
2014 ANNUAL REPORT ON THE ENVIRONMENT

CHAPTER III

AIR QUALITY

III. AIR QUALITY

A. OVERVIEW OF AIR QUALITY IN FAIRFAX COUNTY

1. Introduction

Through a federal-state-regional-local partnership, the quality of our air is monitored for specific contaminants and actions are taken against those who cause the contamination level to exceed allowed limits. Fairfax County's major responsibility involves participation and coordination with regional organizations on plans intended to reduce air pollution and improve air quality. More recently, the county has also taken a leadership role beyond the limits of its traditional air quality partnership; it has helped formulate and has subsequently adopted a program to reduce gases that may be the cause of global climate change. With regard to traditional air quality matters, Fairfax County has demonstrated a continuing commitment to being an active partner in improving the region's air quality.

a. Budget Impacts

Due to the overall budget constraints in the county over the past several years, the Board of Supervisors made significant reductions in the budget for the Health Department, which ended the county's Air Quality Monitoring Program. The Health Department stopped conducting air quality monitoring activities in June of 2010. On July 1, 2010, the Virginia Department of Environmental Quality assumed full responsibility for air quality monitoring in Fairfax County. The county continued to participate in regional air quality planning activities, with a staff person serving on the Metropolitan Washington Air Quality Committee and the Technical Advisory Committee to MWAQC. The Health Department's function is to provide health information as needed.

b. Update on Air Quality Regulatory Changes

i. Cross State Air Pollution Rule

On May 12, 2005, the U.S. Environmental Protection Agency promulgated the Clean Air Interstate Rule, which required reductions in emissions of oxides of nitrogen and sulfur dioxide from large fossil fuel-fired electrical generating units. The U.S. Court of Appeals for the D.C. Circuit ruled on petitions for review of CAIR and CAIR Federal Implementation Plans, including their provisions establishing the CAIR NO_x (annual and ozone season) and SO₂ trading programs. On July 11, 2008, the court issued an opinion vacating and remanding these rules.

However, parties to the litigation requested rehearing of aspects of the court's decision, including the vacatur of the rules. On December 23, 2008, the court remanded the rules to EPA without vacating them. The December 23, 2008 ruling left CAIR in place until EPA issues a new rule to replace CAIR in accordance with the July 11, 2008 decision.

On July 6, 2011, EPA finalized the Cross State Air Pollution Rule. This rule, which replaced CAIR beginning in 2012, requires 27 states in the eastern half of the United States to reduce power plant emissions. EPA also issued a supplemental proposal for six states to make summertime NO_x reductions. This supplemental proposal, when finalized, would bring the total number of states participating in the program to 28. CSAPR is estimated to reduce 2005 emissions from electrical generating units by 6,500,000 tons of SO₂ annually and 1,400,000 tons of NO_x annually in covered states. These estimates represent a 71 percent reduction in SO₂ and a 52 percent reduction in NO_x from 2005 levels.

On December 30, 2011, the U.S. Court of Appeals for the D.C. Circuit issued a ruling to stay the CSAPR pending judicial review. On August 21, 2012, the court vacated CSAPR, ordering EPA to “continue administering CAIR pending the promulgation of a valid replacement” (EME Homer City Generation, L.P. v. EPA, No. 11-1302). Therefore, CAIR remains in place and enforceable until replaced by a valid rule. On June 24, 2013, the U.S. Supreme Court issued an order granting petitions from EPA and other groups for review of the D.C. Circuit Court’s vacatur of CSAPR, and on April 29, 2014, the court reversed the D.C. Circuit opinion vacating CSAPR. While EPA reviews the opinion, the federal government filed a motion with the U.S. Court of Appeals for the D.C. Circuit on June 26, 2014, to lift the stay of CSAPR. While the court considers the motion, CAIR remains in place.

ii. Mercury and Air Toxics Rule

On December 16, 2011, EPA finalized national Clean Air Act standards to reduce mercury and other toxic air pollution from coal and oil-fired power plants. The final rule established power plant emission standards for mercury, acid gases and non-mercury metallic toxic pollutants that will: prevent 90 percent of the mercury in coal burned in power plants from being emitted to the air; reduce by 88 percent the acid gas emissions from power plants; and cut power plant SO₂ emissions by 41 percent beyond the reductions expected from CSAPR. These reductions are expected in the 2016 time frame. DEQ has received an extension request from American Electric Power regarding its Clinch River and Glen Lyn Power Stations, both of which are coal fired electrical generating facilities in Virginia. The extension request announced the company’s plans to: retire the coal fired units at Glen Lyn Power

Station; retire Unit 3 at Clinch River Power Station; and switch fuels to natural gas at Unit 1 and Unit 2 at Clinch River Power Station. Dominion Virginia Power has also requested and received an extension request for Units 1 and 2 at Yorktown Power Station. The request notes that these units will be retired by April 16, 2016. These changes, expected in the 2015-2017 time frame, should improve air quality in all downwind areas.

iii. Stage II Gasoline Vapor Recovery Systems

On May 16, 2012, the EPA Administrator published in the *Federal Register* a notice of final rulemaking determining that onboard refueling vapor recovery systems are in widespread use throughout the motor vehicle fleet. The notice waived the statutory requirement that serious, severe and extreme ozone nonattainment areas adopt and implement programs requiring Stage II vapor recovery systems on gasoline dispensing facilities. Virginia previously adopted Stage II requirements in the Northern Virginia area, including Fairfax County. EPA then finalized guidance on August 7, 2012, describing appropriate methods for removing these requirements from state implementation plans. The Northern Virginia area achieved widespread use benchmarks for these vapor recovery systems in 2011. Based on EPA's calculations, after December 31, 2013, the increase in emissions associated with the incompatibility of some Stage II systems with onboard refueling vapor recovery equipment overtook emissions benefits from Stage II in the Northern Virginia area. DEQ submitted a SIP revision to EPA on March 18, 2014, removing the Stage II program from the non-regulatory state implementation plan for Northern Virginia. EPA subsequently sent a notice to EPA on May 15, 2014, noting that the submittal is administratively and technically complete and that EPA was preparing a direct final rulemaking notice. Concurrently, DEQ is working to remove these requirements from the Virginia regulations. This effort regarding the regulations should be completed in early 2015.

iv. Minor New Source Review Regulation

On November 7, 2013, revisions to the minor NSR regulation became effective. The amended rule makes clarifications and incorporates federal and state policies and guidance into the minor NSR program.

v. Greenhouse Gas Permitting

On January 2, 2011, greenhouse gases became pollutants regulated by the major source air permitting process pursuant to Federal requirements. On May 13, 2011, EPA approved Virginia's program for GHGs. As a result of this approval, DEQ, not EPA, became the official

permitting authority for major sources emitting GHGs. A facility must address its GHG emissions only if it emits more than 100,000 tpy of carbon dioxide equivalent pollution or if it modifies its operations such that there is at least a 75,000 tpy increase in CO₂e. These regulations exclude minor sources of air pollution from the GHG requirements. DEQ has issued three major NSR permits with limitations on CO₂e. All three permits were for combined cycle combustion turbines, and all three permits set limits based on energy efficiency.

c. Update on National Ambient Air Quality Standards for Major Criteria Pollutants

i. Atmospheric Ozone

In March 2008, EPA tightened the eight-hour ozone NAAQS from 0.08 ppm to 0.075 ppm for both primary and secondary ozone standards, but the standard was challenged by a coalition of environmental and health advocacy groups. On January 6, 2010, EPA made a proposal to strengthen the eight-hour “primary” ozone standard, designed to protect public health, to a level within the range of 0.060-0.070 ppm. EPA also proposed to strengthen the seasonal “secondary” standard, designed to protect sensitive vegetation and ecosystems, including forests, parks, wildlife refuges and wilderness areas, to a level within the range of 7-15 ppm-hours (cumulative peak-weighted index). On September 2, 2011, EPA announced the withdrawal of the proposed rule due to presidential mandate.

On April 28, 2008, EPA announced that the Metropolitan Washington area (including the District of Columbia and portions of Virginia and Maryland) met the 1991 one-hour ozone NAAQS by the required attainment date of November 15, 2005. Since then, EPA has revoked the one-hour ozone standard although some areas still have continuing obligations under that standard (“anti-backsliding”).

On May 21, 2012, EPA published final designations for areas under the 2008 Ozone NAAQS. The Metropolitan Washington, D.C. area was designated as being in nonattainment of this standard, with a classification of marginal. The area must comply with the 2008 ozone NAAQS by December 31, 2015.

ii. Fine Particulate Matter--PM_{2.5}

Effective December 14, 2009, EPA announced that the Metropolitan Washington non-attainment area for the 1997 PM_{2.5} NAAQS had attained the 1997 PM_{2.5} NAAQS. This determination was based on

2004 - 2006 data; the region has continued to meet the attainment standard to date and to show improvement.

The Technical Advisory Committee of the Metropolitan Washington Air Quality Committee developed a redesignation request and maintenance plan for this standard, which included new interim and out-year mobile source budgets. DEQ submitted these documents to EPA on June 3, 2013. These documents must be approved by EPA before the area will be considered to be in attainment of the 1997 PM_{2.5} NAAQS.

On September 21, 2006, EPA promulgated a more stringent PM_{2.5} standard, a daily standard of 35 µg/m³ and an annual standard of 15 µg/m³. On October 8, 2009, EPA designated all of Virginia, including Northern Virginia, as being in attainment of this standard.

On December 14, 2012, EPA finalized an update to the PM_{2.5} NAAQS, setting the annual health standard at 12 µg/m³. The Northern Virginia/Metropolitan Washington D.C. area is complying with this new standard, and the area is expected to be designated as being in attainment when designations and classifications are published in the 2014 time frame.

iii. Nitrogen Dioxide--NO₂

On January 22, 2010, EPA strengthened the health-based NAAQS for NO₂ to a new one-hour NO₂ standard of 0.10 ppm. The standard also requires monitoring to occur near: roads; areas with high community-wide NO₂ concentrations; and low income or minority at-risk communities. This level will protect people against adverse health effects associated with short-term exposure to NO₂, including respiratory effects. It became effective on April 12, 2010. EPA also retained the annual average NO₂ standard of 0.053 ppm.

iv. Sulfur dioxide--SO₂

On June 2, 2010, EPA strengthened the primary NAAQS for SO₂ by establishing a new one-hour standard of 0.075 ppm. The new standard is the three-year average of the 99th percentile of the annual distribution of daily maximum one-hour average concentrations. EPA revoked the two existing primary standards of 0.14 ppm evaluated over 24-hours and 0.03 ppm evaluated over an entire year because these standards will not add an additional public health benefit. All monitoring data for Virginia show compliant measurements. EPA did not revise the existing secondary SO₂ NAAQS of 0.50 ppm over a three-hour average (set to protect public welfare, including effects on soil, water, visibility, wildlife, crops, vegetation, national monuments and buildings). EPA

assessed the need for changes to the secondary standard under a separate review. Under the new standard, facilities with significant emissions of SO₂, many of which are electrical generating units, will be required to demonstrate compliance with the standard no later than 2017.

v. Lead

On November 12, 2008, EPA issued a final rule that revised the primary and secondary NAAQS for lead and associated monitoring requirements. The effective date of this standard was January 12, 2009. The primary standard is set at 0.15 µg/m³ (in a rolling three-month average) to protect health. A secondary standard is set at the same level to protect the public welfare, including the environment. The revised standards are 10 times more stringent than the previous standards and will improve health protection for at-risk groups, especially children. This decision marked the first time the lead standards have changed in 30 years. By October 2011, EPA was to have designated areas that have to take additional steps to reduce lead air emissions. States will have five years to meet the new standards after designations take effect. No areas in Virginia were designated as nonattainment for the 2008 Lead NAAQS.

2. Air Quality Status in Northern Virginia

a. Introduction

Air pollutants are emitted by four types of sources: stationary (i.e. power plants and industrial), area (i.e. gasoline service stations and dry cleaners), nonroad (i.e. airplanes, tractors, boats) and mobile (i.e. automobiles and trucks).

EPA tracks the emission of air pollutants from stationary sources, including sources in Fairfax County. They are regulated under the Clean Air Act and the National Ambient Air Quality Standards. Virginia DEQ's air compliance program conducts inspections of facilities within Fairfax County and records information on violations in the state's database (Comprehensive Environmental Data System).

Emissions from all sources are modeled by the Metropolitan Washington Council of Governments to show whether the National Capital Region is in compliance with Clean Air Act requirements. The region and the Commonwealth of Virginia have had to develop air quality plans to improve air quality where the region is not in compliance.

b. Status on State Air Quality Plans**i. Ozone**

In April 2004, EPA designated the metropolitan Washington region as a moderate nonattainment area for the eight-hour ozone standard of 0.08 ppm (80 ppb). This required the region's states to develop and implement ozone reduction strategies in the form of a State Implementation Plan. The SIP is the state's "master plan" for attaining and maintaining the NAAQS. Virginia, Maryland and the District of Columbia submitted the Washington region SIP to EPA in May 2007.

The region had a deadline of June 15, 2010 to meet the 0.08 ppm eight-hour ozone standard. Air quality data from 2008-2010 demonstrate compliance with the 0.08 ppm eight-hour ozone standard in the Northern Virginia area. EPA published a determination that the area attained the 1997 eight-hour standard on February 28, 2012.

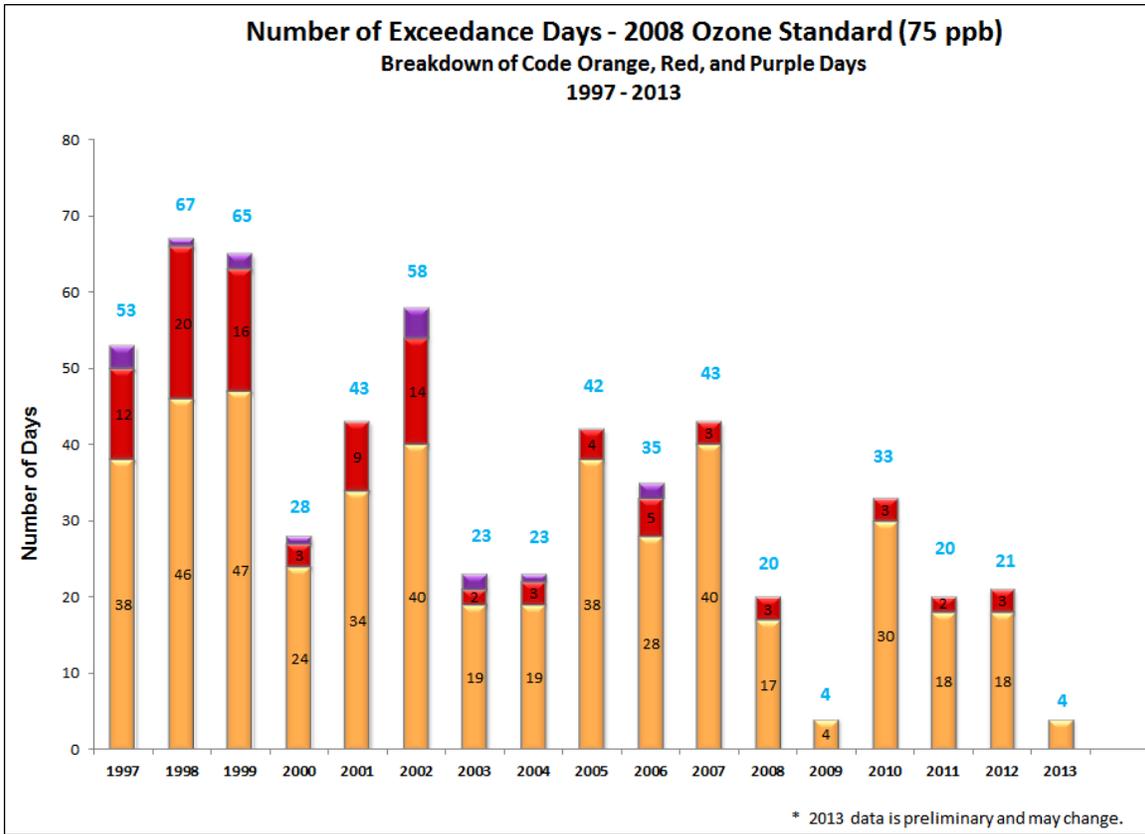
EPA published a new revised eight-hour ozone standard of 0.075 ppm in March 2008 and in July 2012, designated the Washington region as a marginal nonattainment area for this standard. The region has a December 31, 2015 deadline to meet the 0.075 ppm ozone standard.

The region has been making progress toward meeting the 0.075 ppm standard. Figures III-1 through III-3 and Tables III-1 and III-2 present regional air quality trends as they relate to the new revised eight-hour ozone standard.

In 2013, monitors recorded data on four days during the summer season when ozone values were above the 0.075 ppm standard. This resulted in a preliminary design value for 2013 of 0.081 ppm. Since the region's design value is above the 2008 ozone standard, the Metropolitan Washington Air Quality Committee Technical Advisory Committee is preparing a Reasonable Further Progress plan in preparation for the possibility that the region does not meet the 2015 attainment deadline for the 2008 standard. In July 2014, DEQ submitted a SIP revision supplying the 2011 base year inventory to EPA, as required by the CAA.

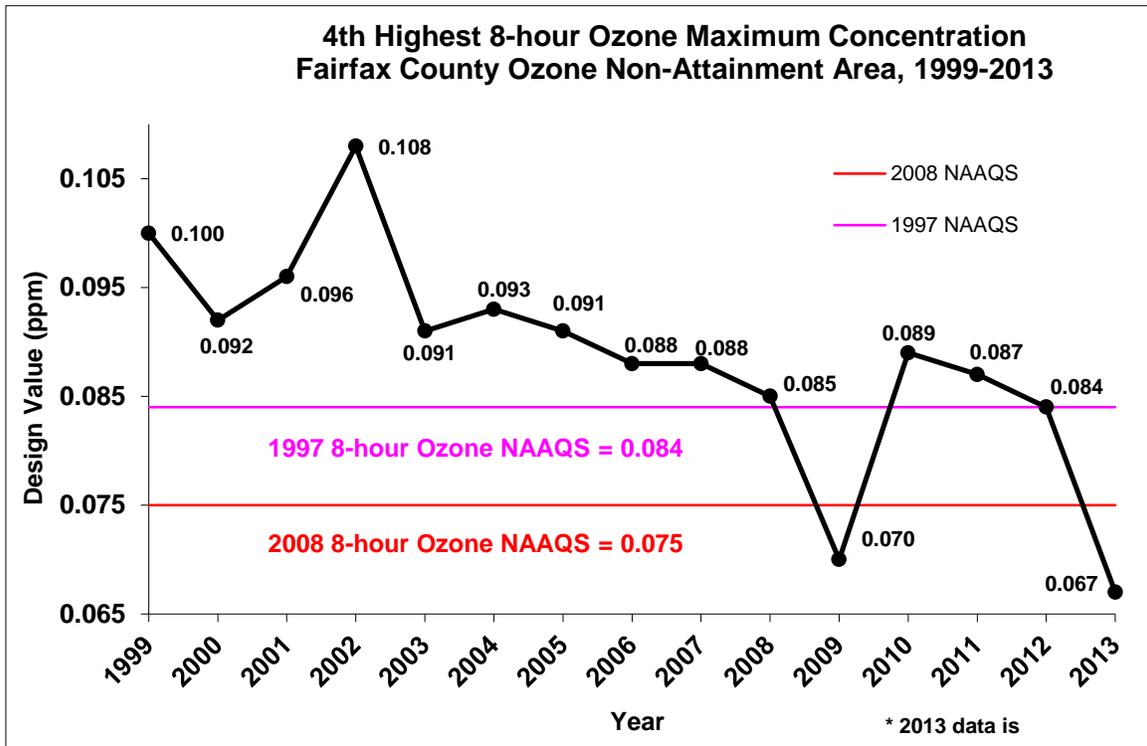
EPA is expected to propose a revision to the 2008 ozone standard by December 2014 and finalize it by October 2015.

**Figure III-1. Air Quality Trends in Relation to the Eight-Hour Ozone Standard (relative to 0.075 ppm 2008 NAAQS Standard)
Ozone Exceedance Days**



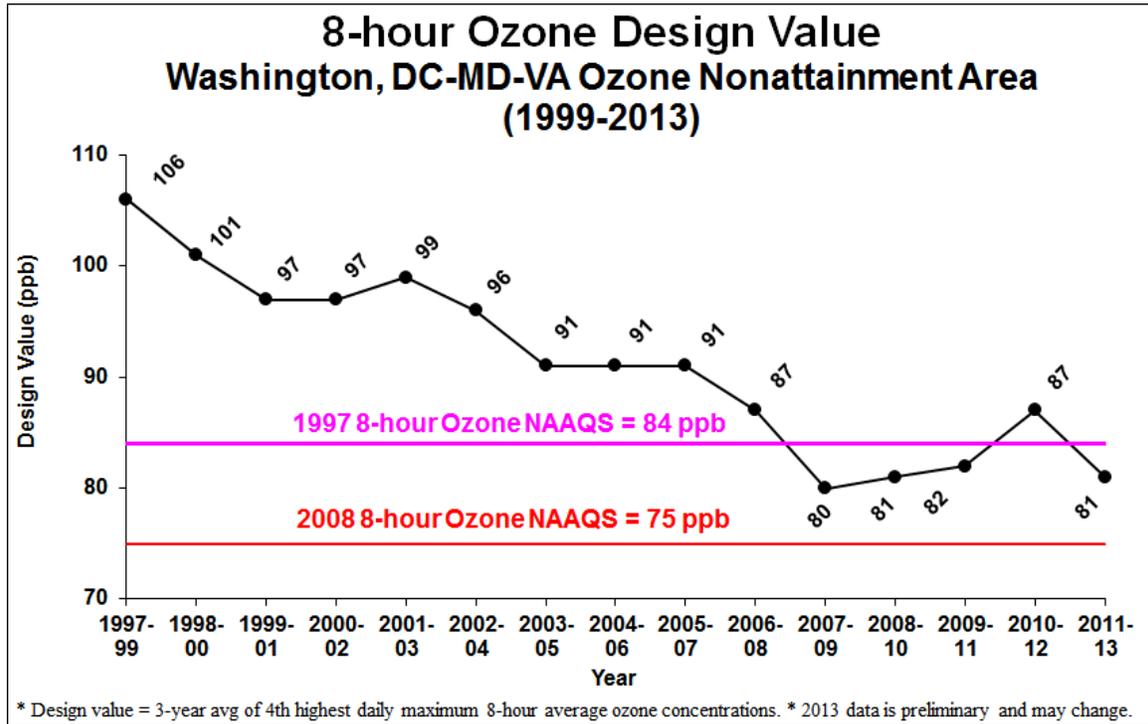
SOURCE: Metropolitan Washington Council of Governments. 2013 data are preliminary and are subject to change.

**Figure III-2. Air Quality Trends in Relation to the Eight-Hour Ozone Standard, Fairfax County
(Fourth Highest Daily Maximum Compared to Both 1997 and 2008 NAAQS, ppm)**



SOURCE: Metropolitan Washington Council of Governments. 2013 data are preliminary and are subject to change.

Figure III-3. Air Quality Trends in Relation to the Eight-Hour Ozone Standard (Three-Year Mean of Ozone Fourth Highest Daily Maximum Eight-Hour Concentration, ppm)



Source: Metropolitan Washington Council of Governments. 2013 data are preliminary and are subject to change.

Table III-1. Regional Eight Hour Ozone Exceedances – 2013 (Relative to 0.075 ppm 2008 NAAQS Standard)

Date	Maximum Values in the Metropolitan Statistical Area (Maximum 8-Hour Ozone, ppm)	Number of Stations That Exceeded the Standard
6/5/2013	0.076	1
7/17/2013	0.076	1
7/18/2013	0.077	1
7/19/2013	0.077	1

Source: Metropolitan Washington Council of Governments. 2013 data are preliminary and are subject to change.

Table III-2. Summary of the 2013 Exceedance for Ozone at the Fairfax County Monitoring Site (Located in Lee District Park)

Location	Date (in 2013)	Time	Value (ppb)
Lee District Park	July 17	1000	76

Source: Virginia DEQ

ii. Fine Particulate Matter

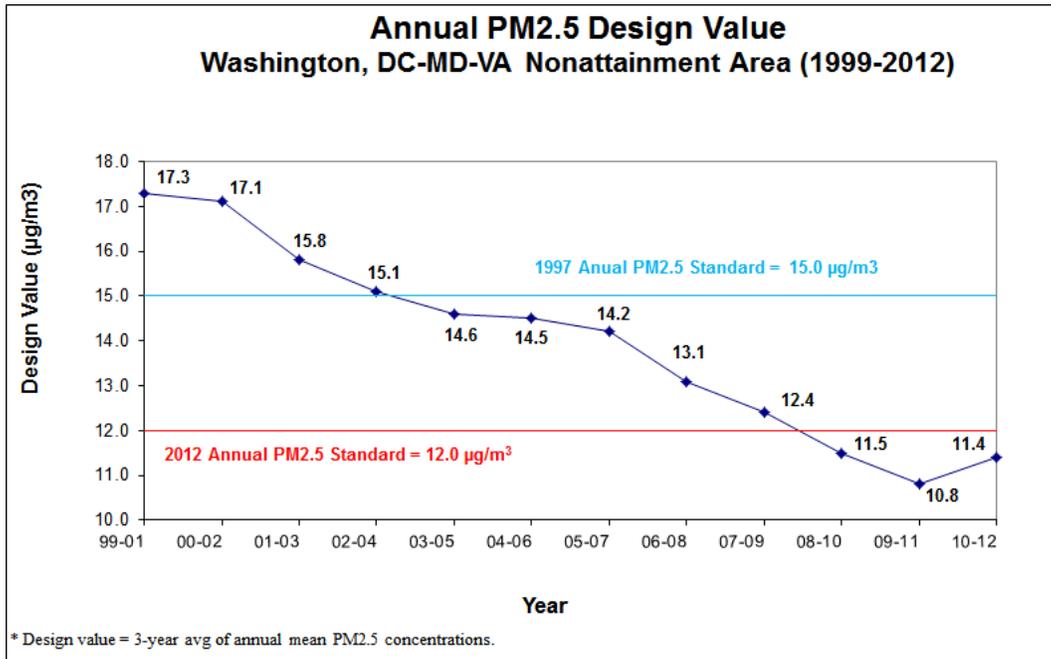
The National Capital Region has to meet goals for fine particulate matter, called PM_{2.5}, equal to an annual standard of 15 µg/m³ for 1997 and 12 µg/m³ for 2012 and a 24 hour standard of 65 µg/m³ for 1997 and 25 µg/m³ for 2012.

Fine particulate air monitoring has shown improvements over the past several years. Additional improvements are expected due to the installation of upwind control devices. Figures III-4 and III-5 present regional PM_{2.5} trends (annual and 24-hour, respectively) as they relate to the standard.

In May 2013 the Metropolitan Washington Air Quality Committee approved a Redesignation Request and Maintenance Plan for PM_{2.5}. The commonwealth submitted the request and maintenance plan to EPA Region 3 in June 2013. The area will officially remain a nonattainment area for the 1997 PM_{2.5} NAAQS until EPA approves the plan. The redesignation request and maintenance plan are needed to ensure that the progress the region has made in meeting and far exceeding the NAAQS is recognized with an attainment/maintenance designation.

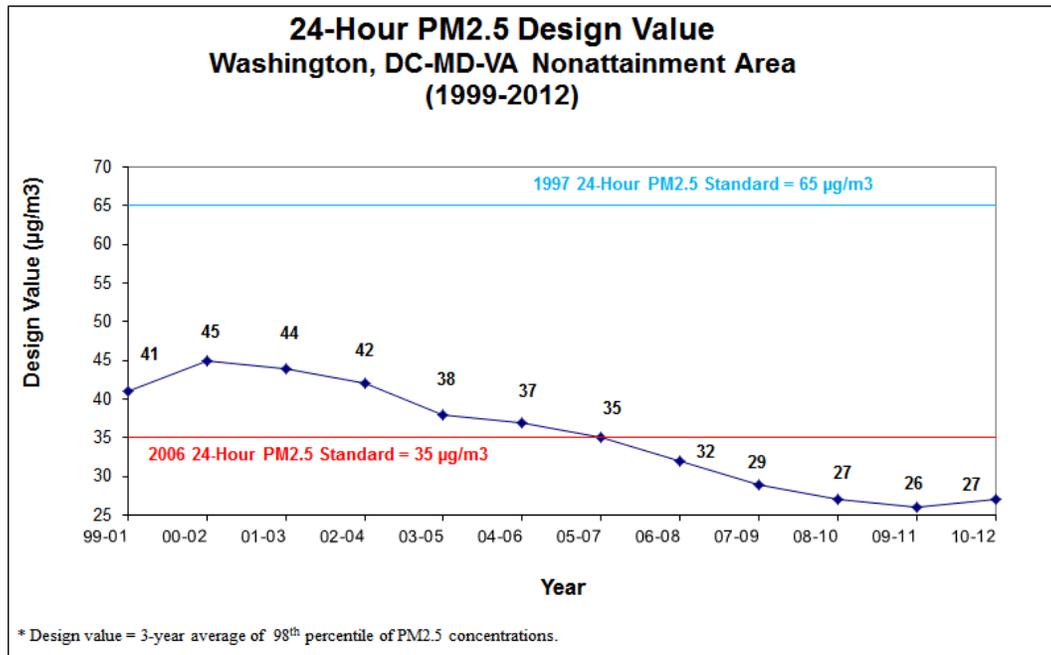
On May 13, 2014, EPA approved the mobile budgets in the Maintenance Plan for PM_{2.5}.

Figure III-4. Regional Air Quality Trends in Relation to the Annual PM_{2.5} Standard (1999-2012)



Source: Metropolitan Washington Council of Governments.

Figure III-5. Regional Air Quality Trends in Relation to the 24-Hour PM_{2.5} Standard (1999-2012)



Source: Metropolitan Washington Council of Governments.

c. Emissions from Motor Vehicles

One of the key issues related to ozone nonattainment and other air quality concerns is the use of motorized vehicles and their emissions. There is extensive use of motor vehicles in Fairfax County, including a significant number that do not pass the required emissions testing. Figure III-6 shows the daily vehicle miles traveled in Fairfax County, illustrating that slightly less than 27 million vehicle miles were traveled daily in 2013, a slight decrease from the number for 2012.

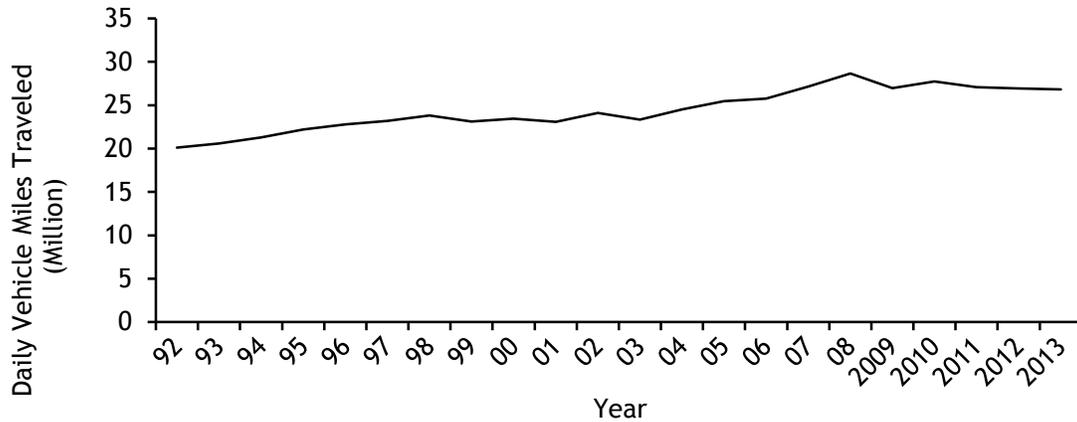
The Fairfax County Department of Transportation provided the following information (based on the *2011 American Community Survey 1-year estimate, area: Fairfax County, with revised estimates for Fairfax County for 2012 as provided on the Survey's website and as refined for this report by the Fairfax County Department of Transportation*) for the 606,954 workers, 16 years and over, who live in Fairfax County:

- 71.6 percent drove alone to work in a car, truck or van.
- 10.2 percent of those workers commuted via carpool or vanpool.
- 9.1 percent used public transportation (excluding taxicabs).
- 1.8 percent walked to work.
- 1.6 percent used other means.
- 5.8 percent worked at home (this number may not fully represent the true number of teleworkers in Fairfax County).

There are several changes to the motor vehicle inspection and maintenance program in northern Virginia that have occurred since 2013 and are about to be implemented. The major change will be an expansion of the “Clean Screen” program whereby the cleanest vehicles, as determined by remote sensing observations, will have the option of purchasing a Clean Screen pass or getting a regular test at an emissions inspection station. It is anticipated that there will be no negative impact on the overall effectiveness of the emissions inspection program as a result of this change. Moreover, there will be an increase in the number of very high emitters identified that must retest and get repairs. Other changes include new emissions testing equipment and a faster internet-based communication system, which should improve customer convenience. There has been no adverse impact on the IM program due to state budget cuts since the program is funded through registration fees.

An additional new development for 2014 is that DEQ has partnered with the Fairfax County-Department of Vehicle Services to provide \$128,000 for the retrofit of school buses with diesel particulate filters. This work will evaluate whether such retrofitted filters will operate adequately in Fairfax, considering duty schedule and climate. If the evaluation is favorable, the Department of Vehicle Services will use the grant money to install controls

Figure III-6. Daily Vehicle Miles Traveled in Fairfax County (Millions)



Source: Virginia Department of Transportation

on eight or more buses. These controls will reduce emissions of particulate matter by approximately 90 percent, carbon monoxide by approximately 75 percent and hydrocarbons by approximately 30 percent.

The following information was provided in 2014 by the Fairfax County Department of Vehicle Services:

i. Update on purchase of alternate fuel vehicles

DVS continues to replace retiring hybrid vehicles with new hybrids. Primarily, new Ford Fusion Hybrids are replacing 2004 Toyota Priuses. Budget constraints continue to limit the agency’s ability to expand the number of hybrids in the fleet. While DVS continues to explore a variety of alternative fuel options, none has yet emerged as a clearly preferred means of achieving county objectives.

ii. Diesel exhaust retrofit project

DVS and FCPS are undertaking a new exhaust retrofit project on a small number of school buses. Few such opportunities remain as new diesel-powered vehicles meet the stringent emissions standards that were implemented between 2007 and 2010. The current project will incorporate diesel particulate filters on approximately eight model year 2006 buses using funds available from the Virginia Department of Environmental Quality.

iii. Fueling emergency generators from vehicle service fuel tanks

Diesel emergency generators serving county buildings historically have been installed with a small, dedicated fuel tank of typically 100-2,000 gallons capacity (newer ones sometimes much larger), enough to power the building for up to a few days. Fuel has a shelf-life, however, and if a generator is not needed for several months the fuel must either be burned down (by running the generator) or receive a remediation treatment. In extreme cases it must be pumped out and discarded. For buildings with a county fuel site, DVS has begun a practice of plumbing the building emergency generator to the vehicle fuel site diesel tank. As the time comes to replace either an emergency generator tank or a vehicle fuel site tank, DVS (owner of the vehicle fuel tanks) and the Facilities Management Department (owner of the emergency generator fuel tanks) evaluate the site for the possibility of fueling the generator from the vehicle service tank. In this way, the emergency generator fuel supply is much more plentiful than it is with the original, small tank. Furthermore, since the vehicle service tanks have a relatively rapid turnover, no fuel is lost due to over-aging or to an artificial fuel turnover through otherwise unnecessary use of the generator.

d. Alternatives to Use of Motor Vehicles

The Fairfax County Board of Supervisors has directed the Fairfax County Department of Transportation to lead the effort to improve bicycle and pedestrian safety and mobility, including constructing bicycle and pedestrian improvements in high-priority areas of Fairfax County. Through FY 2020, the board has designated over \$313 million in federal, state and county funding to construct high-priority bicycle and pedestrian improvement projects throughout the county. These include projects on major roadways, in activity centers, providing access to Metro stations and completing neighborhood missing links. From FY 2008 through FY 2014, the county has completed construction on 108 sites/segments; nine are under construction and another 63 are under design.

i. Bicycle Program

Fairfax County's bicycle program was established by the Board of Supervisors in late 2006 and the responsibilities for program implementation were assigned to the Department of Transportation. The Virginia Department of Transportation administers the Safe Routes to School Program and continues to ensure that biking remains an integral component of Virginia's multimodal transportation system. Please see the Land Use and Transportation chapter of this report for information about these efforts as well as FY 2015 funding allocations to Fairfax County through VDOT's Transportation Alternatives Program.

e. Additional Air Quality Information from Fairfax County

i. Radon

Fairfax County has natural mineral deposits that release radon gas. The health risk from radon can be reduced significantly when known in advance. The Fairfax County Health Department has developed specific resources necessary to let residents know in advance the potential risks associated with a property. Extensive information is available online and residents who contact the department are provided information based on their specific circumstances.

The Surgeon General has identified radon as a leading cause of lung cancer. The U.S. Environmental Protection Agency broadly considers all of Fairfax County as a high risk for the accumulation of radon gas inside homes. However, studies conducted by the Fairfax County Health Department resulted in a more detailed map identifying radon risk rankings from low to high in geographic regions of the county. This map, along with information to include radon mitigation techniques, can be found on the Health Department's Radon Information Web page at <http://www.fairfaxcounty.gov/hd/air/radon.htm>

ii. Asbestos

Asbestos, a known human carcinogen when inhaled, is a mineral found within certain geologic formations in Fairfax County. Fairfax County has approximately 11 square miles of land with the potential for these mineral deposits. The Fairfax County Health Department has maps showing these areas in the county, along with additional information sources, on the Health Department's Naturally Occurring Asbestos Web page at <http://www.fairfaxcounty.gov/hd/chs/natural-asb.htm>

B. MAJOR PUBLIC AGENCY RESPONSIBILITIES

1. Introduction

Although compliance with National Ambient Air Quality Standards and resulting air quality management responsibilities is a function of federal law, in Fairfax County and in other major metropolitan areas in Virginia, these responsibilities have been split between the Commonwealth of Virginia and the regional lead planning organization as defined by Section 174 of the Clean Air Act. Fairfax County holds a seat on, and the county staff is required to support, the lead planning organization for the metropolitan Washington area, the Metropolitan Washington Air Quality Committee. Members of MWAQC and all lead planning organizations are appointed by the governors of affected

jurisdictions to represent areas included in air quality planning requirements. MWAQC works with state departments of transportation and transit providers in identifying transportation needs and priorities. The Transportation Planning Board makes transportation investment decisions for the metropolitan area and, by default, for the individual regions encompassed within MWAQC.

2. Commonwealth of Virginia

a. Virginia State Air Pollution Control Board

This board is authorized to propose policies and procedures for air quality regulatory programs, including emissions standards for landfills and vehicles.

b. Department of Environmental Quality

This department is responsible for establishing or adopting standards for air quality, as well as for performing air quality monitoring, stationary source inspection, new and existing source permitting and vehicular inspection and maintenance programs. Air quality enforcement is handled by DEQ.

c. Virginia Department of Transportation

This department is responsible for planning, developing, delivering and maintaining transportation for the traveling public.

3. Region – The Metropolitan Washington Council of Governments, the Metropolitan Washington Air Quality Committee and the National Capital Region Transportation Planning Board

The Metropolitan Washington Council of Governments is the regional planning group that works toward solutions to regional problems related to air and water quality, energy, climate change, transportation and housing. COG also manages other programs such as those responsible for forecasting demographic changes.

The Metropolitan Washington Air Quality committee, which is a part of COG, partners with the state air agencies to assist in the development of air quality plans as required under Section 174 of the Clean Air Act. MWAQC's authority is derived from the certifications made by the governors of Virginia and Maryland and the mayor of the District of Columbia. In Virginia, the roles of local planning organizations, are described in the State Air Pollution Control Board's *Regulations for the Control and Abatement of Air Pollution*, specifically at 9 VAC 5-151-70 et seq.

MWAQC was established to work cooperatively with state air agencies to conduct interstate air quality attainment and maintenance planning for the Metropolitan Washington region. Three members of the Fairfax County Board of Supervisors currently serve on the committee. The Transportation Planning Board, which also is part of COG, serves as the designated Metropolitan Planning Organization for the Washington region and is responsible for regional transportation planning and conformity. Fairfax County currently has four members of the Board of Supervisors sitting on the TPB. TPB and MWAQC work together on air quality and transportation issues.

COG is also responsible for issuing air quality indices on a daily basis. Staff from the Fairfax Health Department attends MWAQC meetings to support the Fairfax County members.

MWAQC operates through a subcommittee system. Subcommittees include:

a. MWAQC Technical Advisory Committee

This committee was established to advise and assist MWAQC in planning for and maintaining the region's air quality. Fairfax County is represented on the TAC by staff from the Health Department's Division of Environmental Health along with a member from the Fairfax County Federation of Citizens Associations. Members research, review and discuss technical issues and documents at monthly meetings to develop information and recommendations that are submitted to MWAQC members for their review and approval.

b. Interstate Air Quality Council

The Interstate Air Quality Council consists of six members: the secretaries of the environment and transportation from Virginia, Maryland and the District of Columbia governments. The IAQC provides overall guidance and streamlined planning to ensure the states and the District meet their shared goals of improved air quality, including compliance with new federal standards for ozone and fine particulates, and efficient transportation. The IAQC works in concert with the air quality and transportation committees of COG to achieve its goals.

c. Forecasting Subcommittee

This subcommittee considers how to monitor and report the new eight-hour ozone standard and how to devise guidelines for issuing health alerts during the ozone season.

d. Attainment Subcommittee

This subcommittee considers evidence for the case that the Washington nonattainment area can attain the eight-hour ozone standard with the control measures already adopted.

e. Conformity Subcommittee

This subcommittee reviews Air Quality Conformity Determinations prepared by the TPB to ensure that regional transportation plans are consistent with plans to improve air quality. This includes verifying that estimated emissions from mobile sources, such as cars, trucks and buses, do not exceed the mobile budget, a cap on regional mobile emissions contained in the region's air quality plan.

f. Air & Climate Public Advisory Committee

The Air & Climate Public Advisory Committee advises COG's Metropolitan Washington Air Quality Committee and Climate, Energy and Environment Policy Committee on air quality, climate and energy issues and initiatives. ACPAC provides a forum for members to provide input to local elected officials and staff on environmental policy issues and stay informed of local and regional progress. Six members represent Northern Virginia.

g. Control Measures Workgroup

This workgroup was established to research control measures and develop a plan of emission reducing control measures for the region to implement in an effort to reach attainment for ozone.

4. Summary of Regional Air Quality Planning Efforts in 2013**a. PM_{2.5} Redesignation Request & Maintenance Plan**

MWAQC developed a redesignation request and maintenance plan for the 1997 PM_{2.5} NAAQS. DEQ submitted these final documents to EPA on June 3, 2013. These documents included mobile vehicle emissions budgets for PM_{2.5} and NO_x for 2007, 2017 and 2025.

b. Attainment Modeling

MWAQC staff participated in the Mid-Atlantic Regional Air Management Association to keep track of the inventories currently being developed at MARAMA using regional photochemical modeling. Staff also provided data inputs to MARAMA for developing the emissions inventories. Staff also kept track of various emissions control measures and rules being

developed by the Ozone Transport Commission as part of the 2008 ozone standard (75 ppb) implementation plan.

c. Transportation Conformity/Mobile Emissions Analysis

MWAQC commented on the transportation conformity analysis (2013 Constrained Long-Range Transportation Plan and 2013-2018 Transportation Improvement Program). Conformity was tested against the attainment and contingency mobile budgets in the region's eight-hour ozone SIP for the 1997 ozone NAAQS, winter carbon monoxide mobile budgets in the CO maintenance plan, and the base year 2002 interim emissions test ("build no greater than 2002" test) based on the base year 2002 emissions in the region's PM_{2.5} SIP. The conformity analysis showed current and future mobile emissions lower than the ozone and winter CO mobile budgets and lower than the 2002 PM_{2.5} emissions. MWAQC cautioned TPB that a more stringent federal standard for ozone is expected soon and urged state and local governments to maintain their commitments to emission reduction measures.

d. Air and Climate Public Advisory Committee

In 2013, ACPAC addressed: electric vehicle issues; the solar cooperative movement in the region; the Regional Climate Adaptation Guidebook; air quality forecasting; regional transportation issues as they relate to air quality; regional climate/energy legislative priorities; and more. ACPAC actively engaged in advising on the development of the 2013-2016 National Capital Region Climate Action Plan and climate/energy priorities, draft regional transportation priorities and regional outreach campaign ideas.

e. Climate Change and Air Quality Technical Support:

MWAQC staff, with collaboration from COG climate, energy and transportation staff, reviewed and revised the Gold Book (<http://www.mwcog.org/uploads/committee-documents/allYXlpa20140530124636.pdf>), the region's compendium of voluntary local measures to clean the air. The Gold Book is updated every five years and presents a summary of measures currently in place, those that could be expanded for further air quality improvements, as well as new initiatives of local government consideration. In 2013, the Regional Tree Canopy Work Group continued to develop a Tree Canopy Management Strategy, which is expected to be released in 2014.

5. Anticipated Activities in MWAQC FY 2015 Work Program

MWAQC and the states will continue to work towards meeting the 2008 ozone NAAQS by 2015. Control measures will be evaluated on their ability to cost-effectively reduce ozone precursors NO_x and Volatile Organic Compounds. For control programs that may provide co-benefits by reducing SO₂ or PM_{2.5} emissions, those reductions may also be quantified. The core work program will also provide technical support for local government air quality initiatives. Coordinating air quality planning with state and local Clean Energy programs will continue to be a focus.

In FY 2015, MWAQC Core Program tasks include:

- Complete the draft Reasonable Further Progress plan to attain the 2008 Ozone NAAQS, as required by the agreement placed in the 1997 PM_{2.5} NAAQS redesignation request and maintenance plan, and finalize ozone inventories for 2017.
- Determine if an update for the 1997 PM_{2.5} NAAQS maintenance plan Motor Vehicle Emissions Budgets for 2017 and 2025 is necessary. If so, work with the TPB staff to provide appropriate inputs to the modeling effort, including updated vehicle registration data.
- Develop MOVES2014 mobile inventories for the draft ozone RFP.
- Review and comment on transportation conformity assessments for ozone, PM_{2.5}, and CO.
- Track local government Supplemental Measures (formerly the Voluntary Bundle) in the 1997 Annual PM_{2.5} and Ozone NAAQS SIPs (2007).
- Work with the Region Forward Coalition, TPB and CEEPC to identify and coordinate opportunities to advance strategies identified in the Regional Transportation Priorities Plan.
- Identify cost-effective control measures to meet the requirements of attaining the 2008 ozone standard.
- Coordinate air quality planning with state and local Clean Energy programs.

C. STEWARDSHIP OPPORTUNITIES

Residents of Fairfax County have many opportunities to contribute to improvements in air quality. While some of the Metropolitan Washington area ozone problem originates outside of the area and is beyond the control of Virginia, Maryland and the District of Columbia, there are many aspects of our daily lives that can affect the quality of our air. A significant contributor to air quality issues is vehicle miles traveled. As discussed above, Virginians drive many millions of miles each year. Reducing the amount of driving, as well as the use of other combustion devices, especially during times where ground-level ozone is of concern (e.g., on hot days with lots of sun and little or no wind), can help to improve air quality. Examples of actions that can be taken include: carpooling; taking mass transit; reducing or postponing lawn-mowing, paving and outdoor painting; limiting vehicle idling; bringing a lunch to work; avoiding drive-thru windows; and refueling after dark.

The following are tips provided on the Clean Air Partners website (www.cleanairpartners.net):

Small Changes Make A Big Difference

Begin the day right. Check [today's air quality forecast](#) and modify your plans if unhealthy air quality is predicted. Protect yourself and others in your care, by taking the appropriate actions. Making small changes in your lifestyle at home, at work, and on the road can make a big difference.

At Home:

- *Postpone mowing and trimming or use electric garden equipment.*
- *Postpone painting or use water-based paint instead of oil-based paint.*
- *Replace your charcoal grill with a propane gas grill.*
- *Choose ENERGY STAR™ appliances and lighting.*
- *Cut back on heating and air conditioning when you can and turn off lights and appliances when not in use.*
- *Clean heating filters each month.*

At Work:

Employers have a unique opportunity to make a difference. They can promote programs that help employees make positive lifestyle changes. For example, employers can encourage staff to use public transportation or carpool. Employers also can give employees the option of working from home. Encourage employees to sign up for [AirAlerts](#), a free service that delivers air quality information straight to their inbox <http://www.cleanairpartners.net/airalert.cfm>.

On the Road:

- *Keep driving to a minimum.*
- *Fill up your gas tank during evening hours. Avoid spilling gas and “topping off” the tank. Replace gas tank cap tightly.*
- *Have your car tuned regularly by replacing the oil and air filter, and keep tires properly inflated and aligned.*
- *Carpool or use public transportation when possible.*
- *Combine your errands into one trip.*
- *Avoid revving or idling your engine.*
- *Avoid long drive-through lines; instead, park your car and go in.*
- *Looking for a new vehicle? Consider purchasing a fuel-efficient model or a hybrid that runs on an electric motor and gasoline engine.*

D. COMMENTS

1. EQAC performed extensive follow up with DEQ and others about Fairfax County’s plans to cease the operation of the four ozone air quality monitors and has expressed concerns about the elimination of those ozone monitors. In April 2010, EQAC provided a recommendation that the Fairfax County Board of Supervisors provide comments to DEQ regarding its Annual Air Monitoring Network review. Specifically, EQAC recommended that the Board of Supervisors request that DEQ include one or more of the existing Fairfax County ozone monitors in its future monitoring plans. Given the historically higher level of ozone concentrations at the Mount Vernon station, as compared to the other county-run stations, EQAC recommended that the Board of Supervisors request that DEQ include the Mount Vernon station in the regional monitoring plans. The board referred this issue to its Legislative Committee, which discussed the matter in September 2010; EQAC’s recommendation was not provided to DEQ. EQAC plans to continue to follow this issue over the course of the next several years as additional data become available.

2. EQAC appreciates that Health Department staff from the Division of Environmental Health will continue to perform limited air quality planning duties. This includes participation in and attendance at Metropolitan Washington Council of Governments’ Air Quality Committee meetings and meetings of the Technical Advisory Committee and subcommittees. In addition, Health Department staff will: collaborate with other local, regional and national air quality organizations, such as Clean Air Partners; provide support to address board matters related to air quality and the environment; coordinate with other county agencies on efforts to reduce air pollution; serve on county groups and committees such as Environmental Coordinating Committee and Environmental Improvement Program Action Group; perform legislative reviews; and participate in outreach events and encourage county residents and others to take voluntary actions to improve air quality.

3. EQAC supports the efforts of Fairfax County, VDOT, and the Commonwealth Transportation Board to provide funding to programs that further the availability and use of non-motorized transportation alternatives for Fairfax County. This includes the efforts by the Fairfax County Board of Supervisors, which has directed FCDOT to lead the effort to improve bicycle and pedestrian safety and mobility, including constructing bicycle and pedestrian improvements in high-priority areas of Fairfax County. Through FY 2020, the Board has designated over \$313 million in federal, state and county funding to construct high-priority bicycle and pedestrian improvement projects throughout the county. These include projects on major roadways, in activity centers, providing access to Metro stations and completing neighborhood missing links. From FY 2008 through FY 2014, the county has completed construction on 108 sites/segments, nine are under construction and another 63 are under design. Further, efforts by VDOT to dedicate two percent of its road paving funds to adding shoulders on Northern Virginia roadways at locations that will improve bicycle safety and travel are appreciated.

E. RECOMMENDATIONS

None.

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