

National Capital Region Transportation Planning Board

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MEMORANDUM

DRAFT

January 9, 2008

To: Transportation Planning Board

From: Michael J. Clifford
Systems Planning Applications Director

Subject: Air Quality Conformity Assessment for the 2007 Update of the Constrained Long Range Plan (CLRP) and FY2008-2013 Transportation Improvement Program (TIP);
Comments and Responses to Comments

INTRODUCTION

This memo documents: (1) summary results of the air quality conformity assessment of the 2007 CLRP and the FY2008-2013 TIP with respect to ozone season and fine particle (PM_{2.5}) pollutants, and wintertime carbon monoxide (CO), and (2) comments and responses to comments upon the analysis. The results, based upon analyses contained in the December 13, 2007 draft technical report, Air Quality Conformity Determination Of The 2007 Constrained Long Range Plan And The FY2008-2013 Transportation Improvement Program For The Washington Metropolitan Region, were released for public comment and interagency consultation on December 13, 2007.

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. For the past three years' conformity assessments, the ozone precursor mobile emissions budgets were 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. Earlier this year MWAQC completed the development of the 8-hour ozone SIP with new mobile emissions budgets, which also correspond to a new geographic area (relevant planning areas are shown in Exhibit 1). While use of the new 8-hour emissions budgets has not yet been approved by EPA, adherence to these new budgets is also documented in this report as EPA may yet act upon them prior to the TPB's conformity approval action scheduled for January 16, 2008.

BACKGROUND

On May 16, 2007 the TPB approved the scope of work and the project submissions for inclusion in the conformity analysis for the year 2007 update of the CLRP and FY2008-2013 TIP. Key technical inputs to the analysis included: Round 7.1 Cooperative Forecasts; the new Version 2.2 Travel Demand Model utilizing the new project submissions, and reflecting updated transit service; EPA's Mobile6.2 Emissions Factor Model with use of 2005 vehicle registration data for all jurisdictions, use of hourly temperatures, relative humidity, barometric pressure and NOx rebuild effects.

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 2007 CLRP and FY2008-2013 TIP included the preparation of volatile organic compound (VOC) and nitrogen oxide (NOx) emissions inventories for specified forecast years associated with the plan and program (base year 2002 and forecast years: 2008, 2009, 2010, 2020 and 2030). PM2.5 and wintertime carbon monoxide (CO) analyses for conformity were also conducted for the three later forecast years. While ozone season pollutants (VOC and NOx) and wintertime CO are inventoried for average weekday conditions, precursor NOx and direct PM2.5 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. These results are described in the draft report, Transportation Emissions Reduction Measures (TERMs) Under Consideration for Conformity of the 2007 CLRP and FY 2008 - FY 2013 TIP.

Plan Amendments and Program Elements

There have been a number of new projects and changes advanced for the CLRP / TIP in this year's approval cycle. Attachment A presents a listing of significant new projects or changes to existing major projects since the 2006 CLRP and the FY2007-2012 TIP were approved by the Board on October 18, 2006.

Land Activity Forecasts

On March 14, 2007 COG's Metropolitan Development Policy Committee approved Round 7.1 Cooperative Forecast totals to be used for testing purposes in analysis of the CLRP and TIP. The Round 7.1 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 7.1 reflects the Baltimore Metropolitan Council's 'Round 7' adopted figures, whereas their previous input to the COG Round 7.0 forecasts was their 'Round 6-B' figures.

Travel Modeling Process

For this conformity analysis staff used a newly developed version of the TPB's travel demand model (Version 2.2). This model contains several significant refinements compared to its predecessor, including use of a new commercial vehicle model, refined forecasts at external stations, and better representation of volume delay and queuing functions within the traffic assignment component of the modeling process.

Using the new 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. These rates for each pollutant, shown for NO_x using Fairfax County freeway data as an illustration in Exhibit 3, 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 4 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.

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 5 - 8 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 12 and one half 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.

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 9 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.

Plan and Program Emissions Versus Emissions Budgets

Reference to Exhibits 5 – 9 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 both the 1-hour and 8-hour ozone season budgets. In Exhibits 5 - 8 both VOC and NOx emissions are seen to be within the mobile budgets for all forecast years. Wintertime CO emissions (contained in the full report but not summarized here) follow these same general trends and are easily within the CO emissions budget level.

Exhibit 9 shows that both direct PM2.5 and precursor NOx emissions are much lower than base year 2002 conditions, satisfying the primary conformity assessment criterion for PM2.5. In view of the fact that estimated emissions are within the mobile source budget for each pollutant, no additional transportation emissions reduction measures are required to demonstrate conformity.

Net Emissions Analysis

The emissions inventory data contained in Exhibits 5 – 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 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 PM2.5 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 5 tons per day of NOx, and approximately 25 and 1250 tons per year of direct PM2.5 and precursor NOx, 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 5 – 9 with the additional reductions from TERMS would further improve the emissions margins for each pollutant.

COMMENTS / RESPONSES TO COMMENTS

(To be completed following the close of the comment period on January 12, 2008)

SUMMARY

The analytical results described in this air quality assessment provide a basis for a determination by the TPB of conformity of the 2007 CLRP and the FY2008-2013 TIP.

Following: Exhibits 1-9
 Attachments A-C

EXHIBIT 1

Washington, D.C. - Maryland - Virginia

Planning Areas

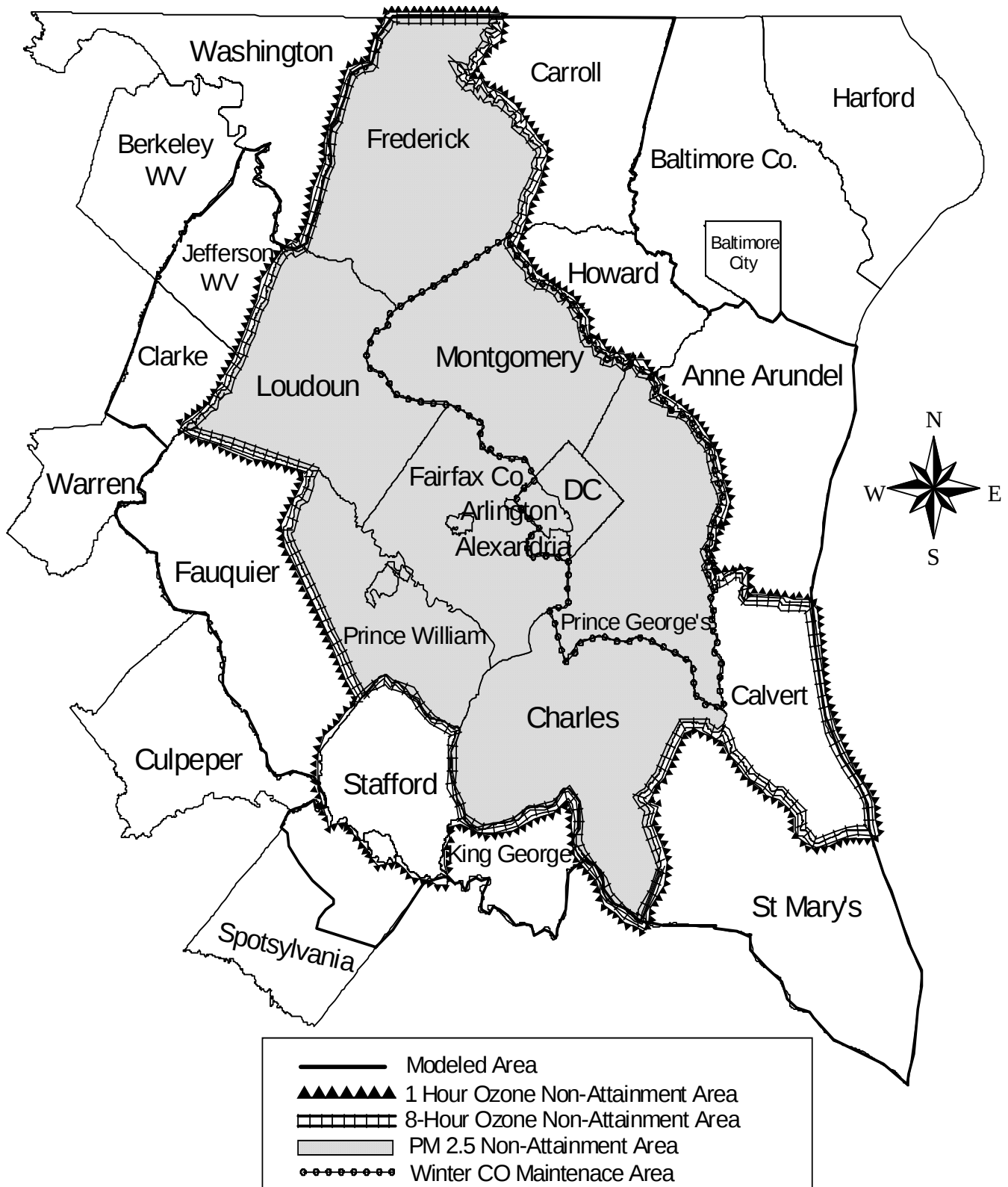


Exhibit 2

Travel Demand Summary Modeled Area Trips and Vehicle Miles Traveled (000's) Annualized Average Weekday Traffic (AAWDT)

	<u>2002</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>
Transit Trips	1,058,921	1,134,876	1,155,081	1,165,310	1,418,015	1,546,824
Vehicle Trips	19,551,790	21,848,223	22,213,151	22,530,781	25,447,683	27,626,025
VMT	146,488,410	159,407,071	161,839,018	165,420,513	187,484,318	199,201,305

Adjustment Factors to Convert AAWDT to Appropriate Season:

Ozone Season AAWDT: 1.05

Winter Season AAWDT: 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: AAWDT reflects a five day average
ADT reflects a seven day average

Exhibit 3
2002-2030 NOx COMPOSITE MOBILE6.2 ARTERIAL RUNNING EMISSION
RATES FOR FAIRFAX COUNTY

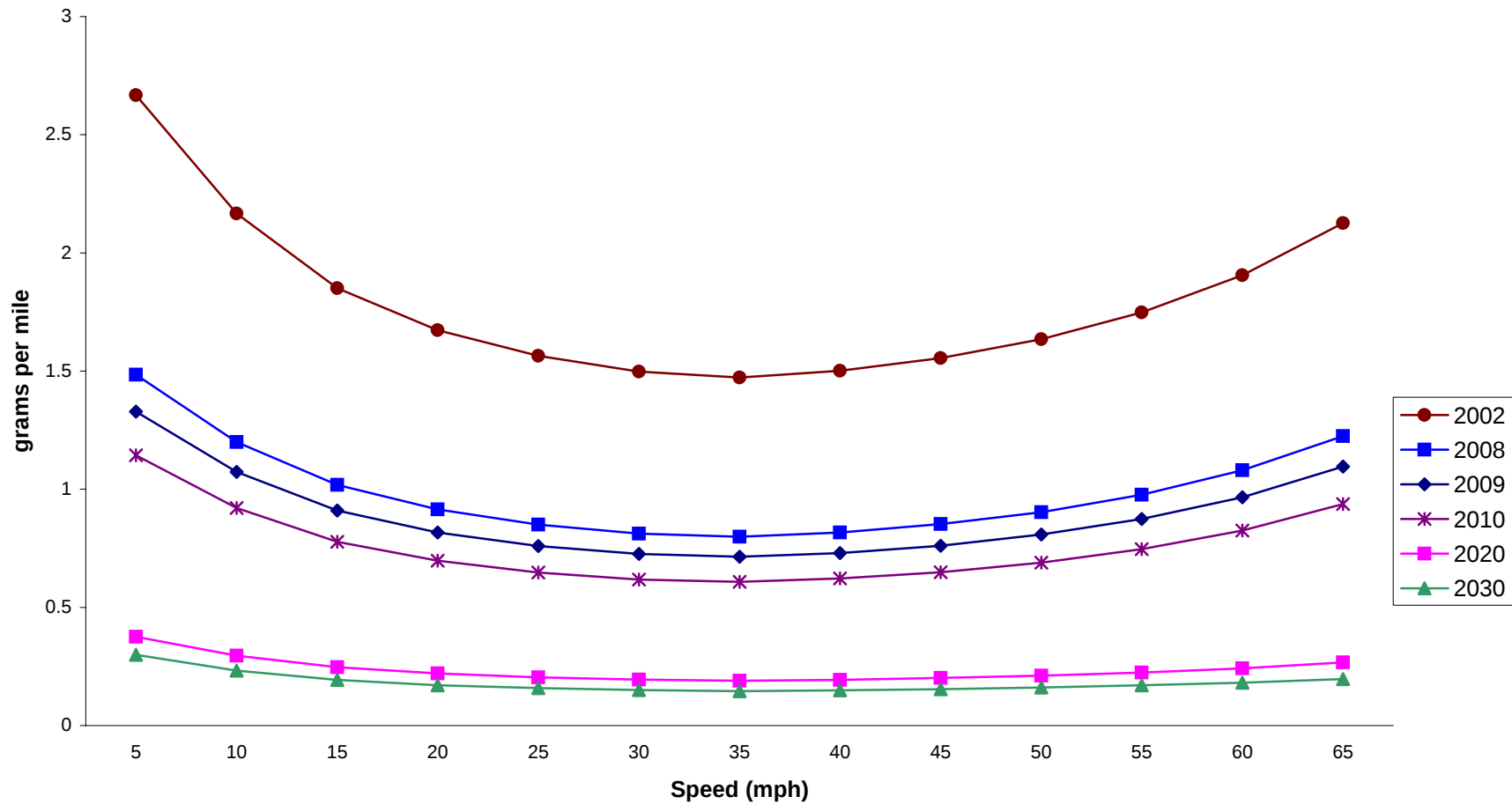


Exhibit 4
DIRECT PM_{2.5} EMISSION RATES FOR FAIRFAX COUNTY
(MAJOR ROADS NETWORK)

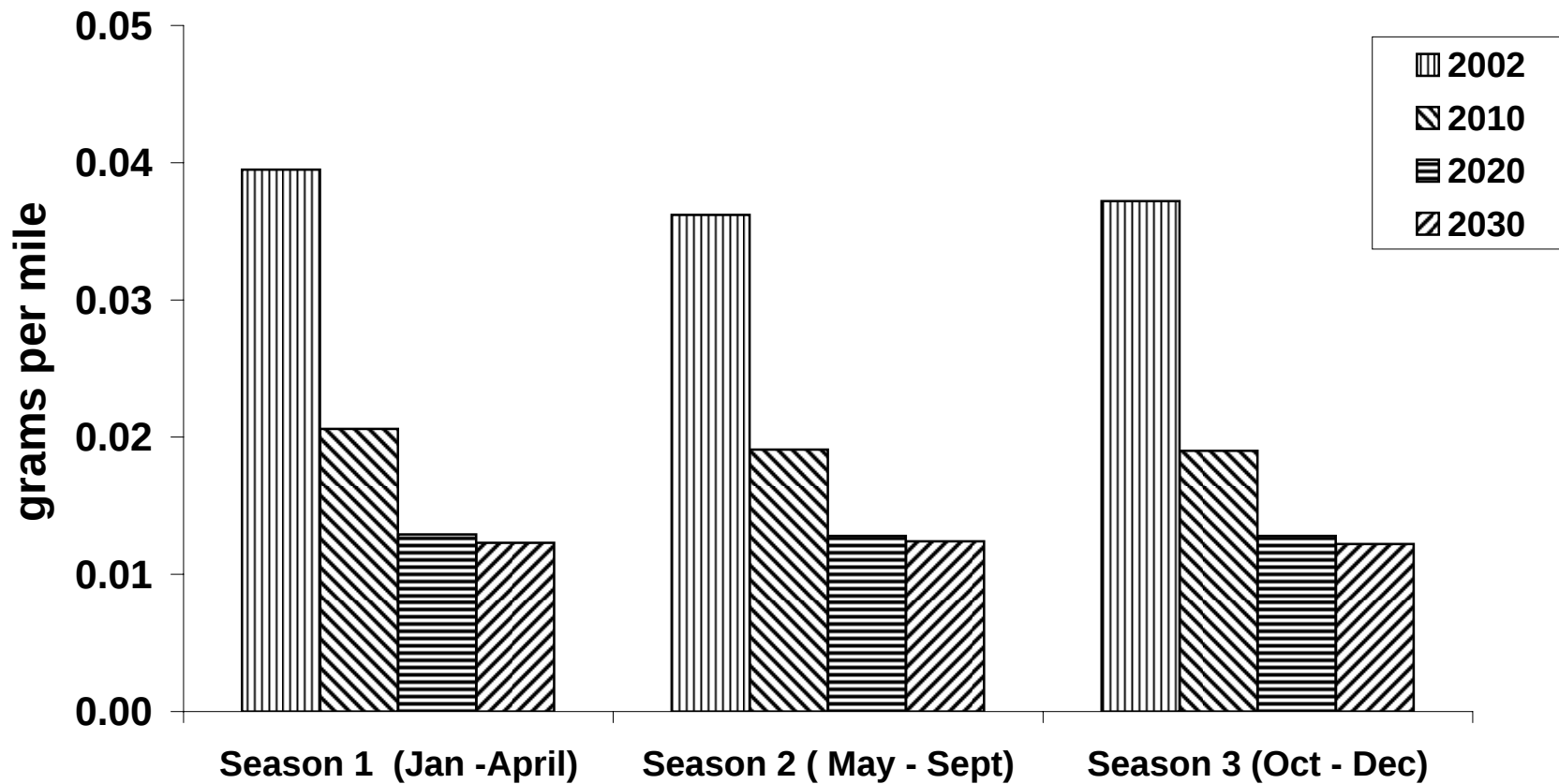


EXHIBIT 5

Mobile Source VOC Emissions for the 1-Hour Ozone Nonattainment Area 2007 CLRP and FY 2008-2013 TIP

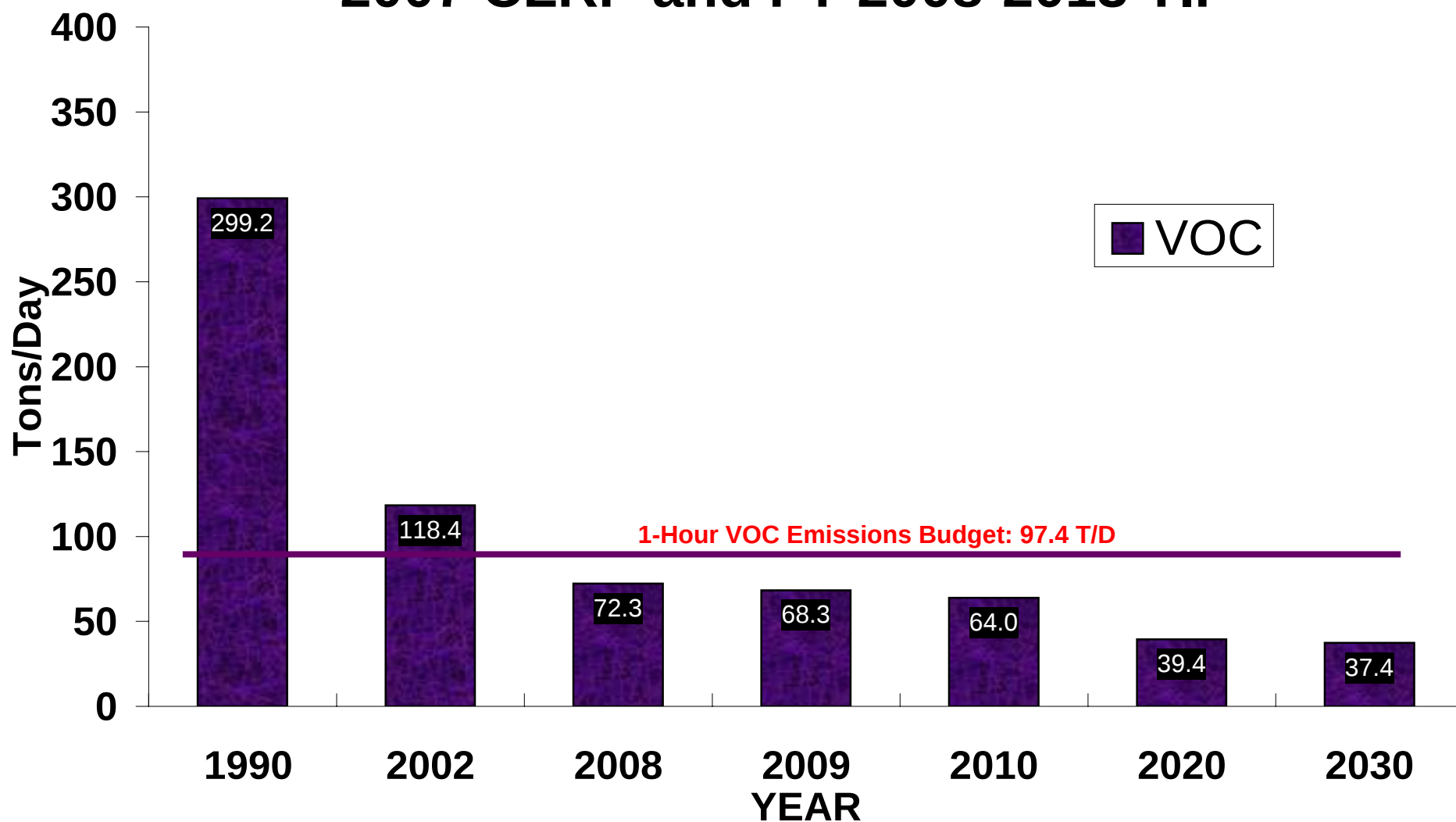
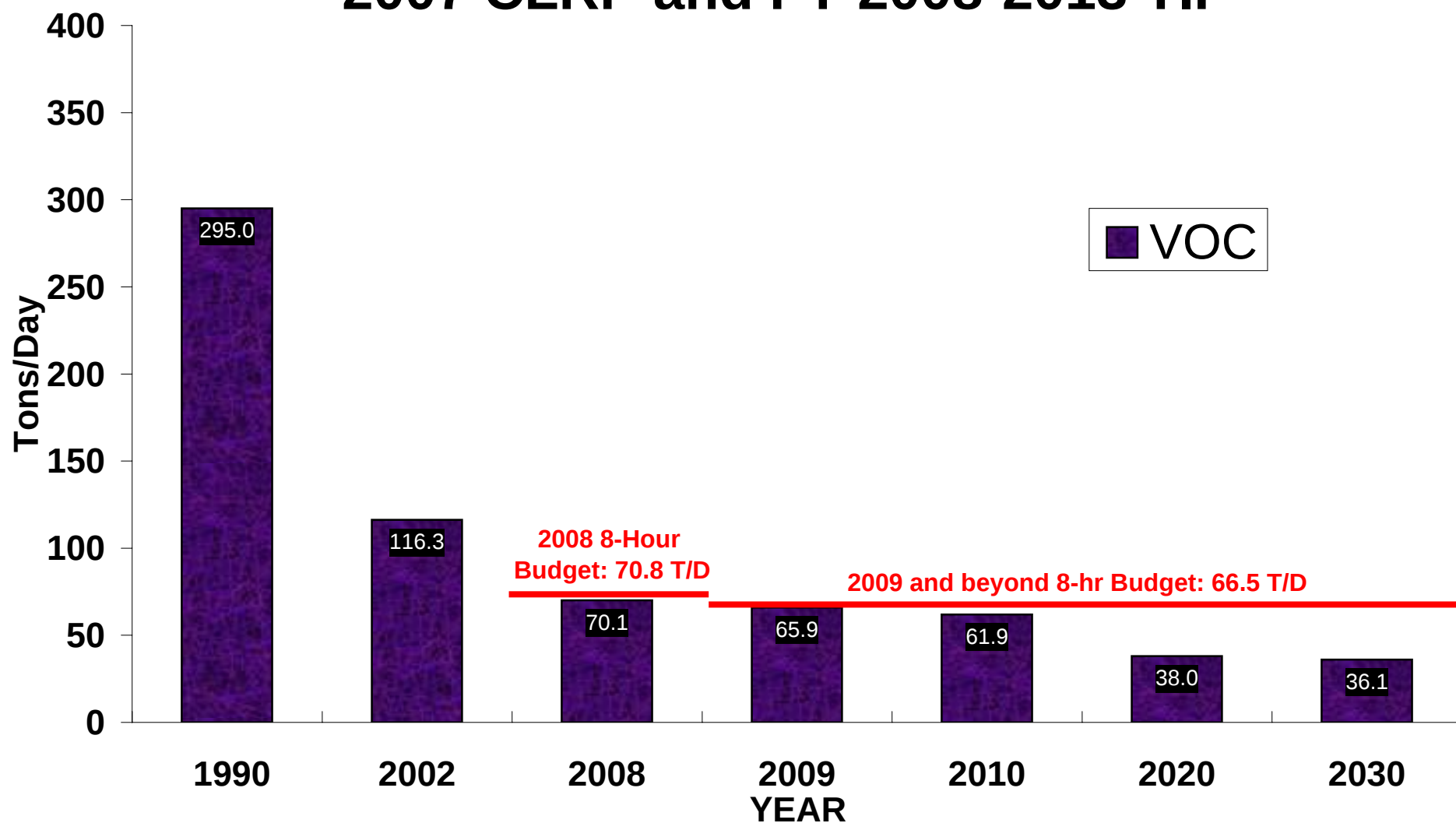


EXHIBIT 6

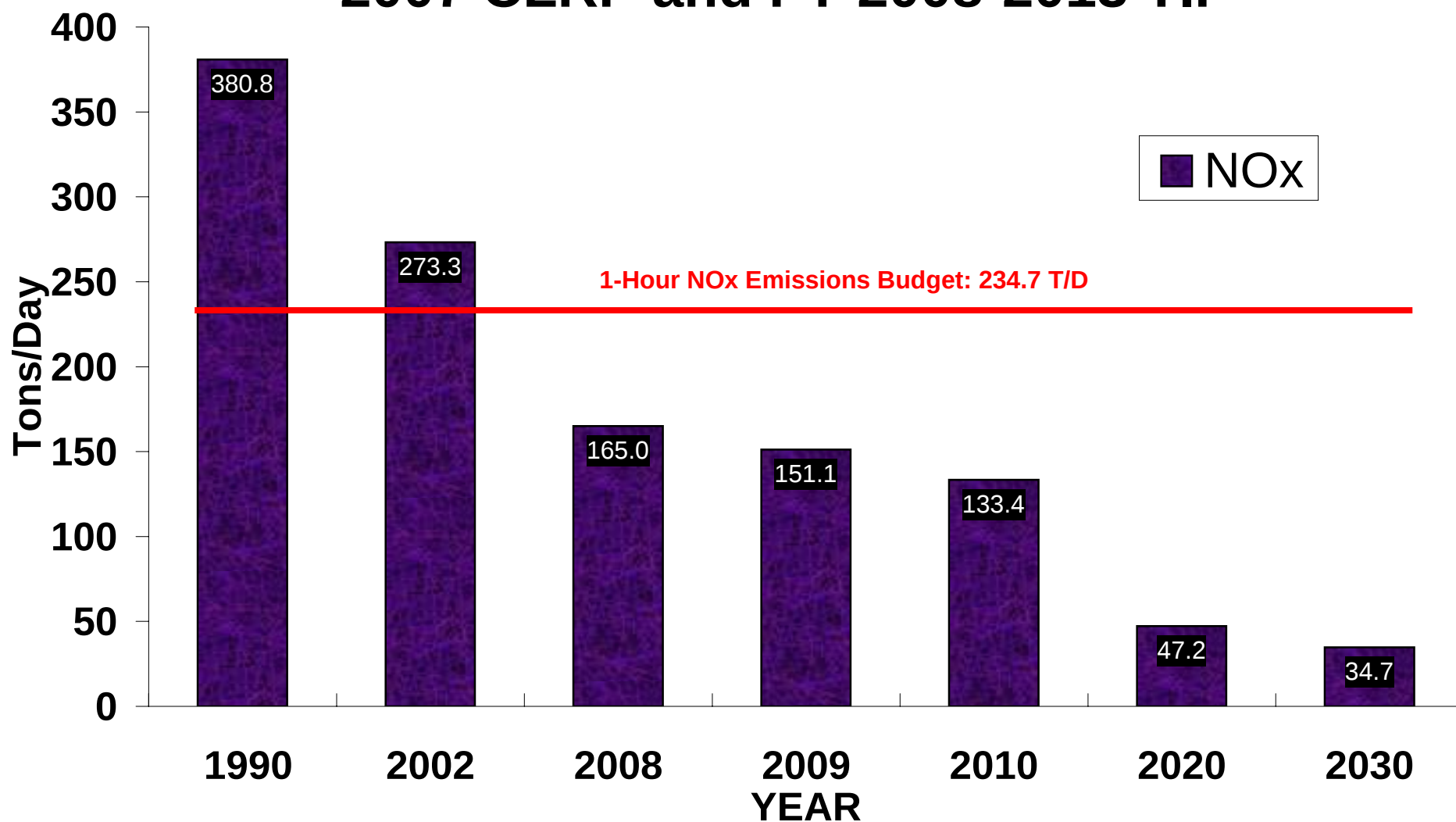
Mobile Source VOC Emissions for the 8-Hour Ozone Nonattainment Area 2007 CLRP and FY 2008-2013 TIP



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EXHIBIT 7

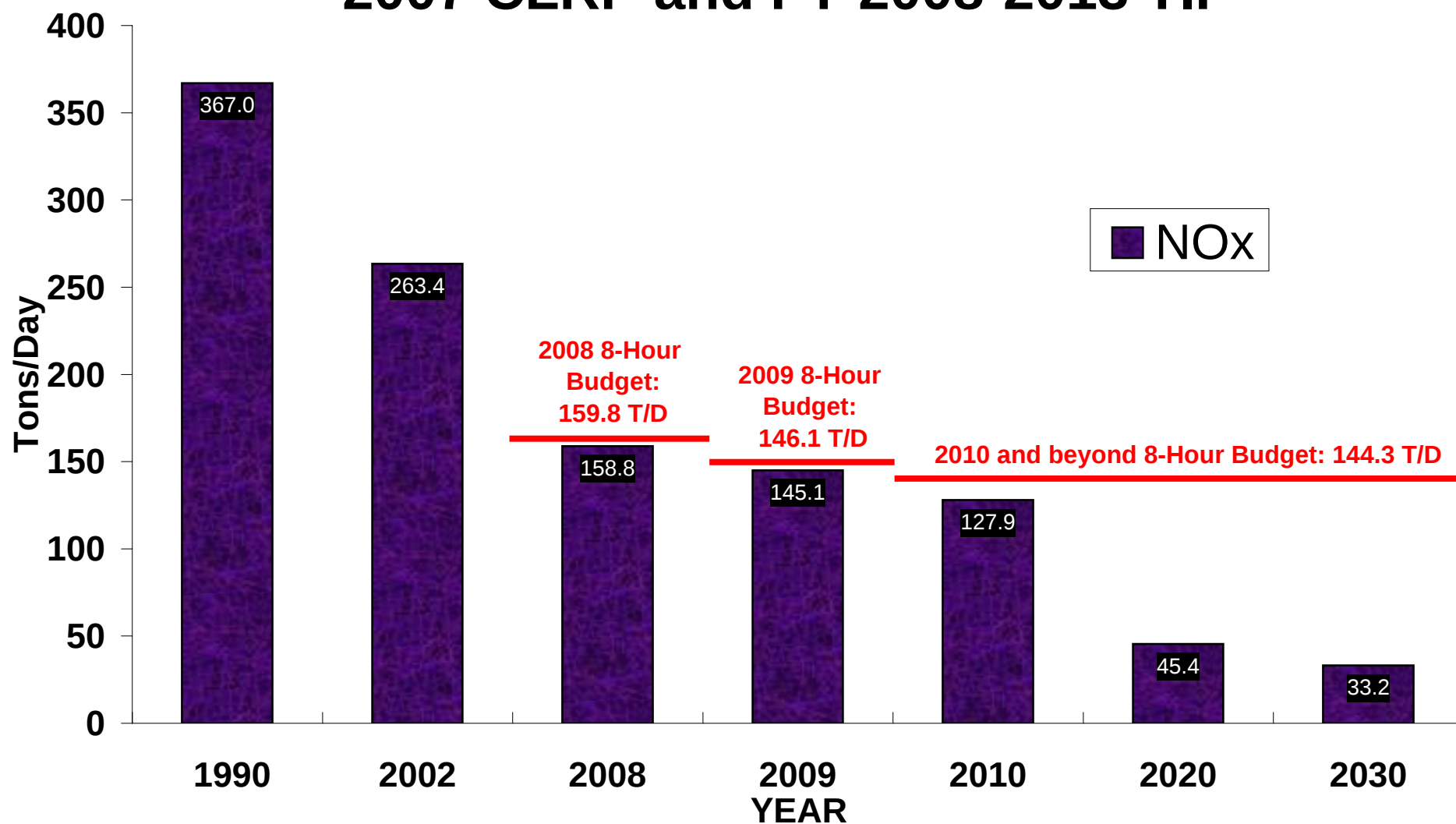
Mobile Source NO_x Emissions for the 1-Hour Ozone Nonattainment Area 2007 CLRP and FY 2008-2013 TIP



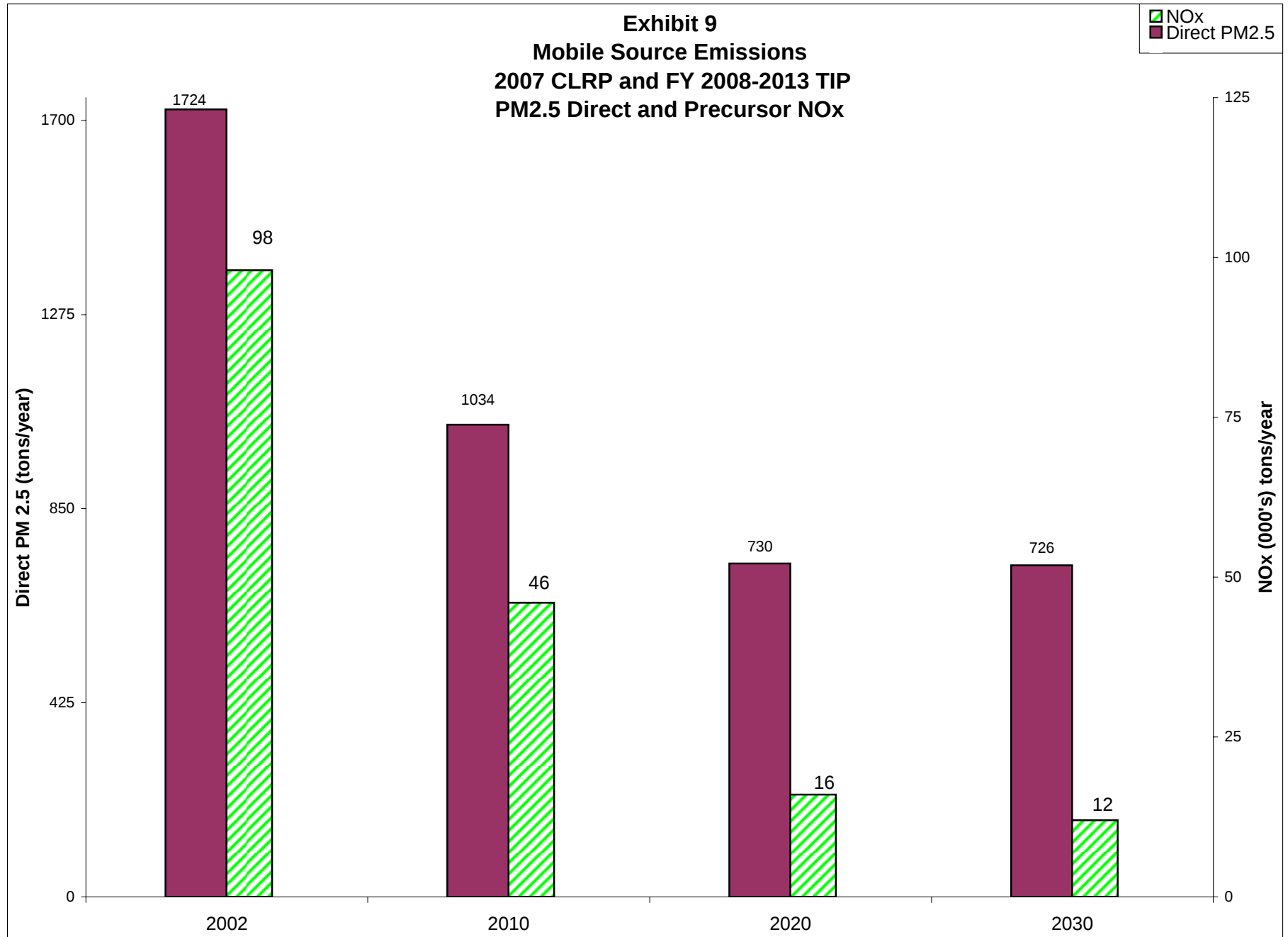
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EXHIBIT 8

Mobile Source NOx Emissions for the 8-Hour Ozone Nonattainment Area 2007 CLRP and FY 2008-2013 TIP



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ATTACHMENT A

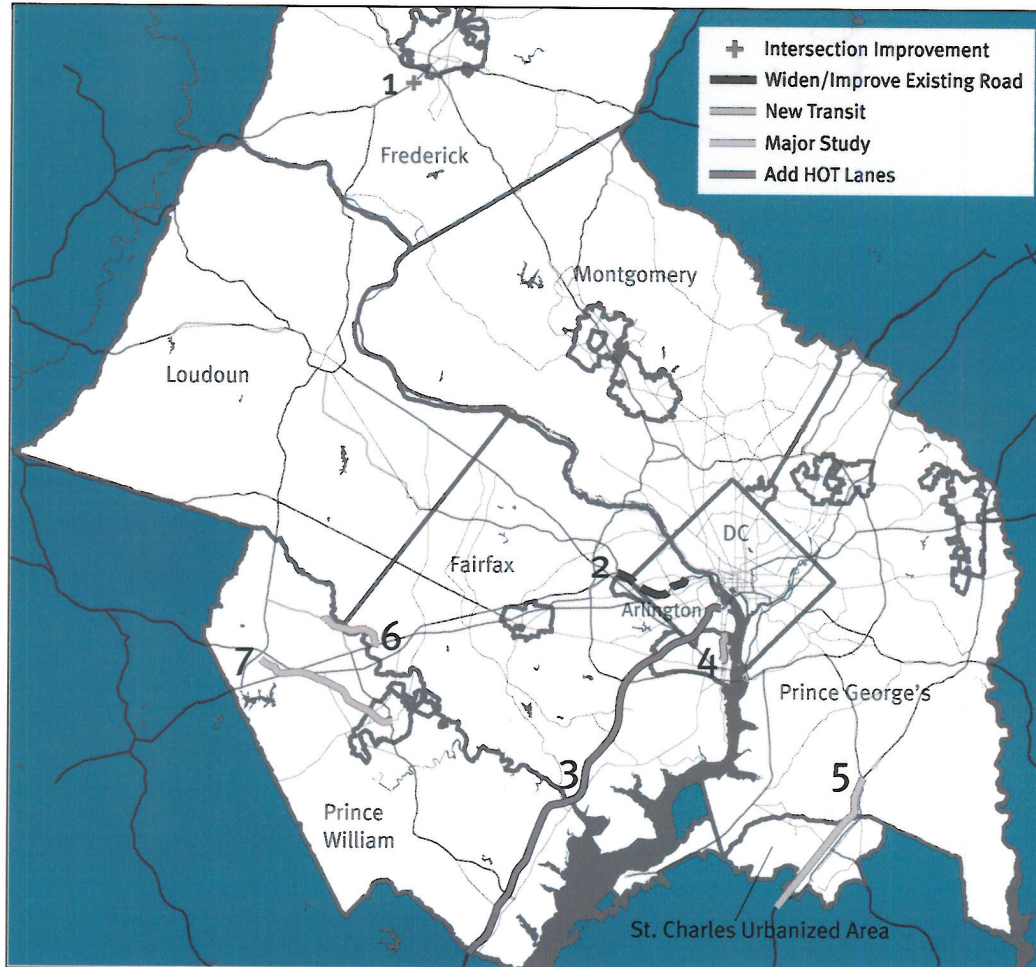
PROPOSED SIGNIFICANT CHANGES TO THE 2007 CONSTRAINED LONG-RANGE PLAN

PUBLIC COMMENT RELEASE – DECEMBER 13, 2007



This attachment provides a summary of significant changes for the new 2007 Constrained Long-Range Transportation Plan (CLRP) and changes to selected existing major projects in the CLRP. For information on all the projects in the draft 2007 CLRP, visit www.mwcog.org/clrp. Comments may be submitted at www.mwcog.org/transportation/publiccomment.

Figure 1: Significant Changes for the 2007 CLRP and the FY 2008-2013 TIP



Projects for Construction

1. US 340/US 17, construct interchange at Jefferson Tech Park, 2009
2. I-66, spot improvements inside the Beltway, 2013
3. I-95/395 HOT Lanes, widen, construct 2, 3 lanes with 14 ramps, 2010
4. Potomac Yard Transit Way, Alexandria, 2011

Studies

5. US 301 Waldorf Bypass Study
6. US-29 (Lee Hwy) Bypass around the Manassas National Battlefield Park, Study
7. VRE Extension from Manassas to Haymarket, Study

Projects for Construction

1. US 340 – Jefferson National Pike Interchange at Jefferson Technology Park

Construct a new, grade-separated interchange on US 340 to support existing and planned development at Jefferson Technology Park.

Complete: 2009
Cost: \$10.9 million
Funding: Private



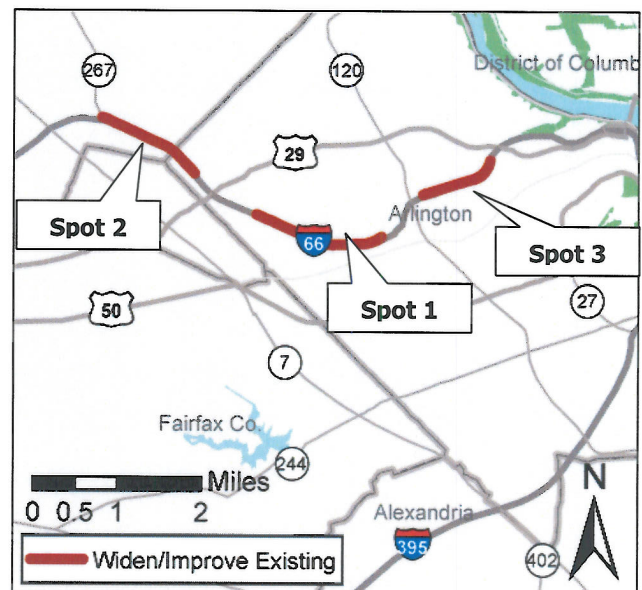
2. I-66 Spot Improvements Westbound, Inside the Beltway

Reconstruct westbound I-66, extending and connecting a series of acceleration and deceleration lanes to the following configuration:

- Spot 1 – Fairfax Drive to Sycamore Street, from 2 to 3 lanes,
- Spot 2 – Washington Boulevard to the Dulles Airport Access Road from 3 to 4 lanes, and
- Spot 3 – Lee Highway/Spout Run to Glebe Road, from 2 to 3 lanes.

Length: 4 miles (total)
Complete: 2013
Cost: \$75.6 million
Funding: Federal, State

<http://www.idea66.com>



Projects for Construction

3. I-95/I-395 HOT Lanes Project Eads Street to Garrisonville Road

Reconfigure the existing HOV facility between Eads Street in Arlington County and just south of the Town of Dumfries from 2 to 3 lanes. Convert HOV to High Occupancy Toll (HOT) lanes.

- HOV-3, transit and emergency response vehicles will use these lanes free of charge.
- Other vehicles may use the facility by paying an electronic toll.
- Tolls will vary based on time of day, day of week, and level of congestion in order to maintain free-flow conditions.

In the southbound direction, construct an extended transition lane and a new fly-over ramp, from the HOV/BUS/HOT lanes to ease congestion as traffic merges into the general purpose lanes. Create or modify a number of connections to the existing HOV lanes to improve access to the HOT lane system for HOV and transit users.

Transit Service Plan

The following enhancements to transit services are included as a part of the project:

- New bus routes
- Increased frequency of bus service on existing and new routes incrementally in 2010, 2020 and 2030.
- Addition of bus-only ramps in and out of the Pentagon at Eads St., an in-line bus station near the Lorton VRE station, and a bus-only access ramp at Seminary Rd.
- New Park & Ride facilities with a total of 3,000 additional parking spaces.

Total capital, operating, maintenance and maintenance facility costs for the Transit Service Plan are \$390 million. The proposed transit element is likely to be refined based on the findings of a detailed Transit/TDM Plan being developed by the Transit Advisory Committee (TAC).

Length: 36 miles

Complete: 2010

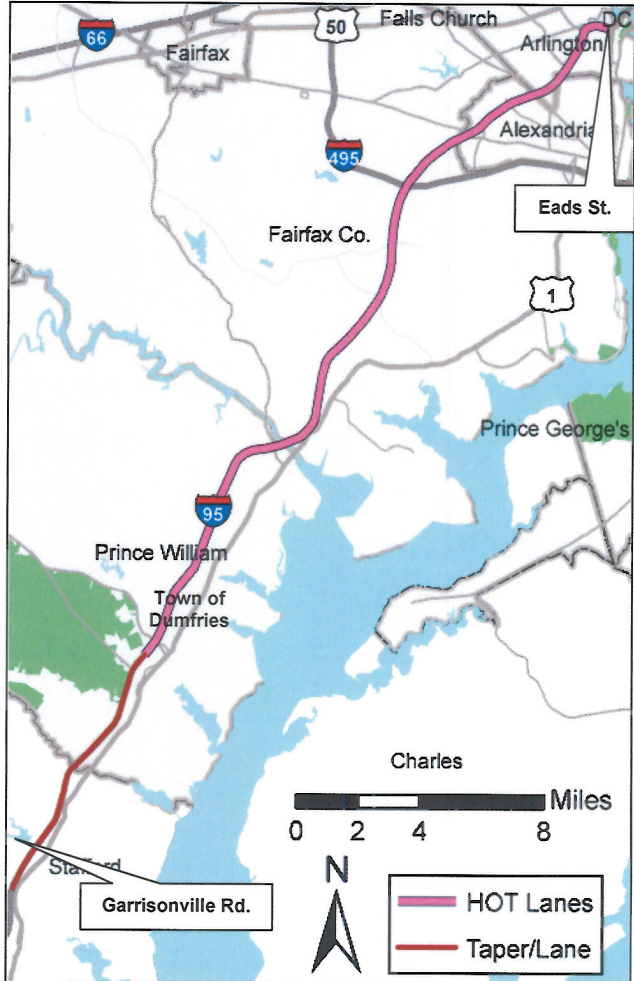
Capital Cost: \$882 million

\$492 million – Preliminary engineering, right-of-way acquisition, and construction

\$390 million – Transit Service Plan capital and operating costs

Funding: Private Equity, Debt (including bonds), Tolls, Federal Transit Capital and Transit Farebox Revenues

http://www.virginiadot.org/projects/ppta-I-95_I-395HOTLanes.asp



Projects for Construction

4. Potomac Yard Transitway Four Mile Run to Braddock Road Metro Station

Construct the Alexandria segment of a transitway from the Braddock Road Metro Station to the Potomac Yard Town Center and on to Four Mile Run where it will connect with the Arlington County segment that runs to the Pentagon.

Buses will travel on mixed-traffic lanes from the Braddock Road Metro Station to the Monroe Avenue Bridge. From Monroe Ave. to E. Glebe Rd., buses will travel on a dedicated transit right-of-way. From E. Glebe Rd. buses will serve the Potomac Yard Town Center and connect to the Arlington segment at S. Glebe Rd.

Length: 2.5 miles
Complete: 2011
Cost: \$18.1 million
Funding: Federal, State, Local & Private



Figure 2: Changes to Selected Existing Major Projects in the CLRP

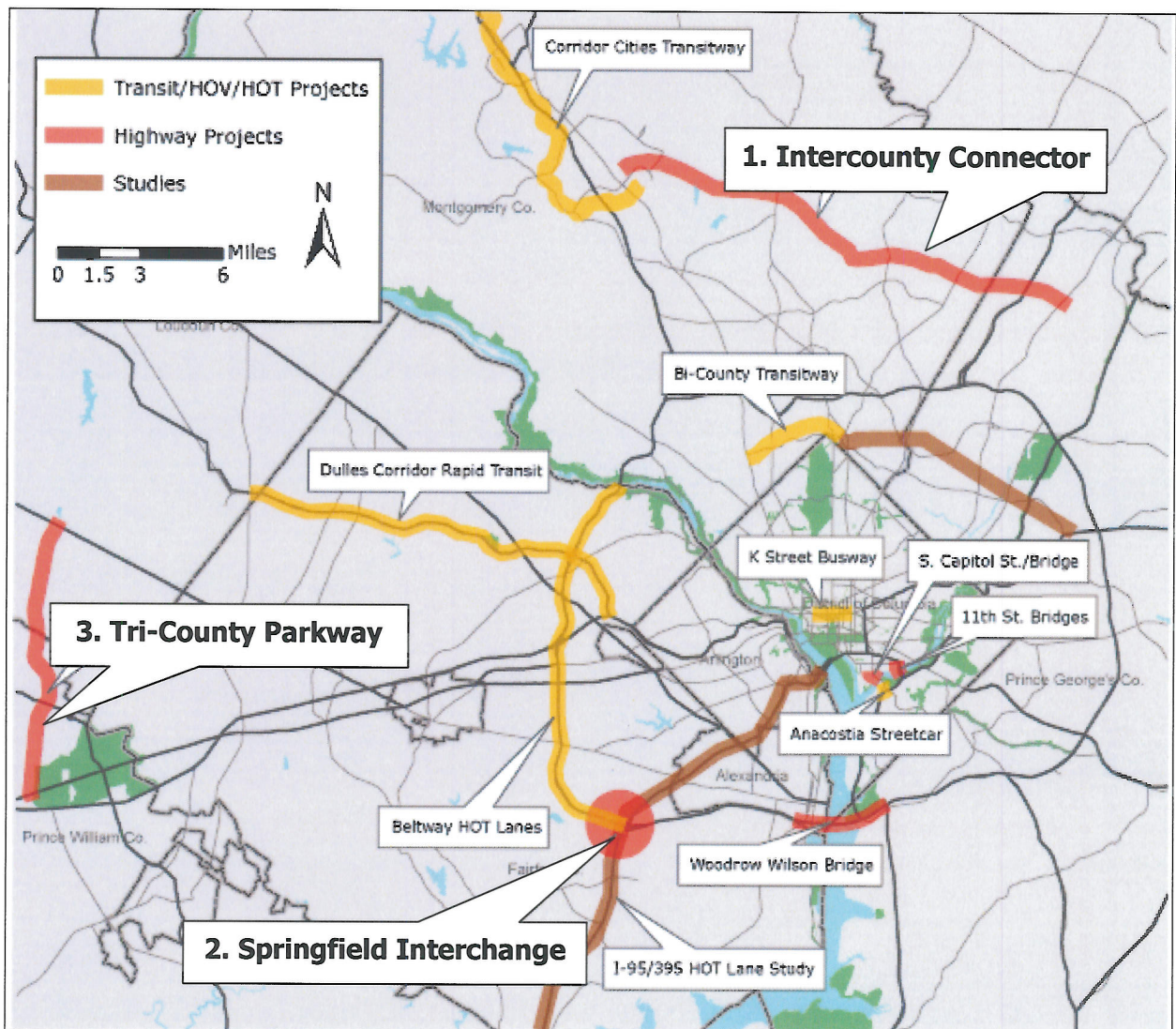
The following changes were made to three of the region's highlighted existing major projects.

Maryland

1. Intercounty Connector (ICC) – Completion date changed from 2010 to 2012

Virginia

2. Springfield Interchange – Completion date changed from 2007 to 2008
3. Tri-County Parkway – Alignment changed (revised alignment below) and completion date changed from 2020 to 2012.
4. Beltway HOT Lanes – Completion date changed from 2010 to 2013 and the project cost changed from \$899 million to \$1.5 billion.



ATTACHMENT B

HOUSEHOLD DATA

MSA:	2002	2008	2009	2010	2020	2030	2030/2002
D.C.	250448	260924	263353	265791	301984	325748	1.30
MONTGOMERY	334302	361583	366177	370778	408687	442091	1.32
PR.GEORGES	295313	319325	323596	327861	358589	377023	1.28
ARLINGTON	89031	98715	100876	103038	114261	117807	1.32
ALEXANDRIA	63670	68725	69524	70319	78306	86950	1.37
FAIRFAX	374149	411887	418951	426019	479218	500121	1.34
LOUDOUN	70934	98771	102540	106301	146031	165872	2.34
PR. WILLIAM	121400	151203	155273	159345	188641	212864	1.75
FREDERICK	73833	84423	86066	87708	104139	123125	1.67
CHARLES	44286	50621	51427	52228	63654	76880	1.74
STAFFORD	33003	41002	42276	43549	57525	69239	2.10
CALVERT	26570	29926	30487	31045	34331	36212	1.36
SUBTOTAL	1,776,939	1,977,105	2,010,546	2,043,982	2,335,366	2,533,932	1.43
ADDITIONAL COUNTIES:							
HOWARD	94673	106099	108045	109994	126622	133012	1.40
ANNE ARUNDEL	184180	198397	200376	202359	217530	229054	1.24
CARROLL	55263	62720	63829	64934	74795	84647	1.53
FREDERICKSBURG (VA)	8293	9051	9214	9378	10846	11363	1.37
JEFFERSON	17016	19574	20002	20427	25957	33075	1.94
N. SPOTSYLVANIA	27465	34681	35733	36786	48679	58726	2.14
FAUQUIER	21448	25445	26156	26872	35729	47506	2.21
CLARKE	5182	5902	6022	6142	6860	7770	1.50
K. GEORGE	6689	8324	8571	8817	10725	12498	1.87
ST. MARY'S	31801	35280	35861	36441	42604	48399	1.52
SUBTOTAL	452,010	505,473	513,809	522,150	600,347	666,050	1.47
TOTAL	2,228,949	2,482,578	2,524,355	2,566,132	2,935,713	3,199,982	1.44

SOURCE:

MWCOG Round 7.1 Cooperative Forecasts

BMC Round 7 Cooperative Forecasts

EMPLOYMENT DATA

MSA:	2002	2008	2009	2010	2020	2030	2030/2002
D.C.	744275	768346	776028	783710	844345	881420	1.18
MONTGOMERY	484876	527306	536307	545303	615404	670505	1.38
PR.GEORGES	341823	358090	361600	365090	419983	517883	1.52
ARLINGTON	187501	207215	211328	215443	241856	258449	1.38
ALEXANDRIA	95859	106976	107388	107800	124526	141496	1.48
FAIRFAX	626241	693090	709871	726660	835258	907211	1.45
LOUDOUN	106436	152248	159554	166865	241324	290749	2.73
PR. WILLIAM	127076	149781	153748	157719	190161	217764	1.71
FREDERICK	106647	134314	138361	142412	158278	167257	1.57
CHARLES	47726	60350	61642	62929	66843	69148	1.45
STAFFORD	33770	42199	43373	44546	57687	68592	2.03
CALVERT	25425	31458	32157	32855	34455	35556	1.40
SUBTOTAL	2,927,655	3,231,373	3,291,357	3,351,332	3,830,120	4,226,030	1.44
ADDITIONAL COUNTIES:							
HOWARD	140774	159207	162516	165822	195195	219747	1.56
ANNE ARUNDEL	260717	283377	287272	291168	340272	374583	1.44
CARROLL	57372	65050	66326	67603	70821	72451	1.26
FREDERICKSBURG (VA)	23685	27466	28035	28603	34661	40670	1.72
JEFFERSON	17008	20045	20551	21058	26113	30674	1.80
N. SPOTSYLVANIA	32524	39753	40849	41945	50806	59664	1.83
FAUQUIER	22320	26057	26690	27325	35767	43367	1.94
CLARKE	6079	6614	6704	6793	7685	8552	1.41
K. GEORGE	11581	12743	12893	13040	15370	17690	1.53
ST. MARY'S	48915	55853	57009	58165	61164	63139	1.29
SUBTOTAL	620,975	696,165	708,845	721,522	837,854	930,537	1.50
TOTAL	3,548,630	3,927,538	4,000,202	4,072,854	4,667,974	5,156,567	1.45

SOURCE:

MWCOG Round 7.1 Cooperative Forecasts

BMC Round 7 Cooperative Forecasts

NOTE: Includes Census Adjustment

ATTACHMENT C

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

12/12/07

* 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											
					FULL	SCALED- BACK	UNDER- WAY	REM	COMPLETION DATE	COMPLETION DATE	2008		2009		2010		2020		2030		Project
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	Category *
9	X	1994-99	MDOT	Park & Ride Lot - MD 210/ MD 373	X				2000	2003	0.0006	0.0016	0.0006	0.0014	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	n/a	n/a	n/a	n/a	-
20	X	1994-99	ALEX	King St. Metrorail access improvements	X					2006	0.0013	0.0016	0.0012	0.0014	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	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	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	0.0000	0.0000	TR
48	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0006	0.0016	0.0006	0.0014	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	0.0058	0.0148	0.0054	0.0133	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	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	0.0000	0.0005	0.0000	0.0005	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	-	-	0.0042	0.0114	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	0.0690	0.2520	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	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	0.0000	0.0000	C
61	X	1995-00	MCG	Bicycle Facilities			X		FY99		0.0019	0.0011	0.0018	0.0009	0.0016	0.0008	0.0010	0.0004	0.0009	0.0003	C
62	X	1995-00	MCG	Pedestrian Facilities to Metrorail			X				0.0032	0.0042	0.0030	0.0038	0.0027	0.0034	0.0016	0.0014	0.0014	0.0012	C
63	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0026	0.0063	0.0024	0.0057	0.0022	0.0050	0.0013	0.0022	0.0012	0.0018	C
64	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.0206	0.0550	0.0191	0.0494	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, 2000	0.0071	0.0174	0.0066	0.0157	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	0.0065	0.0106	0.0060	0.0095	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	0.0053	0.0000	0.0047	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	0.0013	0.0090	0.0012	0.0081	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	0.0002	0.0003	0.0001	0.0002	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	0.0065	0.0106	0.0060	0.0095	0.0027	0.0042	0.0032	0.0036	0.0029	0.0030	C
72	X	1995-00	DC	Bicycle Facilities		X					0.0155	0.0106	0.0143	0.0095	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	0.0799	0.1474	0.0739	0.1322	0.0679	0.1169	0.0403	0.0502	0.0367	0.0426	C
74	X	1995-00	REGION	M-47 Integrated Ridesharing	X					on-going	0.0429	0.0778	0.0396	0.0698	0.0364	0.0617	0.0216	0.0265	0.0196	0.0224	C
75	X	1995-00	REGION	M-92 Telecommuting Support	X					on-going	0.0714	0.1222	0.0661	0.1097	0.0608	0.0969	0.0358	0.0417	0.0324	0.0352	C
77		1996-01	VDOT	Duke Street Pedestrian Bridge					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	0.0013	0.0016	0.0012	0.0014	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	0.0013	0.0016	0.0012	0.0014	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	2007			0.0006	0.0005	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	0.0006	0.0005	0.0006	0.0005	0.0005	0.0004	0.0003	0.0002	0.0003	0.0002	C

TERM TRACKING SHEET
TRANSPORTATION EMISSION REDUCTION MEASURES
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NOs	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				ORIGINAL COMPLETION DATE	ACTUAL COMPLETION DATE											Project Category *
					FULL	SCALED- BACK	UNDER- WAY	REM			2008		2009		2010		2020		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
90	X	1996-01	REGION	M-47c Employer Outreach / Guaranteed Ride Home	X					on-going	0.5491	0.9096	0.5083	0.8164	0.4676	0.7218	0.2740	0.3101	0.2473	0.2616	C
91	X	1996-01	REGION	M-70a Bicycle Parking			X		1999		0.0045	0.0037	0.0042	0.0033	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		0.0032	0.0100	0.0030	0.0090	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	0.0030	0.0090	0.0030	0.0090					SP (TCM)
106	X	1997-02	VDOT	PRTC Employer Commuting Outreach Program	X					1977 on-going	0.0013	0.0003	0.0012	0.0002	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	0.0003	0.0000	0.0002	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	0.0797	0.2675	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	0.0014	0.0020	0.0013	0.0018	0.0012	0.0016	0.0007	0.0007	0.0006	0.0006	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	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	0.0450	0.1617	0.0450	0.1617					SP
112	X	1998-03	MCG	Montgomery County Bus Replacement	X					Ongoing	0.0080	0.0270	0.0080	0.0270	0.0080	0.0270					SP
113	X	1998-03	PG	Prince George's County Bus Replacement	X				1998	Ongoing	0.0010	0.0020	0.0010	0.0020	0.0010	0.0020					SP
114	X	1998-03	FDC	Frederick County Bus Replacement	X						0.0010	0.0000	0.0010	0.0000	0.0010	0.0000					SP
117	X	1998-03	VDOT	Arlington County Four Mile Run Bike Trail			X		1999	2007	-	-	-	-	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	0.0007	0.0011	0.0006	0.0009	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	n/a	n/a	n/a	n/a					SP
121	X	1998-03	WMATA	WMATA Bus Replacement (252 buses)	X				2001	2001	0.1060	0.3860	0.1060	0.3860	0.1060	0.3860					SP
122	X	97 & 98 TIP	REGION	M-101a Mass Marketing Campagin (Consumer)			X			2005	0.0434	0.0721	0.0402	0.0647	0.0370	0.0572	0.0217	0.0246	0.0196	0.0208	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	0.0052	0.0190	0.0048	0.0171	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	0.0080	-0.0021	0.0074	-0.0019	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	0.0006	0.0011	0.0006	0.0009	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	0.0040	0.0050	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	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	0.0000	0.0000	C
130	X	1996-01	VDOT	M-14: I-66 Feeder Bus Fare Buy Down	X					1998 onward	0.0161	0.0291	0.0149	0.0261	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	0.0045	0.0172	0.0041	0.0154	0.0038	0.0136	0.0022	0.0059	0.0020	0.0049	C
132	X	2000-05	MDOT	Signal Systems	X				Varies	on-going	0.0020	0.0000	0.0018	0.0000	0.0017	0.0000	0.0015	0.0000	0.0009	0.0000	TR
133	X	2000-05	VDOT	250 Spaces at Gambrill/Hooses Rds. Park and Ride	X				2002	2004	0.0045	0.0095	0.0042	0.0085	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	0.0032	0.0069	0.0030	0.0062	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	0.0045	0.0053	0.0042	0.0047	0.0038	0.0042	0.0022	0.0018	0.0020	0.0015	C
136	X	2000-05	VDOT	Columbia Pike Trail			X		2000	2007					0.0033	0.0034	0.0019	0.0014	0.0017	0.0012	C
137	X	2000-05	VDOT	Lee Highway trail			X		2000	2007	0.0019	0.0021	0.0018	0.0019	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	0.0006	0.0005	0.0006	0.0005	0.0005	0.0004	0.0003	0.0002	0.0003	0.0002	C
139	X	2000-05	VDOT	Pentagon Metrostation Improvements	X					2003	0.0052	0.0090	0.0048	0.0081	0.0044	0.0071	0.0026	0.0031	0.0023	0.0026	C

TERM TRACKING SHEET
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					FULL	SCALED- BACK	UNDER- WAY	REM			2008		2009		2010		2020		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
140	X	2000-05	MDOT	East/West Intersection Improvements			X		2005	2005	0.0265	0.0132	0.0245	0.0119	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		0.0658	0.1010	0.0610	0.0907	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	0.0000	0.1358	0.0000	0.1358					SP (TCM)
143	X	2002-07	WMATA	ULSD with CRT filters	X				2006	Jun-06	0.2100	0.0000	0.2100	0.0000	0.2100	0.0000	0.4300	0.0000	0.4300	0.0000	H (TCM)
144		2003-08	DC	Replace-23 12 Taxicabs with CNG cabs				X	2005	2006	0.0089	0.0157	0.0089	0.0157	0.0089	0.0157					H
145	X	2003-08	DC	D.C.Incident Response & TrafficManagement System	X				2005	2004	0.0183	0.0520	0.0170	0.0468	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	0.0107	0.0094	0.0099	0.0085	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	0.0015	0.0011	0.0014	0.0010	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	0.0022	0.0034	0.0020	0.0031	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	0.0000	0.0002	0.0000	0.0002					SP
150	X	2003-08	DC	Sidewalks in D.C. (\$ 5 million)	X				2005	2004	0.0404	0.0619	0.0374	0.0556	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	0.0001	0.0020	0.0001	0.0020					H (TCM)
152	X	2003-08	DC	Circulator /Feeder Bus Routes	X				2005	2003	0.0147	0.0223	0.0136	0.0201	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	0.0881	0.1364	0.0816	0.1225	0.0751	0.1083	0.0438	0.0465	0.0394	0.0392	C
155		2003-08	MDOT	Employer Vanpool Program (WWB)				X	2005		0.0021	0.0046	0.0019	0.0041	0.0018	0.0037					C
156	X	2003-08	MDOT	Green Line Link			X		2005	n/a	0.0029	0.0052	0.0027	0.0047	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	0.0056	0.0121	0.0052	0.0109	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	0.0404	0.0732	0.0374	0.0657	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	0.0091	0.0175	0.0085	0.0157	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	0.0010	0.0016	0.0010	0.0014	0.0009	0.0013	0.0005	0.0005	0.0005	0.0005	C
161	X	2003-08	Regional	Regional Traveler Information Systems			X		2005		0.1154	0.6787	0.1067	0.6106	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	0.0181	0.0278	0.0168	0.0249	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		0.0051	0.0117	0.0048	0.0105	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		0.0035	0.0053	0.0032	0.0048	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		0.0007	0.0011	0.0006	0.0010	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	0.0000	0.0001	0.0000	0.0001					SP
167	X	2003-08	MCG	Free Bus Service on Selected Routes on I-270	X				2004		0.0012	0.0018	0.0011	0.0017	0.0010	0.0015	0.0006	0.0006	0.0005	0.0005	C
168	X	2003-08	MCG	Annual Sidewalk Program	X				2004		0.0192	0.0295	0.0178	0.0265	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	0.0042	0.0059	0.0039	0.0053	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	0.0099	0.0116	0.0092	0.0104	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	0.0065	0.0087	0.0060	0.0078	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	0.0105	0.0164	0.0097	0.0147	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	0.0037	0.0018	0.0034	0.0017	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	0.0032	0.0016	0.0030	0.0014	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	0.0159	0.0360	0.0147	0.0323	0.0135	0.0286	0.0079	0.0123	0.0071	0.0103	C

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											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
176	X	2003-08	VDOT	Universal Transportation Access Program			X		2005	2005-07	0.0013	0.0021	0.0012	0.0019	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	0.0007	0.0004	0.0006	0.0002	0.0003	0.0002	0.0002	C
178	X	2003-08	VDOT	Mobile Commuter Stores	X				2005	2005	0.0024	0.0044	0.0022	0.0039	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	0.0008	0.0013	0.0008	0.0012	0.0007	0.0011	0.0004	0.0005	0.0004	0.0004	C
180	X	2003-08	VDOT	Commuter Choice	X				2005		0.0011	0.0016	0.0010	0.0014	0.0009	0.0012	0.0005	0.0005	0.0005	0.0004	C
181	X	2003-08	VDOT	Employer Shuttle Services				X	2005		0.0128	0.0185	0.0119	0.0166	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	0.0016	0.0029	0.0015	0.0026	0.0013	0.0023					C
185	X	2003-08	VDOT	Metro Shuttle Bus			X		2005	1999-2005	0.0013	0.0029	0.0012	0.0026	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	0.0018	0.0033	0.0016	0.0029	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	0.0011	0.0021	0.0010	0.0019							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		X		2005	2001-2005	0.0127	0.0249	0.0118	0.0224	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	0.0164	0.0372	0.0152	0.0334	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	0.0021	0.0870	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	0.0083	0.3400	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	0.0138	0.0755	0.0138	0.0755					SP
199	X	2003-08	WMATA	Car Sharing Program	X				2005	2004	0.0009	0.0020	0.0008	0.0018	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	0.0014	0.0021	0.0013	0.0019	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	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	0.0459	0.1628	0.0459	0.1628			SP
204		2003-08	MDOT	Neighborhood Bus Shuttle (5 circulator routes)				X	2005		0.0084	0.0136	0.0078	0.0122	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	0.0030	0.0066	0.0027	0.0060	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		0.0149	0.0233	0.0138	0.0209	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	0.0105	0.0185	0.0097	0.0166	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	0.1270	0.1170	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	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	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	0.0016	0.0025	0.0015	0.0022	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	0.0007	0.0005	0.0006	0.0005	0.0006	0.0004	0.0003	0.0002	0.0003	0.0001	C
213		2003-08	MDOT	Transit Prioritization - Queue Jumps				X	2005		0.0035	0.0042	0.0032	0.0037	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	0.0615	0.0958	0.0570	0.0860	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	0.0067	0.0097	0.0062	0.0087	0.0057	0.0077	0.0033	0.0033	0.0030	0.0028	C
216	X	2003-08	MDOT	Telecommuting Expansion ¹	X				2005	Ongoing	0.0727	0.1348	0.0673	0.1210	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	0.0237	0.1300	0.0237	0.1300					H
218	X	2003-08	VDOT	MV-92 Telecommuting Program - Expanded ¹	X				2005	2005	0.0777	0.1439	0.0719	0.1292	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

12/12/07

* 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											
					FULL	SCALED- BACK	UNDER- WAY	REM	COMPLETION DATE	COMPLETION DATE	2008		2009		2010		2020		2030		Project
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	Category *
219	X	2003-08	VDOT	MV-123 Employer Outreach for Public Sector Employees ²	X				2005	2003	0.0172	0.0264	0.0160	0.0237	0.0147	0.0210	0.0086	0.0090	0.0077	0.0076	C
220	X	2003-08	REGION	Signal System Optimization	X				2005	2005	0.4871	0.1897	0.4505	0.1707	0.4155	0.1468	0.2445	0.0463	0.2204	0.0323	TR
				Available Emissions Credits							2.752	5.400	2.597	5.058	2.441	4.675	1.474	1.165	1.331	0.821	

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

Project Category: TR - Transit Station, C - Commute, H - Engine Technology (Heavy Duty Vehicles), SF - 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					2010		-0.0146	0.5364	-0.0042	0.2365	0.0010	0.0739	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	-0.0066	0.5894	0.1743	0.5583	0.3516	0.6804
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GRAND TOTAL (Current Measures + CLRP plan)	2.434	5.264	1.649	1.723	1.683	1.501
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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 toal 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							Project Category *
					FULL	SCALED- BACK	UNDER- WAY	REM			2010		2020		2030		
											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, 2000	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	0.9401	34.9155	0.9237	9.1470	0.9237	7.7808	C
74	X	1995-00	REGION	M-47 Integrated Ridesharing	X					on-going	0.4939	18.4288	0.4853	4.8277	0.4853	4.1040	C
75	X	1995-00	REGION	M-92 Telecommuting Support	X					on-going	0.7644	29.0100	0.7511	7.5986	0.7511	6.4445	C
77		1996-01	VDOT	Duke Street Pedestrian Bridge					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							Project Category *
					FULL	SCALED- BACK	UNDER- WAY				2010		2020		2030		
											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	2007	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	5.6390	216.1272	5.5409	56.6059	5.5409	47.9439	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	0.0116	0.4727	0.0114	0.1237	0.0114	0.1039	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	2007	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 Campagin (Consumer)			X			2005	0.4476	17.1384	0.4398	4.4887	0.4398	3.8023	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							Project Category *
					FULL	SCALED- BACK	UNDER- WAY	REM			2010		2020		2030		
											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/Hooes 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							Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			2010		2020		2030		
											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		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							
					FULL	SCALED- BACK	UNDER- WAY				2010		2020		2030		Project
											PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	Category *
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
					Available Emissions Credits						25.937	1087.716	17.068	198.576	16.466	162.835	

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 Dudy Vehicles), SP- Specific Vehicle Type

NOs	CREDIT	TIP	AGENCY	PROJECT	IMPLEMENTATION STATUS				PROJECTED COMPLETION	ACTUAL COMPLETION	TONS/ANNUM REDUCTION CREDITED						Project Category
					FULL	SCALED- BACK	UNDER- WAY	REM			2010		2020		2030		
											PM2.5	Precursor NOx	PM2.5	Precursor NOx	PM2.5	Precursor NOx	
	TAKEN	CREDITED	AGENCY	PROJECT	FULL	BACK	WAY	REM	DATE	DATE	4.1387	160.7672	4.1745	43.2186	1.5488	13.5560	TR
221	X	1995-00 TIP	REGION	M-24 Speed Limit Adherence					2010		4.1387	160.7672	4.1745	43.2186	1.5488	13.5560	TR
222		1996-01 TIP	MGC	Rock Spring Park Pedestrian Amenities				X			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		0.0617	2.3977	0.0536	0.5552	0.0146	0.1281	C
224	X	1996-01 TIP	MGC	Damascus Park and Ride						2003	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	5.2954	54.8227	12.5745	110.0623	H
226	X	STADIUM ANALYSIS		M-103 Taxicab Replacement (MD)				X	2008		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				X			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	0.0220	0.2277	0.0146	0.1281	C
229	X	1997-02 TIP	MGC	White Oak Park and Ride					2008		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	0.0082	0.0854	0.0055	0.0481	C
231	X	1997-02 TIP	MGC	Four Corners Transit Center					2015		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	-
233	X	1997-02 TIP	MGC	Silver Spring Transit Access							0.0077	0.2997	0.0055	0.0569	0.0037	0.0320	C
234	X	1997-02 TIP	MGC	Shady Grove Parking Construction						2003	0.1466	5.6946	0.1274	1.3185	0.0348	0.3043	C

PLAN TOTAL	0.4089	176.6521	5.6797	102.0200	12.6934	124.6595
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GRAND TOTAL (Current Measures + CLRP plan)	26.346	1264.369	22.748	300.596	29.159	287.494
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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 toal 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