2.5 Annual:**

<b>Season (ADT)</b>	<b>Factor</b>
Season 1 (Jan- Apr)	0.9177
Season 2 (May- Sept)	0.9751
Season 3 (Oct- Dec)	0.9212

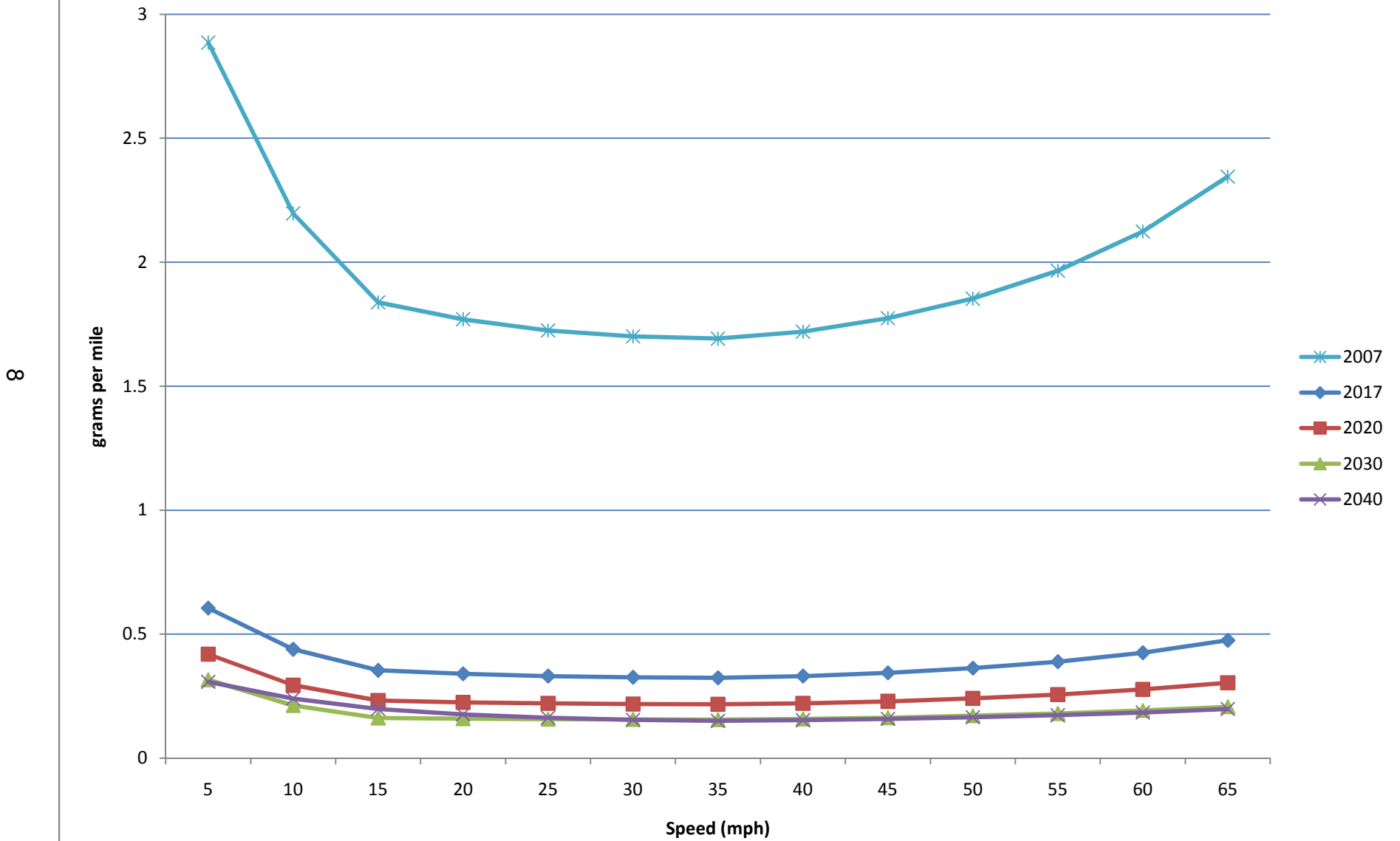
**NOTE:** AWDT reflects a five day average  
ADT reflects a seven day average



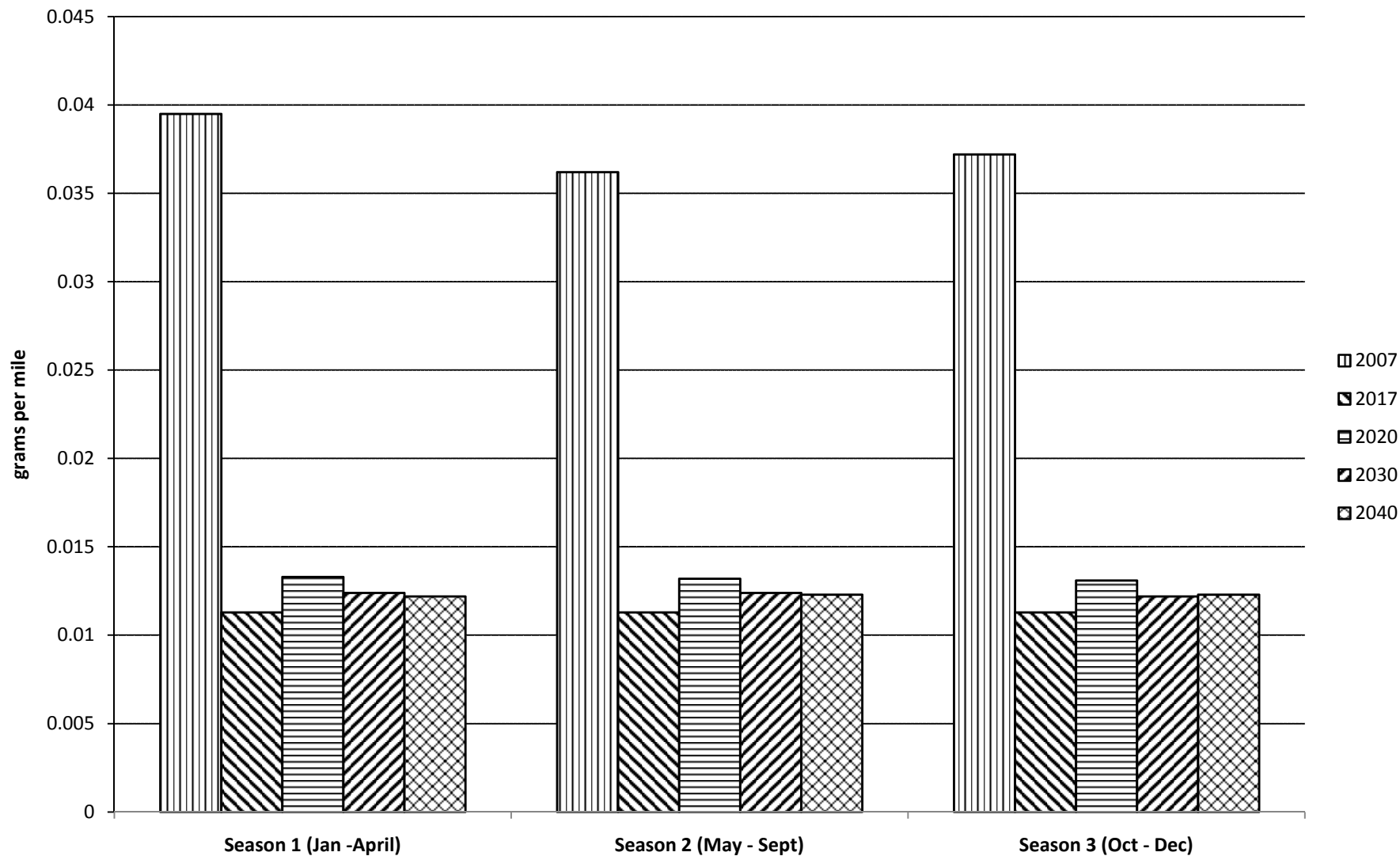
### VOC COMPOSITE MOBILE6.2 FREEWAY RUNNING EMISSION RATES FOR FAIRFAX COUNTY (2012 CLRP)



### NO<sub>x</sub> COMPOSITE MOBILE6.2 FREEWAY RUNNING EMISSION RATES FOR FAIRFAX COUNTY (2012 CLRP)



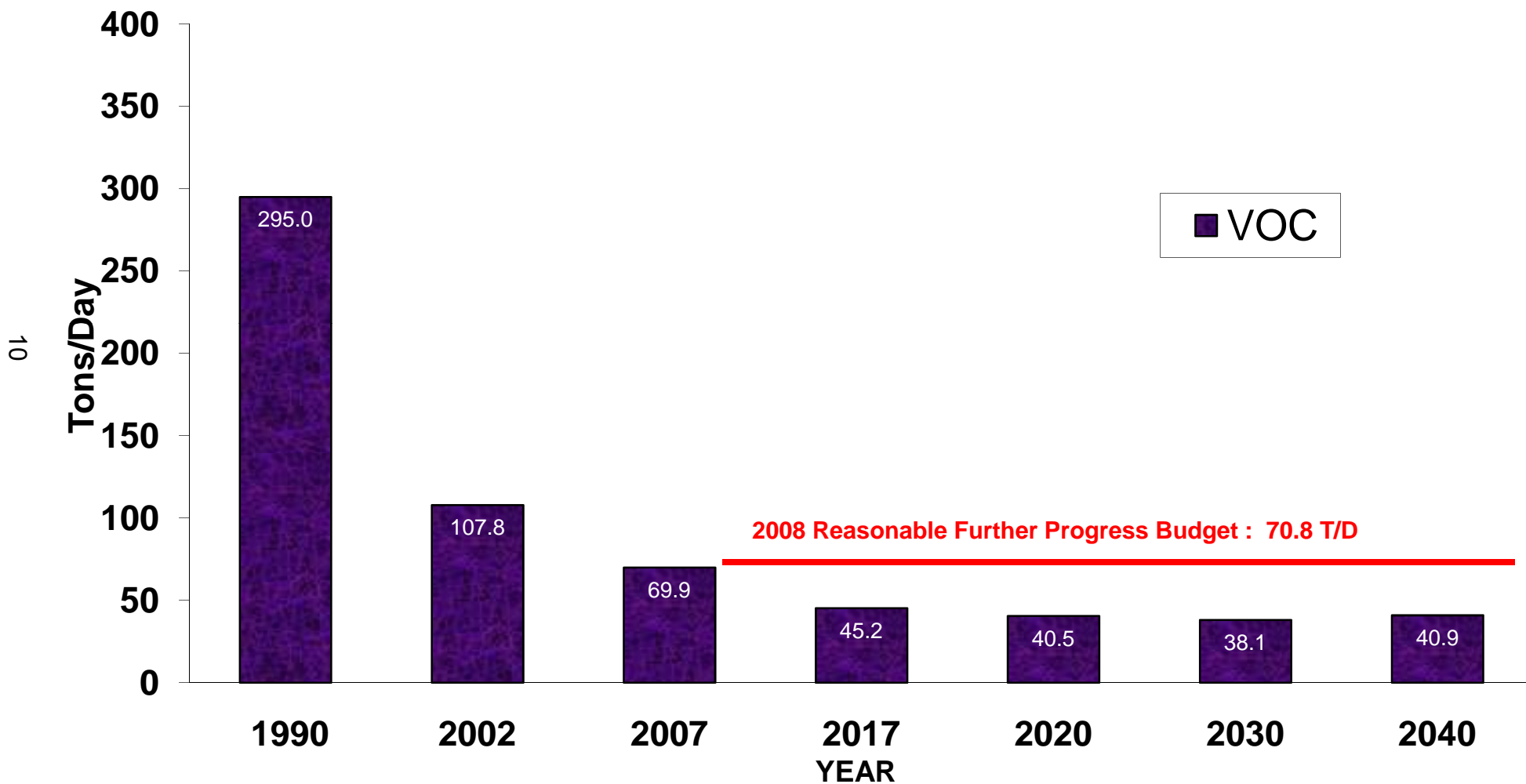
### Exhibit 5 DIRECT PM<sub>2.5</sub> EMISSION RATES FOR FAIRFAX COUNTY (MAJOR ROADS NETWORK)



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# EXHIBIT 6

## Mobile Source VOC Emissions for the 8-Hour Ozone Nonattainment Area 2012 CLRP & FY 2013-2018 TIP



# EXHIBIT 7

## Mobile Source NOx Emissions for the 8-Hour Ozone Nonattainment Area 2012 CLRP & FY2013-2018 TIP



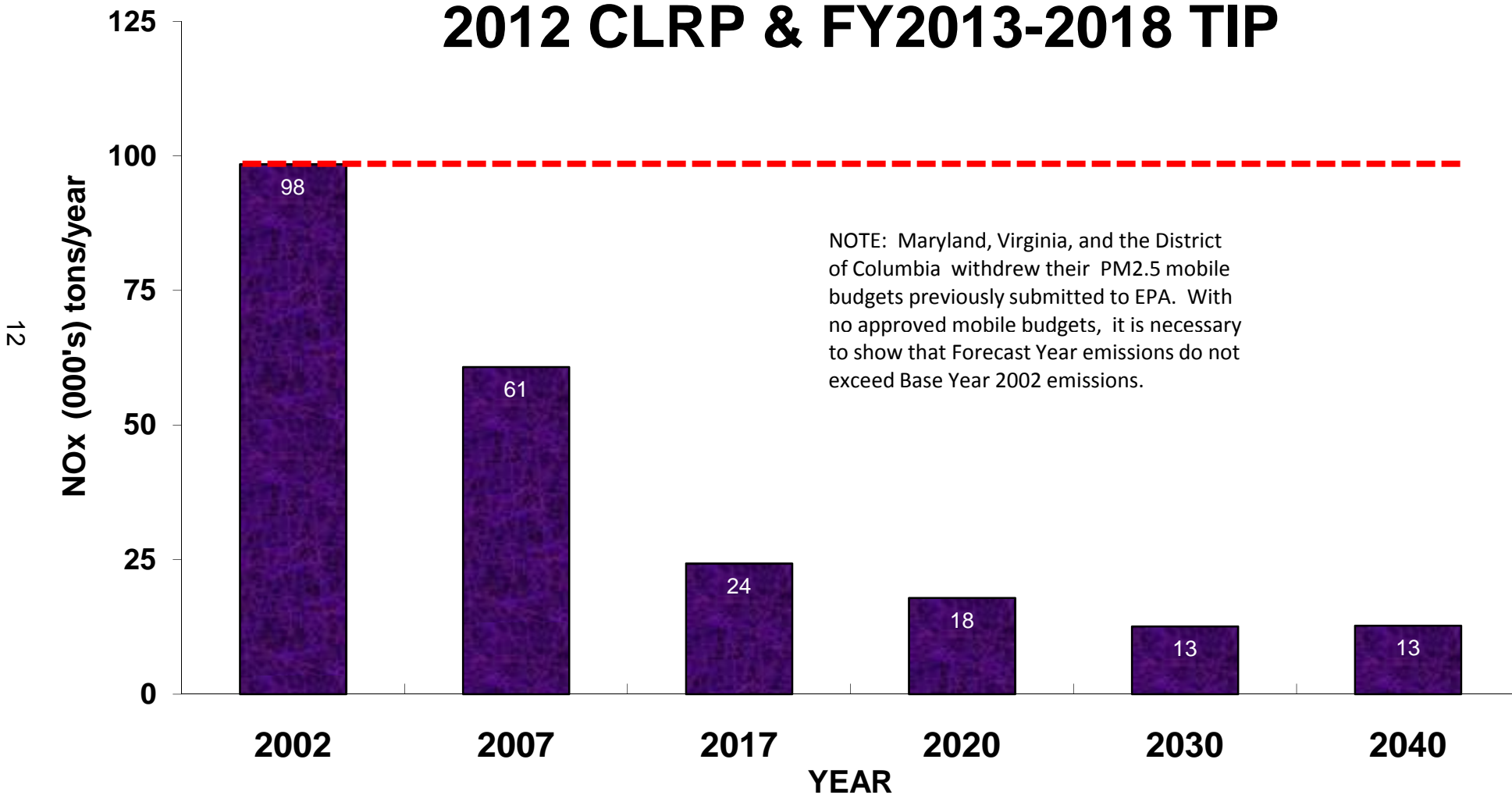
# EXHIBIT 8

## Mobile Source Emissions

### PM<sub>2.5</sub> Precursor: NOx

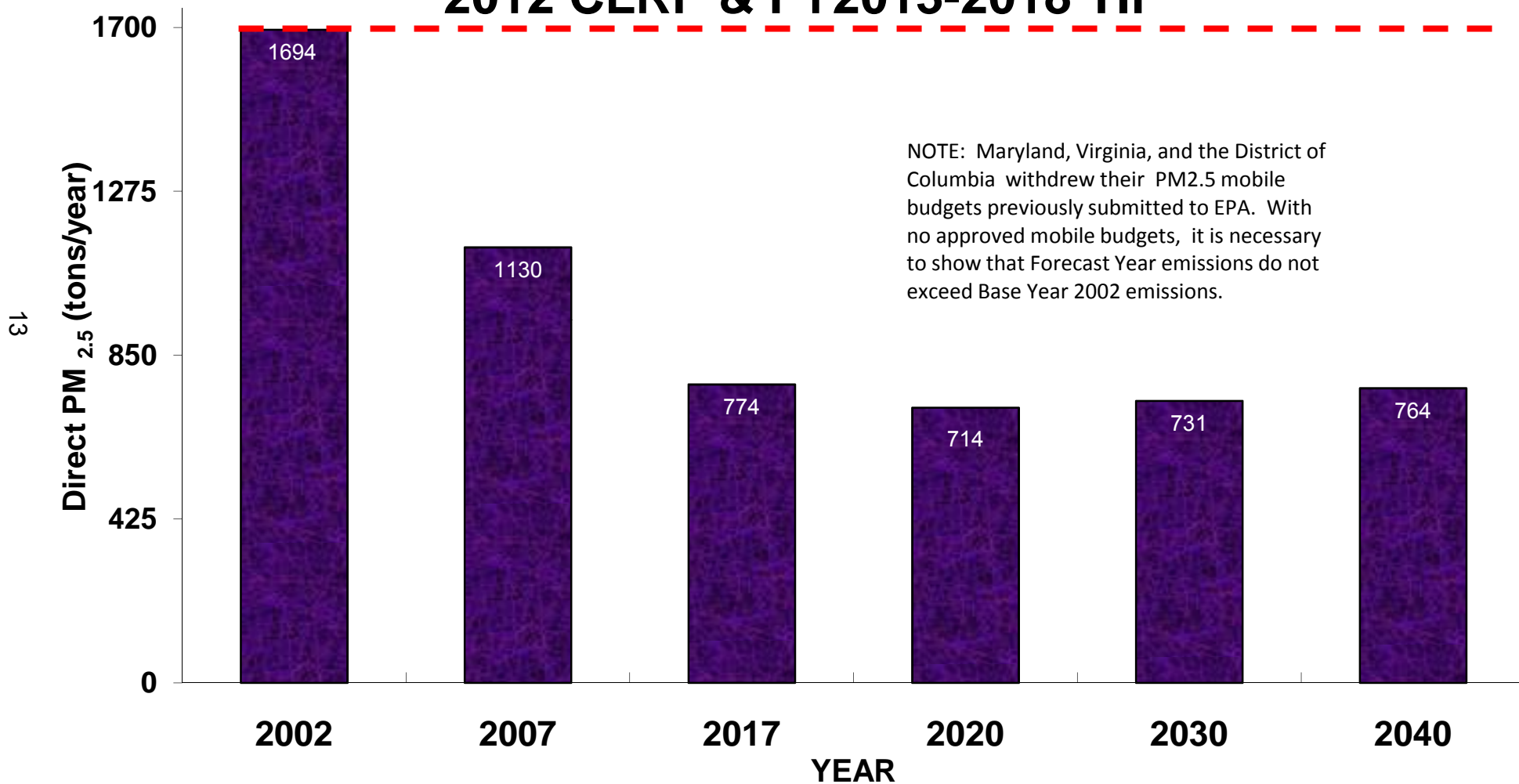
(tons/year in thousands)

## 2012 CLRP & FY2013-2018 TIP



# EXHIBIT 9 Mobile Source Emissions Direct PM<sub>2.5</sub> (tons/year)

## 2012 CLRP & FY2013-2018 TIP







# **ATTACHMENT A**





# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

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Fax (804) 698-4500 TDD (804) 698-4021

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Douglas W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-4000  
1-800-592-5482

JAN 23 2012

Ms. Diana Esher, Director  
Air Protection Division (3AP00)  
U.S. Environmental Protection Agency, Region III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029

Reference: Withdrawal of the  
Virginia Portion of 1997 PM<sub>2.5</sub>  
NAAQS Attainment SIP Revision  
for the Washington DC-MD-VA  
Nonattainment Area

Dear Ms. Esher:

On April 4, 2008, Virginia officially requested approval of a revision to the Commonwealth of Virginia State Implementation Plan (SIP). The revision demonstrated the improvements made to the air quality in the Washington DC-MD-VA Nonattainment Area and the efforts taken to achieve the 1997 national ambient air quality standards (NAAQS) for PM<sub>2.5</sub> by 2009. This SIP revision for the Washington DC-MD-VA area included (i) the attainment plan, (ii) analysis of reasonably available control measures, (iii) attainment demonstration, (iv) contingency plans for failure to attain the air quality standard, (v) mobile source budgets, and (vi) the base year 2002 air pollutant emissions inventory.

Air quality has significantly improved in the Washington DC-MD-VA area. On January 12, 2009 (74 FR 1146), EPA determined that the area had attained the NAAQS and issued a clean data determination for the area. This determination suspended the requirements for the Commonwealth to submit attainment demonstrations and associated reasonably available control measures, reasonable further progress plans, contingency measures, and other planning SIPs related to attainment of the NAAQS in the area. The purpose of this letter is to withdraw these portions of the April 4, 2008 submittal. Specifically, the Commonwealth hereby withdraws the (i) attainment plan, (ii) analysis of reasonably available control measures, (iii) attainment

Ms. Diana Esher

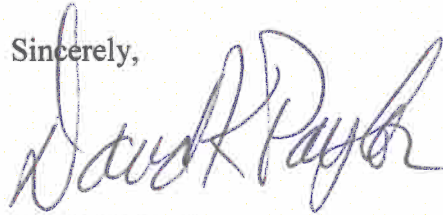
Page 2

demonstration, (iv) contingency plans for failure to attain the air quality standard, and (v) mobile source budgets, all of which were submitted on April 4, 2008. To ensure that Virginia has met the requirements of § 172(c)(3) regarding inventory submittals, the Commonwealth is not requesting the withdrawal of the base year 2002 air pollutant emissions inventory, which comprised Chapter 3 and Appendix B of the April 4, 2008 document

As a related matter, Virginia, in cooperation with the District of Columbia, Maryland, and the Metropolitan Washington Council of Governments, is developing a redesignation request and maintenance plan for the Washington DC-MD-VA area with respect to the 1997 PM<sub>2.5</sub> NAAQS. This request and plan, which will contain mobile vehicle emissions budgets developed using MOVES2010, is expected to be ready for final submittal to EPA in 2012.

If you have any questions or need additional information, please let us know.

Sincerely,

A handwritten signature in blue ink that reads "David K. Paylor". The signature is written in a cursive style with a large initial "D".

David K. Paylor

DKP\kgs

TEMPLATES\SIP-REG\REG00w  
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# MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230

410-537-3000 • 1-800-633-6101

Martin O'Malley  
Governor

Robert M. Summers, Ph.D.  
Secretary

Anthony G. Brown  
Lieutenant Governor

FEB 29 2012

Mr. Shawn M. Garvin  
Regional Administrator  
U.S. Environmental Protection Agency, Region III  
1650 Arch Street (3RA00)  
Philadelphia, PA 19103-2029

Dear Mr. Garvin:

On April 3, 2008, Maryland officially requested EPA approval of the following state implementation plan (SIP) revision:

## **Maryland State Implementation Plan (SIP) for Fine Particle (PM<sub>2.5</sub>) Standard and 2002 Base Year Inventory for the Washington DC-MD-VA Nonattainment Area**

The plan revision demonstrated the improvements made to the air quality in the Washington DC-MD-VA Nonattainment Area ("the Area") and the efforts taken to achieve the 1997 national ambient air quality standard (NAAQS) for PM<sub>2.5</sub> by 2009. This SIP revision for the Washington DC-MD-VA area included: (i) the attainment plan; (ii) an analysis of reasonably available control measures; (iii) an attainment demonstration; (iv) contingency plans for failure to attain the air quality standard; (v) mobile source budgets; and (vi) the base year 2002 air pollutant emissions inventory.

Air quality has significantly improved in the Washington DC-MD-VA area. On January 12, 2009 (74 FR 1146), EPA determined that the Area had attained the NAAQS and issued a clean data determination for the Area. This determination suspended the requirements for Maryland to submit attainment demonstrations and associated reasonably available control measures, reasonable further progress plans, contingency measures, and other planning SIPs related to attainment of the NAAQS in the Area. The purpose of this letter is to withdraw these portions of the April 3, 2008 submittal.

Specifically, the State of Maryland hereby withdraws: (i) the attainment plan; (ii) the analysis of reasonably available control measures; (iii) the attainment demonstration; (iv) the contingency plans for failure to attain the air quality standard; and (v) the mobile source budgets, all of which were submitted on April 3, 2008. To ensure that Maryland has met the requirements of Section 172(c)(3) of the Clean Air Act regarding inventory submittals, the State is not requesting the withdrawal of the base year 2002 air pollutant emissions inventory, which comprises Chapter 3 and Appendix B of the original April 3, 2008 SIP submission.



Mr. Shawn M. Garvin  
Page 2

On a related matter, Maryland, in cooperation with the District of Columbia, Virginia, and the Metropolitan Washington Council of Governments, is developing a redesignation request and maintenance plan for the Washington DC-MD-VA area with respect to the 1997 PM<sub>2.5</sub> NAAQS. This request and plan, which will contain mobile vehicle emissions budgets developed using MOVES2010, is expected to be ready for final submittal to EPA in 2012.

If you have any questions regarding these matters or require additional information, please contact Mr. George (Tad) S. Aburn, Jr., Director of the Air and Radiation Management Administration at 410-537-3255, or by email, at [gaburn@mde.state.md.us](mailto:gaburn@mde.state.md.us).

Sincerely,



Secretary

cc: Diana Esher, Director, Air Protection Division, EPA Region III  
George (Tad) S. Aburn, Jr., Director, Air and Radiation Management Administration

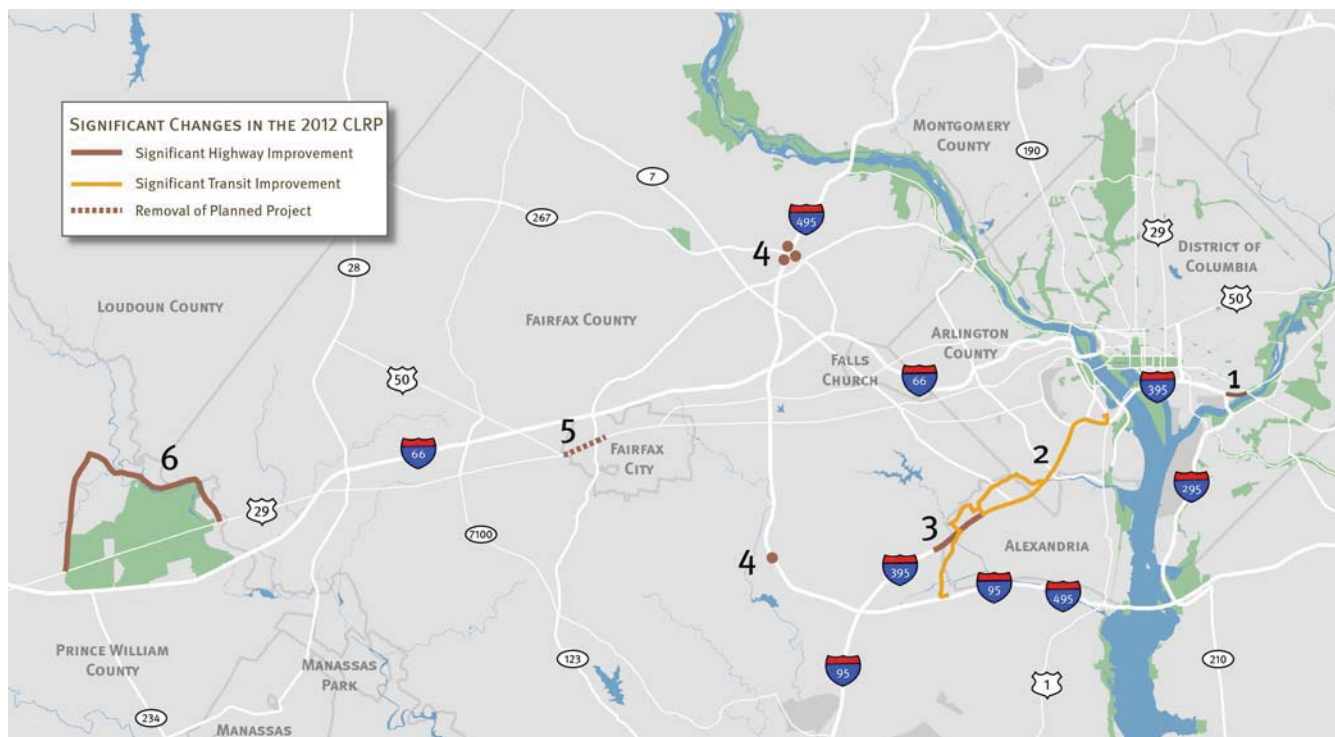


# **ATTACHMENT B**





# Significant Additions and Changes to The 2012 Update to the Financially Constrained Long-Range Transportation Plan and the FY 2013-2018 Transportation Improvement Program



## Significant Additions and Changes to the CLRP and FY 2013-2018 TIP

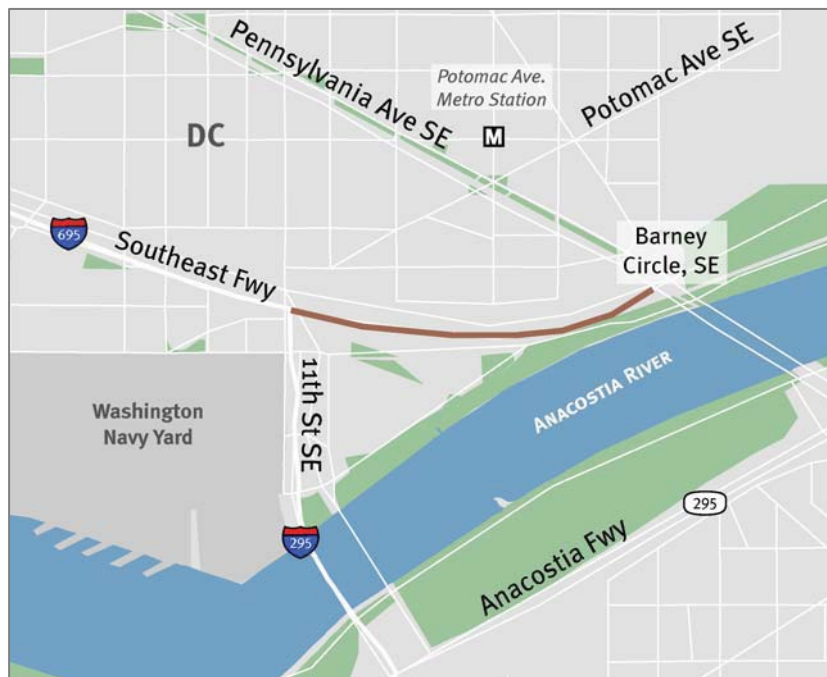
1. CREATE SOUTHEAST BOULEVARD FROM 11<sup>TH</sup> STREET BRIDGE TO BARNEY CIRCLE
2. BUS RAPID TRANSIT FROM VAN DORN METRO STATION TO PENTAGON METRO STATION
3. I-395 AUXILIARY LANE, NORTHBOUND FROM DUKE STREET TO SEMINARY ROAD
4. DATE CHANGE ON I-495 HOT LANES INTERCHANGES (~~2030~~ 2013)
5. REMOVE WIDENING OF US 29 FROM US 50 TO EATON PLACE
6. MANASSAS NATIONAL BATTLEFIELD PARK BYPASS

## 1. Create Southeast Boulevard from 11<sup>th</sup> Street Bridge to Barney Circle

Once the 11<sup>th</sup> Street SE Bridge fully connects I-695 (Southeast Freeway) and I-295 in both directions, the segment between 11<sup>th</sup> Street SE and Barney Circle/ Pennsylvania Avenue will become obsolete. This project proposes to convert that segment of the Southeast Freeway to an urban boulevard, connected to Barney Circle, with an at-grade intersection.

Complete: 2015  
Length: 0.5 mile  
Cost: \$80 million  
Funding: Federal, Local and Private

See the project description in Attachment A for more information.



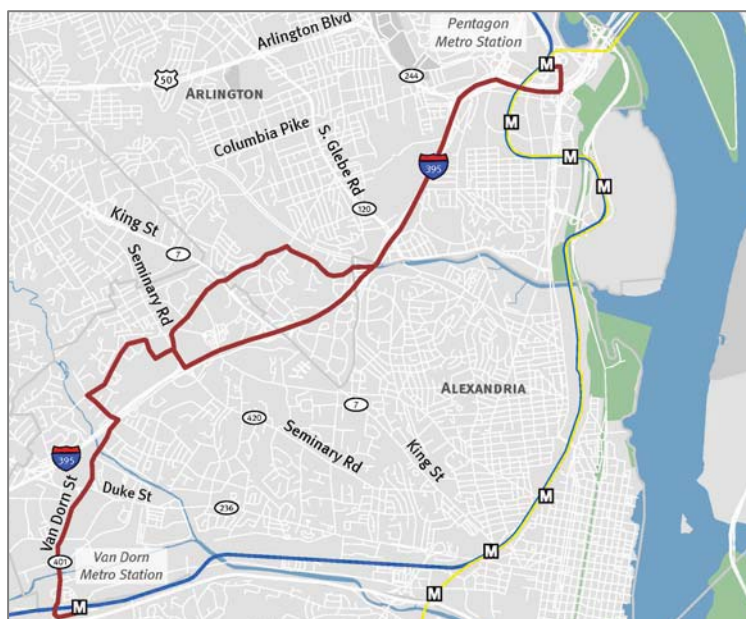
## 2. Bus Rapid Transit from the Van Dorn Metro Station to the Pentagon Metro Station

This project will construct and operate a Bus Rapid Transit (BRT) service that will connect the Van Dorn Metro Station to the Pentagon Metro Station via the Mark Center. The line will split into two spurs at the Mark Center. The BRT spur will continue north on Beauregard Street, serving the Northern Virginia Community College at Braddock Road, turn east on S. Arlington Mill Drive to serve the Shirlington Transit Center, then continue on I-395 to the Pentagon. A separate rapid bus spur will travel on the I-395 HOV lanes from the Mark Center directly to the Pentagon.

The BRT alignment will operate in dedicated lanes where possible, and may include additional elements such as pre-board payment, transit signal priority, improved bus shelters/stops, and branded vehicles. The rapid bus alignment will contain some of the same features as BRT but will operate in shared lanes. Buses will run every 7.5 minutes during peak periods.

Complete: 2016  
Length: 6.5 miles  
Cost: \$100 million  
Funding: Federal, Local and Private

See the project description in Attachment A for more information.

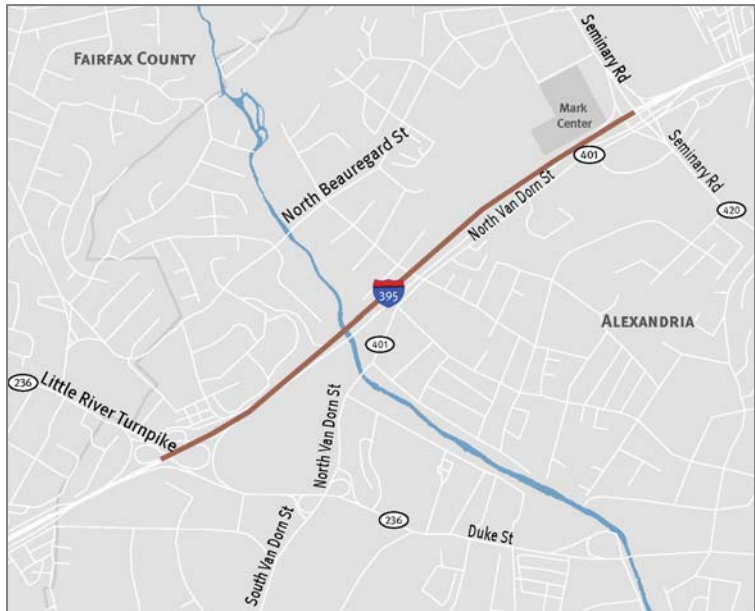


### 3. I-395 Auxiliary Lane, Northbound from Duke Street to Seminary Road

This project will construct an auxiliary lane on northbound I-395 connecting the Duke Street on ramp to the off ramp at Seminary Road.

Complete: 2015  
 Length: 1 mile  
 Cost: \$20 million  
 Funding: Federal and state

See the project description in Attachment A for more information.



### 4. Date Change on I-495 HOT Lanes Interchanges

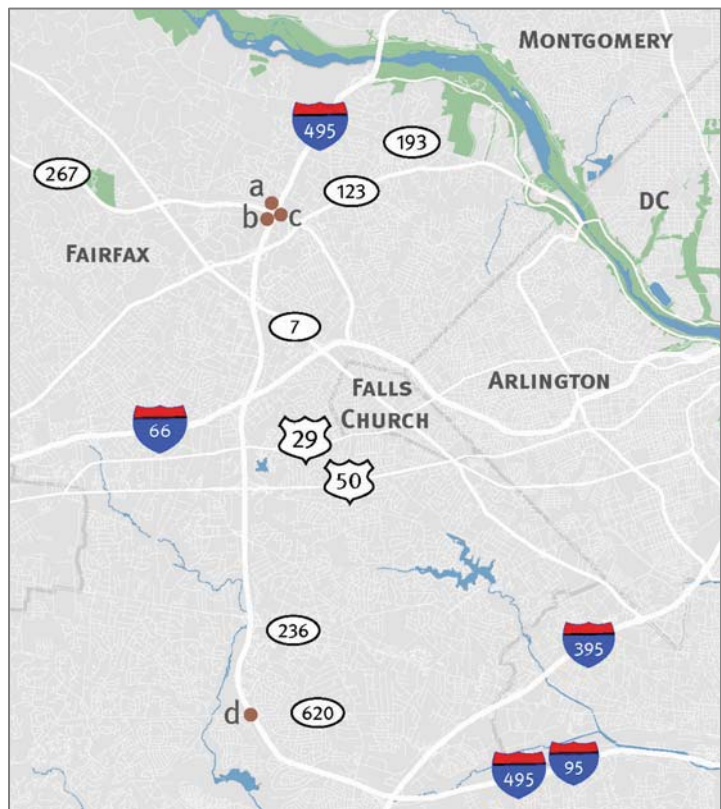
The 2011 CLRP includes the widening of the Capital Beltway to include a system of HOT lanes from the American Legion Bridge to the Backlick Road Underpass. As part of the larger I-495 HOT lanes project, VDOT is proposing to advance the completion dates of four interchanges from 2030 to 2013:

a & b: Two interchanges at VA-267 Dulles Toll Rd

c: One interchange at Dulles Airport Access Highway

d: One interchange at VA-620 (Braddock Rd)

Complete: 2013





## 5. Remove Widening of US 29 from US 50 to Eaton Place

The 2011 CLRP includes the widening of US 29, Lee Highway from four to six lanes in the City of Fairfax between US 50 and Eaton Place. VDOT proposes to remove this project from the CLRP.

Complete: ~~2013, 2040~~  
 Cost: ~~\$30.2 million~~

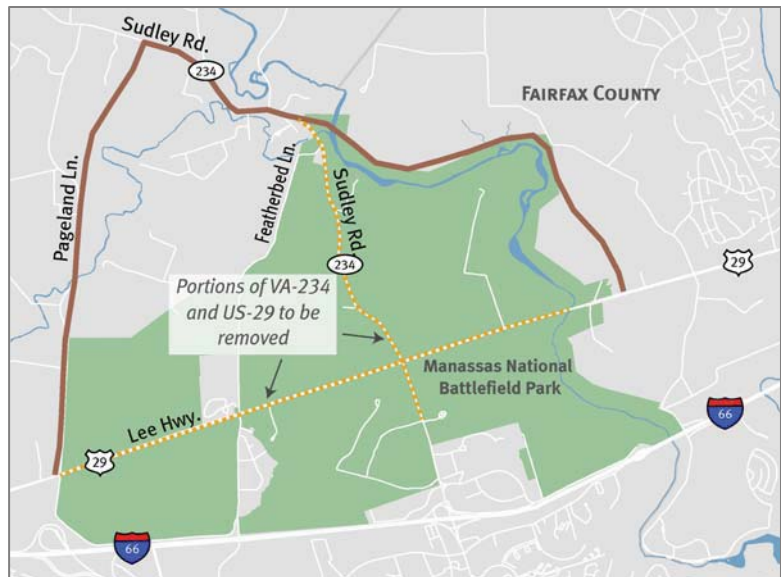


## 6. Manassas National Battlefield Park Bypass

This project will construct a four lane bypass for US 29 to the north of the Manassas National Battlefield Park. Two segments of the project are already included in the plan:

- a portion of the Tri-County Parkway (improvements to Pageland Lane),
- and widening of VA 234, Sudley Road.

The remaining portion will construct a new four lane facility from Sudley Road to east of the intersection of US 29 and Paddington Lane. Once the Bypass is complete, about four miles of US 29 and three miles of Sudley Road located inside the Park will be closed.



Complete: 2035  
 Length: 9 miles  
 Cost: \$305 million  
 Funding: Federal and state

See the project description in Attachment A for more information.

# **ATTACHMENT C**



## HOUSEHOLD DATA

MSA:	2007	2017	2020	2030	2040	2040/2007
<b>D.C.</b>	258726	291838	298115	318252	339889	1.31
<b>MONTGOMERY</b>	352913	384816	397237	436202	461469	1.31
<b>PR.GEORGES</b>	301540	328583	336404	359878	379317	1.26
<b>ARLINGTON</b>	94543	107838	111190	116788	119761	1.27
<b>ALEXANDRIA</b>	67041	73485	76426	83831	92155	1.37
<b>FAIRFAX</b>	393784	426728	440826	478759	500832	1.27
<b>LOUDOUN</b>	94321	123843	132843	154159	162971	1.73
<b>PR. WILLIAM</b>	140727	172975	183321	210450	229944	1.63
<b>FREDERICK</b>	81614	89590	92740	107686	119564	1.46
<b>CHARLES</b>	48845	60235	64299	75847	85901	1.76
<b>STAFFORD</b>	37504	52701	57388	73383	87679	2.34
<b>CALVERT</b>	30760	34991	36027	38348	40301	1.31
<b>SUBTOTAL</b>	1,902,318	2,147,623	2,226,816	2,453,583	2,619,783	1.38
<b>ADDITIONAL COUNTIES:</b>						
<b>HOWARD</b>	103132	120864	125600	135486	137773	1.34
<b>ANNE ARUNDEL</b>	196402	213647	217782	229371	234332	1.19
<b>CARROLL</b>	60279	67260	69614	76111	81464	1.35
<b>FREDERICKSBURG (VA) &amp;N. SPOTSYLVANIA</b>	40347	52447	56137	68763	79050	1.96
<b>CLARKE&amp;JEFFERSON</b>	24873	30840	32679	40562	49835	2.00
<b>FAUQUIER</b>	24731	32882	35730	47502	63154	2.55
<b>K. GEORGE</b>	7912	10371	11228	14358	17125	2.16
<b>ST. MARY'S</b>	36573	46408	49352	58143	66509	1.82
<b>SUBTOTAL</b>	494,249	574,719	598,122	670,296	729,242	1.48
<b>TOTAL</b>	2,396,567	2,722,342	2,824,938	3,123,879	3,349,025	1.40

**SOURCE:**

MWCOG Round 8.1 Cooperative Forecasts

BMC Round 7-C Cooperative Forecasts

GWRC/FAMPO Regional Demographic Control Forecasts for 2035 CLRP, June 2008

Tri-County Council for Southern Maryland data for Calvert, Charles and St. Mary's

## EMPLOYMENT DATA

<b>MSA:</b>	<b>2007</b>	<b>2017</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2040/2007</b>
<b>D.C.</b>	763530	834060	865726	929641	982647	1.29
<b>MONTGOMERY</b>	504045	559355	585363	684284	737364	1.46
<b>PR.GEORGES</b>	345777	365324	377879	427514	497652	1.44
<b>ARLINGTON</b>	206400	258626	275862	302588	308376	1.49
<b>ALEXANDRIA</b>	105870	118783	122551	142738	155012	1.46
<b>FAIRFAX</b>	655611	747569	785619	875216	935411	1.43
<b>LOUDOUN</b>	132849	183113	206465	257212	385449	2.90
<b>PR. WILLIAM</b>	141076	172538	186215	230047	278151	1.97
<b>FREDERICK</b>	86542	101182	103862	109755	114907	1.33
<b>CHARLES</b>	60039	69758	71731	77537	83138	1.38
<b>STAFFORD</b>	40114	54328	57505	70172	84144	2.10
<b>CALVERT</b>	33512	42422	44457	47159	48955	1.46
<b>SUBTOTAL</b>	<b>3,075,365</b>	<b>3,507,058</b>	<b>3,683,235</b>	<b>4,153,863</b>	<b>4,611,206</b>	<b>1.50</b>
<b>ADDITIONAL COUNTIES:</b>						
<b>HOWARD</b>	155565	186679	194977	221168	231902	1.49
<b>ANNE ARUNDEL</b>	278707	317528	329042	358320	370904	1.33
<b>CARROLL</b>	63773	70099	70813	72456	74090	1.16
<b>FREDERICKSBURG (VA) &amp;N. SPOTSYLVANIA</b>	61620	84827	89210	103673	119691	1.94
<b>CLARKE &amp; JEFFERSON</b>	26062	32017	33800	39225	45298	1.74
<b>FAUQUIER</b>	25422	32604	35762	43360	52578	2.07
<b>K. GEORGE</b>	10519	18431	19370	22501	25740	2.45
<b>ST. MARY'S</b>	56173	65350	67268	71969	75862	1.35
<b>SUBTOTAL</b>	<b>677,841</b>	<b>807,535</b>	<b>840,242</b>	<b>932,672</b>	<b>996,065</b>	<b>1.47</b>
<b>TOTAL</b>	<b>3,753,206</b>	<b>4,314,593</b>	<b>4,523,477</b>	<b>5,086,535</b>	<b>5,607,271</b>	<b>1.49</b>

**SOURCE:**

MWCOG Round 8.1 Cooperative Forecasts

BMC Round 7-C Cooperative Forecasts

GWRC/FAMPO Regional Demographic Control Forecasts for 2035 CLRP, June 2008

Tri-County Council for Southern Maryland data for Calvert, Charles and St. Mary's

NOTE: Includes Census Adjustment



# **ATTACHMENT D**



**TERM TRACKING SHEET**  
**TRANSPORTATION EMISSION REDUCTION MEASURES**  
**Part A - Daily Ozone Precursor Emissions**

\* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP- Specific Vehicle Type, TCM - Transportation Control Measures

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	EMISSIONS								Project Category *	
					FULL	SCALED-BACK	UNDER-WAY	REM			2017		2020		2030		2040			
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX		
9	X	1994-99	MDOT	Park & Ride Lot - MD 210/ MD 373	X				2000	2003	0.0004	0.0008	0.0003	0.0005	0.0003	0.0005	0.0003	0.0005	c	
19	X	1994-99	PRTC	VRE Woodbridge Parking Expansion (add 500 spaces)	X					2002-2003	n/a	n/a	n/a	n/a	n/a	n/a			-	
20	X	1994-99	ALEX	King St. Metrorail access improvements	X					2006	0.0008	0.0008	0.0007	0.0005	0.0006	0.0005	0.0006	0.0005	c	
38	X	1995-00	MDOT	Signal Systems - MD 85 Executive Way to MD 355	X				1996	Pre 2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	TR	
39	X	1995-00	MDOT	Signal Systems - MD 355 I-70 ramps to Grove Rd.	X				1996	n/a	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	TR	
44	X	1995-00	MDOT	Signal Systems - MD 410, 62nd Ave. to Riverdale Rd.	X				1996	2002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	TR	
48	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0004	0.0008	0.0003	0.0005	0.0003	0.0005	0.0003	0.0005	c (TCM)	
49	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.0038	0.0072	0.0029	0.0051	0.0026	0.0042	0.0026	0.0042	c (TCM)	
51	X	1995-00	VDOT	Alexandria Telecommuting Pilot Program	X					2000 & 2001	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	c	
52	X	1995-00	VDOT	Fairfax County Bus Shelter (Fairfax Co. TDM program)			X		2000	2001	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	c	
54	X	1995-00	VDOT	City of Fairfax Bus Shelters	X				1999	2004	0.0000	0.0003	0.0000	0.0002	0.0000	0.0002	0.0000	0.0002	c (TCM)	
56	X	1995-00	VDOT	Cherry Hill VRE Access			X			Jul-08	0.0029	0.0062	0.0023	0.0044	0.0020	0.0036	0.0020	0.0036	c (TCM)	
58	X	1995-00	WMATA	Bus Replacement (172 buses)	X				1998	1998	0.0488	0.1383					0.0000	0.0000	SP (TCM)	
59	X	1995-00	MCG	Shady Grove West Park and Ride			X		2010		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	c	
60	X	1995-00	MCG	White Oak Park and Ride			X		2010		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	c	
61	X	1995-00	MCG	Bicycle Facilities			X		FY99		0.0013	0.0005	0.0010	0.0004	0.0009	0.0003	0.0009	0.0003	c	
62	X	1995-00	MCG	Pedestrian Facilities to Metrorail			X				0.0021	0.0021	0.0016	0.0015	0.0015	0.0012	0.0015	0.0012	c	
63	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0017	0.0031	0.0013	0.0022	0.0012	0.0018	0.0012	0.0018	c	
64	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.0133	0.0269	0.0104	0.0189	0.0094	0.0157	0.0093	0.0157	c (TCM)	
66	X	1995-00	VDOT	Commuter Lots - District Wide	X				varies	1995, 2001	0.0046	0.0085	0.0036	0.0060	0.0032	0.0050	0.0032	0.0050	c	
67	X	1995-00	VDOT	I-66 and Stringfellow Rd. Park and Ride	X				2000	2000 end	0.0042	0.0052	0.0033	0.0036	0.0029	0.0030	0.0029	0.0030	c	
68	X	1995-00	VDOT	Lake Ridge Park and Ride (now called Tacketts Mill lot)	X					1999/2000	0.0000	0.0026	0.0000	0.0018	0.0000	0.0015	0.0000	0.0015	c	
69	X	1995-00	VDOT	Bicycle Trails and Facilities (Arlington & Fairfax Co - 7 locations)			X		varies	2010-12	0.0008	0.0044	0.0007	0.0031	0.0006	0.0026	0.0006	0.0026	c	
70	X	1995-00	VDOT	Improved Access to Metrorail Stations (VRE 2 Stn)			X		varies	2000-2012	0.0002	0.0003	0.0002	0.0002	0.0001	0.0002	0.0001	0.0002	c	
71	X	1995-00	VDOT	I-66 HOV access at Monument Dr.	X					1997	0.0021	0.0026	0.0033	0.0036	0.0029	0.0030	0.0029	0.0030	c	
72	X	1995-00	DC	Bicycle Facilities	X						0.0100	0.0052	0.0078	0.0036	0.0070	0.0030	0.0070	0.0030	c	
73	X	1995-00	REGION	COG Regional Ridesharing Support	X					on-going	0.0315	0.0436	0.0249	0.0309	0.0227	0.0257	0.0225	0.0257	c	
74	X	1995-00	REGION	M-47 Integrated Ridesharing	X					on-going	0.0089	0.0124	0.0071	0.0088	0.0064	0.0074	0.0064	0.0073	c	
75	X	1995-00	REGION	M-92 Telecommuting Support	X					on-going	0.0472	0.0600	0.0371	0.0424	0.0334	0.0352	0.0332	0.0351	c	
77		1996-01	VDOT	Duke Street Pedestrian Bridge	X				2005	2007	n/a	n/a	n/a	n/a	n/a	n/a			-	
79	X	1996-01	VDOT	Fairfax County Bus Shelters (30 shelters with project #85)			X		1999	Summer 2001	0.0008	0.0008	0.0007	0.0005	0.0006	0.0005	0.0006	0.0005	c	
81	X	1996-01	VDOT	Arlington County Metrocheck Program	X				1997	1997 Onwards	0.0008	0.0008	0.0007	0.0005	0.0006	0.0005	0.0006	0.0005	c	
82	X	1996-01	VDOT	Old Dominion Drive Bike Trail			X		2000	2010-11	0.0004	0.0003	0.0003	0.0002	0.0003	0.0002	0.0003	0.0002	c	
83	X	1996-01	WMATA	Bus Replacement (see line 58, above)	X					1998	Credit taken in line 58, above								SP	
85	X	1996-01	VDOT	Fairfax County Bus Shelters (30 shelters with project #79)	X				1999	2001	0.0004	0.0003	0.0003	0.0002	0.0003	0.0002	0.0003	0.0002	c	
90	X	1996-01	REGION	M-47c Employer Outreach / Guaranteed Ride Home	X					on-going	0.3666	0.4640	0.2878	0.3274	0.2594	0.2721	0.2578	0.2714	c	
91	X	1996-01	REGION	M-70a Bicycle Parking			X		1999		0.0029	0.0018	0.0023	0.0013	0.0020	0.0011	0.0020	0.0011	c	
92	X	STADIUM ANALYSIS	M-92 Telecommuting Support <sup>1</sup>	Combined with item #75								0.0000	0.0000							c
95	X	1997-02	MCG	Germantown Transit Center	X				2005		0.0021	0.0049	0.0016	0.0035	0.0015	0.0029	0.0015	0.0029	c (TCM)	
102	X	1997-02	PG	Prince George's County Bus Replacement	X				1998	1998	0.0021	0.0049							SP (TCM)	

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EXHIBIT 25

05/30/2012

TERM TRACKING SHEET  
TRANSPORTATION EMISSION REDUCTION MEASURES  
Part A - Daily Ozone Precursor Emissions

\* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP- Specific Vehicle Type, TCM - Transportation Control Measures

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	EMISSIONS								Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			2017		2020		2030		2040		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
106	X	1997-02	VDOT	PRTC Employer Commuting Outreach Program	X				1977 on-going	0.0008	0.0001	0.0007	0.0001	0.0006	0.0001	0.0006	0.0001	c	
107	X	1997-02	VDOT	PRTC Multimodal Strategic Marketing Implementation Plan	X				1977 on-going	0.0000	0.0001	0.0000	0.0001	0.0000	0.0001	0.0000	0.0001	c	
108	X	1997-02	MDOT	M-103 Taxicab Replacement in Maryland <sup>2</sup>	X				2005	Stopped	0.0564	0.1468	0.1340	0.1827	0.3120	0.4810		SP	
109	X	1997-02	REGION	M-70b Employer Outreach for Bicycles	X				1998	on going	0.0004	0.0003	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	c
110		1997-02	VDOT	M-77b Vanpool Incentive Programs in Virginia				X	1999	delayed	n/a	n/a	n/a	n/a	n/a	n/a		c	
111	X	1998-03	WMATA	Bus Replacement (108 buses)	X				1999	1999	0.0318	0.0887						SP	
112	X	1998-03	MCG	Montgomery County Bus Replacement	X					Ongoing	0.0057	0.0148						SP	
113	X	1998-03	PG	Prince George's County Bus Replacement	X				1998	Ongoing	0.0007	0.0011						SP	
114	X	1998-03	FDC	Frederick County Bus Replacement	X						0.0007	0.0000						SP	
117	X	1998-03	VDOT	Arlington County Four Mile Run Bike Trail	X				1999	2009	0.0004	0.0003	0.0003	0.0002	0.0003	0.0002	0.0003	0.0002	c
118	X	1998-03	VDOT	Northern Virginia Turn Bays	X				2000	1998	0.0004	0.0005	0.0003	0.0003	0.0003	0.0002	0.0003	0.0002	TR
119	X	1998-03	VDOT	Fairfax City Bus Replacement	X				2001	2003	n/a	n/a						SP	
121	X	1998-03	WMATA	WMATA Bus Replacement (252 buses)	X				2001	2001	0.0750	0.2118						SP	
122	X	97 & 98 TIP	REGION	M-101a Mass Marketing Campaign (Consumer)				X	2005	2005	0.0187	0.0205	0.0145	0.0144	0.0129	0.0119	0.0128	0.0118	c
123	X	1999-04	MDOT	Various Park and Ride Lots (I-270/MD124, 450 & I-170/MD-75, 54 spaces)		X			2001/1999	2001	0.0033	0.0093	0.0026	0.0066	0.0023	0.0054	0.0023	0.0054	c
124	X	1999-04	MDOT	Signal Systems (197/MD-198, MD-382 TO US-301, US301)	X				2000	2002	0.0052	-0.0010	0.0041	-0.0005	0.0037	-0.0004	0.0037	-0.0003	TR
125	X	1999-04	VDOT	Transit Center at 7 Corners	X				2002	2001	0.0004	0.0005	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003	c
126	X	1999-04	VDOT	Falls Church Clean Diesel Bus Service	X				2000	2003	0.0028	0.0027							SP
127	X	1999-04	VDOT	VA 234 Bike Trail				X	2001	2010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	c
128	X	1999-04	VDOT	PRTC Ridesharing	X				on-going	2000 ongoing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	c
130	X	1996-01	VDOT	M-14: I-66 Feeder Bus Fare Buy Down	X					1998 onward	0.0104	0.0142	0.0082	0.0100	0.0073	0.0083	0.0073	0.0083	c
131	X	2000-05	MDOT	Various park and Ride Lots	x				2002	2003	0.0029	0.0084	0.0023	0.0059	0.0020	0.0049	0.0020	0.0049	c
132	X	2000-05	MDOT	Signal Systems	X				Varies	on-going	0.0013	0.0000	0.0016	0.0000	0.0009	0.0000	0.0009	0.0000	TR
133	X	2000-05	VDOT	250 Spaces at Gambrell/Hoopes Rds. Park and Ride	X				2002	2004	0.0029	0.0047	0.0023	0.0033	0.0020	0.0027	0.0020	0.0027	c
134	X	2000-05	VDOT	300 Spaces at Backlick Rd	X				2003	2007	0.0021	0.0034	0.0016	0.0024	0.0015	0.0020	0.0015	0.0020	c
135	X	2000-05	VDOT	Accotink-Gateway Connector Trail	X				2002	2005	0.0029	0.0026	0.0023	0.0018	0.0020	0.0015	0.0020	0.0015	c
136	X	2000-05	VDOT	Columbia Pike Trail	X				2000	2009	0.0025	0.0021	0.0020	0.0015	0.0018	0.0012	0.0017	0.0012	c
137	X	2000-05	VDOT	Lee Highway trail	X				2000	2007	0.0013	0.0010	0.0010	0.0007	0.0009	0.0006	0.0009	0.0006	c
138	X	2000-05	VDOT	Arlington Bus Shelter Improvements	X				2005	2005	0.0004	0.0003	0.0003	0.0002	0.0003	0.0002	0.0003	0.0002	c
139	X	2000-05	VDOT	Pentagon Metrostation Improvements	X					2003	0.0033	0.0044	0.0026	0.0031	0.0023	0.0026	0.0023	0.0026	c
140	X	2000-05	MDOT	East/West Intersection Improvements				X	2005	2005	0.0171	0.0065	0.0134	0.0046	0.0120	0.0038	0.0119	0.0038	c
141	X	2001-06	Feds	Federal Transit/Ridesharing subsidy	X				on-going		0.0425	0.0494	0.0333	0.0348	0.0298	0.0288	0.0296	0.0288	c
142	X	2002-07	WMATA	100 CNG buses	X				2002		0.0000	0.0745							SP (TCM)
143	X	2002-07	WMATA	ULSD with CRT filters	X				2006	Jun-06	0.1485	0.0000	0.4300	0.0000	0.4300	0.0000	0.4271	0.0000	H (TCM)
144		2003-08	DC	Replace <del>24</del> 12 Taxicabs with CNG cabs				X	2005	2006	0.0063	0.0086							H
145	X	2003-08	DC	D.C. Incident Response & Traffic Management System	X				2005	2004	0.0120	0.0209	0.0094	0.0130	0.0085	0.0089	0.0084	0.0089	TR
146	X	2003-08	DC	Bicycle Lane in D. C. (35 Mile)	X				2005	2008	0.0069	0.0046	0.0054	0.0032	0.0049	0.0027	0.0048	0.0027	c (TCM)
147	X	2003-08	DC	Bicycle Racks in D. C. (500)	X				2005	2004	0.0010	0.0005	0.0008	0.0004	0.0007	0.0003	0.0007	0.0003	c (TCM)
148	X	2003-08	DC	External Bicycle Racks on WMATA Buses in D. C. (600)	X				2005	2003	0.0014	0.0017	0.0011	0.0012	0.0010	0.0010	0.0010	0.0010	c (TCM)
149		2003-08	DC	CNG Rental Cars (18)				X	2005		0.0000	0.0001							SP

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**TERM TRACKING SHEET**  
**TRANSPORTATION EMISSION REDUCTION MEASURES**  
**Part A - Daily Ozone Precursor Emissions**

\* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP- Specific Vehicle Type, TCM - Transportation Control Measures

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	EMISSIONS (gallon)								Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			2017		2020		2030		2040		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
150	X	2003-08	DC	Sidewalks in D.C. (\$ 5 million)	X				2005	2004	0.0261	0.0303	0.0204	0.0213	0.0183	0.0177	0.0182	0.0176	c
151	X	2003-08	DC	CNG Refuse Haulers (2)	X				2005	2004	0.0000	0.0011							H (TCM)
152	X	2003-08	DC	Circulator /Feeder Bus Routes	X				2005	2003	0.0095	0.0109	0.0074	0.0077	0.0067	0.0064	0.0066	0.0064	c
153	X	2003-08	MDOT	Commuter Tax Credit	X				2005	n/a	0.0569	0.0667	0.0445	0.0470	0.0399	0.0390	0.0397	0.0389	c
155		2003-08	MDOT	Employer Vanpool Program (WWB)				X	2005		0.0013	0.0023							c
156	X	2003-08	MDOT	Green Line Link				X	2005	n/a	0.0019	0.0026	0.0015	0.0018	0.0013	0.0015	0.0013	0.0015	c
157	X	2003-08	MDOT	Park & Ride Lots - Southern Maryland				X	2005	2005	0.0036	0.0059	0.0028	0.0042	0.0025	0.0035	0.0025	0.0035	c
158	X	2003-08	MDOT	Prince George's County- Bus Exp				X	2005	n/a	0.0261	0.0358	0.0204	0.0252	0.0183	0.0209	0.0182	0.0209	c
159	X	2003-08	MDOT	MTA - Bus Service Expansion				X	2005	n/a	0.0059	0.0086	0.0046	0.0060	0.0041	0.0050	0.0041	0.0050	c
160	X	2003-08	MDOT	Ride- On - Super Discount				X	2005	n/a	0.0007	0.0008	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004	c
161	X	2003-08	Regional	Regional Traveler Information Systems				X	2005	A:2000 befo	0.0750	0.3139	0.0594	0.1701	0.0533	0.1157	0.0530	0.1154	TR
162	X	2003-08	MDOT	Universal Transportation Access (MD + WMATA)				X	2005	n/a	0.0117	0.0136	0.0091	0.0096	0.0082	0.0079	0.0081	0.0079	c
163	X	2003-08	MCG	Construction of 1300 additional Parking Spaces at Grosvenor Metro Garage	X				2004		0.0033	0.0057	0.0026	0.0040	0.0025	0.0036	0.0024	0.0036	c (TCM)
164	X	2003-08	MCG	Bethesda Shuttle Bus Services	X				2004		0.0023	0.0026	0.0018	0.0018	0.0016	0.0015	0.0016	0.0015	c
165	X	2003-08	MCG	External Bicycle Racks on Ride-On Buses in Montgomery County	X				2004		0.0004	0.0005	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003	c
166	X	2003-08	MCG	New CNG Powered Light Duty Vehicle fleet in the County	X				2004		0.0000	0.0001							SP
167	X	2003-08	MCG	Free Bus Service on Selected Routes on I-270	X				2004		0.0008	0.0009	0.0006	0.0006	0.0005	0.0005	0.0005	0.0005	c
168	X	2003-08	MCG	Annual Sidewalk Program	X				2004		0.0124	0.0144	0.0097	0.0102	0.0087	0.0084	0.0087	0.0084	c
169		2003-08	MDOT	Bethesda Breeze/International Express Metrobus				X	2005	Removed	0.0027	0.0029	0.0021	0.0020	0.0019	0.0017	0.0019	0.0017	c
170		2003-08	MDOT	Bethesda-8, Silver Spring Downtown Dasher and Prince Georges Co. Shuttles at 3 PNR lot				X	2005	Removed	0.0064	0.0057	0.0050	0.0040	0.0045	0.0033	0.0045	0.0033	c
171		2003-08	MDOT	Proposed Transportation Management District in Montgomery County (Rockville and Gaithersburg)				X	2005	Removed	0.0042	0.0043	0.0033	0.0030	0.0029	0.0025	0.0029	0.0025	c
172	X	2003-08	MDOT	Sidewalks (Bikes/Pedestrian) at / near Rail Stations	X				2005	2002	0.0068	0.0080	0.0053	0.0057	0.0048	0.0047	0.0047	0.0047	c
173	X	2003-08	MDOT	Neighborhood Sidewalks Improvements (Bike/Pedestrian)	X				2005	2004	0.0024	0.0009	0.0018	0.0006	0.0017	0.0005	0.0016	0.0005	c
174	X	2003-08	MDOT	Neighborhood Conservation Program - Neighborhood Sidewalks Improvements (Bikes/Pedestrian)		X			2005	Ongoing	0.0021	0.0008	0.0016	0.0006	0.0015	0.0005	0.0014	0.0005	c
175	X	2003-08	MDOT	Maryland bus Transit Service Expansion	X				2005	2004	0.0103	0.0176	0.0080	0.0124	0.0072	0.0103	0.0072	0.0103	c
176	X	2003-08	VDOT	Universal Transportation Access Program	X				2005	2005-07	0.0009	0.0010	0.0007	0.0007	0.0006	0.0006	0.0006	0.0006	c
177	X	2003-08	VDOT	Interactive Rideshare & Kiosk Initiative				X	2008 onward		0.0003	0.0004	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	c
178	X	2003-08	VDOT	Mobile Commuter Stores	X				2005	2005	0.0016	0.0021	0.0012	0.0015	0.0011	0.0012	0.0011	0.0012	c
179	X	2003-08	VDOT	Telework Incentive Program (Telework VA) <sup>1</sup>	X				2005	Fall 2006	0.0005	0.0007	0.0004	0.0005	0.0004	0.0004	0.0004	0.0004	c
180	X	2003-08	VDOT	Commuter Choice	X				2005		0.0007	0.0008	0.0005	0.0005	0.0005	0.0004	0.0005	0.0004	c
181	X	2003-08	VDOT	Employer Shuttle Services				X	2005		0.0083	0.0091	0.0065	0.0064	0.0058	0.0053	0.0058	0.0053	c
184	X	2003-08	VDOT	Van Start / Van Save	X				2005	till 2006	0.0010	0.0014							c
185	X	2003-08	VDOT	Metro Shuttle Bus				X	2005	1999-2005	0.0009	0.0014	0.0007	0.0010	0.0006	0.0008	0.0006	0.0008	c
187	X	2003-08	VDOT	VRE Mid-Day Train Service	X				2005	2002	0.0011	0.0016	0.0009	0.0011	0.0008	0.0009	0.0008	0.0009	c
190	X	2003-08	VDOT	Employer Vanpool Program (Bridge deck)	X				2005	2004 - 2008	0.0000	0.0000							c
191	X	2003-08	VDOT	Town of Leesburg P&R Lot	X				2005	2010	0.0014	0.0021	0.0011	0.0015	0.0010	0.0012	0.0010	0.0012	c
192	X	2003-08	VDOT	District-wide P&R Lots	X				2005	2001-2005	0.0082	0.0122	0.0064	0.0086	0.0058	0.0071	0.0057	0.0071	c
193	X	2003-08	VDOT	Additional Parking at 4 Metro stations	X				2005	2005	0.0106	0.0182	0.0083	0.0128	0.0074	0.0106	0.0074	0.0106	c
196	X	2003-08	WMATA	64 CNG Buses (Purchased in 2001)	X				2005	2004	0.0015	0.0478							SP (TCM)
197	X	2003-08	WMATA	250 CNG Buses (175 buses by Dec. 2004; 75 buses by mid 2006)	X				2005	Jun-06	0.0058	0.1866							SP

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**TERM TRACKING SHEET**  
**TRANSPORTATION EMISSION REDUCTION MEASURES**  
**Part A - Daily Ozone Precursor Emissions**

\* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP- Specific Vehicle Type, TCM - Transportation Control Measures

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	EMISSIONS CREDITS								Project Category *	
					FULL	SCALED-BACK	UNDER-WAY	REM			2017		2020		2030		2040			
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX		
198	X	2003-08	WMATA	60 Engine Replacement (MY 1992 & 1993 MY buses)	X				2004	2004	0.0098	0.0414								SP
199	X	2003-08	WMATA	Car Sharing Program	X				2005	2004	0.0006	0.0010	0.0005	0.0007	0.0004	0.0006	0.0004	0.0006		C
200	X	2003-08	WMATA	Bikes Racks on WMATA Buses in VA (372 Bike Racks)	X				2005	2004	0.0009	0.0010	0.0007	0.0007	0.0006	0.0007	0.0006	0.0007		C (TCM)
202		2003-08	MDOT	Fleet Replacement (state auto fleet, gas to hybrid, 250 vehicles)				X	2005		0.004	0.007	0.0055	0.0133						SP
203	X	2003-08	MDOT	Replace 55 Montgomery County 10 yr. old buses w/ new CNG buses				X	2005	Ongoing	0.0325	0.0893	0.0459	0.1628						SP
204		2003-08	MDOT	Neighborhood Bus Shuttle (5 circulator routes)				X	2005		0.005	0.007	0.0043	0.0047	0.0038	0.0039	0.0038	0.0039		C
205	X	2003-08	MDOT	New Surface Parking at Transit Centers (500 spaces)				X	2005	2005	0.0019	0.0033	0.0015	0.0023	0.0013	0.0019	0.0013	0.0019		C
206		2003-08	MDOT	Additional Bike Lockers at Metro-Stations				X	2005		0.0096	0.0114	0.0075	0.0080	0.0067	0.0067	0.0067	0.0066		C
207	X	2003-08	MDOT	Bike Facilities at PnR Lots or other similar location				X	2005	2005	0.0068	0.0090	0.0053	0.0064	0.0048	0.0053	0.0047	0.0053		C
208		2003-08	MDOT	CNG Fueling Stations				X	2005		0.0898	0.0642								SP
209		2003-08	MDOT	Gas cap replacements (ROP Credit)				X	2005		N/A	N/A	N/A	N/A	N/A	N/A				SP
210		2003-08	MDOT	Gas can turnover (ROP Credit)				X	2005		N/A	N/A	N/A	N/A	N/A	N/A				SP
211	X	2003-08	MDOT	External Bicycle Racks on WMATA Buses (486 MD buses)	X				2005	2002	0.0010	0.0012	0.0008	0.0008	0.0007	0.0007	0.0007	0.0007		C (TCM)
212	X	2003-08	MDOT	Bike \ Pedestrian Trail - Anacostia River Walk				X	2005	Ongoing	0.0004	0.0003	0.0003	0.0002	0.0003	0.0001	0.0003	0.0001		C
213		2003-08	MDOT	Transit Prioritization - Queue Jumps				X	2005		0.002	0.002	0.0018	0.0014	0.0016	0.0012	0.0016	0.0012		C
214	X	2003-08	MDOT	Commuter Choice Benefit/Tax Credit - Marketing Expansion	X				2005	Ongoing	0.0398	0.0469	0.0311	0.0330	0.0279	0.0274	0.0277	0.0273		C
215	X	2003-08	MDOT	Improvements to Pedestrian Access in TOD areas (4 locations)				X	2005	Ongoing	0.0043	0.0047	0.0034	0.0033	0.0030	0.0028	0.0030	0.0028		C
216	X	2003-08	MDOT	Telecommuting Expansion <sup>1</sup>	X				2005	Ongoing	0.0470	0.0659	0.0367	0.0464	0.0330	0.0385	0.0327	0.0384		C
217		2003-08	MDOT	Replace older Diesel Engine in Public Sector vehicles				X	2005		0.0168	0.0713								H
218	X	2003-08	VDOT	MV-92 Telecommuting Program - Expanded <sup>1</sup>	X				2005	2005	0.0502	0.0704	0.0392	0.0496	0.0352	0.0411	0.0350	0.0410		C
219	X	2003-08	VDOT	MV-123 Employer Outreach for Public Sector Employees <sup>2</sup>	X				2005	2003	0.0111	0.0129	0.0087	0.0091	0.0078	0.0076	0.0078	0.0075		C
220	X	2003-08	REGION	Signal System Optimization	X				2005	2005	0.3174	0.0762	0.2509	0.0475	0.2252	0.0324	0.2194	0.0310		TR
221	X	2007-12	MDOT	Two P & R Lots in Frederick County (99 spaces)	X				2007	2008	0.0006	0.0009	0.0005	0.0007	0.0005	0.0005	0.0004	0.0005		C
222	X	2007-12	MDOT	MDOT P & R Lots at US 340 ( 66-99 spaces, Frederick Co.)	X				2007	2007	Credits shown in TS 221 (for 99 spaces)									
223	X	2008-13	MDOT	MCG/MDOT P & R Lots at US 340 & Mt Zion Rd. (37 spaces)	X				2008	2008	0.0005	0.0007	0.0004	0.0005	0.0003	0.0004	0.0003	0.0004		
224	X	2008-13	MDOT	MCG/MDOT P & R Lots at US 340 & Mt Zion Rd. - expansion (39 spaces)				X	2011	2011	Credits included in TS 224 (for 37+ 39 spaces)									
225	X	2008-13	MDOT	MCG/MDOT P & R Lots at I 70 & MD 355 (100 spaces)				X	2010	2010	0.0006	0.0009	0.0005	0.0007	0.0005	0.0006	0.0005	0.0006		
226	X	2008-13	MDOT	MCG/MDOT P & R Lots at I 270 & MD 80 (164 spaces)	X				2009	2009	0.0010	0.0015	0.0008	0.0011	0.0007	0.0009	0.0007	0.0009		
227	X	2008-13	MDOT	MDOT Sygjal System Reviewing				X	2010	on-going	Credits shown in Regional signal TERM - TS 220									
228	X	2008-13	MDOT	MDOT Takoma Langely Transit Center				X	2012	2012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
<b>Available Emissions Credits</b>											<b>1.810</b>	<b>2.707</b>	<b>1.483</b>	<b>1.167</b>	<b>1.335</b>	<b>0.800</b>	<b>1.322</b>	<b>0.796</b>		

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**TRANSPORTATION EMISSION REDUCTION MEASURES (CLRP Projects Only)  
Part A - Daily Ozone Precursor Emissions**

Project Category: TR - Traffic Stream, C - Commute, H - Engine Technology (Heavy Dudy Vehicles), SP- Specific Vehicle Type

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				PROJECTED COMPLETION DATE	ACTUAL COMPLETION DATE	TONS/DAY REDUCTION CREDITED								Project Category	
					FULL	SCALED-BACK	UNDER-WAY	REM			2017		2020		2030		2040			
											VOC	NOx	VOC	NOx	VOC	NOx	VOC	NOx		
221	X	1995-00 TIP	REGION	M-24 Speed Limit Adherence	X				2010			-0.0053	0.1501	-0.0021	0.1206	0.0005	0.0377	0.0005	0.0376	TR
222		1996-01 TIP	MGC	Rock Spring Park Pedestrian Amenities				X				0.0007	0.0022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-
223	X	1996-01 TIP	MGC	Olney Transit Center Park and Ride					2015			0.0014	0.0044	0.0009	0.0030	0.0003	0.0007	0.0003	0.0007	C
224	X	1996-01 TIP	MGC	Damascus Park and Ride						2003		0.0007	0.0022	0.0004	0.0015	0.0001	0.0003	0.0001	0.0003	C
225	X	1996-01 TIP	DC	M-103 Taxicab Replacement (DC)				X	2015			0.0000	0.0000	0.1745	0.3000	0.3490	0.6000	0.3467	0.5984	H
226	X	STADIUM ANALYSIS		M-103 Taxicab Replacement (MD)				X	2008			0.0000	0.0000	0.1560	0.2400	0.1560	0.2400	0.1550	0.2394	H
227	X	1997-02 TIP	MDOT	Shady Grove West Transit Center Park and Ride				X				0.0000	0.0055	0.0000	0.0038	0.0000	0.0009	0.0000	0.0009	C
228	X	1997-02 TIP	MGC	Olney Transit Center Park and Ride					2015			0.0000	0.0000	0.0004	0.0012	0.0003	0.0007	0.0003	0.0007	C
229	X	1997-02 TIP	MGC	White Oak Park and Ride					2008			0.0000	0.0110	0.0000	0.0076	0.0000	0.0017	0.0000	0.0017	C
230	X	1997-02 TIP	MGC	Damascus Park and Ride						2003		0.0000	0.0000	0.0002	0.0005	0.0001	0.0003	0.0001	0.0003	C
231	X	1997-02 TIP	MGC	Four Corners Transit Center					2015			0.0000	0.0005	0.0000	0.0004	0.0000	0.0001	0.0000	0.0001	C
232		1997-02 TIP	MGC	Burtonsville Transit Center				X				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-
233	X	1997-02 TIP	MGC	Silver Spring Transit Access								0.0000	0.0005	0.0000	0.0003	0.0000	0.0002	0.0000	0.0002	C
234	X	1997-02 TIP	MGC	Shady Grove Parking Construction						2003		0.0035	0.0104	0.0021	0.0072	0.0007	0.0017	0.0007	0.0017	C

PLAN TOTAL	0.0004	0.1792	0.0019	0.1424	0.0022	0.0434	0.0021	0.0432
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GRAND TOTAL (Current Measures + CLRP plan)	1.811	2.886	1.485	1.310	1.337	0.843	1.324	0.840
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DEFINITIONS: Project Numbers implemented fully prior to 2000 were removed from the TERM Tracking Sheet

CREDIT TAKEN ( X means emissions reduction credits taken):

TIP - Emissions credits are taken for projects being implemented, according to the progress reporting schedules provided by the implementing agencies (contained in Appendix J of Conformity Document ). No credit has been taken for projects in which only some components of the measure have been implemented.

CLRP - Credit is taken for each of these elements of the CLRP according to the schedule provided by the implementing agency.

IMPLEMENTATION STATUS:

FULL = project is completed as planned at the time of analysis.

SCALED BACK = project is completed, but at a different level than assumed at the time of analysis (i.e., purchased 50 buses instead of 100)

UNDERWAY = project is not complete, but is close enough that credit may be taken (i.e., under construction, NOT just out for bid)

REMOVED = project no longer expected to be implemented or constructed

COMPLETION DATE:

PROJECTED = project completion date originally expected (i.e., at time of emissions analysis)

ACTUAL = actual year project was open for use, or expected to be open for use if under construction

REMOVED

projects Emissions credits are not counted in total available emissions credits

1 Line items 218, 216, 179, 92 are all credited as part of M-92 Regional Telecommute Support TERM, line item # 75

2 Line item 108 & 219 credits are taken only for year 2010

**TERM TRACKING SHEET**  
**TRANSPORTATION EMISSION REDUCTION MEASURES**  
**Part B - Yearly PM<sub>2.5</sub> and Precursor NOx Emissions**

\* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP - Specific Vehicle Type, TCM - Transportation Control Measures

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	2017		2020		2030		2040		Project Category *				
					FULL	SCALED BACK	UNDERWAY	REM			PM2.6	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.6	Precursor NOx					
9	X	1994-99	MDOT	Park & Ride Lot - MD 210/ MD 373	X				2000	2003	0.0095	0.1444	0.0095	0.1000	0.0095	0.0830	0.0095	0.0689	C				
19	X	1994-99	PRTC	VRE Woodbridge Parking Expansion (add 500 spaces)	X					2002-2003	n/a	n/a	n/a	n/a	n/a	n/a			-				
20	X	1994-99	ALEX	King St. Metrorail access improvements	X					2006	0.0095	0.1444	0.0095	0.1000	0.0095	0.0830	0.0095	0.0689	C				
38	X	1995-00	MDOT	Signal Systems - MD 85 Executive Way to MD 355	X				1996	Pre 2000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	TR				
39	X	1995-00	MDOT	Signal Systems - MD 355, I-70 ramps to Grove Rd.	X				1996	n/a	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	TR				
44	X	1995-00	MDOT	Signal Systems - MD 410, 62nd Ave. to Riverdale Rd.	X				1996	2002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	TR				
48	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0095	0.1444	0.0095	0.1000	0.0095	0.0830	0.0095	0.0689	C (TCM)				
49	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.0891	1.3479	0.0891	0.9332	0.0891	0.7745	0.0891	0.6428	C (TCM)				
51	X	1995-00	VDOT	Alexandria Telecommuting Pilot Program	X					2000 & 2001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C				
52	X	1995-00	VDOT	Fairfax County Bus Shelter (Fairfax Co. TDM program)			X		2000	2001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C				
54	X	1995-00	VDOT	City of Fairfax Bus Shelters	X				1999	2004	0.0032	0.0481	0.0032	0.0333	0.0032	0.0277	0.0032	0.0230	C (TCM)				
56	X	1995-00	VDOT	Cherry Hill VRE Access			X			Jul-08	0.0764	1.1554	0.0764	0.7999	0.0764	0.6639	0.0764	0.5510	C (TCM)				
58	X	1995-00	WMATA	Bus Replacement (172 buses)	X				1998	1998									SP (TCM)				
59	X	1995-00	MCG	Shady Grove West Park and Ride			X		2010		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C				
60	X	1995-00	MCG	White Oak Park and Ride			X		2010		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C				
61	X	1995-00	MCG	Bicycle Facilities			X		FY99		0.0064	0.0963	0.0064	0.0667	0.0064	0.0553	0.0064	0.0459	C				
62	X	1995-00	MCG	Pedestrian Facilities to Metrorail			X				0.0255	0.3851	0.0255	0.2666	0.0255	0.2213	0.0255	0.1837	C				
63	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0382	0.5777	0.0382	0.4000	0.0382	0.3319	0.0382	0.2755	C				
64	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.3309	5.0066	0.3309	3.4663	0.3309	2.8768	0.3309	2.3875	C (TCM)				
66	X	1995-00	VDOT	Commuter Lots - District Wide			X		varies	1995, 2001	0.1050	1.5886	0.1050	1.0999	0.1050	0.9128	0.1050	0.7576	C				
67	X	1995-00	VDOT	I-66 and Stringfellow Rd. Park and Ride	X				2000	2000 end	0.0636	0.9628	0.0636	0.6666	0.0636	0.5532	0.0636	0.4591	C				
68	X	1995-00	VDOT	Lake Ridge Park and Ride (now called Tacketts Mill lot)	X					1999/2000	0.0318	0.4814	0.0318	0.3333	0.0318	0.2766	0.0318	0.2296	C				
69	X	1995-00	VDOT	Bicycle Trails and Facilities (Arlington & Fairfax Co - 7 locations)			X		varies	2010-12	0.0541	0.8184	0.0541	0.5666	0.0541	0.4702	0.0541	0.3903	C				
70	X	1995-00	VDOT	Improved Access to Metrorail Stations (VRE 2 Stn)			X		varies	2000-2012	0.0032	0.0481	0.0032	0.0333	0.0032	0.0277	0.0032	0.0230	C				
71	X	1995-00	VDOT	I-66 HOV access at Monument Dr.	X				1997		0.0636	0.9628	0.0636	0.6666	0.0636	0.5532	0.0636	0.4591	C				
72	X	1995-00	DC	Bicycle Facilities	X						0.0636	0.9628	0.0636	0.6666	0.0636	0.5532	0.0636	0.4591	C				
73	X	1995-00	REGION	COG Regional Ridesharing Support	X					on-going	1.7913	8.0999	1.7913	5.6245	1.7913	4.6985	1.7913	3.8994	C				
74	X	1995-00	REGION	M-47 Integrated Ridesharing	X					on-going	0.6199	2.3115	0.6199	1.6052	0.6199	1.3412	0.6199	1.1131	C				
75	X	1995-00	REGION	M-92 Telecommuting Support	X					on-going	1.2883	11.1658	1.2883	7.7400	1.2883	6.4410	1.2883	5.3456	C				
77		1996-01	VDOT	Duke Street Pedestrian Bridge	X				2005	2007	n/a	n/a	n/a	n/a	n/a	n/a			-				
79	X	1996-01	VDOT	Fairfax County Bus Shelters (30 shelters with project #85)			X		1999	Summer 2001	0.0095	0.1444	0.0095	0.1000	0.0095	0.0830	0.0095	0.0689	C				
81	X	1996-01	VDOT	Arlington County Metrocheck Program	X				1997	1997 Onwards	0.0095	0.1444	0.0095	0.1000	0.0095	0.0830	0.0095	0.0689	C				
82	X	1996-01	VDOT	Old Dominion Drive Bike Trail			X		2000	2010-11	0.0032	0.0481	0.0032	0.0333	0.0032	0.0277	0.0032	0.0230	C				
83	X	1996-01	WMATA	Bus Replacement (see line 58, above)	X					1998	Credit taken in line 58, above												SP
85	X	1996-01	VDOT	Fairfax County Bus Shelters (30 shelters with project #79)	X				1999	2001	0.0032	0.0481	0.0032	0.0333	0.0032	0.0277	0.0032	0.0230	C				
90	X	1996-01	REGION	M-47c Employer Outreach / Guaranteed Ride Home	X					on-going	3.7262	86.3012	3.7262	59.8168	3.7262	49.7675	3.7262	41.3035	C				
91	X	1996-01	REGION	M-70a Bicycle Parking			X		1999		0.0223	0.3370	0.0223	0.2333	0.0223	0.1936	0.0223	0.1607	C				
92	X	STADIUM ANALYSIS		M-92 Telecommuting Support <sup>1</sup>	Combined with item #75															C			
95	X	1997-02	MCG	Germantown Transit Center	X				2005		0.0605	0.9147	0.0605	0.6333	0.0605	0.5256	0.0605	0.4362	C (TCM)				
102	X	1997-02	PG	Prince George's County Bus Replacement	X				1998	1998									SP (TCM)				

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**TERM TRACKING SHEET**  
**TRANSPORTATION EMISSION REDUCTION MEASURES**  
**Part B - Yearly PM<sub>2.5</sub> and Precursor NOx Emissions**

\* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP - Specific Vehicle Type, TCM - Transportation Control Measures

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	2017		2020		2030		2040		Project Category *
					FULL	SCALED BACK	UNDERWAY	REM			PM2.6	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.6	Precursor NOx	
106	X	1997-02	VDOT	PRTC Employer Commuting Outreach Program	X					1977 on-going	0.0016	0.0241	0.0016	0.0167	0.0016	0.0138	0.0016	0.0115	C
107	X	1997-02	VDOT	PRTC Multimodal Strategic Marketing Implementation Plan	X					1977 on-going	0.0016	0.0241	0.0016	0.0167	0.0016	0.0138	0.0016	0.0115	C
108	X	1997-02	MDOT	M-103 Taxicab Replacement in Maryland <sup>2</sup>	X				2005	Stopped									SP
109	X	1997-02	REGION	M-70b Employer Outreach for Bicycles	X				1998	on going	0.0035	0.0591	0.0035	0.0406	0.0035	0.0331	0.0035	0.0274	C
110		1997-02	VDOT	M-77b Vanpool Incentive Programs in Virginia				X	1999	delayed	n/a	n/a	n/a	n/a	n/a	n/a			C
111	X	1998-03	WMATA	Bus Replacement (108 buses)	X				1999	1999									SP
112	X	1998-03	MCG	Montgomery County Bus Replacement	X					Ongoing									SP
113	X	1998-03	PG	Prince George's County Bus Replacement	X				1998	Ongoing									SP
114	X	1998-03	FDC	Frederick County Bus Replacement	X														SP
117	X	1998-03	VDOT	Arlington County Four Mile Run Bike Trail	X				1999	2009	0.0032	0.0481	0.0032	0.0333	0.0032	0.0277	0.0032	0.0230	C
118	X	1998-03	VDOT	Northern Virginia Turn Bays	X				2000	1998	0.0056	0.0847	0.0056	0.0587	0.0056	0.0487	0.0056	0.0404	TR
119	X	1998-03	VDOT	Fairfax City Bus Replacement	X				2001	2003									SP
121	X	1998-03	WMATA	WMATA Bus Replacement (252 buses)	X				2001	2001									SP
122	X	97 & 98 TIP	REGION	M-101a Mass Marketing Campaign (Consumer)				X		2005	0.2157	3.8259	0.2157	2.6432	0.2157	2.1831	0.2157	1.8119	C
123	X	1999-04	MDOT	Various Park and Ride Lots(I-270/MD124, 450 & I-170/MD-75, 54 spaces)		X			2001/1999	2001	0.1146	1.7331	0.1146	1.1999	0.1146	0.9958	0.1146	0.8265	C
124	X	1999-04	MDOT	Signal Systems (197/MD-198, MD-382 TO US-301,US301)	X				2000	2002	-0.0112	-0.1695	-0.0112	-0.1173	-0.0112	-0.0974	-0.0112	-0.0808	TR
125	X	1999-04	VDOT	Transit Center at 7 Corners	X				2002	2001	0.0064	0.0963	0.0064	0.0667	0.0064	0.0553	0.0064	0.0459	C
126	X	1999-04	VDOT	Falls Church Clean Diesel Bus Service	X				2000	2003									SP
127	X	1999-04	VDOT	VA 234 Bike Trail				X	2001	2010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C
128	X	1999-04	VDOT	PRTC Ridesharing	X				on-going	2000 ongoing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C
130	X	1996-01	VDOT	M-14: I-66 Feeder Bus Fare Buy Down	X					1998 onward	0.1750	2.6477	0.1750	1.8331	0.1750	1.5214	0.1750	1.2626	C
131	X	2000-05	MDOT	Various park and Ride Lots	X				2002	2003	0.1035	1.5651	0.1035	1.0836	0.1035	0.8993	0.1035	0.7464	C
132	X	2000-05	MDOT	Signal Systems	X				Varies	on-going	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	TR
133	X	2000-05	VDOT	250 Spaces at Gambrell/Hoos Rds. Park and Ride	X				2002	2004	0.0573	0.8665	0.0573	0.5999	0.0573	0.4979	0.0573	0.4132	C
134	X	2000-05	VDOT	300 Spaces at Backlick Rd	X				2003	2007	0.0414	0.6258	0.0414	0.4333	0.0414	0.3596	0.0414	0.2984	C
135	X	2000-05	VDOT	Accotink-Gateway Connector Trail	X				2002	2005	0.0318	0.4814	0.0318	0.3333	0.0318	0.2766	0.0318	0.2296	C
136	X	2000-05	VDOT	Columbia Pike Trail				X	2000	2009	0.0255	0.3851	0.0255	0.2666	0.0255	0.2213	0.0255	0.1837	C
137	X	2000-05	VDOT	Lee Highway trail	X				2000	2007	0.0127	0.1926	0.0127	0.1333	0.0127	0.1106	0.0127	0.0918	C
138	X	2000-05	VDOT	Arlington Bus Shelter Improvements	X				2005	2005	0.0032	0.0481	0.0032	0.0333	0.0032	0.0277	0.0032	0.0230	C
139	X	2000-05	VDOT	Pentagon Metrostation Improvements	X				2003	2003	0.0541	0.8184	0.0541	0.5666	0.0541	0.4702	0.0541	0.3903	C
140	X	2000-05	MDOT	East/West Intersection Improvements				X	2005	2005	0.0795	1.2035	0.0795	0.8332	0.0795	0.6915	0.0795	0.5739	C
141	X	2001-06	Feds	Federal Transit/Ridesharing subsidy	X				on-going		0.6078	9.1949	0.6078	6.3660	0.6078	5.2833	0.6078	4.3848	C
142	X	2002-07	WMATA	100 CNG buses	X				2002										SP (TCM)
143	X	2002-07	WMATA	ULSD with CRT filters	X				2006	Jun-06	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	H (TCM)
144		2003-08	DC	Replace 23 Taxicabs with CNG cabs				X	2005	2006									H
145	X	2003-08	DC	D.C.Incident Response & TrafficManagement System	X				2005	2004	0.2761	4.1774	0.2761	2.8922	0.2761	2.4003	0.2761	1.9921	TR
146	X	2003-08	DC	Bicycle Lane in D. C. (35 Mile)	X				2005	2008	0.0428	0.8824	0.0428	0.6134	0.0428	0.4896	0.0428	0.4064	C (TCM)
147	X	2003-08	DC	Bicycle Racks in D. C. (500)	X				2005	2004	0.0040	0.1004	0.0040	0.0699	0.0040	0.0547	0.0040	0.0454	C (TCM)
148	X	2003-08	DC	External Bicycle Racks on WMATA Buses in D. C. (600)	X				2005	2003	0.0206	0.3135	0.0206	0.2171	0.0206	0.1800	0.0206	0.1494	C (TCM)
149		2003-08	DC	CNG Rental Cars (18)				X	2005										SP

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**TERM TRACKING SHEET**  
**TRANSPORTATION EMISSION REDUCTION MEASURES**  
**Part B - Yearly PM<sub>2.5</sub> and Precursor NOx Emissions**

\* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP - Specific Vehicle Type, TCM - Transportation Control Measures

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	2017		2020		2030		2040		Project Category *
					FULL	SCALED BACK	UNDERWAY	REMOVED			PM2.6	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.6	Precursor NOx	
150	X	2003-08	DC	Sidewalks in D.C. (\$ 5 million)	X				2005	2004	0.3688	5.6474	0.3688	3.9106	0.3688	3.2400	0.3688	2.6889	C
151	X	2003-08	DC	CNG Refuse Haulers (2)	X				2005	2004									H (TCM)
152	X	2003-08	DC	Circulator /Feeder Bus Routes	X				2005	2003	0.1325	2.0370	0.1325	1.4106	0.1325	1.1681	0.1325	0.9694	C
153	X	2003-08	MDOT	Commuter Tax Credit	X				2005	n/a	0.8145	12.4326	0.8145	8.6087	0.8145	7.1356	0.8145	5.9220	C
155		2003-08	MDOT	Employer Vanpool Program (WWB)				X	2005										C
156	X	2003-08	MDOT	Green Line Link			X		2005	n/a	0.0326	0.4735	0.0326	0.3276	0.0326	0.2735	0.0326	0.2270	C
157	X	2003-08	MDOT	Park & Ride Lots - Southern Maryland			X		2005	2005	0.0704	0.9732	0.0704	0.6728	0.0704	0.5660	0.0704	0.4697	C
158	X	2003-08	MDOT	Prince George's County- Bus Exp			X		2005	n/a	0.4574	6.6401	0.4574	4.5942	0.4574	3.8360	0.4574	3.1836	C
159	X	2003-08	MDOT	MTA - Bus Service Expansion			X		2005	n/a	0.1108	1.5837	0.1108	1.0955	0.1108	0.9168	0.1108	0.7609	C
160	X	2003-08	MDOT	Ride- On - Super Discount			X		2005	n/a	0.0094	0.1437	0.0094	0.0995	0.0094	0.0824	0.0094	0.0684	C
161	X	2003-08	Regional	Regional Traveler Information Systems			X		2005	VA:2000 before	3.6007	54.4758	3.6007	37.7158	3.6007	31.3014	3.6007	25.9780	TR
162	X	2003-08	MDOT	Universal Transportation Access (MD + WMATA)			X		2005	n/a	0.1654	2.5321	0.1654	1.7534	0.1654	1.4527	0.1654	1.2056	C
163	X	2003-08	MCG	Construction of 1300 additional Parking Spaces at Grosvenor Metro Garage	X				2004		0.0765	1.0500	0.0765	0.7258	0.0765	0.6113	0.0765	0.5073	C (TCM)
164	X	2003-08	MCG	Bethesda Shuttle Bus Services	X				2004		0.0316	0.4855	0.0316	0.3362	0.0316	0.2784	0.0316	0.2310	C
165	X	2003-08	MCG	External Bicycle Racks on Ride-On Buses in Montgomery County	X				2004		0.0064	0.0978	0.0064	0.0677	0.0064	0.0561	0.0064	0.0466	C
166	X	2003-08	MCG	New CNG Powered Light Duty Vehicle fleet in the County	X				2004										SP
167	X	2003-08	MCG	Free Bus Service on Selected Routes on I-270	X				2004		0.0110	0.1682	0.0110	0.1164	0.0110	0.0965	0.0110	0.0801	C
168	X	2003-08	MCG	Annual Sidewalk Program	X				2004		0.1756	2.6892	0.1756	1.8622	0.1756	1.5428	0.1756	1.2804	C
169		2003-08	MDOT	Bethesda Breeze/International Express Metrobus				X	2005	Removed	0.0345	0.5435	0.0345	0.3765	0.0345	0.3107	0.0345	0.2579	C
170		2003-08	MDOT	Bethesda-8, Silver Spring Downtown Dasher and Prince Georges Co. Shuttles at 3 PNR lot				X	2005	Removed	0.0623	1.0708	0.0623	0.7427	0.0623	0.6058	0.0623	0.5028	C
171		2003-08	MDOT	Proposed Transportation Management District in Montgomery County (Rockville and Gaithersburg)				X	2005	Removed	0.0496	0.7982	0.0496	0.5531	0.0496	0.4550	0.0496	0.3776	C
172	X	2003-08	MDOT	Sidewalks (Bikes/Pedestrian) at / near Rail Stations	X				2005	2002	0.0983	1.4944	0.0983	1.0347	0.0983	0.8581	0.0983	0.7122	C
173	X	2003-08	MDOT	Neighborhood Sidewalks Improvements (Bike/Pedestrian)	X				2005	2004	0.0038	0.1800	0.0038	0.1259	0.0038	0.0944	0.0038	0.0783	C
174	X	2003-08	MDOT	Neighborhood Conservation Program - Neighborhood Sidewalks Improvements (Bikes/Pedestrian)		X			2005	Ongoing	0.0033	0.1575	0.0033	0.1102	0.0033	0.0826	0.0033	0.0685	C
175	X	2003-08	MDOT	Maryland bus Transit Service Expansion	X				2005	2004	0.2366	3.2465	0.2366	2.2442	0.2366	1.8900	0.2366	1.5685	C
176	X	2003-08	VDOT	Universal Transportation Access Program	X				2005	2005-07	0.0124	0.1899	0.0124	0.1315	0.0124	0.1090	0.0124	0.0904	C
177	X	2003-08	VDOT	Interactive Rideshare & Kiosk Initiative			X		2008 onward		0.0049	0.0717	0.0049	0.0496	0.0049	0.0414	0.0049	0.0344	C
178	X	2003-08	VDOT	Mobile Commuter Stores	X				2005	2005	0.0273	0.3966	0.0273	0.2744	0.0273	0.2291	0.0273	0.1901	C
179	X	2003-08	VDOT	Telework Incentive Program (Telework VA) <sup>1</sup>	X				2005	Fall 2006	0.0080	0.1212	0.0080	0.0839	0.0080	0.0696	0.0080	0.0578	C
180	X	2003-08	VDOT	Commuter Choice	X				2005		0.0091	0.1426	0.0091	0.0988	0.0091	0.0816	0.0091	0.0677	C
181	X	2003-08	VDOT	Employer Shuttle Services				X	2005		0.1081	1.6924	0.1081	1.1723	0.1081	0.9682	0.1081	0.8035	C
184	X	2003-08	VDOT	Van Start / Van Save	X				2005	till 2006									C
185	X	2003-08	VDOT	Metro Shuttle Bus			X		2005	1999-2005	0.0188	0.2595	0.0188	0.1794	0.0188	0.1509	0.0188	0.1253	C
187	X	2003-08	VDOT	VRE Mid-Day Train Service	X				2005	2002	0.0204	0.2948	0.0204	0.2040	0.0204	0.1704	0.0204	0.1414	C
190	X	2003-08	VDOT	Employer Vanpool Program (Bridge deck)	X				2005	2004 - 2008									C
191	X	2003-08	VDOT	Town of Leesburg P&R Lot	X				2005	2010	0.0280	0.3948	0.0280	0.2730	0.0280	0.2289	0.0280	0.1900	C
192	X	2003-08	VDOT	District-wide P&R Lots	X				2005	2001-2005	0.1589	2.2560	0.1589	1.5604	0.1589	1.3072	0.1589	1.0848	C
193	X	2003-08	VDOT	Additional Parking at 4 Metro stations	X				2005	2005	0.2440	3.3488	0.2440	2.3149	0.2440	1.9495	0.2440	1.6180	C
196	X	2003-08	WMATA	64 CNG Buses (Purchased in 2001)	X				2005	2004									SP (TCM)
197	X	2003-08	WMATA	250 CNG Buses (175 buses by Dec. 2004; 75 buses by mid 2006)	X				2005	Jun-06									SP

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**TERM TRACKING SHEET**  
**TRANSPORTATION EMISSION REDUCTION MEASURES**  
**Part B - Yearly PM<sub>2.5</sub> and Precursor NOx Emissions**

\* Project Category: TR - Traffic Stream, C - Commute, H - Heavy Duty Vehicles (Engine Technology), SP - Specific Vehicle Type, TCM - Transportation Control Measures

NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE	2017		2020		2030		2040		Project Category *
					FULL	SCALED BACK	UNDER- WAY	REM			PM2.6	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.6	Precursor NOx	
198	X	2003-08	WMATA	60 Engine Replacement (MY 1992 & 1993 MY buses)	X				2004	2004									SP
199	X	2003-08	WMATA	Car Sharing Program	X				2005	2004	0.0133	0.1821	0.0133	0.1259	0.0133	0.1060	0.0133	0.0880	C
200	X	2003-08	WMATA	Bikes Racks on WMATA Buses in VA (372 Bike Racks)	X				2005	2004	0.0128	0.1949	0.0128	0.1350	0.0128	0.1119	0.0128	0.0929	C (TCM)
202		2003-08	MDOT	Fleet Replacement (state auto fleet, gas to hybrid, 250 vehicles)				X	2005		0.0492	0.7446	0.0492	0.5155					SP
203	X	2003-08	MDOT	Replace 55 Montgomery County 10 yr. old buses w/ new CNG buses			X		2005	Ongoing	0.6024	9.1145	0.6024	6.3103					SP
204		2003-08	MDOT	Neighborhood Bus Shuttle (5 circulator routes)				X	2005		0.0824	1.2393	0.0824	0.8580	0.0824	0.7126	0.0824	0.5914	C
205	X	2003-08	MDOT	New Surface Parking at Transit Centers (500 spaces)			X		2005	2005	0.0436	0.5993	0.0436	0.4143	0.0436	0.3488	0.0436	0.2895	C
206		2003-08	MDOT	Additional Bike Lockers at Metro-Stations				X	2005		0.1395	2.1210	0.1395	1.4685	0.1395	1.2179	0.1395	1.0107	C
207	X	2003-08	MDOT	Bike Facilities at PnR Lots or other similar location			X		2005	2005	0.1144	1.6752	0.1144	1.1592	0.1144	0.9667	0.1144	0.8023	C
208		2003-08	MDOT	CNG Fueling Stations				X	2005										SP
209		2003-08	MDOT	Gas cap replacements (ROP Credit)				X	2005		N/A	N/A	N/A	N/A	N/A	N/A			SP
210		2003-08	MDOT	Gas can turnover (ROP Credit)				X	2005		N/A	N/A	N/A	N/A	N/A	N/A			SP
211	X	2003-08	MDOT	External Bicycle Racks on WMATA Buses (486 MD buses)	X				2005	2002	0.0148	0.2247	0.0148	0.1556	0.0148	0.1290	0.0148	0.1071	C (TCM)
212	X	2003-08	MDOT	Bike \ Pedestrian Trail - Anacostia River Walk			X		2005	Ongoing	0.0022	0.0487	0.0022	0.0339	0.0022	0.0268	0.0022	0.0223	C
213		2003-08	MDOT	Transit Prioritization - Queue Jumps				X	2005		0.0225	0.3827	0.0225	0.2654	0.0225	0.2168	0.0225	0.1799	C
214	X	2003-08	MDOT	Commuter Choice Benefit/Tax Credit - Marketing Expansion	X				2005	Ongoing	0.5732	8.7314	0.5732	6.0457	0.5732	5.0126	0.5732	4.1601	C
215	X	2003-08	MDOT	Improvements to Pedestrian Access in TOD areas (4 locations)			X		2005	Ongoing	0.0567	0.8868	0.0567	0.6142	0.0567	0.5074	0.0567	0.4211	C
216	X	2003-08	MDOT	Telecommuting Expansion <sup>1</sup>	X				2005	Ongoing	0.8466	12.2123	0.8466	8.4488	0.8466	7.0611	0.8466	5.8602	C
217		2003-08	MDOT	Replace older Diesel Engine in Public Sector vehicles				X	2005										H
218	X	2003-08	VDOT	MV-92 Telecommuting Program - Expanded <sup>1</sup>	X				2005	2005	0.9041	13.0421	0.9041	9.0228	0.9041	7.5408	0.9041	6.2584	C
219	X	2003-08	VDOT	MV-123 Employer Outreach for Public Sector Employees <sup>2</sup>	X				2005	2003	0.1574	2.4102	0.1574	1.6690	0.1574	1.3828	0.1574	1.1476	C
220	X	2003-08	REGION	Signal System Optimization	X				2005	2005	1.0065	15.2268	1.0065	10.5421	1.0065	8.7492	1.0065	7.2612	TR
221	X	2007-12	MDOT	Two P & R Lots in Frederick County (99 spaces)	X				2007	2008	0.0121	0.1720	0.0086	0.0831	0.0086	0.0709	0.0086	0.0589	C
222	X	2007-12	MDOT	MDOT P & R Lots at US 340 ( 66-99 spaces, Frederick Co.)	X				2007	2007									
223	X	2008-13	MDOT	MCG/MDOT P & R Lots at US 340 & Mt Zion Rd. (37 spaces)	X				2008	2008	0.0093	0.1321	0.0093	0.0913	0.0093	0.0765	0.0093	0.0635	
224	X	2008-13	MDOT	MCG/MDOT P & R Lots at US 340 & Mt Zion Rd. - expansion (39 spaces)			X		2011	2011									
225	X	2008-13	MDOT	MCG/MDOT P & R Lots at I 70 & MD 355 (100 spaces)			X		2010	2010	0.0123	0.1738	0.0123	0.1202	0.0123	0.1007	0.0123	0.0836	
226	X	2008-13	MDOT	MCG/MDOT P & R Lots at I 270 & MD 80 (164 spaces)	X				2009	2009	0.0201	0.2850	0.0201	0.1971	0.0201	0.1652	0.0201	0.1371	
227	X	2008-13	MDOT	MDOT Sygal System Reviewing			X		2010	on-going									
228	X	2008-13	MDOT	MDOT Takoma Langely Transit Center			X		2012	2012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
<b>Available Emissions Credits</b>											<b>17.655</b>	<b>314.694</b>	<b>15.744</b>	<b>198.753</b>	<b>15.141</b>	<b>159.918</b>	<b>15.141</b>	<b>132.721</b>	

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**TRANSPORTATION EMISSION REDUCTION MEASURES (CLRP Projects Only)  
Part B - Yearly PM 2.5 and Precursor NOx Emissions**

Project Category: TR - Traffic Stream, C - Commute, H - Engine Technology (Heavy Duty Vehicles), SP- Specific Vehicle Type

NOS	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				PROJECTED COMPLETION DATE	ACTUAL COMPLETION DATE	TONS/ANNUM REDUCTION CREDITED								Project Category
					FULL	SCALED-BACK	UNDERWAY	REMOVED			2017		2020		2030		2040		
											PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.6	Precursor NOx	
221	X	1995-00 TIP	REGION	M-24 Speed Limit Adherence					2010		1.8471	27.9451	2.1072	22.0719	0.7941	6.9030	0.7941	5.7290	TR
222		1996-01 TIP	MGC	Rock Spring Park Pedestrian Amenities				X			0.0270	0.4086	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-
223	X	1996-01 TIP	MGC	Olney Transit Center Park and Ride					2015		0.0540	0.8172	0.0531	0.5559	0.0147	0.1279	0.0147	0.1062	C
224	X	1996-01 TIP	MGC	Damascus Park and Ride						2003	0.0270	0.4086	0.0265	0.2780	0.0074	0.0640	0.0074	0.0531	C
225	X	1996-01 TIP	DC	M-103 Taxicab Replacement (DC)				X	2015		0.0000	0.0000	5.2412	54.8984	12.6415	109.8936	12.6415	91.2039	H
226	X	STADIUM ANALYSIS		M-103 Taxicab Replacement (MD)				X	2008		0.0000	0.0000	4.1929	43.9187	5.0566	43.9574	5.0566	36.4816	H
227	X	1997-02 TIP	MDOT	Shady Grove West Transit Center Park and Ride				X			0.0675	1.0215	0.0663	0.6949	0.0184	0.1599	0.0184	0.1327	C
228	X	1997-02 TIP	MGC	Olney Transit Center Park and Ride					2015		0.0000	0.0000	0.0218	0.2280	0.0147	0.1279	0.0147	0.1062	C
229	X	1997-02 TIP	MGC	White Oak Park and Ride					2008		0.1350	2.0430	0.1327	1.3898	0.0368	0.3199	0.0368	0.2655	C
230	X	1997-02 TIP	MGC	Damascus Park and Ride						2003	0.0000	0.0000	0.0082	0.0855	0.0055	0.0480	0.0055	0.0398	C
231	X	1997-02 TIP	MGC	Four Corners Transit Center					2015		0.0068	0.1022	0.0066	0.0695	0.0018	0.0160	0.0018	0.0133	C
232		1997-02 TIP	MGC	Burtonsville Transit Center				X			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-
233	X	1997-02 TIP	MGC	Silver Spring Transit Access							0.0068	0.1022	0.0054	0.0570	0.0037	0.0320	0.0037	0.0265	C
234	X	1997-02 TIP	MGC	Shady Grove Parking Construction						2003	0.1283	1.9409	0.1261	1.3204	0.0350	0.3039	0.0350	0.2522	C

<b>PLAN TOTAL</b>											0.3579	33.3591	0.3804	26.0561	0.1196	7.9425	0.1196	6.5917	
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<b>GRAND TOTAL (Current Measures + CLRP plan)</b>											18.013	348.053	16.124	224.809	15.261	167.861	15.261	139.313	
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DEFINITIONS: Project Numbers implemented fully prior to 2000 were removed from the TERM Tracking Sheet

CREDIT TAKEN ( X means emissions reduction credits taken):

TIP - Emissions credits are taken for projects being implemented, according to the progress reporting schedules provided by the implementing agencies (contained in Appendix J of Conformity Document ). No credit has been taken for projects in which only some components of the measure have been implemented.

CLRP - Credit is taken for each of these elements of the CLRP according to the schedule provided by the implementing agency.

IMPLEMENTATION STATUS:

FULL = project is completed as planned at the time of analysis.

SCALED BACK = project is completed, but at a different level than assumed at the time of analysis (i.e., purchased 50 buses instead of 100)

UNDERWAY = project is not complete, but is close enough that credit may be taken (i.e., under construction, NOT just out for bid)

REMOVED = project no longer expected to be implemented or constructed

COMPLETION DATE:

PROJECTED = project completion date originally expected (i.e., at time of emissions analysis)

ACTUAL = actual year project was open for use, or expected to be open for use if under construction

REMOVED

projects Emissions credits are not counted in total available emissions credits

1 Line items 218, 216, 179, 92 are all credited as part of M-92 Regional Telecommute Support TERM, line item # 75

2 Line item 108 & 219 credits are taken only for year 2010

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# **ATTACHMENT E**



# CHANGES FROM 2011 CLRP TO 2012 CLRP for Analysis Year 2020

## LAND ACTIVITY AND TRAVEL

Households	-0.5%	↓	Round 8.1 Cooperative Forecasts Reflect Economic Slow Down
Employment	-0.4%	↓	
Transit Trips	+3.0%	↑	1) Increased Employment in Arlington of 24,000 Jobs 2) No Increase in Transit Fares Between 2011 CLRP and 2012 CLRP
Vehicle Trips	-0.8%	↓	1) Round 8.1 Cooperative Forecasts 2) Externals (Trips In and Out of the Region) Decreased to reflect 2010 Count Data 3) BMC Highway Project Removal
VMT	-2.3%	↓	

## EMISSIONS \*

VOC	+12.8%	↑
NO <sub>x</sub>	+15.7%	↑
PM <sub>2.5</sub>	+1.5%	↑
Pre NO <sub>x</sub>	+15.6%	↑

### \* WHY DID EMISSIONS GO UP WHEN VEHICLE TRIPS AND VMT WENT DOWN?

The 2012 CLRP Emissions analysis used 2011 VIN data, which showed an older fleet than the 2008 VIN data used for the 2011 CLRP. Had the 2008 VIN data been retained for the 2012 CLRP analysis, emissions would have dropped for all pollutants in line with vehicle trips and VMT as follows:

VOC	-0.56%	↓
NO <sub>x</sub>	-1.05%	↓
PM <sub>2.5</sub>	-1.04%	↓
Pre NO <sub>x</sub>	-1.12%	↓