D R A F T
PLAN TO IMPROVE AIR QUALITY IN THE WASHINGTON, DC-MD-VA REGION

State Implementation Plan (SIP) for Fine Particle ($PM_{2.5}$) Standard and 2002 Base Year Inventory for the

WASHINGTON DC-MD-VA NONATTAINMENT AREA

Prepared by:

Metropolitan Washington Council of Governments

for the
District of Columbia Department of Environment

Maryland Department of the Environment
and the
Virginia Department of Environmental Quality

on behalf of the Metropolitan Washington Air Quality Committee

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1.0 EXECUTIVE SUMMARY

1.1 Introduction and Background

The Washington metropolitan area is planning to continue to meet federal requirements for reducing fine particles ($PM_{2.5}$) in 2009. The Metropolitan Washington region's Federal Reference Monitors (FRMs) demonstrated compliance with the annual $PM_{2.5}$ National Ambient Air Quality Standard (NAAQS) in 2005 and 2006. Although recent data for 2005 and 2006 show the region's annual $PM_{2.5}$ levels are meeting the national standard, this regional plan will guarantee continued compliance with the standard in 2009. When implemented, the measures in this plan will result in levels of particle pollution below the annual standard and close to the new daily standard for fine particles. According to the CASAC, reductions in fine particles should improve the health of all residents in the region and reduce mortality for people at risk for cardiovascular disease.

$PM_{2.5}$ matter consists of tiny airborne particles that result from particulate emissions; condensation of sulfates, nitrates, and organics from the gas phase; and coagulation of smaller particles. Unlike $PM_{2.5}$, coarse-mode particles such as dust, pollen, sea salt, and ash are usually produced by mechanical processes including wind and erosion. $PM_{2.5}$ are less than or equal to 2.5 microns across, about $1/30^{th}$ the average width of a human hair, whereas coarse-mode particles are more than 2.5 microns and may be as large as 10 microns across.

The size of particles is directly linked to their potential for causing health problems. Fine particles less than 2.5 microns in diameter pose the greatest problems because they can lodge deep into the lungs, and some may get into the bloodstream. Therefore, exposure to such particles can affect both lungs and heart. $PM_{2.5}$ pollution affects both human health and the environment such as crops and vegetation. Particle pollution exposure is linked to a variety of health problems, including increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; decreased lung function; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease.

The Clean Air Act was passed in 1970 to protect the public's health and welfare. Congress amended the Act in 1990 to establish requirements for areas not meeting the National Ambient Air Quality Standards (NAAQS). The Clean Air Act Amendments (CAAA) established a process for evaluating air quality in each region and identifying and classifying nonattainment areas according to the severity of its air pollution problem. The Clean Air Act sets health standards for six ambient pollutants: carbon monoxide, sulfur dioxide, nitrogen oxides, ozone, lead, and particulate matter. The Environmental Protection Agency (EPA) establishes rules and regulations to implement the Clean Air Act.

In 1997 EPA reviewed air quality criteria and standards and established two new $PM_{2.5}$ standards: an annual standard of 15.0 $\mu g/m^3$. and a 24-hour standard of 65 $\mu g/m^3$. EPA revised the secondary standards, making them identical to the primary standards. There were a series of legal challenges to the particulate matter (PM) standards that were not resolved until March

2002, at which time the standards and the EPA's decision process were upheld.[1] The $PM_{2.5}$ standard designations became effective on April 5, 2005, with state implementation plans due three years later on April 5, 2008.

In January 2005 EPA designated the Washington area as a nonattainment area for the annual $PM_{2.5}$ standard. EPA did not use a classification system for $PM_{2.5}$ nonattainment areas. The boundary of the Washington nonattainment area is defined in the *Federal Register*, Vol.; 70, No. 3, 1/5/05. The Washington $PM_{2.5}$ nonattainment area includes the District of Columbia; Arlington, Fairfax, Loudoun, Prince William counties and the cities of Alexandria, Falls Church, Fairfax, Manassas, and Manassas Park in Virginia; as well as Charles, Frederick, Montgomery, and Prince George's counties and the cities of Bowie, College Park, Gaithersburg, Greenbelt, Frederick, Rockville, and Takoma Park in Maryland. A map outlining the nonattainment area is shown in Figure 1-1.

States with nonattainment areas must submit to EPA by April 5, 2008, an attainment demonstration and associated air quality modeling, adopted state regulations to reduce emissions of $PM_{2.5}$ and its precursors, and other supporting information demonstrating that the area will attain the standards as expeditiously as practicable.[2] EPA will determine the region's attainment on the basis of air quality data for 2007-2009. The Metropolitan Washington nonattainment area is required to attain the standard no later than April 2010.

This document, the State Implementation Plan (SIP) for Fine Particle ($PM_{2.5}$) Standard and 2002 Base Year Inventory for the Metropolitan Washington, DC-MD-VA Nonattainment Area, is a plan to demonstrate continued improvement and compliance with the annual NAAQS for $PM_{2.5}$ in the Washington region in 2009. The Plan consists of Base Year inventories for 2002, projection inventories for 2009, an attainment plan, a demonstration of reasonably available control measures, motor vehicle emission budgets for 2009 and 2010, attainment demonstration, and contingency plans for attainment.

The Plan has been prepared by the Metropolitan Washington Air Quality Committee (MWAQC) to comply with the CAAA of 1990 and with EPA requirements for the Washington region as stated in EPA's 2005 designation of the Washington region and EPA's Clean Air Fine Particle Implementation Rule.[3]

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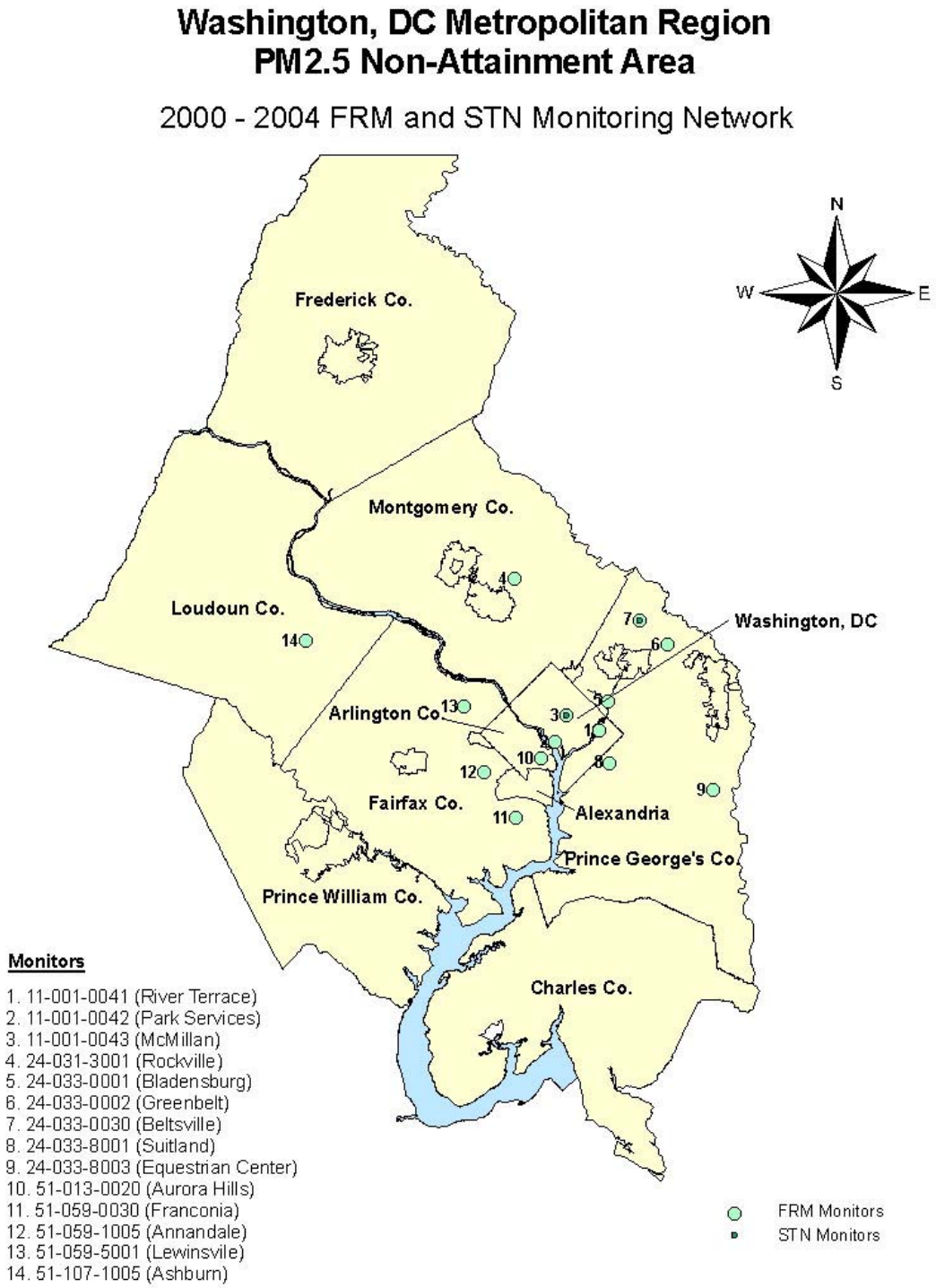
[1] *Federal Register*, 40 CFR Part 50, Vol.62, no.138, July 18. 1997, 38652-38701.

[2] CAAA Section 172 (a)(2) requires states to attain the standard as expeditiously as possible but within five years of designation.

[3] *Federal Register*, 40 CFR 51, Part II, Clean Air Fine Particle Implementation Rule, Vol.72, No. 79, 4/25/07, pp.20586-20667.

Figure 1-1


Washington, DC Metropolitan Region
PM2.5 Non-Attainment Area
2000 - 2004 FRM and STN Monitoring Network
N
W
E
S
Frederick Co.
Montgomery Co.
Loudoun Co.
Washington, DC
Arlington Co.
Fairfax Co.
Alexandria
Prince George's Co.
Prince William Co.
Charles Co.
Monitors
1. 11-001-0041 (River Terrace)
2. 11-001-0042 (Park Services)
3. 11-001-0043 (McMillan)
4. 24-031-3001 (Rockville)
5. 24-033-0001 (Bladensburg)
6. 24-033-0002 (Greenbelt)
7. 24-033-0030 (Beltsville)
8. 24-033-8001 (Suitland)
9. 24-033-8003 (Equestrian Center)
10. 51-013-0020 (Aurora Hills)
11. 51-059-0030 (Franconia)
12. 51-059-1005 (Annandale)
13. 51-059-5001 (Lewinsvile)
14. 51-107-1005 (Ashburn)
FRM Monitors
STN Monitors

1.2 SIP Requirements for Nonattainment Areas

The Clean Air Act Section 172 of subpart 1 states the general requirements for state implementation plans (SIPs) and Section 110 (a)(2) establishes further requirements.

- Attainment demonstration due 3 years after designation (4/5/08)
- Reasonably Available Control Techniques/Reasonably Available Control Measures (RACT/ RACM) for major sources
- Enhanced Inspection and Maintenance (I/M) for vehicles
- Contingency measures for failure to attain the health standard

EPA issued implementation guidance for the $PM_{2.5}$ standard published in the *Federal Register* on April 25, 2007 (40 CFR 51, Part II, Clean Air Fine Particle Implementation Rule, Vol. 72, No. 79, 4/25/07, pp. 20586-20667). The policy on $PM_{2.5}$ and precursors identified that $PM_{2.5}$, sulfur dioxide, and nitrogen oxides must be addressed in all areas. Volatile organic compounds (VOCs) and ammonia are not required to be addressed in all areas, but may be addressed if the state or EPA demonstrates that either compound is a significant contributor.

The Fine Particle Attainment Plan for the Washington nonattainment areas has been developed by the MWAQC in cooperation with Maryland, Virginia, and the District of Columbia. Table A identifies the Washington region's control measures that maintain compliance with the $PM_{2.5}$ standard in 2009 (see Page 1-10).

1.3 SIP Process

The Act requires states to develop and implement $PM_{2.5}$ reduction strategies in the form of a SIP. The SIP is the state's "master plan" for attaining and maintaining the NAAQS.

Once the administrator of the EPA approves a state plan, the plan is enforceable as a state law and as federal law under Section 113 of the Act. If EPA finds the SIP inadequate to attain the NAAQS in all or any regions of the state and if the state fails to make the requisite amendments, the EPA administrator may issue binding amendments under Section 110(c)(1).

EPA is required to impose severe sanctions on the states under three circumstances: the state's failure to submit a SIP revision; on the finding of the inadequacy of the SIP to meet prescribed air quality requirements; and the state's failure to enforce the control strategies that are contained in the SIP.

Sanctions include the withholding of federal funds for highway projects -- other than those for safety, mass transit, or transportation improvement projects related to air quality improvement or maintenance -- beginning 24 months after the EPA announcement. No federal agency or department will be able to award a transportation grant or fund, license, or permit any other transportation project that does not conform to the most recently approved SIP.

1.4 The Metropolitan Washington Air Quality Committee (MWAQC)

Under Section 174 of the CAAA, the governors of Maryland and Virginia and the mayor of the District of Columbia certified the MWAQC to develop specific recommendations for a regional air quality plan in the Washington, DC-MD-VA nonattainment area. The agreement was renewed in 2004.

Members of MWAQC include elected officials from the cities of Bowie, College Park, Frederick, Gaithersburg, Greenbelt, Rockville, and Takoma Park in Maryland; the cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park in Virginia; the Montgomery and Prince George's county councils; the Montgomery and Prince George's county executives; the mayor of the District of Columbia and representatives of the Council of the District of Columbia; and representatives of Calvert, Charles, and Frederick counties in Maryland and of Arlington, Fairfax, Loudoun, and Prince William counties in Virginia.

Representatives of the general assemblies of Maryland and Virginia, the state air management directors, the state transportation directors, and the chairman of the National Capital Region Transportation Planning Board also are members of MWAQC. The membership roster is contained in Appendix A.

The Metropolitan Washington Council of Governments, in close cooperation with state air quality and transportation agencies, provides technical support to the MWAQC. Additional technical staff support is provided by county and city technical staffs.

MWAQC also has established a public advisory committee to provide recommendations regarding public participation in the development of the air quality plans. The Air Quality Public Advisory Committee (AQPAC) works closely with staff and submits formal recommendations to MWAQC. AQPAC members represent academic, business, civic, and environmental groups. AQPAC members are listed in Appendix A.

Representatives of the following state air management agencies are members of MWAQC: District of Columbia Department of the Environment (DDOE), Air Quality Division; Air and Radiation Management Administration of the State of Maryland's Department of the Environment (MDE); and the Commonwealth of Virginia's Department of Environmental Quality (VADEQ). Representatives of the following state transportation agencies are members of MWAQC: District Department of Transportation (DDOT), Maryland Department of Transportation (MDOT), and the Virginia Department of Transportation (VDOT).

Since the Washington metropolitan nonattainment area crosses state boundaries, the states and the District of Columbia established MWAQC to prepare a regional control plan. MWAQC's recommendations are forwarded to the Interstate Air Quality Council (IAQC) and to the three state air agencies. In turn, each state will submit a SIP revision to EPA. In Maryland, the submittal is made by the governor or a designee; in the District of Columbia, by the mayor or a designee; and in Virginia by the Director of the Virginia Department of Environmental Quality on behalf of the governor.

1.5 Interstate Air Quality Council

The Interstate Air Quality Council (IAQC) is a cabinet-level collaboration among the District of Columbia, the State of Maryland, and the Commonwealth of Virginia, comprising the secretaries of the environment and transportation. The purpose of IAQC is to address issues of interstate transport of air pollutants and to provide a sound process for improving regional air quality. IAQC transmits air quality planning proposals and materials to MWAQC for review and consideration. MWAQC transmits proposed plans and reports to the IAQC for submittal by the governors and the mayor to EPA.

1.6 State Commitment/Implementation Assurances

The measures in the SIP must be supported by any necessary legislative authority adopted by the states and the District of Columbia and adopted by the applicable governmental body responsible for their implementation.

Section 110 of the 1990 CAAA specifies the conditions under which EPA approves SIP submissions. These requirements are being followed by MWAQC and the states in developing this air quality plan or SIP. To develop effective control strategies, EPA has identified four fundamental principles that SIP control strategies must adhere to in order to achieve the desired emissions reductions. These four fundamental principles are outlined in the General Preamble to Title I of the Clean Air Act Amendments of 1990 at *Federal Register* 13567 (EPA, 1992a). The four fundamental principles are

a) Emissions reductions ascribed to the control measure must be quantifiable and measurable;
b) The control measures must be enforceable, in that the state must show that they have adopted legal means for ensuring that sources are in compliance with the control measure;
c) Measures are replicable;
d) The control strategy must be accountable in that the SIP must contain provisions to track emissions changes and to provide for corrective actions if the emissions reductions are not achieved according to the plan.

1.7 Submittal of the Plans

The governors and the mayor (or their designees) are required to submit to the EPA air quality SIPs to meet the requirements of the CAAA. After MWAQC and the IAQC approve the SIP, each of the states and the District of Columbia will submit the document, along with specific commitments, schedules for adoption as appropriate, to EPA's Region III Office in Philadelphia.

1.8 Sanctions

EPA must impose various sanctions if the states or the District of Columbia does not submit a plan, submits a plan that the EPA does not approve, or fails to implement the plan. These include withholding federal highway funding, withholding air quality planning grants, and

imposing a federal plan ("federal implementation plan"). Failure to submit or implement a plan will have significant consequences for compliance with conformity requirements.

1.9 Base Year 2002 Emission Inventories and Future Year 2009 Emissions Inventories

EPA issued implementation guidance for the fine particle standard published in the *Federal Register* on April 25, 2007. The policy on $PM_{2.5}$ and precursors identified that $PM_{2.5}$, sulfur dioxide, and nitrogen oxides must be addressed in all areas. VOCs and ammonia are not required to be addressed in all areas, but may be addressed if the state or EPA demonstrates that either compound is a significant contributor.

The average annual composition of $PM_{2.5}$ in the Washington region is 58% sulfate, 28% carbon/$PM_{2.5}$ Direct, 7% nitrates (see Chapter 2, Figure 2-10). The rest are crustal matter and trace elements. Emissions inventories for the three major precursors, $PM_{2.5}$ ("Direct"), nitrogen oxides (NOx), and sulfur dioxide (SO_2) are compared in Figures 1-2 to 1-4. $PM_{2.5}$ increases slightly by 5.3% from 2002 to 2009, shown in Figure 1-2. Nitrogen oxides emissions are shown in Figure 1-3; they decline by 41% between 2002 and 2009. The largest reductions in NOx come from reductions in point sources and mobile sources. Sulfur dioxide emissions increase during this period by 3.8% due to increases from the utility sector (Figure 1-4).

Figure 1-2

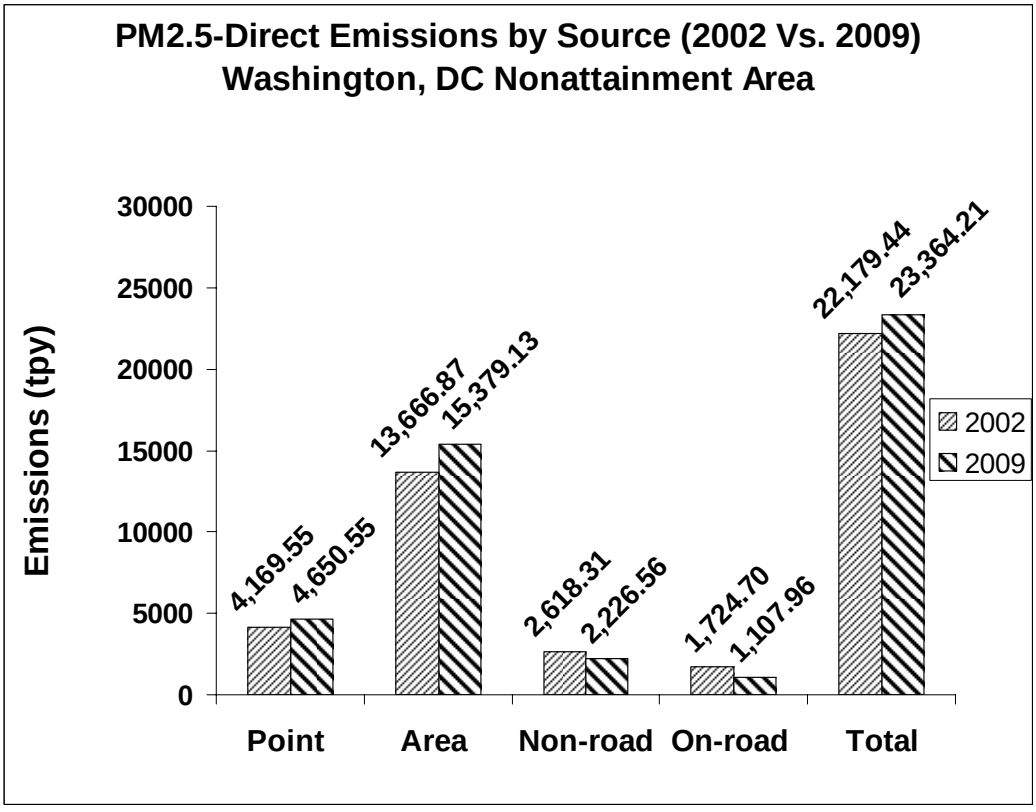


Figure 1-3

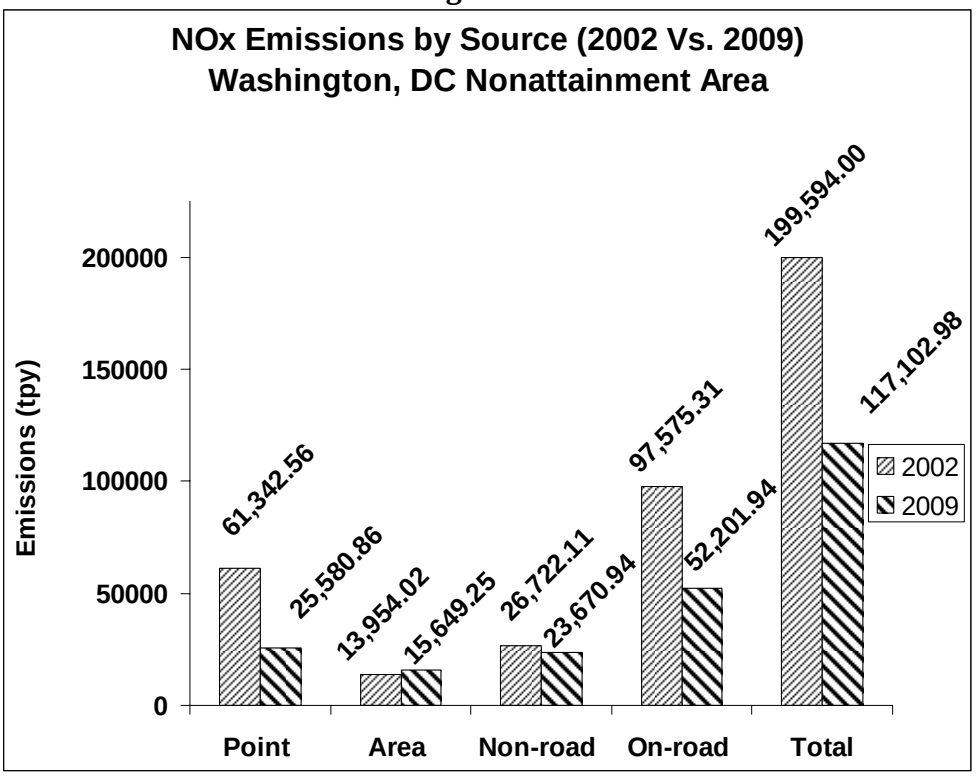
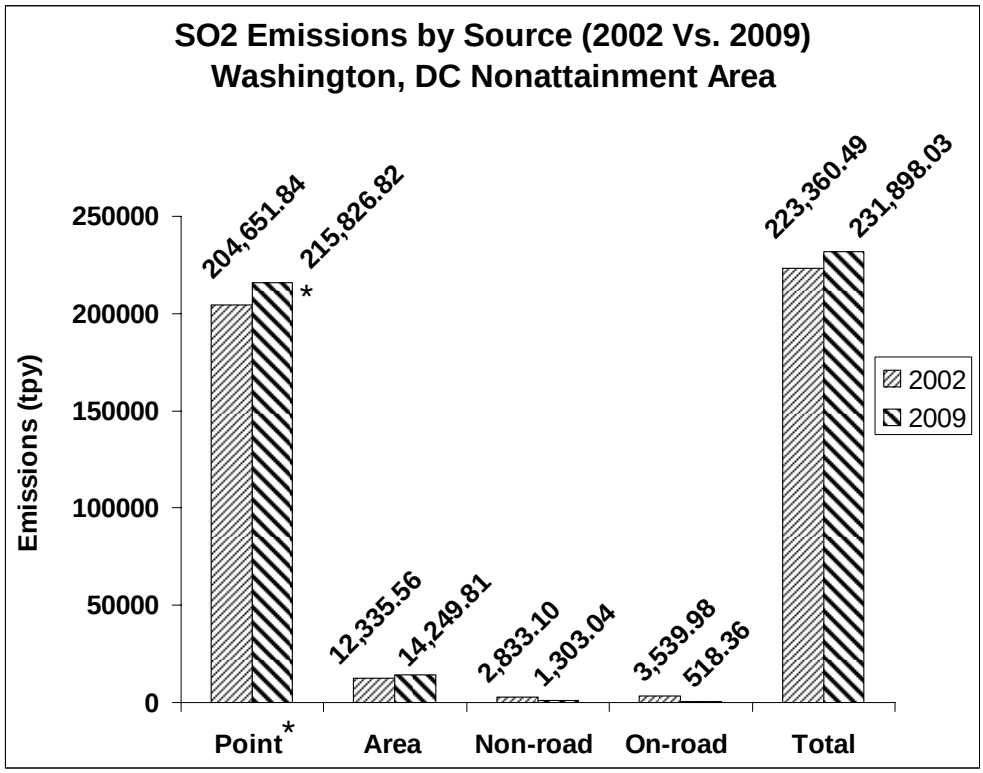


Figure 1-4



* There will be a total of 169,154.11 tons (MD - 158,353.6 tons; VA - 10,800.5 tons) of SO_2 reduction between the years 2009 and 2011due to the Clean Air Interstate Rule and the Maryland Healthy Air Act.

1.10 Reductions in $PM_{2.5}$ Precursors from Measures, 2002-2009

Overall, the 2009 plan for the Metropolitan Washington region includes total reductions by 2009 of 599 tons/year of $PM_{2.5}$-Direct, 77,330 tons/ year of nitrogen oxides (NO_x), and 23,615 tons/ year of sulfur dioxide. The reductions are calculated as the difference between controlled 2009 inventory and uncontrolled and are shown in Table A. The plan may be summarized as follows:

- NO_x reductions are from the NO_x SIP call, the Clean Air Interstate Rules and the Healthy Air Act, state NO_x Reasonably Available Control Technologies (RACT), EPA Nonroad Gasoline and Diesel Engines Rules, and a suite of on-road measures including High-Tech Vehicle Inspection and Maintenance programs, the National Low Emission Vehicle Program, and Tier 2 Motor Vehicle Emissions Standards.
- Sulfur dioxide reductions are from the Clean Air Interstate Rules and the Healthy Air Act, EPA Nonroad Gasoline and Diesel Engine Rules, low-sulfur fuel requirements, and a suite of on-road measures including High-Tech Vehicle Inspection and Maintenance Programs, the National Low Emission Vehicle Program, Tier 2 Motor Vehicle Emissions Standards.
- $PM_{2.5}$ Direct reductions are from federal Nonroad Gasoline Engines Rules, the Nonroad Diesel Engines Rule, Emissions Standards for Spark Ignition Marine Engines, Emissions Standards for Large Spark Ignition Engines and Standards for Locomotives, and the Heavy-Duty Diesel Rules for On-Road Measures.

TABLE A
SUMMARY OF CONTROL STRATEGIES
PM2.5, NOx, and SO_2 Benefits of Control Measures
(2009 uncontrolled-2009 controlled)

Ref No.	*Control Measure*	Reductions $PM_{2.5}$ Direct tons/year	NOx tons/year	SO_2 tons/year
MEASURES INCLUDED IN THE BASELINE CONTROLS SCENARIO				
POINT SOURCE MEASURES				
5.1.1	State Regional Transport Requirement	0	0	0
5.1.2	Visibility Standards	0	0	0
AREA SOURCE MEASURES				
5.2.1	Seasonal Open Burning Restrictions	0	0	0
ON-ROAD MEASURES				
5.4.1	High-Tech Inspection/Maintenance (original cutpoints)	0	0	0
5.4.2	Evaporative Standards	0	0	0
5.4.3	National Low Emission Vehicle Program	0	0	0
5.4.6	Transportation Control Measures and Vehicle Technology, Fuel, or Maintenance Measures	0	0	0
NON-ROAD MEASURES				
5.3.1	EPA Non-Road Gasoline Engines Rule	0	0	0
5.3.2	EPA Non-Road Diesel Engines Rule	0	0	0
5.3.3	Emissions Standards for Spark Ignition Marine Engines	0	0	0
5.3.4	Emissions Standards for Large Spark Ignition Engines	0	0	0
MEASURES INCLUDED IN THE FUTURE CONTROLLED SCENARIO				
POINT SOURCE MEASURES				
5.1.1	State and Regional Transport Requirement (RACT, NOx SIP Call, CAIR, HAA)	-	43,091	17,967
SUBTOTAL			**43,091**	**17,967**
AREA SOURCE MEASURES				
SUBTOTAL		**-**	**-**	**-**
NON-ROAD MEASURES				
5.3.1	EPA Non-Road Gasoline Engines Rule			
5.3.2	EPA Non-Road Diesel Engines Rule			
5.3.3	Emissions Standards for Spark Ignition Marine Engines	393	5,320	2,152
5.3.4	Emissions Standards for Large Spark Ignition Engines			
5.3.5	Standards for Locomotive			
SUBTOTAL		**393**	**5,320**	**2,152**
ON-ROAD MEASURES				
5.4.1	High-Tech Inspection/Maintenance (updated cutpoints)			
5.4.3	National Low Emission Vehicle Program			
5.4.4	Tier 2 Motor Vehicle Emission Standards	204	28,770	3,496
5.4.5	Heavy-Duty Diesel Engine Rule			
5.4.6	Transportation Control Measures and Vehicle Technology, Fuel, or Maintenance Measures	2.6	149.1	0
SUBTOTAL		**207**	**28,919**	**3,496**
TOTAL REDUCTIONS		**599**	**77,330**	**23,615**

Notes: No additional emission reductions are expected for measures fully implemented before 2002.

1.11 Establishment of a Budget for Transportation On_Road Motor Vehicle Emissions

As part of the development of the plan, MWAQC in consultation with the Transportation Planning Board (TPB) will establish motor vehicle emissions budgets (MVEBs) or maximum allowable levels of $PM_{2.5}$ Direct and NO_x. These budgets will be the benchmark used to determine if the region's long-range transportation plan, known as the Constrained Long-Range Plan (CLRP), and the six-year transportation improvements program (TIP) conform with the CAAA of 1990. Under EPA regulations the projected on-road motor vehicle source emissions for 2009 -- minus the Transportation Control Measures (TCM) and vehicle technology, fuel, or maintenance-based measures -- become the motor vehicle emissions budgets for the region unless MWAQC takes actions to set another budget level. The motor vehicle emissions budgets were developed using computer models MOBILE6.2.03 and Travel Demand Model version 2.1d#50.

Attainment Year Motor Vehicle Emission Budgets (MVEBs)

The Motor Vehicle Emission Budgets (MVEBs) for the 2009 attainment year are based on the projected 2009 on-road motor vehicle source emissions, accounting for the emission reductions from on-road motor vehicle source control measures identified in Chapter 5, including TCMs and vehicle technology, fuel, or maintenance-based measures.

The Motor Vehicle Emissions Budget for 2009:

$PM_{2.5}$ Direct = 1,105.4 tons/year NO_x = 52,052.9 tons/year

Contingency Budget

The Motor Vehicle Emission Budgets MVEBs for the 2010 year are based on the projected 2009 on-road motor vehicle source emissions accounting for the emission reductions from on-road motor vehicle source control measures identified in Chapter 5, including TCMs and vehicle technology, fuel, or maintenance-based measures, minus the reductions required for the contingency plan discussed in Chapter 10. The reduction amount provided to satisfy the contingency plan is 657 tons/year NO_x.

The Motor Vehicle Emissions Budget for 2010:

NO_x = 51,395.9 tons/year

1.12 Attainment Modeling Demonstration

The Fine Particle Attainment Plan includes a modeling demonstration that the Washington metropolitan area will maintain compliance with the annual and 24-hour (as specified in 1997) $PM_{2.5}$ National Ambient Air Quality Standard (NAAQS). The demonstration is based on results from the Community Multiscale Air Quality Model (CMAQ).

In the base year 2002, three monitors in the region were above the annual standard of 15.0 $\mu g/m^3$. Modeling the projected controlled emissions for 2009 with reductions from the measures listed in Table A, the 2009 modeling results show no monitors in the Washington, DC-MD-VA region above the annual $PM_{2.5}$ health standard of 15.0 $\mu g/m^3$ or above the 24-hour fine PM2.5 standard of 65 $\mu g/m^3$. Additionally, modeling done by the Association for Southeastern Integrated Planning (ASIP) group provides further evidence that all the monitors in the Washington region will be below the $PM_{2.5}$ health standard in 2009.

In addition to attainment modeling, the monitor data (Figure 1-5) shows a downward trend in $PM_{2.5}$ design values, starting in 2002. In 2005 and 2006 the monitors in the region were in compliance with the annual $PM_{2.5}$ standard (Figure 1-5). During the period 2001-2006, all monitors in the region were in compliance with the 1997 24-hour $PM_{2.5}$ standard (Figure 1-6).

Figure 1-5: Annual $PM_{2.5}$ Design Value, 2001-2006

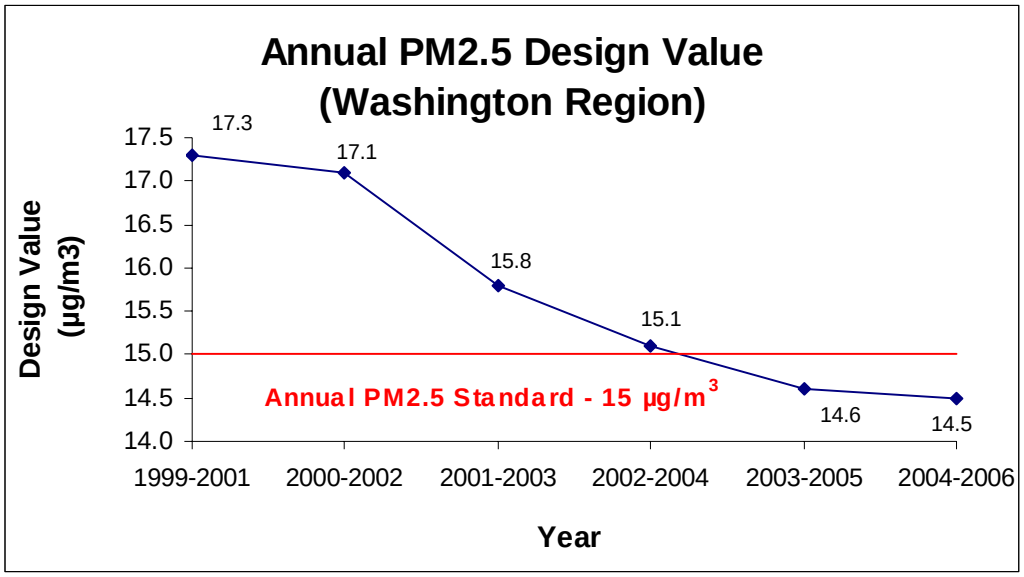
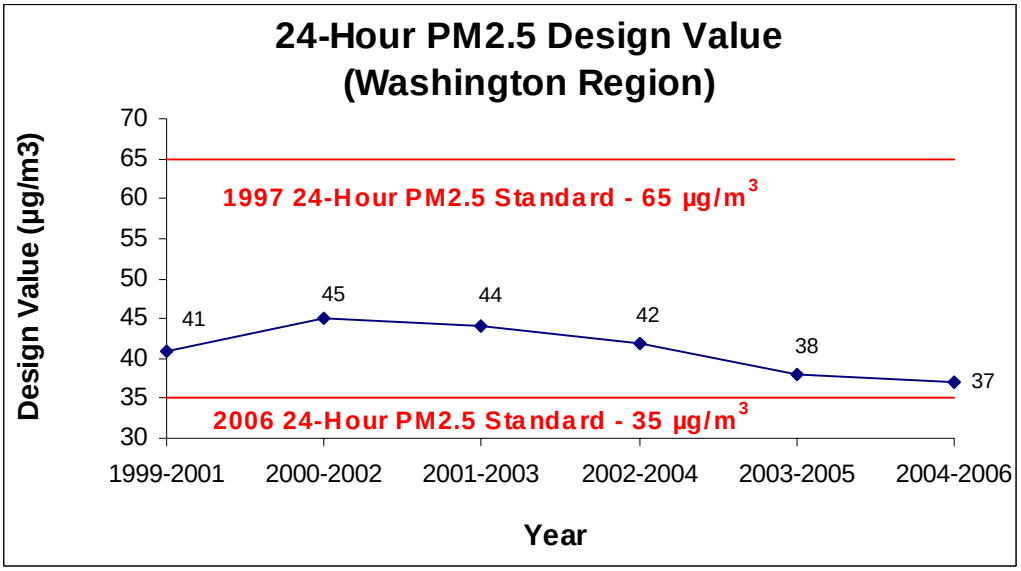


Figure 1-6: 24-Hour $PM_{2.5}$ Design Value, 2001-2006



1.13 Determination of Reasonably Available Control Measures (RACM)

The cumulative impact of previously adopted and on-going, measures described in Chapter 5 has been sufficient to comply with the $PM_{2.5}$ NAAQS (1997) based on 2003-2005 ambient monitoring data. The states of Maryland and Virginia and the District of Columbia will continue to implement the RACM measures already adopted and described in Chapter 5. The analysis in Chapter 6 establishes that these measures contributed to the region being able to comply with the $PM_{2.5}$ NAAQS (1997) based on 2003-2005 annual design value. Therefore, this analysis demonstrates that there are no additional measures that are necessary to demonstrate attainment as expeditiously as practicable and to meet any RFP requirements and that there are no potential measures that if considered collectively would advance the attainment year by one year or more. The above analysis meets the applicable statutory requirements set forth at Section 172(c)(1) of the Clean Air Act and the applicable regulatory requirements set forth at 40 C.F.R. Section 51.1010.

1.14 Contingency Measures

Two measures, the Tier 2 Motor Vehicle Emissions Standards and the Regional Transport NOx reductions from the Clean Air Interstate Rule and the Healthy Air Act, provide a total benefit of more than 169,000 tons/year SO_2 and 657 tons/year NO_x. The combined reduction is greater than the required reductions, therefore meeting the contingency measure requirement. The SO_2 reductions are more than 15 times the required NO_x reduction, and this ratio is significantly higher than all of the equivalency assessments described in Chapter 10.

1.15 Document Contents

Chapter 2	Presents a detailed overview of fine particle pollution, including a precursor significance determination.
Chapter 3	Presents revisions to the 2002 base year inventory using MOBILE 6.2.03, Travel Demand Model version 2.1d#50 including corrections to nonroad, area, and stationary source emissions.
Chapter 4	Presents the 2009 projected inventories using MOBILE 6.2.03 and Travel Demand Model Version 2.1d#50 and a discussion of the growth projection methodology.
Chapter 5	Outlines the control strategies that the states will implement to achieve the reductions in $PM_{2.5}$, NO_x, and SO_2, including Supplemental Measures.
Chapter 6	Discusses the demonstration of Reasonably Available Control Measures (RACM).
Chapter 7	Discusses mobile source conformity issues and establishes 2009 and 2010 mobile emissions budgets for the Metropolitan Washington region.
Chapter 8	Presents the states' schedules and adoption of regulations to meet requirements for severe nonattainment areas and presents the states' commitments to EPA.
Chapter 9	Presents the Metropolitan Washington region's demonstration of attainment based on CMAQ modeling.
Chapter 10	Presents contingency measures for the 2009 attainment demonstration.