

ITEM 11 - Information

October 20, 2004

Briefing on the Draft Air Quality Conformity Determination for the 2004
Constrained Long Range Plan (CLRP) and FY 2005-2010
Transportation Improvement Program (TIP)

Staff

Recommendation: Receive briefing on the air quality conformity determination for the 2004 CLRP and FY 2005-2010 TIP.

Issues: None

Background: At the September 15 meeting, the Board was briefed on the status of the draft 2004 CLRP and FY 2005-2010 TIP documents and the associated conformity analysis, and on the review of the effectiveness of current and proposed transportation emissions reduction measures (TERMs). These documents were released for public comment on October 1, 2004 in the form of the attached memorandum to the TPB Technical Committee. The public comment period for these documents ends on October 31, 2004. The TPB is scheduled to act on these documents at its meeting on November 17, 2004.

At the April 21 meeting, the Board approved the project submissions for inclusion in the conformity analysis for the 2004 CLRP and FY 2005-2010 TIP and also approved the scope of work for the air quality conformity analysis.

MEMORANDUM

October 1, 2004

To: Transportation Planning Board Technical Committee

From: Michael J. Clifford
Systems Planning Applications Director

Subject: Draft Air Quality Conformity Assessment for the 2004 Update of the
Constrained Long Range Plan (CLRP) and the FY2005-2010
Transportation Improvement Program (TIP)

INTRODUCTION

This memo transmits summary results of the air quality conformity assessment of the 2004 CLRP and the FY2005-2010 TIP. The results contained in this summary memo and in the October 1, 2004 draft technical report, Air Quality Conformity Determination Of The 2004 Constrained Long Range Plan And The FY2005-2010 Transportation Improvement Program For The Washington Metropolitan Region, are being forwarded to the TPB Technical Committee for review and comment and release for public comment and interagency consultation. According to the TPB's schedule for action on the plan, TIP and conformity determination, comments will be accepted through October 31, 2004, with action by the Board scheduled for the November 17, 2004 meeting.

BACKGROUND

On April 21, 2004 the TPB approved the scope of work and the project submissions for inclusion in the conformity analysis for the year 2004 update of the CLRP and FY2005-2010 TIP. Key technical inputs to the analysis included: Round 6.4A Cooperative Forecasts; the Version 2.1D Travel Demand Model utilizing the new project submissions, and reflecting updated transit service and higher transit fares recently enacted by several transit operators in the region; EPA's Mobile6.2 Emissions Factor Model; and a refined Mobile Emissions Post-Processor using latest travel demand and mobile emissions planning assumptions for specific use with the Version 2.1D and Mobile6 models.

The ozone precursor mobile emissions budgets used in this analysis stem from the region's severe ozone state implementation plan (SIP), adopted by the Metropolitan Washington Air Quality Committee (MWAQC) on August 13, 2003. EPA determined that these budgets were adequate for conformity determination in a finding published in the December 16, 2003 *Federal Register* and made effective on December 31, 2003.

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 2004 CLRP and FY2005-2010 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 (forecast years: 2005, 2015, 2025 and 2030). Wintertime carbon monoxide (CO) analysis for conformity, with near term forecast years of 2007 and 2016 consistent with SIP planning requirements, has also been conducted. In meeting the requirements for use of latest planning assumptions and methods, this effort marked the first production use in a conformity assessment of the updated travel demand, emissions factors, and emissions calculation methods referenced above. The work also utilized some recently developed methods and data which were applied in previous conformity assessments, such as airport passenger forecasts and transit capacity constraint procedures.

These inventories address a primary conformity assessment criterion to demonstrate that the plan and program adhere to the established mobile source emissions budgets. 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 September 27, 2004 draft report, [Analysis Of Potential Transportation Emission Reduction Measures \(TERMs\) For The 2004 Constrained Long Range Plan And The FY2005-2010 Transportation Improvement Program.](#)

Today's memo presents a summary of results of the conformity analysis, as follows.

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 since the 2003 CLRP and the FY2004-2009 TIP were approved by the Board on December 31, 2003. As shown in the attachment, MDOT advanced the Intercounty Connector (ICC) facility with two different alignments (called Corridor 1 and Corridor 2) to be tested as part of the conformity analysis.

Land Activity Forecasts

On September 8, 2004 COG's Metropolitan Development Policy Committee approved Round 6.4A Cooperative Forecasts to be used for testing purposes in analysis of the CLRP and TIP. The Planning Directors developed an original set of cooperative forecast land activity estimates

(Round 6.4) prior to the ICC being advanced as a proposed element of the CLRP or TIP. With the receipt of the ICC as a 2004 CLRP project element the Planning Directors revised their initial estimates, generating Round 6.4A, to incorporate the anticipated impact on land activity of the proposed facility. Data at the traffic zone level for Round 6.4A was made available to COG/TPB staff on September 13, 2004. These Round 6.4A forecasts, summarized in Attachment B, provided the land activity assumptions which were used in the conformity assessment.

The Round 6.4A data 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 6.4A reflects the Baltimore Metropolitan Council's 'Round 6' adopted figures, whereas their previous input to the COG Round 6.3 forecasts was their 'Round 5D' figures.

Travel Modeling Process

Using the Version 2.1D model, COG/TPB staff prepared travel demand forecasts for each of the required forecast years. Exhibit 1 presents the geographic areas for modeling and for non-attainment reporting purposes. Exhibit 2 presents the resulting transit trips, vehicle trips, and vehicle miles traveled (VMT) results through time for each conformity analysis year. Exhibit 3 presents the VMT statistics in bar chart form (the chart shows only Corridor 1 results for each year since the regional values are so similar for each corridor). The chart also compares the estimates to last year's totals for each forecast year to illustrate the changes in travel demand attributable to use of the revised model. VMT values are seen to be about 6 to 7 percent lower with the latest model, consistent with the base year 2000 model validation results.

The ICC has been included in the 2004 CLRP and the FY2005-2010 TIP as a managed facility, with time-of-day tolls used to ensure that a high level of service is maintained throughout the day. As reported to the TPB at its June 16, 2004 meeting (Item #9), TPB staff has worked closely with MDOT staff and its consultants to set tolls on the ICC such that a 50 mph traffic operation will be ensured. Using updated toll methodology in the Version 2.1D travel model, TPB staff estimated that the desired level of service would be maintained on the ICC with tolls of 20 cents per mile in the am and pm peak periods, and 15 cents per mile in the off peak period (2010 dollars). Somewhat higher toll values might be associated with the ICC travel volumes forecast by the Version 2.1D travel model if the value of the reliability of the ICC managed lanes could be included in the analysis as well as the value of time. (See recent research by David Brownstone and Kenneth A. Small, "Valuing Time and Reliability: Assessing the Evidence from Road Pricing Demonstrations", October 9, 2003, on usage of a managed lane facility on State Route 91 in Orange County, California).

Emissions Factors

COG/DTP staff, in conjunction with COG Department of Environmental Programs staff and with the consultant assistance of E.H. Pechan and Associates, developed the motor vehicle emissions factors through the use of EPA's MOBILE6.2 emissions factor model. (See Appendix D of the full technical report for model inputs and other details of the emissions factor development.) These rates for each pollutant, shown using Montgomery County data as an illustration in Exhibits 4 and 5 for VOC and NOx, respectively, were developed following execution of the model in one mph speed increments, by jurisdiction, for each analysis year. The charts show significantly reduced rates through time, primarily due to the impacts of having cleaner vehicles in the fleet.

Emissions Analyses

Mobile Emissions Inventories

Staff applied the Mobile6.2 emissions factors to the travel demand forecasts to prepare mobile source emissions inventories for each forecast year. These emissions results are summarized in Exhibit 6 and indicate VOC and NOx emissions for network and off-network components for each analysis year. The table shows dramatic reductions between 2005 and 2015, and further reductions thereafter with emissions leveling off at about 35 tons per day for both pollutants. The results reflect the impact of the cleaner fleet and related programs, with continuing fleet turnover and VMT growth (and slowing VMT growth rates through time). Net emissions for each forecast year are shown as the bottom line of the summary table. Emissions reductions associated with the TCMs included in the SIP for 2005 are also listed. Mobile source emissions are seen to be less than the mobile budgets in 2005 and well within the mobile budgets thereafter, for either of the ICC Corridor 1 or Corridor 2 scenarios. Exhibits 7 and 8 present these VOC and NOx results in a graphical format. In recognition 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 Exhibit 6 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. The summary result of these measures, shown as the bottom line of the 'TERM Tracking Sheet - Current Measures' table within the attachment, amounts to additional reductions in 2005 of 3.7 tons per day of VOC and 7.7 tons per day of NOx. 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. (Documentation from the implementation agencies regarding the status of each project is contained in Appendix K of the full conformity report.) Combining the emissions results in Exhibit 6 with the additional reductions from TERMS gives total budget adherence margins in 2005 of 10.33 tons per day of VOC and 26.97 tons per day of NOx.

SUMMARY

The analytical results described in this air quality assessment provide a basis for a determination by the TPB of conformity of the 2004 CLRP and the FY2005-2010 TIP, regardless of which of the ICC Corridor 1 or Corridor 2 scenarios is adopted.

Following: Exhibits 1-8
Attachments A-C

EXHIBIT 1
**Washington, D.C. - Maryland - Virginia
Modeled Area
and
Metropolitan Statistical Area**

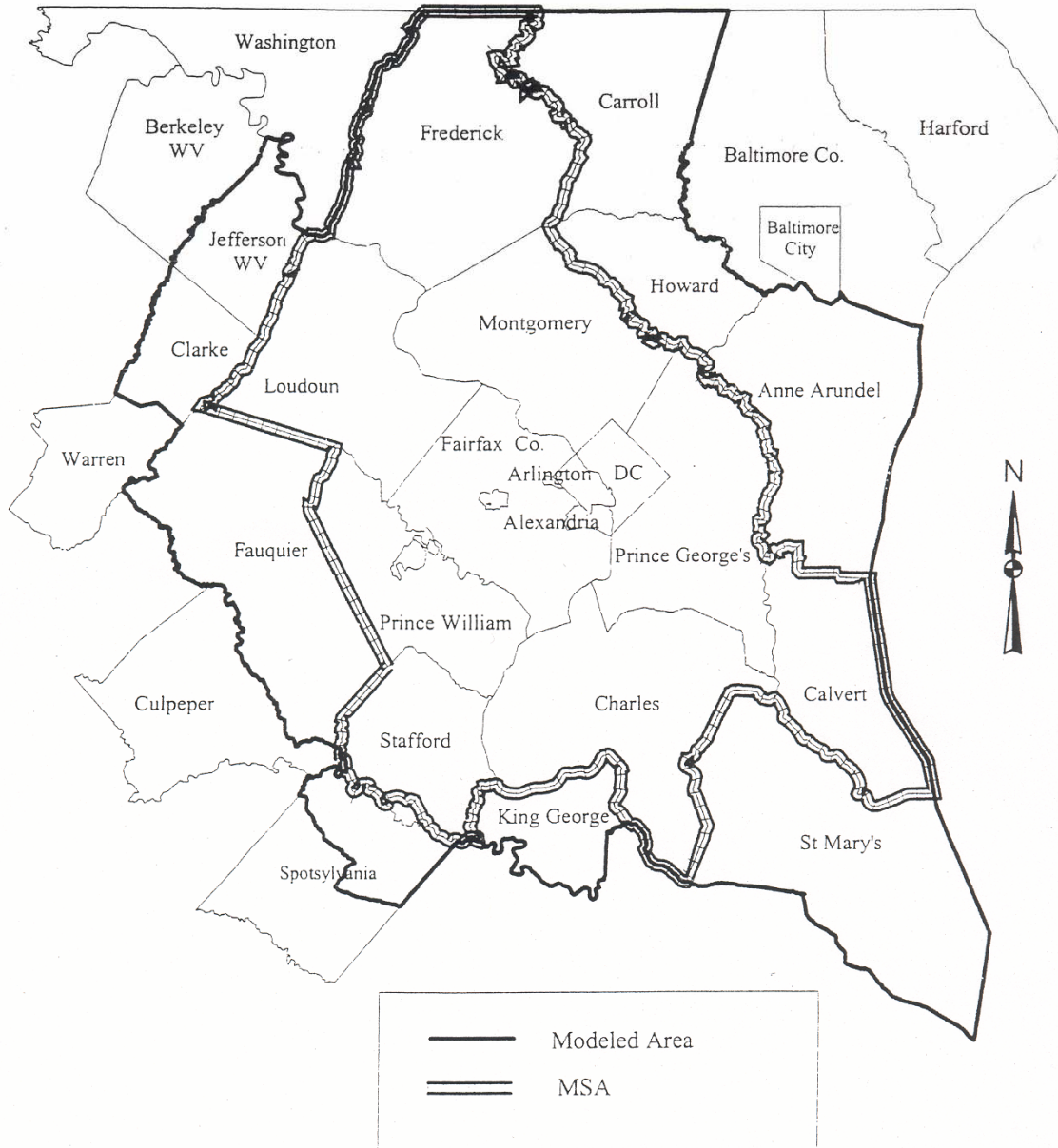


Exhibit 2
Travel Demand Summary
Modeled Area Trips and Vehicle Miles Traveled (000's)

	<u>2005</u>	<u>2015</u> Corridor 1	<u>2015</u> Corridor 2	<u>2025</u> Corridor 1	<u>2025</u> Corridor 2	<u>2030</u> Corridor 1	<u>2030</u> Corridor 2
Transit Trips	937.9	1,124.3	1,121.5	1,199.4	1,197.3	1,211.6	1,208.9
Vehicle Trips	20,602.5	23,509.3	23,525.4	25,801.3	25,818.5	26,801.8	26,819.5
VMT	156,286.3	181,797.9	181,639.0	203,344.6	203,202.1	213,139.5	213,084.5

EXHIBIT 3

Comparison of Daily VMT by Analysis Year in Air Quality Conformity
Analysis: 2003 CLRP Vs. 2004 CLRP in the Modeled Area

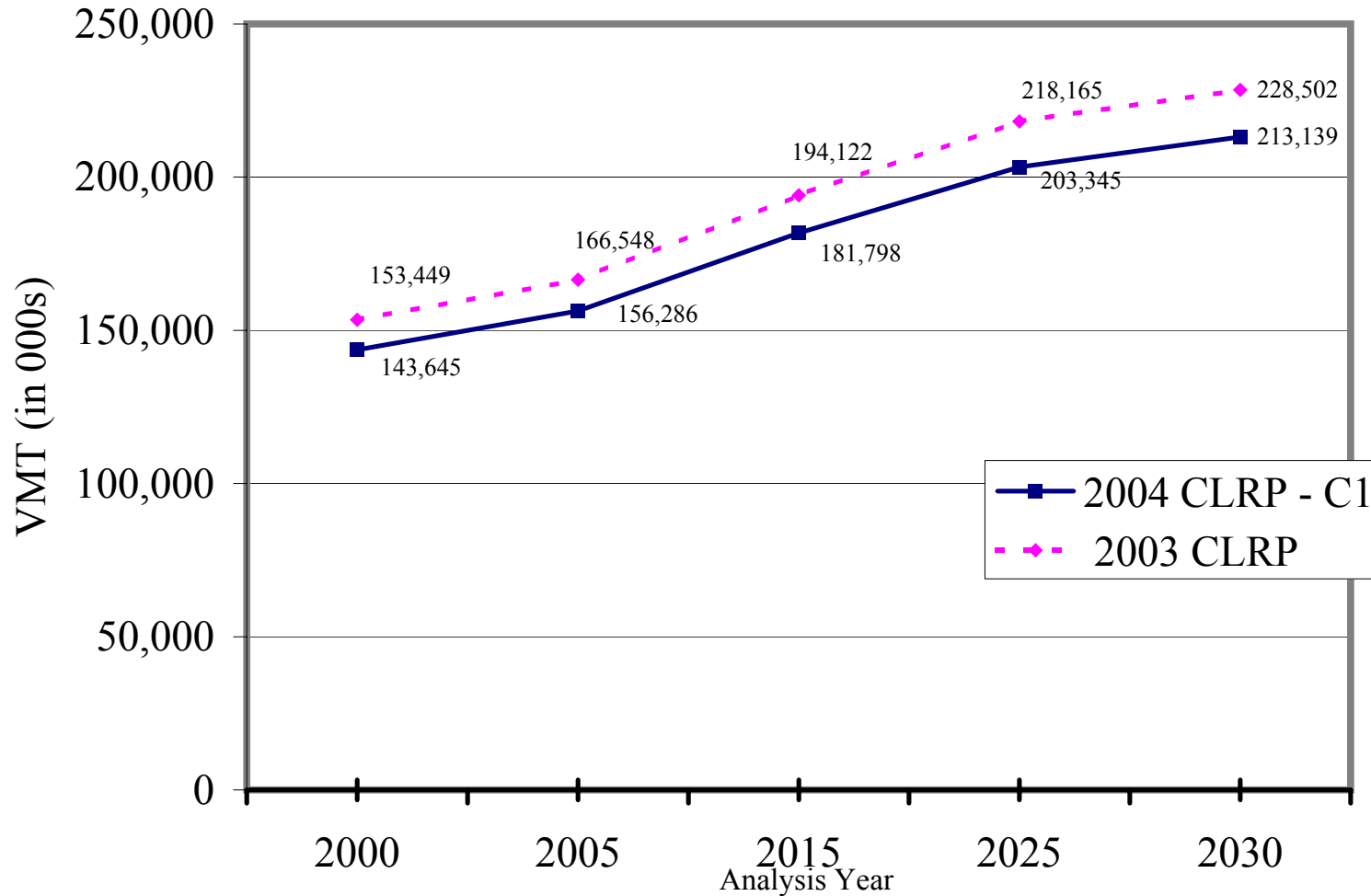
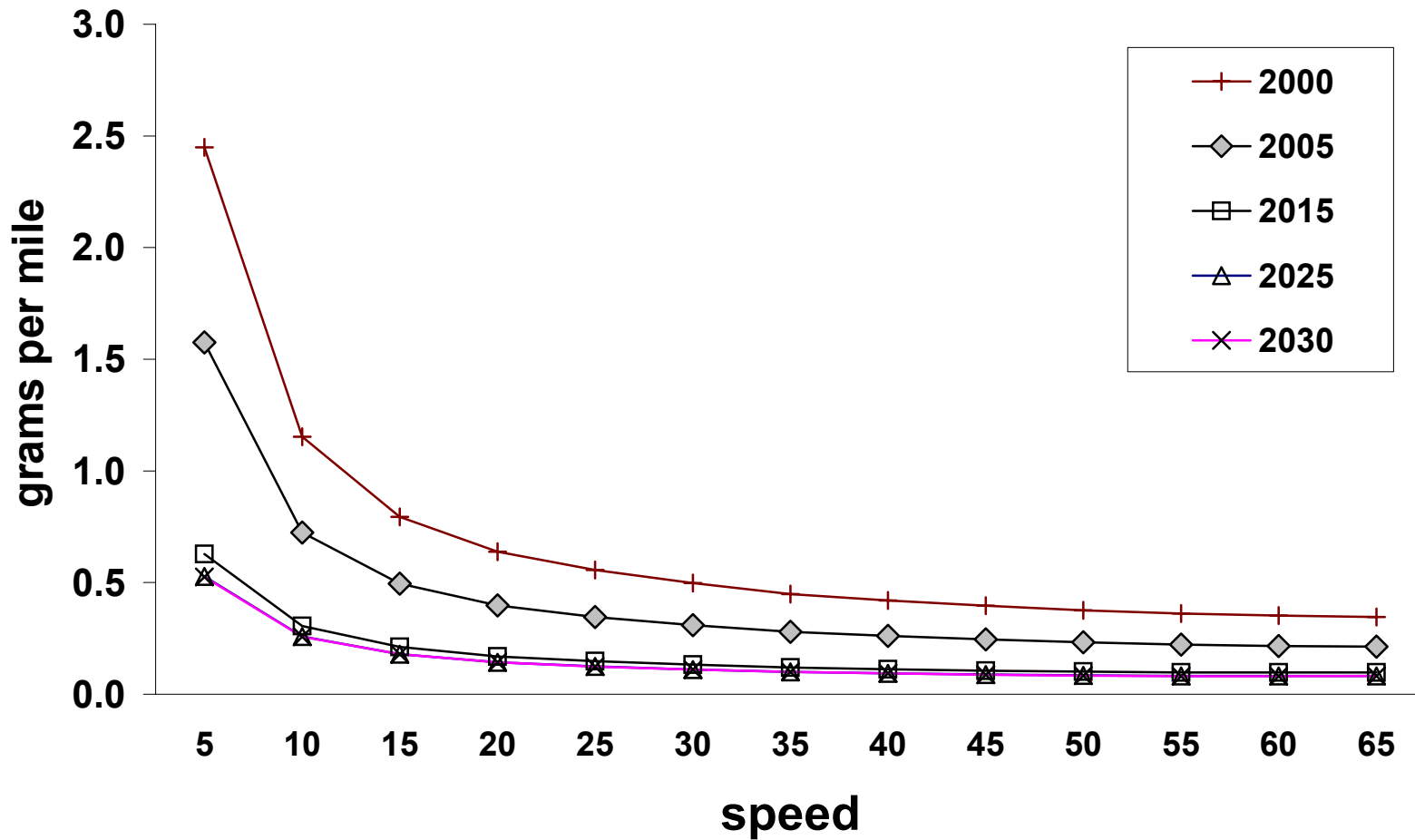
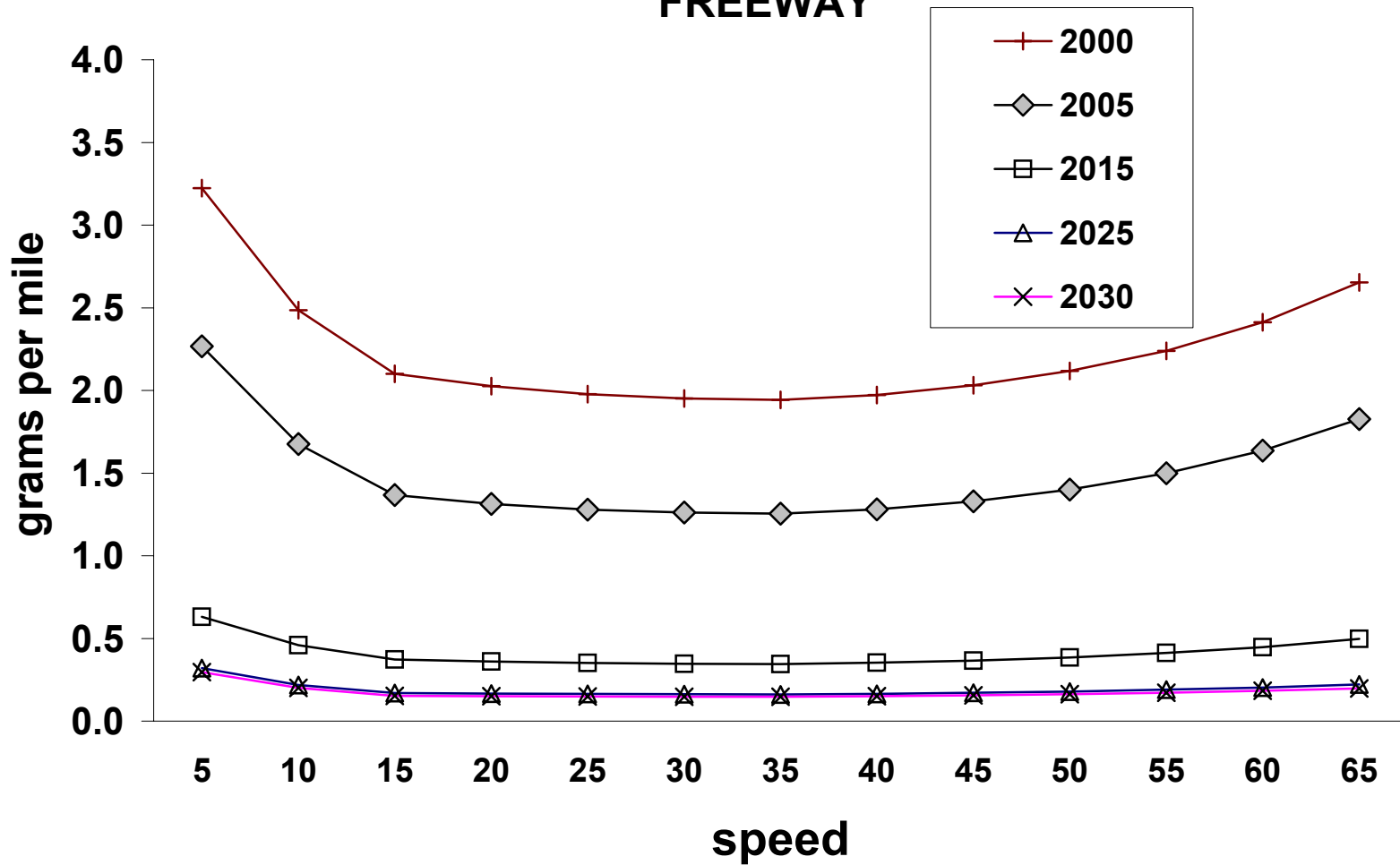


Exhibit 4 TOTAL 2000-2030 VOC COMPOSITE MOBILE6.2 RUNNING EMISSION RATES FOR MONTGOMERY COUNTY FREEWAY



Note: 2000 data developed using Mobile 6

Exhibit 5 TOTAL 2000-2030 NO_x COMPOSITE MOBILE6.2 RUNNING EMISSION RATES FOR MONTGOMERY COUNTY FREEWAY



Note: 2000 data developed using Mobile 6.

EXHIBIT 6
AIR QUALITY CONFORMITY
Summary Table - MSA
Mobile Emissions Inventories
for 2004 CLRP and FY 2005-2010 TIP
(Tons/Day)

	2005		2015 Corridor 1		2015 Corridor 2		2025 Corridor 1		2025 Corridor 2		2030 Corridor 1		2030 Corridor 2	
	VOC	NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC	NOx	VOC	NOx
I Network														
Start	17.64	11.09	8.14	4.69	8.14	4.70	6.56	2.61	6.56	2.61	6.49	2.40	6.50	2.41
Running	40.85	186.11	20.28	60.34	20.26	60.28	18.51	31.07	18.50	31.04	19.05	29.44	19.06	29.43
Soak	11.45	-----	5.97	-----	5.97	-----	3.85	-----	3.85	-----	3.95	-----	3.95	-----
II Off-Network														
Diurnal	2.82	-----	1.27	-----	1.27	-----	0.71	-----	0.71	-----	0.75	-----	0.75	-----
Resting Loss	10.56	-----	4.66	-----	4.66	-----	2.19	-----	2.19	-----	2.28	-----	2.28	-----
Local Roads	6.79	9.16	3.25	3.40	3.25	3.40	2.96	2.14	2.96	2.14	3.03	2.10	3.03	2.10
School Buses	0.38	5.49	0.21	1.82	0.21	1.82	0.16	0.27	0.16	0.27	0.17	0.27	0.17	0.27
Transit Buses	0.27	5.55	0.12	2.05	0.12	2.05	0.12	0.35	0.12	0.35	0.12	0.25	0.12	0.25
Auto Access	1.00	1.43	0.51	0.57	0.51	0.57	0.43	0.39	0.43	0.39	0.40	0.36	0.40	0.36
Total	91.77	218.83	44.39	72.89	44.39	72.83	35.48	36.82	35.48	36.80	36.23	34.82	36.25	34.82

TCMs -0.30 -0.70
Net Emissions 91.47 218.13

Mobile Emissions
Budgets: 98.10 237.40

Budget Adherence
Margin: 6.63 19.27

EXHIBIT 7

Mobile Source VOC Emissions Metropolitan Statistical Area 2004 CLRP and FY 2005-2010 TIP

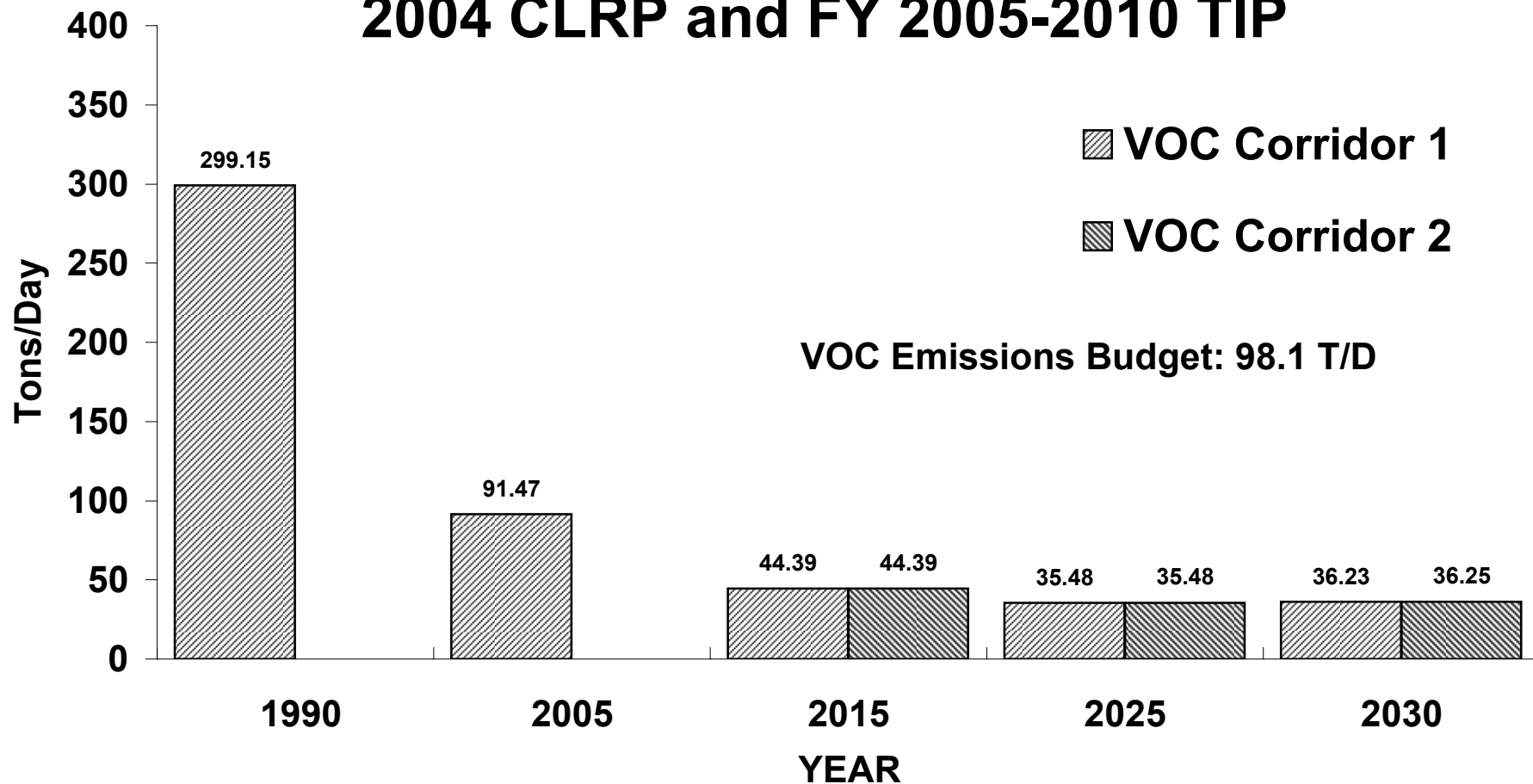
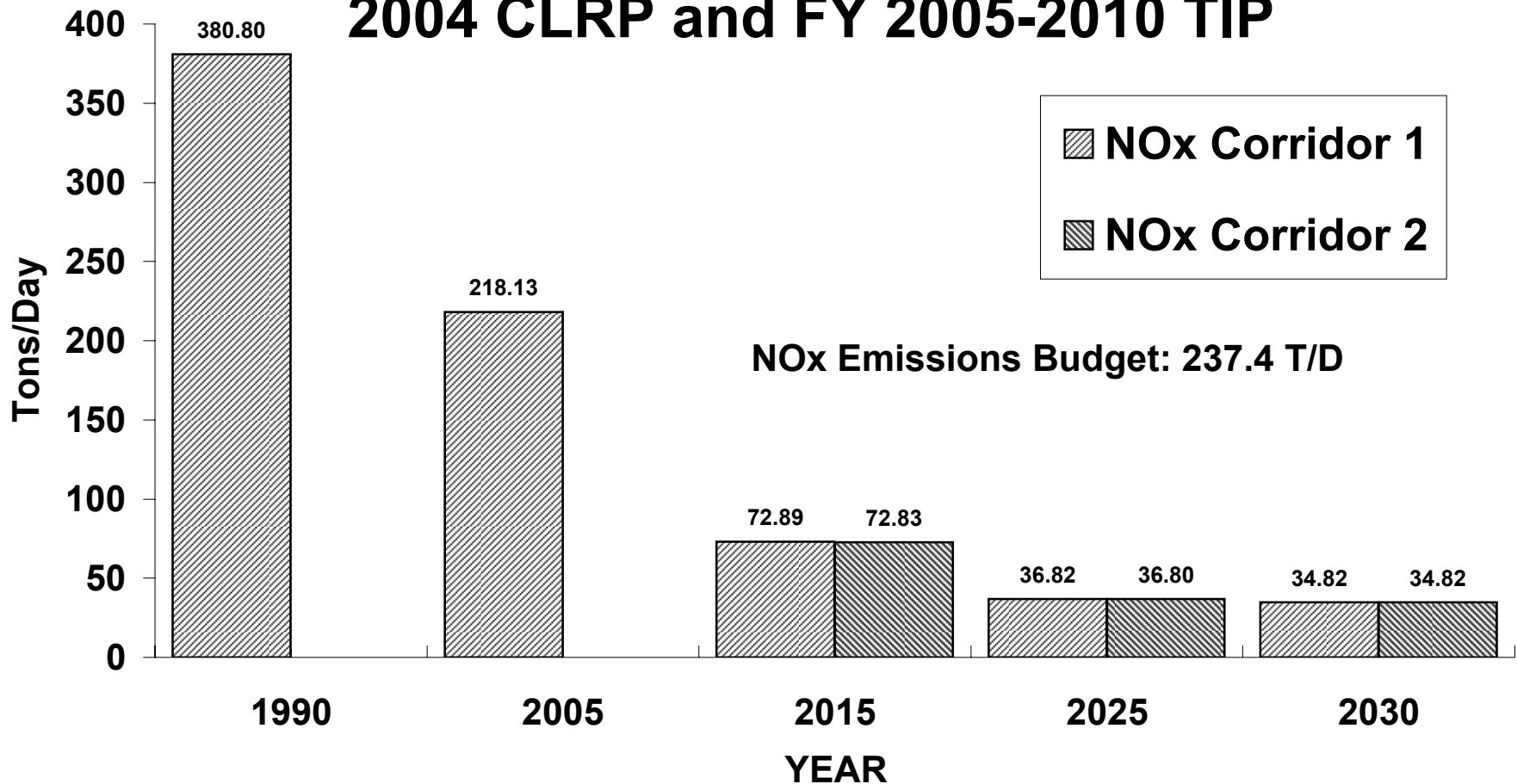


EXHIBIT 8

Mobile Source NOx Emissions Metropolitan Statistical Area 2004 CLRP and FY 2005-2010 TIP



ATTACHMENT A

**Significant Changes
for the
Air Quality Conformity Analysis
of the
2004 CLRP and FY2005-2010 TIP
Projects Inside the TPB Planning Area**

ID	Agency	Improvement	Facility	From/At	To	Completion Date	Fac. Type		# Lanes	
							from	to	from	to
MARYLAND										
1	MDOT	Study- Construct	Intercounty Connector *	I-270	I-95 / US 1	not coded- 2010	0	1	0	6
2	MDOT	Reconstruct- Widen	MD 202	N. of Brightseat Rd.	S. of Technology Way	2005 2015	2	2	6	6 6+2
3	MDOT	Upgrade/Widen	MD 4 HOV and general use lanes	MD 223	I-95 / I-495	2015	2	5	4	6 6
4	Mont. Co.	Widen	Father Hurley/ Ridge Rd.	I-270	existing MD 27	2020 2010	2	2	4	6
VIRGINIA										
5	VDOT	Widen	I-66 (HOV during peak) (5 lanes EB)	US 29 Gainesville	VA 234	2010	1	1	4	8 9
6	VDOT	Widen	US 50	Loudoun/Fairfax Line- VA 659 Relocated	VA 661 (Lee Rd.)	2020 2012	2	2	4	6
7	VDOT	Widen	VA 123	Lee Chapel Hooes Rd.	Fairfax County Parkway	2015	2	2	4	6
8	VDOT	Widen	VA 234	Waterway Dr. Country Club Dr.	Eclipse Dr.	2006	2	2	2	4
9	VDOT	Modify	Fairfax County Pkwy. (convert existing 5th & 6th lanes to HOV)	Sunrise Valley Dr.	Dulles Toll Rd.	2015	2	2	6	4+2
10	VDOT	Construct	Battlefield Parkway	Kincaid Blvd.	VA 7	2006 2009	0	3 2	0	2 4

*NOTE: Two different alignments (Corridor 1 and Corridor 2) are included for testing as part of the conformity analysis

**Significant Changes
for the
Air Quality Conformity Analysis
of the
2004 CLRP and FY2005-2010 TIP
Projects Outside the TPB Planning Area**

ID	Agency	Improvement	Facility	From/At	To	Completion Date	Fac. Type		# Lanes	
							from	to	from	to
MARYLAND										
1	MDOT	Widen	MD 2/4	S. of MD 765	N. of Stoakley Rd.	2025 2015	2	2	4	6 6+2
VIRGINIA										
2	FAMPO	Reconstruct	<i>I-95 Interchange w/CD lanes (Phase 2 construction)</i>	<i>at VA 627</i>		2025				
3	FAMPO	Widen	US 17 Bypass	I-95	VA 654 Village Parkway	2010	2	2	4	6
4	FAMPO	Widen	VA 218 (White Oak Rd.)	VA 212/VA 218	VA 600	2015	3	3	2	4
5	FAMPO	Construct	Outer Connector	US 1 in Stafford	VA 3 (W. of Frd.brg)	2010	0	3	0	4
6	FAMPO	Widen	US 1	1.5 mi. n. of US 637N	VA 610	2025	2	2	4	6
7	FAMPO	Widen	US 1	VA 610	VA 630	2025	2	2	4	6
8	FAMPO	Widen	US 1	VA 212	Princess Anne St.	2030	2	2	4	6

ATTACHMENT B

**Summary of Intermediate Household Forecasts
Round 6.4A Cooperative Forecasts
(Thousands)**

JURISDICTION	1990	1995	2000	2005	2010	2015	2020	2025	2030	2000 to 2030		Regional Share
										Number	% Change	
District of Columbia (1)	249.6	232.1	248.3	263.9	272.2	292.7	298.2	303.7	303.7	55.4	22.3%	8.3%
Arlington County	78.5	86.9	86.9	92.9	99.6	105.9	111.5	114.6	116.7	29.8	34.2%	4.4%
City of Alexandria	53.3	56.4	61.9	66.2	70.0	71.8	73.0	74.3	75.3	13.4	21.7%	2.0%
Central Jurisdictions	381.4	375.4	397.1	423.1	441.8	470.4	482.7	492.6	495.7	98.6	24.8%	14.7%
Montgomery County (2)	282.0	301.8	324.6	347.0	370.0	390.0	405.0	415.0	420.0	95.4	29.4%	14.3%
Rockville (3)	15.7	16.1	17.2	21.1	23.9	24.1	24.2	24.3	24.4	7.2	41.9%	1.1%
Prince George's County	258.0	278.1	288.6	304.5	319.0	333.6	346.7	359.6	369.8	81.2	28.2%	12.1%
Fairfax County	292.3	317.0	350.7	381.8	408.7	421.8	430.5	435.0	438.4	87.7	25.0%	13.1%
City of Fairfax (4)	7.4	7.7	8.0	8.6	8.9	9.0	9.1	9.2	9.3	1.3	16.3%	0.2%
City of Falls Church	4.2	4.4	4.5	4.6	4.9	5.1	5.2	5.3	5.4	0.9	20.0%	0.1%
Inner Suburbs	843.9	909.0	976.3	1,046.5	1,111.5	1,159.5	1,196.5	1,224.1	1,242.9	266.6	27.3%	39.8%
Loudoun County	30.7	40.9	59.9	86.3	110.5	132.5	148.1	157.8	163.9	104.0	173.6%	15.5%
Prince William County	69.7	82.2	94.6	116.6	133.9	145.6	153.1	159.4	164.4	69.9	73.9%	10.4%
City of Manassas	9.5	13.4	11.8	12.3	12.7	13.1	13.2	13.5	13.6	1.9	15.9%	0.3%
City of Manassas Park	2.2	2.5	3.3	4.2	4.2	4.3	4.3	4.3	4.3	1.0	8.5%	0.1%
Calvert County (5)	17.0	21.1	25.4	28.3	31.0	32.7	34.3	35.0	35.7	10.3	40.3%	1.5%
Charles County (5)	33.0	36.3	41.7	46.5	51.3	58.9	66.4	71.3	76.1	34.4	82.6%	5.1%
Frederick County	52.6	62.4	70.1	76.2	84.7	93.5	102.0	110.1	120.2	50.1	71.5%	7.5%
Stafford County (6)	19.4	26.9	30.7	36.1	41.4	46.9	52.4	58.0	63.5	32.8	106.8%	4.9%
Outer Suburbs	234.0	285.6	337.4	406.4	469.8	527.4	573.9	609.4	641.7	304.3	90.2%	45.5%
Northern Virginia	567.2	638.2	712.2	809.6	894.8	956.0	1,000.4	1,031.5	1,054.9	342.6	48.1%	51.2%
Suburban Maryland	642.5	699.7	750.3	802.5	856.1	908.7	954.4	991.0	1,021.8	271.5	36.2%	40.6%
REGIONAL TOTAL	1,459.3	1,570.0	1,710.9	1,876.0	2,023.1	2,157.4	2,253.1	2,326.2	2,380.3	669.5	39.1%	100.0%

(1) The Round 6.4 population and household forecasts for the District of Columbia reflect Census 2000

counts which showed the city's population to be higher than estimated in previous forecast rounds.

(2) Forecasts for years 2000 to 2030 include all of Takoma Park.

(3) Included in Montgomery County total

(4) Forecasts for all years do not include Fairfax County households (+/- 500 households) in TAZ 1609.

(5) Tri-County Council for Southern Maryland develops ten-year incremental population, housing unit and employment forecast for Calvert County, Charles County and St. Mary's County.

(6) Source: Rappahannock Area Development Commission (RADCO), March 2003

September 8, 2004

**Summary of Intermediate Employment Forecasts
Round 6.4A Cooperative Forecasts
(Thousands)**

JURISDICTION	1990	1995	2000	2005	2010	2015	2020	2025	2030	2000 to 2030		Regional Share
										Number	% Change	
District of Columbia	747.3	701.9	678.0	720.4	752.0	782.9	805.5	828.8	828.8	150.8	22.2%	10.9%
Arlington County	183.1	195.8	188.4	195.2	217.8	237.8	254.4	263.6	275.8	87.4	46.4%	6.3%
City of Alexandria	93.2	91.9	91.3	105.6	114.9	122.1	129.8	134.8	141.0	49.7	54.5%	3.6%
Central Jurisdictions	1,023.6	989.6	957.7	1,021.2	1,084.7	1,142.9	1,189.7	1,227.1	1,245.6	287.9	30.1%	20.8%
Montgomery County (1)	400.8	397.3	479.8	520.0	565.0	600.0	635.0	660.0	680.0	200.2	41.7%	14.5%
Rockville (2)	56.9	62.7	68.7	78.8	91.4	98.3	102.5	104.7	106.1	37.4	54.4%	2.7%
Prince George's County	310.4	301.3	327.5	357.9	402.5	438.0	485.5	543.3	585.7	258.2	78.8%	18.7%
Fairfax County (3)	403.7	459.6	532.8	595.0	653.2	678.4	708.5	736.5	758.9	226.1	42.4%	16.4%
City of Fairfax (4)	26.9	29.7	30.8	30.7	31.5	31.5	31.4	31.4	31.4	0.6	2.1%	0.0%
City of Falls Church	9.2	9.3	9.4	9.5	10.0	10.3	10.5	10.6	10.7	1.3	13.8%	0.1%
Inner Suburbs	1,150.9	1,197.2	1,380.3	1,513.2	1,662.1	1,758.2	1,870.9	1,981.8	2,066.7	686.4	49.7%	49.7%
Loudoun County	39.3	53.2	87.0	114.5	141.6	170.8	199.9	229.0	258.1	171.1	196.5%	12.4%
Prince William County	68.8	78.0	91.6	105.8	122.4	137.9	153.6	168.9	180.0	88.4	96.4%	6.4%
City of Manassas	17.2	18.5	19.9	21.6	23.0	23.7	24.1	24.1	24.2	4.2	21.3%	0.3%
City of Manassas Park	2.3	2.5	2.7	3.0	4.7	4.9	5.1	5.2	5.2	2.5	91.1%	0.2%
Calvert County (5)	18.1	21.5	25.9	29.4	32.9	33.7	34.5	35.1	35.6	9.7	37.4%	0.7%
Charles County (5)	38.7	44.6	50.1	56.5	62.9	64.8	66.8	67.9	69.1	19.0	37.9%	1.4%
Frederick County	54.0	68.0	99.7	109.2	120.7	134.6	148.5	162.5	177.8	78.1	78.3%	5.7%
Stafford County (6)	11.0	13.9	25.3	31.8	38.3	43.8	49.2	54.5	59.7	34.4	135.8%	2.5%
Outer Suburbs	249.4	300.2	402.4	471.8	546.7	614.1	681.8	747.2	809.7	407.3	101.2%	29.5%
Northern Virginia	854.7	952.4	1,079.3	1,212.8	1,357.5	1,461.2	1,566.6	1,658.5	1,745.0	665.7	61.7%	48.2%
Suburban Maryland	822.0	832.7	983.0	1,072.9	1,184.0	1,271.1	1,370.3	1,468.8	1,548.2	565.2	57.5%	40.9%
REGIONAL TOTAL	2,424.0	2,487.0	2,740.4	3,006.2	3,293.5	3,515.2	3,742.4	3,956.1	4,122.0	1,381.7	50.4%	100.0%

(1) Forecasts for years 2000 to 2030 include all of Takoma Park.

(2) Included in Montgomery County total.

(3) Forecasts for all years include Fairfax County Government employees working at the Fairfax County Public Safety Center

(4) Forecasts for all years do not include Fairfax County Government employees (+/- 2,000 jobs) working at the Fairfax County Public Safety Center

(5) Tri-County Council for Southern Maryland develops ten-year incremental population, housing unit and employment forecasts

for Calvert County, Charles County and St. Mary's County.

(6) Source: Rappahanock Area Development Commission (RADCO), March 2003

September 8, 2004

ATTACHMENT C

**TERM TRACKING SHEET - CURRENT MEASURES
IMPLEMENTATION: YEAR 2000 AND LATER
Credits are taken in Air Quality Conformity Analysis FY 2004-09**

* 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	TONS/DAY REDUCTION CREDITED								Project Category *
					FULL	SCALED- BACK	UNDER- WAY	REM			2005		2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
9	X	1994-99	MDOT	Park & Ride Lot - MD 210/ MD 373	X				2000	2003	0.001	0.003	0.0005	0.0013	0.0004	0.0006	0.0004	0.0006	C
19		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	-
20	X	1994-99	ALEX	King St. Metrorail access improvements				X		2002, '04, '05	0.0018	0.0026	0.0009	0.0013	0.0008	0.0009	0.0008	0.0009	C
38	X	1995-00	MDOT	Signal Systems - MD 85 Executive Way to MD 355	X				1996	Pre 2000							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	TR
44		1995-00	MDOT	Signal Systems - MD 410, 62nd Ave. to Riverdale Rd.				X	1996	2002							0.0000	0.0000	TR
48	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.001	0.003	0.0009	0.0027	0.0012	0.0019	0.0012	0.0018	C (TCM)
49	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.008	0.024	0.0074	0.0242	0.0055	0.0153	0.0054	0.0145	C (TCM)
51	X	1995-00	VDOT	Alexandria Telecommuting Pilot Program	X					2000 & 2001									C
52	X	1995-00	VDOT	Fairfax County Bus Shelter (Fairfax Co. TDM program)				X	2000	2001									C
54	X	1995-00	VDOT	City of Fairfax Bus Shelters				X	1999	2004	0.0000	0.0009	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	C (TCM)
56	X	1995-00	VDOT	Cherry Hill VRE Access				X		2007	0.0065	0.0206	0.0033	0.0090	0.0024	0.0050	0.0023	0.0047	C (TCM)
57	X	1995-00	DC	Right Turn on Red				X		1999	0.0414	0.0499	0.0202	0.0218	0.0165	0.0113	0.0162	0.0102	TR
58	X	1995-00	WMATA	Bus Replacement (172 buses)	X				1998	1998	0.0690	0.2520	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	SP (TCM)
59	X	1995-00	MCG	Shady Grove West Park and Ride				X	2010		0.0000	0.0000	0.0000	0.0045	0.0000	0.0031	0.0000	0.0030	C
60	X	1995-00	MCG	White Oak Park and Ride				X	2010		0.0000	0.0000	0.0000	0.0090	0.0000	0.0062	0.0000	0.0059	C
61	X	1995-00	MCG	Bicycle Facilities				X	FY99		0.0028	0.0017	0.0014	0.0009	0.0012	0.0006	0.0012	0.0006	C
62	X	1995-00	MCG	Pedestrian Facilities to Metrorail				X			0.0046	0.0069	0.0019	0.0031	0.0016	0.0022	0.0015	0.0021	C
63	X	1995-00	MDOT	MARC Replacement Coaches	X				1999	2004	0.0037	0.0103	0.0033	0.0099	0.0031	0.0062	0.0031	0.0059	C
64	X	1995-00	MDOT	MARC Expansion Coaches	X				1999	2004	0.0296	0.0894	0.0284	0.0636	0.0287	0.0508	0.0283	0.0482	C (TCM)
66	X	1995-00	VDOT	Commuter Lots - District Wide				X	varies	1995, 2000	0.0102	0.0284	0.0065	0.0193	0.0063	0.0165	0.0062	0.0157	C
67	X	1995-00	VDOT	I-66 and Stringfellow Rd. Park and Ride	X				2000	2000 end	0.0092	0.0172	0.0047	0.0090	0.0039	0.0062	0.0039	0.0059	C
68	X	1995-00	VDOT	Lake Ridge Park and Ride (now called Tacketts Mill lot)	X					1999/2000	0.0000	0.0086	0.0000	0.0045	0.0000	0.0031	0.0000	0.0030	C
69	X	1995-00	VDOT	Bicycle Trails and Facilities				X	varies	varies	0.0018	0.0146	0.0093	0.0076	0.0075	0.0056	0.0074	0.0053	C
70	X	1995-00	VDOT	Improved Access to Metrorail Stations					varies	2000-2010	0.0005	0.0009	0.0005	0.0009	0.0004	0.0006	0.0004	0.0006	C
71	X	1995-00	VDOT	I-66 HOV access at Monument Dr.	X					1997	0.0092	0.0172	0.0047	0.0090	0.0004	0.0062	0.0004	0.0059	C
72		1995-00	DC	Bicycle Facilities		X					0.0222	0.0172	0.0116	0.0094	0.0094	0.0069	0.0093	0.0065	C
73	X	1995-00	REGION	COG Regional Ridesharing Support	X					on-going	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C

TERM TRACKING SHEET - CURRENT MEASURES
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					FULL	SCALED-BACK	UNDER-WAY	REM			2005		2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
74	X	1995-00	REGION	M-47 Integrated Ridesharing	X					on-going	0.0431	0.0897	0.0180	0.0295	0.0141	0.0180	0.0139	0.0172	C
75	X	1995-00	REGION	M-92 Telecommuting Support	X					on-going	0.2886	0.6135	0.1794	0.3002	0.1788	0.2327	0.1889	0.2374	C
77		1996-01	VDOT	Duke Street Pedestrian Bridge				2005		n/a	n/a	n/a	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)				1999		Summer 2001	0.0018	0.0026	0.0009	0.0013	0.0008	0.0009	0.0008	0.0009	C
81	X	1996-01	VDOT	Arlington County Metrocheck Program	X			1997		1997 Onwards	0.0018	0.0026	0.0010	0.0030	0.0010	0.0030	0.0004	0.0009	C
82	X	1996-01	VDOT	Old Dominion Drive Bike Trail				2000		2004	0.0009	0.0009	0.0005	0.0004	0.0004	0.0003	0.0004	0.0003	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)				1999		2001	0.0009	0.0009	0.0005	0.0013	0.0004	0.0009	0.0004	0.0009	C
90	X	1996-01	REGION	M-47c Employer Outreach / Guaranteed Ride Home	X					on-going	0.5595	1.0434	0.2347	0.3449	0.1807	0.2095	0.1777	0.1989	C
91	X	1996-01	REGION	M-70a Bicycle Parking				1999			0.0065	0.0060	0.0047	0.0045	0.0039	0.0031	0.0039	0.0030	C
92	X			M-92 Telecommuting Support	Combined with item #75														C
95	X	1997-02	MCG	Germantown Transit Center				2004			0.0046	0.0163	0.0023	0.0085	0.0020	0.0056	0.0019	0.0053	C (TCM)
102	X	1997-02	PG	Prince George's County Bus Replacement	X			1998		1998	0.0030	0.0090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	SP (TCM)
106	X	1997-02	VDOT	PRTC Employer Commuting Outreach Program	X					1977 on-going	0.0018	0.0004	0.0009	0.0000	0.0008	0.0000	0.0008	0.0000	C
107	X	1997-02	VDOT	PRTC Multimodal Strategic Marketing Implementation Plan	X					1977 on-going	0.0000	0.0004	0.0000	0.0004	0.0000	0.0003	0.0000	0.0003	C
108	X	1997-02	MDOT	M-103 Taxicab Replacement in Maryland				1999		on-going	0.0797	0.2675	0.1453	0.2155	0.1228	0.1498	0.3120	0.4810	SP
109	X	1997-02	REGION	M-70b Employer Outreach for Bicycles	X			1998		on going	0.0011	0.0013	0.0005	0.0004	0.0003	0.0003	0.0003	0.0002	C
110	X	1997-02	VDOT	M-77b Vanpool Incentive Programs in Virginia				1999		delayed	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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	SP
112	X	1998-03	MCG	Montgomery County Bus Replacement	X						0.0080	0.0270	0.0020	0.0070	0.0000	0.0000	0.0000	0.0000	SP
113	X	1998-03	PG	Prince George's County Bus Replacement	X			1998		1998	0.0010	0.0020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	SP
114	X	1998-03	FDC	Frederick County Bus Replacement	X						0.0010	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	SP
117	X	1998-03	VDOT	Arlington County Four Mile Run Bike Trail				1999		delayed	0.0009	0.0009	0.0005	0.0004	0.0004	0.0003	0.0004	0.0003	C
118	X	1998-03	VDOT	Northern Virginia Turn Bays	X			2000		1998	0.0009	0.0015	0.0009	0.0007	0.0008	0.0004	0.0008	0.0003	TR
119	X	1998-03	VDOT	Fairfax City Bus Replacement				2001		2003	n/a	n/a	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	0.0900	0.3420	0.0000	0.0000	0.0000	0.0000	SP
122	X	97 & 98 TIP	REGION	M-101a Mass Marketing Campagin (Consumer)						ongoing	0.1191	0.2119	0.1015	0.1594	0.0980	0.1069	0.0752	0.0807	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	0.0074	0.0310	0.0047	0.0188	0.0039	0.0143	0.0039	0.0136	C

TERM TRACKING SHEET - CURRENT MEASURES
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					FULL	SCALED- BACK	UNDER- WAY	REM			2005		2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
124	X	1999-04	MDOT	Signal Systems (197/MD-198, MD-382 TO US-301,US301)	x				2000	2002	0.0110	-0.0030	0.0061	-0.0021	0.0080	-0.0015	0.0079	-0.0014	TR
125	X	1999-04	VDOT	Transit Center at 7 Corners					2002		0.0009	0.0017	0.0005	0.0009	0.0004	0.0006	0.0004	0.0006	C
126	X	1999-04	VDOT	Falls Church Clean Diesel Bus Service					2000	2003	0.0040	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	SP
127	X	1999-04	VDOT	VA 234 Bike Trail					2001	2007	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C
128	X	1999-04	VDOT	PRTC Ridesharing	X				on-going	2000 ongoing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C
130	X	1996-01	VDOT	M-14: I-66 Feeder Bus Fare Buy Down	X					1998 onward	0.0231	0.0473	0.0102	0.0206	0.0083	0.0131	0.0081	0.0124	C
131	X	2000-05	MDOT	Various park and Ride Lots	x				2002	2003	0.0064	0.0280	0.0043	0.0175	0.0038	0.0140	0.0038	0.0119	C
132	X	2000-05	MDOT	Signal Systems	X				Varies	on-going	0.0028	0.0000	0.0012	0.0000	0.0007	0.0000	0.0007	0.0000	TR
133	X	2000-05	VDOT	450 Spaces at Gambrill/Hoopes Rds. Park and Ride					2002	2004	0.0065	0.0155	0.0028	0.0069	0.0022	0.0043	0.0021	0.0041	C
134	X	2000-05	VDOT	300 Spaces at Backlick Rd					2003	2006	0.0046	0.0112	0.0021	0.0049	0.0015	0.0031	0.0015	0.0030	C
135	X	2000-05	VDOT	Accotink-Gateway Connector Trail					2002	2005	0.0065	0.0086	0.0028	0.0038	0.0019	0.0021	0.0018	0.0020	C
136	X	2000-05	VDOT	Columbia Pike Trail					2000	2001, 2005	0.0055	0.0069	0.0023	0.0029	0.0015	0.0016	0.0014	0.0015	C
137	X	2000-05	VDOT	Lee Highway trail					2000	2005	0.0028	0.0034	0.0012	0.0016	0.0006	0.0008	0.0006	0.0008	C
138	X	2000-05	VDOT	Arlington Bus Shelter Improvements					2005	2005	0.0009	0.0009	0.0005	0.0004	0.0002	0.0002	0.0002	0.0002	C
139	X	2000-05	VDOT	Pentagon Metrostation Improvements	X					2003	0.0074	0.0146	0.0033	0.0063	0.0022	0.0035	0.0022	0.0033	C
140	X	2000-05	MDOT	East/West Intersection Improvements					2005	2006 Expect.	0.0379	0.0215	0.0640	0.0327	0.0874	0.0355	0.0859	0.0337	C
141	X	2001-06	Feds	Federal Transit/Ridesharing subsidy	X				on-going		0.0942	0.1642	0.0386	0.0555	0.0291	0.0330	0.0286	0.0313	C
142	X	2002-07	WMATA	100 CNG buses	X				2002		0.0000	0.1358	0.0000	0.1358	-	-	-	-	SP (TCM)
143	X	2002-07	WMATA	ULSD with CRT filters					on-going		0.2100	0.0000	0.4300	0.0000	0.4300	0.0000	0.4300	0.0000	H (TCM)
144	X	2003-08	DC	Replace 23 Taxicabs with CNG cabs					2005		0.0177	0.0314	-	-	-	-	-	-	H
145	X	2003-08	DC	D.C.Incident Response & TrafficManagement System					2005		0.0254	0.0746	-	0.0341	-	0.0185	-	0.0168	TR
146	X	2003-08	DC	Bicycle Lane in D. C. (35 Mile) *					2005	2005	0.0154	0.0153	0.0065	0.0053	0.0047	0.0031	0.0046	0.0029	C (TCM)
147	X	2003-08	DC	Bicycle Racks in D. C. (500) *					2005	2005	0.0021	0.0017	0.0009	0.0006	0.0006	0.0003	0.0006	0.0003	C (TCM)
148	X	2003-08	DC	External Bicycle Racks on WMATA Buses in D. C. (600) *	x				2005	2003	0.0031	0.0056	0.0013	0.0019	0.0010	0.0011	0.0010	0.0011	C (TCM)
149	X	2003-08	DC	CNG Rental Cars (18) *					2005		0.0000	0.0002	-	-	-	-	-	-	SP
150	X	2003-08	DC	Sidewalks in D.C. (\$ 5 million)					2005		0.0578	0.1008	0.0243	0.0334	0.0185	0.0202	0.0182	0.0192	C
151	X	2003-08	DC	CNG Refuse Haulers (2) *	x				2005	2004	0.0001	0.0020	0.0001	0.0020	-	-	-	-	H (TCM)
152	X	2003-08	DC	Circulator /Feeder Bus Routes	x				2005	2003	0.0211	0.0363	0.0089	0.0121	0.0067	0.0073	0.0066	0.0069	C

TERM TRACKING SHEET - CURRENT MEASURES
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					FULL	SCALED-BACK	UNDER-WAY	REM			2005		2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
153	X	2003-08	MDOT	Commuter Tax Credit			x		2005	n/a	0.1262	0.2219	0.0530	0.0736	0.0405	0.0445	0.0398	0.0422	C
155		2003-08	MDOT	Employer Vanpool Program (WWB)				x	2005		0.0030	0.0075	0.0012	0.0024	0.0010				C
156	X	2003-08	MDOT	Green Line Link			x		2005	n/a	0.0041	0.0085	0.0017	0.0028	0.0013	0.0017	0.0013	0.0016	C
157	X	2003-08	MDOT	Park & Ride Lots - Southern Maryland *			x		2005	2003/2005	0.0080	0.0197	0.0033	0.0064	0.0027	0.0040	0.0026	0.0038	C
158	X	2003-08	MDOT	Prince George's County- Bus Exp			x		2005	n/a	0.0578	0.1191	0.0242	0.0392	0.0189	0.0239	0.0186	0.0228	C
159	X	2003-08	MDOT	MTA - Bus Service Expansion			x		2005	n/a	0.0131	0.0285	0.0055	0.0093	0.0043	0.0057	0.0042	0.0054	C
160	X	2003-08	MDOT	Ride- On - Super Discount			x		2005	n/a	0.0015	0.0026	0.0006	0.0009	0.0005	0.0005	0.0005	0.0005	C
161	X	2003-08	Regional	Regional Traveler Information Systems					2005		0.1596	0.9730	0.0816	0.4451	0.0697	0.2418	0.0686	0.2195	TR
162	X	2003-08	MDOT	Universal Transportation Access (MD + WMATA)			x		2005	n/a	0.0259	0.0452	0.0109	0.0150	0.0083	0.0091	0.0082	0.0086	C
163	X	2003-08	MCG	Construction of 1300 additional Parking Spaces at Grosvenor Metro Garage	x				2004		0.0074	0.0189	0.0030	0.0062	0.0025	0.0038	0.0025	0.0036	C (TCM)
164	X	2003-08	MCG	Bethesda Shuttle Bus Services	x				2004		0.0050	0.0087	0.0021	0.0029	0.0016	0.0017	0.0016	0.0016	C
165	X	2003-08	MCG	External Bicycle Racks on Ride-On Buses in Montgomery County	x				2004		0.0010	0.0017	0.0004	0.0006	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		0.0017	0.0030	0.0007	0.0010	0.0006	0.0006	0.0005	0.0006	C
168	X	2003-08	MCG	Annual Sidewalk Program	x				2004		0.0275	0.0480	0.0116	0.0159	0.0088	0.0096	0.0087	0.0091	C
169	X	2003-08	MDOT	Bethesda Breeze/International Express Metrobus	x		x		2005	n/a	0.0060	0.0097	0.0025	0.0032	0.0019	0.0019	0.0019	0.0018	C
170	X	2003-08	MDOT	Bethesda-8, Silver Spring Downtown Dasher and Prince Georges Co. Shuttles at 3 PNR lot			x		2005	n/a	0.0142	0.0189	0.0060	0.0064	0.0044	0.0038	0.0043	0.0036	C
171	X	2003-08	MDOT	Proposed Transportation Management District in Montgomery County (Rockville and Gaithersburg)				X	2005	n/a	0.0093	0.0142	0.0039	0.0047	0.0029	0.0028	0.0029	0.0027	C
172	X	2003-08	MDOT	Sidewalks (Bikes/Pedestrian) at / near Rail Stations	x				2005	2002	0.0150	0.0267	0.0063	0.0088	0.0048	0.0054	0.0047	0.0051	C
173	X	2003-08	MDOT	Neighborhood Sidewalks Improvements (Bike/Pedestrian)	X				2005	2004	0.0052	0.0030	0.0023	0.0011	0.0016	0.0006	0.0015	0.0005	C
174	X	2003-08	MDOT	Neighborhood Conservation Program - Neighborhood Sidewalks Improvements (Bikes/Pedestrian)		X			2005	n/a	0.0046	0.0026	0.0020	0.0010	0.0014	0.0005	0.0013	0.0005	C
175	X	2003-08	MDOT	Maryland bus Transit Service Expansion	X				2005	2004	0.0228	0.0586	0.0094	0.0191	0.0077	0.0118	0.0076	0.0112	C
176	X	2003-08	VDOT	Universal Transportation Access Program					2005	2005	0.0019	0.0034	0.0008	0.0011	0.0006	0.0007	0.0006	0.0006	C
177	X	2003-08	VDOT	Interactive Rideshare & Kiosk Initiative					2005		0.0006	0.0013	0.0003	0.0004	0.0002	0.0003	0.0002	0.0002	C
178	X	2003-08	VDOT	Mobile Commuter Stores					2005		0.0035	0.0071	0.0014	0.0023	0.0011	0.0014	0.0011	0.0014	C
179	X	2003-08	VDOT	Telework Incentive Program (Telework VA)			X		2005	2001	0.0012	0.0022	0.0005	0.0007	0.0004	0.0004	0.0004	0.0004	C
180	X	2003-08	VDOT	Commuter Choice					2005		0.0015	0.0025	0.0007	0.0008	0.0005	0.0005	0.0005	0.0005	C
181	X	2003-08	VDOT	Employer Shuttle Services					2005		0.0184	0.0301	0.0077	0.0100	0.0058	0.0060	0.0057	0.0057	C

TERM TRACKING SHEET - CURRENT MEASURES
IMPLEMENTATION: YEAR 2000 AND LATER
Credits are taken in Air Quality Conformity Analysis FY 2004-09

* 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	TONS/DAY REDUCTION CREDITED								Project Category *
					FULL	SCALED-BACK	UNDER-WAY	REM			2005		2015		2025		2030		
											VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
184	X	2003-08	VDOT	Van Start / Van Save			X		2005	till 2006	0.0022	0.0047	0.0009	0.0015	0.0007	0.0009	0.0007	0.0009	C
185	X	2003-08	VDOT	Metro Shuttle Bus			X		2005	1999-2005	0.0019	0.0047	0.0008	0.0015	0.0006	0.0009	0.0006	0.0009	C
187	X	2003-08	VDOT	VRE Mid-Day Train Service	X				2005	2002	0.0025	0.0053	0.0011	0.0017	0.0008	0.0011	0.0008	0.0010	C
190	X	2003-08	VDOT	Employer Vanpool Program (Bridge deck)			X		2005	2004 - 2008	0.0015	0.0034	-	-	-	-	-	-	C
191	X	2003-08	VDOT	Town of Leesburg P&R Lot			X		2005	2004	0.0031	0.0071	0.0013	0.0023	0.0010	0.0014	0.0010	0.0014	C
192	X	2003-08	VDOT	District-wide P&R Lots	X		X		2005	2001-2005	0.0182	0.0406	0.0076	0.0133	0.0060	0.0082	0.0059	0.0078	C
193	X	2003-08	VDOT	Additional Parking at 4 Metro stations			X		2005	2001, 2005	0.0235	0.0604	0.0097	0.0197	0.0079	0.0122	0.0078	0.0116	C
196	X	2003-08	WMATA	64 CNG Buses (Purchased in 2001)	X				2005	2004	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	2004-2006	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	-	-	-	-	SP
199	X	2003-08	WMATA	Car Sharing Program	X				2005	2004	0.0013	0.0033	0.0005	0.0011	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	0.0020	0.0035	0.0008	0.0012	0.0006	0.0007	0.0006	0.0007	C (TCM)
202		2003-08	MDOT	Fleet Replacement (state auto fleet, gas to hybrid, 250 vehicles)				x	2005		0.0055	0.013	0.0055	0.013					SP
203	X	2003-08	MDOT	Replace 55 Montgomery County 10 yr. old buses w/ new CNG buses			x		2005	n/a		0.2861		0.2861	-	-	-	-	SP
204		2003-08	MDOT	Neighborhood Bus Shuttle (5 circulator routes)				x	2005		0.0121	0.0221	0.0051	0.007	0.00	0.004	0.0038	0.0042	C
205	X	2003-08	MDOT	New Surface Parking at Transit Centers (500 spaces)			x		2005	n/a	0.0042	0.0108	0.0017	0.0035	0.0014	0.0022	0.0014	0.0021	C
206	X	2003-08	MDOT	Additional Bike Lockers at Metro-Stations				x	2005	n/a	0.0213	0.0379	0.0090	0.0125	0.0068	0.0076	0.0067	0.0072	C
207	X	2003-08	MDOT	Bike Facilities at PnR Lots or other similar location			x		2005	n/a	0.0150	0.0300	0.0063	0.0099	0.0049	0.0060	0.0048	0.0057	C
208	X	2003-08	MDOT	CNG Fueling Stations				x	2005	n/a	0.1270	0.1170							SP
209		2003-08	MDOT	Gas cap replacements (ROP Credit)				x	2005		N/A	N/A		-		-		-	SP
210		2003-08	MDOT	Gas can turnover (ROP Credit)				x	2005		N/A	N/A		-		-		-	SP
211	X	2003-08	MDOT	External Bicycle Racks on WMATA Buses (486 MD buses)	x				2005	2002	0.0023	0.0040	0.0009	0.0013	0.0007	0.0008	0.0007	0.0008	C (TCM)
212	X	2003-08	MDOT	Bike \ Pedestrian Trail - Anacostia River Walk			X		2005	n/a	0.0009	0.0008	0.0004	0.0003	0.0003	0.0002	0.0003	0.0002	C
213		2003-08	MDOT	Transit Prioritization - Queue Jumps				x	2005		0.0050	0.0068	0.0021	0.002	0.002	0.001	0.0015	0.0013	C
214	X	2003-08	MDOT	Commuter Choice Benefit/Tax Credit - Marketing Expansion			x		2005	n/a	0.0881	0.1559	0.0370	0.0517	0.0283	0.0313	0.0278	0.0297	C
215	X	2003-08	MDOT	Improvements to Pedestrian Access in TOD areas (4 locations)			x		2005	n/a	0.0096	0.0158	0.0040	0.0053	0.0031	0.0032	0.0030	0.0030	C
216	X	2003-08	MDOT	Telecommuting Expansion			x		2005	n/a	0.1041	0.2192	0.0435	0.0721	0.0341	0.0441	0.0336	0.0419	C
217	X	2003-08	MDOT	Replace older Diesel Engine in Public Sector vehicles				x	2005	n/a	0.0237	0.1300	0.0237	0.1300					H

TERM TRACKING SHEET - CURRENT MEASURES
IMPLEMENTATION: YEAR 2000 AND LATER
Credits are taken in Air Quality Conformity Analysis FY 2004-09

* 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	TONS/DAY REDUCTION CREDITED								Project
					FULL	SCALED- BACK	UNDER- WAY	REM	COMPLETION	COMPLETION	2005		2015		2025		2030		Category *
									DATE	DATE	VOC	NOX	VOC	NOX	VOC	NOX	VOC	NOX	
218	X	2003-08	VDOT	MV-92 Telecommuting Program - Expanded ¹			X		2005	2003	0.1112	0.2341	0.0464	0.0769	0.0365	0.0471	0.0359	0.0447	C
219	X	2003-08	VDOT	MV-123 Employer Outreach for Public Sector Employees ¹			X		2005	2003	0.0247	0.0430	0.0104	0.0143	0.0079	0.0086	0.0078	0.0082	C
220	X	2003-08	REGION	Signal System Optimization			X		2005	2005	0.6737	0.2720	0.3447	0.1244	0.2945	0.0676	0.2896	0.0613	TR
Available Emissions Credits											3.720	7.746	2.286	3.891	1.928	1.674	2.086	1.906	

* Projects numbers refer to the sequence of projects contained in previous Tracking Sheet updates

TRANSPORTATION EMISSION REDUCTION MEASURES (CLRP Projects Only)

Credited in Air Quality Conformity Analyses (calendar years 1993-2000)
(TRACKING SHEET)

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

	CREDIT TAKEN	TIP CREDITED	AGENCY	PROJECT	IMPLEMENTATION STATUS				PROJECTED	ACTUAL	TONS/DAY REDUCTION CREDITED						Project Category
					FULL	SCALED-BACK	UNDER-WAY	REMOVED	COMPLETION	COMPLETION	2015		2025		2030		
									DATE	DATE	VOC	NOX	VOC	NOX	VOC	NOX	
221	X	1995-00 TIP	REGION	M-24 Speed Limit Adherence							0.1129	0.8376	0.1285	0.5905	0.0495	0.1828	TR
222		1996-01 TIP	MGC	Rock Spring Park Pedestrian Amenities				X			0.0010	0.0040	n/a	n/a	n/a	n/a	-
223	X	1996-01 TIP	MGC	Olney Transit Center Park and Ride							0.0009	0.0036	0.0008	0.0025	0.0003	0.0007	C
224	X	1996-01 TIP	MGC	Damascus Park and Ride							0.0005	0.0018	0.0004	0.0012	0.0001	0.0003	C
225	X	1996-01 TIP	DC	M-103 Taxicab Replacement									0.3490	0.6000	0.3490	0.6000	H
226	X	STADIUM ANALYSIS		Taxicab Replacement									0.1560	0.2400	0.1560	0.2400	H
227	X	1997-02 TIP	MDOT	Shady Grove West Transit Center Park and Ride							0.0000	0.0045	0.0000	0.0031	0.0000	0.0009	C
228	X	1997-02 TIP	MGC	Olney Transit Center Park and Ride									0.0008	0.0025	0.0003	0.0007	C
229	X	1997-02 TIP	MGC	White Oak Park and Ride							0.0000	0.0090	0.0000	0.0062	0.0000	0.0017	C
230	X	1997-02 TIP	MGC	Damascus Park and Ride									0.0004	0.0009	0.0001	0.0003	C
231	X	1997-02 TIP	MGC	Four Corners Transit Center							0.0000	0.0004	0.0000	0.0003	0.0000	0.0001	C
232		1997-02 TIP	MGC	Burtonsville Transit Center				X					n/a	n/a	n/a	n/a	-
233	X	1997-02 TIP	MGC	Silver Spring Transit Access										0.0006		0.0002	C
234	X	1997-02 TIP	MGC	Shady Grove Parking Construction							0.0023	0.0085	0.0020	0.0059	0.0007	0.0017	C

PLAN TOTAL											0.117	0.865	0.638	1.454	0.556	1.029
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GRAND TOTAL (Current Measures-past 2000 + plan)											2.403	4.757	2.566	3.128	2.642	2.936
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DEFINITIONS:

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 L). No credit has been taken for projects in which only some components of the measure have been implemented. (The status of these projects will be reassessed next year).
- 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

- Reflects instances where emissions reductions previously credited are no longer appropriate to the indicated forecast year, due to schedule slippage.
- Delayed - Project Delayed