



Compendium of Model Sustainability Practices
air quality &
transportation

ECO-CITY ALEXANDRIA
environment | economy | community



AIR QUALITY AND TRANSPORTATION

INTRODUCTION

The Air Quality and Transportation portions of this compendium of model environmental programs have been combined into one section, as air quality is inevitably linked to available transportation options and transportation choices a community makes.⁴⁵ Especially for a street-car suburb like Alexandria, the primary source of its air quality issues arises from regional car trips. The U.S. Environmental Protection Agency also links the two topics under its Office of Transportation and Air Quality (OTAQ) since “mobile sources of transportation contribute greatly to air pollution nationwide and are the primary cause of air pollution in many urban areas.”⁴⁶

Three interrelated types of solutions to the air quality problems caused by mobile sources of transportation are presented in this section of the compendium, including: **emissions reduction**, the **promotion of alternative fuels**, and the **development and use of alternative modes of transportation** including transit, biking and walking. These solutions provide the following important benefits:

- Alternative sources of fuel such as electricity, flex fuel (called E85 because it is a mixture of gasoline and ethanol that can be up to 85 percent ethanol), and biodiesel can help improve the environment by reducing emissions of harmful pollutants. E85 reduces emissions of carbon monoxide (CO) and benzene – a known human carcinogen – while the use of biodiesel cuts emissions of CO, particulate matter (PM), and sulfates.⁴⁷
- In addition to pollution reduction, renewable fuels can help reduce greenhouse gas emissions on a “lifecycle basis” – meaning the energy required to grow and process these fuels – by 15 to 20 percent for ethanol and up to 50 percent for biofuels, as compared to gasoline.⁴⁸
- Through the advancement of development patterns that promote transit use, biking and walking (i.e. Transit-Oriented Development, or TOD) the number of car trips, which are primarily powered by non-renewable, pollution causing sources of fuel, can be minimized to decrease the impact on regional air quality.

It is important to note that many air quality and transportation programs are implemented at a regional level in cooperation with bordering localities and regional governing bodies, which in

⁴⁵ Transportation policy is also heavily influenced by land use and energy. Model practices such as transit oriented development and infill planning can reduce vehicle miles traveled that help address air quality, carbon emissions, energy consumption and the emerging challenge of climate change. Within the Compendium, these model practices are primarily discussed in the land use section.

⁴⁶ U.S. EPA’s Transportation and Air Quality program. Accessed: <http://epa.gov/otaq/>.

⁴⁷ U.S. EPA’s Smart Way Grow & Go. Accessed: http://www.epa.gov/smartway/growandgo/documents/faq.htm#i_09

⁴⁸ *ibid.*

the case of Alexandria include: the Metropolitan Washington Council of Governments (MWCOG), the Northern Virginia Regional Commission (NVRC), and the Northern Virginia Transportation Commission (NVTC). For that reason, many of the model practices contained in this section of the compendium are state- or regional-level programs, though in most cases they could be converted to local programs.

Alexandria is already well on its way to addressing its transportation and air quality challenges from a variety of angles, including some of those outlined in the list above. Two important guiding documents – the City Council’s Strategic Plan and the recently adopted Comprehensive Transportation Master Plan – will guide Alexandria’s transportation policy for years to come.⁴⁹ The Strategic Plan envisions having an “integrated multi-modal transportation system that efficiently and effectively gets people from point “A” to point “B.” The draft Comprehensive Transportation Master Plan, which was recently released for public comment, further develops that idea by way of the following vision:

The City of Alexandria envisions a transportation system that encourages the use of alternative modes of transportation, reducing dependence on the private automobile. This system will lead to the establishment of transit-oriented, pedestrian friendly village centers, focused on neighborhood preservation and increased community cohesion, forming a more urban, vibrant and sustainable Alexandria. The City will promote a balance between travel efficiency and quality of life, providing Alexandrians with transportation choice, continued economic growth, and a healthy environment.

This section of the compendium of model environmental practices includes a range of policies, plans and programs that are aligned with the visions outlined in Alexandria’s Strategic Plan and Comprehensive Transportation Master Plan. This document is broken into the following four main subheadings of model practices that the Virginia Tech team chose to highlight: Emissions Reductions, Promoting Alternative Fuels, Alternative Modes of Transportation, and a program that addresses Air Quality Management in a holistically. There is also a list of supplemental programs, plans, and policies that complement the model practices. Finally, at the end of this section is a list of useful air quality and transportation resources.

EMISSIONS REDUCTION

1. Sacramento Emergency Clean Air and Transportation Program

Location: Sacramento, California

Department: Sacramento Metropolitan Air Quality Management District

⁴⁹ The draft Comprehensive Transportation Master Plan can be found in the following location: <http://alexandriava.gov/uploadedFiles/tes/info/Draft%20Plan%20for%20Public%20Comment%20-%20Overview.pdf>. Alexandria’s current programs and plans related to these two topics are discussed in more detail in the document: [Eco-City Alexandria: A Green-ventory of City Environmental Policies, Plans, and Programs](#).

Description: In the Sacramento region mobile sources such as cars, trucks, tractors and other on- and off-road vehicles produce 70 percent of the region's air pollution. As a result the Sacramento Emergency Clean Air and Transportation (SECAT) program was created to help truck owners and fleet operators reduce their vehicle emissions in a business-friendly manner.

To address the serious air quality problems in the region, a partnership between local government, clean air professionals, local businesses, and manufacturers formed in 2005 to tackle the problem of air pollution from heavy-duty diesel trucks. SECAT provides incentive funding to pay for the retrofit of truck owners' existing engines with newer, cleaner-burning ones, or pays a significant amount of the cost of newer vehicles. SECAT helps by funding upgrades and exchanges for a range of heavy-duty vehicles, including:

- Refuse trucks
- Delivery vehicles
- Cement trucks
- Freight-haulers
- Practically any vehicle over 14,000 lbs
- Transit and school buses are also eligible for the program

The goal of the program is to reduce the nitrogen oxide emissions from heavy-duty vehicles to meet the 2013 federal 8-hour standard. Because the federal transportation money is tied to air quality, if this goal is accomplished, the SECAT program will be able to secure nearly \$700 million in federal transportation improvements that will make it easier for everyone to get around the Sacramento region. Sacramento's Assembly member Darrell Steinberg introduced legislation (AB680) initially setting aside \$50 million of the state budget for the SECAT program. Local political leaders also approved an additional \$20 million from federal transportation money programmed for the Sacramento region (Congestion Mitigation and Air Quality (CMAQ) funds). SECAT is a voluntary program, but between 3,000 and 6,000 trucks are needed to do their part in order to make the air cleaner and stay in line with federal guidelines. Any person, company or public agency can apply for SECAT money.

This program is similar to the Port of Oakland and South Coast Gateway Cities (Los Angeles County) programs that fund replacement and disposal of old diesel trucks (pre-1984) with newer less polluting models (1994 or newer used trucks). Participants in the program are partially reimbursed for the cost of purchasing newer diesel trucks that are more reliable, cleaner, and fuel-efficient.

In 2005 the Sacramento region successfully removed 208 tons of nitrogen oxides and 35 tons of particulate matter (PM 10 and PM 2.5) from the air using innovative heavy-duty vehicle incentive programs. Through the Sacramento Emergency Clean Air & Transportation (SECAT) Program, 325 vehicles were replaced or retrofitted to produce fewer emissions.

Alexandria

Match:

The Alexandria Transit Authority could obtain funding to implement this type of program from the U.S. Department of Transportation's Congestion Mitigation and Air Quality (CMAQ) Improvement Program. This program provides fund for areas that do not meet the National Ambient Air Quality Standards (non-attainment areas) as well as former non-attainment areas that are now in compliance (maintenance areas).

References:

Sacramento Emergency Clean Air & Transportation (SECAT) Program web site: <http://www.4secat.com/what.html>

2. Diesel-Fueled Commercial Vehicle and School Bus Idling

Location: State of California

Department: California Air Resources Board

Start Date: February 2005

Description: On October 20, 2005, the California Air Resources Board approved a regulatory measure to reduce emissions of toxics and criteria pollutants by limiting idling of new heavy-duty diesel vehicles. When approved by the Office of Administrative Law, the measure will amend five sections of Title 13, California Code of Regulations (including Section 2485 - Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling). The regulation consists of new engine and in-use truck requirements and emission performance requirements for technologies used as alternatives to the truck's main engine idling.

The new engine requirements require 2008 and newer model year heavy duty diesel engines to be equipped with a non-programmable engine shutdown system that automatically shuts down the engine after five minutes of idling or optionally meet a stringent oxides of nitrogen idling emission standard.

In addition to California's School Bus Idling airborne toxic control measure (ATCM), commercial diesel-fueled vehicles with a gross vehicular weight rating (GVWR) greater than 10,000 pounds are subject to idling restrictions. The ATCM requires a driver of a school bus or vehicle, transit bus, or other commercial motor vehicle to manually turn off the bus or vehicle engine upon arriving at a school and to restart no more than 30 seconds before departing. A driver of a school bus or

vehicle is subject to the same requirement when operating within 100 feet of a school and is prohibited from idling more than five minutes at each stop beyond schools, such as parking or maintenance facilities, school bus stops, or school activity destinations. A driver of a transit bus or other commercial motor vehicle is prohibited from idling more than five minutes at each stop within 100 feet of a school. Idling necessary for health, safety, or operational concerns is exempt from these restrictions.

Alexandria

Match:

Currently in Virginia anti-idling restrictions exist only for buses when unattended or parked for longer than 10 minutes. Alexandria could encourage the state to amend the existing policy to require that large City-owned and contractor vehicles (gross weight rating of greater than 14,000 pounds) and off-road equipment be restricted to engine idling for five consecutive minutes and prohibiting engine idling in parking lots. The Alexandria Transit Company could also adopt such a policy for its operations. Such policies could be modeled on the recent measure adopted by the ARB limiting school bus idling.

References:

California Air Resources Board
<http://www.arb.ca.gov/toxics/idling/idling.htm>

3. Clean Air Counts

Location:

A Northeastern Illinois Regional Initiative

Department: Metropolitan Mayor's Caucus

Description:

Clean Air Counts (CAC) is a voluntary, multi-year Northeastern Illinois Regional initiative to reduce ozone-causing emissions. It is administered by the Metropolitan Mayor's Caucus, an organization founded in 1997 to build consensus on major issues across the 272 municipality large Metropolitan Chicago region. It is supported by the City of Chicago, the U.S. Environmental Protection Agency Region (EPA) 5, and the Illinois Environmental Protection Agency. In 2004 CAC won the Clean Air Excellence Awards from the US EPA.

Clean Air Counts describes itself as an "innovative, non-regulatory approach to reducing smog-causing emissions in the Chicago metropolitan region to achieve compliance with standards of the federal Clean Air Act." CAC's focus is on institutions and activities not normally subject to air regulations such as non-industrial businesses, institutions, and households, and participation is free. Clean Air Counts seeks to remove five tons of volatile organic compounds (VOCs) and nitrogen oxides (NOx) in the Chicago region per day by September 2008 in an effort to bring the region into attainment with the Clean Air Act.

Through outreach and education, Clean Air Counts focuses on demonstrating the relationship between individual behavior and regional air quality. Participants in the Campaign are asked to pledge their commitment to cleaning the air by selecting, implementing, and reporting on recommended emission strategies.

In June 2000 a pilot program of Clean Air Counts was launched, and by 2003 the program was fully underway. Clean Air Counts currently serves over 450 businesses and local municipalities. Staff from the Mayor's Caucus does 2-3 site visits with each of the participating businesses and municipalities each year to help them assess what types of strategies would work best for their context. The staff also helps the businesses with technical and other concerns related to implementation of the strategies selected throughout the year, via visits, email, and phone calls.

Participants utilize an online reporting module to let CAC know what activities they are engaged in (e.g., energy efficient lighting, low VOC cleaners, etc). The reporting modules were designed in conjunction with the EPA and are designed to use the least information possible to generate an accurate number of the amount of pollution removed from the atmosphere. Businesses like getting a concrete number on their impact, and it is has become something of a competition to see who can be the most green among some business sectors. Businesses also find benefit in learning exactly how much money they have saved through the use of strategies such as energy efficient lighting.

Some of Chicago's largest corporations belong to CAC, but the initiative serves small business (as small as five people) as well. A total of 415 businesses currently belong to Clean Air Counts. CAC also serves large and small municipalities in the Chicago region, helping them to both realize environmental efficiencies in their operations, as well as design building permits, impact fees, implement model ordinances and other administrative matters that contribute to reducing pollution and improving regional air quality. Fifty communities currently participate in the initiative at a high level, while an additional 15 are now in the start-up phase. In addition, CAC also includes several thousand individual households. Participating households are invited to CAC events and are encouraged but not required to fill out the online reporting module, and every six months they receive a newsletter.

To further encourage participation CAC ensures that its participants get recognized frequently and in prominent places in the community. The program markets the success stories of participating firms in local newspapers, and takes every opportunity to publicly thank firms for participating. Prizes and plaques are frequently given out to top participants and billboards congratulating individual companies on the

amount of pollution they have removed from the atmosphere also serve to laud firms publicly. Many firms find these “perks” of participation enticing enough to include Clean Air Counts in their corporate social responsibility (CSR) programs.

Currently, CAC is removing 4.67 tons per day of volatile organic compounds (VOCs) and nitrogen oxides (NOx) in the Chicago region per day, and believes it will exceed the 5 tons per day by September 2008 goal.

Lessons learned from Clean Air Counts experience include:

- Good, professional marketing is as cost effective as additional staff;
- Package your program neatly;
- Reward, reward, reward!

Budget and Staffing:

Clean Air Counts is funded by federal appropriations, the U.S. EPA, and several local foundations, including, the Chicago Community Trust, the Gaylord and Dorothy Donnelley Foundation, the Grand Victoria Foundation, the Illinois Clean Energy Community Foundation, and the John D. and Catherine T. MacArthur Foundation. The annual budget for the program is approximately \$1 million.

Points of Contact:

Eve Pytel,
Assistant Director, Clean Air Counts
(312) 201-4506

References:

Clean Air Counts web site
<http://www.cleanaircounts.org/>

Metropolitan Mayor’s Caucus
<http://www.mayorscaucus.org/>

4. Lawn Care for Cleaner Air

Location: Louisville, Kentucky

Department: Louisville Metro Air Pollution Control District; Kentukiana Air Education (KAIRE)

Description: Lawn Care for Cleaner Air is a program designed to assist households in implementing low-impact landscaping and air-friendly lawn care equipment to improve regional air quality in Louisville, Kentucky. The program has two components: a rebate program – now in its fifth consecutive year – which offers cash rebates for “air-friendly” lawn care equipment, and a low-maintenance landscaping design contest awards program.

The Lawn Care Rebate Program is administered through the community outreach network, Kentuckiana Air Education (KAIRE). Rebates are offered year-round (however, Louisville Metro recycling centers accept lawn maintenance equipment only March through September). Rebate options include:

Eligible Equipment⁵⁰ (new or factory reconditioned)	Standard Rebate Without Trade-in	Bonus Rebate With Trade-in
Electric Mower (corded or battery/cordless)	\$50	\$100
Replacement Mower Battery	\$25	\$50
Reel Mower (human powered)	\$25	\$50
Electric String Trimmer (min. 4 amp or 12 volt + 2-year warranty)	\$15	\$30
Electric Blower/Vacuum* (min. 9 amps, 200 mph force + 2-year warranty)	\$15	\$30
Replacement Batteries for trimmer & blower/vacuum	\$10	\$15

The low-maintenance landscaping contest has award winners in the homeowner and professional (landscaper, native plant consultant, etc.) categories each month. Its goal is to “enhance the property with very minimal use of gasoline-powered equipment such as lawn mowers, string trimmers, leaf blowers, etc.”⁵¹ Native grasses and wildflowers, ground covers, shrubs and trees, decorative grasses and flowers that do not require mowing, rock gardens and decks (with a minimum of paving/heat absorbing materials), the use of electric or human powered equipment, and, ideally, a composting component should be included in the landscaping plans for award applicants.

References: Lawn Care for Cleaner Air web site
<http://www.louisvilleky.gov/APCD/lawn care/>

PROMOTING ALTERNATIVE FUELS

1. Clean Cities

Location: State of California

Department: U.S. Department of Energy, Southern California Council of Governments

⁵⁰ from: <http://www.louisvilleky.gov/APCD/lawn care/LawnCareRebates.htm>

⁵¹ from: <http://www.louisvilleky.gov/APCD/lawn care/DesignContestWinners2005.htm>

Description: The mission of the U.S. Department of Energy's Clean Cities Program is to advance the nation's economic, environmental, and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. Clean Cities is part of the Office of Energy Efficiency and Renewable Energy's FreedomCAR & Vehicle Technologies Program.

Clean Cities carries out its mission through a network of more than 80 volunteer coalitions, which develop public/private partnerships to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction. The Clean Cities Coalition coordinates the activities of both private and public sector proponents of alternative fuel vehicles (AFVs) by providing a forum to discover their commonalities, collaborate on public policy, investigate opportunities for joint projects, leverage scarce resources, and cooperate on promoting the benefits of AFVs in the community.

The Partnership administers the Clean Cities Program in the Southern California Council of Governments (SCAG) region and works to build up and support the public and private participants of the Coalition. Specifically in 2006/2007, the Coalition seeks to:

- Increase AFVs by 17%.
- Publish monthly Clean Cities Newsletter
- Organize and host at least one targeted niche market event in conjunction with an auto or truck manufacturer with the intent to sell AFVs.
- Confirm the existence, operation, and the average amount and price of fuel sold annually, of all AFV refueling sites in the coalition area as shown in the Alternative Fuel Data Center (AFDC) station locator, and keep the AFDC informed of station openings and closings.
- Develop a plan for coalition financial sustainability that describes what will be done during the grant period.
- Organize and host at least four stakeholder meetings per year.
- Meet with at least two local state policy staff members on the benefits of alternative fuels.
- Develop strategies to enhance the AFV Public Awareness Program.
- Conduct annual survey of stakeholder AFV implementation and use in the Greater Los Angeles region.⁵²

Alexandria

Match:

For Alexandria, The Metropolitan Washington Alternative Clean Cities Partnership is the local public-private group organized and coordinated by COG. Membership includes local government and private fleet managers; area utilities and other alternative fuel interests; non-profit environmental

⁵² from: <http://www.the-partnership.org/ccities.htm>

and advocacy organizations; federal and state governments; and academia. Membership in this organization by Alexandria's Division of Environmental Quality could provide extra guidance to advance the City in its alternative fuel vehicle efforts for City fleets, as well as school bus and transit buses.

References: U.S. Department of Energy, Clean Cities Program
<http://www.eere.energy.gov/cleancities/>

Clean Cities Program in the Southern California Council of Governments (SCAG) region: <http://www.the-partnership.org/ccities.htm>

2. Alternative Fuels

Location: Columbus, Ohio

Department: Central Ohio Transit Authority

Start Date: January 2006

Description: In early 2006, COTA conducted a 60-day pilot program utilizing Ohio grown, soybean-based biodiesel fuel in 33 buses. The pilot program utilized a 20 percent soybean mixture (20 percent soybean oil and 80 percent low-sulfur petrodiesel). During this period, fuel consumption was improved by 1.5 percent. In addition to its lower cost, over time, biodiesel also cleans the buses' engines, resulting in better mileage and less engine maintenance. Engines using biodiesel have demonstrated wear rates as much as 50 percent lower than those using regular commercial fuels, effectively doubling engine life. COTA's biodiesel contains soybeans grown, processed, and produced in Ohio, and is an environmentally friendly, renewable energy source.

Following the success of the pilot program, COTA established a regular program that incorporates the use of biodiesel fuels, and serves to establish a long-term commitment for improving air quality in the central Ohio area. COTA's fuel program calls for tank blending biodiesel at 20, 50, and 90 percent with either low sulfur or ultra low sulfur petrodiesel depending on the time of year. Optimal utilization of biodiesel fuel is dependent on ambient temperatures.

Biodiesel fuels are defined as renewable, biodegradable, mono-alkyl ester combustible liquid fluid fuels from agricultural plant oils or animal fats that meet American Society for Testing and Materials (ASTM) specifications for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels. Ethanol fuels must also meet applicable ASTM specifications and be denatured as specified in Title 27 of the Code of Federal Regulations, Parts 20 and 21. Virginia biodiesel production is still in the

developmental stage. The Virginia Biodiesel Refinery in West Point, Virginia, is the only commercial producer of biodiesel in the state. By April 2006, the annual production capacity of the plant was 2 million gallons per year. Currently, the plant is expanding its production capacity. A new plant (RECO Biodiesel, LLC) is under construction in Richmond, Virginia. The capacity of this plant will be about 5 million gallons per year. Soybean oil is and will be the feedstock for both of the plants.

Currently within Virginia the Hampton Road Clean Cities Coalition (HRCCC) and the Blue Ridge Clean Fuels Inc. (BRCFI) promote the usage of biodiesel across the state. The BRCFI is also guided by the principles of the U.S. Department of Energy's Clean Cities Program and works closely with HRCCC. In addition, the Virginia Soybean Association is considering some programs to promote the biodiesel production and usage in Virginia. The Virginia fleets using biodiesel include University of Virginia, City of Charlottesville, James Madison University, Arlington County, and the City of Harrisonburg.

At the federal level, since January 2005, producers or blenders receive 1-cent tax credit per percentage of agricultural-biodiesel (such as soy-biodiesel), and 0.5-cent tax credit for nonagricultural-based biodiesel (such as biodiesel produced from used cooking oil or animal fat) blends up to 20 percent. The Alternative Fuel Refueling Infrastructure Tax Credit was established as part of the Energy Policy Act of 2005.

Some states have passed legislation to reduce fuel excise taxes or provided incentives for biodiesel use or sale. In Virginia, The Biofuels Production Fund was established to provide grants to producers of biofuels, specifically ethanol and biodiesel. A biofuels producer is eligible for a grant of \$0.10 per gallon of neat biofuels sold in the Commonwealth on or after January 1, 2007. To qualify, a biofuels producer must produce at least 10 million gallons of neat biofuels in the calendar year in which the incentive is taken. If a producer began selling neat biofuels prior to January 1, 2007 the producer is eligible for a grant only if its production of neat biofuels for the given calendar year exceeds its production in the 2006 calendar year by at least 10 million gallons and is maintained at a minimum of that level in future years. Each producer is only eligible for six calendar years of grants. Effective July 1, 2007, a biofuels producer must produce at least two million gallons of neat biofuels in the calendar year in which the incentive is taken, or exceed its 2006 production by at least two million gallons.⁵³

The use of biodiesel in a conventional diesel engine, when compared to emissions from diesel fuel, results in a substantial reduction of unburned hydrocarbons, carbon monoxide, and particulate matter. Because

⁵³ House Bill 3089, 2007, and Virginia Code 45.1-393 and 45.1-394

biodiesel can be manufactured using existing industrial production capacity, and used with conventional equipment, it provides substantial opportunity for addressing U.S. energy security issues and dependence on imported oil. Using biofuels could also result in significant microeconomic benefits to both the urban and rural sectors and the balance of trade. The construction and design phase for the new DASH bus facility had yet to begin which leaves opportunity for the city along with the transit authority to explore ideas for the use of biodiesel fuels.

References: Central Ohio Transit Authority
http://cota.com/long_range_transit_plan.asp

Virginia Biodiesel Refinery
<http://www.virginiabiodiesel.com>

ALTERNATIVE MODES OF TRANSPORTATION

1. New Resident Program

Location: Chicago, Illinois

Department: Chicago Transit Authority

Description: According to surveys, 12 to 15 percent of homeowners and renters move within CTA's service area annually. This involves both moves within the region by individuals and families from other states and countries, as well as long-term CTA riders who may change one or both ends of their daily work trips due to changing jobs or moving to a new home. The CTA's New Resident Program is aimed at encouraging these new movers to begin or continue their use of CTA services as a part of their daily travel habits through a direct mail offer of an introductory ride.

Each month, new movers are identified via a list of new telephone subscribers. New resident informational brochures with an attached questionnaire are mailed to new households. Once the questionnaire is sent back to CTA, a New Resident Kit, which contains everything necessary to take a CTA trip, a Transit Card with two rides, a CTA map, and a rail station timetable, are sent to the new household.

As in Alexandria, Northeastern Illinois does not attain national ambient air quality standards for certain pollutants. It is classified as a moderate non-attainment area for the 8-hour ozone standard, and a non-attainment area for the annual fine particulate matter (PM_{2.5}) standard. On-road motor vehicles also account for about 13% of PM_{2.5} emissions. Therefore the new resident program is one of the many transportation programs implemented to reduce levels of these pollutants to national standards by

2010. Much of the air quality improvement since 1990 is due to vehicle and fuel technology improvements. However, transportation projects to reduce congestion, increase transit, bicycle and pedestrian travel, and manage demand play an important role in achieving the national standards.

Alexandria

Match:

The Alexandria Office of Transit Services and Programs could implement a similar program in Alexandria in a relatively short period of time. This office currently offers services and materials to help promote the use of public transportation through the development of alternative transportation programs, which Chicago's resident program provides. Instead of new movers being identified through new telephone service subscriptions, new vehicle registration could be used. New resident questionnaires can be sent along with windshield decals once vehicles are registered. Once questionnaires are returned, a new resident packet containing information on local public transportation options and a fare card with roundtrip fare on any DASH bus, as well as route maps and schedules for DASH, Metro rail and Metro bus can be sent to the new household.

References: Chicago Transit Authority
<http://www.transitchicago.com/>

HOLISTIC AIR QUALITY MANAGEMENT

1. ECC Air Quality Subcommittee and Clean Air Café Menu

Location: Fairfax County, Virginia

Department: Environmental Department

Description: In 2003 the Environmental Coordinating Committee (ECC) of Fairfax County formed an Air Quality Subcommittee to the ECC potential County actions to improve air quality. This was done through the development of a Countywide Air Quality Management Plan. The Plan was developed to support regional air quality planning efforts and the County Executive's February 12, 2003 "Declaration on Air Quality Leadership" statement. The "clean air menu" lists a number of actions that the county can/should/will take and their associated cost and impact on staff.

The Clean Air Café Menu, the initial recommendations of the ECC, lists actions committed to by the Fairfax County Board of Supervisors, as well as additional measures recommended by the Air Quality Subcommittee, as well as the price to achieve the measures. Among the measures committed to by Fairfax County, are a county fuel can replacement program (\$5,000), pedestrian improvements on Richmond Highway (\$8 million), clean-fueled public transit vehicles (\$1.5 million), and others.

Among those recommended were a “green” procurement policy (market rate), relief of personal property taxes for clean fuel motor vehicles, incorporating air quality information into school curricula, and the preparation of an educational program for developers.

References: Fairfax Air Quality Subcommittee Charter
<http://www.fairfaxcounty.gov/opa/airquality/charter.pdf>

Clean Air Café Menu
<http://166.94.9.135/opa/airquality/cleanairmenu.pdf>

SUPPLEMENTAL AIR QUALITY & TRANSPORTATION PROGRAMS AND PRACTICES

1. Clean Air Action Plan

Location: Austin, Texas

Description: The Austin Texas, metropolitan area developed the Clean Air Action Plan (CAAP) using the Environmental Protection Agency’s Early Action Compact (EAC) protocol. Similar to the EAC, the CAAP’s goal is to provide clean air while maintaining flexibility in attaining clean air standards. The plan defers the date of compliance to the end of 2007, when the Austin Metropolitan Region must meet all the requirements of the EAC and CAAP. The CAAP is intended to reduce emissions and lower ozone levels to the 8-hour ozone standard established by the EPA.

Begun in 2005, the CAAP is divided into 15 categories, which include vehicle inspection and maintenance, heavy-duty diesel idling limits, low-emission gas can supply, an emissions reduction program for large employers, low emission asphalt use, and other initiatives. For example, the vehicle inspection and maintenance initiative includes adding an extra step to the annual vehicle safety inspections that checks all vehicles 2-24 years old for excessive emissions.

Points of

Contact: City of Austin, Texas
(512) 974-3504

References: City of Austin Clean Air Program
<http://www.ci.austin.tx.us/airquality/caap.htm>

Clean Air Action Plan
<http://www.ci.austin.tx.us/airquality/downloads/caap040604.pdf>

2. Electric Bus System

Location: Chattanooga, Tennessee

Description: Prior to the development of the electric bus system, Chattanooga was an automobile-intensive downtown, with three parking spaces for every person and more than 65 percent of the downtown land area dedicated to cars. Buildings were frequently demolished in favor of parking lots.

The Chattanooga Area Regional Transportation Authority (ARTA) began electric bus service in 1992. ARTA now operates a parking garage and shuttle system with 12 electric buses. The system provides downtown workers and visitors with parking facilities and a shuttle service along a loop connecting Chattanooga's three downtown districts.

The growing fleet of electric transit buses is locally manufactured. Currently, the 12 electric buses fleet saves more than 36,500 gallons of diesel fuel a year. Since 1992 it is estimated the buses have saved Chattanooga's air 65 tons of pollutants.

Points of

Contact: Chattanooga Area Regional Transit Authority
Executive Offices
(423) 629-1411

References: Chattanooga Area Regional Transit Authority
<http://www.arta-bus.org/>

Smart Communities Network
<http://www.smartcommunities.ncat.org/success/chattano.shtml>

3. Pedal Instead

Location: Columbus, Ohio

Description: Pedal Instead is one component of Mayor Coleman's Get Green Columbus initiatives. The program encourages people to bike to special events rather than drive their automobiles. The City sets up a portable bicycle corral station at events and staffs it with volunteers who provide valet bike parking service.

The volunteers also track how many miles the bike has traveled. Based on their calculations, the bikes have saved more than 899 gallons of gas since the program began, resulting in the saving of over 17,000 tons of CO₂ from the atmosphere.

This program has also supported efforts by the City to encourage alternative transportation, more specifically biking. In 2007, the Mayor created a Bikeways Master Plan effort to increase the use and availability of bike facilities. It is hoped the plan, along with Pedal Instead, will encourage the community to consider biking as a viable transportation option.

Points of**Contact:** Susan E. Ashbrook, Environmental Steward
seashbrook@columbus.govAndia Sangale, Environmental Policy Advisor
amsangale@columbus.gov**References:** Get Green Columbus
<http://www.getgreencolumbus.org/>Music in the Air, Columbus Online Visitors' Guide
<http://www.musicintheair.org/visitors.html>**4. Bicycle Commuter and Parking Expansion Act of 2007****Location:** District of Columbia**Description:** Bicycle ridership in the District of Columbia received a boost in November 2007 with the passage of the Bicycle Commuter and Parking Expansion Act of 2007. The Act is intended to increase bicycle transport in the District through the provision of an inexpensive amenity – bicycle parking. Supporters of the Act included environmental, sustainable transportation, and smart growth advocates alike. In their support of the Act, these groups cited its alignment with goals of the D.C. Comprehensive Plan to promote alternative means of transportation.

The Act includes the following primary provisions:

- a mandate of one bicycle parking space for every three units in new residential developments;
- an increase in the parking requirement in commercial garages from 5% to 10% of car parking; and
- a requirement of a detailed study of bicycle parking and access to D.C. government and public buildings.

As of early December 2007, the D.C. Office of Planning was reviewing the Act's provisions in order to build them in the D.C. zoning regulations.

Points of**Contact:** D.C. Councilmember Tommy Wells
(202) 724-8072**References:** WashCycle web site
<http://washcycle.typepad.com/home/2007/10/bicycle-commute.html>Tommy Wells' web site
<http://www.tommywells.org/content/view/278/30/>

5. Easy Breathers

Location: State of Wisconsin Department of Natural Resources

Description: The Easy Breathers program, sponsored by the Wisconsin Department of Natural Resources (WIDNR), aims to educate students on the causes and effects of air pollution and what they can do about it. In the fall of 2000, WIDNR worked with students and a professional film crew to produce a video. The video, produced by and starring students, shows real-life situations where students can make ecologically sound decisions such as carpooling, walking, or riding a bike instead of driving a sports car or SUV. The video aims to reach high school students of driving age.

Following up on the video, WIDNR and the students produced a brochure and web site. The web site, *Extraordinary Road Trip*, provides tools and resources for teachers to educate students about air pollution as well as facts and tips on how students can reduce air pollution through proper vehicle maintenance.

References: The Easy Breathers Web site is being migrated to the Extraordinary Road Trip Web site (<http://www.extraordinaryroadtrip.org/>) but is still available through the following link:
<http://www.easybreathers.org/about/contact.html>.

6. Air Quality Protection Strategy

Location: Montgomery County, Maryland

Description: In 2003, the Montgomery County, Maryland, Department of Environmental Protection produced an *Air Quality Protection Strategy*. This document serves as a blueprint for county action in its efforts to combat air pollution and pollution impacts and calls upon the county to become a good steward of regional air quality.

The goals of this initiative include developing new strategies to effectively reduce air pollution; a commitment to community education and outreach; and measuring progress in cleaning up the airshed.

The document suggests eight strategies for positive change to air quality, both locally and globally. These include: developing an effective air quality monitoring network; reducing emissions from area, point and mobile sources; a cleaner county fleet; reducing county-wide greenhouse gas emissions; increasing tree canopy cover and encouraging more ecological-friendly public activities and actions. These strategies map out a range of actions that will help advance the strategies' goals, and the actions are arranged into three priority action groups based on each one's ability to affect positive air quality benefits.

A biennial review will be conducted and progress measures will be reported on those strategies and actions that are adopted.

References: Air Quality Protection Strategy document
<http://www.montgomerycountymd.gov/content/dep/Publications/airstrategy.pdf>

MWCOG Innovative Air Quality Programs
<http://www.mwcog.org/uploads/committeedocuments/pltfW1420050523143102.pdf>

Chesapeake Bay Local Government Information Network
<http://www.baylogin.org/uploadedFiles/MontCoairqualitystrategy.doc>

7. Save Planet Polluto

Location: Sacramento, California

Description: Save Planet Polluto is an interactive, educational CD-ROM developed by the Sacramento Metropolitan Air Quality Management District (AQMD) under a grant from U.S. EPA. It was designed to teach students in grades 4-8 about the causes of ground level ozone air pollutants and what actions can be taken to improve air quality on Earth as well as on planet Polluto. It consists of 12 learning modules with up to three levels of ability and interest. Save Planet Polluto teaches players that mobile sources are a major source of air pollution and shows them how the choices people make every day can have a positive or negative effect on air quality.

Planet Polluto suffers from the ravages of air pollution. The Pollutonians do not realize the decisions they make every day have an effect on their environment. They drive polluting cars everywhere, build huge cities with no public transportation or bike lanes, and use emission-forming consumer products like hairspray and spray paint in huge amounts. All these things contribute to the horrible air pollution problem engulfing the planet. In the latest release, users help the character Enozo explore the community of Hackton in an effort to locate Pollutonians engaged in behaviors that affect air quality.

The Sacramento AQMD has invested significant additional resources in the latest Version 2.0, web site, and accompanying materials to ensure that Save Planet Polluto is nationally applicable and useful to environmental agencies everywhere. Save Planet Polluto is available free of charge to the general public throughout the Sacramento region and to environmental agencies, community groups and others for \$2 per CD plus shipping and handling.

Points of Contact: airius@planetpolluto.com

References: Planet Polluto web site
<http://www.planetpolluto.com/index1.html>

USEFUL LINKS

- U.S. Environmental Protection Agency's Transportation and Air Quality Program
<http://www.epa.gov/otaq/index.htm>
- U.S. EPA's Smart Way Grow & Go
http://www.epa.gov/smartway/growandgo/documents/faq.htm#i_09
- Federal Highway Administration's Transportation and Air Quality, Selected Facts and Figures
<http://www.fhwa.dot.gov/environment/aqfactbk/index.htm>
- Virginia Department of Environmental Quality, Air Quality section
<http://www.deq.virginia.gov/air/>
- Virginia Department of Transportation Environmental Programs
<http://www.virginiadot.org/programs/pr-environmental.asp>
- Virginia Department of Transportation Environment Division
<http://www.virginiadot.org/business/environmental.asp>