

Air Quality Community of Practice

Public Education Programs

State-of-the-Practice

Requested by:

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Disclaimer

This State-of-the-Practice Report summarizes the discussions of Air Quality Community of Practice members who spoke as individual members of the community and did not necessarily represent their agency's views or positions. In addition, the contents of the report do not necessarily represent the views or positions of AASHTO or the Center for Environmental Excellence.

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INTRODUCTION

The Center for Environmental Excellence by AASHTO (Center) established an Air Quality Community of Practice (COP) in 2008. The purpose of the Air Quality COP is to assemble a group of State DOT practitioners to have a focused discussion on the state of the practice, emerging issues, and research data needs on particular issues, as well as on other air quality issues of interest. This effort has essentially two goals, the first of which is to extend the State DOT's networks and contacts, enabling them to share experiences and learn from each other. In this regard, this effort expands and supplements a November 2008 Air Quality Practitioner's Conference that was held in Albany, New York¹. The second goal is to develop State-of-the-Practice Reports on selected focus areas. To date, the Air Quality COP effort has produced the following reports:

- State-of-the-Practice Report on *Mobile Source Air Toxics* in May 2009²;
- State-of-the-Practice Report on *Short Term Impacts from Construction Equipment and Operations* in March 2010³;
- State-of-the-Practice Report on *Air Quality Interagency Consultation* in June 2010⁴; and
- State-of-the-Practice Report on *Establishing Air Quality Background Concentration Levels for Projects* in December 2010⁵.
- State-of-the-Practice Report on *Use of Transportation Control Measures and Reasonably Available Control Measures in Approved or Submitted State Implementation Plans* in April 2011⁶.

The Air Quality COP consists of representatives from thirteen state DOTs, FHWA, FTA, and AASHTO. The Air Quality COP members considered a range of possible topic areas and agreed on the *Public Education Programs* for the next report. FHWA/FTA/EPA and State DOTs have initiated a number of public education and partnership-building initiatives for the purpose of informing the public about the impact of their transportation choices on traffic congestion and air quality and to emphasize actions people can take to improve air quality and reduce traffic congestion such as trip chaining, keeping cars properly maintained, using alternative modes of transportation during high ozone alert days, etc. This report focuses on state DOT programs that help inform and educate the public on transportation and air quality issues, challenges for meeting the objectives of these programs, and research needs.

EPA PROGRAMS

National Clean Diesel Campaign

EPA's National Clean Diesel Campaign (NCDC) promotes clean air strategies by working with manufacturers, fleet operators, air quality professionals, environmental and community organizations, and state and local officials to reduce diesel emissions.

As a result of EPA regulations, diesel engines manufactured today are cleaner than ever. Recent diesel rulemakings have focused on light- and heavy-duty highway vehicles, non-road diesel equipment, locomotive and marine engines, and large ocean-going vessels.

More information on this program can be found here:

<http://www.epa.gov/cleandiesel/index.htm>

SmartWay Transport

SmartWay Transport is the US Environmental Protection Agency's flagship program for improving fuel efficiency and reducing greenhouse gases and air pollution from the transportation supply chain industry. Developed jointly in early 2003 by EPA and Charter Partners represented by industry stakeholders, environmental groups, American Trucking Associations and Business for Social Responsibility, this innovative program was launched in 2004. SmartWay Transport is comprised of partnerships, financial incentives, policy and technical solutions, and research and evaluation projects that find new ways to optimize the transportation networks in a company's supply chain. Supported by major freight industry associations, environmental groups, states, companies, and trade publications, SmartWay Transport is leading the way to greater fuel efficiency and lower emissions from the freight sector, while presenting a model of government and industry cooperation for public and private benefits.

SmartWay Transport Partnership is a strong government/industry collaboration between EPA, freight shippers, carriers, logistics companies and other stakeholders, to voluntarily achieve improved fuel efficiency and reduce environmental impacts from freight transport. Participating companies benchmark their current freight operations, identify technologies and strategies to reduce their carbon emissions, track emissions reductions and project future improvement. SmartWay partners demonstrate to customers, clients, and investors that they are taking responsibility for the emissions associated with goods movement, are committed to corporate social responsibility and sustainable business practices, and are reducing their carbon footprint. To date, the partnership includes nearly 2900 companies and associations committed to improving fuel efficiency.

SmartWay Tractors and Trailers meet voluntary equipment specifications that can reduce fuel consumption by 10 to 20 percent for 2007 or newer longhaul tractors and trailers. Each qualified tractor/trailer combination can save between 2,000 to 4,000 gallons

of diesel per year. Models that meet these equipment specifications save operators money and reduce greenhouse gas emissions and air pollutants.

SmartWay Innovative Finance is a creative program that helps companies acquire fuel-efficient emission reduction technologies through easier access to financial mechanisms such as reduced-interest loans with flexible terms.

SmartWay Technology Assessment is a testing and verification program designed to quantify emissions reductions and fuel savings from various available technologies, such as tractor and trailer aerodynamics, auxiliary power units, and wide-based tires. As a result, companies can compare the fuel efficiency and environmental performance of various technologies and make more informed purchases.

For more information <http://www.epa.gov/smartway/>.

FHWA/FTA PROGRAMS

FHWA/FTA Congestion Mitigation and Air Quality Improvement (CMAQ) Program

With passage of the Clean Air Act Amendments of 1990, the Congress made great strides in America's efforts to attain the National Ambient Air Quality Standards (NAAQS). The 1990 amendments required further reduction in the amount of allowable vehicle tailpipe emissions, initiated more stringent control measures in areas that still failed to attain the NAAQS-know as nonattainment areas-and provided for a stronger, more rigorous link between transportation and air quality planning. Further establishing this linkage, one year later, Congress passed the Intermodal Surface Transportation Efficiency Act-the ISTEA of 1991. This far-reaching legislation brought transportation into the multi-modal arena and also set the stage for an unprecedented focus on environmental programs. Part of this approach was the newly authorized Congestion Mitigation and Air Quality Improvement (CMAQ) program. Established with a five-year authorization level of \$6 billion, the CMAQ program was conceived to support surface transportation projects and other related efforts that contribute air quality improvements and provide congestion relief.

Jointly administered by FHWA and the Federal Transit Administration (FTA), the CMAQ program was reauthorized under the Transportation Equity Act for the 21st Century (TEA-21) in 1998, and, most recently in 2005 under the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Under SAFETEA-LU, the program has provided just under \$9 billion in authorizations to State DOTs and metropolitan planning organizations, and their project sponsors for a growing variety of transportation-environmental projects. As with its predecessor legislation, the SAFETEA-LU has provided CMAQ funding to areas that still face the challenge of attaining or maintaining the NAAQS. In addition, States that have no nonattainment or

maintenance areas-facing much less of a clean air challenge-still receive a minimum apportionment of CMAQ funding. An apportioned program, each year's CMAQ funding is distributed to the States via a statutory formula based on population and air quality classification as designated by the EPA.

The SAFETEA-LU expanded the focus of eligible CMAQ project types, placing more priority on diesel engine retrofits and cost-effective emission reduction and congestion mitigation projects that also provide air quality benefits.

FHWA's Final CMAQ Program Guidance

(http://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/cmaq08gd.pdf) dated October 2008 states, "A wide range of public education and outreach activities is eligible for CMAQ funding, including activities that promote new or existing transportation services, developing messages and advertising materials (including market research, focus groups, and creative), placing messages and materials, evaluating message and material dissemination and public awareness, technical assistance, programs that promote the Tax Code provision related to commute benefits, transit "store" operations, and any other activities that help forward less-polluting transportation options." Thus, State DOTs with Clean Air Act nonattainment and maintenance areas should be aware that public outreach and education activities are eligible for funding through CMAQ.

FHWA It All Adds Up to Cleaner Air

It All Adds Up to Cleaner Air is a public education and partnership-building initiative developed by several federal agencies for the purpose of informing the public about the impact of their transportation choices on traffic congestion and air quality.

It All Adds Up provides state and local agencies free commercial-quality promotional materials that emphasize four simple, convenient actions people can take to improve air quality and reduce traffic congestion:

- Trip chain, or combine errands into a single car trip
- Keep cars properly maintained
- Refuel in the evening and don't top off the gas tank
- Choose alternate modes of transportation, such as carpooling, mass transit, biking, or walking

Organizations that use *It All Adds Up* enjoy access to free customizable materials, including advertisements, billboards, and television public service announcements. Tutorials in the Education Center assist with planning, implementing, and evaluating an air quality campaign. Participants may join the national *It All Adds Up* Exchange, a message-board center where transportation and air quality professionals ask questions, promote their activities, and share ideas and tips.

The *It All Adds Up* initiative was developed in response to requests from state and local governments for federal sponsorship of a public education initiative that would help them meet mobility and clean air goals of two federal laws—the Transportation Equity Act for the 21st Century and the Clean Air Act Amendments. In developing *It All Adds Up to Cleaner Air*, it was critical to create consumer-based messages that would motivate the public to take action—messages that would also resonate across communities that vary in available transportation options and air quality awareness levels.

The *It All Adds Up* design was based on considerable primary and secondary research, which included a pilot phase in three U.S. cities with varying stages of air quality awareness. What followed was a complete marketing program that communities could tailor to reflect their requirements and encourage drivers to make smarter, healthier transportation choices.

Following the research phase, 14 demonstration communities throughout the U.S. received a \$25,000 grant to implement the initiative. The groups were provided with a toolkit, which included a media campaign with television, radio, print, and outdoor advertising. They were also encouraged to form local coalitions of community organizations, businesses, and governments with an interest in transportation, traffic congestion, and air pollution issues.

It wasn't long before more and more air quality and transportation professionals from across the country heard about the initiative and recognized the benefits of incorporating the *It All Adds Up* initiative into their own public outreach and education programs. More than 100 organizations had volunteered to become Community Partners and use the *It All Adds Up* messages and materials to help increase awareness locally about the connections among transportation choices, air quality, and traffic congestion—with the ultimate goal of improving quality of life for millions of people across the nation.

The Alliance for Clean Air and Transportation (ACAT)—a national coalition of public and private organizations—also became an integral part of the *It All Adds Up* effort by distributing messages developed by the *It All Adds Up to Cleaner Air* initiative to a broad audience nationwide. In fact, ACAT was the only national organization working to promote the *It All Adds Up* messages.

The information presented above for *It All Adds Up* was taken from the program website. More information can be found at: <http://www.italladdsup.gov/>.

FHWA/EPA Southern Transportation and Air Quality Summits

The Southern Transportation and Air Quality Summits (STAQS) are events sponsored by the Federal Highway Administration and EPA Regions 3, 4 and 6.

Purpose: The purpose of each summit is to bring together stakeholders from both the transportation and air quality communities to discuss current and coming regulatory environment, technologies and current practices vital to the field of air quality and transportation. The Summit provides the opportunity for participants to network with others working in their field from other states, to share best-practices and new technologies, and to remain current on new and developing regulations/policies that affect their field. The Summit is geared to practitioners involved with public agencies at all levels.

Background: STAQS was born out of a series of meetings that EPA Region 4 began to sponsor back in the late 1990's. With the seriousness of air quality and transportation issues and an ever increasing complex regulatory environment, STAQS evolved in 2001 to become a national information sharing forum that is held bi-annually and co-sponsored by the FHWA Resource Center and EPA. Since that time, STAQS has been held in Atlanta, GA, Mobile, AL, Charleston, SC, Savannah, GA, Raleigh, NC, and Jacksonville, FL. STAQS has also expanded beyond the bounds of the southeastern states to the entire nation and normally draws around 200 participants.

Uniquely, STAQS allows the stakeholders themselves to structure the agenda. This format allows STAQS to remain relevant to the field. Additionally, STAQS is structured to meet a variety of needs. The first (optional) day of the 3-day meeting typically offers some type of training for people who are new to the field. The second day contains the Regulatory Update session as well as the focus topics that were selected by the participants. Speakers are normally drawn from stakeholders working in public agencies at all levels. The last day of STAQS is comprised of technical work sessions. Sessions are organized by field of interest. Air Quality/Environmental practitioners gravitate to their session while transportation and planning practitioners attend their session(s).

STAQS is held every odd year.

NTAQS: Similar to STAQS, FHWA and EPA also sponsor Northern Transportation and Air Quality Summits (NTAQS) which are held every even year.

DOE PROGRAMS

Clean Cities Initiative

Clean Cities is the U.S. Department of Energy's (DOE) flagship alternative-transportation deployment initiative, sponsored by the Vehicle Technologies Program. Clean Cities has saved nearly 3 billion gallons of petroleum since its inception in 1993.

Who They Are

More than 8,400 stakeholders contribute to Clean Cities' goals and accomplishments through participation in nearly 100 Clean Cities coalitions across the country. Private companies, fuel suppliers, local governments, vehicle manufacturers, national laboratories, state and federal government agencies, and other organizations join together under Clean Cities to implement alternative-transportation solutions in their communities.

What They Do

Clean Cities helps vehicle fleets and consumers reduce their petroleum use. Clean Cities builds partnerships with local and statewide organizations in the public and private sectors to adopt:

- Alternative and renewable fuels
- Idle-reduction measures
- Fuel economy improvements
- New transportation technologies, as they emerge.

Clean Cities works to reduce U.S. reliance on petroleum in transportation by:

- Establishing local coalitions of public- and private-sector stakeholders committed to reducing petroleum use
- Providing funding and financial opportunities to support Clean Cities projects
- Developing information resources that educate transportation decision makers about the benefits of using alternative fuels, advanced vehicles, and other measures that reduce petroleum consumption
- Reaching out to large fleets that operate in multiple states to help them reduce petroleum use
- Providing technical assistance to fleets deploying alternative fuels, advanced vehicles, and idle reduction
- Analyzing data from industry partners and fleets to develop tools and information for the Alternative Fuels and Advanced Vehicles Data Center that help stakeholders reduce petroleum consumption
- Working with industry partners and fleets to identify and address technology barriers to reducing petroleum use.

History of the Initiative's Creation

Clean Cities dates back to the Alternative Motor Fuels Act of 1988 and the Clean Air Act Amendments of 1990. These laws, which encouraged the production and use of alternative fuel vehicles (AFVs) and the reduction of vehicle emissions, led to the creation of the Alternative Fuels and Advanced Vehicles Data Center (AFDC) in 1991. The AFDC's mission was to collect, analyze, and distribute data used to evaluate alternative fuels and vehicles.

In 1992, the enactment of the Energy Policy Act of 1992 (EPAct) required certain vehicle fleets to acquire AFVs. Subsequently, DOE created Clean Cities in 1993 to provide

informational, technical, and financial resources to EPA-regulated fleets and voluntary adopters of alternative fuels and vehicles.

The AFDC became and continues to be the clearinghouse for these resources. Its sister website, FuelEconomy.gov, provides consumers with information on emissions, fuel economy, and energy impact of all vehicles, based on vehicle data from the U.S. Environmental Protection Agency. The site also provides tips for drivers on maximizing fuel efficiency. FuelEconomy.gov was created in response to DOE's requirement under the 1975 Energy Policy and Conservation Act to publish and distribute an annual fuel economy guide for consumers.

The information presented above for the Clean Cities Initiative was taken from the program website. More information can be found at:
<http://www1.eere.energy.gov/cleancities/index.html>.

OVERVIEW OF THE STATE-OF-THE-PRACTICE ON THE USE OF PUBLIC EDUCATION PROGRAMS FOR AIR QUALITY.

This section contains an overview of selected state and multi-state practices and programs focused on public education related to air quality and emissions. The section is not intended to be an all inclusive listing of practices in the selected states. Rather it gives a broad cross section and representative sampling of public education programs that are being implemented or considered by the various states.

MULTI-STATE INITIATIVES

I-95 Corridor Coalition

The I-95 Corridor Coalition is an alliance of transportation agencies, toll authorities, and related organizations, including public safety, from the State of Maine to the State of Florida, with affiliate members in Canada. The Coalition provides a forum for key decision and policy makers to address transportation management and operations issues of common interest. This volunteer, consensus-driven organization enables its myriad state, local and regional member agencies to work together to improve transportation system performance far more than they could working individually. The Coalition has successfully served as a model for multi-state/jurisdictional interagency cooperation and coordination for over a decade.

In Spring 2011 the I-95 Corridor Coalition launched an eco-driving campaign for the I-95 corridor, called the “Drive Green, Save Green” campaign. The overall purpose of campaign is to educate drivers about easy changes they can make to reduce fuel consumption and wear and tear on their vehicles – simultaneously saving money and

reducing environmental impacts. This campaign is based on a partnership with the North Carolina Department of Transportation and their successful Drive Green, Save Green program. The Coalition is rolling out this program in partnership with participating member agencies from throughout the Corridor region. Partner agencies are working together to promote public awareness about eco-driving and the possible environmental and economic benefits. As of September 2011, the following agencies were participating in the eco-driving campaign:

- Delaware Department of Transportation
- Maryland Department of Transportation
- New York State Department of Transportation
- North Carolina Department of Transportation
- Delaware Valley Regional Planning Commission
- Metropolitan Washington Council of Governments
- Wilmington Area Planning Council
- Capital District Transportation Committee
- Pennsylvania Department of Transportation
- Delaware River Port Authority
- Baltimore Metropolitan Council of Governments
- Ithaca-Tompkins County Transportation Council
- Port Authority of NY & NJ
- Massachusetts Department of Transportation
- New Jersey Turnpike Authority
- New Jersey Department of Transportation
- North Jersey Transportation Planning Authority

More information on this effort can be found here:

<http://i95coalition.org/i95/CoalitionEcoDrivingCampaign/tabid/216/Default.aspx>

West Coast Green Highway

Alternative Fuels Infrastructure

The West Coast Green Highway is an initiative to promote the use of cleaner fuels. By increasing the market demand for high-efficiency, zero- and low-carbon-emitting vehicles, this initiative aims to reduce the transportation sector's impact upon the environment and dependency on foreign oil. The West Coast Green Highway is the 1,350 miles of Interstate 5 (I-5) stretching from the U.S. border with Canada, through Washington, Oregon, and California, to the U.S. border with Mexico. Designated a "Corridor of the Future" by the U.S. Department of Transportation, I-5 could soon become the nation's cleanest, greenest, and smartest highway. The drivers of hundreds of thousands of cars and trucks that travel on this major roadway each day soon may select from a menu of clean alternative fuel such as natural gas, biodiesel, ethanol, or hydrogen.

Encouraged by President Obama's remarks lauding the green highway, the states and province along the I-5 Corridor are collaborating to establish electric vehicle infrastructure standards, guidelines, and consistent signage. Some of the key elements include:

1. **Partnerships:** building a coalition of public agencies and private businesses that will support and in some cases fund West Coast Green Highway projects.
2. **Business Assistance:** exploring incentives, funding assistance and marketing for businesses that invest in alternative fuels and infrastructure.
3. **Fueling and Charging Sites:** identifying locations and funding for alternative fuel infrastructure to ensure travel connections between cities, regions, states, and countries.
4. **Branding:** creating recognizable way-finder signs and a distinctive west coast travel experience for drivers and businesses that use the corridor.

Currently, Washington, Oregon, California, and Vancouver, British Columbia are collaborating to establish consistent electric vehicle infrastructure standards, guidelines, and signage.

The information presented above for the West Coast Green Highway was taken from the program website.

West Coast Collaborative

The West Coast Collaborative (The Collaborative) is an ambitious partnership between leaders from federal, state, and local government, the private sector, and environmental groups committed to reducing diesel emissions along the West Coast. Partners come from all over Western North America, including California, Oregon, Washington, Alaska, Arizona, Idaho, Nevada, Hawaii, Canada and Mexico.

The Collaborative is focused on creating, supporting and implementing diesel emissions reductions projects. To accomplish this goal, the Collaborative:

- Raises awareness of the need for diesel emission reductions and the many highly successful state, tribal, local, and regional efforts that promote and support voluntary projects;
- Creates a forum for information sharing among diesel emission reduction advocates, and works to leverage significant new resources to expand voluntary diesel emissions mitigation efforts; and
- Implements projects that are regional in scope, leverage funds from a variety of sources, achieve measurable emissions reductions, and create momentum for future diesel emissions mitigation efforts.

The Collaborative is supported by an Interim Steering Committee and organized around six sector workgroups that meet regularly by teleconference and occasionally face-to-face.

Workgroups include the following:

1. Locomotives and Rail
2. Trucking
3. Construction and Distributed Generation
4. Agriculture and Biofuels
5. Marine Vessels and Ports
6. Public Fleets

The information presented above for the West Coast Collaborative was taken from the program website. More information can be found at:

<http://westcoastcollaborative.org/about.htm>.

Commuter Connections

Commuter Connections is a regional network of transportation organizations coordinated by the Metropolitan Washington Council of Governments. Individuals that live or work in the Metropolitan Washington D.C. area can be provided with information on commute options, and smart choices about traveling to work. Commuter Connections also helps employers establish commuting benefits and assistance programs, including telework/telecommute programs, for their employees.

Commuter Connections was originally created in 1974 as the Commuter Club, providing one of the first computerized carpool matching systems in the nation. It was in the mid-1980's that the network changed its name to the RideFinders Network. By 1994 the network had grown in membership to include all Washington D.C. area local governments, a few federal agencies, several Transportation Management Associations, and government agencies from the Baltimore area, southern Maryland, and northern Virginia. In 1996 and 1997, the services provided by the RideFinders Network had grown beyond just carpool/vanpool matching to include transit route and schedule 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 our Internet site, and employer services. In 1996 that the network changed its name to Commuter Connections.

Commuter Connections is a program of the National Capital Region Transportation Planning Board at the Metropolitan Washington Council of Governments and is funded by the District, Maryland and Virginia Departments of Transportation as well as the U.S. Department of Transportation. Many of the local Commuter Connections members receive grant funding directly from their respective state government.

The information presented above for Commuter Connections was taken from the program website. More information can be found at: <http://www.mwcog.org/commuter2/index.html>

Clean Air Partners

Clean Air Partners is a nonprofit partnership chartered by the Metropolitan Washington Council of Governments and the Baltimore Metropolitan Council, with goal of improving public health and the environment by working with businesses, organizations and individuals throughout the region to raise awareness and reduce air pollution through voluntary actions. The partnership has member organizations from across the Metropolitan Washington-Baltimore region, including representatives from private sector, advocacy, and government organizations. The Maryland Department of the Environment, Metropolitan Washington Council of Governments, Virginia Department of Environmental Quality, and District Department of the Environment provide daily air quality forecasts and data for the region. Clean Air Partners provides these forecasts and air quality information, including the Air Quality Action Guide, to its network of participants and assists employers in establishing on-site programs designed to reduce the impact employee actions can have on poor air quality days. In an effort to also education children, the partnership provides air quality curriculum to regional schools as education tools for children to learn about the effect air quality has on the environment as well as their own health. To be successful, the active participation of an informed community is needed.

The information presented above for Clean Air Partners was taken from the program website. More information can be found at: <http://www.cleanairpartners.net/index.cfm>

STATE INITIATIVES

California

California Department of Transportation (Caltrans) offers information to the public about air quality analysis and coordination activities via the following website:

<http://www.dot.ca.gov/hq/env/air/>. The website offers information on analysis tools, conformity, the statewide conformity working group, climate change, in addition to references and contact information for staff working on these issues.

In addition to the Caltrans website, the California Air Resources Board (ARB) has a detailed website about their activities and action on air quality issues in the state. The website offers a section called “What You Can Do” providing background materials concerning the problems of air pollution, while also providing information on ways the public can help reduce air pollution in their communities:

<http://www.arb.ca.gov/html/cando.htm>. ARB’s Training and Compliance Assistance Program provides training courses, publications and electronic materials to ARB staff, air

districts, and industry for improving enforcement and promoting compliance. The program is an integral part of enforcing regulations and promoting healthy air quality. More information is available at: <http://www.arb.ca.gov/html/tca.htm>.

Air Quality “Action Day” Programs

Air quality "action day" programs exist in most major nonattainment areas in California, and have a large component of public outreach and education through press releases, email alerts, and educational websites. Some of these initiatives are branded as "Spare the Air" or something similar. As an example, the San Francisco Bay Area's Spare the Air website (<http://www.sparetheair.org/>) offers information to the general public about air quality concerns in there are, daily air quality forecasts, and how they can help reduce the air pollution in their area. The website offers tips on walking, biking, transit, carpooling, trip-chaining, and driving more efficiently. It also provides information about how the public can “stay informed”, “get involved”, and “make a difference.”

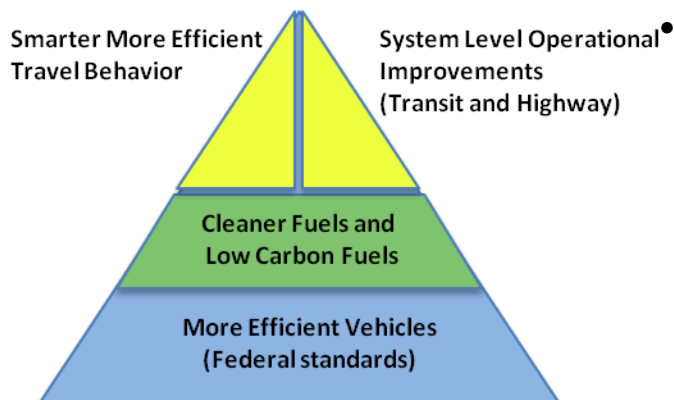
Colorado

Colorado’s Energy Smart Transportation Project

The Colorado Department of Transportation (CDOT) and the Governor’s Energy Office (GEO) co-sponsored the Energy Smart Transportation Initiative (ESTI). This initiative was funded via a grant for technical assistance (consultant services) by the State Smart Transportation Initiative (SSTI). The goal of the initiative was to develop a framework for considering energy efficiency and greenhouse gas emissions (GHG) in transportation decision making.

Over a six-month period, a collaborative team consisting of federal and state agencies, Metropolitan Planning Organizations (MPOs), and other transportation partners came together to leverage resources, and promote efficiency and effectiveness among agencies by collectively exploring ways to develop “Energy Smart Transportation” strategies.

Strategies for Reducing Energy from Transportation



Several work groups were formed. The Planning and Policy Work Group focused on looking at preliminary ways to incorporate the consideration of energy efficiency and GHG emissions in transportation planning. The Smart Trips/Smart Systems Work Group identified strategies that increase energy efficiency and

promote greenhouse gas reductions. The Advanced Technology Vehicles/Alternate Fuels Work Group considered strategies that would increase the use of alternate fuels, and enhance the deployment of advanced vehicles. Last, but very important to the process, was the Data & Measurement Work Group. From an initial list of over 80 strategies, a pared down list of strategies was developed. This list was based on the strategy's ease of implementation and energy reduction potential. The Data & Measurement Work Group was charged with analyzing these strategies for their GHG reduction potential.

The greatest reductions in energy use can be achieved by using more efficient vehicles, as well as burning cleaner or lower carbon fuels. The Advanced Technology Vehicles/Alternate Fuels Work Group considered almost 20 strategies to increase the use of alternative fuels, such as compressed natural gas (CNG), biofuels and electricity, and enhance the deployment of advanced vehicles, such as conventional hybrids, plug-in hybrids, pure electric, and CNG vehicles. Encouraging more efficient travel behavior and system operation can lead to additional energy savings. The Smart Systems/Trips Work Group reviewed almost 60 potential different strategies to provide better transportation services by improving the efficiency of the system, improving travel times, reducing congestion, or providing citizens with more travel choices in real-time, while promoting energy efficiency.

While a smaller group of strategies was selected for analysis, there are other strategies that could and may be enacted in coming year. Ten strategies were selected for implementation. Some which have already been implemented in some fashion.

Below is a sampling of the ten final strategies:

Promote public/private partnerships and agreements to support alternative fuel vehicles use in fleet vehicles – This strategy would identify opportunities to establish public-private partnerships among government and private fleets, and the natural gas industry, to create additional liquefied natural gas (LNG) and compressed natural gas (CNG) fueling stations.

Energy Literacy Program–GEO and CDOT will coordinate on the development and implementation of an “Energy Literacy Program” to increase awareness of the impacts of transportation on energy use, ways to reduce transportation energy use, and existing transportation programs and projects that incorporate energy efficiency and GHG emission reductions. This effort is anticipated to complement other strategies and produce additional benefits.

Enhance real-time traveler information – Develop a smart phone application (app) that provides travelers with real-time traveler information such as: estimated trip time, road closures and condition, and best time of day to travel on a given route, from the CoTrip website (a social media & online CDOT traveler information source). This strategy is currently in its infancy of development. Additional enhancements to the app include building in alternate route trip data, integration of travel modes, information on alternative fueling station locations, and coordination with merchants to provide incentives from proximate businesses when a travel delay is anticipated.

Enhancements to transit traveler information and scheduling fare improvements –

One example of a component of this strategy is RTD's Smart Card program. Smart Cards are prepaid passes for bus and light rail that can be used by both monthly pass holders and annual Eco Pass holders. Advantages of the Smart Card include decreased bus boarding and idling times, and the ability to offer niche fares. Another element of this strategy includes providing enhanced real-time transit traveler information.

CASEO and Engines Off! Idling Emissions Reduction Programs

Clean Air at Schools: Engines Off! (CASEO) is a partnership between federal, state and local governments, schools and non-profits in Colorado. CASEO's goal is to develop programs that will reduce air toxics exposures at schools in Colorado. This project will support the goal by 1) installing advanced emissions controls on school buses and 2) conducting a social marketing program to reduce idling of personal vehicles at schools. CASEO school involvement projects have been initiated across the Denver metro area and are spreading to other areas around the Front Range, Western Slope and mountain communities. The program reduces emissions from vehicles by educating parents, school staff and students to reduce the number of idling vehicles, as well as the total duration of idling at schools.

Engines OFF! is an idling reduction program that uses a social marketing approach to reduce idling of commercial vehicles at large public venues. The program research also included interviews with trucking companies, vendors, coach companies, and destination management companies (DMCs) to uncover barriers to idling reduction such as lack of knowledge of the idling ordinance, forgetting to turn off the engine, and lack of enforcement. Interviews were also conducted directly with drivers, who said the most persuasive messages about idling would address the negative effects to their health, consideration of their neighbors, and their employer/company policies. As part of this program, locally pertinent commendations are offered to companies who demonstrate commitment to idling reduction behaviors.

Georgia

The Georgia Department of Transportation directs a statewide commute options program, currently known as The Clean Air Campaign, that includes outreach and public awareness programs centered on congestion mitigation and air quality issues. In many areas across Georgia, as much as 50% of smog-forming emissions come from mobile sources. Primary audiences include Georgia employers, commuters and schools. Listed below are examples of some of the work being done to increase awareness about ways to reduce congestion and to address Georgia's air quality issues:

Employers

More than 1,600 Georgia employers currently participate in The Clean Air Campaign through a formal partnership program. Employers receive consultative services to help

develop commute options programs, which are supported by onsite events to educate employees.

- Participating employers benefit from positive media exposure for their programs. The Clean Air Campaign places an average of 200 news stories each year in print, broadcast and online that mention employers and their success with commute options programs.
- The Clean Air Campaign also develops a monthly digest of “cut and paste” newsletter articles about air quality and commute options that employers can drop into routine employee communications such as newsletters, intranet posts and bulletin boards.
- To extend the reach of workplace initiatives for cleaner air, The Clean Air Campaign authored a No-Idling program geared toward businesses and fleets with diesel engine vehicles to reduce unnecessary idling. The program includes free signage, education materials for drivers and policy templates. To date, more than 180 organizations have signed on as No-Idling program participants, impacting some 21,000 vehicles.
- The PACE Awards program recognizes the employers with the most outstanding commute options programs. This annual competition generates significant media attention and offers winning organizations the opportunity to raise their green profile.

Commuters

Some 85,000 Georgia commuters have participated in Commuter Rewards, a suite of financial incentive programs that encourage drive-alone commuters to make the switch to carpooling, vanpooling, riding transit, teleworking, bicycling and walking. Research shows 74% of commuters are still using alternatives 18-24 months after their participation in the trial incentive program ends.

- The Clean Air Commuter Champions program was created to recognize commuters’ long-term commitment to using alternatives. Champions are recognized based on specific milestones they achieve in terms of air pollution that is not emitted because of choices involving commute alternatives. To date, some 2,000 commuters have been recognized for their achievements.
- To broaden participation and help commuters take smaller steps to switch modes, The Clean Air Campaign developed the “One Ton Challenge,” a program that encourages commuters to use alternatives at least once a week for an entire year. Based on metro Atlanta average commute distances, this activity results in approximately one ton of air pollution per commuter reduced over the course of a year.

- Air Quality Awareness Week, held annually in Georgia during the first week in May, provides exposure in news media to communicate that in many areas of the state, half of all smog-forming emissions come from the tailpipes of cars and trucks. Other perennial activities include a proclamation signing by the Governor and a drive to sign commuters up for e-mail Smog Alerts when air quality is forecasted to be unhealthy.
- At booth events, The Clean Air Campaign also uses a large, three-dimensional visual aid known as the “smog balloon” to attract attention and pique interest. The balloon attaches to a car’s tailpipe and carries a message on its face about the link between traffic and air quality.

Schools

The Clean Air Schools program is an innovative outreach program that engages schools and communities to take action to reduce air pollution from vehicles on and around school grounds in Georgia and raises awareness about air quality issues and congestion. The activities, which include a No-Idling campaign, carpool and bus ridership programs and air quality lesson plans, are available to pre-school, elementary, middle and high schools across the state.

- Since 2009, the Clean Air Schools program has more than tripled in size, now reaching over 330 schools in 35 school districts across Georgia. Outreach efforts for the Clean Air Schools program target school teachers, administrators, parent organizations, and district-level decision-makers.
- The Clean Air Schools staff provide the support needed for schools to successfully complete the program, promoting activities to Green Clubs, Science Clubs, and curriculum directors and emphasizing the alignment of the Clean Air Schools program with the Georgia Department of Education’s Performance Standards.
- Student involvement is a key component of the Clean Air Schools program and important to the overall impact of individual school programs. In the 2010-2011 school year, there was an increase in student-led initiatives at schools throughout the state, largely through Green Clubs, science classes, and community service projects.
- The Clean Air Schools marketing strategy targets decision makers at the state and school district level who can influence broader implementation, but also has successfully established partnerships with Georgia Safe Routes to School, the Georgia Department of Education, the U.S. Green Building Council and Girl Scouts of Greater Atlanta among others.

Each day, these programs help eliminate 1.4 million vehicle miles of travel. More details on The Clean Air Campaign can be found at <http://www.cleanaircampaign.org/>.

Illinois

St. Louis Regional Clean Air Partnership

Since it debuted in 1995, the St. Louis Regional Clean Air Partnership has held steadfast to its mission: to increase awareness of regional air quality issues and to encourage activities to reduce air pollution emissions. Operating as a public-private partnership, 1,000+ area businesses, organizations, schools, hospitals and government agencies are currently working with The Partnership to aid in this mission.

The Partnership is best known for its daily air quality forecasting, which takes place over the summer months and is designed to engage the public in the regional clean air effort. A key initiative includes encouraging citizens to choose alternatives to driving alone, such as carpooling and taking mass transit, since these options can drastically reduce emissions and have many benefits for participants, too. The Partnership also encourages area residents to take steps at home and at work to reduce emissions, and works with employers on clean air programs for their workplace.

The Partnership promotes a variety of programs to:

- Increase public awareness of air quality issues.
- Increase participation from the public in emission reduction activities.
- Increase participation from regional employers and institutions in emissions reduction activities.
- Increase responsible decision making which incorporates air quality considerations.

More information can be found at: <http://www.cleanair-stlouis.com/index.html>

Partners for Clean Air

As a non-profit coalition dedicated to bringing cleaner air to the Chicago metropolitan area, Partners for Clean Air leads a variety of programs providing organizations - especially employers - with information and tools to help them better understand how they can take action to reduce air pollution on a local level.

Each member organization, including the Illinois Department of Transportation, has pledged to take actions year-round to help reduce air pollution and to take further actions on Air Pollution Action Days (when air quality is at its worst) including notifying employees when these days are declared.

In addition to working with employers, the coalition also implements a number of educational programs throughout the Chicago area to inform businesses and individuals about the impact of and ways to reduce air pollution. Those programs include:

- *Air Pollution Action Days* - Air quality affects how we live and breathe. Like the weather, it can change from day to day. The Air Quality Index (AQI) is a color-coded system that classifies air quality from Good to Hazardous. Air Pollution Action Day Alerts are issued when air quality levels over a large area are expected to reach the category Unhealthy for Sensitive Groups, or Orange on the AQI, for multiple days.
- *Breathe Easy Man* - Breathe Easy Man is the official clean air superhero for Illinois. Breathe Easy Man helps Partners for Clean Air at community and social events to help get the message out about improving air quality.
- *Green Pays on Green Days* - Green Pays on Green Days, which began in 2002, encourages Chicago-area residents to take individual actions to reduce air pollution. The program runs during the summer months to coincide with the months when ground-level ozone pollution is often at elevated levels.
- *Particulate Matters Campaign* - The Particulate Matters campaign raises awareness about particulate matter pollution through print, radio and TV partnerships.

Partners for Clean Air programs are directed by an active Steering Committee comprised of local organizations, businesses, and government agencies, including the Illinois Department of Transportation.

More information can be found at: <http://www.cleantheair.org/>

New York

Clean Air NY - NYSDOT air quality related public outreach and education program

Clean Air NY is a dynamic collaboration of organizations and individual in the New York City metropolitan area who are taking actions to improve air quality. Clean Air NY educates New Yorkers, through advertising, employer outreach, and individual alerts about small changes they can make in their everyday life to reduce vehicle miles traveled and improve air quality. Clean Air NY encourages people to consider travel options other than driving alone. Extensive surveys conducted since 2007 demonstrate that the program has reduced daily vehicle miles traveled by more than 1%.

Clean Air NY evolved from the Ozone Action Days program. The Ozone Action Days program began in the early 2000's and consisted of NYSDOT placing public service notices advising the driving public about poor air quality events on roadway variable message boards. In 2006, the program was expanded via consultant contract and was branded as "Clean Air NY" program. Through this contract, delivered by ICF

International, the marketing and education aspects of the program were significantly improved and expanded.

Clean Air NY Integrated Marketing Plan



The Clean Air NY team has developed and initiated an Integrated Marketing Plan. The plan was designed to expand the base of partnerships and enhance Clean Air NY's impact on travel behavior. After four full years of implementation, Clean Air NY is now a well-established program with a thriving network of employers, community groups, drivers, and concerned citizens. The Clean Air NY network is comprised of 16,000 individuals, 8,000 Facebook fans, 4,100 employer partners, 41 Clean Air Champions, 146 Clean Air Community Partners, and 11 Clean Air Campuses.

Specific media and marketing strategies used include:

- Distribution of air quality action day updates to 30,000 network members, partners, and media through e-mail, text messages, Facebook updates, Twitter postings, widget updates, and press releases.
- Participation in employer, consumer, and community events to educate participants and establish new employer-based partnerships
- Developing and employing a Clean Air NY mascot, "Fresh" the Cloud.
- Launching and growing a web site, Facebook and Twitter pages, YouTube channel, and Flickr photo pages.
- Radio advertising (via Pandora internet radio and on-air through Clear Channel Communications)
- Bus advertising
- On-line advertising (e.g. Google ad words, Facebook Social Ads, e-newsletter ads, etc.)
- Partnership with other travel services provided by NYSDOT, including 511NY and NYRideshare

For more information go to <http://cleanairny.org/cleanairny/Home/Default.aspx>

NYSDOT's Eco-Driving Educational Outreach Campaign

The New York State Department of Transportation is partnering with the I-95 Corridor Coalition, New York State Energy Research and Development Authority, Department of Environmental Conservation, Consumer Protection Board, Thruway Authority, Department of Motor Vehicles and Metropolitan Planning Organizations to promote eco-driving in New York State.

To promote public awareness, posters have been displayed at rest areas and other travel locations as well as regional NYSDOT offices. Travelers can visit NYSDOT's new website, www.nysdot.gov/ecodriving, which has three pages dedicated to eco-driving tips

and a fourth page highlighting additional resources. A rotating photo web banner link was added to NYSDOT's main external website, www.nysdot.gov, and a link is provided on its frequently visited www.511NY.org, the comprehensive traffic, travel, and transit information site.

The public campaign was launched on Memorial Day Weekend 2011 through a joint press release, the launch of NYSDOT's eco-driving website, posters placed at many locations and simultaneous launches through the I-95 Corridor Coalition (www.i95coalition.org) and its partners, the Delaware, Maryland and North Carolina Departments of Transportation.

Among the next steps to increase NYSDOT employee awareness of eco-driving practices will be training for regional office personnel and especially target staffs operating NYSDOT's heavy-duty vehicle fleet.

Another way to promote the eco-driving campaign is message broadcasting through partnerships with other state agencies and external partners. The goal is to reach all those who travel in New York State so that they can reduce greenhouse gas emissions, reduce fuel dependency and learn how all these practices can save them money, too.

Pennsylvania

In Pennsylvania, there are five Air Quality Action Programs, all within the umbrella of the Air Quality Partnership, a public/private partnership dedicated to improving air quality throughout Pennsylvania. The goals of the Partnership are to increase the public's understanding on the impact of air pollution, provide alerts for days with high air pollution, provide health effects information and guidelines to prevent or reduce exposure, and finally encourage voluntary actions to reduce air pollution emissions, especially on "Action Days". The Partnership's efforts are coordinated through the state environmental agency (DEP), and include information on five main areas including Southeast Pennsylvania (Philadelphia area); Southwest Pennsylvania (Pittsburgh); a subset of the Southwest Pennsylvania area for PM2.5 (Liberty/Clairton area); the Allentown/Reading area; and the Central Pennsylvania (Susquehanna Valley) area. See the link below for information on these five areas.

http://www.ahs2.dep.state.pa.us/aq_apps/aqpartners/forecast.asp?vargroup=se

The state's largest MPO, the Delaware Valley Regional Planning Commission (DVRPC) in Philadelphia administers the largest and most active Program in the Air Quality Partnership. This specific program is dedicated to improving air quality in the Greater Philadelphia Region by providing air quality advisories and educating the public about air quality issues. The program provides air quality forecasts for ground level ozone and fine particulate matter (PM2.5). Forecasts are provided on this website, via email, and also by calling the Air Quality Partnership Information Line.

The link below takes you to the appropriate portion of the DVRPC website:

<http://www.airqualitypartnership.org/>

Although PennDOT does participate to some extent in all of these Programs, their role is relatively minimal as they are simply another member of each Committee. The State DEP and MPOs have the lead role in Air Quality Action Programs in Pennsylvania.

Texas

The goal to “inspire changes in driving behavior that will help clean up the air in Texas” began in 2002 with the *Drive Clean Across Texas program (DCAT)*. This statewide public education campaign promotes pollution awareness, educates the public how to limit emissions and shows them the effects of changing driving habits. The campaign has five key messages for Texas drivers:

- Keep your vehicle maintained properly (*engine tune-ups, regular oil changes, replace air and fuel filters, keep tires properly inflated*)
- Drive less (*carpool, take public transit, ride a bike, combine errands*)
- Buy a low-emission vehicle, like a hybrid
- Drive the speed limit (*at high speeds, you burn more fuel per mile*)
- Avoid idling (*park and go inside rather than using drive-throughs at banks and restaurants*)

During the summer, when ozone pollution levels are highest, the *Drive Clean* campaign reaches Texans through TV, radio, billboards, online advertising, and the news media with the message that individuals can take simple, low-cost steps to improve air quality.

Each of the campaign’s clean air tips will also help motorists reduce fuel usage and save money at the pump, especially during the summer months when gas prices tend to spike. More clean air tips and other information about air quality can be found at the campaign’s website, DriveCleanAcrossTexas.org.

Hybrid Vehicle Giveaway

Driving a low-emission vehicle, like a hybrid, is one of the best things motorists can do to reduce air pollution. To reinforce this point, the *Drive Clean Across Texas* campaign will give away a for the fifth year a brand new vehicle, a new 2012 Ford Fusion Hybrid donated by the Dallas Cowboys.



Dallas Cowboys quarterback Stephen McGee (left) presents keys to a new Ford Fusion Hybrid to Daryn Metzler of Katy, TX and his wife Lora following the team's practice session at its Valley Ranch headquarters.

DCAT is sponsored by the Texas Department of Transportation, Texas Commission on Environmental Protection, Environmental Protection Agency and nine (9) Local Air Quality Programs in Austin, Beaumont-Port Arthur, Corpus Christi, El Paso, Dallas-Fort Worth, Houston-Galveston, San Antonio, Tyler-Longview-Marshall, and Victoria. Further details on this program, including local partner programs, is at:

<http://www.drivecleanacrosstexas.org/>

MPO Actions

Several MPOs in Texas are working to provide educational materials on air quality to its residents. One example of this is NCTCOG's Air North Texas - Go Green Breathe Clean campaign and accompanying website.

Air North Texas - Go Green Breathe Clean Air

North Texas is a regional clean air partnership and campaign to:

- Provide a comprehensive air quality resource.
- Promote a consistent, regional air quality message.
- Leverage existing resources and program strengths in a collaborative effort.
- Increase public awareness of specific opportunities for residents to reduce emissions.
- Motivate residents to make clean air choices.

The integrated public awareness campaign encourages residents to make clean air choices and incorporates:

- Print
- Internet
- Radio
- Outreach events
- Non-traditional communication such as educational air quality messages on gasoline pumps

Improving air quality requires collaboration, partnership:

- Air North Texas was formed by the North Central Texas Council of Governments with support of an Air Quality Public Relations Task Force
- To read the most recent Air North Texas press releases, visit the NCTCOG newsroom.

Individuals and organizations can be involved:

- Commit to clean air choices.
- Sign up to receive air quality information.
- Learn how organizations can be involved.

The information presented above Air North Texas was taken from the program website:

<http://www.airnorthtexas.org/about.asp>

8 Hour O3Flex Plan and Pollution Prevention Partnership

Corpus Christi Metropolitan Planning Organization

August 2011

Title of Public Education Program: 8 Hour O3Flex Plan and Pollution Prevention Partnership

Program Summary: The area's Plan, partnered with the Pollution Prevention Partnership – Texas A&M University-Corpus Christi (PPP), are tools used for maintaining attainment and educating the region of our 8-hour ozone standards for Nueces and San Patricio Counties in Texas – the Corpus Christi Urban Airshed. Community-wide clean air campaign events, promoted by PPP, have been attended by hundreds of community residents. Participation by local media meteorologists, along with numerous newspaper, television, and radio ads on the significance of ozone action days and emission reduction recommendations have proven educational for the community. City and county leadership has been instrumental in promoting ozone awareness in addition to science fairs, health fairs, and AutoCheck (a vehicle emission sensing program that is voluntary and open to the public).

Overview (including start dates if known): 8 Hour O3Flex Memorandum of Agreement was approved on October 23, 2007 for the Corpus Christi Air Shed which includes the two counties of Nueces and San Patricio Counties in Texas – home of the nation's fifth busiest deep-water port, a large industrial and petrochemical complex, a major military base, and a network of highways including the Interstate Highway System that facilitates commerce and a thriving tourism industry.

Participation (and trends if known): The Corpus Christi Air Quality Committee, local entities, the Texas Commission on Environmental Quality (TCEQ), and the US Environmental Protection Agency (EPA) have worked together to plan and implement voluntary actions appropriate to community needs to improve air quality. This collaboration makes it possible to design common sense strategies that reflect the weather, driving habits, and economy of the region in the creation of a model program.

Program Benefits (and trends if known) (e.g. emission reductions/VMT reductions/ECO driving, etc): TCEQ operates two Continuous Air Monitoring Systems (CAMS) in Corpus Christi to determine the attainment status of the area. With the current National Air Quality Standard for ozone at 75 parts per billion (ppb), based on 8-hour averages, and a required three year average of the fourth highest daily maximum 8-hour average ozone level be less than 75 ppb, the 4th high ozone level and the three year average are both below 75 ppb and consistent with the area's continuing downward trend. The NAAQS standard of 75ppb for ozone level and a three year average is also satisfied for the reporting period. Total emissions reductions realized as a result of PPP's educational efforts – i.e. AutoCheck activities – are 420 ppy in NO_x, 83,688 ppy in CO and 14,033 ppy in Hydrocarbons. The overall decreasing trend demonstrates the effectiveness of the 8 Hour O₃ Flex Agreement and PPP's efforts to impact actual emissions reductions realized from local air quality research providing a better understanding of the ozone problem, and subsequent effective voluntary control measures and programs to reduce levels of ozone. Despite the successes of the voluntary control strategies, this area could be moved into non-attainment due to the proposed implementation of tighter ozone standards by US EPA. It is critical to continue efforts and commitments to research ozone and its precursor concentrations, develop voluntary controls strategies in conjunction with improved technical understanding of the ozone problem, and assess the impact of voluntary control strategies on the urban air quality.

Program Costs and Administration Challenges (e.g. political, budgetary, other): Capital improvements by stakeholders – to aid in reducing ozone and other pollutants can range up to double digit numbers in the millions of dollars. Additionally, PPP's budgets \$150,000 for educational programs and events.

Program Weblinks:

MPO website:

<http://www.corpuschristi-mpo.org/airquality.html>

Pollution Prevention Partnership P3), Texas A&M University-Corpus Christi:

<http://outreach.tamucc.edu/p3/>

AutoCheck:

www.autocheck.com

Virginia

Public education relating to air quality is provided both at the state and regional levels. At the state level, public education relating to air quality is led by the Virginia Department of Environmental Quality (VDEQ). While their efforts address air quality in general and do not focus on transportation, one of their activities that relates directly to transportation is the provision of daily air quality alerts. VDOT responds to these alerts by encouraging ridesharing, telecommuting and other means to reduce vehicle travel and emissions

through public service announcements on its changeable message signs on regional freeways. The DEQ's daily air quality forecasts and VDOT Ozone Action Day Alerts can be found here: <http://www.deq.virginia.gov/airquality/>.

VDOT also supports or is involved in a number of initiatives of a multi-jurisdictional or multi-state nature, including the I-95 Corridor Coalition and Commuter Connections program reviewed above. Also, as referenced above, VDEQ supports the Clean Air Partners multi-jurisdictional initiative through the provision of daily air quality forecasts and data for the region.

At the regional level, two noteworthy programs serving Richmond and Hampton Roads respectively are reviewed below.

Richmond Ridefinders

RideFinders, a division of GRTC Transit System (Richmond, VA), is the regional non-profit agency that works to move more commuters in fewer vehicles throughout the Central Virginia region to protect air quality and increase the efficiency of the region's transportation network. RideFinders' efforts help increase the efficiency of Virginia's transportation infrastructure, improve air quality, enhance quality of life, and sustain a healthy economy. Since its inception in 1981, RideFinders strives to pave a path for its region's future.

The RideFinders website offers users information on a number of programs and services provided for commuters and employers throughout the Central Virginia region. It includes information on transit, vanpooling, carpool matching, commuter choice program, teleworking, emergency ride home program, transportation planning, employer-based marketing, employer relocation and site analysis services, bike and pedestrian commuter services, and park and ride lots. Their website also offers educational materials on emissions/air pollutants, with a major focus on ozone.

The information presented above for Ridefinders was taken from the program website. More information can be found at: <http://www.ridefinders.com/FrontEnd/HTML/about-us.asp?id=75>

TRAFFIX

TRAFFIX is a Transportation Demand Management (TDM) organization serving the Hampton Roads area in southeastern Virginia. TDM agencies are designed to manage traffic demand by providing travelers with travel choices in the attempt to reduce congestion and emissions. While visiting TRAFFIX, individuals are able to:

- Search for rideshare partners by signing up with Commuter Computer
- Start a vanpool to and from workplaces by submitting a vanpool application
- Get rewarded for ridesharing by registering with NuRide
- Find a park & ride lot
- Find helpful commuting information such as traffic updates, bus and ferry schedules, and yearly commute costs using the SOV cost calculator.

Individuals who currently vanpool, carpool, take the Hampton Roads Transit (HRT) MAX bus, or ride their bikes to work at least three times a week, can sign up for the Guaranteed Ride Program (GRP). Guaranteed Ride will pick individuals up from work and take them back to their point of origin if an emergency arises after arriving at work.

TRAFFIX is a cooperative public service designed to promote transportation alternatives. Staff reports to an advisory board comprised of representatives from each of the area's transportation planning groups: Hampton Roads Planning District Commission (HRPDC); Hampton Roads Transit (HRT); the Virginia Department of Transportation (VDOT); the Federal Highway Administrator; the Virginia Department of Rail and Public Transportation (VDRPT); and localities Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, Suffolk, and Virginia Beach. TRAFFIX staff are employees of HRT; however, the program has its own funding source.

The information presented above for TRAFFIX was taken from the program website. More information can be found at: <http://www.gohrt.com/services/traffix/>.

Wisconsin

Wisconsin's Rideshare Program

Wisconsin's Rideshare program is supported by the Wisconsin Department of Transportation. Rideshare is a matching service, a kind of clearing house for commuters. It is a no obligation program offering people interested in carpooling, the names and contact information of others who match their routes and work times. The responsibility for setting up carpools and maintaining them is up to the matched participants.

Carpooling had its early roots in Wisconsin in 1975 with a program that focused on the city of Milwaukee. With a state Transportation Demand Management (TDM) statute in 1981 the program became a state entity. The Rideshare main territory is Southeast Wisconsin, though citizens across the state can register to find matches. Along with this program, Wisconsin has had a second and separate program in the city of Madison that primarily serves people commuting into Madison.

In 2007, after several years of planning, the two programs partnered, combined their databases of interested carpoolers, and went on-line with a web-based, interactive program. Rather than completing paper applications and using mail to receive and send matches, interested participants could now find and contact potential matches within minutes. The partnership was arranged geographically so that each program could be operated and managed independently. A joint website was developed with program information and a registration form for the public to use. Shortly after the program became web-based it expanded to include matching bicyclists together by experience level.

Besides the joint website, the state of Wisconsin, DOT, has a state website. An easy to recall web domain was purchased, www.rideshare.wi.gov. This new website along with the

toll-free 800 number is posted on highways and freeways. This form of advertising is still one of the top ways people hear about the program.

The state website has a variety of general information that commuters can use to determine if they want to register to carpool.

- Program information – An explanation of how the program works by processing individual's origins, destinations, and work times and matching them to others in the database. It explains what a match report looks like, how to contact potential carpool partners, and the security taken in protecting participant's information.
- Park and ride lots – Wisconsin can boast of over 100 park and ride lots across the state that offer a place for carpoolers to meet. Over one-fourth of them are served by transit.
- Cost calculator – An interactive calculator that figures out personal commuting costs as well as what that commute costs the environment.
- Carpool and bike buddy tips – Helpful tips to assure a successful carpool and bike buddy relationship.

Employer services are a strong aspect of the program. A Rideshare representative will meet with businesses and help them mold a commuter benefit program that fits their employees. If the employer wishes to do contests or set up competing teams for environmental savings or carpool trips, the program administrator will provide assistance and help them build their program. Employers looking for 'green' benefits can ask their employees to record their commutes and then receive reports with the environmental and financial savings their employees have accumulated.

As an example, one large employer in northeast Wisconsin (not served by transit) began an employee program July 1, 2010. Thirteen months later their employees have clocked 4,844 carpool trips, 2,528 bicycle trips, 210 walking trips, and 18 telecommuting-saving days. This resulted in 38.6 tons of greenhouse gas savings; and 79,612 VMT savings at a cost savings of \$39,806.

Besides the web-based matching and the bike buddy matching, the program has enjoyed several additional milestones and features that include:

- 2009 – the program offered statewide, street-address mapping
- 2010 -- Google mapping was installed to better map origins and destinations and show locations on match lists
- 2011 -- On-the-go mobile reporting offering an easy way for people to daily record their commutes on their smart phones before running reports of financial and environmental savings.
- 2011—Connections with Facebook for registrants to better choose their matches.

Since becoming a web based program in 2007, annual registrations across the state have increased 25%. The projected database totals for the state will increase 96% over 2007. The Rideshare program has shown a great deal of interest outside of SE Wisconsin. In the more rural areas of the state (northeast, north central, northwest, and parts of southwest), registrations have increased 660% over 2007. The projected database totals just for that

area have increased 900% since 2007. Hits to the Rideshare web home page, www.rideshare.wi.gov, have increased 23% since 2007, with all the informational pages receiving significant hits each month.

The program's growth and popularity is due to public and private employer presentations as well as broadcast media advertising. The success of the program is dependent on new registrations and a current database of people wanting to stay in the program. The benefits of carpooling are advertised through creative radio commercials explaining the benefits of saving gas, wear and tear on cars, saving our air quality and providing a means for mitigating congestion and construction.

The program, as explained above, is a clearing house for matching people together. The actual number of carpools/ bike buddy arrangements (or the length of time those relationships exist) that result from the matches is unknown. A statewide report that processes estimated program benefits can be figured or refigured based on a hypothetical assumption of successful match reports. The 2010 annual report indicates the assumption that if 30% of the successful match reports (10,220) resulted in an annual rideshare arrangement, the annual benefits of those matches would be:

- 57,431,576 reduction in vehicle miles of travel
- \$28,715,603 in commuting costs
- 657.1321351 reduction in carbon monoxide (tons)
- 92.42899011 reduction in volatile organic compounds (tons)
- 144.3411626 reduction in oxides of nitrogen (tons)

Additional program information and data is available by contacting Karen Schmiechen, Urban Planning Analyst, Wisconsin DOT, Karen.Schmiechen@dot.wi.gov, 262-521-5454. Submitted by Karen Schmiechen, 8/11/2011.

RESEARCH & REPORTS

The following is a summary of selected research documents and reports that are relevant to Public Education Programs at the state and federal level.

EPA's Office of Air and Radiation Publications

EPA's Office of Air and Radiation (OAR) website has an entire page that contains links to OAR publications intended to be useful to the general public. The publications are organized into several categories. Publications available on the OAR Website include annual reports, primarily of emissions trends but also including Great Waters reports; documents containing basic facts, including risk factors, "what you can do" information, and pollutant-specific information; and references, or more technical information, such as the Clean Air Act and other regulations. In addition, links are provided to publications available either on the Technology Transfer Network (TTN) Website or in print. The website is available here: <http://www.epa.gov/oar/oarpubs.html>

NCHRP 25-25, Task 45 - Transportation Program Responses to Greenhouse Gas (GHG) Reduction Initiatives and Energy Reduction Programs. The prospect of global warming caused by an increase in greenhouse gas (GHG) emissions is a major policy issue. According to USDOT, the transportation sector is currently responsible for approximately one-quarter of GHG emissions in the United States and a majority of fuel consumption. Within the Federal-aid highway program states and metropolitan planning organizations (MPOs) have the major decision-making authority for highway construction projects and system operations. This research provides background to understanding the relative GHG reduction and energy efficiency capability of transportation related strategies that States and MPOs can deliver. <http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=1663>

NCHRP 25-25, Task 44 - Development and Implementation of a Transportation and Climate Change Clearinghouse. The objective of this project was to develop and implement a U.S. Department of Transportation clearinghouse to serve as a “one-stop” source of information for the transportation community on transportation and climate change issues. This project has been co-funded with FHWA. Greenhouse gas emissions and the related subject of global climate change is an emerging and critical issue for the transportation community. Currently, the transportation sector contributes 28 percent of all U.S. greenhouse gas emissions. Climate change will have substantial and far reaching impacts on transportation operations and infrastructure due to increased temperatures, intensity of storms, sea level rise, and changes in precipitation. Currently, there is a lack of knowledge and understanding within the transportation community about the relationship between transportation and climate change, which limits the ability of transportation professionals and policy makers to make informed decisions. The website has been completed and is available online at <http://climate.dot.gov/>.

NCHRP 25-25, Task 57 - Integrated State and Local Government Policy Approaches to Transportation and Climate. In a collaborative effort between AASHTO, the Center for Clean Air Policy and the Rockefeller Foundation, a two-day executive peer exchange was held in September 2009 to share and discuss integrated state strategies to reduce transportation GHG emissions with a focus on slowing VMT growth and increasing transportation system efficiency. Multi-disciplinary teams from California, Florida, Maryland, Missouri and Washington represented economic development, energy, environment, housing, planning, and transportation perspectives. Executives and senior staff from a variety of state, regional and local government agencies and organizations, joined Governor's representatives, elected officials, and staff from non-governmental organizations to present and discuss each state's experiences.

The focus of the executive peer exchange was twofold: 1) to provide participants with tangible and transferable lessons to develop and implement state and local policies to reduce transportation GHG emissions by slowing the growth of vehicle miles traveled and also by increasing system efficiency, and 2) to identify the essential data, technical resources, policies and funding they will need to successfully implement those policies. The executive peer exchange provided a unique opportunity for several states to develop strategic policy and transportation improvements that can be tailored to specific state

contexts while also achieving broader transportation-climate and energy objectives.

http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36%2894%29_FR.pdf

NCHRP 25-25, Task 62 - Improving the Effectiveness of Outreach to Traditional and Non-Traditional Groups by Integrating the Expertise of Existing and Emerging Citizen Coalitions into Transportation Analysis and Decision Making. This research gathered information on emerging and existing citizen coalitions, their environmental and social expertise, and how their strategies and perspectives could lead to new and different ways of approaching outreach to traditional and non-traditional groups, transportation analysis, and decision making. The project final report is posted here:

http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-25%2862%29_FR.pdf

SUMMARY

The topic of Public Education Programs was selected because of a desire from Air Quality COP members to understand the many, mostly non-regulatory, efforts around the country to promote smart transportation choices, educate the public about air quality and climate change, and fund programs and equipment to reduce emissions. The goal was also to develop a reference for state DOTs on successful state clean air initiatives and on the availability of federal funding and technical assistance programs to promote clean air.

Air Quality COP members originally expressed interest in developing a state of the practice report of more state-centric public education programs to promote air quality to the general public. As this report progressed, we realized that the idea of “public education” was viewed differently by the various Air Quality COP members and that a strict focus on state DOT efforts alone failed to relay the breadth of efforts to educate the public and promote air quality. Just as interagency consultation is a keystone of the Clean Air Act, the spirit of consultation is highlighted here as it relates to the collaboration and cooperation of state DOTs with public and private partners to promote clean air.

The resulting report highlights federal programs to fund diesel engine retrofits, promote energy efficiency in transportation, accelerate the use of alternative fuels, and bring together private and public air quality practitioners in bi-annual summits. State programs are equally diverse and include multi-state initiatives to encourage electric vehicle use and “eco-driving”, and connect commuters to transportation options. Examples of individual state efforts include attempts to reduce energy use from the transportation sector, anti-idling campaigns, and marketing efforts to leverage public awareness to reduce emissions.

The examples of successful public education effort and collaborations are good reference for state DOTs looking to promote air quality initiatives in their own states. Having successful examples to draw from will be critical in the future as state DOTs address the challenges of safely maintaining the flow of goods and people while ensuring compliance with more stringent air quality regulations and promoting environmental stewardship.

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