Air Quality Gold Book

State and Local Government Initiatives to Clean the Air

Metropolitan Washington, D.C. Severe Ozone Nonattainment Area

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Air Quality Gold Book: Contents

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Air Quality Gold Book – Introduction

Government agencies in the Washington, DC ozone nonattainment area have a long history of undertaking emission control measures to improve air quality and protect public health. The region is currently developing a plan to demonstrate that the air quality standard for ozone will be met by 2009, which is the region's attainment date under the Clean Air Act. This State Implementation Plan (SIP) will include dozens of measures that reduce emissions from multiple sources in the region and will quantify the emission reductions resulting from those measures.

State and local governments in the area are taking several additional steps that result in improved air quality, but which are not easily quantifiable or are not being credited in the SIP. Several additional initiatives have been explored and are of significant interest, but have not been fully implemented by state and local governments because of a shortage of time or resources.

This gold book is a compendium of those initiatives. It presents the innovative measures that are now underway and promising measures for the future that make a difference in our region's air quality. Through the efforts of the participating state and local governments, as outlined in this document, the region has taken many important steps to reduce emissions above and beyond the requirements of federal or state law.

The Gold book measures contained in this document are categorized into the following types:

I. Programs that are currently in place
II. Promising initiatives that exist and are available for expansion without significant new effort
III. Promising initiatives that could be in pace in the future with additional effort.

The second and third categories include measures that have been discussed at the regional level and have interest, or those that are already planned but will not take place until after the region's 2009 ozone attainment date.

This gold book is intended to be a changing document. It currently represents programs and/or discussions that have been implemented or that have taken place to date. Additional measures are likely to be added in the future, and some of these measures may be used in a future SIP and therefore will be removed from the gold book.

I. EXISTING PROGRAMS

1. Smart Growth Planning/Transit Oriented Development

This measure requires or supports development along corridors or in sub-regional areas that is not vehicle-dependent. This development takes advantage of proximity to transit and/or commercial and retail establishments and is of a density sufficient to support trip-making by modes other than vehicles.

Status

Transportation policies in the region have resulted in investments in mass transit facilities and services. Efforts to promote transit oriented development are helping to encourage use of transit rather than private vehicles. The Rosslyn-Ballston corridor in Arlington County, Virginia is a nationally-recognized model of long-range planning which has resulted in the location of high-density commercial and residential development within close proximity to Metrorail stations, and accompanying high levels of transit use. Similar success stories can be found in the District of Columbia and suburban Maryland.

The region's recent project accomplishments include a new Metrorail station and associated transit-oriented development at New York Avenue on the Red Line in the District of Columbia, as well as an extension of the Blue Line from Addison Road to Largo in Prince George's County.

The plan and program includes a significant new transit project, which would extend Metrorail to Dulles Airport and would involve associated transit oriented development in Tyson's Corner and along the Dulles corridor. In addition to projects included in the regional transportation plan, there are a number of studies being conducted. For example, in TPB's Regional Accessibility and Mobility Study, transportation and land use planners recently evaluated scenarios that involve significant new investment in transit and transit-oriented development, including such proposals as the Purple Line, among others.

Emission Benefits

Smart Growth planning aims to reduce Vehicle Trips (VT) and Vehicle Miles Traveled (VMT), which leads to fewer VOC and NOx emissions.

2. Transportation Demand Management (Commuter Connections)

Commuter Connections is a regional network of transportation organizations coordinated by the National Capital Region Transportation Planning Board at the Metropolitan Washington Council of Governments to provide employers and commuters in the region with information on commute options. Services provided by Commuter Connections include carpool/vanpool matching, transit information, a regional Guaranteed Ride Home program, bicycle to work information, park-and-ride lot and HOV lane information, telecommute/telework program assistance, InfoExpress commuter information kiosks, commuter information services through the Internet, and employer services.

The regional MetroChek/SmartBenefits Program is making employer-provided transit subsidies available to increasingly large numbers of workers. The increasing use of WMATA's Smartrip cards is permitting the direct provision of MetroChek subsidies for transit riders at fare card machines, and the expansion of this technology to commuter rail and buses will provide for seamless transfers for transit riders within the next few years.

Under this measure, the program would be expanded to encompass more participants, reach more employers and commuters, and provide outreach about the benefits available to the public.

Options

Commuter Connection measures aim to reduce Vehicle Trips (VT) and Vehicle Miles Traveled (VMT), which leads to fewer VOC and NOx emissions. The Commuter Connection program and various measures under it receive substantial ongoing funding in the region's Transportation Improvement Program (TIP). The program is providing reductions in emissions which are being reflected in transportation conformity determinations. Expansion of current programs may attract additional participation, although notable increases may be difficult to achieve if the current programs have reached most willing participants.

3. Remote Sensing Program

Virginia has implemented a remote sensing program to identify high-emitting vehicles and then notify and require owners to perform maintenance. The program is operated using roadside vehicles equipped with devices to measure tailpipe emissions. Notices of violation are sent to vehicle owners which exceed emission limits.

Status

Virginia is now implementing the remote sensing program in Northern Virginia. The District of Columbia and Maryland do not have remote sensing programs.

Emission Benefits

This measure reduces NOx emissions in the Washington region.

II. EXISTING INITIATIVES AVAILABLE FOR EXPANSION

4. Clean Air Partners Program

In late 1994, the governments of Maryland, Virginia and the District of Columbia provided funds for a regional coordinated clean air public outreach program administered by the Baltimore Metropolitan Council (BMC) and the Metropolitan Washington Council of Governments (COG). The intent was to create a public education program, which would involve citizens and businesses in taking voluntary actions to reduce emissions and improve air quality.

The Clean Air Partnership adopted Ozone Action Days as the key element of the public education effort for the summer of 1996. Employer participants in Ozone Action Days agreed to promote voluntary actions among their employees and establish workplace policies to reduce emissions, especially during predicted ozone episodes. Ozone Action Day materials were developed and nearly 120 employers were recruited to join the Ozone Action Day program. More than 1.5 million pieces of literature were printed; lobby posters and flags were produced for participating organizations. In 2004, the Environmental Protection Agency (EPA) designated both Baltimore and Washington, DC metropolitan regions as nonattainment for fine particles. At that time the Clean Air Partners' Board of Directors changed the name of the program from Ozone Action Days to Air Quality Action Days.

During episodic high ozone days, Clean Air Partners is involved in a strategic public outreach project that concentrates on lowering daily ozone levels. By giving the ozone level a code (red/ orange/ yellow/ green) and notifying the public and the business world, the Clean Air Partners acts to educate the hazards of ground-level ozone and reduce many of the human based activities that enhance ozone creation. On high ozone days, faxes, emails, and phone calls go out to the members of Clean Air Partners who promote carpooling, fueling after dark, ride-sharing, trip and reductions. Surveys have shown that the system is successful in educating the public on the ozone problem and assists in the reduction of human based activities that enhance ozone creation.

Emission Reductions

Clean Air Partners has quantified many of the program's benefits through surveys and transit ridership data collection. Due to changes in funding levels, and the episodic nature of the program, estimated emissions reductions are not calculated. The program provides documented evidence of efforts to improve air quality on the worst ozone days.

5. Episodic Measures

Episodic measures are those that are put into place on days when ozone levels are forecasted to approach or exceed the air quality standards. Episodic measures involve eliminating or postponing activities that produce ozone-forming emissions. These include vehicle fueling, painting, driving, operating lawn and garden equipment and construction equipment, and many other activities. The region has an extensive air quality action day program to educate the public, employers, and local governments about episodic programs and obtain their participation on high-ozone days.

By eliminating or postponing the emission-producing activities the region may avoid an exceedance of the ozone standard.

Status

Numerous local governments in the region and the Virginia Department of Transportation (VDOT) have taken this voluntary program one significant step forward and signed letters that commit them to episodic programs. They include:

- Telework on Code Red days: Fairfax County
- Episodic Ban on use of lawn and garden equipment by government employees or contractors: Fairfax, Montgomery, Prince George's counties, Maryland-National Capital Park and Planning Commission, VDOT
- Episodic ban on paint striping on roadways: Montgomery and Prince George's counties
- Episodic ban on paint application: Fairfax , Arlington counties
- Episodic ban on pesticide application: Fairfax county
- Episodic ban on vehicle refueling: Prince George's, Fairfax counties, VDOT, Maryland-National Capital Park and Planning Commission

Emission Benefits

Eliminating or postponing this activity on high ozone days will result in fewer emissions produced on those days.

6. Energy Efficiency Programs

Energy conservation can effectively reduce demand for electricity and associated emissions of conventional pollutants (e.g., ozone precursors) and greenhouse gases (e.g., carbon dioxide) from power plants.

Options

There are many ways to improve energy efficiency in the Washington region. These include performance contracting to improve efficiency of heating and air conditioning, lighting, and other equipment in buildings (at zero upfront cost to the municipality), other policies to encourage construction of more energy-efficient homes and buildings (e.g., green building standards, energy audits of schools and other government buildings), adoption of appliance standards, and rebates for purchase of Energy Star equipment. Traffic signals can be retrofitted with LED lights. Building lighting can be changed to high efficiency lighting technology.

Emission Benefits

Increase energy efficiency can reduce NOx emissions associate with power plants in the region.

7. Renewable Portfolio Standards

States in the region have adopted Renewable Portfolio Standards (RPS). Such standards require that a certain percentage of total electricity be generated from renewable energy sources such as wind power, solar, geothermal**,** etc. Renewable Portfolio Standards can reduce emissions of NOx and other conventional pollutants as well as greenhouse gases by displacing electric generation from coal, oil, and natural gas-fired power plants. If the pollutant, such as NOx, is subject to emissions trading regulations, actual emissions credit also will require the reduction of the emissions cap through regulations that provide for the retirement of NOx allowances or other mechanism.

Options

Both Maryland and the District of Columbia have enacted Renewable Portfolio Standards. Virginia is expected to consider legislation requiring a Renewable Portfolio Standard in the next session of General Assembly.

Emission Benefits

Laws requiring the increased purchase of energy from renewable resources can reduce emissions of NOx in the Washington region.

8. Wind Energy Purchase

Under this measure, local governments in the nonattainment area would commit to purchasing a specific number of megawatt-hours of power per ozone season day from wind turbines instead of from the power plants that would normally supply power to the Metropolitan Washington region. This will decrease power generation from coal, oil, and/or gas-fired sources, reducing NOx emissions from those sources.

The U.S. EPA created a Green Power Partnership program that encourages organizations to use green power as a part of best-practice environmental management. EPA resources are available to describe green power and its benefits, identify green power leaders, and present ways to participate in the Partnership, including how to buy green power. Several government agencies and organizations have become Green Power Partners in the regions. They are listed in the table below. The combined green power "commitments" to the EPA Green Power Partnership from these organizations is more than 1,900,000 MWh of power.

Green Power Partners in the Metropolitan Washington, DC Region

American Council for Renewable Energy
American Wind Energy Association
American University
Amicus Green Building Center
Arlington County
Atlantic Golf
Aurum Sustainability
Austin Grill
Bonny Marlin
Canadian Embassy
Carbon Fund.org Foundation
Catholic University of America
Earth Policy Institute
Ecoprint
Environmental Resources Trust
Fairmont Hotel / Washington/ DC
Green Innovations, LLC
ICF International
Lockheed Martin
Montgomery County/ MD
National Geographic Society
National Hydrogen Association
Rivanna Natural Design
Solar Electric Power Association
Technology Transition Corporation
The Nature Conservancy
The Tower Companies
The Brick Companies
Thompson Strategy Consulting
Thorpe Foundation
U.S. Air Force
U.S. Dept. of Energy
U.S. Environmental Protection Agency
U.S. Internal Revenue Service
World Bank
Washington Suburban Sanitary Commission (purchase pending)

Options

Governments would commit to participation by signing an MOU with the appropriate state air agency and signing long-term commitments with wind power distributors for the purchase of a fixed quantity of power. Additionally, more agencies can sign up to become Green Power Partners.

9. Voluntary Diesel Retrofits (School Bus, Transit Bus, Trucks, Off-Road Equipment)

Existing diesel vehicles in public and private fleets in the Washington region emit significant levels of NOx. Diesel vehicles can be retrofitted with emission control devices to reduce emissions. Local jurisdictions have made significant progress retrofitting school bus fleets. Some jurisdictions are now considering retrofit programs for Class 8 trucks and non-road equipment. Local and state governments are now also participating in the Mid-Atlantic Diesel Collaborative to establish project priorities in advance of potential new sources of federal funding.

Options

Technologies exist that can be installed on diesel vehicles to reduce emissions. These include Diesel Oxidation Catalysts (DOCs) and Diesel Particulate Filters (DPF). Use of Ultra Low Sulfur Diesel Fuel is a requirement for use of DPFs.

Emission Benefits

This measure reduces NOx and direct $PM_{2.5}$ emissions in the Washington region.

10. Alternative Fuel Vehicle Purchases

Governments in the Washington region have purchased hybrid vehicles that run on gasoline but also use an electric motor. Currently, automobile manufacturers produce small passenger hybrid vehicles. These hybrid vehicles can provide lower tailpipe emissions than a conventional gasoline-powered car, as well as higher fuel economy. In the near future, more hybrid vehicles are expected to be manufactured, including light-duty trucks, which are available for more applications.

Options

Several local and state governments in the region have purchased alternative fuel vehicles for routine operations. The current SIP and conformity analyses include hybrid vehicle purchases for some local governments through the year 2005, including Montgomery, Fairfax, and Prince George's counties. Additional purchase commitments beyond 2005 may have been committed to by some local governments.

11. Green Buildings

The U.S. Green Building Council (USGBC) is a coalition of leaders from across the building industry that promote buildings that are environmentally responsible, profitable and healthy places to live and work. It is a national consensus for producing buildings that deliver high performance inside and out. Members work together to develop design guidelines and resources, the Greenbuild annual conference, policy guidance, and educational and marketing tools that support the adoption of sustainable building. Members also forge alliances with industry and research organizations and federal, state and local government agencies.

USGBC developed the Leadership in Energy and Environmental Design (LEED) Green Building Rating System, which is designed to accelerate the development and implementation of green building practices. LEED is a system for designing, constructing and certifying green buildings. The program offers training workshops, professional accreditation, resource support and third-party certification of building performance. A LEED for New Construction and Major Renovations (LEED-NC) program is designed for rating new and existing commercial and institutional buildings.

Local and state governments are also incorporating green design concepts into building codes. Arlington County and the District of Columbia for example actively promote green buildings through building codes.

Options

Under this program, local and state governments would adopt the guidelines when building new buildings or renovating older buildings. Buildings built or renovated under the guidelines use fewer resources and are constructed with products that have fewer emissions than standard products.

12. Safe Routes to Schools Programs

Safe Routes to Schools is a popular program spreading across Canada and the U.S. designed to decrease traffic and pollution and increase the health of children and the community. The program promotes walking and biking to school through education and incentives that show how much fun it can be. The program also addresses the safety concerns of parents by encouraging greater enforcement of traffic laws, educating the public, and exploring ways to create safer streets.

Recent studies show that 20-25 percent of morning automobile traffic in some communities is generated from parents driving their children to school. This has caused increased traffic congestion around schools, prompting even more parents to drive their kids.

A national program has been developed and makes resources and training available to communities who want to establish a local Safe Routes to School program.

Options

This program aims to increase opportunity for more people to walk to schools rather than drive, which leads to fewer VOC and NOx emissions. State and local governments could apply additional resources in their communities to enhance routes to schools.

Safe Routes to School funds can be used for enforcement and hard improvements as well as education. Eligible activities include hard improvements such as bicycle parking, sidewalks, crosswalks, traffic calming, on and off-road bicycle facilities, etc. on any public road or trail within vicinity of a school. Funds are administered by the State Departments of Transportation, with 100 percent federal share – no local funds required. Each State has a Safe Routes to School Coordinator to administer the program. For more information see www.saferoutesinfo.org.

13. Enhanced Bicycle and Pedestrian Access to Transit Stations

This program focuses on enhancing access to transit stations and bus stops for pedestrians and bicyclists, which has the potential to reduce vehicle trips. The program includes items such as a network of regional trails, easily accessible bicycle facilities, permitting bikes on transit at more times of the day, a focus on access by people with disabilities, posting signs on established bicycle routes within a half-mile radius of stations and transit centers, racks and/or lockers for bicycles, facilities with adequate space for maneuvering bicycles through stations, adequate crosswalks to enable people to access bus stops on each side of a busy road, locating bus stops where there are sidewalks, providing shelters at bus stops.

Options

This program aims to increase opportunity for more people to use public transportation rather than driving, which leads to fewer VOC and NOx emissions. Enhanced access would allow more people more travel options. Bicyclists have the opportunity to make longer trips to and from transit facilities and reach more destinations. Local funding targeted towards improved access may increase participation.

14. Best Practices: Use of Low-VOC Paints

This practice involves the use of low-VOC paints for maintenance and traffic markings.

Status

Several jurisdictions and agencies, including MDOT, Fairfax County, Prince George's County, and the Maryland National Capital Park and Planning Commission have committed to use of low-VOC paints. Such commitments could be expanded to include other jurisdictions.

Emission Benefits

This measure reduces VOC emissions in the Washington region.

15. Best Practices: Pesticide Application

This practice involves the use of Integrated Pest Management to control pests as an alternative to applying pesticides in government buildings.

The pest-killing compounds in pesticide formulations are labeled as "active" ingredients, and the solvents acting as carriers or diluents for the ingredients are labeled as "inert'. Both the active and the inert ingredients of the pesticides are considered reactive in the formation of tropospheric ozone and are included in the area source VOC emissions inventory for the Washington, DC ozone nonattainment area.

Many government agencies and school systems have switched to an integrated pest management (IPM) approach over the past several years. An IPM approach uses investigation, education, and exclusion (keeping pests out) before treatment is applied, and relies on baiting and trapping as much as possible before chemical application. These techniques substantially reduce application of pesticides with reactive VOC content.

Status

Maryland State law requires that schools use an integrated pest management program. Interview with school facility managers in Montgomery County indicated that the primary method of controlling pests utilizes baiting and trapping as well as prevention, and that chemical use is primarily restricted to stinging insects. As a result, the use of pesticide has decreased significantly. Virginia law requires that school systems notify parents when chemical pesticides are going to be or have been applied, and school policy states that an IPM approach is to be followed.

Emission Benefits

This measure reduces VOC emissions in the Washington region.

16. Enhanced Enforcement: Truck and Bus Idling

Jurisdictions in the region have promulgated rules and ordinances to limit vehicle idling. Enhanced enforcement can be used to ensure compliance with these rules and to reduce emissions from idling vehicles.

Status

Jurisdictions could further reduce emissions from vehicle idling through stepped-up enforcement initiatives. Barriers to reduced idling could also be addressed through outreach and more visible public notices.

Emission Benefits

This measure reduces NOx, VOC, and $PM_{2.5}$ emissions in the Washington region.

17. Enhanced Enforcement: Voluntary Pollution Prevention Initiatives

Montgomery County has recently begun to implement a Voluntary Pollution Prevention Initiative. The program involves working with automobile repair shops and other light commercial businesses to assess compliance with solvent emissions limits and identify opportunities to swap out solvent cleaning machines and other sources of VOC emissions with lower emitting technology, including water-based solvents or vapor recovery.

Status

Jurisdictions could further reduce VOC emissions from automobile service shops and other businesses by proactively working with businesses on a voluntary basis to identify opportunities to adopt new technologies or resolve compliance issues.

Emission Benefits

This measure has the potential to reduce VOC emissions in the Washington region.

18. Idling Reductions (Locomotive APUs)

This measure involves expanding the use of Auxiliary Power units (APUs) in locomotive applications. APUs can be installed on these vehicles to enable the operator to run systems without having to operate the main engine. The installation of APUs reduces fuel consumption and emissions from idling engines. APU installation can be encouraged through signing Memoranda of Understanding (MOUs) as well as through other financial incentive programs.

Status

The Virginia Railway Express has signed a commitment letter that states VRE will install electrified auxiliary power units (APUs) for 13 locomotives. The installation of these units will reduce fuel consumption and emissions from idling locomotive engines.

CSX Transportation (CSX) is a freight railroad operating switchyards in the Metropolitan Washington region. CSX has made no commitments to install APUs on switching locomotives in the region, although some of the locomotives in the Maryland rail yards may have APUs installed.

Emission Reductions

The 13 APUs that VRE has committed to use results in a 0.10 ton per day reduction in NOx emissions.

III. POTENTIAL FUTURE INITIATIVES

19. Urban Heat Island Mitigation (Tree Planting, Green/Cool Roofs)

The U.S. Environmental Protection Agency has provided guidance for programs that propose to improve air quality through urban forestation and rooftop gardens to reduce the "heat island" effect and expanded regional canopy cover. This measure aims at achieving an area-wide improvement. Trees reduce ground-level ozone concentrations by 1) reducing air temperatures and reducing energy used for cooling and 2) directly removing ozone, particulate matter, and NOx from the air. Modeling has clearly shown that trees reduce ozone and can significantly cool urbanized areas with significant dark-colored surfaces such as parking lots and rooftops of large buildings. There are a number of such facilities in the region, including parking lots at the Pentagon, the airports, and several shopping malls. The heat generated by these sources increases ambient air temperatures.

Options

Under this measure, local and state governments in the metropolitan nonattainment area would commit to initiate, support, monitor, evaluate, and report urban tree canopy expansion efforts. The plan would call on local governments in cooperation with the states and the District to:

* preserve existing canopy
* set local canopy expansion goals
* track key planting programs and canopy change in SIP area over time
* target planting to address heat island effects
* promote public outreach to broaden community involvement and support.

20. Environmental Performance Contracting

Performance contracting can be used by state and local governments to foster programs that reduce emissions. Such contract mechanisms can be used to require certain practices such as using vehicles on a construction site that meet certain emissions standards. This practice results in emission reductions from diesel powered vehicles operating on-road and off-road, including heavy duty construction equipment, garbage trucks, bus fleets, and similar vehicles.

Options

There are three primary ways to reduce pollution from diesel-powered vehicles and construction equipment already in use:

1) Install pollution control equipment;
2) Convert diesel engines to alternative fuels; or
3) Use cleaner diesel fuel.

An Environmental Performance Contracting - Diesel Retrofit Program would focus on the installation of pollution control equipment primarily for heavy-duty diesel vehicles such as heavy duty construction equipment, garbage trucks, and bus fleets when contracting with outside vendors for services that utilize these vehicles. As an alternative to a contracting requirement, vendors that meet these specifications can be awarded extra points in the bidding process as an incentive.

An Environmental Performance Contracting - Diesel Retrofit Program requires that contracts issued by state and local governments include a provision that vendors would meet a performance standard for diesel equipment through one of several ways.

Sample contract language has been developed for other areas of the country. Currently, no jurisdictions in the region have implemented this program. There are concerns that the increased costs to agencies and the costs imposed on contractors to meet these requirements might be high. This program is best implemented on a regional basis so that costs are not fully borne by one or a small handful of jurisdictions. The state air agencies are looking into this program.

21. Energy Performance Contracting

Performance contracts can be used to provide improved energy efficiency and renewable energy improvements to governmental entities in jurisdictions that have enacted performance contracting authority. Under these contracts, the government entity reaps long-term energy savings without any additional energy costs on a yearly basis. A so-called Energy Service Company (ESCO) provides its up-front private capital for alternative energy or energy efficiency measures, and receives payment based on the cost-shared energy savings realized over the long-term. If solar energy is used for performance contracting, the government buildings also can provide emergency shelter during natural disasters or other incidents.

Status

Energy performance contracting also has a significant potential to result in emission reductions of criteria pollutants and greenhouse gases in the region. Proposals such as installing solar photovoltaics at schools and other government buildings are under consideration**.** Performance contracting to improve energy efficiency is also available.

Virginia and Maryland have authorized shared savings and long-term government contracts to foster performance contracts. Virginia has also pre-certified contractors.

22. Airport Emission Reductions

Two large airports operate in the Washington, DC ozone nonattainment area – Washington Dulles International Airport and Ronald Reagan Washington National Airport. The ability of the region to implement regulations that reduce emissions from airport activity is severely limited because of the interstate and international nature of operations and property ownership. Also, reduction of airport emissions below the SIP base year may not be viable because commercial aviation was unusually depressed in 2002 as a result of 9-11 and economic factors. There are, however, opportunities for emission reductions from certain airport activities such as ground service equipment (GSE) that provides service to the aircraft and associated equipment, and the use of land-based electrical service that would power aircraft while located at terminal gates in lieu of operating aircraft engines or onboard auxiliary power units. There are also opportunities to reduce emissions from on-site mobile sources.

Status

The Metropolitan Washington Airports Authority (MWAA) which oversees operations at these airports is a participant in the regional planning process. MWAQC has met with and written to MWAA requesting that action be taken to reduce emissions. In the future this could be formalized through development of a memorandum of understanding with GSE operators at the airports that would utilize improved equipment technology, alternative fuels, or retrofits.

MWAQC has also written to MWAA asking them to encourage airlines to take advantage of the Pre-Conditioned Air Units at the airport gates which would reduce emissions caused by auxiliary power units and aircraft idling at gates.

23. Truck and Bus Emission Reduction Program (Electrification, APUs)

This measure involves developing a program to reduce emissions from tour buses and commuter buses operating in the Washington, DC region. Approaches to reduce emissions include developing dedicated parking areas for buses and provision of preconditioned air and electricity. This measure could also provide incentives for installation of Auxiliary Power Units (APUs) on trucks operating in the Washington, DC region. The APUs would reduce the need for truck idling that takes place at the truck stops and other locations.

Options

Agencies in the region could implement this measure through several means including public/private partnerships, regulations, or Memoranda of Understanding (MOU) between state agencies and/or bus and truck owners.

24. Financial Incentive Programs (Tax Credits, Revolving Loan Funds, Grants)

This measure provides for economic incentives to adopt technology to reduce emissions. Incentive programs could be used to foster adoption of hybrid vehicles, auxiliary power units, diesel retrofits, engine repowering, installation of solar photovoltaics, and use of alternative fuels. Some of the most visible programs nationally include the Texas Emission Reduction Program (TERP), California's Carl Moyer Program, and the New Jersey Diesel Legislation which provides funding for diesel retrofits. The Baltimore Metropolitan Council is also promoting a new revolving loan fund for installation of APUs on freight trucks.

Status

Virginia has a Small Business Environmental Compliance Assistance Loan Fund. The maximum amount is $100,000. The Fund is used to make loans or to guarantee loans to small businesses for the purchase and installation of environmental pollution control equipment, equipment to implement voluntary pollution prevention measures.

Both the District of Columbia and the State of Maryland have grant programs to help fund installation of solar photovoltaics. Maryland also offers a tax credit for eligibile solar projects.

Loudoun County's current Fiscal Plan has a property tax rate schedule containing a separate category for "special fuels" for commercial and non-commercial vehicles with a proposed rate of $0.01 per $100 of assessed value. This provides personal property tax relief for the special fuels classification or hybrid vehicle.

Emission Benefits

Economic incentive programs may lead to more rapid adoption and use of technologies that can reduce emissions of air pollutants.

25. Value Pricing (Traffic Lanes)

Under this option, pricing would be implemented for existing or newly-developed traffic lanes in the region. Pricing would allow vehicles that use the lanes to pay a fee for their use during either certain hours or around the clock. The fee would provide revenue needed to repay construction costs for those lanes or cover operating costs for existing lanes that have been converted. Maryland and Virginia have began implementing projects along the framework of this program - HOT lanes on Beltway and the Inter County Connector.

Because there is a cost to enter the traffic lanes they would not be used by many drivers, thus resulting in free flow traffic conditions rather than congestion. Drivers would pay to use the lanes in order to reduce travel time. The price could be variable depending on congestion levels. When the lanes approach congestion levels that would impede free flow of vehicles the price would rise, which would result in fewer vehicles entering the priced lanes. Conversely, when overall congestion is low, the price to enter is low in order to induce more drivers out of the non-priced lanes before congestion levels in those lanes become high.

Options

Air quality benefits would accrue when car-poolers and transit vehicles are allowed into the lanes without being charged. This would result in increased car-pooling and transit ridership if travel times in those modes are improved significantly over driving alone.

26. Parking Management

Several parking-related strategies could be implemented regionally or in select jurisdictions that aim to reduce the incidence of driving passenger vehicles and truck to employment locations. These are market-based measures that provide an economic incentive for vehicle drivers to consider other modes of travel such as walking, bicycling, car-pooling, or riding transit.

Options

a. Parking Impact fee – Under this option, a jurisdiction would impose a fee on every commuter parking space located within the jurisdiction.

b. Employer parking cash-out – This option would implement a voluntary program encouraging employers to provide the value of subsidized parking to employees. Employees would receive money equal to the value of a parking space. They could then make the choice on how to spend those funds. Options may include paying the money back to continue parking, or opting for another mode with different costs. Employees would realize the monetary savings that other modes would provide.

c. Commuter parking tax – Under this option, a jurisdiction would impose a tax on commuters that park within that jurisdiction, thereby providing an economic penalty that would make other commute options more economically favorable.

These strategies would reduce demand for commuter parking and increase use of alternative transportation, decreasing vehicle trips and mobile emissions.