

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 11, 2009

To: Transportation Planning Board

From: Jane Posey
Senior Transportation Engineer

Subject: Air Quality Conformity Assessment for the 2009 Update of the Constrained Long Range Plan (CLRP) and FY2010-2015 Transportation Improvement Program (TIP)

INTRODUCTION

This memo documents summary results of the air quality conformity assessment of the 2009 CLRP and the FY2010-2015 TIP with respect to ozone season and fine particle (PM_{2.5}) pollutants, and wintertime carbon monoxide (CO). The results have been presented to the TPB Technical Committee for review and comment. A public comment period for the Plan, TIP, and conformity assessment begins at the June 11, 2009 TPB Citizens Advisory Committee meeting and ends on July 11, 2009.

Conformity assessment criteria vary by pollutant. Tests include adherence to mobile source emissions budgets in the case of ozone season pollutants (VOC and NO_x) and CO, and a demonstration that forecast year PM_{2.5} (including both directly emitted PM_{2.5} and precursor NO_x) emissions are not greater than base year 2002 emissions. One hour ozone precursor mobile emissions budgets are taken from the Metropolitan Washington Air Quality Committee (MWAQC)'s Severe Area State Implementation Plan (SIP) (1-hour ozone non-attainment area) document, Plan to Improve Air Quality in the Washington, DC-MD-VA Region, February 19, 2004. In addition, in 2007 MWAQC completed the development of the 8-hour ozone SIP with new mobile emissions budgets, which also correspond to a different geographic area (relevant planning areas are shown in Exhibit 1). Similarly, in March 2008 MWAQC approved, and the state air agencies subsequently submitted to EPA, the region's PM_{2.5} Attainment Plan. Adherence to both the 8-hour ozone and PM_{2.5} budgets is also documented in this report, even though EPA has not yet acted upon them.

BACKGROUND

On February 18, 2009 the TPB approved the scope of work and the project submissions for inclusion in the conformity analysis for the year 2009 update of the CLRP and FY2010-2015 TIP. Key technical inputs to the analysis included: Round 7.2 Cooperative Forecasts; the Version 2.2 Travel Demand Model utilizing the new project submissions and reflecting updated transit service; and EPA's Mobile6.2 Emissions Factor Model with use of new 2008 vehicle registration data for all jurisdictions.

Staff proceeded with the technical analyses described below to ascertain whether the draft plan and program would meet the specific conformity criteria.

WORK ACTIVITIES

Technical work activities for the conformity assessment of the 2009 CLRP and FY2010-2015 TIP included the preparation of volatile organic compound (VOC), nitrogen oxide (NO_x), PM_{2.5}, and wintertime carbon monoxide (CO) emissions inventories for specified forecast years associated with the plan and program (forecast years: 2010, 2020 and 2030). While ozone season pollutants (VOC and NO_x) and wintertime CO are inventoried for average weekday conditions, precursor NO_x and direct PM_{2.5} are inventoried to reflect emissions on a yearly total basis. Accordingly, 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 and program adhere to the established mobile source emissions levels. In anticipation of possible emissions increases associated with implementation of the plan and program, 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 and Program Elements

There have been some new projects and changes advanced for the CLRP / TIP in this year's approval cycle. Attachment A presents an excerpt from the February 8, 2009 TPB item listing the major changes to the conformity project inputs since the 2008 CLRP and the FY2009-2014 TIP.

Land Activity Forecasts

On January 14, 2009 COG's Metropolitan Development Policy Committee approved Round 7.2 Cooperative Forecast totals to be used for testing purposes in analysis of the CLRP and TIP. The Round 7.2 data, summarized in Attachment B, reflect not only the forecast small area land use distributions throughout the Washington area, but also the latest planning assumptions for areas outside the Washington region. For example, the Baltimore land use input to Round 7.2 reflects the Baltimore Metropolitan Council's 'Round 7-A' adopted figures, whereas their previous input to the COG Round 7.1 forecasts was their 'Round 7' figures.

Travel Modeling Process

For this conformity analysis staff used TPB's travel demand model, Version 2.2, with updated tolling processes and a modified post-processor. Using the Version 2.2 model, COG/TPB staff prepared travel demand forecasts for each of the required forecast years. Exhibit 1 presents the geographic areas for travel modeling and for emissions reporting for each non-attainment area. 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 motor vehicle emissions factors through execution of EPA's MOBILE6.2 emissions factor model. This year's factors were updated to reflect the new 2008 vehicle registration data, which were developed using VIN decoder software. The 2008 registration data show an increase in

the number of hybrid vehicles and a decrease in the rate of SUV purchases. Both trends tend to reduce emissions. However, the data also show that fewer new vehicles are being purchased, which results in an aging of the region's vehicle fleet. The older fleet increases emissions, and has a greater impact than the trends reducing emissions, thus resulting in an overall increase in emission factors.

The emission factors also include the use of the Maryland Department of the Environment's (MDE) data reflecting the adoption of Phase I of California's Low-Emission Vehicle II (LEV II) program in Maryland. These data include the reduction in ozone season pollutants expected from the adoption of this program. These rates for each pollutant, shown using Fairfax County data as an illustration 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_{2.5} 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.

Post Processor

The Post Processor was revised to reflect the Version 2.2 model table lookup speeds and capacities, and speed flow relationship. The Post Processor now better reflects speeds observed in travel time studies within the region.

Emissions Analyses

Mobile Emissions Inventories

Ozone Season and Wintertime CO – Daily Emissions

Prior to calculation of daily mobile source emissions, the above (AAWDT) travel forecasts produced through the travel demand modeling process were first factored by seasonal adjustments (a 1.05 ozone season factor or a 0.97 winter season factor) to yield VMT appropriate to each season being analyzed. 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 - 9 and indicate total VOC and NO_x 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; 2030 VOC and NO_x emissions represent about 13 percent and less than 10 percent, respectively, of their 1990 levels. The results reflect the impact of the cleaner fuel / fleet and related programs, in conjunction with slowing VMT growth rates through time.

The 2010 emissions forecasts are much closer to the budget levels than in recent analyses. This is due to an increase in emission factors that reflects the region's aging fleet, as reported in the 2008 vehicle registration data. An increase in emissions due to the older vehicle fleet is offset somewhat by a decrease in vehicle miles traveled (VMT). This VMT decrease is associated with lower households and job forecasts in the Round 7.2 Cooperative Forecasts, as compared to Round 7.1 for 2010, and the deferral of some highway and transit projects beyond 2010. However, the overall effect is an emissions increase that severely diminished the "adherence margin" for emission budgets for the 2010 forecast year.

PM_{2.5} – Yearly Emissions

To develop the yearly total PM_{2.5} emissions, travel and emissions were estimated throughout the year 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_{2.5} and precursor NO_x emissions, shown in the Exhibit 10 bar chart, exhibit similar dramatic reductions through time despite increases in vehicle trips and VMT in the forecast years. These reductions are also largely attributable to Tier II vehicle standards, cleaner fuels, and the heavy duty engine rule, and continue to generate additional emissions reductions through time as fleet turnover replaces older vehicles / truck engines with much cleaner ones. As with the ozone season emissions, the effects of the older vehicle fleet are reflected as higher PM_{2.5} emissions compared to last year.

Plan and Program Emissions Versus Emissions Budgets

Reference to Exhibits 6-10 provides a comparison of emissions levels associated with the CLRP and TIP to the maximum allowable for each pollutant. Net emissions for each forecast year are shown in comparison to emissions budgets, and are seen to be within the mobile budgets for all forecast years. Wintertime CO emissions (contained in a full technical report but not summarized here) follow these same general trends and are easily within the CO emissions budget level.

Exhibit 10 shows that both direct PM_{2.5} and precursor NO_x emissions are much lower than base year 2002 conditions and are within the new mobile budgets, for all forecast years, satisfying this additional conformity assessment criterion for PM_{2.5}. In view of the fact that estimated emissions are within the required mobile source emission levels for each pollutant, no additional transportation emissions reduction measures are required to demonstrate conformity.

Net Emissions Analysis

The emissions inventory data contained in Exhibits 6-10 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 C 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_{2.5} pollutants. The summary result of these measures, shown as the bottom line for each section of the table, amounts to additional reductions in 2010 of better than 2 tons per day of VOC and almost 5 tons per day of NO_x, and approximately 25 and 1260 tons per year of direct PM_{2.5} and precursor NO_x, respectively. 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 6-10 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 2009 CLRP and the FY2010-2015 TIP.

Following: Exhibits 1-10
Attachments A - C

EXHIBIT 1

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

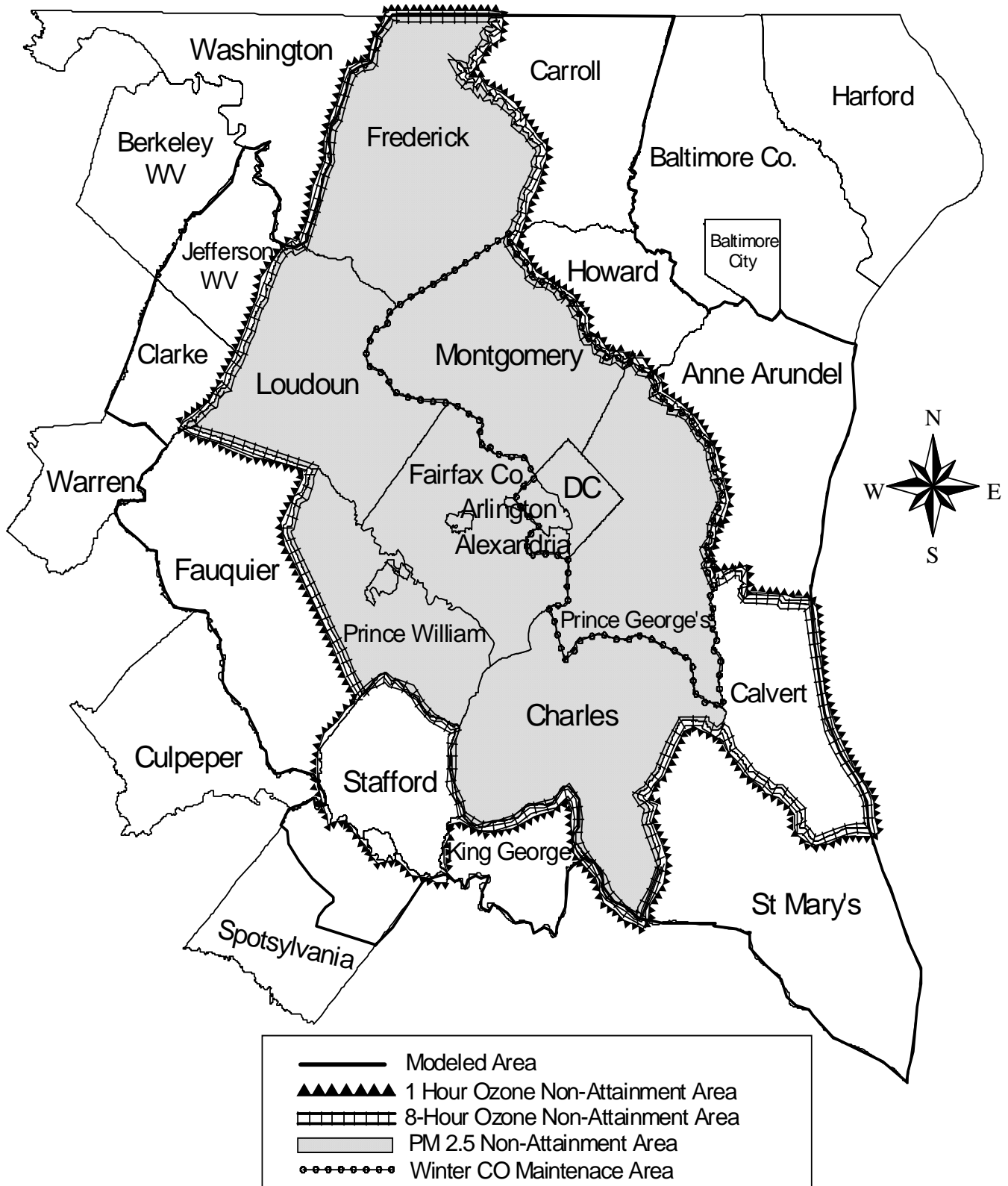


Exhibit 2
Travel Demand Summary
Modeled Area Trips and Vehicle Miles Traveled (000's)
Average Weekday Traffic (AWDT)

	<u>2002</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>
Transit Trips	1,055.7	1,161.9	1,518.4	1,652.0
Vehicle Trips	19,535.7	22,092.7	24,906.9	27,287.1
VMT	145,504.9	160,913.4	182,831.8	197,574.5

Adjustment Factors to Convert AWDT to Appropriate Season:

Ozone Season AWDT: 1.05

Winter Season AWDT: 0.97

PM2.5 Annual:

Season (ADT)	Factor
Season 1 (Jan- Apr)	0.9216
Season 2 (May- Sept)	0.9873
Season 3 (Oct- Dec)	0.9282

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

Exhibit 3

2002-2030 VOC COMPOSITE MOBILE6.2 ARTERIAL RUNNING EMISSION RATES FOR FAIRFAX COUNTY

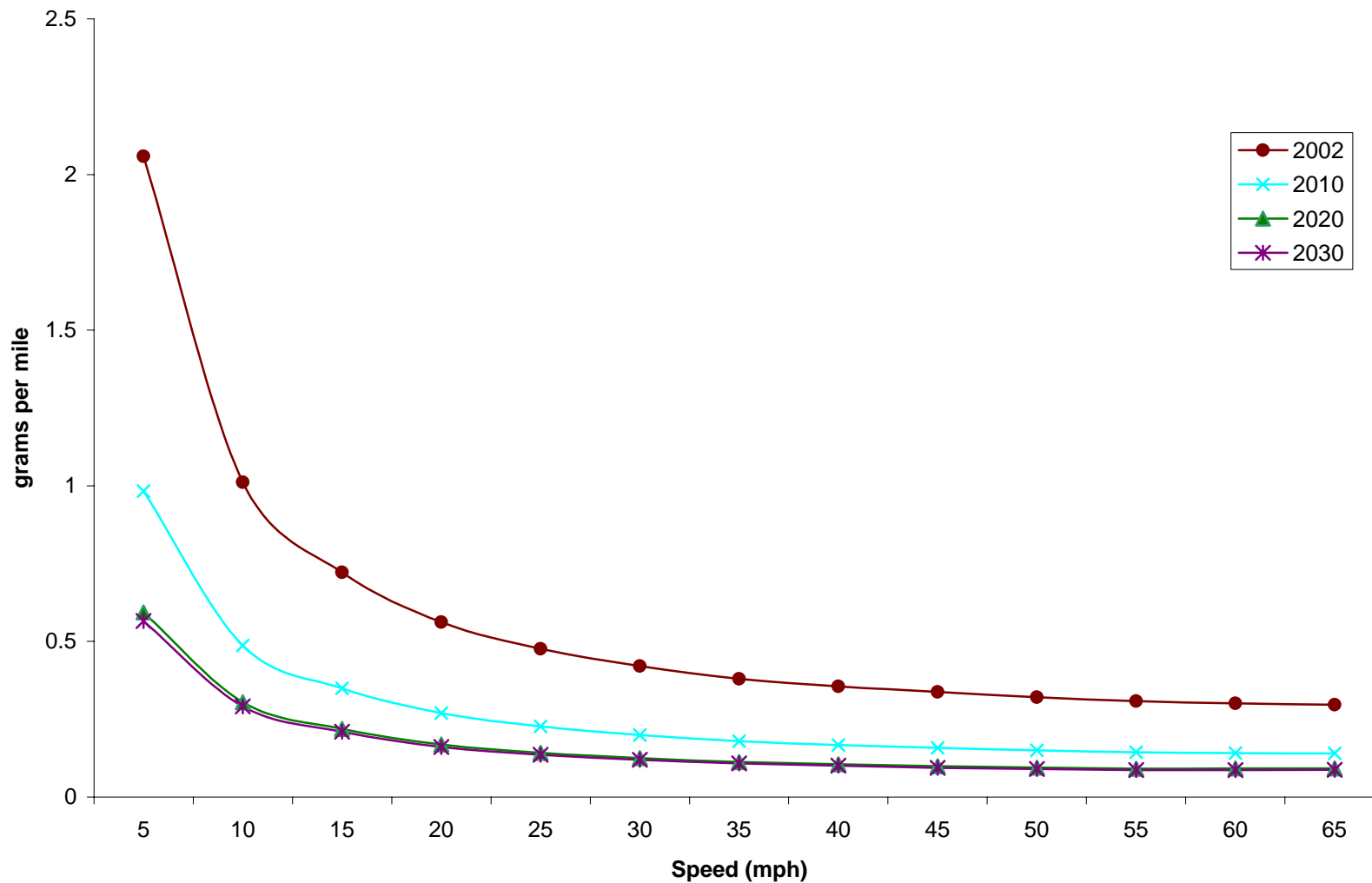


Exhibit 4 2002-2030 NOx COMPOSITE MOBILE6.2 ARTERIAL RUNNING EMISSION RATES FOR FAIRFAX COUNTY

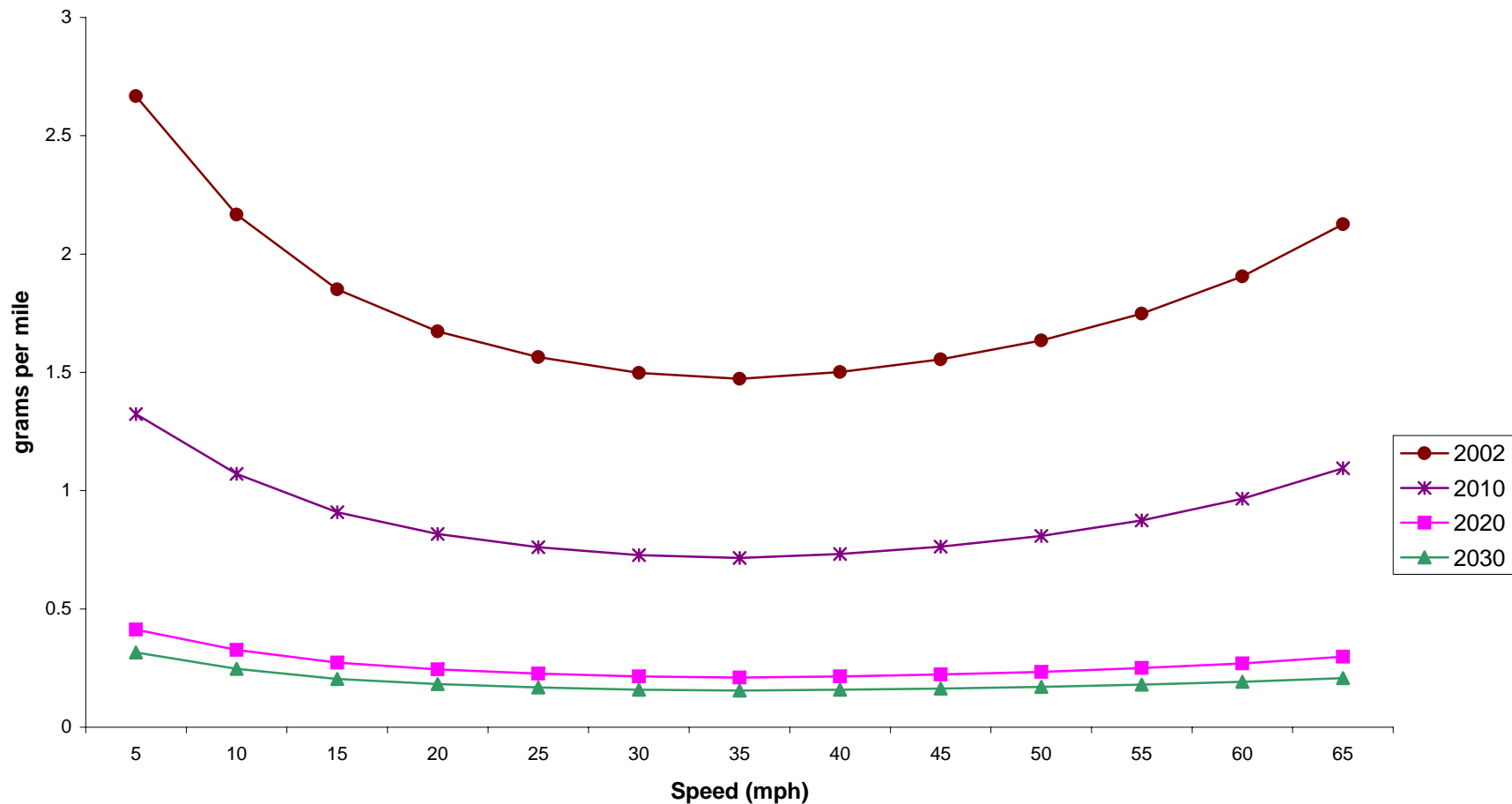


Exhibit 5 DIRECT PM_{2.5} EMISSION RATES FOR FAIRFAX COUNTY (MAJOR ROADS NETWORK)

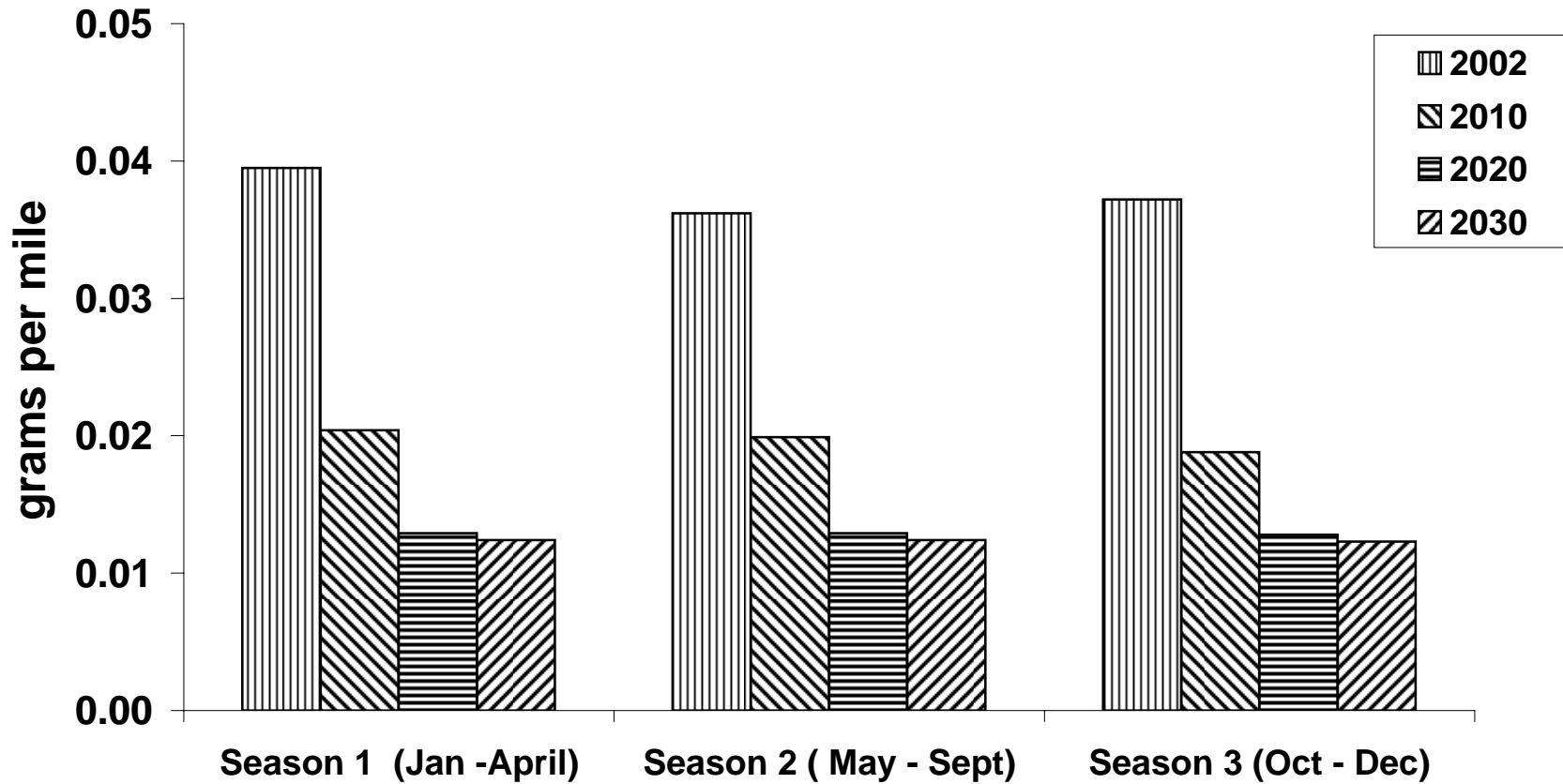


EXHIBIT 6

Mobile Source VOC Emissions for the 1-Hour Ozone Nonattainment Area 2009 CLRP and FY 2010-2015 TIP

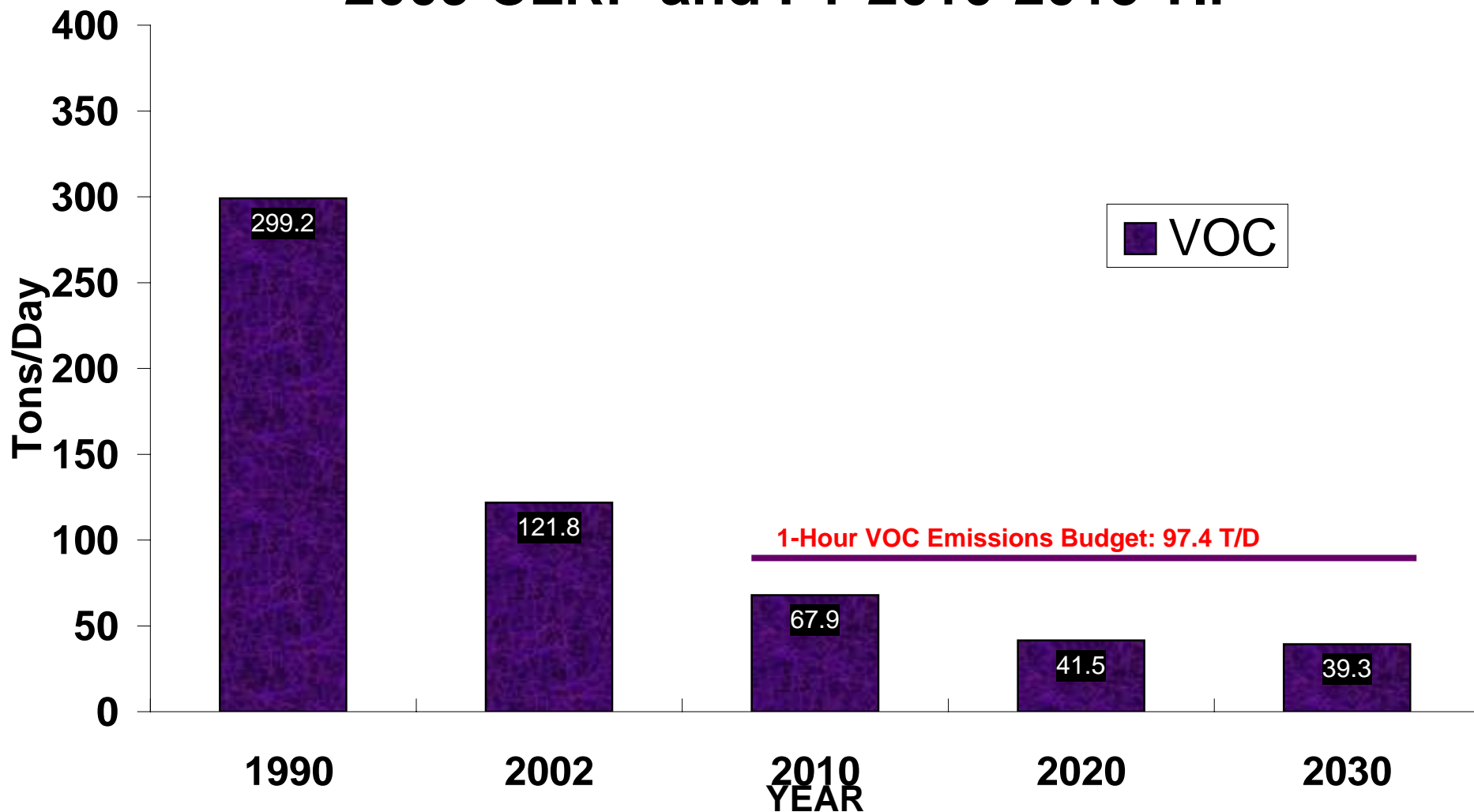


EXHIBIT 7

Mobile Source NOx Emissions for the 1-Hour Ozone Nonattainment Area 2009 CLRP and FY 2010-2015 TIP

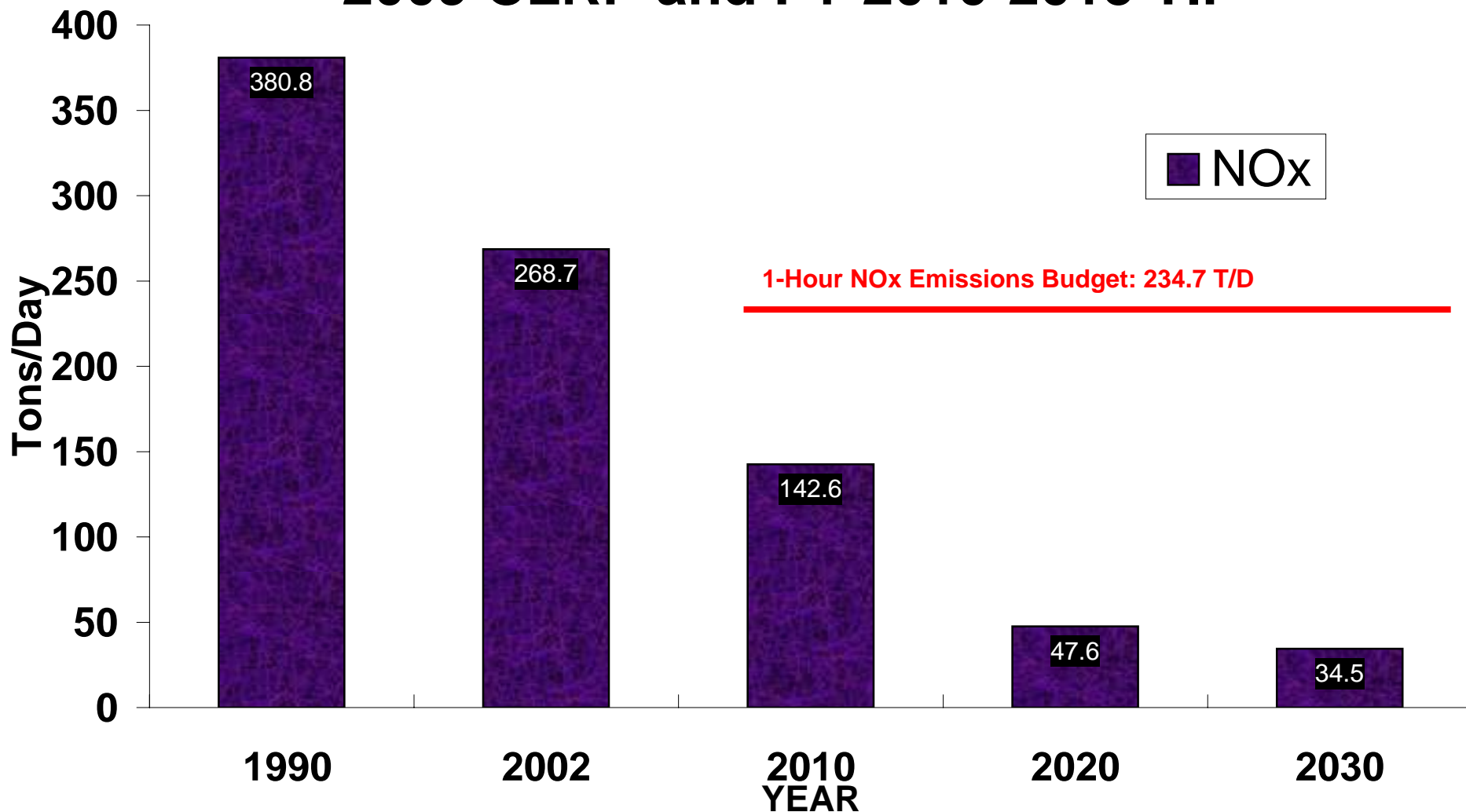


EXHIBIT 8

Mobile Source VOC Emissions for the 8-Hour Ozone Nonattainment Area 2009 CLRP and FY 2010-2015 TIP

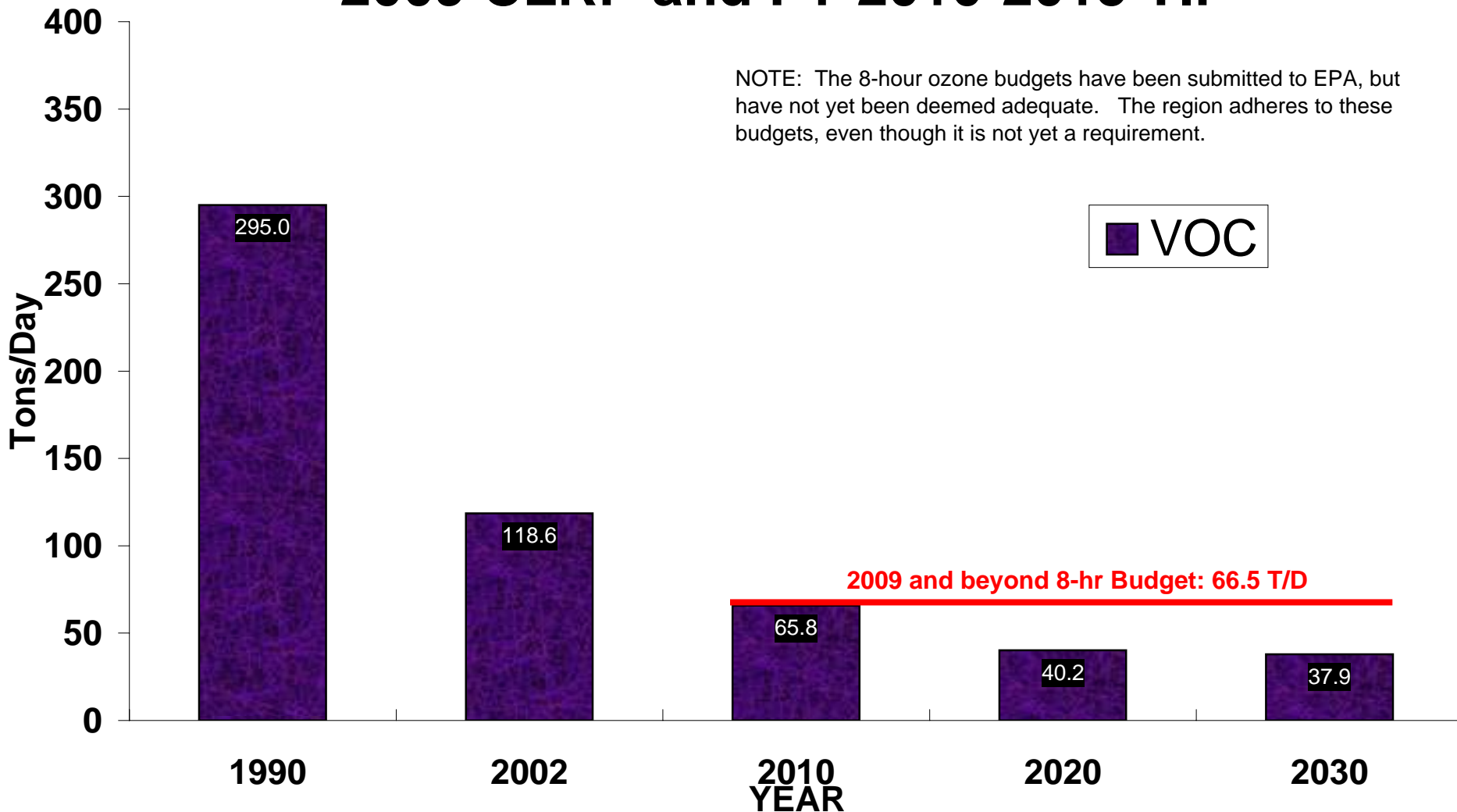
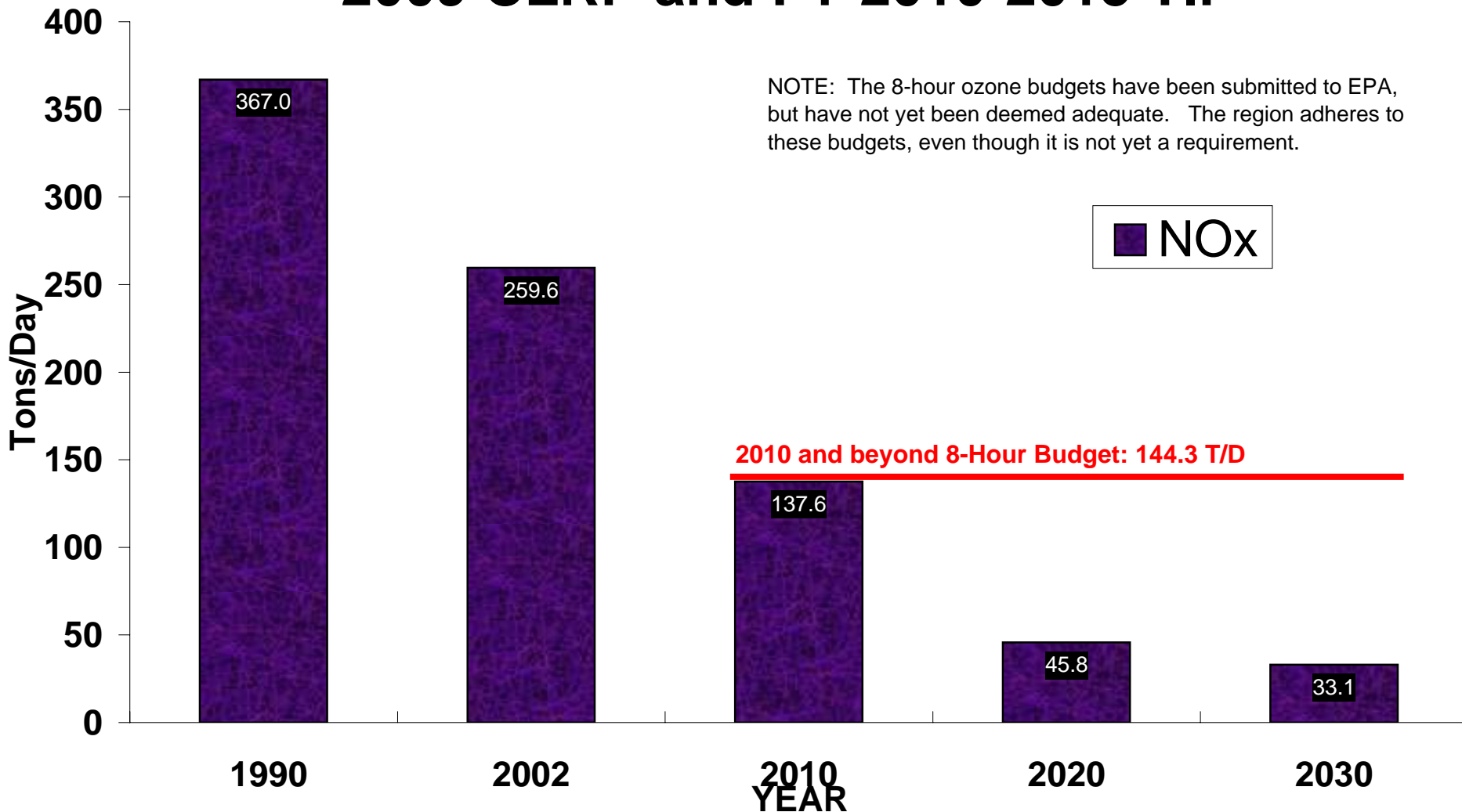


EXHIBIT 9

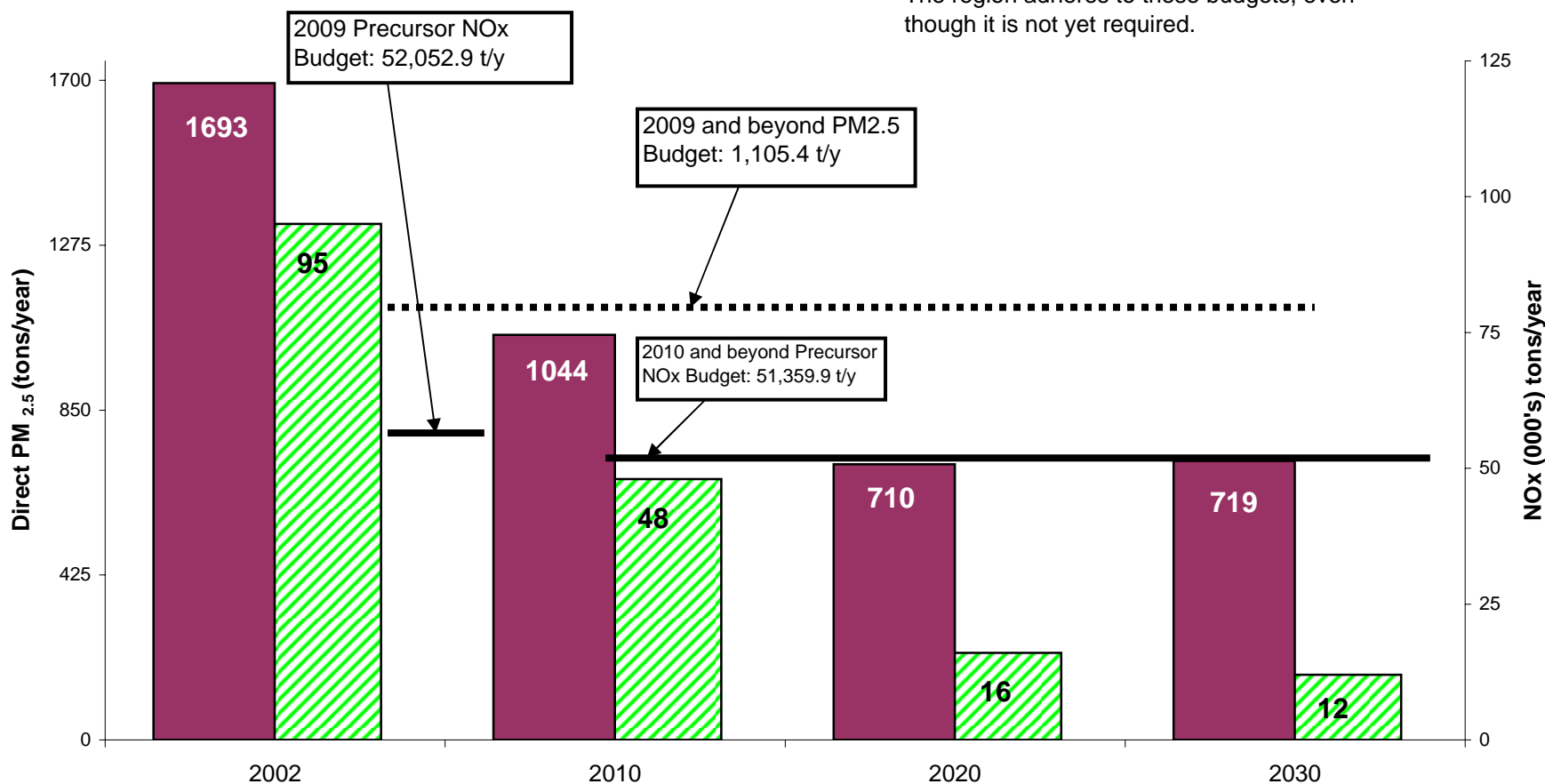
Mobile Source NOx Emissions for the 8-Hour Ozone Nonattainment Area 2009 CLRP and FY 2010-2015 TIP



**Exhibit 10
Mobile Source Emissions
2009 CLRP and FY 2010-2015 TIP
PM_{2.5} Direct and Precursor NOx**



NOTE: The PM_{2.5} budgets have been submitted to EPA, but have not yet been deemed adequate. The region adheres to these budgets, even though it is not yet required.



ATTACHMENT A

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 TDD: (202) 962-3213

MEMORANDUM

February 11, 2009

TO: Transportation Planning Board

FROM: Ronald F. Kirby
Director, Department of
Transportation Planning

RE: Proposed Significant Changes to the 2009 Constrained Long-Range Plan and the
FY 2010-2015 Transportation Improvement Program for Air Quality Conformity Analysis

On Thursday, January 15, 2009 the TPB released for public comment the draft project inputs for the air quality analysis of the 2009 update to the National Capital Region's Financially Constrained Long-Range Transportation Plan (CLRP) and the FY 2010-2015 Transportation Improvement Program (TIP). The TPB also released the Draft Scope of Work for the Air Quality Conformity Assessment. Comments can be submitted and reviewed online at www.mwcog.org/tpbpubliccomment. The 30-day public comment period will close at midnight on Saturday, February 14, 2009.

Beginning on page 2 is a list of proposed significant changes to the 2009 CLRP and the FY 2010-2015 TIP. This listing covers changes only to those projects that are considered to be regionally significant, i.e., interstates, principal arterials and some minor arterials, as well as transit facilities. A complete list of all projects planned is included in Attachment B – the Draft 2009 CLRP and FY 2010-2015 TIP Air Quality Conformity Inputs.

In contrast to previous years, there are no significant new projects being added to this year's CLRP update. With state and local budgets facing drastic shortfalls, most of the changes proposed will delay the completion dates of those projects and in some cases, remove projects from the plan altogether. The projects in each jurisdiction below have been grouped together based on the nature of the change; a delay of five to nine years, a delay of ten years or more, or removal from the Plan. Other changes to regionally significant projects in Virginia can be found on page 3. Projects that are delayed less than five years and changes to non-regionally significant projects can be found in Attachment B. A map number is included in the list to help locate affected projects on the maps of major projects in the CLRP in Attachment A.

District of Columbia

Projects delayed five to nine years

- | | Old Date | New Date | Map # |
|-------------------|----------|----------|-------|
| • K Street Busway | 2010 | 2017 | 2* |

Maryland

Projects delayed five to nine years

- | | | | |
|---|------|------|----|
| • I-95/I-495 Interchange at Greenbelt Metro | 2010 | 2015 | 13 |
| • MD 5 Branch Avenue, construct interchanges at Surratts Road, Earnshaw Drive/Burch Hill Road, and MD 373/Brandywine Road | 2010 | 2015 | 35 |
| • US 29 Columbia Pike, upgrade interchange at Musgrove/Fairland Road | 2010 | 2015 | 46 |

Projects delayed 10 years or more

- | | | | |
|---|------|------|------------|
| • I-270/US 15 Corridor, construct from Shady Grove Metro to I-70 | 2020 | 2030 | 8 |
| • I-95/I-495 Branch Avenue Metro Access, construct eight lanes | 2009 | 2020 | 14 |
| • MD 2/4, construct three lanes from MD 765 to MD 2/4 at Lusby (Calvert County) | 2010 | 2020 | not mapped |
| • MD 3 Crain Highway, construct four lanes from US 50 to Anne Arundel County Line | 2020 | 2030 | 29 |
| • US 29 Columbia Pike, upgrade six lanes from Musgrove Road to Fairland Road | 2010 | 2030 | 46 |
| • US 29 Columbia Pike, upgrade interchanges at Stewart Lane, Tech Road, Greencastle Road and Blackburn Road | 2020 | 2030 | 46 |
| • MD 97 Brookeville Bypass, construct two lanes from south to north of Brookeville | 2020 | 2030 | 37 |

Projects removed from the Plan

- | | | | |
|---------------------------------|------|--|----|
| • Randolph Road Bus Enhancement | 2010 | | 6* |
|---------------------------------|------|--|----|

Virginia

Projects delayed five to nine years

- | | | | |
|--|---------------|---------------|-----|
| • I-66 HOV, widen to six lanes from US 15 to US 29 | 2015 | 2020 | 59 |
| • Dulles Airport Access Road, widen to six lanes from Dulles Airport to VA 123 | 2010 | 2017 | 51 |
| • US 50, widen to six lanes from VA 659 to VA 742 | 2010 | 2015 | 84 |
| • VA 28, construct interchange at VA 209 | 2009 | 2015 | 103 |
| • VA 28, widen to eight lanes from I-66 to VA 7 | 2010 | 2015 | 103 |
| • US 1, widen to six lanes from Blackburn Drive to Featherstone Road | 2013 | 2020 | 72 |
| • VA 28, widen to four lanes from VA 652 to VA 234 | 2012,
2013 | 2020 | 101 |
| • VA 7, widen to six lanes from Route 9 to Market Street | 2015 | 2020 | 108 |
| • VA 7 Bypass, widen to six lanes from US 15 South to VA 7/US 15 East | 2015 | 2020,
2025 | 110 |

* These projects can be found on Map 2 – Major Transit, HOV and HOT Improvements in the 2008 CLRP.

	Old Date	New Date	Map #
• Tri-County Parkway, construct four lanes from I-66 to Loudoun County Line	2017	2025	105
• VA 28 Bypass, construct four lanes from I-66 to VA 620/VA 613	2020	2025	98
<i>Projects delayed 10 years or more</i>			
• US 1, widen to six lanes from Brady’s Hill Road to Cardinal Drive	2011	2020	72
• Fairfax County Parkway, widen to six lanes with two HOV lanes from Fair Lakes Parkway to I-66	2010	2020	111
<i>Proposed changes to other regionally significant projects in Virginia</i>			
• I-95/I-395 HOT/HOV/Bus Lanes Project	2010	2012, 2014	68
○ New northbound ramp at Fairfax County Parkway			
○ Southbound slip-ramp modifications and additions near Fairfax County Parkway, Lorton Road, Opitz Boulevard, Dumfries Road and Joplin Road			
○ Previously planned 9 mile single-lane taper from VA 234 to VA 610 changed to two HOT lanes with new access ramps, extending from VA 234 to VA 17 in Stafford County (complete in 2014)			
• Capital Beltway HOT Lanes Project			57, 58
○ Additional auxiliary lanes from Dulles Toll Road to VA 7, and from one mile east of I-95/395/495 to north of Hemming Avenue underpass			
○ New ramp movements at I-66, US 29, Dulles Toll Road and Dulles Airport Access Road			
○ Change lane configuration between VA 193 (Georgetown Pike) and south of Old Dominion Drive from eight general purpose + four HOT lanes to eight g.p. + two HOT lanes			
• US 1 from VA 234 North to the Prince William Co. Line			72
○ Downgraded from ‘widening to eight lanes’ to ‘reconstructing six lanes’			
• Dulles Corridor Metrorail Project – Phase 1	2011	2014	11*

* These projects can be found on Map 2 – Major Transit, HOV and HOT Improvements in the 2008 CLRP.

Attachments

Proposed project listing for the 2009 Plan Update: Major Highway Improvements*

District of Columbia

- 1 11th Street Bridge reconstruction, 2013
- 2 South Capitol Str/Bridge Reconstruction, including intersection with Martin Luther King Jr. Blvd, 2015

Maryland

- 3 Baltimore Washington Parkway at MD 193, Intersection Improvement, 2025
- 4 Cross-County Connector, widen to 4 lanes, 2009
- 5 Father Hurley Blvd. , construct 4 lanes, 2011
- 6 I-270, interchange at Watkins Mill Rd. Ext., 2020
- 7 I-270, reconstruct interchange at MD 121, 2010
- 8 **I-270/US 15 Corridor, Shady Grove to I-70, widen and HOV, 2030**
- 9 I-70, widen to 6 lanes, 2009
- 10 I-95, interchange and CD lanes at Contee Road , 2020
- 11 I-95, Woodrow Wilson Bridge , build 12 lane bridge, 2009, 2011
- 12 I-95/495, interchange at Arena Drive , 2009
- 13 **I-95/495, interchange at Greenbelt Metro, 2015**
- 14 **I-95/495: Branch Avenue Metro Access, construct 8 lanes, 2020**
- 15 Intercounty Connector, construct 6 lanes, 2012
- 16 M-83, construct 4, 6 lanes, 2020
- 17 MD 117, widen to 4 lanes, 2020
- 18 MD 118 (Germantown Rd.), widen to 6 lanes, 2020
- 19 MD 124 extended, construct 2 lanes, 2010
- 20 **MD 124, widen to 6 lanes, 2010, 2020**
- 21 MD 201/Kenilworth Ave widen to 6 lanes, 2020
- 22 MD 202, reconstruct 6 lanes, 2020
- 23 MD 210, upgrade 6 lanes and interchange improvement, 2030
- 24 MD 212, construct 4 lanes, 2008
- 25 **MD 223, widen to 4 lanes, 2020**
- 26 MD 27, widen to 6 lanes, 2010
- 27 MD 27, widen, MD-355 to A 305, 2010
- 28 MD 28/MD 198, widen, construct 4, 6 lanes, 2020
- 29 **MD 3, widen to 6 lanes, 2030**
- 30 MD 355, construct 6 lanes, interchange at Montrose/Randolph Road, 2010
- 31 MD 355/MD 80, Urbana Bypass, construct 4 lanes, 2010
- 32 MD 4, widen to 6 lanes, upgrade with interchanges at Westphalia Road and Suitland Parkway, 2010, 2011, 2020
- 33 MD 450, reconstruct, grade separate at Peace Cross, CSX, 2009
- 34 MD 450, widen to 4 lanes, 2020
- 35 **MD 5, upgrade, widen to 6 lanes, including interchanges, 2015, 2030**
- 36 MD 85, widen to 4, 6 lanes, 2020
- 37 **MD 97, construct 2 lanes, 2030**
- 38 MD 97, upgrade intersection at MD 28, 2020

- 39 MD 97, upgrade intersection at Randolph Road , 2015
- 40 Middlebrook Road Extended, widen, construct 6 lanes, 2015
- 41 Montrose Parkway East and West, construct 4 lanes, 2009, 2015
- 42 Randolph Road, widen to 5 lanes, 2011
- 43 Suitland Parkway, interchange at Rena/ Forestville Road, 2025
- 44 US 1, reconstruct 4 lanes, 2020, widen to 6 lanes, 2010
- 45 US 15, construct interchange at Monocacy Blvd, 2010
- 46 **US 29, upgrade, including intersections/interchanges, 2015, 2020, 2030**
- 47 US 301, widen to 6 + 2 lanes, 2020
- 48 US 340/US 15, construct interchange at Jefferson Tech Park, 2010
- 49 US 50, westbound ramp to Columbia Park Road , 2025

Virginia

- 50 Battlefield Parkway, construct, widen, upgrade 4 lanes, 2008, 2009, 2010
- 51 Dulles Access Road, widen to 6 lanes including interchange reconstruct at I-495, 2010
- 52 Dulles Toll Road, reconstruct interchange at VA 674, 2012
- 53 Fairfax County Parkway HOV, construct 2 lanes, 2015
- 54 Fairfax County Parkway HOV, widen and upgrade, 6 to 8 lanes, 2010, 2015
- 55 Fort Belvoir EPG access improvements, interchanges on Fairfax County Parkway, 2010, 2020
- 56 Franconia/Springfield Parkway, HOV with interchange at Nueman Street, 2010, 2020
- 57 I-495 High Occupancy/Toll (HOT) lanes, Transit Service, 2013, 2030
- 58 **I-495, construct 2 HOT lanes, 2030**
- 59 **I-66 HOV, includes interchange reconstruction at US 15, 2020**
- 60 I-66 HOV, widen to 8 lanes, 2009
- 61 I-66, spot improvements inside the Beltway, 2013
- 62 I-66, reconstruct interchange at US 29, 2014
- 63 I-66/I-495, reconstruct interchange, 2013
- 64 I-66, widen at Gallows Road and Cedar Lane, 2030
- 65 I-95, interchange at VA 7900, 2015
- 66 I-95, reconstruct interchange at VA 642, 2010
- 67 I-95, widen to 8 lanes from Newington to VA 123, 2011
- 68 I-95/395 HOT Lanes, widen, construct 2, 3 lanes with new ramps, 2012, 2014
- 69 I-95/495, reconstruct interchange at VA 613, 2015
- 70 I-95/I-395/I-495, interchange access ramps to I-495 HOT, 2013
- 71 US 1, reconstruct interchange at Russell Road , 2010

- 72 **US 1, widen to 6 lanes including interchange at VA 123, 2010,2011, 2015, 2016, 2017, 2020**
- 73 **US 15, widen to 4 lanes, 2009, 2030**
- 74 US 15, widen to 4 lanes, 2015
- 75 **US 15 Bypass, interchange at Edwards Ferry Road, 2020**
- 76 US 29, interchange at VA 55, 2014
- 77 US 29, widen to 5, 6 lanes, 2014
- 78 US 29, widen to 6 lanes, 2010
- 79 US 29, widen to 6 lanes, 2009, 2010, 2011
- 80 US 29, widen to 6 lanes, 2015, 2020
- 81 US 29, widen to 6 lanes, 2010
- 82 US 50, construct round-about at US 15, 2010
- 83 US 50, widen 3, 8 lanes, 2020
- 84 **US 50, widen to 6 lanes, 2012, 2015**
- 85 US 50, widen/reconstruct 6 lanes including interchanges, 2010, 2012, 2015, 2020
- 86 VA 120, reconstruct 2 lanes, 2020
- 87 VA 120, reconstruct 4 lanes, 2010
- 88 VA 123, widen 6 lanes, 2015, 2020
- 89 VA 123, widen to 6 lanes with interchange at US 1, 2008, 2015, 2017
- 90 VA 123, widen to 6 lanes, 2010
- 91 VA 234 Bypass, widen/upgrade, 6 lanes, 2020
- 92 VA 234, widen to 4 lanes, 2011
- 93 VA 234, widen to 5 lanes, 2010
- 94 VA 234, widen, upgrade 4 lanes, including interchange at US 1, 2008, 2016
- 95 VA 236, reconstruct intersection at Braddock Road, 2009
- 96 VA 236, widen to 6 lanes, 2020
- 97 VA 244, reconstruct interchange at VA 27, 2011
- 98 **VA 28 Bypass, construct 4, 6 lanes, 2020, 2025**
- 99 VA 28, interchange at Wellington Road , RR tracks, 2009
- 100 VA 28, remove movements at I-66, 2008
- 101 **VA 28, widen to 6 lanes, 2020**
- 102 VA 28, widen to 6 lanes, 2025
- 103 **VA 28, widen to 6, 8 lanes, with interchanges, 2008, 2015**
- 104 **VA 3000, widen to 6 lanes, 2020**
- 105 **VA 411, (Tri-County Parkway), construct 4 lanes, 2025**
- 106 VA 7, Leesburg Pike, widen to 6, 8 lanes, 2012, 2013, 2020
- 107 **VA 7, construct interchanges, 2009, 2010, 2020**
- 108 **VA 7, widen to 6 lanes, 2020**
- 109 VA 7, widen to 6 lanes, 2020
- 110 **VA 7/US 15 Bypass, widen to 6 lanes, 2020, 2025**
- 111 VA 7100, construct 6 lanes, 2010, 2020
- 112 VA 7100, interchange at Fair Lakes Parkway, 2011
- 113 VA 7100, widen to 6 lanes, 2015
- 114 VA 7100, widen to 6 lanes (Hooes Rd to Sydenstricker Rd), 2015
- 115 Wilson Blvd., reconstruct 4 lanes, 2010

Map 1: Major Highway Improvements

Map from the 2008 CLRP Brochure



Proposed project listing for the 2009 Plan Update: Major Transit, High Occupancy Vehicle (HOV) and High Occupancy/Toll (HOT) Improvements*

District of Columbia

- 1 Anacostia Street Car Project Phase I, 2010
- 2 ***K Street Busway, 2017***

Maryland

- 3 Corridor Cities Transitway, from Shady Grove to COMSAT, 2016
- 4 I-270/US 15 Corridor, Shady Grove to I-70, HOV, 2030
- 5 Purple Line, Bethesda to Silver Spring, 2015
- 6 ***Randolph Road Bus Enhancements from MD 355 to US 29, to be removed***
- 7 University Blvd Bus Enhancements, 2020
- 8 Veirs Mill Road Bus Enhancements, 2015

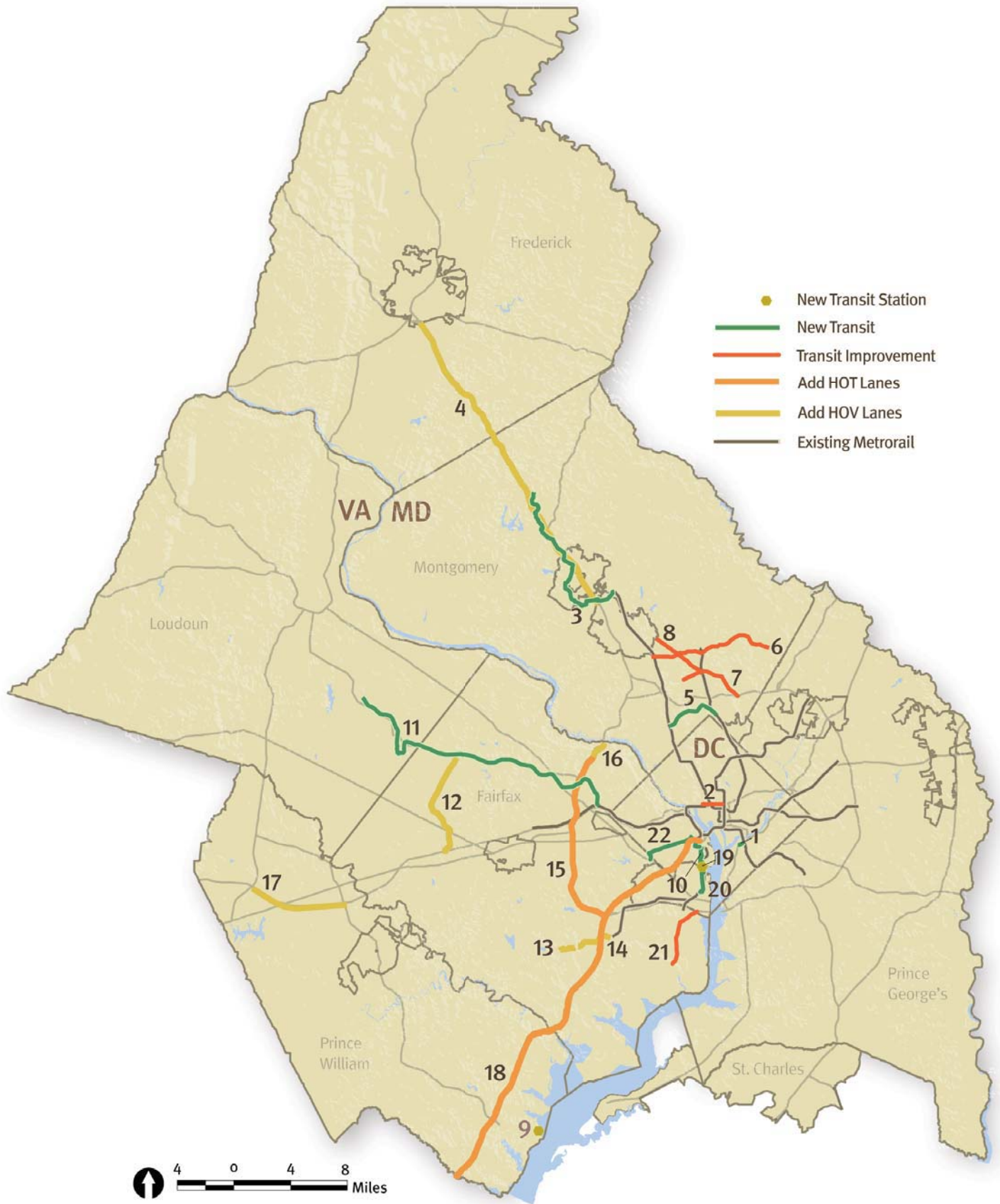
Virginia

- 9 Cherryhill VRE Station, 2010
- 10 Crystal City Potomac Yard Busway, 2010
- 11 ***Dulles Corridor Rapid Transit, 2014, 2015***
- 12 Fairfax County Parkway HOV, widen and upgrade, 6 to 8 lanes, 2010, 2015
- 13 Fairfax County Parkway HOV, construct 2 lanes, 2015
- 14 Franconia/Springfield Parkway HOV, 2010, 2020
- 15 I-495 High Occupancy/Toll (HOT) lanes, Transit Service, 2013, 2030
- 16 I-495, construct 2 HOV lanes, 2030
- 17 I-66 HOV, widen to 8-lanes, 2009, includes interchange reconstruction at US 15, 2020
- 18 I-95/395 HOT Lanes, widen, construct 2, 3 lanes with new ramps, 2012, 2014
- 19 Potomac Yard Metro Station, 2030
- 20 Potomac Yard Transitway, Arlington and Alexandria, 2011
- 21 US-1 bus right turn lanes, 2025
- 22 VA 244 Columbia Pike Streetcar from Skyline to Pentagon City, 2016

***Highlighted Projects** are proposed to experience a delay of five years or greater, as compared to the expected completion dates listed in the 2008 Plan.

Map 2: Major Transit, High Occupancy Vehicle (HOV) and High Occupancy/Toll (HOT) Improvements

Map from the 2008 CLRP Brochure



ATTACHMENT B

HOUSEHOLD DATA

MSA:	2002	2010	2020	2030	2030/2002
D.C.	250354	275963	312611	334682	1.34
MONTGOMERY	334301	362768	408769	440829	1.32
PR. GEORGE'S	294712	316927	343598	366118	1.24
ARLINGTON	89027	99886	116059	120863	1.36
ALEXANDRIA	63670	70434	77234	86110	1.35
FAIRFAX	373414	402024	444927	479299	1.28
LOUDOUN	70935	101667	133828	155939	2.20
PR. WILLIAM	120194	157610	189677	214227	1.78
FREDERICK	73833	87708	104139	123125	1.67
CHARLES	43981	50951	64302	75850	1.72
STAFFORD	30404	41384	58997	72662	2.39
CALVERT	27229	32049	36026	38349	1.41
SUBTOTAL	1,772,054	1,999,371	2,290,167	2,508,053	1.42
ADDITIONAL COUNTIES:					
HOWARD	94673	109550	125466	132965	1.40
ANNE ARUNDEL	184180	202359	218039	229513	1.25
CARROLL	55263	63495	71163	77401	1.40
FREDERICKSBURG	8191	10003	12453	13955	1.70
JEFFERSON	17016	20427	25957	33075	1.94
N. SPOTSYLVANIA	25357	34702	48484	58733	2.32
FAUQUIER	21448	26872	35729	47506	2.21
CLARKE	5182	6142	6860	7770	1.50
K. GEORGE	6329	8392	11395	14005	2.21
ST. MARY'S	32406	38876	49350	58127	1.79
SUBTOTAL	450,045	520,818	604,896	673,050	1.50
TOTAL	2,222,099	2,520,189	2,895,063	3,181,103	1.43

SOURCE:
 MWCOG Revised Round 7.2 Cooperative Forecasts
 BMC Round 7-A Cooperative Forecasts

EMPLOYMENT DATA

MSA:	2002	2010	2020	2030	2030/2002
D.C.	746265	788162	859160	920576	1.23
MONTGOMERY	484992	510600	590662	670713	1.38
PR.GEORGE'S	341706	362286	398224	453423	1.33
ARLINGTON	187501	214501	259600	271715	1.45
ALEXANDRIA	95891	109109	136032	156831	1.64
FAIRFAX	624194	700872	800470	870584	1.39
LOUDOUN	106435	158819	227459	275196	2.59
PR. WILLIAM	127881	152264	197682	243725	1.91
FREDERICK	106647	142412	158278	167257	1.57
CHARLES	48569	62239	71749	77550	1.60
STAFFORD	33200	43197	55065	65638	1.98
CALVERT	26639	35157	44438	47137	1.77
SUBTOTAL	2,929,920	3,279,618	3,798,819	4,220,345	1.44
ADDITIONAL COUNTIES:					
HOWARD	140774	165822	195195	219747	1.56
ANNE ARUNDEL	260717	291592	342525	379142	1.45
CARROLL	57372	67603	70821	72451	1.26
FREDERICKSBURG	24171	29430	35467	41767	1.73
JEFFERSON	17008	21058	26113	30674	1.80
N. SPOTSYLVANIA	29614	35362	46607	55567	1.88
FAUQUIER	22320	27325	35767	43367	1.94
CLARKE	6079	6793	7685	8552	1.41
K. GEORGE	9334	9032	13118	16343	1.75
ST. MARY'S	49629	59191	67275	71972	1.45
SUBTOTAL	617,018	713,208	840,573	939,582	1.52
TOTAL	3,546,938	3,992,826	4,639,392	5,159,927	1.45

SOURCE:

MWCOG Revised Round 7.2 Cooperative Forecasts
 BMC Round 7-A Cooperative Forecasts

NOTE: Includes Census Adjustment

ATTACHMENT C

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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			VOC	NOX	VOC	NOX	VOC	NOX	
9	X	1994-99	MDOT	Park & Ride Lot - MD 210/ MD 373	X				2000	2003	0.0005	0.0013	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	0.0011	0.0013	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	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	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	TR
48	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0005	0.0013	0.0003	0.0005	0.0003	0.0005	C (TCM)
49	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.0049	0.0118	0.0029	0.0050	0.0026	0.0043	C (TCM)
51	X	1995-00	VDOT	Alexandria Telecommuting Pilot Program	X					2000 & 2001	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	c
54	X	1995-00	VDOT	City of Fairfax Bus Shelters	X				1999	2004	0.0000	0.0004	0.0000	0.0002	0.0000	0.0002	C (TCM)
56	X	1995-00	VDOT	Cherry Hill VRE Access				X		Jul-08	0.0038	0.0101	0.0022	0.0043	0.0020	0.0036	C (TCM)
58	X	1995-00	WMATA	Bus Replacement (172 buses)	X				1998	1998	0.0690	0.2520					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	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	c
61	X	1995-00	MCG	Bicycle Facilities				X	FY99		0.0016	0.0008	0.0010	0.0004	0.0009	0.0003	c
62	X	1995-00	MCG	Pedestrian Facilities to Metrorail				X			0.0027	0.0034	0.0016	0.0014	0.0014	0.0012	c
63	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0022	0.0050	0.0013	0.0022	0.0012	0.0018	c
64	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.0176	0.0436	0.0103	0.0187	0.0092	0.0158	C (TCM)
66	X	1995-00	VDOT	Commuter Lots - District Wide	X				varies	1995, 2001	0.0060	0.0139	0.0035	0.0059	0.0032	0.0050	c
67	X	1995-00	VDOT	I-66 and Stringfellow Rd. Park and Ride	X				2000	2000 end	0.0055	0.0084	0.0032	0.0036	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	0.0042	0.0000	0.0018	0.0000	0.0015	c
69	X	1995-00	VDOT	Bicycle Trails and Facilities (Arlington & Fairfax Co - 7 locations)				X	varies	2007	0.0011	0.0071	0.0006	0.0031	0.0006	0.0026	c
70	X	1995-00	VDOT	Improved Access to Metrorail Stations (VRE 2 Stn)				X	varies	2000-2012	0.0003	0.0004	0.0002	0.0002	0.0001	0.0002	c
71	X	1995-00	VDOT	I-66 HOV access at Monument Dr.	X					1997	0.0027	0.0042	0.0032	0.0036	0.0029	0.0030	c
72	X	1995-00	DC	Bicycle Facilities		X					0.0132	0.0084	0.0077	0.0036	0.0069	0.0030	c
73	X	1995-00	REGION	COG Regional Ridesharing Support	X					on-going	0.1280	0.2253	0.0762	0.0969	0.0696	0.0822	c
74	X	1995-00	REGION	M-47 Integrated Ridesharing	X					on-going	0.0462	0.0786	0.0274	0.0338	0.0249	0.0286	c
75	X	1995-00	REGION	M-92 Telecommuting Support	X					on-going	0.1069	0.1672	0.0627	0.0718	0.0567	0.0606	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 200	0.0011	0.0013	0.0006	0.0005	0.0006	0.0005	c
81	X	1996-01	VDOT	Arlington County Metrocheck Program	X				1997	1997 Onwards	0.0011	0.0013	0.0006	0.0005	0.0006	0.0005	c
82	X	1996-01	VDOT	Old Dominion Drive Bike Trail				X	2000	2008	0.0005	0.0004	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	0.0005	0.0004	0.0003	0.0002	0.0003	0.0002	c

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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			VOC	NOX	VOC	NOX	VOC	NOX	
90	X	1996-01	REGION	M-47c Employer Outreach / Guaranteed Ride Home	X					on-going	0.3167	0.4862	0.1855	0.2089	0.1673	0.1762	C
91	X	1996-01	REGION	M-70a Bicycle Parking			X		1999		0.0038	0.0029	0.0022	0.0013	0.0020	0.0011	C
92	X			M-92 Telecommuting Support ¹	Combined with item #75												C
95	X	1997-02	MCG	Germantown Transit Center	X				2005		0.0027	0.0080	0.0016	0.0034	0.0014	0.0029	C (TCM)
102	X	1997-02	PG	Prince George's County Bus Replacement	X				1998	1998	0.0030	0.0090					SP (TCM)
106	X	1997-02	VDOT	PRTC Employer Commuting Outreach Program	X					1977 on-going	0.0011	0.0002	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	0.0002	0.0000	0.0001	0.0000	0.0001	C
108	X	1997-02	MDOT	M-103 Taxicab Replacement in Maryland ²	X				2005	Stopped	0.0797	0.2675	0.1340	0.1827	0.3120	0.4810	SP
109	X	1997-02	REGION	M-70b Employer Outreach for Bicycles	X				1998	on going	0.0005	0.0005	0.0003	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	0.0450	0.1617					SP
112	X	1998-03	MCG	Montgomery County Bus Replacement	X					Ongoing	0.0080	0.0270					SP
113	X	1998-03	PG	Prince George's County Bus Replacement	X				1998	Ongoing	0.0010	0.0020					SP
114	X	1998-03	FDC	Frederick County Bus Replacement	X						0.0010	0.0000					SP
117	X	1998-03	VDOT	Arlington County Four Mile Run Bike Trail	X				1999	2009	0.0005	0.0004	0.0003	0.0002	0.0003	0.0002	C
118	X	1998-03	VDOT	Northern Virginia Turn Bays	X				2000	1998	0.0006	0.0008	0.0003	0.0003	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	0.1060	0.3860					SP
122	X	97 & 98 TIP	REGION	M-101a Mass Marketing Campaign (Consumer)			X			2005	0.0161	0.0274	0.0095	0.0118	0.0087	0.0100	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	0.0044	0.0151	0.0026	0.0065	0.0023	0.0055	C
124	X	1999-04	MDOT	Signal Systems (197/MD-198, MD-382 TO US-301,US301)	X				2000	2002	0.0068	-0.0016	0.0040	-0.0005	0.0036	-0.0004	TR
125	X	1999-04	VDOT	Transit Center at 7 Corners	X				2002	2001	0.0005	0.0008	0.0003	0.0004	0.0003	0.0003	C
126	X	1999-04	VDOT	Falls Church Clean Diesel Bus Service	X				2000	2003	0.0040	0.0050					SP
127	X	1999-04	VDOT	VA 234 Bike Trail			X		2001	2008	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	C
130	X	1996-01	VDOT	M-14: I-66 Feeder Bus Fare Buy Down	X					1998 onward	0.0137	0.0231	0.0080	0.0099	0.0072	0.0084	C
131	X	2000-05	MDOT	Various park and Ride Lots	X				2002	2003	0.0038	0.0136	0.0022	0.0059	0.0020	0.0049	C
132	X	2000-05	MDOT	Signal Systems	X				Varies	on-going	0.0017	0.0000	0.0015	0.0000	0.0009	0.0000	TR
133	X	2000-05	VDOT	250 Spaces at Gambrell/Hoopes Rds. Park and Ride	X				2002	2004	0.0038	0.0076	0.0022	0.0032	0.0020	0.0027	C
134	X	2000-05	VDOT	300 Spaces at Backlick Rd	X				2003	2007	0.0027	0.0055	0.0016	0.0023	0.0014	0.0020	C
135	X	2000-05	VDOT	Accotink-Gateway Connector Trail	X				2002	2005	0.0038	0.0042	0.0022	0.0018	0.0020	0.0015	C
136	X	2000-05	VDOT	Columbia Pike Trail	X				2000	Summer 200	0.0033	0.0034	0.0019	0.0014	0.0017	0.0012	C
137	X	2000-05	VDOT	Lee Highway trail	X				2000	2007	0.0016	0.0017	0.0010	0.0007	0.0009	0.0006	C
138	X	2000-05	VDOT	Arlington Bus Shelter Improvements	X				2005	2005	0.0005	0.0004	0.0003	0.0002	0.0003	0.0002	C
139	X	2000-05	VDOT	Pentagon Metrostation Improvements	X					2003	0.0044	0.0071	0.0026	0.0031	0.0023	0.0026	C

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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			VOC	NOX	VOC	NOX	VOC	NOX	
140	X	2000-05	MDOT	East/West Intersection Improvements			X		2005	2005	0.0225	0.0105	0.0132	0.0045	0.0118	0.0038	C
141	X	2001-06	Feds	Federal Transit/Ridesharing subsidy	X				on-going		0.0561	0.0802	0.0327	0.0344	0.0294	0.0290	C
142	X	2002-07	WMATA	100 CNG buses	X				2002		0.0000	0.1358					SP (TCM)
143	X	2002-07	WMATA	ULSD with CRT filters	X				2006	Jun-06	0.2100	0.0000	0.4300	0.0000	0.4300	0.0000	H (TCM)
144		2003-08	DC	Replace 29 12 Taxicabs with CNG cabs				X	2005	2006	0.0089	0.0157					H
145	X	2003-08	DC	D.C.Incident Response & TrafficManagement System	X				2005	2004	0.0156	0.0403	0.0092	0.0127	0.0100	0.0168	TR
146	X	2003-08	DC	Bicycle Lane in D. C. (35 Mile)			X		2005	2008	0.0091	0.0075	0.0053	0.0032	0.0048	0.0027	C (TCM)
147	X	2003-08	DC	Bicycle Racks in D. C. (500)	X				2005	2004	0.0013	0.0008	0.0007	0.0004	0.0007	0.0003	C (TCM)
148	X	2003-08	DC	External Bicycle Racks on WMATA Buses in D. C. (600)	X				2005	2003	0.0019	0.0027	0.0011	0.0012	0.0010	0.0010	C (TCM)
149		2003-08	DC	CNG Rental Cars (18)				X	2005		0.0000	0.0002					SP
150	X	2003-08	DC	Sidewalks in D.C. (\$ 5 million)	X				2005	2004	0.0344	0.0492	0.0201	0.0211	0.0180	0.0178	C
151	X	2003-08	DC	CNG Refuse Haulers (2)	X				2005	2004	0.0001	0.0020					H (TCM)
152	X	2003-08	DC	Circulator /Feeder Bus Routes	X				2005	2003	0.0125	0.0177	0.0073	0.0076	0.0066	0.0064	C
153	X	2003-08	MDOT	Commuter Tax Credit	X				2005	n/a	0.0751	0.1083	0.0438	0.0465	0.0394	0.0392	C
155		2003-08	MDOT	Employer Vanpool Program (WWB)				X	2005		0.0018	0.0037					C
156	X	2003-08	MDOT	Green Line Link			X		2005	n/a	0.0025	0.0041	0.0014	0.0018	0.0013	0.0015	C
157	X	2003-08	MDOT	Park & Ride Lots - Southern Maryland			X		2005	2005	0.0048	0.0096	0.0028	0.0041	0.0025	0.0035	C
158	X	2003-08	MDOT	Prince George's County- Bus Exp			X		2005	n/a	0.0344	0.0581	0.0201	0.0250	0.0181	0.0210	C
159	X	2003-08	MDOT	MTA - Bus Service Expansion			X		2005	n/a	0.0078	0.0139	0.0045	0.0060	0.0041	0.0050	C
160	X	2003-08	MDOT	Ride- On - Super Discount			X		2005	n/a	0.0009	0.0013	0.0005	0.0005	0.0005	0.0005	C
161	X	2003-08	Regional	Regional Traveler Information Systems			X		2005		0.0984	0.5250	0.0579	0.1656	0.0522	0.1156	TR
162	X	2003-08	MDOT	Universal Transportation Access (MD + WMATA)				X	2005	n/a	0.0154	0.0220	0.0090	0.0095	0.0081	0.0080	C
163	X	2003-08	MCG	Construction of 1300 additional Parking Spaces at Grosvenor Metro Garage	X				2004		0.0044	0.0092	0.0026	0.0040	0.0025	0.0036	C (TCM)
164	X	2003-08	MCG	Bethesda Shuttle Bus Services	X				2004		0.0030	0.0042	0.0017	0.0018	0.0016	0.0015	C
165	X	2003-08	MCG	External Bicycle Racks on Ride-On Buses in Montgomery County	X				2004		0.0006	0.0009	0.0003	0.0004	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		0.0010	0.0015	0.0006	0.0006	0.0005	0.0005	C
168	X	2003-08	MCG	Annual Sidewalk Program	X				2004		0.0164	0.0234	0.0096	0.0101	0.0086	0.0085	C
169		2003-08	MDOT	Bethesda Breeze/International Express Metrobus				X	2005	Removed	0.0036	0.0047	0.0021	0.0020	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	0.0085	0.0092	0.0049	0.0040	0.0044	0.0033	C
171		2003-08	MDOT	Proposed Transportation Management District in Montgomery County (Rockville and Gaithersburg)				X	2005	Removed	0.0055	0.0069	0.0032	0.0030	0.0029	0.0025	C
172	X	2003-08	MDOT	Sidewalks (Bikes/Pedestrian) at / near Rail Stations	X				2005	2002	0.0089	0.0130	0.0052	0.0056	0.0047	0.0047	C
173	X	2003-08	MDOT	Neighborhood Sidewalks Improvements (Bike/Pedestrian)	X				2005	2004	0.0031	0.0015	0.0018	0.0006	0.0016	0.0005	C
174	X	2003-08	MDOT	Neighborhood Conservation Program - Neighborhood Sidewalks Improvements (Bikes/Pedestrian)		X			2005	Ongoing	0.0027	0.0013	0.0016	0.0005	0.0014	0.0005	C
175	X	2003-08	MDOT	Maryland bus Transit Service Expansion	X				2005	2004	0.0135	0.0286	0.0079	0.0123	0.0071	0.0103	C

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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			VOC	NOX	VOC	NOX	VOC	NOX	
176	X	2003-08	VDOT	Universal Transportation Access Program	X				2005	2005-07	0.0011	0.0017	0.0007	0.0007	0.0006	0.0006	C
177	X	2003-08	VDOT	Interactive Rideshare & Kiosk Initiative			X		2008 onward		0.0004	0.0006	0.0002	0.0003	0.0002	0.0002	C
178	X	2003-08	VDOT	Mobile Commuter Stores	X				2005	2005	0.0021	0.0035	0.0012	0.0015	0.0011	0.0013	C
179	X	2003-08	VDOT	Telework Incentive Program (Telework VA) ¹	X				2005	Fall 2006	0.0007	0.0011	0.0004	0.0005	0.0004	0.0004	C
180	X	2003-08	VDOT	Commuter Choice	X				2005		0.0009	0.0012	0.0005	0.0005	0.0005	0.0004	C
181	X	2003-08	VDOT	Employer Shuttle Services				X	2005		0.0109	0.0147	0.0064	0.0063	0.0057	0.0053	C
184	X	2003-08	VDOT	Van Start / Van Save	X				2005	till 2006	0.0013	0.0023					C
185	X	2003-08	VDOT	Metro Shuttle Bus			X		2005	1999-2005	0.0011	0.0023	0.0007	0.0010	0.0006	0.0008	C
187	X	2003-08	VDOT	VRE Mid-Day Train Service	X				2005	2002	0.0015	0.0026	0.0009	0.0011	0.0008	0.0009	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	early 2009	0.0018	0.0035	0.0011	0.0015	0.0010	0.0013	C
192	X	2003-08	VDOT	District-wide P&R Lots	X				2005	2001-2005	0.0108	0.0198	0.0063	0.0085	0.0057	0.0072	C
193	X	2003-08	VDOT	Additional Parking at 4 Metro stations	X				2005	2005	0.0140	0.0295	0.0082	0.0127	0.0073	0.0107	C
196	X	2003-08	WMATA	64 CNG Buses (Purchased in 2001)	X				2005	2004	0.0021	0.0870					SP (TCM)
197	X	2003-08	WMATA	250 CNG Buses (175 buses by Dec. 2004; 75 buses by mid 2006)	X				2005	Jun-06	0.0083	0.3400					SP
198	X	2003-08	WMATA	60 Engine Replacement (MY 1992 & 1993 MY buses)	X				2004	2004	0.0138	0.0755					SP
199	X	2003-08	WMATA	Car Sharing Program	X				2005	2004	0.0008	0.0016	0.0004	0.0007	0.0004	0.0006	C
200	X	2003-08	WMATA	Bikes Racks on WMATA Buses in VA (372 Bike Racks)	X				2005	2004	0.0012	0.0017	0.0007	0.0007	0.0006	0.0007	C (TCM)
202		2003-08	MDOT	Fleet Replacement (state auto fleet, gas to hybrid, 250 vehicles)				X	2005		0.0055	0.0133	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	0.0459	0.1628	0.0459	0.1628			SP
204		2003-08	MDOT	Neighborhood Bus Shuttle (5 circulator routes)				X	2005		0.0072	0.0108	0.0042	0.0046	0.0038	0.0039	C
205	X	2003-08	MDOT	New Surface Parking at Transit Centers (500 spaces)			X		2005	2005	0.0025	0.0053	0.0015	0.0023	0.0013	0.0019	C
206		2003-08	MDOT	Additional Bike Lockers at Metro-Stations				X	2005		0.0127	0.0185	0.0074	0.0079	0.0067	0.0067	C
207	X	2003-08	MDOT	Bike Facilities at PnR Lots or other similar location			X		2005	2005	0.0089	0.0147	0.0052	0.0063	0.0047	0.0053	C
208		2003-08	MDOT	CNG Fueling Stations				X	2005		0.1270	0.1170					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	0.0013	0.0020	0.0008	0.0008	0.0007	0.0007	C (TCM)
212	X	2003-08	MDOT	Bike \ Pedestrian Trail - Anacostia River Walk			X		2005	Ongoing	0.0006	0.0004	0.0003	0.0002	0.0003	0.0001	C
213		2003-08	MDOT	Transit Prioritization - Queue Jumps				X	2005		0.0030	0.0033	0.0017	0.0014	0.0016	0.0012	C
214	X	2003-08	MDOT	Commuter Choice Benefit/Tax Credit - Marketing Expansion	X				2005	Ongoing	0.0525	0.0761	0.0306	0.0327	0.0275	0.0275	C
215	X	2003-08	MDOT	Improvements to Pedestrian Access in TOD areas (4 locations)			X		2005	Ongoing	0.0057	0.0077	0.0033	0.0033	0.0030	0.0028	C
216	X	2003-08	MDOT	Telecommuting Expansion ¹	X				2005	Ongoing	0.0620	0.1070	0.0362	0.0460	0.0325	0.0387	C
217		2003-08	MDOT	Replace older Diesel Engine in Public Sector vehicles				X	2005		0.0237	0.1300					H
218	X	2003-08	VDOT	MV-92 Telecommuting Program - Expanded ¹	X				2005	2005	0.0662	0.1143	0.0386	0.0491	0.0347	0.0413	C

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	ACTUAL	2010		2020		2030		Project
					FULL	SCALED-BACK	UNDER-WAY	REM	COMPLETION DATE	COMPLETION DATE	VOC	NOX	VOC	NOX	VOC	NOX	Category *
					219	X	2003-08	VDOT	MV-123 Employer Outreach for Public Sector Employees ²	X				2005	2003	0.0147	0.0210
220	X	2003-08	REGION	Signal System Optimization	X				2005	2005	0.4155	0.1468	0.2445	0.0463	0.2204	0.0323	TR
221		2007-12	MDOT	Two P & R Lots in Frederick County (70 spaces)	X				2007	2008	0.0006	0.0011	0.0003	0.0005	0.0003	0.0004	c
Available Emissions Credits											2.325	4.497	1.406	1.088	1.270	0.756	

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			2010		2020		2030		
											VOC	NOx	VOC	NOx	VOC	NOx	
221	X	1995-00 TIP	REGION	M-24 Speed Limit Adherence	X				2010		-0.0074	0.2736	-0.0021	0.1206	0.0005	0.0377	TR
222		1996-01 TIP	MGC	Rock Spring Park Pedestrian Amenities				X			0.0010	0.0040	0.0000	0.0000	0.0000	0.0000	-
223	X	1996-01 TIP	MGC	Olney Transit Center Park and Ride					2015		0.0020	0.0080	0.0009	0.0030	0.0003	0.0007	C
224	X	1996-01 TIP	MGC	Damascus Park and Ride						2003	0.0010	0.0040	0.0004	0.0015	0.0001	0.0003	C
225	X	1996-01 TIP	DC	M-103 Taxicab Replacement (DC)					2015		0.0000	0.0000	0.1745	0.3000	0.3490	0.6000	H
226	X	STADIUM ANALYSIS		M-103 Taxicab Replacement (MD)				X	2008		0.0000	0.0000	0.1560	0.2400	0.1560	0.2400	H
227	X	1997-02 TIP	MDOT	Shady Grove West Transit Center Park and Ride				X			0.0000	0.0100	0.0000	0.0038	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	C
229	X	1997-02 TIP	MGC	White Oak Park and Ride					2008		0.0000	0.0200	0.0000	0.0076	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	C
231	X	1997-02 TIP	MGC	Four Corners Transit Center					2015		0.0000	0.0010	0.0000	0.0004	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	-
233	X	1997-02 TIP	MGC	Silver Spring Transit Access							0.0000	0.0010	0.0000	0.0003	0.0000	0.0002	C
234	X	1997-02 TIP	MGC	Shady Grove Parking Construction						2003	0.0050	0.0190	0.0021	0.0072	0.0007	0.0017	C

PLAN TOTAL	0.0006	0.3266	0.1764	0.4424	0.3512	0.6434
------------	--------	--------	--------	--------	--------	--------

GRAND TOTAL (Current Measures + CLRP plan)	2.325	4.823	1.583	1.531	1.621	1.399
--	-------	-------	-------	-------	-------	-------

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 2.5 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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	
9	X	1994-99	MDOT	Park & Ride Lot - MD 210/ MD 373	X				2000	2003	0.0097	0.3774	0.0095	0.0988	0.0095	0.0836	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	0.0097	0.3774	0.0095	0.0988	0.0095	0.0836	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	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	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	TR
48	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0097	0.3774	0.0095	0.0988	0.0095	0.0836	C (TCM)
49	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.0907	3.5222	0.0891	0.9224	0.0891	0.7798	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	0.0032	0.1258	0.0032	0.0329	0.0032	0.0279	C (TCM)
56	X	1995-00	VDOT	Cherry Hill VRE Access			X			Jul-08	0.0777	3.0190	0.0764	0.7906	0.0764	0.6684	C (TCM)
58	X	1995-00	WMATA	Bus Replacement (172 buses)	X				1998	1998	0.9490	36.8655					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	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	C
61	X	1995-00	MCG	Bicycle Facilities			X		FY99		0.0065	0.2516	0.0064	0.0659	0.0064	0.0557	C
62	X	1995-00	MCG	Pedestrian Facilities to Metrorail			X				0.0259	1.0063	0.0255	0.2635	0.0255	0.2228	C
63	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0389	1.5095	0.0382	0.3953	0.0382	0.3342	C
64	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.3368	13.0824	0.3309	3.4261	0.3309	2.8966	C (TCM)
66	X	1995-00	VDOT	Commuter Lots - District Wide			X		varies	1995, 2001	0.1069	4.1512	0.1050	1.0871	0.1050	0.9191	C
67	X	1995-00	VDOT	I-66 and Stringfellow Rd. Park and Ride	X				2000	2000 end	0.0648	2.5159	0.0636	0.6589	0.0636	0.5570	C
68	X	1995-00	VDOT	Lake Ridge Park and Ride (now called Tacketts Mill lot)	X					1999/2000	0.0324	1.2579	0.0318	0.3294	0.0318	0.2785	C
69	X	1995-00	VDOT	Bicycle Trails and Facilities (Arlington & Fairfax Co - 7 locations)			X		varies	2007	0.0551	2.1385	0.0541	0.5600	0.0541	0.4735	C
70	X	1995-00	VDOT	Improved Access to Metrorail Stations (VRE 2 Stn)			X		varies	2000-2012	0.0032	0.1258	0.0032	0.0329	0.0032	0.0279	C
71	X	1995-00	VDOT	I-66 HOV access at Monument Dr.	X					1997	0.0648	2.5159	0.0636	0.6589	0.0636	0.5570	C
72	X	1995-00	DC	Bicycle Facilities		X					0.0648	2.5159	0.0636	0.6589	0.0636	0.5570	C
73	X	1995-00	REGION	COG Regional Ridesharing Support	X					on-going	1.8230	67.3023	1.7913	17.6323	1.7913	15.0114	C
74	X	1995-00	REGION	M-47 Integrated Ridesharing	X					on-going	0.6309	23.5030	0.6199	6.1570	0.6199	5.2352	C
75	X	1995-00	REGION	M-92 Telecommuting Support	X					on-going	1.3111	50.0448	1.2883	13.1076	1.2883	11.1080	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	0.0097	0.3774	0.0095	0.0988	0.0095	0.0836	C

TERM TRACKING SHEET
TRANSPORTATION EMISSION REDUCTION MEASURES
Part B - Yearly PM 2.5 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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	
81	X	1996-01	VDOT	Arlington County Metrocheck Program	X				1997	1997 Onwards	0.0097	0.3774	0.0095	0.0988	0.0095	0.0836	C
82	X	1996-01	VDOT	Old Dominion Drive Bike Trail			X		2000	2008	0.0032	0.1258	0.0032	0.0329	0.0032	0.0279	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	0.1258	0.0032	0.0329	0.0032	0.0279	C
90	X	1996-01	REGION	M-47c Employer Outreach / Guaranteed Ride Home	X					on-going	3.7922	145.5932	3.7262	38.1318	3.7262	32.2892	C
91	X	1996-01	REGION	M-70a Bicycle Parking			X		1999		0.0227	0.8805	0.0223	0.2306	0.0223	0.1950	C
92	X			M-92 Telecommuting Support ¹	Combined with item #75												C
95	X	1997-02	MCG	Germantown Transit Center	X				2005		0.0615	2.3901	0.0605	0.6259	0.0605	0.5292	C (TCM)
102	X	1997-02	PG	Prince George's County Bus Replacement	X				1998	1998	0.0339	1.3166					SP (TCM)
106	X	1997-02	VDOT	PRTC Employer Commuting Outreach Program	X					1977 on-going	0.0016	0.0629	0.0016	0.0165	0.0016	0.0139	C
107	X	1997-02	VDOT	PRTC Multimodal Strategic Marketing Implementation Plan	X					1977 on-going	0.0016	0.0629	0.0016	0.0165	0.0016	0.0139	C
108	X	1997-02	MDOT	M-103 Taxicab Replacement in Maryland ²	X				2005	Stopped	1.0074	39.1331					SP
109	X	1997-02	REGION	M-70b Employer Outreach for Bicycles	X				1998	on going	0.0036	0.1599	0.0035	0.0418	0.0035	0.0347	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	0.6090	23.6554					SP
112	X	1998-03	MCG	Montgomery County Bus Replacement	X					Ongoing	0.1017	3.9499					SP
113	X	1998-03	PG	Prince George's County Bus Replacement	X				1998	Ongoing	0.0075	0.2926					SP
114	X	1998-03	FDC	Frederick County Bus Replacement	X						0.0000	0.0000					SP
117	X	1998-03	VDOT	Arlington County Four Mile Run Bike Trail	X				1999	2009	0.0032	0.1258	0.0032	0.0329	0.0032	0.0279	C
118	X	1998-03	VDOT	Northern Virginia Turn Bays	X				2000	1998	0.0057	0.2214	0.0056	0.0580	0.0056	0.0490	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	1.4537	56.4687					SP
122	X	97 & 98 TIP	REGION	M-101a Mass Marketing Campaign (Consumer)			X			2005	0.2195	8.1811	0.2157	2.1432	0.2157	1.8222	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	0.1166	4.5285	0.1146	1.1859	0.1146	1.0027	C
124	X	1999-04	MDOT	Signal Systems (197/MD-198, MD-382 TO US-301,US301)	X				2000	2002	-0.0114	-0.4428	-0.0112	-0.1160	-0.0112	-0.0980	TR
125	X	1999-04	VDOT	Transit Center at 7 Corners	X				2002	2001	0.0065	0.2516	0.0064	0.0659	0.0064	0.0557	C
126	X	1999-04	VDOT	Falls Church Clean Diesel Bus Service	X				2000	2003	0.0188	0.7315					SP
127	X	1999-04	VDOT	VA 234 Bike Trail			X		2001	2008	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	C
130	X	1996-01	VDOT	M-14: I-66 Feeder Bus Fare Buy Down	X					1998 onward	0.1781	6.9186	0.1750	1.8119	0.1750	1.5318	C
131	X	2000-05	MDOT	Various park and Ride Lots	X				2002	2003	0.1053	4.0897	0.1035	1.0710	0.1035	0.9055	C

TERM TRACKING SHEET
TRANSPORTATION EMISSION REDUCTION MEASURES
Part B - Yearly PM 2.5 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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	
132	X	2000-05	MDOT	Signal Systems	X				Varies	on-going	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	0.0583	2.2643	0.0573	0.5930	0.0573	0.5013	C
134	X	2000-05	VDOT	300 Spaces at Backlick Rd	X				2003	2007	0.0421	1.6353	0.0414	0.4283	0.0414	0.3621	C
135	X	2000-05	VDOT	Accotink-Gateway Connector Trail	X				2002	2005	0.0324	1.2579	0.0318	0.3294	0.0318	0.2785	C
136	X	2000-05	VDOT	Columbia Pike Trail			X		2000	2007	0.0259	1.0063	0.0255	0.2635	0.0255	0.2228	C
137	X	2000-05	VDOT	Lee Highway trail	X				2000	2007	0.0130	0.5032	0.0127	0.1318	0.0127	0.1114	C
138	X	2000-05	VDOT	Arlington Bus Shelter Improvements	X				2005	2005	0.0032	0.1258	0.0032	0.0329	0.0032	0.0279	C
139	X	2000-05	VDOT	Pentagon Metrostation Improvements	X					2003	0.0551	2.1385	0.0541	0.5600	0.0541	0.4735	C
140	X	2000-05	MDOT	East/West Intersection Improvements			X		2005	2005	0.0810	3.1448	0.0795	0.8236	0.0795	0.6963	C
141	X	2001-06	Feds	Federal Transit/Ridesharing subsidy	X				on-going		0.6185	24.0264	0.6078	6.2921	0.6078	5.3196	C
142	X	2002-07	WMATA	100 CNG buses	X				2002		0.5114	19.8664					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	H (TCM)
144		2003-08	DC	Replace-23 12 Taxicabs with CNG cabs				X	2005	2006	0.0591	2.2968					H
145	X	2003-08	DC	D.C.Incident Response & TrafficManagement System	X				2005	2004	0.2810	10.9156	0.2761	2.8586	0.2761	2.4168	TR
146	X	2003-08	DC	Bicycle Lane in D. C. (35 Mile)			X		2005	2008	0.0435	2.3259	0.0428	0.6077	0.0428	0.4952	C (TCM)
147	X	2003-08	DC	Bicycle Racks in D. C. (500)	X				2005	2004	0.0040	0.2658	0.0040	0.0694	0.0040	0.0555	C (TCM)
148	X	2003-08	DC	External Bicycle Racks on WMATA Buses in D. C. (600)	X				2005	2003	0.0210	0.8194	0.0206	0.2145	0.0206	0.1814	C (TCM)
149		2003-08	DC	CNG Rental Cars (18)				X	2005		0.0008	0.0293					SP
150	X	2003-08	DC	Sidewalks in D.C. (\$ 5 million)	X				2005	2004	0.3753	14.7624	0.3688	3.8646	0.3688	3.2644	C
151	X	2003-08	DC	CNG Refuse Haulers (2)	X				2005	2004	0.0075	0.2926					H (TCM)
152	X	2003-08	DC	Circulator /Feeder Bus Routes	X				2005	2003	0.1349	5.3254	0.1325	1.3941	0.1325	1.1770	C
153	X	2003-08	MDOT	Commuter Tax Credit	X				2005	n/a	0.8289	32.4959	0.8145	8.5072	0.8145	7.1890	C
155		2003-08	MDOT	Employer Vanpool Program (WWB)				X	2005		0.0282	1.0965					C
156	X	2003-08	MDOT	Green Line Link			X		2005	n/a	0.0332	1.2356	0.0326	0.3236	0.0326	0.2754	C
157	X	2003-08	MDOT	Park & Ride Lots - Southern Maryland			X		2005	2005	0.0716	2.5352	0.0704	0.6642	0.0704	0.5694	C
158	X	2003-08	MDOT	Prince George's County- Bus Exp			X		2005	n/a	0.4655	17.3263	0.4574	4.5376	0.4574	3.8619	C
159	X	2003-08	MDOT	MTA - Bus Service Expansion			X		2005	n/a	0.1127	4.1304	0.1108	1.0818	0.1108	0.9228	C
160	X	2003-08	MDOT	Ride- On - Super Discount			X		2005	n/a	0.0095	0.3755	0.0094	0.0983	0.0094	0.0830	C
161	X	2003-08	Regional	Regional Traveler Information Systems			X		2005		3.6645	142.3462	3.6007	37.2781	3.6007	31.5166	TR
162	X	2003-08	MDOT	Universal Transportation Access (MD + WMATA)			X		2005	n/a	0.1683	6.6190	0.1654	1.7328	0.1654	1.4637	C
163	X	2003-08	MCG	Construction of 1300 additional Parking Spaces at Grosvenor Metro Garage	X				2004		0.0779	2.7344	0.0765	0.7164	0.0765	0.6149	C (TCM)

TERM TRACKING SHEET
TRANSPORTATION EMISSION REDUCTION MEASURES
Part B - Yearly PM 2.5 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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	
164	X	2003-08	MCG	Bethesda Shuttle Bus Services	X				2004		0.0321	1.2692	0.0316	0.3323	0.0316	0.2805	C
165	X	2003-08	MCG	External Bicycle Racks on Ride-On Buses in Montgomery County	X				2004		0.0065	0.2555	0.0064	0.0669	0.0064	0.0566	C
166	X	2003-08	MCG	New CNG Powered Light Duty Vehicle fleet in the County	X				2004		0.0004	0.0146					SP
167	X	2003-08	MCG	Free Bus Service on Selected Routes on I-270	X				2004		0.0112	0.4396	0.0110	0.1151	0.0110	0.0972	C
168	X	2003-08	MCG	Annual Sidewalk Program	X				2004		0.1787	7.0297	0.1756	1.8403	0.1756	1.5545	C
169		2003-08	MDOT	Bethesda Breeze/International Express Metrobus				X	2005	Removed	0.0351	1.4220	0.0345	0.3722	0.0345	0.3132	C
170		2003-08	MDOT	Bethesda-8, Silver Spring Downtown Dasher and Prince Georges Co. Shuttles at 3 PNR lot				X	2005	Removed	0.0634	2.8091	0.0623	0.7348	0.0623	0.6113	C
171		2003-08	MDOT	Proposed Transportation Management District in Montgomery County (Rockville and Gaithersburg)				X	2005	Removed	0.0504	2.0898	0.0496	0.5469	0.0496	0.4588	C
172	X	2003-08	MDOT	Sidewalks (Bikes/Pedestrian) at / near Rail Stations	X				2005	2002	0.1000	3.9056	0.0983	1.0225	0.0983	0.8645	C
173	X	2003-08	MDOT	Neighborhood Sidewalks Improvements (Bike/Pedestrian)	X				2005	2004	0.0039	0.4809	0.0038	0.1253	0.0038	0.0961	C
174	X	2003-08	MDOT	Neighborhood Conservation Program - Neighborhood Sidewalks Improvements (Bikes/Pedestrian)		X			2005	Ongoing	0.0034	0.4208	0.0033	0.1096	0.0033	0.0841	C
175	X	2003-08	MDOT	Maryland bus Transit Service Expansion	X				2005	2004	0.2408	8.4542	0.2366	2.2151	0.2366	1.9011	C
176	X	2003-08	VDOT	Universal Transportation Access Program	X				2005	2005-07	0.0127	0.4963	0.0124	0.1299	0.0124	0.1098	C
177	X	2003-08	VDOT	Interactive Rideshare & Kiosk Initiative			X		2008 onward		0.0050	0.1872	0.0049	0.0490	0.0049	0.0417	C
178	X	2003-08	VDOT	Mobile Commuter Stores	X				2005	2005	0.0278	1.0348	0.0273	0.2710	0.0273	0.2307	C
179	X	2003-08	VDOT	Telework Incentive Program (Telework VA) ¹	X				2005	Fall 2006	0.0082	0.3166	0.0080	0.0829	0.0080	0.0701	C
180	X	2003-08	VDOT	Commuter Choice	X				2005		0.0093	0.3730	0.0091	0.0976	0.0091	0.0822	C
181	X	2003-08	VDOT	Employer Shuttle Services				X	2005		0.1100	4.4272	0.1081	1.1588	0.1081	0.9758	C
184	X	2003-08	VDOT	Van Start / Van Save	X				2005	till 2006	0.0182	0.6765					C
185	X	2003-08	VDOT	Metro Shuttle Bus			X		2005	1999-2005	0.0191	0.6761	0.0188	0.1771	0.0188	0.1518	C
187	X	2003-08	VDOT	VRE Mid-Day Train Service	X				2005	2002	0.0207	0.7692	0.0204	0.2014	0.0204	0.1715	C
190	X	2003-08	VDOT	Employer Vanpool Program (Bridge deck)	X				2005	2004 - 2008	0.0136	0.4960					C
191	X	2003-08	VDOT	Town of Leesburg P&R Lot			X		2005	early 2009	0.0285	1.0291	0.0280	0.2696	0.0280	0.2304	C
192	X	2003-08	VDOT	District-wide P&R Lots	X				2005	2001-2005	0.1617	5.8821	0.1589	1.5408	0.1589	1.3155	C
193	X	2003-08	VDOT	Additional Parking at 4 Metro stations	X				2005	2005	0.2484	8.7207	0.2440	2.2849	0.2440	1.9610	C
196	X	2003-08	WMATA	64 CNG Buses (Purchased in 2001)	X				2005	2004	0.3278	12.7332					SP (TCM)
197	X	2003-08	WMATA	250 CNG Buses (175 buses by Dec. 2004; 75 buses by mid 2006)	X				2005	Jun-06	1.2805	49.7392					SP
198	X	2003-08	WMATA	60 Engine Replacement (MY 1992 & 1993 MY buses)	X				2004	2004	0.2843	11.0421					SP
199	X	2003-08	WMATA	Car Sharing Program	X				2005	2004	0.0135	0.4742	0.0133	0.1242	0.0133	0.1066	C
200	X	2003-08	WMATA	Bikes Racks on WMATA Buses in VA (372 Bike Racks)	X				2005	2004	0.0130	0.5094	0.0128	0.1334	0.0128	0.1128	C (TCM)
202		2003-08	MDOT	Fleet Replacement (state auto fleet, gas to hybrid, 250 vehicles)				X	2005		0.0501	1.9457	0.0492	0.5095			SP

TERM TRACKING SHEET
TRANSPORTATION EMISSION REDUCTION MEASURES
Part B - Yearly PM 2.5 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	2010		2020		2030		Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	
203	X	2003-08	MDOT	Replace 55 Montgomery County 10 yr. old buses w/ new CNG buses			X		2005	Ongoing	0.6131	23.8163	0.6024	6.2371			SP
204		2003-08	MDOT	Neighborhood Bus Shuttle (5 circulator routes)				X	2005		0.0838	3.2378	0.0824	0.8477	0.0824	0.7178	C
205	X	2003-08	MDOT	New Surface Parking at Transit Centers (500 spaces)			X		2005	2005	0.0444	1.5607	0.0436	0.4089	0.0436	0.3509	C
206		2003-08	MDOT	Additional Bike Lockers at Metro-Stations				X	2005		0.1419	5.5431	0.1395	1.4512	0.1395	1.2269	C
207	X	2003-08	MDOT	Bike Facilities at PnR Lots or other similar location			X		2005	2005	0.1164	4.3726	0.1144	1.1451	0.1144	0.9733	C
208		2003-08	MDOT	CNG Fueling Stations				X	2005		0.4406	17.1161					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	0.0150	0.5873	0.0148	0.1538	0.0148	0.1300	C (TCM)
212	X	2003-08	MDOT	Bike \ Pedestrian Trail - Anacostia River Walk			X		2005	Ongoing	0.0022	0.1287	0.0022	0.0336	0.0022	0.0271	C
213		2003-08	MDOT	Transit Prioritization - Queue Jumps				X	2005		0.0229	1.0035	0.0225	0.2625	0.0225	0.2187	C
214	X	2003-08	MDOT	Commuter Choice Benefit/Tax Credit - Marketing Expansion	X				2005	Ongoing	0.5833	22.8203	0.5732	5.9743	0.5732	5.0500	C
215	X	2003-08	MDOT	Improvements to Pedestrian Access in TOD areas (4 locations)			X		2005	Ongoing	0.0577	2.3196	0.0567	0.6072	0.0567	0.5113	C
216	X	2003-08	MDOT	Telecommuting Expansion ¹	X				2005	Ongoing	0.8615	31.8592	0.8466	8.3441	0.8466	7.1080	C
217		2003-08	MDOT	Replace older Diesel Engine in Public Sector vehicles				X	2005		0.4896	19.0179					H
218	X	2003-08	VDOT	MV-92 Telecommuting Program - Expanded ¹	X				2005	2005	0.9201	34.0239	0.9041	8.9111	0.9041	7.5909	C
219	X	2003-08	VDOT	MV-123 Employer Outreach for Public Sector Employees ²	X				2005	2003	0.1602	6.3004	0.1574	1.6494	0.1574	1.3932	C
220	X	2003-08	REGION	Signal System Optimization	X				2005	2005	1.0243	39.7879	1.0065	10.4198	1.0065	8.8093	TR
221	X	2007-12	MDOT	Two P & R Lots in Frederick County (70 spaces)	X				2007	2008	0.0087	0.3171	0.0086	0.0831	0.0086	0.0709	C
Available Emissions Credits											24.546	1034.338	15.702	184.596	15.099	150.996	

**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			2009		2010		2020		2030		
											PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	
221	X	1995-00 TIP	REGION	M-24 Speed Limit Adherence					2010		2.1291	91.1773	2.1107	81.9913	2.1290	22.0415	0.7899	6.9136	TR
222		1996-01 TIP	MGC	Rock Spring Park Pedestrian Amenities				X			0.0311	1.3332	0.0309	1.1989	0.0000	0.0000	0.0000	0.0000	-
223	X	1996-01 TIP	MGC	Olney Transit Center Park and Ride					2015		0.0623	2.6664	0.0617	2.3977	0.0536	0.5552	0.0146	0.1281	C
224	X	1996-01 TIP	MGC	Damascus Park and Ride						2003	0.0311	1.3332	0.0309	1.1989	0.0268	0.2776	0.0073	0.0641	C
225	X	1996-01 TIP	DC	M-103 Taxicab Replacement (DC)					2015		0.0000	0.0000	0.0000	0.0000	5.2954	54.8227	12.5745	110.0623	H
226	X	STADIUM ANALYSIS		M-103 Taxicab Replacement (MD)				X	2008		0.0000	0.0000	0.0000	4.2363	43.8582	5.0298	44.0249	H	
227	X	1997-02 TIP	MDOT	Shady Grove West Transit Center Park and Ride							0.0778	3.3329	0.0772	2.9972	0.0670	0.6940	0.0183	0.1602	C
228	X	1997-02 TIP	MGC	Olney Transit Center Park and Ride					2015		0.0000	0.0000	0.0000	0.0000	0.0220	0.2277	0.0146	0.1281	C
229	X	1997-02 TIP	MGC	White Oak Park and Ride					2008		0.1557	6.6659	0.1543	5.9943	0.1341	1.3879	0.0366	0.3204	C
230	X	1997-02 TIP	MGC	Damascus Park and Ride						2003	0.0000	0.0000	0.0000	0.0000	0.0082	0.0854	0.0055	0.0481	C
231	X	1997-02 TIP	MGC	Four Corners Transit Center					2015		0.0078	0.3333	0.0077	0.2997	0.0067	0.0694	0.0018	0.0160	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							0.0078	0.3333	0.0077	0.2997	0.0055	0.0569	0.0037	0.0320	C
234	X	1997-02 TIP	MGC	Shady Grove Parking Construction						2003	0.1479	6.3326	0.1466	5.6946	0.1274	1.3185	0.0348	0.3043	C

PLAN TOTAL	0.4125	108.8419	0.4089	97.8762	5.6797	80.8429	12.6934	118.0171
-------------------	--------	----------	--------	---------	--------	---------	---------	----------

GRAND TOTAL (Current Measures + CLRP plan)	25.172	1259.012	24.955	1132.215	21.382	265.439	27.793	269.013
---	--------	----------	--------	----------	--------	---------	--------	---------

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